

## **APPENDIX D: Baseline Environmental Geochemistry Evaluation of Waste Rock and Tailings**

### **Appendices**

- D-A. Baseline Environmental Geochemistry, 2012 Johnny Lee Decline
- D-B. Waste Rock Static Data
- D-C. Water Rock Kinetic Data
- D-D. Static and Kinetic Tailings Data

**FINAL**

**BLACK BUTTE COPPER PROJECT**

**BASELINE ENVIRONMENTAL GEOCHEMISTRY  
EVALUATION OF WASTE ROCK AND TAILINGS  
REVISED MINE OPERATING PERMIT**

Prepared for

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WETLab HCT Results

## Executive Summary

The acid generation and metal release potential of waste rock and tailings to be produced by Tintina Montana's Black Butte Copper Project have been characterized using static multi-element analysis, acid-base accounting, net acid generation potential, and kinetic methods. Mineralogical analyses of metal residence and asbestiform mineral analyses were also completed. Results of all static and kinetic tests of waste rock and tailings materials are reported.

A total of 778,810 tons (706,525 tonnes) of waste rock that consist predominantly of the Lower-Zone Footwall (*LZ FW*, 35% of waste rock tonnage), the Lower Newland basal shale and conglomerate (*Ynl B*, 32%), the Upper Sulfide Zone (*USZ*, 28%), and the Undifferentiated Lower Newland (*Ynl A*, 4%) will be produced from the underground mine during the life of the mine. This rock will be exposed in underground access workings and, temporarily, in active stopes. It will also be stockpiled for up to 2 years on a lined surface pad prior to being co-disposed with cemented tailings in a doubly lined facility early in mine life. Additional waste lithotypes representing tonnages less than 1% (including *IG*, *Ynl 0*, *Yne*, and *Yc*) have also been characterized. Additionally, geochemical characterization of shallow weather near-surface bedrock deposits is reported separately (Enviromin, 2017b).

Tintina proposes to produce tailings via flotation and to blend them with equal amounts of cement and slag binder (1% each in 2% amendment; 2% each in 4% amendment) to create cemented paste tailings. Using a drift and fill mining method, Tintina proposes to place 45% of produced tailings as 4% cemented backfill into mined out underground workings during operations. All remaining tailings (approximately 55%) will be placed as 0.5 to 2% cemented paste into a double lined surface tailings impoundment called the cemented tailings facility (CTF). The CTF is designed to have little or no water stored in the facility. Most waste rock will be produced during construction of the decline and other underground workings and will be placed into the lowermost portion of the CTF, where it will subsequently be covered by paste tailings. Run-of-mine (ROM) waste rock will also be placed around the sump to develop a positive drain within the CTF, and will be encapsulated with paste tailings. It is possible that alternative management strategies including dry stack tailings and a subaqueous tailing impoundment will be considered during the MEPA assessment. This environmental geochemical testing program has addressed all proposed management options and anticipated alternatives. Raw (non-amended) tailings were, therefore, tested along with cemented paste tailings with 2 and 4% cement binders, and 4% cement binder mixed with 10% ROM to simulate alternative disposal methods. Tailings were tested under both subaerial weathering and saturated conditions.

Although metal concentrations measured in kinetic tests exceeded one or more surface water standards in several tests, discharge to surface water is unlikely because mine-affected water will be collected during operations and treated prior to discharge to groundwater. Therefore, this analysis focuses on compliance with groundwater standards (MT DEQ, 2012), with the exception of the analysis of saturated humidity cell test of raw tailings, which represents surface water in a subaqueous tailing facility pond.

**Waste Rock Geochemistry.** A total of 7,497 whole rock samples of waste rock, including 5,642 of the four dominant waste rock units, were statistically analyzed to characterize overall geochemical variability within multiple lithotypes and to identify representative sample subsets for static testing. No asbestiform minerals were identified

in any lithotype to be mined from the Project. Some 175 static tests of acid generation potential, using both acid-base accounting (ABA) and net acid generation (NAG) methods, indicate that the majority of *Ynl B* and *Ynl A* samples (90%) are unlikely to form acid, while many *USZ* and some *LZ FW* samples have an uncertain potential or are likely to generate acid. The acid generation potential of these representative samples of waste rock is consistent with the known site geology, which includes local sulfide stringers within highly neutralizing carbonate bedrock.

Eight kinetic humidity cell tests (HCTs) of representative composites of waste rock were conducted for the Project. These HCTs uniformly show that while sulfide oxidation was observed for the four dominant waste rock units, resulting in the release of sulfate and some metals, the pH remained circum-neutral, with the exception of a decrease in the 2015 *USZ* after 60 weeks of testing. Consistent with static test results and the presence of abundant carbonate mineralization, oxidation in the *Ynl B*, *Ynl A*, and *LZ FW* tests did not produce sufficient acidity to deplete alkalinity nor did these tests produce acidic pH values. Despite indications of varying degrees of sulfide oxidation in all tests, depleted alkalinity and increased acidity with variable pH was observed solely in the 2015 *USZ* test.

All assessments of metal release potential for waste rock lithotypes (tonnage >1%) have been based on metal concentrations measured in kinetic test effluents in weeks 0, 1, 2, 4, and every 4 weeks thereafter. Consistent with the observed neutral pH in the test cells, the *Ynl B* and *Ynl A* units showed minimal potential to release metal, particularly Tl, after week 2. The *LZ FW* and *USZ* units, however, have shown variable potential for release of several metals including As, Sb, Be, Cd, Cu, Hg, Ni, Pb, Sr, Tl, and U in concentrations that exceed relevant groundwater standards. Because each of the dominant waste rock lithotypes has some, if not significant, potential to release concentrations of metals in excess of water quality standards, waste rock will be encapsulated in paste tailings in the lined and monitored CTF impoundment. Furthermore, Tintina proposes to treat all seepage from the temporary waste rock stockpile, the CTF, and the underground workings during operations to meet non-degradation standards for groundwater prior to discharge. At the end of operations, Tintina proposes to simultaneously flood and pump groundwater for treatment in order to rinse residual oxidation products from exposed surfaces in underground workings. Predictive models of water quality in the underground workings during operations and post-closure, as well as from the temporary waste rock stockpile, the CTF sump, and the process water pond are presented in a separate report (Enviromin, 2017c).

**Tailings Geochemistry.** Splits of homogenized tailings reject produced in bench-scale metallurgical testing were used for all tests. Treatments of tailings evaluated in the geochemical test program include non-amended tailings, paste tailings made with 2% binders, paste tailings made with 4% binders, and paste tailings (4% binders) mixed with run-of-mine waste rock. Cement added to provide structural strength in backfill, and create a stable, non-flowable material with low hydraulic conductivity, on the order of  $10^{-8}$  cm/sec, does not add sufficient neutralization potential to neutralize acidity in the tailings. ABA and NAG tests thus indicate that the tailings will have a strong potential to generate acid with or without paste amendment.

Cemented paste tailings cylinders were tested (without crushing) in conventional ASTM method D5744 humidity test cells, to simulate sub-aerial weathering, and in ASTM C1308 diffusion tests, to simulate diffusion of oxygen through backfill in saturated underground workings. Raw (non-amended) tailings were tested using ASTM method D5744, both sub-aerially and in a modified, saturated ASTM method D5744 test, to

represent the alternative scenarios of dry stack surface placement and subaqueous deposition impoundment, respectively.

The diffusion test of the 4% paste tailings maintained a variable, but overall higher, pH between 6.6 and 9.7, with available alkalinity and less sulfate throughout the test than the 4% with ROM cylinder, in which pH ranged from 5.5 to 6.8. This suggests that the massive cemented paste tailings, where the matrix is not interrupted by rock fragments, is important in controlling sulfide exposure for oxidation. Rates of metal release were significantly lower in diffusion tests of saturated cement paste tailings than in unsaturated humidity cell tests of cemented paste tailings. In fact, groundwater standards were only exceeded for As and Tl in the 4% binder and 4% with ROM cylinders, respectively. Furthermore, because the backfilled paste tailings have very low transmissivity they will react slowly with groundwater and are unlikely to create acidity or release concentrations of metals above groundwater standards. The influence of this low reactivity on water quality in the underground workings is modeled and reported separately (Enviromin, 2017c).

Conventional, aerated HCTs of paste tailings were used to evaluate behavior of the paste tailings in surface deposits within the CTF. Acid and sulfate production as well as pH and metal release varied between the cemented paste treatments, largely as a result of differences in disaggregation rates which change reactive surface area. Generally, cemented paste cylinders with higher binder contents crumbled less and therefore released sulfate, acidity, and metals more slowly. Specifically, the 2% HCT test exhibited greater and earlier sulfate and acid release than the 4% tests. The HCTs of cylinders conservatively represent the potential rates of oxidation for cemented paste tailings, because tests were run on small cylinders with a higher surface area to mass ratio than would exist within the more massive lifts of cemented paste in the CTF. Therefore, declining water quality observed in later weeks of testing is unlikely to represent the field conditions in the CTF.

Although the initial rates of metal release for cemented paste tailings was lower than for raw tailings for most metals, the rates of metal release from the 2% cement paste HCT approached that of the unsaturated raw tailings HCT after 4 weeks. Metal concentrations in effluent from the 4% paste cement backfill HCT were lowest of the paste tailings HCTs, and exhibited isolated groundwater exceedances for As, Be, Cr, Cu, Ni and Tl, primarily in the later weeks of testing, when physical breakdown began to influence results. Similarly, the 4% with ROM HCT exceeded the groundwater quality standard for Tl in early weeks of testing, with exceedances of Sb, As, Be, Cd, Cr, Cu and Ni, observed primarily in later weeks. The data from the 4% HCT are used in geochemical models of underground at year 6 and the CTF, and are presented elsewhere (Enviromin, 2017c).

The raw “non-amended” tailings sample tested in the conventional, subaerial kinetic test became strongly acidic and showed a correspondingly high potential to generate sulfate and several metals at low pH throughout the test. In contrast, a much lower oxidation rate was observed in the saturated kinetic HCT of non-amended tailings, which is intended to represent tailings deposited in a subaqueous impoundment pond. Few metals exceeded relevant groundwater and surface water quality standards in HCT effluent and were generally detected at much lower concentrations until week 35 of testing, when alkalinity was depleted, pH dropped, and metal concentrations rose.

**Conclusions.** The four dominant waste rock units showed evidence of sulfide oxidation in the HCTs but only the 2015 USZ produced significant acidity or low pH. The *Ynl B* and

*Ynl A* units maintained neutral pH in the test cells and did not exceed groundwater standards after week 2. The *LZ FW* also maintained a neutral pH, but exceeded certain groundwater standards for select metals. Despite consistent sulfate production, the pH in the 2015 *USZ*, did not trend downward until week 60, at which time alkalinity was depleted and sulfate and metal release increased. Release of several metals in excess of groundwater standards was observed in the 2015 *USZ* HCT. Due to the potential for release of various metals at different times in the predicted weathering process, Tintina proposes to encapsulate all waste rock in paste tailings within the double-lined CTF impoundment. Furthermore, Tintina proposes to collect all seepage from the waste rock stockpile, the CTF, and the underground workings for treatment prior to discharge via underground infiltration galleries. With implementation of these engineering controls, potential for negative impacts to surface and groundwater is low.

Results of the diffusion kinetic tests indicate that saturated 4% cemented paste tailing in backfill is unlikely to become acid, although it has potential to release As in concentrations above groundwater standards. Results of HCTs indicate that all of the cemented paste amended tailings treatments have potential to oxidize when weathered subaerially (after a lag time) and to release at least some sulfate, acidity, and metals if left exposed to air and water. Importantly, the rate of oxidation is proportional to cement paste amendment of tailings in the small test cylinders. In the CTF, each new lift of cemented paste tailings will behave as a massive block of material with low transmissivity, with a thin upper surface that will be exposed to some degree of oxidation before being covered by fresh paste tails within days of placement. If material is covered in a timely manner (on the scale of weeks), relatively little oxidation, acidity, and leaching of metals is expected to occur and would be limited to the immediate surface of the cemented paste tailings. Any water interacting with oxidized tailings will react with dominantly net neutralizing waste rock in the bedding layer before being collected in a sump in the lined facility for treatment and discharge. No water will be stored in the CTF.

At closure, the paste tailings deposit will be covered with a final lift of 4% cemented paste tailings and a geotextile membrane will eliminate long-term exposure of the final lifts to oxygen and water. The double-lined CTF with drainage collection is designed to prevent discharge to surface water and groundwater. Subaqueous placement of tailings appears to be most effective at limiting sulfide oxidation, followed by placement of 4% cement amended tailings in saturated underground workings. However, if a subaqueous impoundment alternative were to be considered, some release of metals to the tailings pond would be expected to occur in concentrations that exceed surface water standards, and possibly groundwater standards over prolonged periods, if the pH drops as a result of alkalinity depletion. Significant acid rock drainage should be expected to develop in subaerially weathered, fine-grained “raw” tailings, suggesting that a “dry stack” alternative management scenario may not be effective.

## 1 Introduction

Tintina Montana Inc. (Tintina) has submitted a Mine Operating Permit (MOP) Application for its Black Butte Copper Project, located approximately 15 miles (24 km) north of the town of White Sulphur Springs, Montana (**Figures 1-1** and **1-2**). In support of the proposed underground mining operation, Enviromin, Inc. has conducted extensive environmental geochemical testing from 2011 to the present. As defined in the MOP Application, Tintina plans to advance underground mining operations through the proposed 2012 Johnny Lee Underground Decline (2012 Decline) into the Upper Copper Zone (UCZ) and deeper into the Lower Copper Zone (LCZ) (**Figure 1-3**).

In order to produce an operational plan that complies with Montana Department of Environmental Quality (MT DEQ) regulations, Tintina has conducted a thorough baseline characterization of acid generation and trace element release potential for waste rock and tailings materials. These data are useful for design of mined rock storage facilities and represent a summary of geochemical baseline conditions for the mining operation. The 2012 Decline proposal was never implemented by Tintina or approved by the MT DEQ, but is included in a modified plan (defined below) in the current MOP Application.

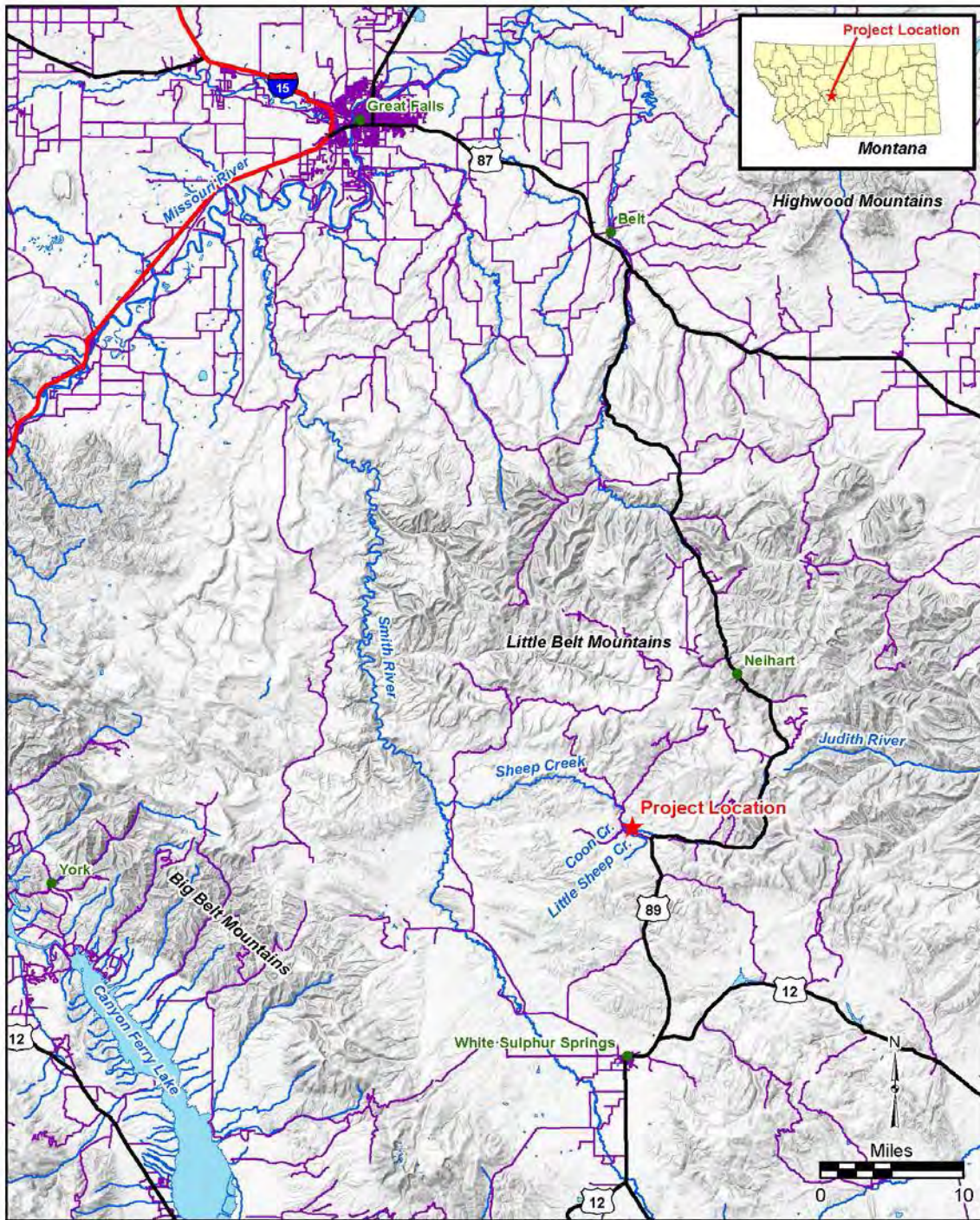
### 1.1 Project History

Mineral exploration in the vicinity of the Black Butte Copper Project has been ongoing for more than 30 years. As a result, there is a substantial amount of exploration geochemistry data available (Tintina, unpublished data; Resource Modeling, Inc., 2012). These historical efforts focused primarily on assay and multi-element geochemical analyses for exploration purposes, with limited collection of environmental geochemistry data. More recent efforts to characterize acid generation and trace element release potential of mined materials utilized the multi-element exploration data to guide sample selection for environmental geochemical testing.

In 2011, an environmental geochemical testing program was initiated to support development of the proposed 2012 Decline, which will be used to access mine workings under the currently proposed plan. The length of the decline is approximately 5,200 ft (a horizontal distance of 5,000 ft). It will be collared in the Undifferentiated Lower Newland (*Ynl A*, this lithotype has also been referred to as “*Ynl*” and appears with that label in laboratory results) just above the Dolomite (*Ynl 0*), and driven through a section of interbedded *Ynl A* and *Ynl 0* until it intercepts the *0/1 Sulfide Zone* horizon just above the Upper Sulfide Zone (*USZ*). The 2012 Decline is also expected to intercept the *Ynl B* footwall unit at depth. The initial baseline geochemical testing program therefore included static and kinetic testing of the lithotypes that comprised significant tonnage (defined as more than 1%) to be produced by the 2012 Decline as it was initially proposed. These lithotypes included: igneous dikes (*IG*), *Ynl A*, *Ynl 0*, Lower Newland shale and conglomerate (*Ynl B*), and the Upper Sulfide Zone (*USZ*).

In late 2014, Tintina shifted focus from the 2012 Decline project to a more comprehensive mine operational-scale plan (decline excavation) covering the entire copper deposit, which expanded on the proposed 2012 Decline by extending the underground workings through the *USZ* and into the previously uncharacterized Lower Copper Zone (*LCZ*). The total quantity of waste rock associated with the life of mine is 778,810 tons (706,525 tonnes). As a result, this environmental geochemical testing program has been updated to include additional, previously uncharacterized lithotypes and to address any geochemical variation throughout the proposed mine as defined in the current MOP Application, in addition to the immediate vicinity of the 2012 decline.





Prepared by Tetra Tech, Inc. 2015

**Legend**

- ★ Project Location
- City
- Interstate
- U.S. Route
- Local Road
- ~ Stream
- ☪ Lake

**TINTINA** RESOURCES

**FIGURE 1-1. Black Butte Copper Project Location Map**

During geochemical testing of the expected waste rock tonnages changed in response to the comprehensive mine plan. Therefore, of the 7, 497 available exploration samples of waste-grade rock, only 5,642 remain relevant to the operational plans defined in the current MOP Application. For completeness, geochemical data for all previously-investigated rock types are included in this report (**Table 1-1**), but the discussion and analyses focus specifically on lithotypes occurring with greater than 1% (by tons) frequency for the entire life of mine underground mine plan. This plan is associated with 778,810 tons (706,525 tonnes), and associated with rocks from the following units: the Lower Zone Footwall (LZ FW), Ynl B, USZ, and Ynl A. Additionally, this report addresses geochemical characterization for tailings under various proposed management scenarios. Geochemical testing of near-surface construction materials is reported separately (Enviromin, 2017b).

## **1.2 Operational Plan and Data Application**

The design of the Black Butte Copper Project has been directly informed by the environmental geochemical data presented here. Mine facilities potentially influenced by geochemistry include the temporary waste rock storage (WRS) pad, contact water pond (CWP), water treatment facility, underground infiltration galleries (UIGs) process water pond (PWP), cemented tailings facility (CTF), and subsurface underground (UG) workings. These facilities (**Figure 1-2**) are described in detail in Tintina's MOP Application and summarized below.

In recognition of the high total sulfide mineral content of the tailings to be produced from the Black Butte Copper deposit, Tintina has proposed an innovative, cemented paste tailings storage design. By incorporating equal amounts of cement and binder (slag) into the thickened tailings material as they are placed in the double-lined and monitored CTF, Tintina will encapsulate the sulfidic materials and limit their exposure to oxygen and water, as well as reduce the potential for material transport in the event of dam failure. Further, following temporary storage of waste rock on a lined pad, Tintina proposes to encapsulate all mined waste rock within the CTF, thereby limiting acid and metal release potential from the waste rock.

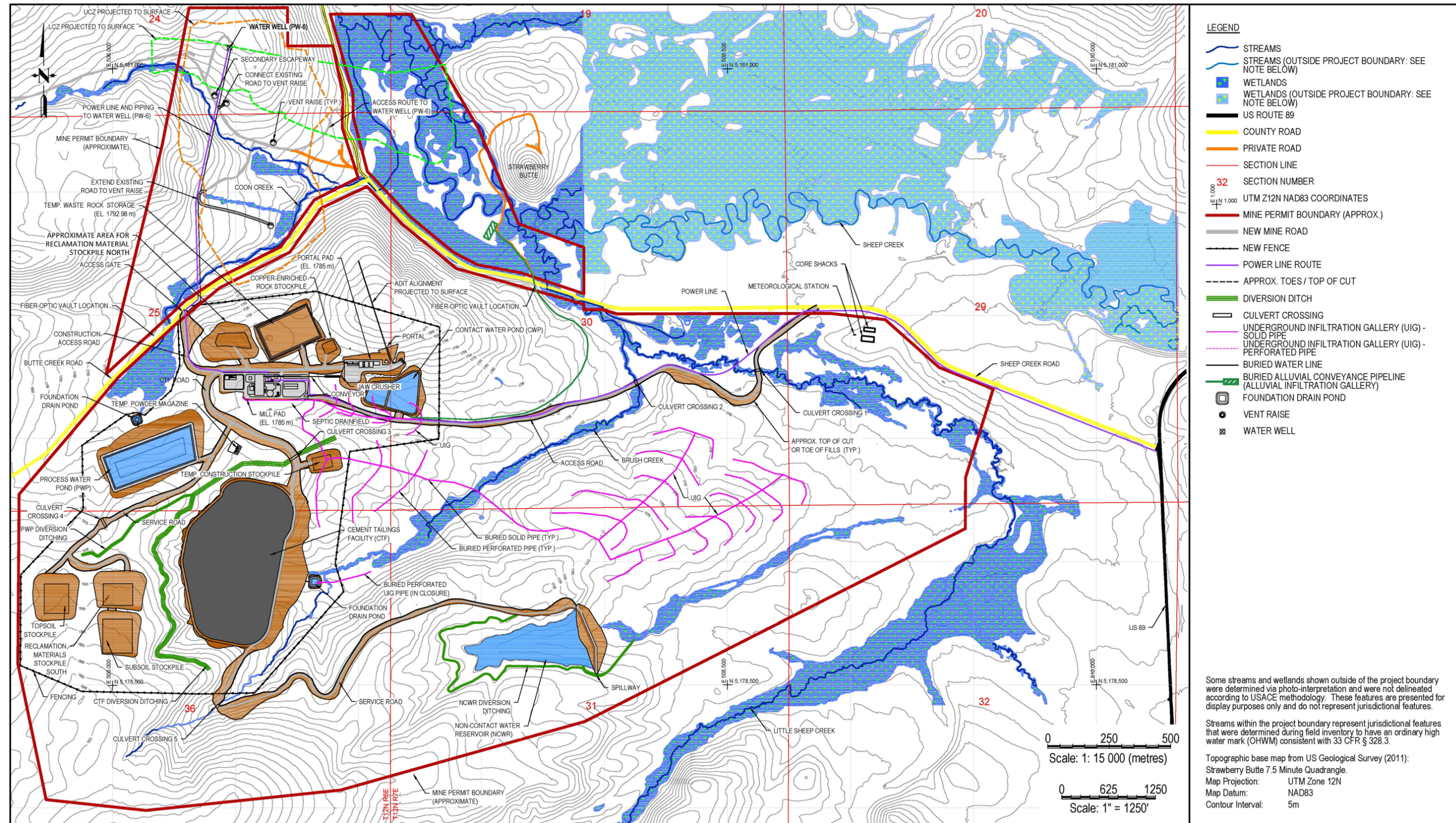
This report presents all geochemical data available for predicting the environmental impacts of the proposed mine facilities and anticipated alternative scenarios for the Black Butte Copper Project. For example, tailings have been tested using different percentages of binder amendment, in both subaerial weathering (as in a surface CTF) and within saturated zones (when placed as backfill, following closure). Tailings were also tested without amendment under subaerial and saturated conditions to evaluate tailings chemistry under alternative management scenarios. **Table 1-3** describes the intended application of the kinetic oxidation and metal release data in assessments of proposed and alternative facilities.

In addition to their use in facility design, geochemical data characterizing waste rock and tailings have been used as inputs for geochemical models of:

- Groundwater quality in the underground workings, operationally and post-closure;
- Seepage from temporary waste rock storage, which will be collected in the CWP;
- Water from the WRS, CTF, and PWP; and
- Inputs for design of an appropriate water treatment facility.

Modeling results are reported elsewhere (Enviromin, 2017c).





**Facilities Site Plan**  
**Black Butte Copper Project**  
**Mine Operating Permit Application**  
Meagher County, Montana



**FIGURE 1-2. Black Butte Copper Project Facility Map**



**TABLE 1-1. Waste Rock Tonnage and Environmental Geochemical Analyses**

Lithotypes	Description	Waste Rock% Tonnage	ICP	ABA/ NAG	SPLP	Mineralogy*	Asbestos	HCT
LZ FW	Silicified shale and debris flow	35	550	15	0	0	1	1
Ynl B	Lower Newland shale and conglomerates	32	1412	34	2	1	2	2
USZ	Lower Newland upper sulfide zone	28	2542	41	2	1	2	2
Ynl A	Undifferentiated Lower Newland	4	1138	48	2	1	2	1
<b>Total Dominant Waste Rock Samples</b>		<b>99</b>	<b>5642</b>	<b>138</b>	<b>6</b>	<b>3</b>	<b>7</b>	<b>6</b>
Ynl O	Lower Newland dolomite/dolomitic shale	<1	66	9	1	1	1	1
Yc	Chamberlain shale	<1	51	9	0	0	1	1
Yne	Neihart Quartzite	<1	43	8	1	0	1	0
IG	Igneous Dike	<1	74	8	1	0	1	0
Other Waste Rock Lithotypes**		NA	1621	3	--	--	--	--
<b>Total "Other" Waste Rock Samples</b>		<b>NA</b>	<b>1855</b>	<b>37</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>2</b>
<b>Total Waste Rock Samples</b>		<b>NA</b>	<b>7497</b>	<b>175</b>	<b>9</b>	<b>4</b>	<b>11</b>	<b>8</b>

Waste Rock % Tonnage values based on underground life of mine plan included in the MOP Application, which totals 778,810 tons.

\* Mineralogy refers to Enviromin's submission of samples from weathered HCT samples for MLA characterization, not internal mineralogy by Tintina.

\*\* Other waste rock lithotypes include numerous exploration samples that are not relevant to the current mine plan: they are either not present in the current mine design, or are present in quantities less than 1% of waste rock tonnage.

**TABLE 1-2. Tailings Treatments and Environmental Geochemical Analyses**

Tailing Treatment	ABA	NAG	ICP metals	Sat. HCT	Unsat. HCT	Diffusion Test
Raw Tailings	X	X	X	X	X	-
Paste Tailings 2%	X	X	X	-	X*	**
Paste Tailings 4%	X	X	X	-	X*	X
Paste Tailings 4% and Waste Rock	-	-	-	-	X*	X

\*Unsaturated HCTs conducted on intact cylinders, not crushed materials, as is indicated in the ASTM standard.

\*\*An attempt was made to subject a cylinder of paste tailings with 2% binders to diffusion testing, however, the cylinder did not maintain integrity for the first leachate "bath" and the test was terminated before any data were collected.

**TABLE 1-3. Kinetic Tests and Facility Scenarios**

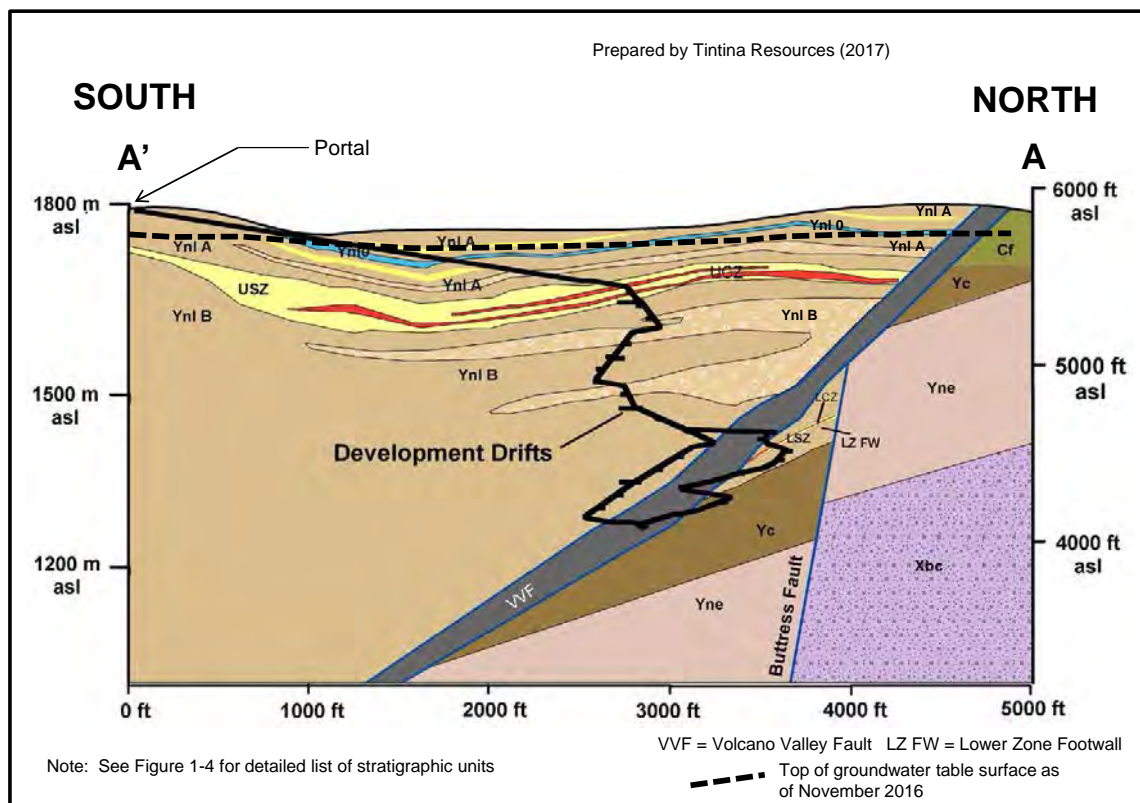
Waste Rock Management			
Action Scenarios	Facility Represented	Waste Rock Material	Test Method
Proposed	Underground Water Quality	HCT by Lithotype	ASTM method D5744 (HCT)
	Temporary Waste Rock Storage	HCT by Lithotype	ASTM method D5744 (HCT)
Tailings Management			
Action Scenarios	Facility Represented	Tailings Characteristics	Test Method
Proposed	Backfilled Paste in flooded workings	4% binder	ASTM C1308 diffusion test
	Cement paste in CTF, subaerial weathering	2% binder	ASTM method D5744 (HCT)
	Cement paste in CTF, subaerial weathering	4% binder	ASTM method D5744 (HCT)
Alternative	Saturated tailing e.g., subaqueous impoundment	Raw (non-amended)	Modified ASTM method D5744 (saturated HCT)
	Subaerial weathering, e.g., dry stack tailing pile	Raw (non-amended)	ASTM method D5744 (HCT)
Additional*	Cement paste in CTF, subaerial weathering	4% co-disposed with waste rock	ASTM method D5744 (HCT)
	Backfilled Paste in flooded workings	4% co-disposed with waste rock	ASTM C1308 diffusion test

\*Geochemical testing of paste tailings mixed with ROM was conducted to evaluate previously-considered scenarios that are no longer pertinent to Tintina's operational plans or foreseeable alternatives.

### 1.3 Geology

The Black Butte Copper deposit consists of two massive sulfide-Cu ore bodies within the mid-Proterozoic-aged Newland Formation of the Belt Supergroup. The Newland Formation is typically divided into a lower member that consists of primarily argillaceous dolomite and an upper member of interbedded shales and carbonates (Mogk D., 2015, personal communication; Graham *et al.*, 2012). A generalized cross-section that includes the proposed underground mine workings is included as **Figure 1-3**.

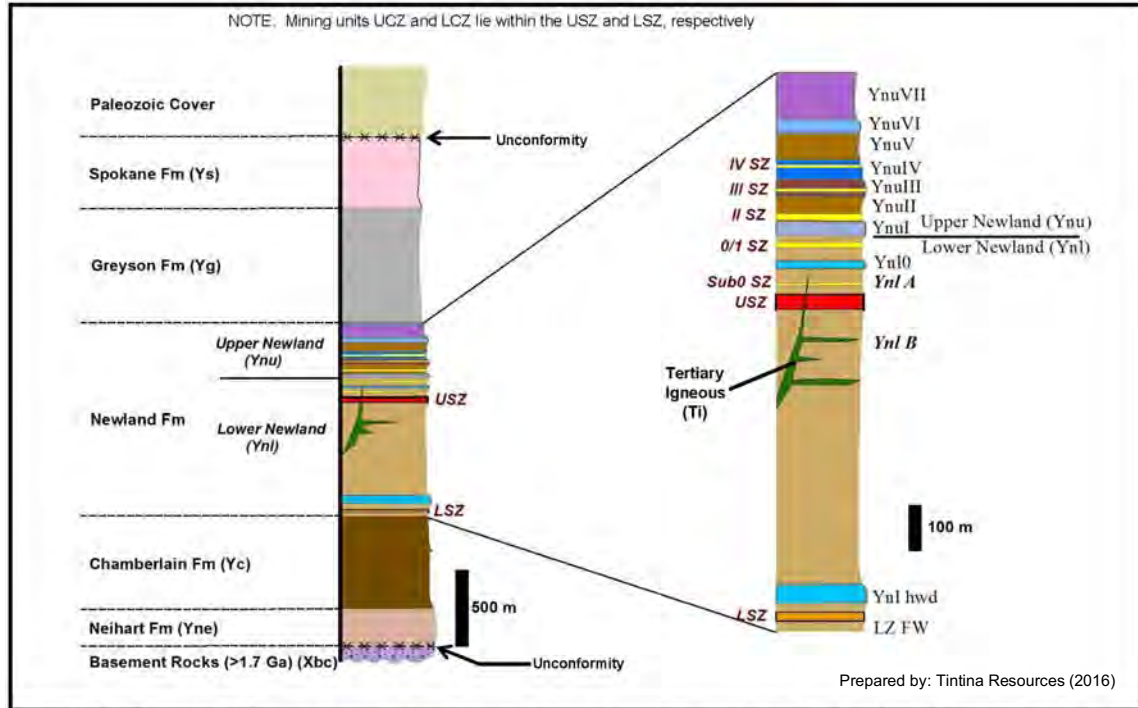
The locally massive sulfide-bearing sediments were deposited within the Helena embayment and exposed along the Volcano Valley thrust fault (VVF) at the end of the Laramide orogeny (Resource Modeling Inc., 2012). Copper ore is hosted in sulfide minerals within marine sediments associated with submarine hydrothermal vents, and contains varying amounts of primary and secondary pyrite, chalcopyrite, bornite, barite, and silica. Microfossils identified within the sulfide bodies at the Black Butte Copper project are suggestive of vent fauna grown on submarine hydrothermal vents. Approximately 2,460 feet (750 m) in total vertical thickness of interbedded sulfide mineralization has been defined, with approximately 1,230 feet (350 m) (in vertical thickness) of overlying and interbedded carbonate (Resource Modeling, Inc., 2012).



**FIGURE 1-3. Cross Section of Black Butte Copper Project**

The stratigraphy of the Newland Formation shales, dolomites, and interbedded sulfides is shown in **Figure 1-4**. The uppermost member of the Upper Newland Formation (*Ynu*), which is designated as *Ynu II* in Tintina’s geological model, is a black-gray thinly laminated to well-bedded silty dolomite that is typically less than 49 feet (15 m) thick. Black chert layers and nodules appear in core and outcrops, and are a diagnostic feature of the unit. A thin sulfide horizon known as the *II SZ* sulfide zone is developed at the contact between the *Ynu II* and the underlying *Ynu I*. Sheets of sulfide localized immediately below *Ynu I* provide a definitive stratigraphic marker, known as the *O/I SZ* sulfide zone, which indicates the transition to the more sulfidic Lower Newland Formation.

The uppermost portion of the Lower Newland Formation that will be intercepted by the decline above the upper sulfide zone (*USZ*) is identified operationally as *Ynl A*. This unit is comprised of interbedded black-grey laminar silts, dolostones, and shales. Upper and lower blocks of *Ynl A* are separated by a relatively thin interbed of stylolitic, medium grey dolomite known as *Ynl O* or “the Nose”. The *Ynl O* unit is the closest distinguishable carbonate bed overlying the *USZ*. Above the *Ynl O* unit, trace sulfide minerals occur in local zones of faulting and remineralization, commonly in association with calcite. Below the *Ynl O* unit, the *Ynl A* contains visible pyrite and barite laminations that increase with depth. The *USZ*, which hosts significant copper mineralization known as the Upper Copper Zone (*UCZ*), immediately underlies the lower block of undifferentiated *Ynl A* and can be up to 328 feet (100 m) thick (Resource Modeling, Inc., 2012). The *Ynl B* unit that lies between the *USZ* and the underlying Lower Sulfide Zone (*LSZ*) is comprised of shale and conglomerate.



Prepared by: Tintina Resources (2016) Abbreviations: Fm = Formation; FW = footwall; hwd = hanging wall dolomite SZ = Sulfide Zone; LZ FW = Lower Zone Footwall  
Other geologic units not listed on this stratigraphic section but that are included in the mine permit area include: Ts (Tertiary sediments) and Paleozoic cover units (Cw = Wolsey Formation; Ct = Flathead sandstone; cg = conglomerate interbeds in Ynu and Ynl; and ls = limestone interbeds in the Ynu and Ynl. The Ynl unit is divided into the Ynl A and the Ynl B subunits relative to the location above or below the USZ, respectively.

**FIGURE 1-4. Black Butte Copper Project, Generalized Stratigraphic Column**

The *USZ*, which hosts Cu- mineralization in the calcareous shale of the Lower Newland Formation, contains fine-grained bedded pyrite up to 180 feet (55 m) thick with three chalcopyrite-rich zones. Bornite and chalcopyrite occur more frequently in the southern part of the *USZ*. The cobalt minerals are unknown but are most likely cobaltite or glaucodot. Economic grade mineralization associated with the *USZ* is specifically hosted in the *UCZ*.

Economic grade mineralization known as the Lower Copper Zone (*LCZ*) is hosted within the *LSZ*. The proposed mine workings will access the *LCZ* and are oriented to address the structural definition of this zone by the Volcano Valley Fault (*VVF*) and the Buttress Fault. The *VVF* is a clay-rich shear zone approximately 33 feet (10 m) thick. The Buttress Fault is a steeply dipping normal fault that traverses through the Neihart Quartzite unit (*Yne*). Due to its close proximity to mine workings, *Yne* has been included in the geochemical characterization program for potential use as a construction material. The *LCZ* is also proximal to the Chamberlain Shale (*Yc*), which contains disseminated pyrite and proportionally less carbonate than the *Ynl A*. Between the lower zone footwall and the top of the *Yc* is a silicified unit comprised of shale and debris flow material that has been designated as the Lower Zone Footwall (*LZ FW*). This unit contains highly altered dolomite and is locally silicified below the *VVF*. The *LZ FW* is characterized by erratic sulfide mineralization, including disseminated chalcopyrite and pyrite as well as some ore stringer veinlets. There are very isolated occurrences of gold minerals in the *LZ FW*, which is almost completely devoid of cobalt (Co) and arsenic (As).

A list of the minerals relevant to the environmental geochemistry of waste rock for each major lithotype is provided in Table 1-4.

**TABLE 1-4. Mineralogy, by lithotype, for Tintina’s Black Butte Copper Project**

	Mineral	Formula	LZ FW	Ynl B	USZ	Ynl A	Ynl O	Yc	Yne
Silicates	Quartz	SiO <sub>2</sub>	✓	✓	✓	✓		✓	✓
	Chert	SiO <sub>2</sub>			✓		✓		
Carbonates	Dolomite	CaMg(CO <sub>3</sub> ) <sub>2</sub>	✓	✓	✓	✓	✓		
	Calcite	CaCO <sub>3</sub>		✓	✓	✓	✓		
	Strontianite	SrCO <sub>3</sub>			✓				
Sulfides	Pyrite	FeS <sub>2</sub>	✓	✓	✓	✓		✓	
	Marcasite	FeS <sub>2</sub>			✓				
	Chalcopyrite	CuFeS <sub>2</sub>	✓		✓				
	Bornite	Cu <sub>5</sub> FeS <sub>4</sub>			✓				
	Tennantite	Cu <sub>12</sub> Sb <sub>4</sub> S <sub>13</sub>			✓				
	Chalcocite	Cu <sub>2</sub> S			✓				
	Galena	PbS			✓				
	Sphalerite	ZnS			✓				
	Siegenite	(Ni,Co) <sub>3</sub> S <sub>4</sub>			✓				
	Carrollite	Cu(Co,Ni) <sub>2</sub> S <sub>4</sub>			✓				
	Cobaltite	CoAsS			✓				
	Glaucodot	(Co,Fe)AsS			✓				
Sulfates	Barite	BaSO <sub>4</sub>	✓		✓	✓			
	Celestine	SrSO <sub>4</sub>			✓				

## 2 Sampling

The environmental geochemistry of rocks that will be mined from the Black Butte Copper Project will be influenced by sulfide, carbonate, and metal-bearing minerals. Representative samples of waste rock, tailings, and construction (excavation) materials were therefore identified for analysis. Samples of homogenized “raw” tailings were created by flotation during metallurgical testing (conducted at SGS Laboratories, Vancouver, CA). AMEC Foster- Wheeler produced the various paste-amended tailings samples. Enviromin was provided splits of all “raw” non-amended tailings and paste tailings for geochemical testing.

To ensure representative sample selection for waste rock and construction materials, statistical sampling techniques were applied to the multi-element whole rock data (from the exploration database) in order to select sample subsets for environmental geochemical testing. Comparable, but not identical, methods were used in the identification of representative samples by Tetra Tech in 2012 for the *Ynl A*, *Ynl B*, and *USZ* lithotypes, and by Enviromin in 2015 for *USZ*, *Ynl B*, and *LZ FW*. Tetra Tech selected representative samples across the distribution of each multi-element data set visually, as described in the Final Black Butte Copper Project Baseline Environmental Geochemistry Evaluation for the 2012 Johnny Lee Decline, which is included as



**Appendix A.** This approach was revised during the 2015 environmental geochemical testing program to determine the number of subsamples needed to represent the mean exhibited by the larger pool of available data for each lithotype using a method based on Runnells *et al.*, 1997. The number of samples identified for each lithotype is shown with boxplots comparing the sample subsets with the overall population in **Appendix B**.

An initial group of eight samples was selected across the range of observed chemistry for each lithotype, based on the histogram approach defined by Tetra Tech, with the initial goal of representing the range of sulfur (S) concentrations. Enviromin chose to begin with S distribution because S is a master variable of environmental geochemical concern to Tintina and is directly associated with the potential release of metal(loid) elements of environmental interest. Following selection of the initial eight subsamples, additional subsamples were progressively added through random selection until the means of the subset were equivalent to the means of the original lithotype exploration dataset.

Subsequent to completion of the 2012 Decline report (**Appendix A**), kinetic humidity cell tests were conducted on most of the composites constructed during the 2012 Decline geochemical testing program. Specifically, equal proportions of the two *USZ* composites (one designated “High Fe” and the other “Low Fe”) were combined to form a single composite labeled “*USZ 1/2*”; the two *Ynl A* composites were combined to form a single composite labeled “*Ynl 1/2*”; and the *Ynl 0* and *Ynl B (2012 Decline)* composites were used as originally designed for kinetic testing. The *IG* and *Ynl B (original 2011 decline)* composites were not included in the kinetic testing program, as they did not represent significant tonnage to be mined from the 2012 Decline.

Sample subsets selected in 2015 were individually tested for static parameters and then composited. Specifically, acid-base accounting (ABA) and net-acid generation (NAG) tests were conducted on each sample, after which samples were composited for metal mobility, asbestiform mineral analysis, and kinetic tests. These composites were constructed by using equal masses of each sample in the lithotype subsets. For example, for the *USZ* material, the 15 selected *USZ* subsamples, which had been individually analyzed for ABA and NAG, were composited into a single sample. Intervals selected for the in the 2015 geochemical testing are presented in **Table B-2 of Appendix B**.

### 3 Waste Rock Characterization

The geochemical testing of waste rock for the Black Butte Copper Project was initially focused on the 2012 Decline, which included static and/or kinetic testing of the relevant lithotypes: *IG*, *Ynl A*, *Ynl 0*, *Ynl B*, and *USZ*. When the focus was shifted from the 2012 Decline to an operational-scale plan, the baseline geochemical testing program was updated to identify where the 2012 work had not fully characterized waste rock lithotypes and based on site-wide ICP-MS exploration data. For example, the 2012 analysis of *Ynl A* involved samples that were representative of multi-element chemistry site-wide, while the 2012 analyses of *Ynl B* and *USZ* did not. The *Ynl A* lithotype, thus, did not require additional testing, while the *Ynl B* and *USZ* lithotypes did. The *LZ FW*, *Yne*, and *Yc* were also added as lithotypes.

Due to changes in the mine plan during 2014 and 2015, the *Yne*, *Ynl 0*, *IG*, and *Yc* were determined to represent <1% of waste rock tonnage. Therefore, while they have been characterized thoroughly, they are not relevant to Tintina’s final mine plan. The entire waste rock characterization program is described here, but the discussion is focused on

results for the lithotypes expected to contribute significantly to waste rock tonnages: *Ynl A*, *USZ*, *Ynl B*, and *LZ FW*.

### 3.1 Static Testing of Waste Rock

Static testing methods were primarily used to evaluate acid generation potential, although some static testing also investigated metal release potential. Static testing refers to analysis at a fixed point in time and differs from kinetic testing, which measures changes in oxidation and solute release over time. Multi-element analyses of rock composition (ICP, collected as part of assay tests) were used to evaluate whole rock metal content. The acid base accounting (ABA) and net acid generation (NAG) tests were used to evaluate potential for acid generation, and the EPA method 1312 Synthetic Precipitation Leachability Procedure (SPLP) was used to evaluate potential metal mobility for some lithotypes. Additional static testing included in the Black Butte Copper Project geochemistry program included testing to rule out the presence of asbestiform minerals and mineralogical analyses (**Table 1-1**). A detailed description of the tests used to characterize the waste rock, and a summary of results, is provided below.

#### 3.1.1 Multi-Element Whole Rock Chemistry

Multi-elemental analyses of rock composition, measured during the exploration program, provided a solid basis for the selection of subsamples for use in environmental geochemical characterization. Whole-rock data are also useful for “fingerprinting” samples during mining operations and can be correlated with those included in this baseline geochemical study.

Elemental composition was determined using inductively coupled plasma-atomic emission spectroscopy (ICP-AES) following a 4-acid digestion with a mixture of perchloric, nitric, hydrofluoric, and hydrochloric acids to dissolve the mineral matrix, including the silicates. The results of the multi-element analyses are summarized in **Appendix B**, and demonstrate the elemental variation between lithotypes.

#### 3.1.2 Acid Base Accounting and Net Acid Generation

Sulfide minerals in waste rock, particularly pyrite, react with water and oxygen to produce sulfuric acid ( $H_2SO_4$ ), which can be neutralized by minerals capable of consuming acid, such as calcite. Two tests were used to measure potential for acid production, acid base accounting (ABA) and the net acid generation test (NAG). Results of these tests allow rock to be classified as Potentially Acid Generating (PAG) rock or Non-Acid Generating (NAG) rock, as discussed below.

The ABA test measures the relative acid production and neutralization properties of a mine waste material based on the conservative assumption that all sulfide present will oxidize, releasing acidity. The ABA test quantifies the acid production potential (AP) and neutralization potential (NP) of a sample in units of tons  $CaCO_3$  / kiloton of rock (Sobek et al. 1978), allowing calculation of the net neutralization potential (NNP) as NP less AP, as well as the ratio of NP to AP (INAP, 2012). The ABA test uses a relatively complete digestion of finely ground rock, and therefore conservatively estimates the reactivity of available sulfide minerals.

To determine NP, a sample is treated with excess standardized hydrochloric acid (HCl) at ambient temperatures for 24 hours. After the test is complete, the remaining acid is titrated with a standardized base to pH 8.3 to allow the calculation of calcium carbonate equivalent for acid consumed. Early analyses used the Sobek method, and later

analyses followed the modified Sobek method of ABA analysis (Lawrence and Wang, 1996). The difference between these two methods is that the latter uses a fizz test to adjust the amount of acid used in an alkalinity titration. Because of the change in method, a comparison of select samples from key rock types was conducted and showed that these methods produced consistent results in this style of mineralization.

In this study, Enviromin applied detection limits to the analytical NP values reported by the ALS Laboratories, to provide for meaningful interpretation of these data. While the analytical procedure allows for measurement of negative NP values, a negative NP value reflects the production of acidity, which is accounted for in the AP portion of this test. The NP can be  $\geq 0$  in terms of t CaCO<sub>3</sub>/ kton rock. Therefore, Enviromin converts negative NP values reported by ALS into “<1” values, which reflects the resolution for this analysis.

As part of the ABA analysis, S was fractionated to identify the sulfide content, acid-soluble and -insoluble sulfate, and residual S fractions. Total S was determined by LECO S, and sulfate S was measured by analysis of the carbonate-soluble and HCl-soluble fractions. Sulfide was then calculated by subtracting total sulfate from total S.

In this study, Enviromin recalculated AP based on sulfide S (not total S, as reported by ALS), which was the dominant form of S measured in most samples. This adjustment, along with the detection limits used in place of negative NP values, allowed recalculation of NP:AP and NNP. All recalculated NP:AP ratios and NNP values were held to the ALS’ limits of reporting (LOR; 0.01 and 1, respectively), effectively setting detection limits (at the LOR) for these analyses.

The acid generation potential of rock samples is assessed based on calculated values of NNP and NP:AP using the ABA criteria shown in **Table 3-1**. The criteria are also used to identify materials that require kinetic testing in humidity cells to evaluate acid generation and metal release potential under prolonged weathering stress.

**TABLE 3-1. Criteria for Classifying Acid Generation Potential from ABA Data**

Classification	ABA Criteria
Potentially Acid Generating (PAG)	NP:AP < 1 and NNP < -20 tons/kton as CaCO <sub>3</sub>
Uncertain Acid Generation Potential	NP:AP between 1 and 3 and/or NNP between -20 and +20 tons/kton as CaCO <sub>3</sub>
Unlikely to Generate Acid (NAG)	NP:AP > 3 and NNP > +20 tons/kton as CaCO <sub>3</sub>

*From BLM (1996) and USEPA (1994).*

The net acid generation pH (NAG pH) test is another method of evaluating acid generation potential, which relies on the oxidation of a ground sample using hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>, Miller et al, 1997). All sulfides are oxidized, and available minerals neutralize any acid produced. The NAG pH method avoids the potential bias of assumptions implicit in the ABA method, including the assumed stoichiometry of sulfide mineralogy and the relative efficiency of speciation methods.

A 2.5 gram sample is pulverized and 250 mL of 15% H<sub>2</sub>O<sub>2</sub> is added. The sample reacts overnight, and is then heated for up to 2 hours to remove excess H<sub>2</sub>O<sub>2</sub> and encourage the release of inherent neutralizing capacity. The sample is allowed to cool, ending pH (NAG pH) is measured, and the solution is then titrated with sodium hydroxide, to endpoints of pH 4.5 and 7.0. Samples with a NAG pH of less than 4.5 at completion of

the test indicate potential to generate acid, and titration results further indicate the material's acid-production ability (**Table 3-2**).

**TABLE 3-2. Criteria for Classifying Net Acid Generation Potential**

NAG Prediction	Detailed Prediction	Final NAG pH	NAG Value (t H <sub>2</sub> SO <sub>4</sub> / 1000 t)
Potentially net acid generating (PAG)	High capacity	<4.5	>5 (up to 10, depending on site-specific factors)
	Low capacity	<4.5	0-5
Potentially non-net acid generating (NAG)		>4.5	0

Adapted from: Miller et al. 1997, and INAP, 2012

**Figures 3-1 and 3-2**, as well as **Tables 3-3a and 3-3b**, present a summary of ABA and NAG results for all tested lithotypes. ABA and NAG results for individual samples are compared with the guidelines presented in **Table 3-1** and **Table 3-2**. Lab reports for ABA and NAG analyses completed prior to 2013 are included in the 2012 Decline report (**Appendix A**, note that *Ynl A* was formerly referred to as “*Ynl*” and appears with that label in laboratory results). Lab reports for samples analyzed following completion of the 2012 Decline report are presented in **Appendix B**.

Results for the *Ynl A* lithotype indicate that most of this unit will be non-acid generating. However, there are sulfidic stringers present in the undifferentiated Lower Newland Formation, especially in proximity to the *USZ*. The presence of locally greater sulfide content is reflected by the “uncertain” and potentially acid-generating characteristics of a small number of samples (**Appendix B**).

The results of ABA and NAG analyses demonstrate that of the four dominant lithotypes, only the *USZ* material is consistently rated as potentially acid generating (PAG), with no samples rated as NAG and select samples rated as having an “uncertain acid generation potential.” Because this material represents approximately 28% of the expected waste rock tonnage, Tintina has conducted two kinetic tests of this material.

The *Ynl B* lithotype is also expected to contribute significantly to the waste rock tonnage (32%). Based on ABA and NAG test results, this material is not expected to produce significant acid. These static results include data collected in both the 2012 and 2015 geochemical testing programs and represent a robust dataset for this material (**Figures 3-1a, 3-1b, and 3-2; Tables 3-3a and 3-3b; and Appendix B**). Kinetic tests of *Ynl B* samples collected near the 2012 decline, and site-wide (2015), have been conducted.

The *LZ FW* lithotype, which constitutes approximately 35% of the expected waste rock tonnage, exhibited an uncertain potential for acid generation. This unit is defined spatially and contains multiple lithologies with variable mineralogy ranging from acid neutralizing to potentially acid generating (**Appendix B**). This material has been further evaluated in a kinetic humidity cell test.

The 2012 and 2015 geochemical testing programs also included testing of lithotypes representing less than 1% tonnage. All static data for the *Ynl O* and *IG* lithotypes were reported in the 2012 Decline Report (**Appendix A**) and are included in this report for comparison with other lithotypes. The ABA and NAG results for the two remaining lithotypes, *Yne* and *Yc*, are briefly described here. Both the *Yne* and *Yc* lithotypes exhibited varying potential for acid production ranging from uncertain to non-acid

generating. None of the individual samples were classified as PAG. Kinetic testing was not conducted for the *Yne*, as its tonnage is insignificant, but potential use of the *Yc* lithotype in construction supported its testing in a humidity cell.

**TABLE 3-3a. Summary of ABA Data: Major Waste Rock Lithotypes (>1%)**

	Analyte	Units	Min.	Median	Mean	Max.	St. Dev.
Ynl A n=48	Paste pH	s.u.	4.7	8.4	6.298	9.2	0.9
	AP*	tCaCO <sub>3</sub> /Kt	0.3125	37.19	50.53	339.1	57.2
	NNP	tCaCO <sub>3</sub> /Kt	-288	126.5	164.9	853	211.0
	NP**	tCaCO <sub>3</sub> /Kt	1	194	215.5	860	196.2
	NP:AP*	s.u.	0.04	3.483	9.675	114.7	18.0
	Total S	%	0.05	1.265	1.718	11.6	1.9
	S Sulfide	%	0.01	1.19	1.617	10.85	1.8
	NAG pH 4.5	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	0.01	7.132	237	35.9
	NAG pH 7.0	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	0.01	9.782	272	41.4
NAG pH	s.u.	2.1	8.3	3.491	9.7	2.1	
USZ n=41	Paste pH	s.u.	2.7	7.1	3.92	8.7	1.7
	AP*	tCaCO <sub>3</sub> /Kt	53.44	495.3	606	1341	428.1
	NNP	tCaCO <sub>3</sub> /Kt	-1340	-337	-462.6	221	485.8
	NP**	tCaCO <sub>3</sub> /Kt	1	112	143.5	399	116.6
	NP:AP*	s.u.	0.01	0.3105	0.564	2.822	0.7
	Total S	%	3.7	16.7	20.36	44.2	13.7
	S Sulfide	%	1.71	15.85	19.39	42.9	13.7
	NAG pH 4.5	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	233	211.9	617	171.5
	NAG pH 7.0	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	254	251.9	734	201.7
NAG pH	s.u.	2	2.4	2.38	8.3	2.2	
Ynl B n=34	Paste pH	s.u.	7.2	8.6	8.2	9.2	0.4
	AP*	tCaCO <sub>3</sub> /Kt	1.25	32.81	33.9	145	32.7
	NNP	tCaCO <sub>3</sub> /Kt	-91	189.5	174.7	371	131.1
	NP	tCaCO <sub>3</sub> /Kt	4	240	208.5	423	139.8
	NP:AP*	s.u.	0.04	7.707	16.2	125.6	25.5
	Total S	%	0.04	1.085	1.1	4.72	1.1
	S Sulfide	%	0.04	1.05	1.1	4.64	1.0
	NAG pH 4.5	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	0.01	2.8	70	12.3
	NAG pH 7.0	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	0.01	3.7	81.5	14.8
NAG pH	s.u.	2.4	9.1	3.7	10.8	2.0	
LZ FW n=15	Paste pH	s.u.	7.1	7.9	7.7	8.6	0.4
	AP*	tCaCO <sub>3</sub> /Kt	1.56	33.75	59.0	270.3	70.8
	NNP	tCaCO <sub>3</sub> /Kt	-167	-7	-29.1	51	54.9
	NP	tCaCO <sub>3</sub> /Kt	4	25	29.9	103	25.4
	NP:AP*	s.u.	0.07	0.8	1.4	6.4	2.0
	Total S	%	0.06	1.13	1.9	8.71	2.3
	S Sulfide	%	0.05	1.08	1.9	8.65	2.3
	NAG pH 4.5	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	0.64	21.4	120	34.2
	NAG pH 7.0	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	6.19	26.3	132.5	38.6
NAG pH	s.u.	2.4	4	3.0	8.9	2.6	

\* Calculated from Sulfide

\*\* Negative NP values reassigned value of <1, also used in respective NP:AP calculations

Shading refers to the rating systems for respective parameters presented in **Tables 3-1 and 3-2**.  
Red=Potentially acid generating, Yellow=Uncertain, and Green=Not acid generating.

**TABLE 3-3b. Summary of ABA Data: Low Tonnage Lithotypes (<1%)**

	Analyte	Units	Min.	Median	Mean	Max.	St. Dev.
Yc n=9	Paste pH	s.u.	7.8	8.7	8.3	9.3	0.5
	AP*	tCaCO <sub>3</sub> /Kt	0.63	3.75	7.3	30.31	9.8
	NNP	tCaCO <sub>3</sub> /Kt	6	17	22.6	57	15.8
	NP	tCaCO <sub>3</sub> /Kt	10	19	29.8	87	24.0
	NP:AP*	s.u.	2.4	4.343	12.0	46.4	15.4
	Total S	%	0.02	0.12	0.2	0.97	0.3
	S Sulfide	%	0.02	0.12	0.2	0.97	0.3
	NAG pH 4.5	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	0.01	0.0	0.01	0.0
	NAG pH 7.0	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	0.01	1.1	4.83	2.1
	NAG pH	s.u.	5.5	8.3	6.4	8.4	1.1
Ynl 0 n=8	Paste pH	s.u.	4.3	9.1	5.2	9.2	1.6
	AP*	tCaCO <sub>3</sub> /Kt	0.31	10.94	143.3	1175	387.2
	NNP	tCaCO <sub>3</sub> /Kt	-1028	651	427.7	828	599.6
	NP	tCaCO <sub>3</sub> /Kt	147	662	570.9	836	290.8
	NP:AP*	s.u.	0.13	60.53	104.8	476.8	144.3
	Total S	%	0.01	0.36	4.6	37.9	12.5
	S Sulfide	%	0.01	0.35	4.6	37.6	12.4
	NAG pH 4.5	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	0.01	76.0	684	228.0
	NAG pH 7.0	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	0.01	84.2	758	252.7
	NAG pH	s.u.	2.1	9.5	3.0	10.5	2.6
Yne n=8	Paste pH	s.u.	7	7.35	7.3	8.5	0.4
	AP*	tCaCO <sub>3</sub> /Kt	0.31	0.31	0.5	1.25	0.3
	NNP	tCaCO <sub>3</sub> /Kt	0	1	1.1	2	0.6
	NP**	tCaCO <sub>3</sub> /Kt	1	1	1.4	2	0.5
	NP:AP*	s.u.	0.8	3.2	3.7	6.4	1.9
	Total S	%	0.01	0.01	0.0	0.04	0.0
	S Sulfide	%	0.01	0.01	0.0	0.04	0.0
	NAG pH 4.5	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	0.01	0.0	0.01	0.0
	NAG pH 7.0	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	4.7	3.7	6.2	2.4
	NAG pH	s.u.	6.2	6.35	6.4	7.1	0.4
IG n=8	Paste pH	s.u.	8.2	8.5	8.4	8.7	0.1
	AP*	tCaCO <sub>3</sub> /Kt	1.56	4.219	4.7	12.5	3.6
	NNP	tCaCO <sub>3</sub> /Kt	48	56	71.5	186	46.5
	NP	tCaCO <sub>3</sub> /Kt	52	60	76.1	198	49.4
	NP:AP*	s.u.	10.08	15.3	20.6	41.6	12.1
	Total S	%	0.05	0.145	0.2	0.42	0.1
	S Sulfide	%	0.05	0.135	0.2	0.4	0.1
	NAG pH 4.5	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	0.01	0.0	0.01	0.0
	NAG pH 7.0	kgH <sub>2</sub> SO <sub>4</sub> /t	0.01	0.01	0.0	0.01	0.0
	NAG pH	s.u.	9	9.35	9.2	9.5	0.2

\* Calculated from Sulfide

\*\* Negative NP values reassigned value of <1, also used in respective NP:AP calculations

Shading refers to the rating systems for respective parameters presented in **Tables 3-1 and 3-2**.  
Red=Potentially acid generating, Yellow=Uncertain, and Green=Not acid generating.

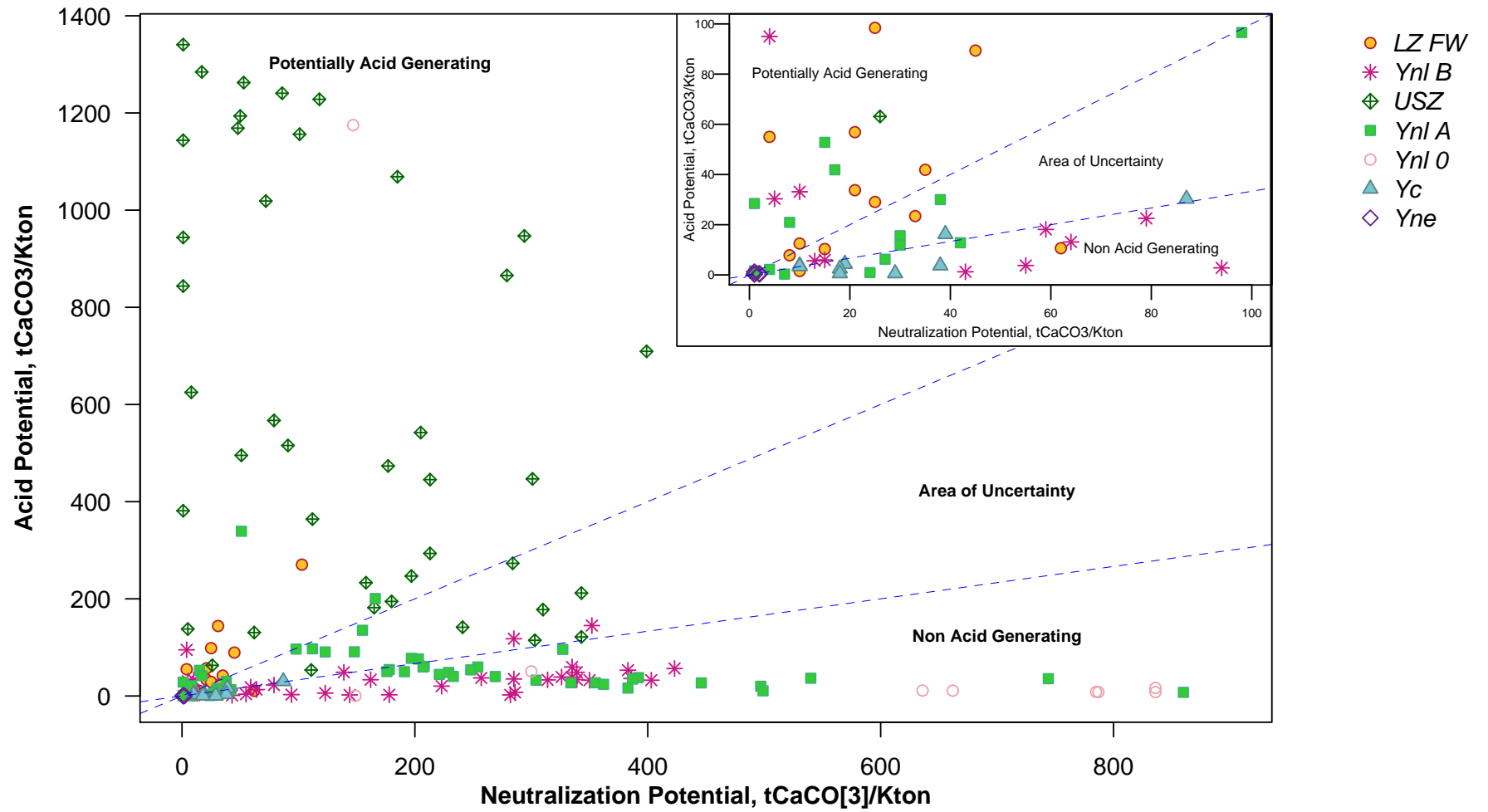


FIGURE 3-1. Acid Generation Potential for the Black Butte Copper Project.



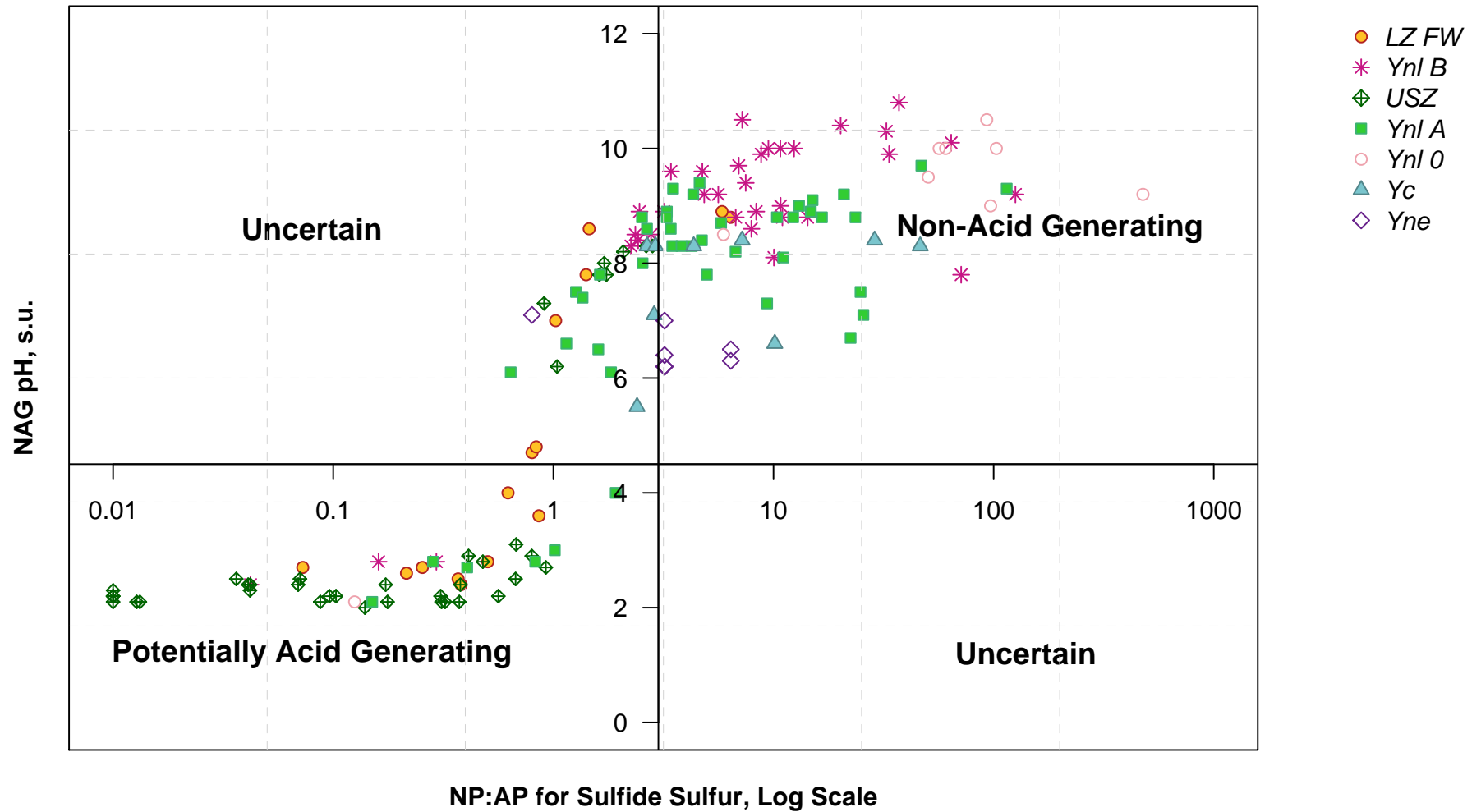


FIGURE 3-2. Black Butte Copper Project Comparison of NAG pH with NP:AP

### 3.1.3 Metal Mobility Tests

The Synthetic Precipitation Leaching Procedure (SPLP) is U.S. EPA method 1312 (2007). This test is designed to determine the mobility of metals in soils and mine wastes. For mines in the western U.S., waste rock is digested using a non-buffered pH 5 solution acidified with 60% sulfuric acid and 40% nitric acid, at a liquid-solid ratio of 20:1. The sample is rolled in a closed bottle for 18 hours, after which the sample is filtered using a 0.6-0.8  $\mu\text{m}$  filter and analyzed for total recoverable concentrations of constituents of interest at detection levels appropriate to regulatory standards, typically using ICP-AES or ICP-MS. The final pH is also measured.

The SPLP provides an indication of metals that have potential to be released from rock exposed to meteoric water. However, the actual metal concentrations are sensitive to the rock:water ratio used in the test, as well as the final pH. For rock which may undergo oxidation-related changes in pH, the SPLP may not fully represent metal release. Concentrations measured in extracts should therefore be interpreted with caution (Fey, 2003).

The SPLP test was used for all lithotypes studied in 2012 and *Yne* in 2015, but the confined headspace during testing lead to a problem with supersaturated carbon dioxide concentrations (a result of degassing of carbon dioxide from rock), which artificially elevated pH. This pH bias in SPLP results, likely influenced metal solubility, suggesting that these metal data are not reliable for materials that could undergo sulfide oxidation and which, therefore, may produce lower pH water. Metal mobility predictions were based instead on subsequent kinetic tests, as described below. The one exception to this was the use of the SPLP to evaluate metal release potential for the *Yne* quartzite, which has low carbonate and minimal metal release potential (based on whole rock chemistry). The results of this and the 2012 SPLP analyses (for comparison) are presented along with relevant MT DEQ groundwater standards in **Table 3-4**. In these alkaline solutions, where final pH was 9.9, most metal concentrations were below detection.

The lab report for the *Yne* sample is included in **Appendix B**, while lab reports from the 2012 Decline investigation were presented in the 2012 Decline Report, which is included here as **Appendix A**. Note that *Ynl A* was formerly referred to as “*Ynl*” and appears with that label in laboratory results.

**TABLE 3-4. 2012 and 2015 Yne SPLP Testing Results**

Analyte	MT GW Standards	2015	2012							
		Yne	IG	USZ 1, High Fe	USZ 2, Low Fe	Ynl 0	Ynl A 1	Ynl A 2	Ynl B 1 (2012 decline)	Ynl B 2 (orig. decline)
pH (s.u.)	None	9.9	9.5	8.4	8.9	9.9	9.2	9.6	9.6	9.7
Al	None	6.07	3.2	0.03	0.09	0.07	0.17	0.16	0.64	0.12
Sb	0.006	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
As	0.01	0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.006	<0.003
Ba	1	0.096	0.059	0.023	0.007	<0.005	0.011	<0.005	0.015	0.006
Be	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cd	0.005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.0002 <sup>1</sup>	<0.00008
Ca	None	<1	4	25	15	6	7	5	5	7
Cr	0.1	0.01	0.012	<0.001	0.003	0.009	0.003	0.008	0.004	0.001
Co	None	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cu	1.3	0.007	<0.002 <sup>1</sup>	<0.001	<0.002 <sup>1</sup>	<0.001	<0.001	<0.001	<0.001	<0.001
Fe	None	2.47	1.91	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	<0.05
Pb	0.015	0.0042	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Mg	None	<1	3	18	10	4	4	4	4	3
Mn	None	0.006	0.03	0.092	0.006	<0.005	<0.005	<0.005	<0.005	<0.005
Hg	0.002	0.00003	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Mo	None	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	0.01	0.02	<0.001
Ni	0.1	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
K	None	3	2	1	1	<1	<1	<1	2	<1
Se	0.05	<0.001	<0.001	0.005	<0.001	<0.001	0.005	<0.001	0.005	<0.001
Ag	0.1	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Na	None	21	56	50	21	34	16	72	28	18
Sr	4	0.02	0.09	0.25	0.03	<0.01	0.04	<0.01	0.08	0.03
Tl	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
U	0.03	0.0004	0.00024	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Zn	2	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

All units are in mg/L unless otherwise noted

2012 SPLP data are presented here for comparison with the 2015 Yne SPLP data.

<sup>1</sup>Reporting limit for Cd in the sample from Ynl B 2, Original Decline and those for Cu in IG and USZ 2 were increased due to sample matrix interference.

### 3.1.4 Asbestiform Minerals

Asbestiform serpentine and amphibole minerals are generally associated with metamorphic processes and do not typically occur in carbonaceous sedimentary deposits. Chrysotile fibers are most commonly found where serpentinized ultramafic intrudes dolomitic marbles. Although amphibole minerals are widely found throughout the earth's crust, few varieties exhibit the rare asbestiform habit resulting from mechanical shearing and/or high temperature metamorphism, which pose health risks. Asbestiform mineralization is therefore highly unlikely in the Black Butte copper deposit. Nevertheless, composites of lithotypes were screened for the presence of asbestiform minerals at the request of the Montana Department of Environmental Quality.

The presence/absence of chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite was evaluated by the R.J. Lee Group using Polarized Light Microscopy (PLM) methods at a 400 point count, followed by evaluation of any identified asbestiform fibers following U.S. EPA regulations. Any samples found to contain uncertain or demonstrated asbestiform mineral content were to be analyzed using Transmission Electron Microscopic (TEM) analysis to clearly distinguish between mineral cleavage and fibers, along with elemental analysis of the samples. For this project, detection between 0.001 and 0.1 weight percent was required.

In the 2012 Decline geochemical investigation, no asbestiform minerals were identified in the USZ, Ynl A, Ynl O, Ynl B, or IG. These results are presented in the March 2013 Baseline Environmental Geochemistry Report, included as **Appendix A**. Note that Ynl A was formerly referred to as "Ynl" and appears with that label in laboratory results.

In the current geochemical characterization program, additional lithotypes, including Yc, Yne, and LZ FW, were also screened for the presence of asbestiform minerals. Lab reports for samples analyzed after 2012 are provided in **Appendix E**. None of the samples submitted for asbestiform mineral screening contained detectable asbestos using PLM analysis (**Table 3-5**). For this reason, confirmation testing using TEM methods was not warranted.

**TABLE 3-5. Results of 2012 and 2015 Asbestiform Mineral Testing**

Lithotype		Homogeneous	Layers	Asbestos Detected	Non-Asbestos Fibers%	Non-Fibrous Materials%
2015	LZ FW	Yes	1	ND	0	100
	Yc	Yes	1	ND	0	100
	Yne	Yes	1	ND	0	100
2012	Ynl B	Yes	1	ND	0	100
	Ynl B 2	Yes	1	ND	0	100
	USZ 1	Yes	1	ND	0	100
	USZ 2	Yes	1	ND	0	100
	Ynl A1	Yes	1	ND	0	100
	Ynl A2	Yes	1	ND	0	100
	Ynl O	Yes	1	ND	0	100
	IG	Yes	1	ND	0	100

ND=Not Detected

2012 Asbestiform mineral data are presented here for comparison with the 2015 data.

### 3.2 Kinetic Testing of Waste Rock

Humidity cell tests (HCTs) are designed to study the rate of sulfide mineral oxidation and are often used to simulate long-term metals leaching in aerobic (accelerated weathering) environments. Typically, HCTs are run using established American Society for Testing and Materials (ASTM) testing protocols. Crushed rock is placed in a column and aerated with alternating cycles of humid and dry air, followed by weekly flushing with a relatively large volume of water (approximately 2 pore volumes). The column is allowed to drain and the cycle is repeated weekly for what has conventionally been a 20-week period. However, there are no fixed timelines for HCT duration, which should be determined by evidence of steady state in key reaction rates, such as sulfide oxidation and depletion of alkalinity.

Kinetic tests that are strongly alkaline, show no evidence of metal release, and contain little to no sulfide mineralization, or those that are strongly acidic, may not require more than 20 weeks of testing. A shorter period of testing may be sufficient to meet risk management and data objective requirements. However, tests of materials that are equivocal and show ongoing sulfide oxidation may require much longer periods of testing to evaluate the potential for development of acidic conditions.

Alternatively, termination of tests can be determined based on risk management protocols. For example, although the 2012 HCT test of *USZ* rock from the 2012 Decline did not produce acidic leachate, the high potential for acid production indicated by static testing led Tintina to stipulate that the *USZ* waste would be handled as PAG. As a result, this HCT was terminated at 24 weeks in spite of continued sulfate production. A subsequent need was identified to predict metal release under sulfide oxidizing conditions in this unit, site-wide, and so a second test was initiated. In most cases, as a practical matter, humidity cell duration is currently determined by the supervising geochemist with regulatory and other stakeholder input.

Water collected from the column is analyzed for sulfide oxidation and neutralization parameters (e.g., pH, redox potential (Eh), sulfate, alkalinity, acidity, and Fe speciation) each week, and periodically for metals. The suite of metals is typically determined from mineralization style and regulatory requirements, and the reporting limits for analysis are based on both regulatory requirements and data quality objectives (i.e., modeling goals).

All waste rock HCTs for the Tintina Black Butte Project were conducted by McClelland Laboratories of Sparks, Nevada using the (ASTM) 5744-07 method. Sulfide oxidation and acid neutralization parameters were measured weekly in the column lab, and effluent collected during weeks 0, 1, 2, 4, and every fourth week thereafter was analyzed for a comprehensive suite of metals by Energy Laboratories in Billing, Montana. In this geochemical testing program, sulfate was analyzed both in weekly effluent by McClelland Laboratories, as well as in the periodic effluent sent to Energy Laboratories. All HCT data are presented in **Appendix C**, and a selection of the most relevant data is presented below in text and figures.

The Tintina Black Butte Project kinetic tests were conducted in two series. During the 2012 Decline geochemical testing program, four HCTs were commissioned, one for each of the following lithotypes: *USZ*, *Ynl 0*, *Ynl B*, and *Ynl A*. When the focus shifted to the operational scale plan in late 2014, and new lithotypes were added to the waste rock characterization program, a second set of kinetic HCTs were initiated, including the *USZ*, *Ynl B*, *LZ FW*, and *Yc* lithotypes.

### 3.2.1 2012 Decline Kinetic Testing

Subsequent to completion of the 2012 Decline report, Tintina elected to proceed with kinetic testing of the *USZ*, *Ynl A*, *Ynl 0*, and *Ynl B* materials, which would have contributed significant proportions of the waste rock tonnage for the 2012 Decline. Composites for HCTs were constructed as follows: equal proportions of the two *USZ* composites (one designated “High Fe” and the other “Low Fe”) were combined to form a single composite labeled “*USZ 1/2*”; the two *Ynl A* composites were combined to form a single composite labeled “*Ynl 1/2*”; and the *Ynl 0* and *Ynl B (2012 Decline)* composites were used, as originally designed, for kinetic testing. The *IG* and *Ynl B (original decline)* composites were not included in the kinetic testing program, as they were no longer considered significant lithotypes. Both the *USZ* and the *Ynl 0* columns were decommissioned after week 24. The *Ynl B* and *Ynl A* columns were decommissioned after weeks 62 and 88, respectively. The results of each kinetic humidity cell test are discussed below, including figures of select weekly parameters and periodic metals, by lithotype. Tabulated data are presented in **Tables C-1** and **C-2** of **Appendix C**.

An understanding of the sulfide and carbonate mineralogy of the tested materials, as well as the mineral residence of elements detected in humidity cell effluent, is important for the correct interpretation of kinetic tests results. The results of all mineralogical analyses of humidity cell leached rock are discussed below and presented in detail in Appendix F of this report.

The mineral residence of thallium (Tl) and selenium (Se), which were elevated in some HCT effluents, was of particular importance in interpreting the results for this project. The Black Butte Copper deposit is hosted in interbedded shales and dolomitic carbonates, with locally massive sulfide mineralization containing primary and secondary pyrite, chalcopyrite, bornite, barite, and silica. Commonly recognized, naturally-occurring Tl-rich minerals such as lorandite (TlAsS<sub>2</sub>) and crookesite [Cu<sub>7</sub>(Tl,Ag)Se<sub>4</sub>] are not known to occur in the deposit. Because Tl occurs naturally in soils, predominantly as the charged ion Tl<sup>+</sup>, and can occur as a cationic substitute for potassium in aluminosilicate minerals, the Tl in leachate from the *USZ* and *Ynl A* columns may result from desorption or weathering of those minerals. Tl also displays chalcophile characteristics and has been found to occur with sulfides such as pyrite, sphalerite, and galena.

In order to better understand the sources of sulfate production and metal release (particularly of Tl and Se in the humidity cells), weathered samples collected from humidity cells in 2012 were analyzed by mineral liberation analysis (MLA) at the following times:

- *USZ* collected at 24 weeks;
- *Ynl 0* collected at 24 weeks;
- *Ynl B* collected at 33 weeks; and
- *Ynl A* collected at 33 weeks.

Additionally, a non-weathered sample of *Ynl A* from the composite used for HCT construction was analyzed as a basis for comparison, based on the assumption that the trace element content would be highest in non-weathered material. All mineralogical analyses were conducted by the Center for Advanced Mineral & Metallurgical Processing (CAMP) at Montana Tech in Butte, Montana.

Analyses conducted on the four weathered samples included MLA by scanning electron microscope-electron dispersive spectroscopy (SEM-EDS), sparse phase liberation (SPL), as well as x-ray mapping. The non-weathered *Ynl A* sample was subjected to

heavy liquid separation (HLS) to separate the heavy (dense, sulfide-rich) and light (silica-rich) mineral fractions, followed by inductively-coupled plasma analysis of a 4-acid digested sample and MLA of the two fractions.

No specific Se- and Tl-bearing minerals were detected in any of the analyses of *USZ*, *Ynl 0*, *Ynl B*, and *Ynl A* undifferentiated rock. ICP analysis of the HLS “float” and “sink” fractions of the non-weathered *Ynl A* sample revealed higher concentrations of cadmium (Cd), Fe, nickel (Ni), and Tl in the dense, sulfide-rich “sink” fraction. This suggests that Tl is present at trace levels in pyrite, because no specific Tl-bearing mineral was identified.

The CAMP report describing these analyses is included in **Appendix C**. Note that *Ynl A* was formerly referred to as “*Ynl*” and appears with that label in this report.

### 3.2.2 2015 Kinetic Testing

In 2015, Tintina elected to begin kinetic tests on the previously uncharacterized *Yc* and *LZ FW* lithotypes, while also conducting tests on newly generated composites of the *USZ* and *Ynl B* materials, which were developed to better represent these lithotypes at the site-wide, operational scale. Despite changes in mine design altered the waste rock proportions that rendered *Yc* insignificant in terms of tonnage, this baseline test was conducted and the data are reported below.

These tests were initiated in June 2015. The *Yc* and *Ynl B*, *LZ FW*, and *USZ* HCTs were terminated at 38, 36, 56, and 73 weeks of testing, respectively. All data are presented in **Tables C-3 and C-4** of **Appendix C** and major trends are discussed below, by lithotype.

### 3.2.3 Kinetic HCT Results by Stratigraphic Unit

Below is a detailed summary, by stratigraphic unit, of all kinetic HCTs conducted during the 2012 and 2015 geochemical testing programs for the Project. Where applicable, weekly extract data are discussed in mg/kg, and mg/L values are in parentheses. Periodic metals data are discussed in mg/L only to allow for comparison with MT DEQ groundwater quality standards. All results of the 2012 and 2015 HCTs are summarized in **Tables C-1 through C-4** of **Appendix C** and all applicable results are compared to MT DEQ water quality standards (MT DEQ, 2012) with hardness-dependent criteria adjusted for an average background water hardness of 130 mg/L. The final reports of kinetic HCTs from McClelland Laboratories, for both the 2012 and 2015 geochemical testing programs are included in **Appendix C**. These final reports also include Energy Labs’ reports of effluent analyses. Note that *Ynl A* was formerly referred to as “*Ynl*” and appears with that label in laboratory results.

#### **2012 *Ynl A* - Undifferentiated Lower Newland Formation (4% Waste Rock Tonnage)**

The lower Newland Formation composite was comprised of highly carbonaceous, locally sulfidic black shale collected from multiple intervals within the stratigraphic section between the *Ynl 0* “nose” and the *USZ* unit. As one approaches the *USZ* from above, the frequency and magnitude of sulfide stringers increases. While there is some sulfidic material included in the *Ynl A*, and thus in the sample of rock used to construct the column, the NNP and NP:AP characteristics summarized above and in **Appendix B** indicate that it is strongly net neutralizing. The consistently circum-neutral pH observed throughout the 2012 *Ynl A* kinetic testing supports this assessment. This material has less sulfide than the *USZ*, as evidenced by the cumulative production of sulfate from this cell after 88 weeks is approximately 40% of that observed in 24 weeks of testing of the 2012 *USZ*. Nevertheless, like the *USZ*, this cell showed stable, ongoing sulfate

production, which increased sharply at 20 weeks, peaked mid-test, and then slowly returned to original rates. This pattern of sulfate release was also reflected in other HCTs of related material (2012 *Ynl B*, 2015 *Ynl B*, (discussed below) and *Ynl Ex*, Enviromin, 2017b). However, in this HCT the very slow drop in sulfate required a prolonged test period, and this cell was terminated when sulfate stabilized at values close to original rates of release in week 88 (**Figure 3-3** and **Appendix C**).

- Effluent pH was principally alkaline for the duration of the test and the overall average pH was 7.27. Values for pH ranged from 6.77 in week 0 to 7.36 in week 88, with a maximum pH of 7.75 observed in week 55.
- Apart from week 0, redox potential was oxidizing for the duration of the test, and had an average value of 224 mV.
- After an initial period of high conductivity during weeks 0-2, values decreased to between 200 and 400  $\mu\text{S/cm}$  before spiking to nearly 1000  $\mu\text{S/cm}$  again around week 30 and exhibiting a slowly decreasing trend thereafter. The minimum value was 232  $\mu\text{S/cm}$  (week 19) and the maximum was 1100  $\mu\text{S/cm}$  (week 1), with a final value of 409  $\mu\text{S/cm}$  in week 88.
- Except week 0, Fe release was consistently low and mostly below detection.
- Sulfate production declined significantly in initial weeks of testing with a pronounced lag reaching an overall test minimum of 44 mg/kg (100 mg/L) in week 19, followed by an accelerated release of sulfate between weeks 20 and 28. The rate of sulfate release returned to that of the pre-week 20 time frame after week 79. Maximum sulfate release (374 mg/kg, 600 mg/L) was observed in week 0 and the final sulfate was 65 mg/kg (130 mg/L) at week 88.
- Acidity was detected during week 0 and then was not detected again until week 48. Thereafter, acidity ranged from below detection to 2.0 mg/kg (4 mg/L) for the remainder of the test and was consistently below detection in the final weeks of testing.
- Alkalinity release was detected in all weekly extracts and ranged from 33.0 mg/kg (53 mg/L) in week 0 to a minimum of 5.49 mg/kg (12 mg/L) observed in week 20. The final alkalinity was 13.5 mg/kg (27 mg/L) in week 88.

In terms of metal production (**Figures 3-4a** and **b**, and **Appendix C**), thallium (Tl) was detected in concentrations that exceeded the MT DEQ groundwater standard in weeks 0, 1, and 2. Nickel (Ni) also exceeded the MT DEQ groundwater standard in week 0, but was not detected in most samples during testing. No other MT DEQ groundwater standards were exceeded. Note that *Ynl A* was formerly referred to as “*Ynl*” and appears with that label in laboratory results.

MMA analysis indicated that the weathered *Ynl A* contains 31.5 wt.% quartz, 25.1 wt.% muscovite, 17.6 wt.% dolomite, 10.8 wt.% pyrite, 9.8 wt.% potassium feldspar, 2.2 wt.% biotite, and 0.95 wt.% barite. Analyses of the non-weathered *Ynl A* sample generally agreed with those of weathered *Ynl A*. However, slightly altered mineralogical composition was observed, which has been attributed to sub-sampling variability and the weathering of materials over 33 weeks of column testing (time at which sample was collected from HCT).

The *Ynl A* represents a low proportion of the expected waste rock tonnage (4%). The multi-element chemical characteristics of the subsamples selected for the 2012 Decline test aligned well with the overall, site-wide population, and so additional testing was not pursued in 2015. A summary of the metal release potential of all HCTs for the Black Butte Copper Project is presented in **Table 3-6**.



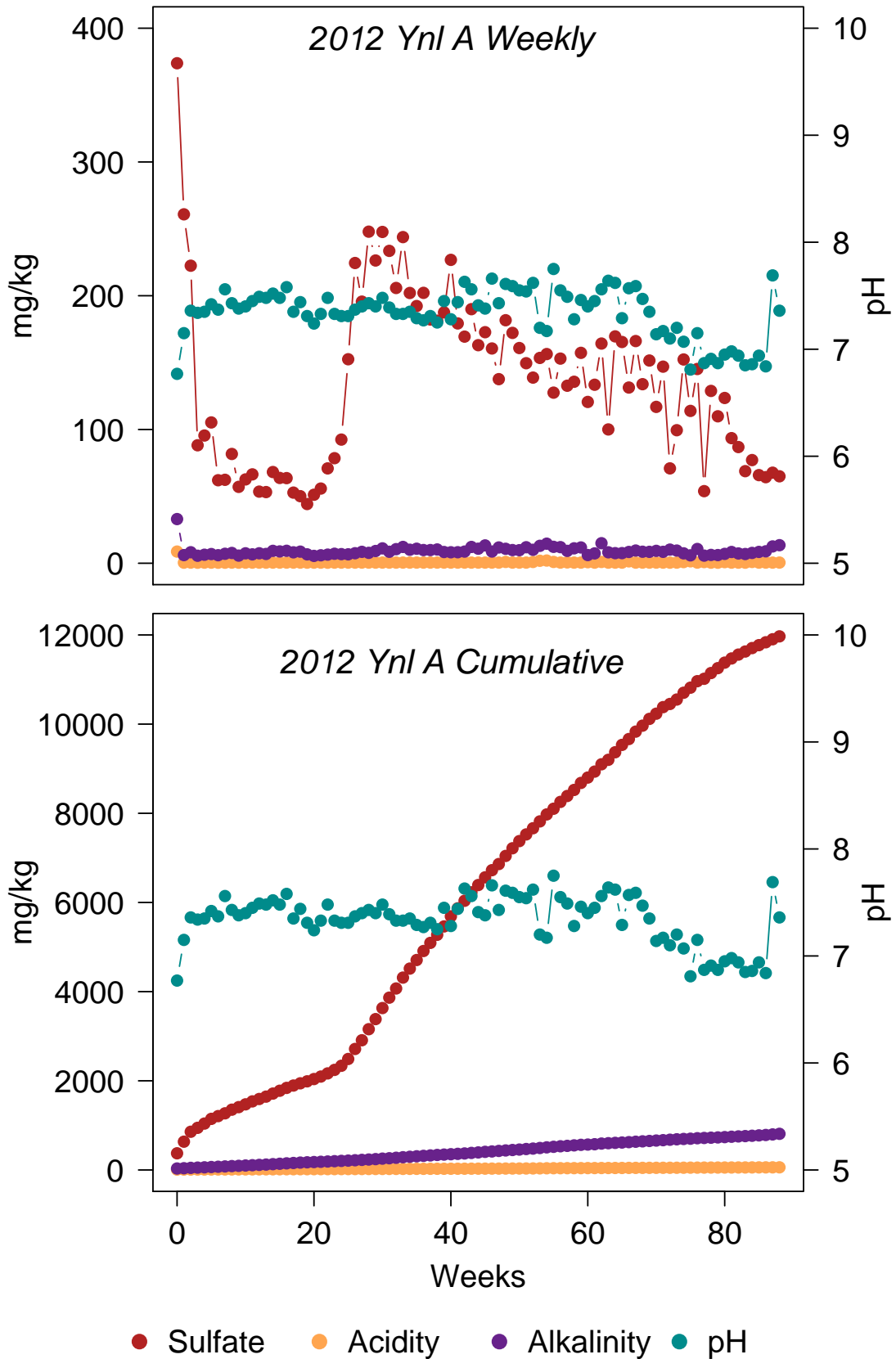
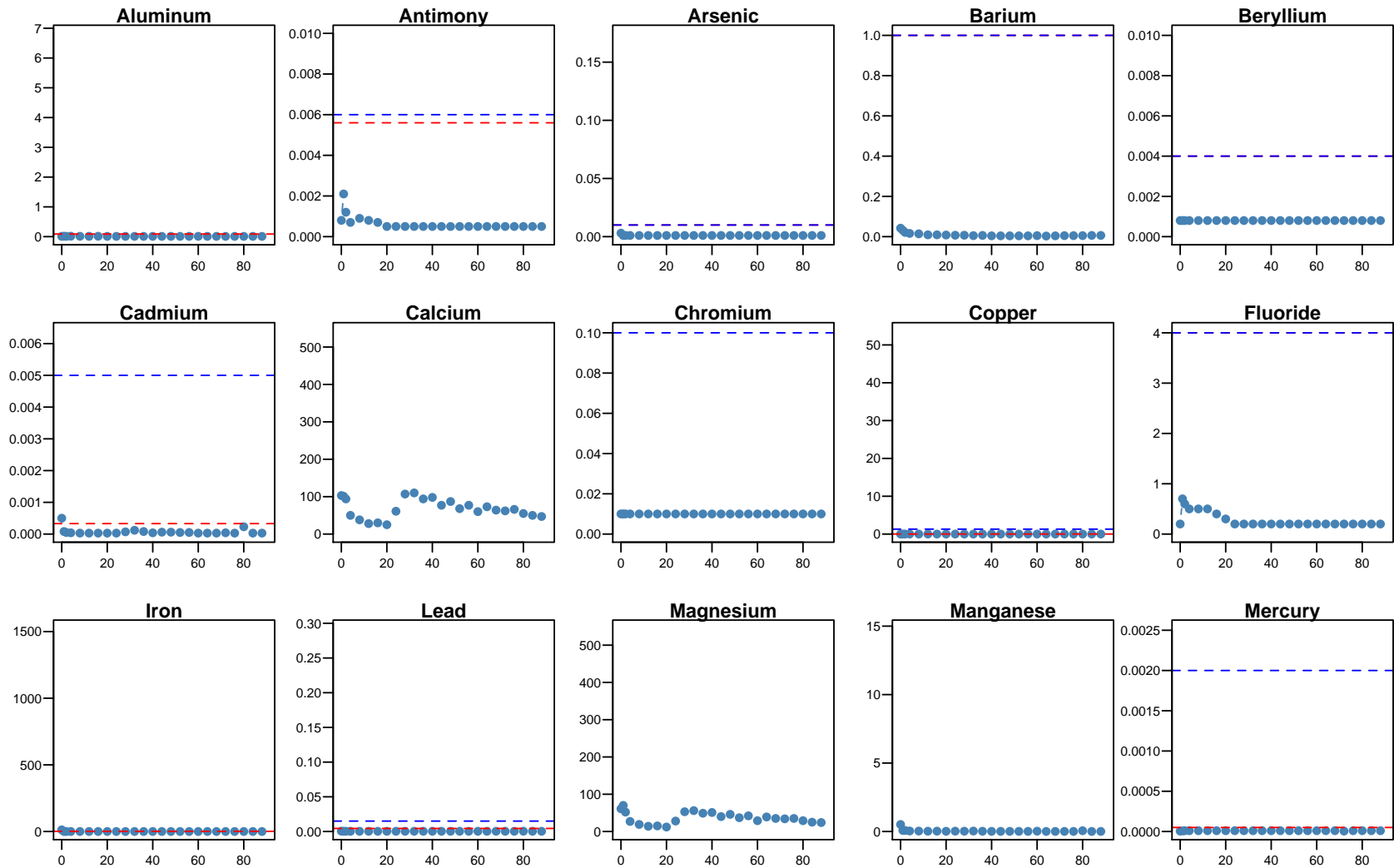
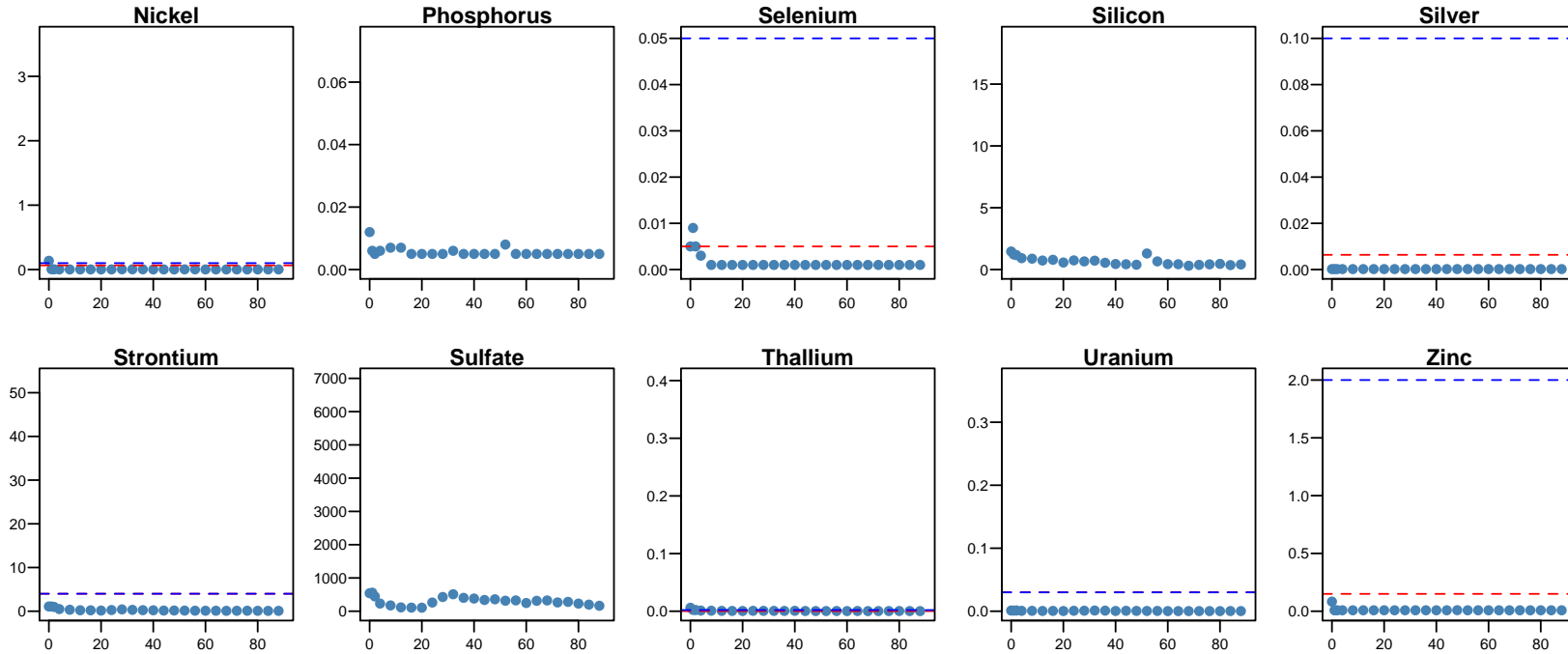


FIGURE 3-3. 2012 Ynl A HCT Weekly and Cumulative Parameters



**FIGURE 3-4a. 2012 Ynl A HCT Periodic Metals**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing=88.



**FIGURE 3-4b. 2012 Ynl A HCT Periodic Metals, continued.**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing=88.

### 3.2.3.1 2012 USZ - Upper Sulfide Zone (28% Waste Rock Tonnage)

The USZ is a portion of the Lower Newland dolomitic shale that contains locally massive sulfide mineralization. As a result, this waste lithotype is identified as potentially acid generating based on static test data. In spite of its strongly negative NNP and low NP:AP ratio (Section 3.1.2), this rock maintained a net alkaline pH throughout the HCT test, apart from week 0 and week 2, which had values of 5.95 and 6.44, respectively. The final pH was 7.28 after 24 weeks of leach testing. This reflects the strongly alkaline character of the host rock, despite the relatively high rate of sulfide oxidation that was consistently observed in this humidity cell test, which released 7,736 mg/kg of cumulative sulfate. During week 6, results reported for USZ appeared anomalous, with sulfate and redox values dropping suddenly, indicating an unknown procedural error, such as loss of oxygen flow to the cell. This outlier was removed from the analysis discussed below, but these data are included in **Figure 3-5** and in **Table C-1 of Appendix C**.

- Effluent pH was neutral for the majority of the test and ranged from pH 5.95 (week 0) to a maximum of 7.38 observed in week 13. The pH in week 24 was 7.28.
- Redox potential was oxidizing for the duration of the test.
- Conductivity values were high and values consistently decreased from a maximum of 2090  $\mu\text{S}/\text{cm}$  (week 1) to a minimum of 828  $\mu\text{S}/\text{cm}$  (week 19), with a final value of 980  $\mu\text{S}/\text{cm}$ .
- With the exception of week 0 (64.5 mg/kg, 102 mg/L), Fe release was consistently low and frequently below detection.
- As expected for a sulfide-bearing deposit, sulfate release was consistently higher than other materials tested, but also showed a declining trend. Values ranged from a maximum of 724.4 mg/kg (1150 mg/L, week 0) to a minimum of 165.8 mg/kg (340 mg/L) at the end of testing (week 24).
- Acidity was detected in weeks 0-2 and was subsequently below detection for the remainder of testing.
- Alkalinity was detected in all weekly extracts and remained relatively stable, around 9 mg/kg (20 mg/L). Values ranged from a maximum of 15.3 mg/kg (24 mg/L, week 0) to a minimum of 4.3 mg/kg (9 mg/L, week 2) with an average of 8.7 mg/kg (18 mg/L) and final alkalinity of 8.29 mg/kg (17 mg/L) in week 24.

In terms of metal release, concentrations of As, Pb, Ni, and Tl exceeded groundwater criteria in week zero leachate (**Figures 3-6a and b, and Table C-2 of Appendix C**). However, this is more likely a reflection of the sample preparation for placement into the leach test than of equilibrium weathering chemical reactions within the test itself. Following week 0, no groundwater criteria were exceeded.

MLA analysis showed that the USZ composite contained pyrite (45.6 weight%), with quartz (18.6 wt.%), dolomite (16.5 wt.%), muscovite (9.7 wt.%), and potassium feldspar (4.85 wt.%). While this mineral composition supports the sulfate production observed during kinetic testing, MLA did not identify any Se- or Tl-bearing minerals. This may be due to the detection limit of this instrument, which is approximately 1000-10,000 ppm or approximately 0.1 to 1% by weight depending on the element.

**Figure 3-5** shows that the rate of sulfate production was elevated and steady and, based on ABA and NAG analyses of both sulfide and carbonate, would have likely remained so for many weeks if the kinetic test had been continued. Because Tintina

chose to designate this lithotype as PAG for the 2012 Decline Management Plan, the test was not continued to a point where alkalinity was depleted and pH dropped. Recognizing that this is a volumetrically important and reactive lithology, additional samples were collected for a second HCT that is represented of the *USZ* site-wide. A summary of the metal release potential of all HCTs for the Black Butte Copper Project is presented in **Table 3-6**.

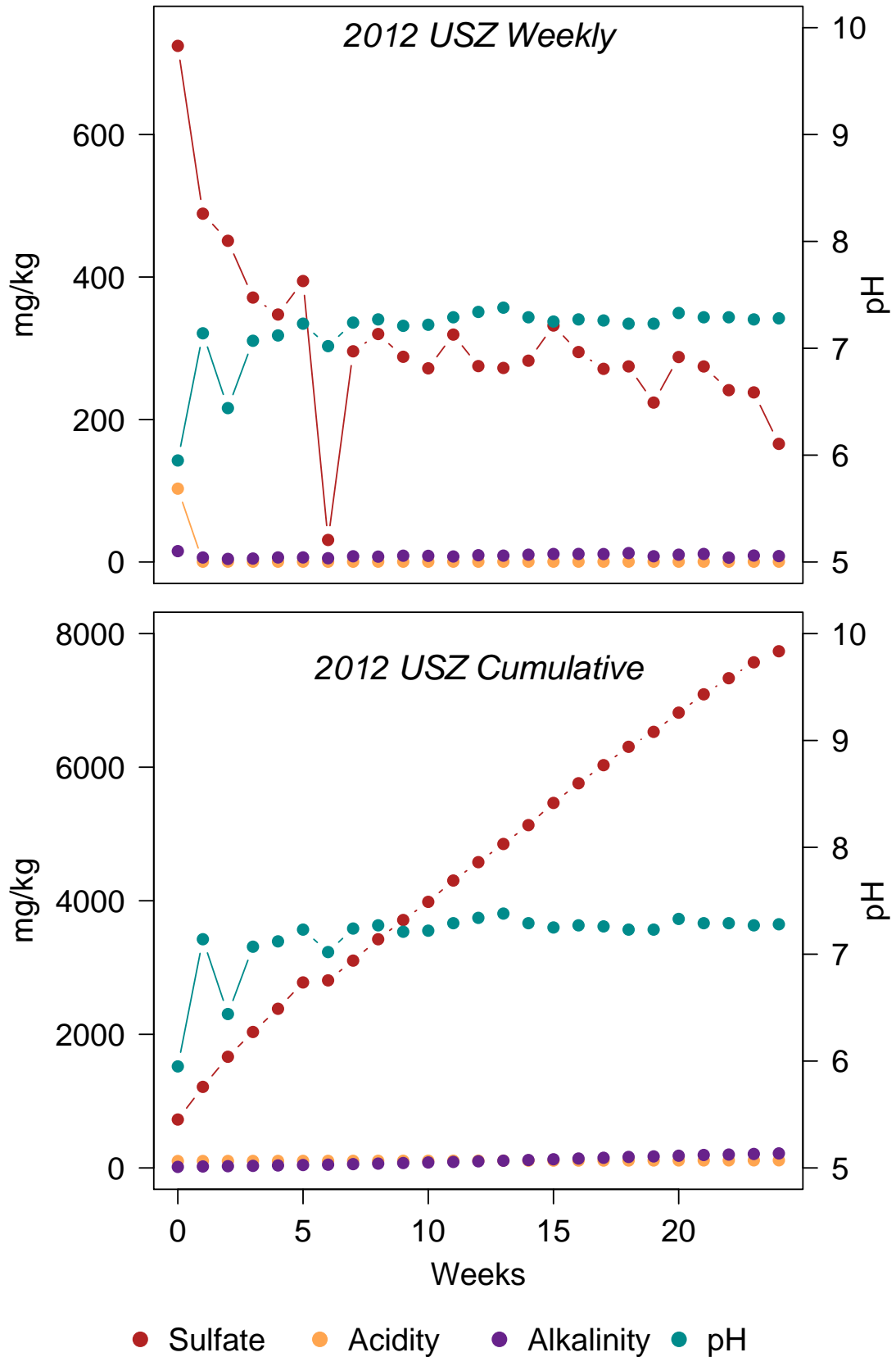
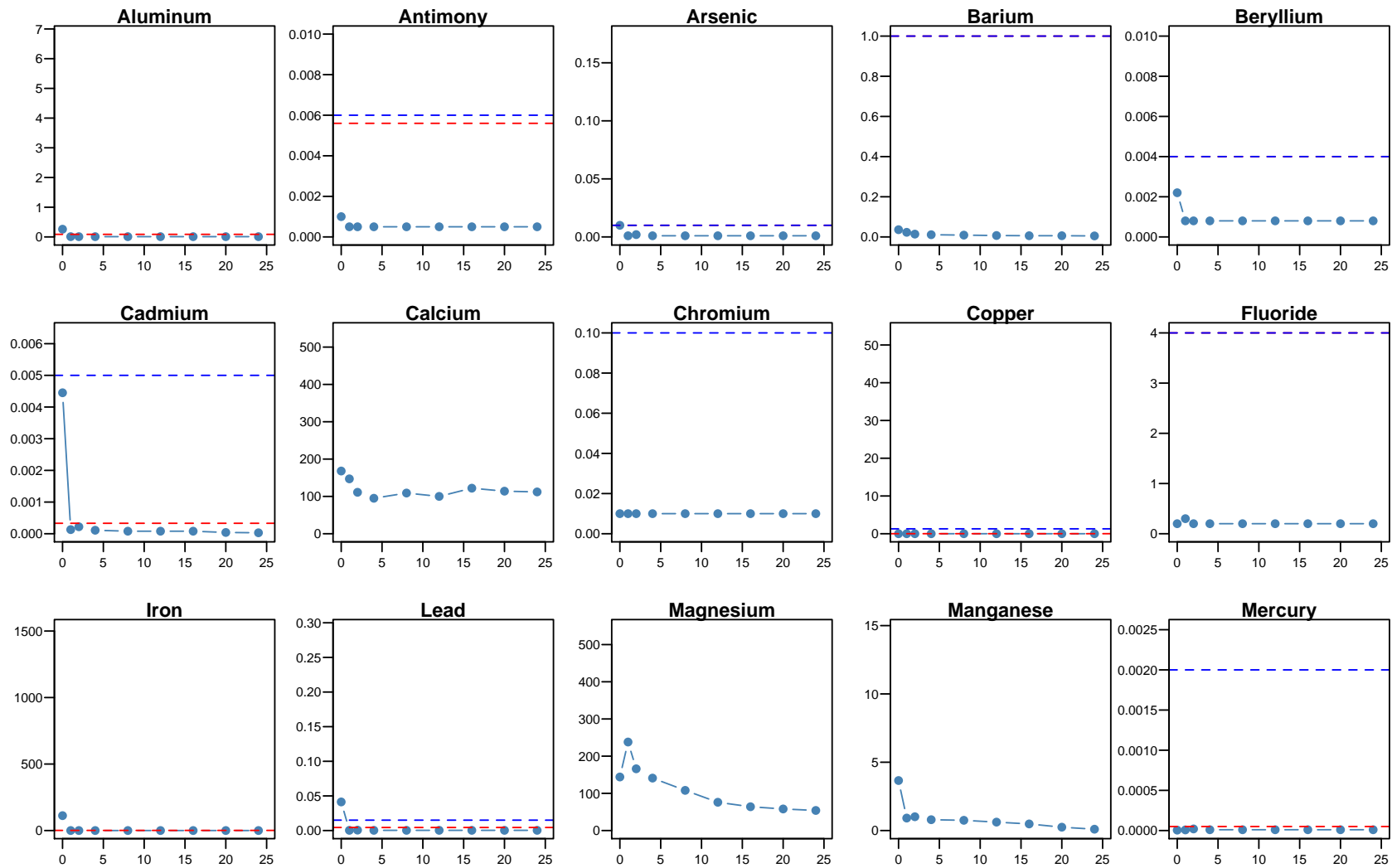
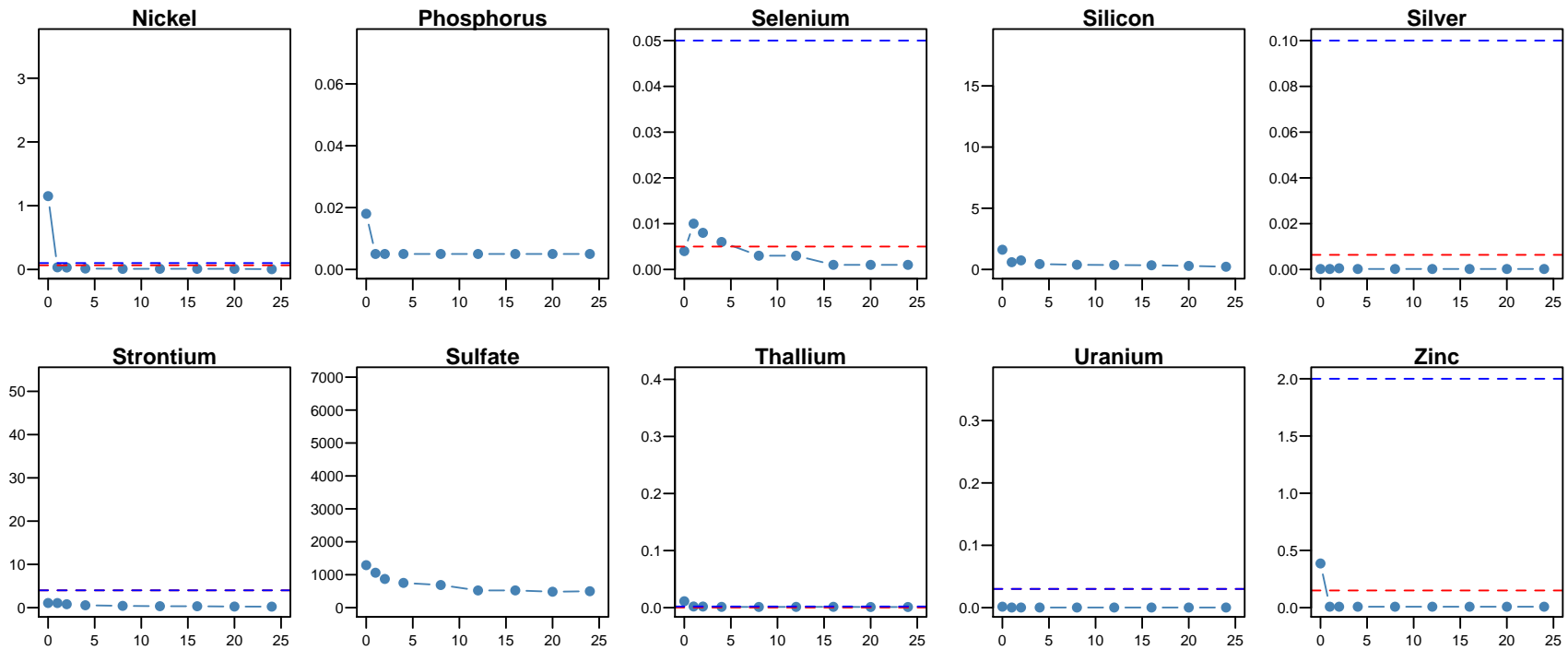


FIGURE 3-5. 2012 USZ HCT Weekly and Cumulative Parameters



**FIGURE 3-6a. 2012 USZ HCT Periodic Metals**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing=24



**FIGURE 3-6b. 2012 USZ HCT Periodic Metals, continued.**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing=24



### 3.2.3.2 2015 USZ – Upper Sulfide Zone (28% Waste Rock Tonnage)

The 2015 USZ HCT was started in June 2015 and ran for 73 weeks. In contrast to the 2012 USZ HCT, which was terminated after 24 weeks, the extent of the buffering capacity of this material was tested during this extended HCT. In spite of the low ABA and NP results for the USZ, which suggested that this material would be strongly acid generating, this HCT maintained a pH above 6 for over 30 weeks of testing. Below is a summary of observed during this 73 week test.

- Except for a low value in week 0, pH remained between 5.2 and 7.1 until week 46. Subsequently, the pH became unstable, which is characteristic of a material that is running out of buffering capacity. After week 46, the pH varied widely but generally declined to a final value of 3.04 in week 73.
- Redox potential remained oxidizing, ranging from 133 mV (week 1) to 454 mV (week 70), with an average of 337 mV.
- Conductivity values was high, with a maximum of 5,360  $\mu\text{S}/\text{cm}$  (week 0), followed by stable values around 2,200  $\mu\text{S}/\text{cm}$ , and increased instability in the latter weeks of testing.
- This HCT exhibited higher weekly Fe release than any other HCTs of waste rock in the geochemical testing program. While Fe in weeks 0 and 1 appear to be relics of sample preparation, subsequent Fe production occurred and increased in the last 10 weeks of testing. Most Fe was detected as  $\text{Fe}^{3+}$ , however some  $\text{Fe}^{2+}$  was detected, especially when high Fe was measured.
- Following an initial rinse (in week 0), sulfate production remained higher than other material tested, but trended slowly downward before increasing at the end of testing. The minimum value of 650 mg/kg (1,500 mg/L) was observed in week 34 and the maximum (aside from week 0) of 1658 mg/kg (3,768 mg/L) was in week 70. The final sulfate, in week 73, was 1180 mg/kg (2,586 mg/L).
- Acidity exhibited an initial rinse in week 0, followed by consistently detected values that increased notably in the final 10 weeks. The minimum value was <0.44 mg/kg (<1 mg/L, week 3) and the maximum (except week 0) was 194 mg/kg (426 mg/L) in the last week (73) of testing.
- Alkalinity was detected in nearly all weekly extracts, except weeks 0 and 50, until week 60, after which time alkalinity was only detect once (week 67). Detected values ranged from 0.43 mg/kg (1 mg/L, week 48) to 20.3 mg/kg (46 mg /L, week 3).

Following the initial week 0 flush, the 2015 USZ HCT consistently exhibited groundwater water quality exceedances for strontium (Sr) and Tl. Additionally, the concentrations of As, beryllium (Be), Cd, and Hg exceeded ground water quality standards once or twice during weeks 0 through 2, and not thereafter. Finally, Cu, Ni, and Pb exhibited concentrations exceeding respective groundwater standards in early weeks as well as in later weeks of testing (after week 50), which is likely related to the shift in many weekly parameter noted above. A summary of metal release potential for all HCTs for the Black Butte Copper Project is presented in **Table 3-6**.

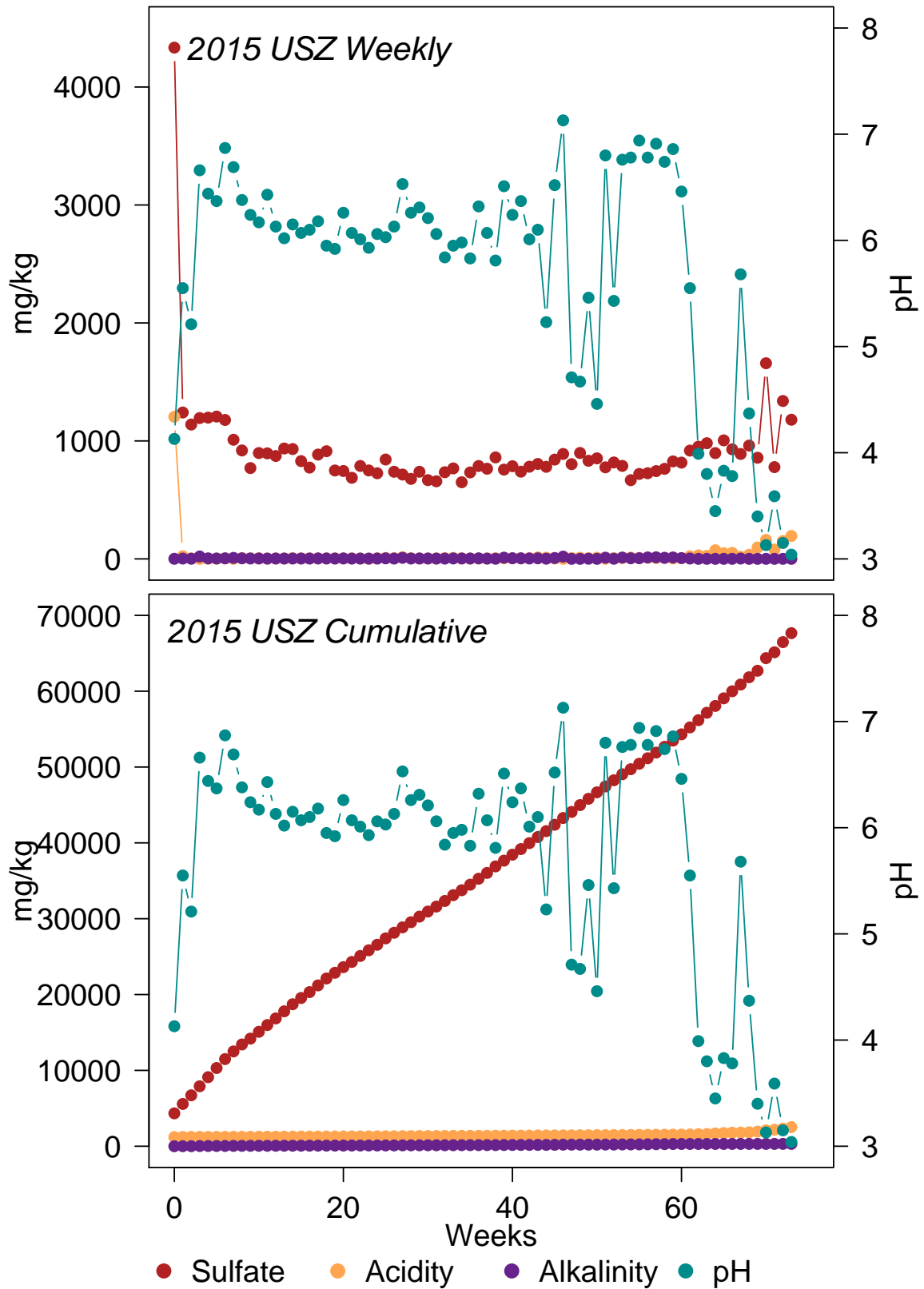
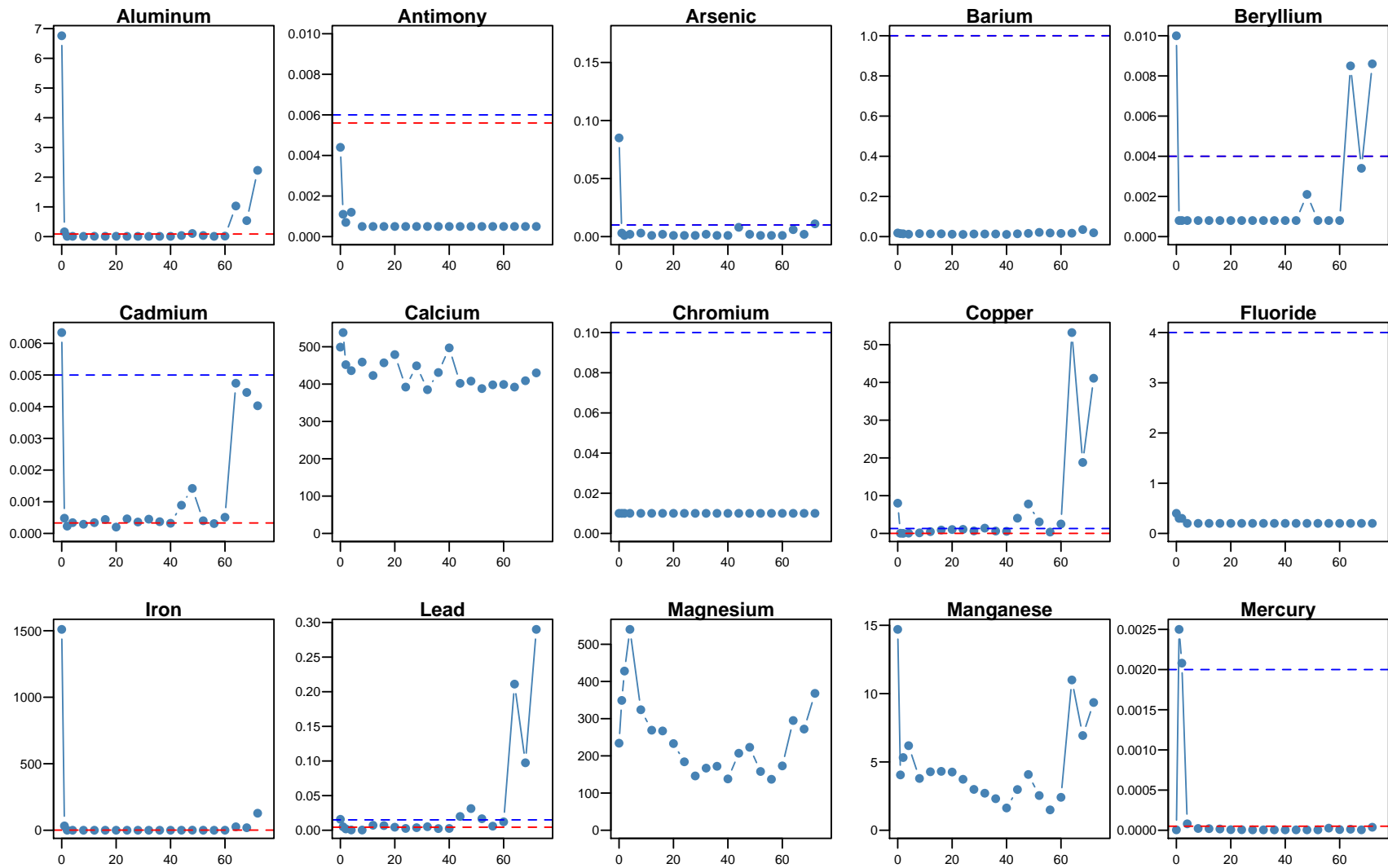
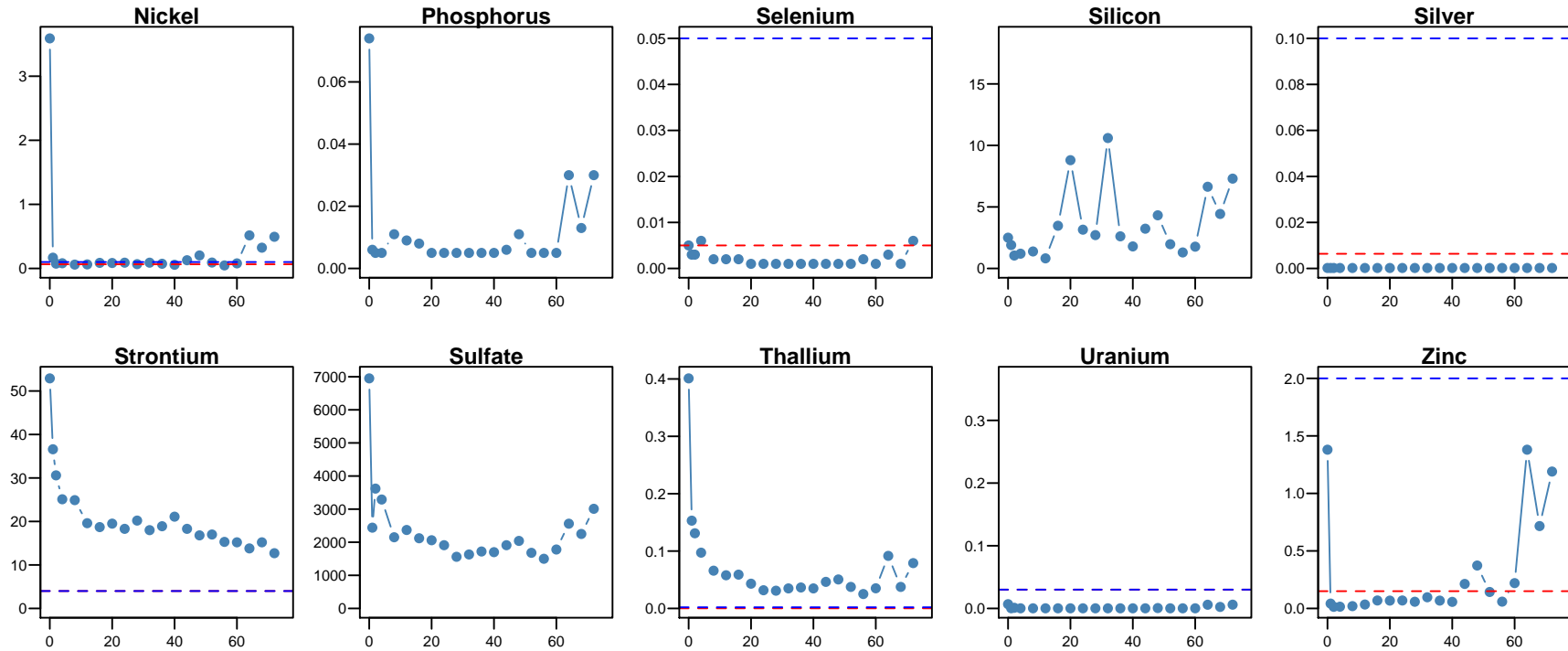


FIGURE 3-7. 2015 USZ HCT Weekly and Cumulative Parameters



**FIGURE 3-8a. 2015 USZ HCT Periodic Metals**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing=73.



**FIGURE 3-8b. 2015 USZ HCT Periodic Metals, continued.**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing=73.

### 3.2.3.3 2012 Ynl B - Lower Newland Conglomerate and Shale (32% Waste Rock Tonnage)

The *Ynl B* is comprised of conglomerate and shale from the basal portion of the lower Newland Formation. The static parameters summarized above indicate varying levels of acid and neutralizing potential for the samples included in this material. This variability was also reflected in the 2012 Decline HCT, in which sulfide oxidation peaked in week 16 and slowly declined for the remaining weeks of the test. The pH remained strongly neutral (7.69 in week 62), despite the cumulative release of 5,291 mg/kg of sulfate by week 62. Also, an abundance of alkalinity was observed despite increased sulfide oxidation between weeks 10 and 20 (**Figure 3-9**, and **Table C-1**).

- Effluent pH was alkaline for the duration of the test and ranged from 8.66 in week 0 to a minimum pH of 7.27 in week 54, and a final value of 7.69 in week 62.
- Redox potential was oxidizing for the duration of testing and ranged from a minimum of 20 mV (week 57) to a maximum of 335 mV (week 40). The Test average was 200 mV.
- Conductivity was initially low, but exhibited a marked increase around week 10, after which it had a steadily decreasing trend. Values ranged from 120  $\mu\text{S}/\text{cm}$  (week 6) to 690  $\mu\text{S}/\text{cm}$  (week 17).
- Iron release was consistently low and was predominantly below detection.
- Sulfate production was low until week 10, after which it rose to a peak in week 16 (173.9 mg/kg; 350 mg/L) and subsequently decreased, reaching steady state concentrations around week 32 with a final sulfate release value of 57.0 mg/kg (120 mg/L). Sulfate ranged from 10.5 mg/kg (20 mg/L, week 0) to 173.9 mg/kg (350 mg/L, week 16).
- Acidity was not detected in any weeks.
- Alkalinity was detected in all weekly extracts and with a generally stable trend ranging from 8.1 mg/kg (19 mg/L, week 42) to 24.1 mg/kg (47 mg/L, week 54), and an average of 13.5 mg/kg (28 mg/L). The final alkalinity was 13.3 mg/kg (28 mg/L).

The *Ynl B* exhibited very limited release of metals (**Figures 3-10a** and **b**, and **Table C-2**). Only antimony (Sb) exceeded its respective MT DEQ groundwater standard in week 0, which is likely a relic of sample preparation, and no other MT DEQ groundwater standards were exceeded in any weekly extract. Enviromin continued the 2012 *Ynl B* kinetic test until solute release of sulfate and a neutral pH stabilized and the results suggest that the leaching exposed and oxidized sulfide mineralization, but the available alkalinity neutralized any produced acid. This column was taken off line with MT DEQ approval after week 62.

MLA analysis indicated that the *Ynl B* composite was comprised of 41.5 wt.% quartz, 29.0 wt.% dolomite, 19.6 wt.% muscovite, 3.9 wt.% potassium feldspar, and 1.6% pyrite. These results are consistent with the low levels of sulfate and metal release observed during kinetic testing.

During the 2015 review of previous geochemical test results, Tintina and Enviromin agreed that additional samples of *Ynl B* were needed to characterize this lithotype relative to the underground workings, and a second HCT of the *Ynl B* was initiated as described below. A summary of metal release potential for all HCTs for the Black Butte Copper Project is presented in **Table 3-6**.

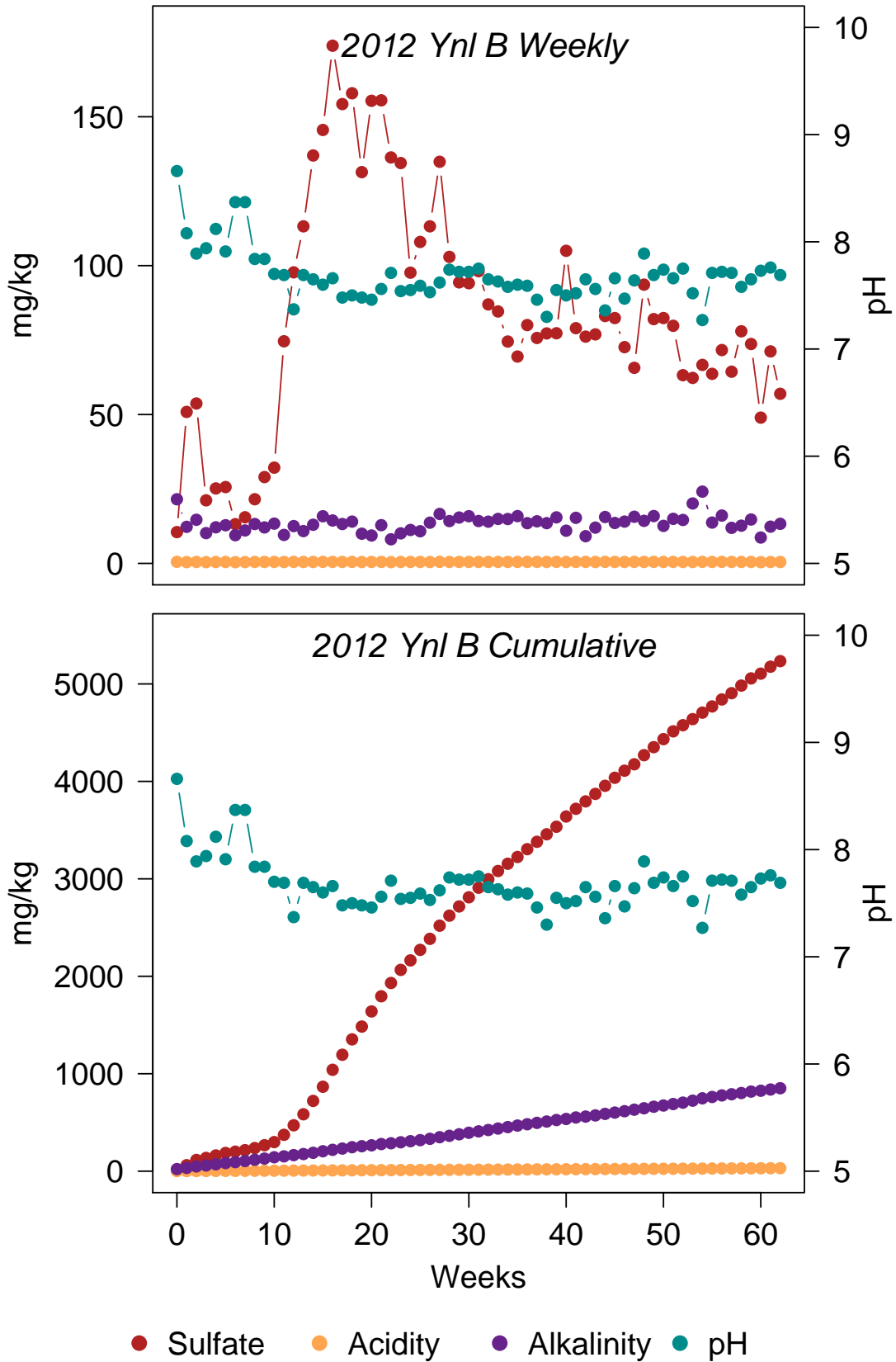
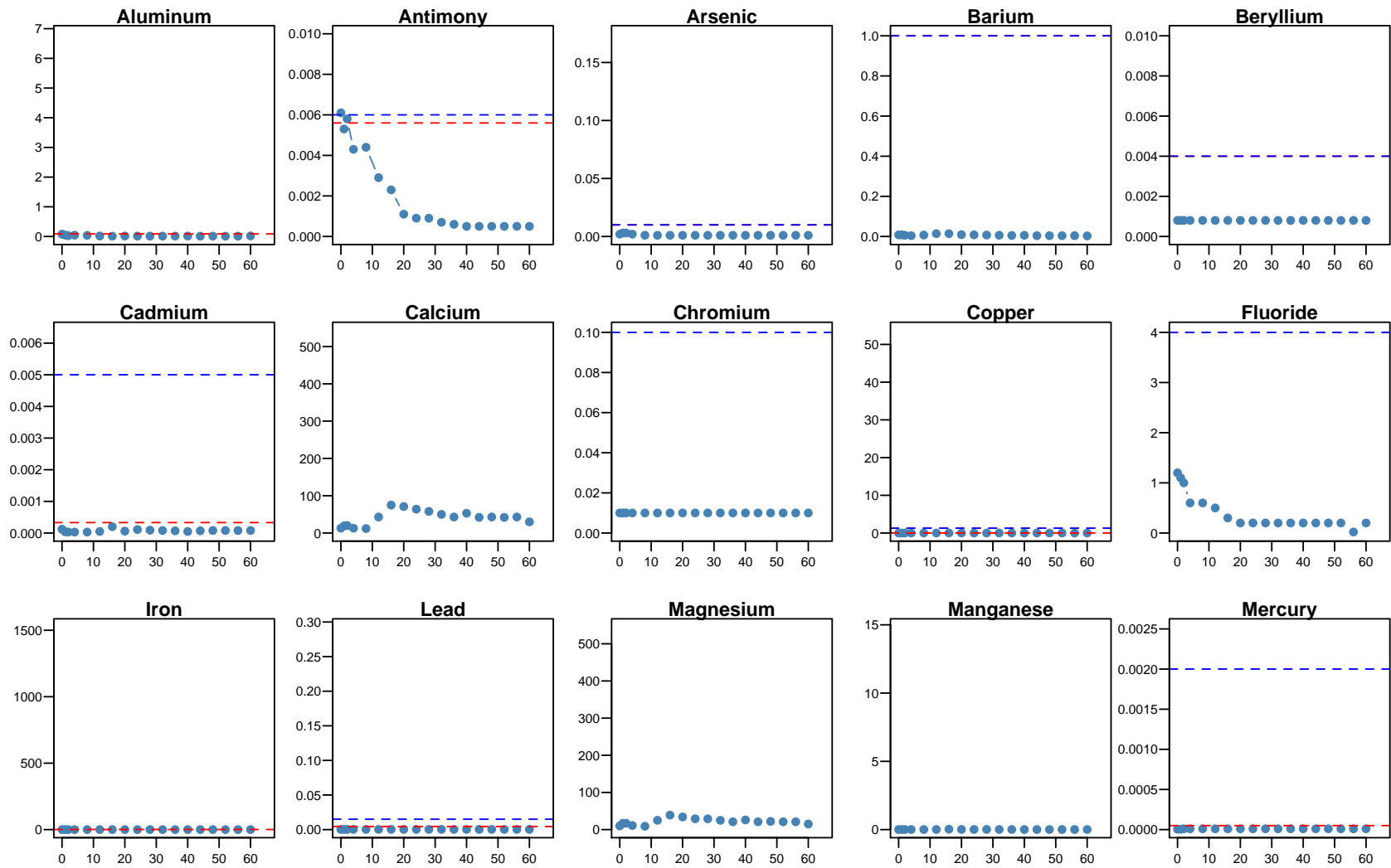
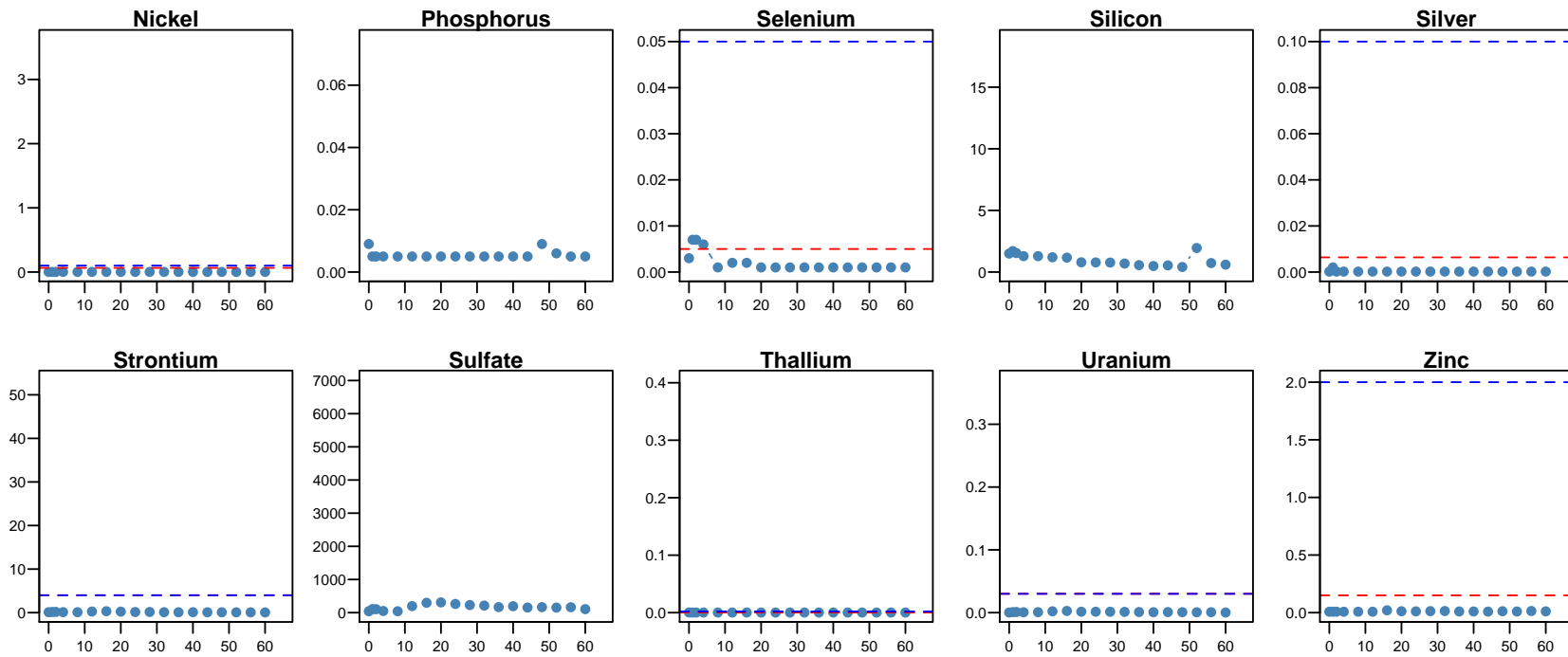


FIGURE 3-9. 2012 Ynl B HCT Weekly and Cumulative Parameters



**FIGURE 3-10a. 2012 Ynl B HCT Periodic Metals**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing=62.



**FIGURE 3-10b. 2012 Ynl B HCT Periodic Metals, continued.**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing=62.



#### 3.2.3.4 2015 Ynl B – Lower Newland Conglomerate and Shale (32% Waste Rock Tonnage)

The Ynl B material used to construct the 2015 Ynl B HCT included operationally relevant zones samples of this unit. Interestingly, the initial test results showed that the 2015 Ynl B HCT was producing pH, sulfate, acidity, and alkalinity values comparable to those in the early weeks of the 2012 Ynl B HCT. One exception to this is that sulfate production increased, peaked, and dropped off earlier in this test. The 2015 Ynl B HCT ran for a total of 36 weeks (**Figure 3-11**, and **Table C-3**).

- The effluent pH remained steady and neutral for the entire test period. A maximum pH of 7.86 was observed in in week 3 and a minimum of 7.16 was exhibited in week 33. The average pH for the duration of testing was 7.40.
- Redox potential remained oxidizing and stable for the duration of the testing ranging from 107 mV in week 31 to 382 mV in week 35, and had an overall test average of 278 mV.
- Conductivity varied greatly during the first half of testing peaking at 1723  $\mu\text{S}/\text{cm}$  in week 7, but then steadily decreasing and stabilizing around 300  $\mu\text{S}/\text{cm}$  for the remainder of testing.
- Iron release was below detection in all weekly extracts except for trace amounts detected in weeks 19 and 31.
- Sulfate production followed a similar trend to other HCTs of related material with an initial rinsing, lag period, and spike followed by continuous decrease to stable release. In this HCT the oxidation peak (post-rinsing) was observed in week 6, (411 mg/kg, 1016 mg/L) followed by a steady decrease in sulfate production with late sulfate release values between 45 and 65 mg/kg (110 and 140 mg/L; minimum observed value was 40.1 mg/kg (99 mg/L) in week 32).
- Acidity was only detected in weeks 30 and 31.
- Alkalinity was detected in all weekly extracts, ranging from 74.3 mg/kg (90 mg/L, week 0) to 7.3 mg/kg (18 mg/L, week 6), and averaging 14.1 mg/kg (31 mg/L).

The metal release signature of the 2015 Ynl B HCT differed from that of the 2012 Ynl B HCT. TI was the sole metal detected in excess of its relevant ground quality standard, which only occurred in week 0. A summary of metal release potential for all HCTs for the Black Butte Copper Project is presented in **Table 3-6**.

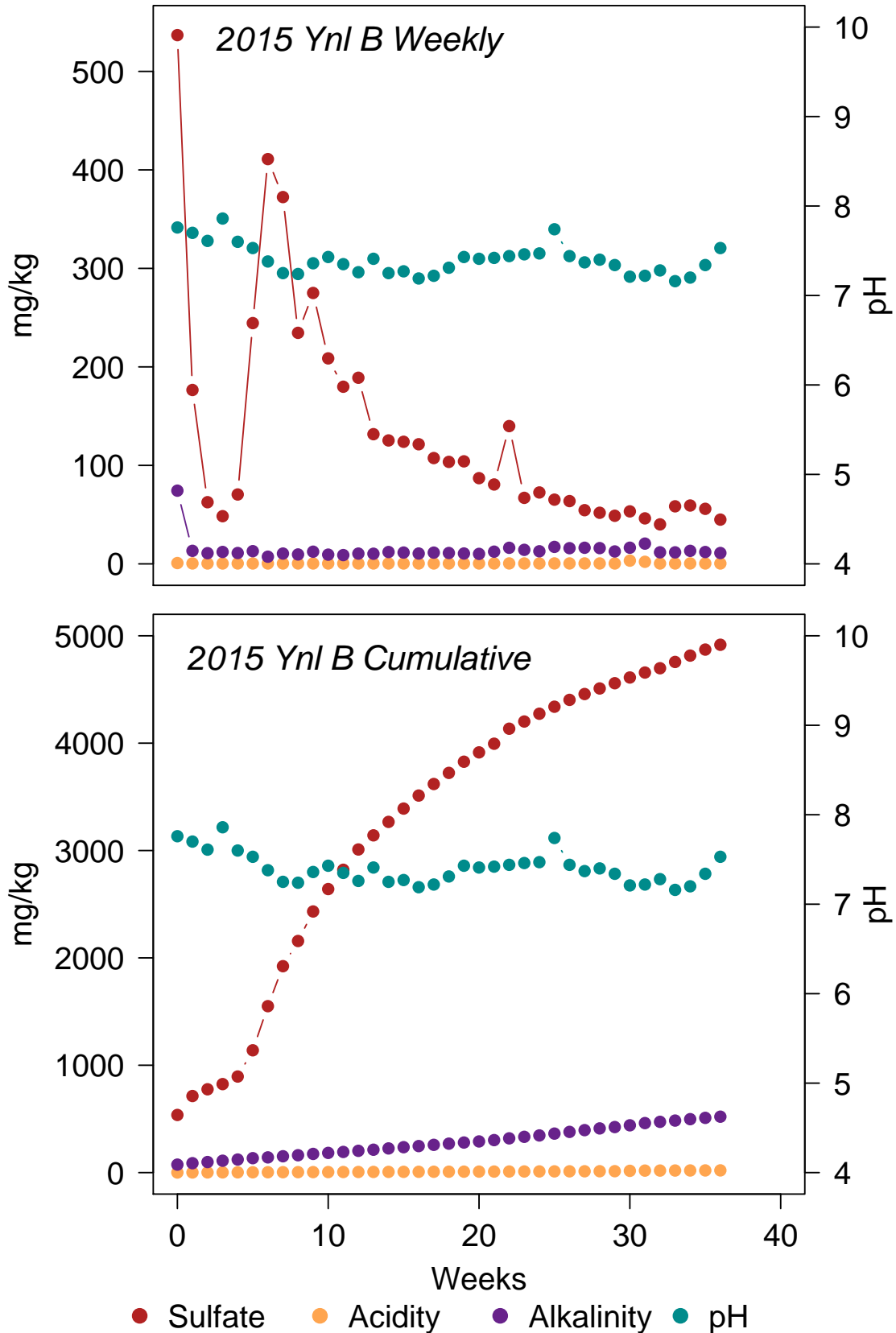
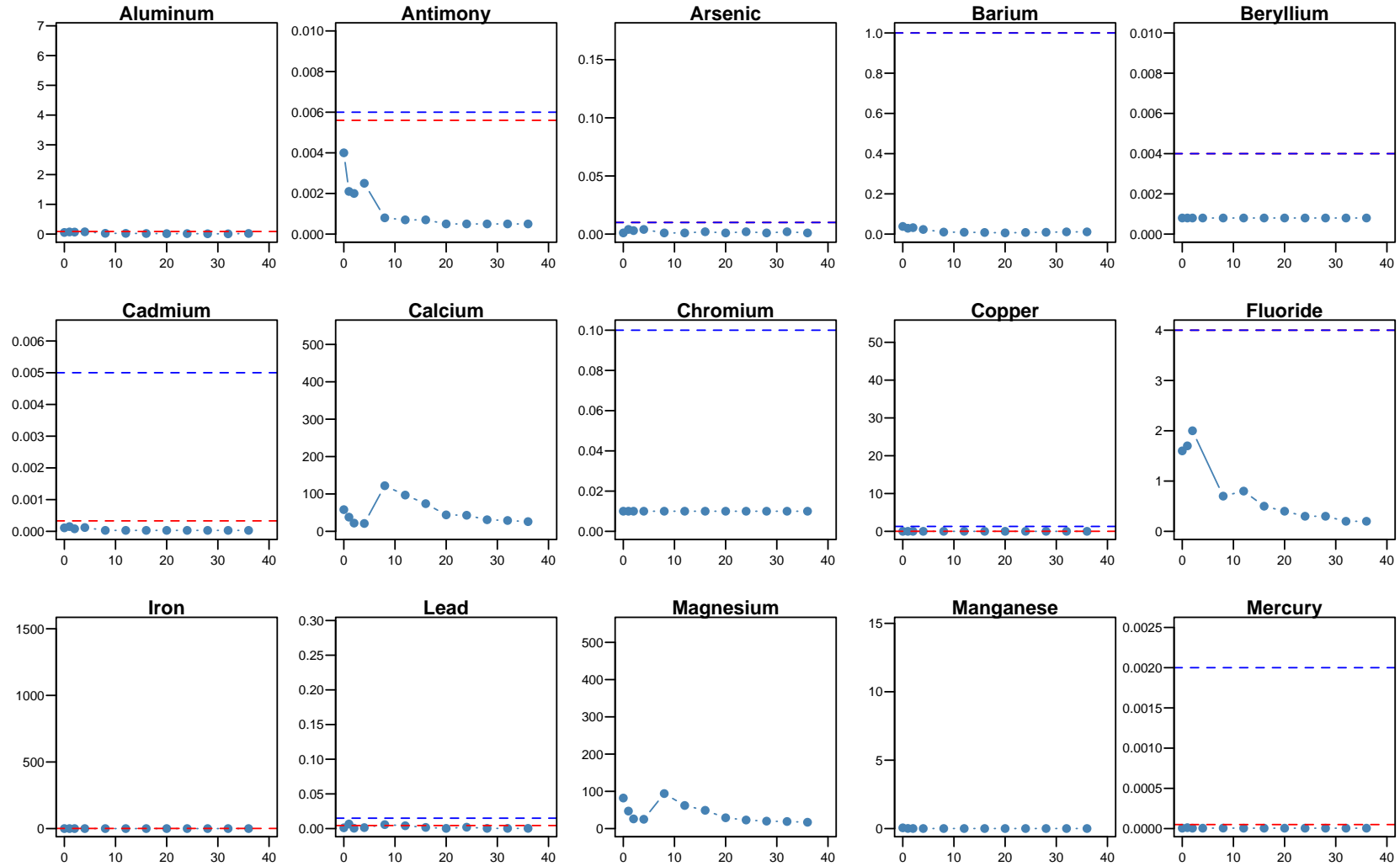
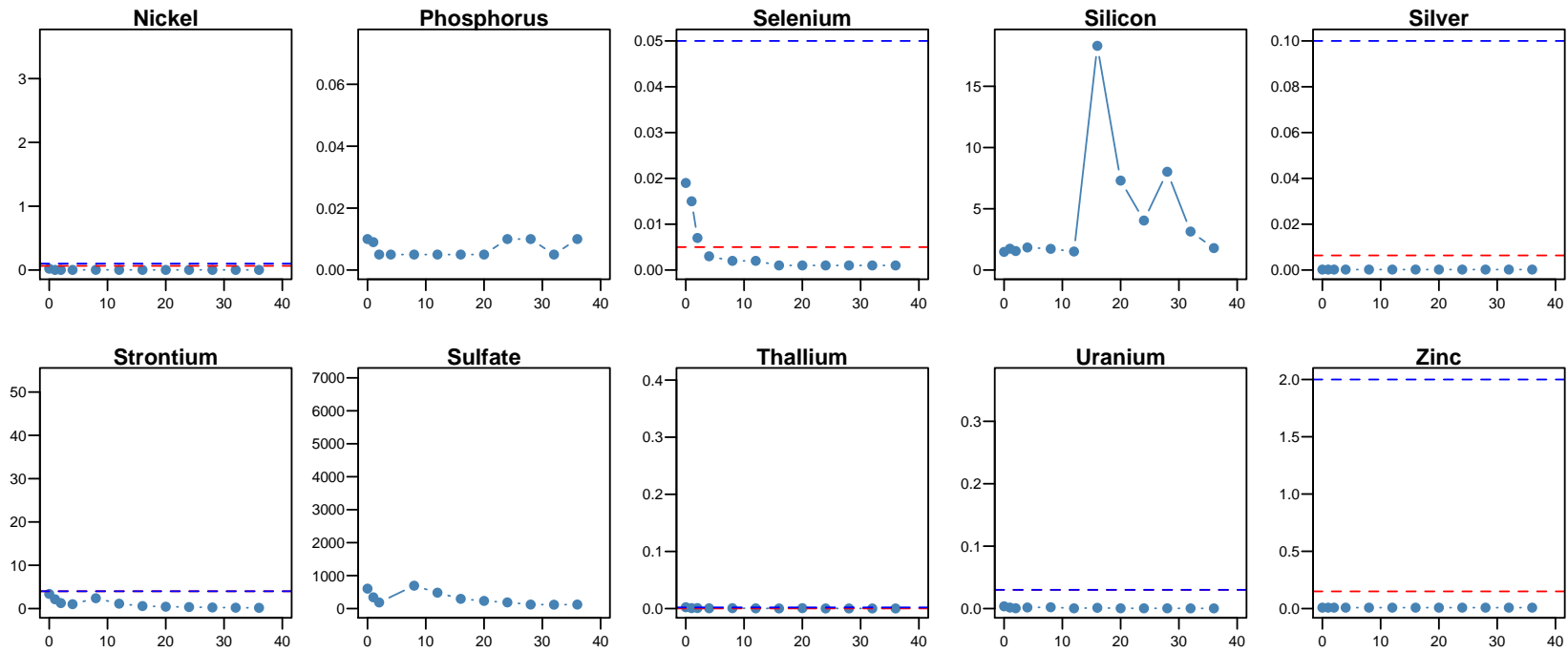


FIGURE 3-11. 2015 Ynl B HCT Weekly and Cumulative Parameters



**FIGURE 3-12a. 2015 Ynl B HCT Periodic Metals**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing= 36.



**FIGURE 3-12b. 2015 Ynl B HCT Periodic Metals, continued.**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing= 36.

### 3.2.3.5 2015 LZ FW – Lower Zone Footwall (35% Waste Rock Tonnage)

The 2015 LZ FW HCT was constructed from 18 subsamples representative of the operational exposure of this rock in the workings. This HCT ran for a total of 56 weeks and data are presented in **Figure 3-13** and **Table C-3**:

- Effluent pH was consistently neutral throughout testing and demonstrated a relatively stable trend. A maximum pH was observed in week 54 (7.83), and 7.00 was the minimum in week 33. Average pH throughout testing was 7.37.
- Redox potential remained oxidizing and relatively stable throughout testing.
- After an initial period of high conductivity, values dropped, trending from 1,094  $\mu\text{S}/\text{cm}$  (week 0) to lower and more stable values between (approximately) 200-250  $\mu\text{S}/\text{cm}$  for the duration of testing.
- Fe was detected in trace concentrations in weeks 31, 41, and 43, and was otherwise not detected.
- Sulfate production exhibited a steady decline until week 33, at which time it increased modestly. Sulfate ranged from a high of 352 mg/kg (450 mg/L, week 0) to a minimum of 25.3 mg/kg (52 mg/L, week 21). At the conclusion of testing, sulfate release had decreased and stabilized at approximately 25-35 mg/kg (60-70 mg/L).
- Acidity was only detected in weeks 30 and 31 (3.6 and 2.3 mg/kg (8 and 5 mg/L), respectively), and was not otherwise detected.
- Alkalinity was detected in all weekly extracts, ranging from a low of 4.55 mg/kg (9 mg/L) observed in week 52, to 47.6 mg/kg (61 mg/L, week 0). Aside from these extreme values, the alkalinity was relatively stable with an overall test average of 11.7 mg/kg (25 mg/L). The final alkalinity was release was 7.28 mg/kg (17 mg/L).

The metal release signature for this material indicates its diverse mineralogy. Consistent release of As and uranium (U), and well as repeated early release of Sb in excess of respective ground water quality standards was observed, which is distinct from other lithotypes at the Black Butte Copper Project. A summary of metal release potential for all HCTs for the Black Butte Copper Project is presented in **Table 3-6**.

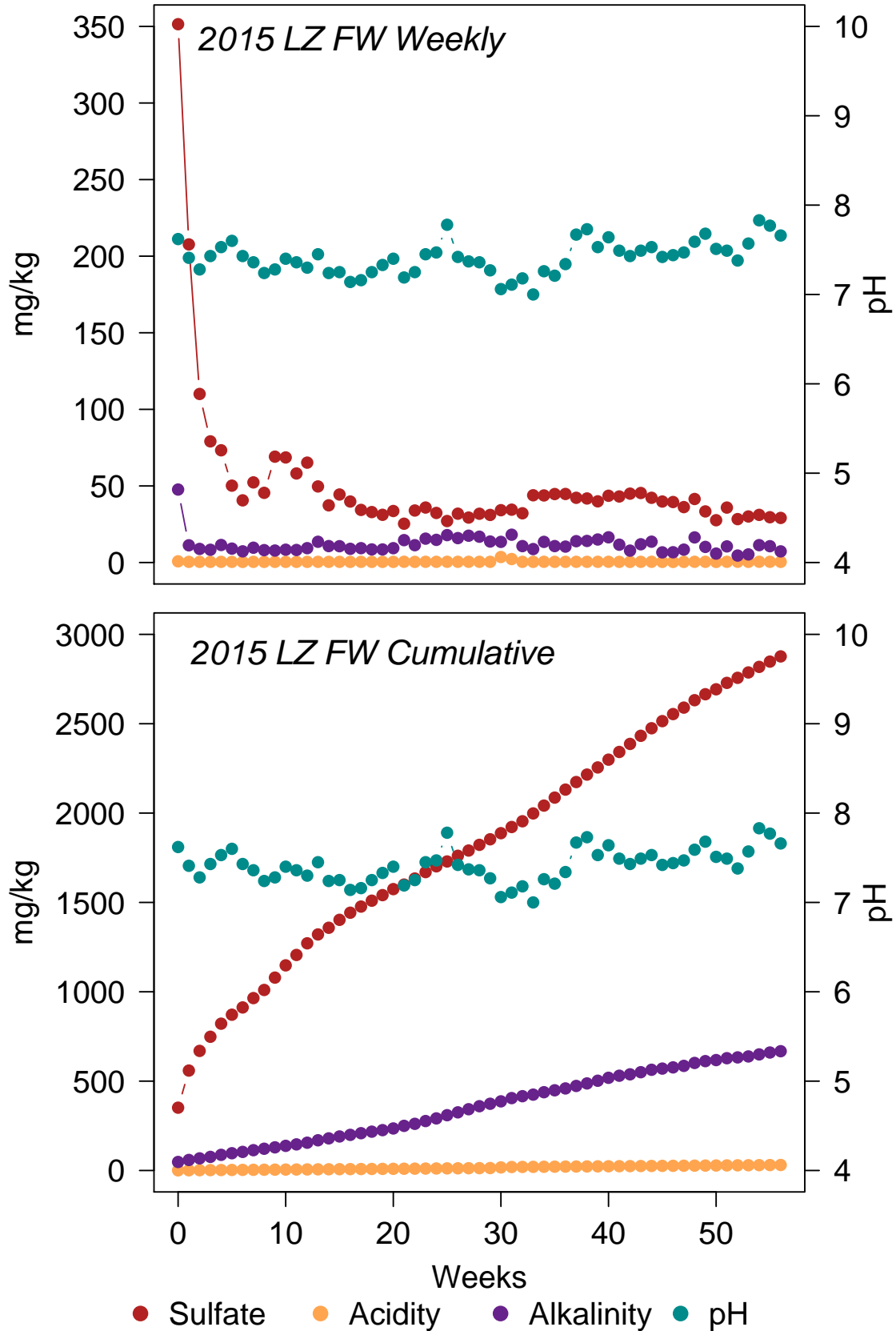
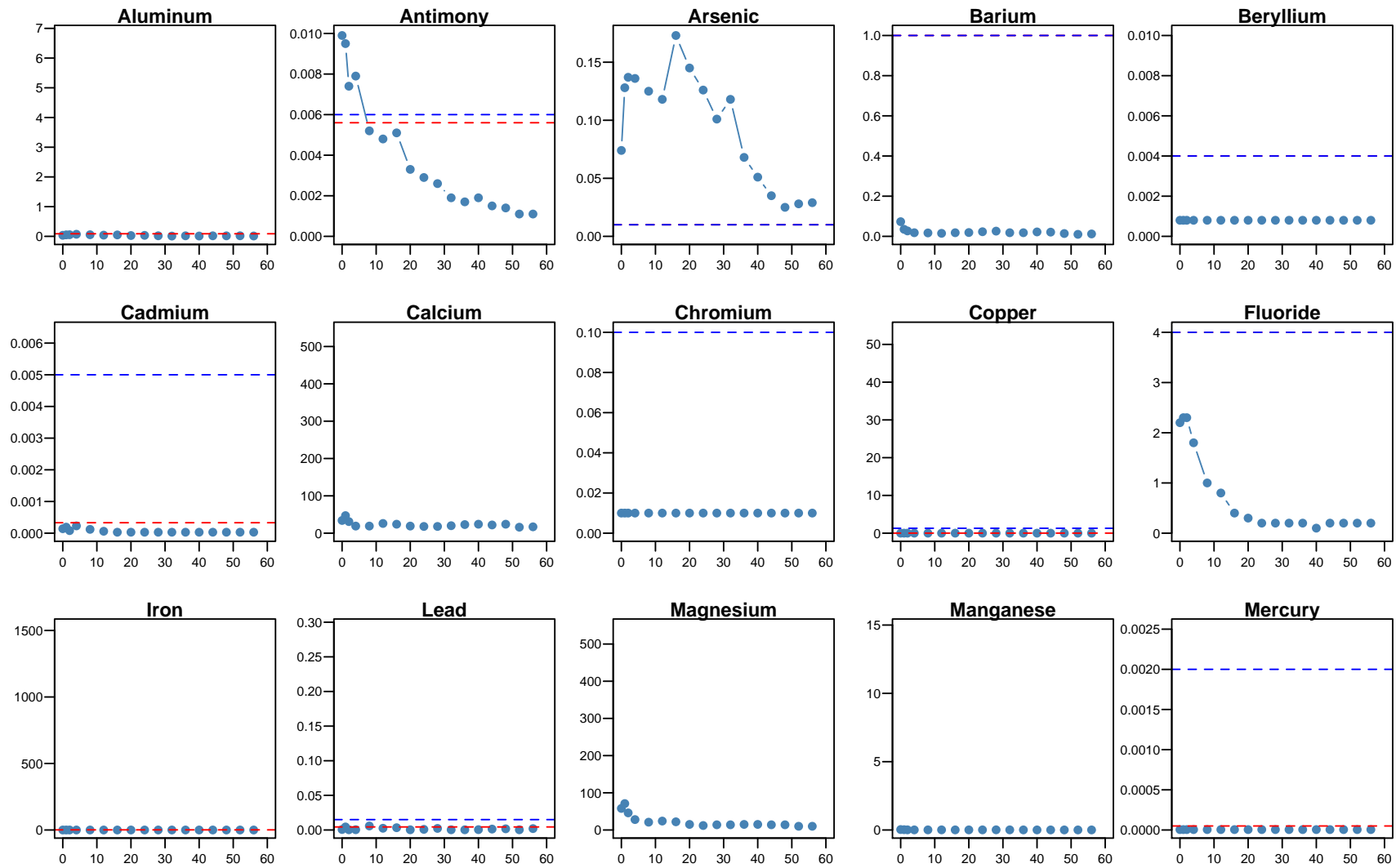
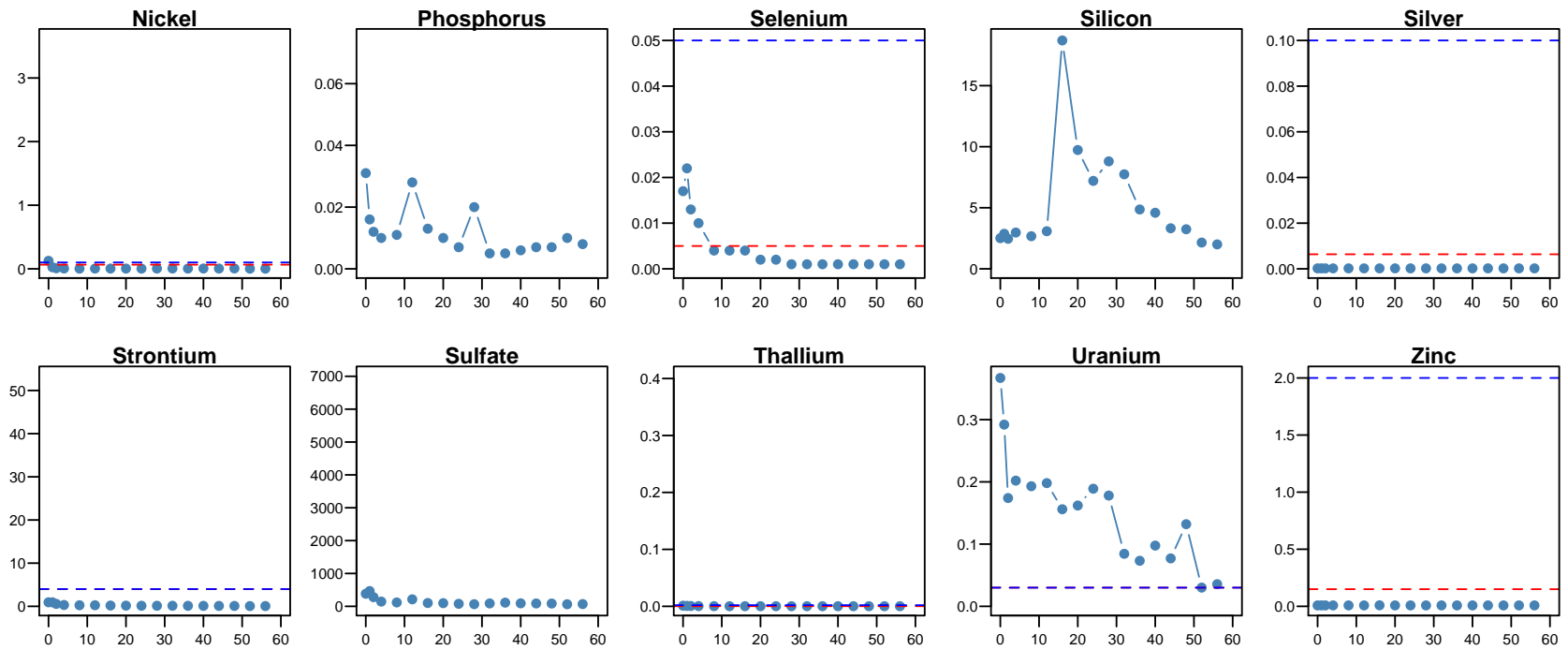


FIGURE 3-13. 2015 LZ FW HCT Weekly and Cumulative Parameters



**FIGURE 3-14a. 2015 LZ FW HCT Periodic Metals**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing= 56.



**FIGURE 3-14b. 2015 LZ FW HCT Periodic Metals, continued.**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing=56.



### 3.2.3.6 2012 Ynl 0 - Dolomite “Nose” Lower Newland Formation (<1% Waste Rock Tonnage)

The Ynl 0 is a dolomitic interbed within the upper part of the lower Newland Formation. This unit serves as a marker that defines the transition to the lower Newland Formation, and while it represented 6% of the tonnage from the 2012 Decline, it represents less than 1% of the operational scale waste rock tonnage. It contains very little sulfide and is strongly alkaline (**Figure 3-15**). During kinetic humidity cell testing, it exhibited very low potential for metal-release (**Figures 3-16a and b** and **Table C-2** of **Appendix C**), no MT DEQ groundwater exceedances were observed during kinetic testing.

- Effluent pH was alkaline for the duration of the test trending from 9.19 in week 0 to 7.74 in week 24, with a minimum pH observed in week 17 (7.46).
- Redox potential was oxidizing for the duration of the test and ranged from 7 mV (week 0) to a maximum of 197 mV (week 17), with a final redox of 182 mV in week 24.
- Conductivity values were low and ranged from 240  $\mu\text{S}/\text{cm}$  (week 1) to 62  $\mu\text{S}/\text{cm}$  (week 17) with a final value of 72  $\mu\text{S}/\text{cm}$  (week 24).
- Iron was consistently low and was below detection in most weeks.
- Sulfate release was also consistently low, ranging from an initial “rinse” of 33.9 mg/kg (78 mg/L) in week 1 to a final and minimum release of 3.5 mg/kg (7 mg/L) in week 24.
- Acidity was not detected in any weeks.
- Alkalinity was detected in all weekly extracts and concentrations ranged from 28.0 mg/kg (42 mg/L, week 0) to 7.6 mg/kg (16 mg/L, week 17), but were regularly stable, ending with 9.9 mg/kg (20 mg/L) in week 24.

With 24 weeks of kinetic testing showing consistently low rates of sulfate production and metal release. No MT DEQ groundwater standards were exceeded during this HCT.

Mineralogical analysis of the Ynl 0 material agreed with the static and kinetic test results and indicated that this material is comprised largely of dolomite (74.5 wt.%) with 18.7 wt.% quartz, 3.8 wt.% muscovite, and 1.0 wt.% potassium feldspar. One Ynl 0 sample had static ABA/NAG results, suggesting that sulfide mineralization can occur locally. During kinetic testing, Se and TI were detected at concentrations greater than the relevant standards, but the MLA method was not successful in identifying Se- and TI-bearing minerals. These findings agree with the previously reported mineralogy of this portion of the Lower Newland Formation. Certainly, the absence of sulfide mineralization agrees with the very low observed rates of sulfate release.

The Ynl 0 unit was sufficiently well characterized in the 2012 tests and no further testing was conducted in 2015. A summary of metal release potential for all HCTs for the Black Butte Copper Project is presented in **Table 3-6**.

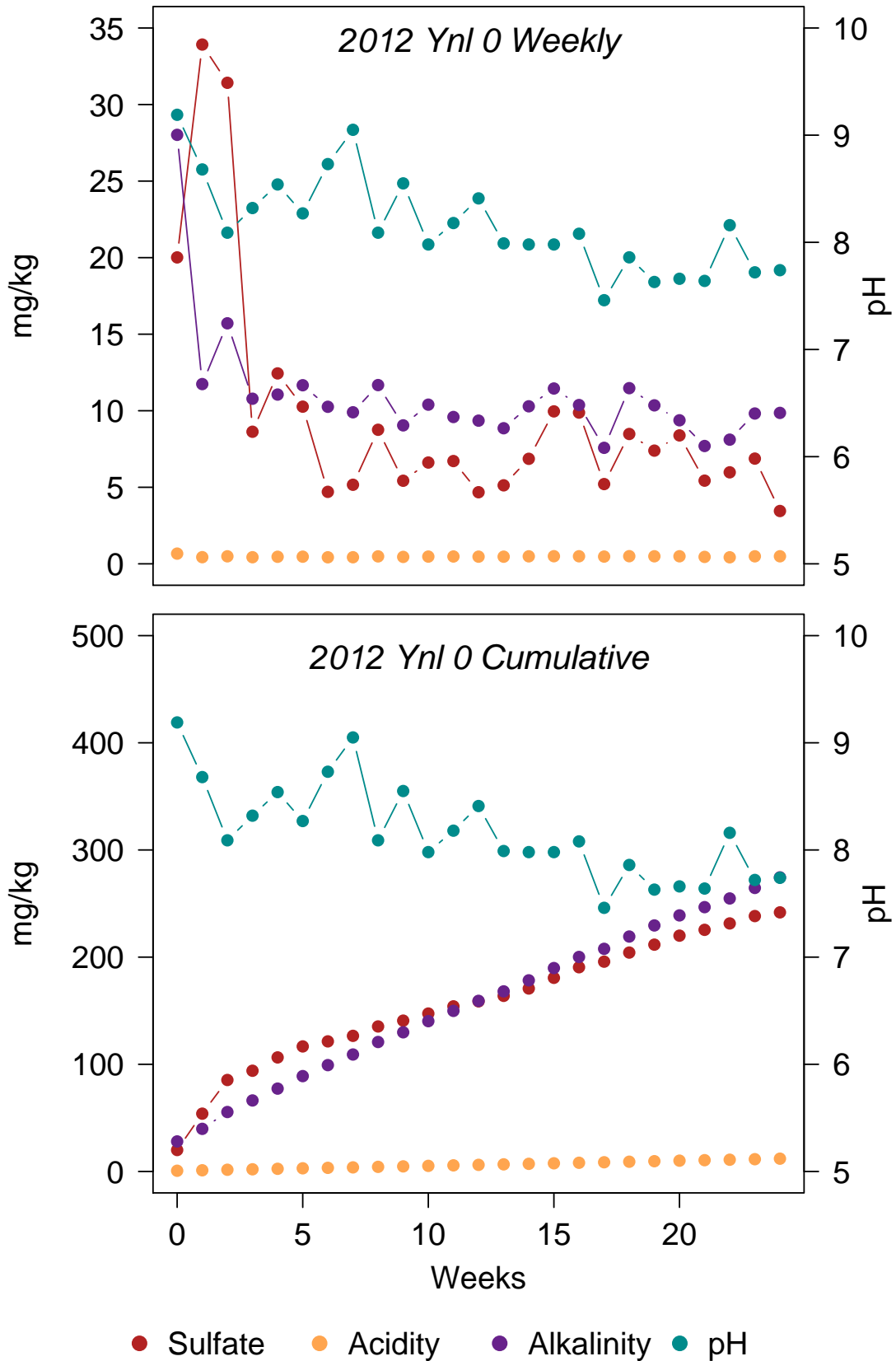
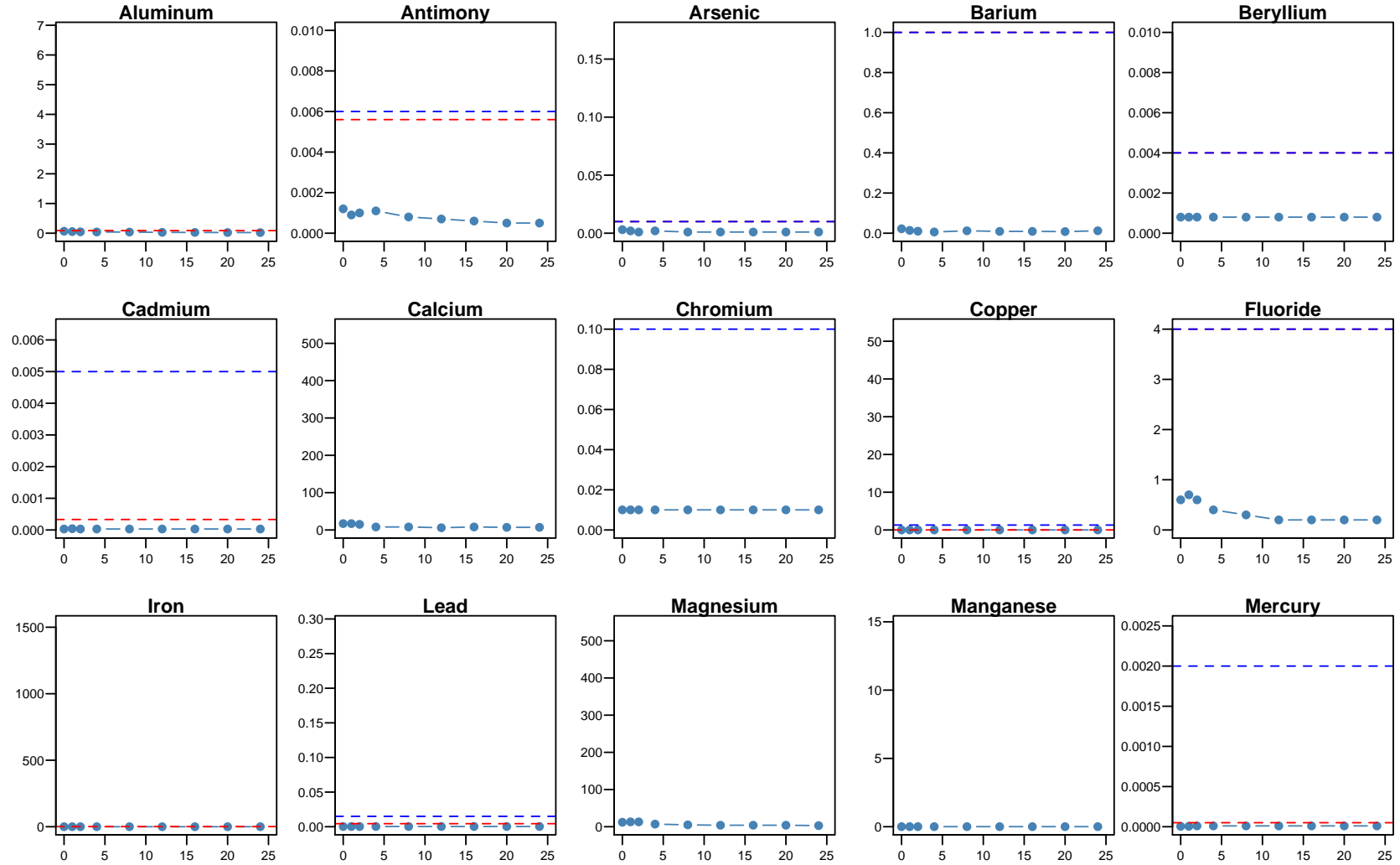
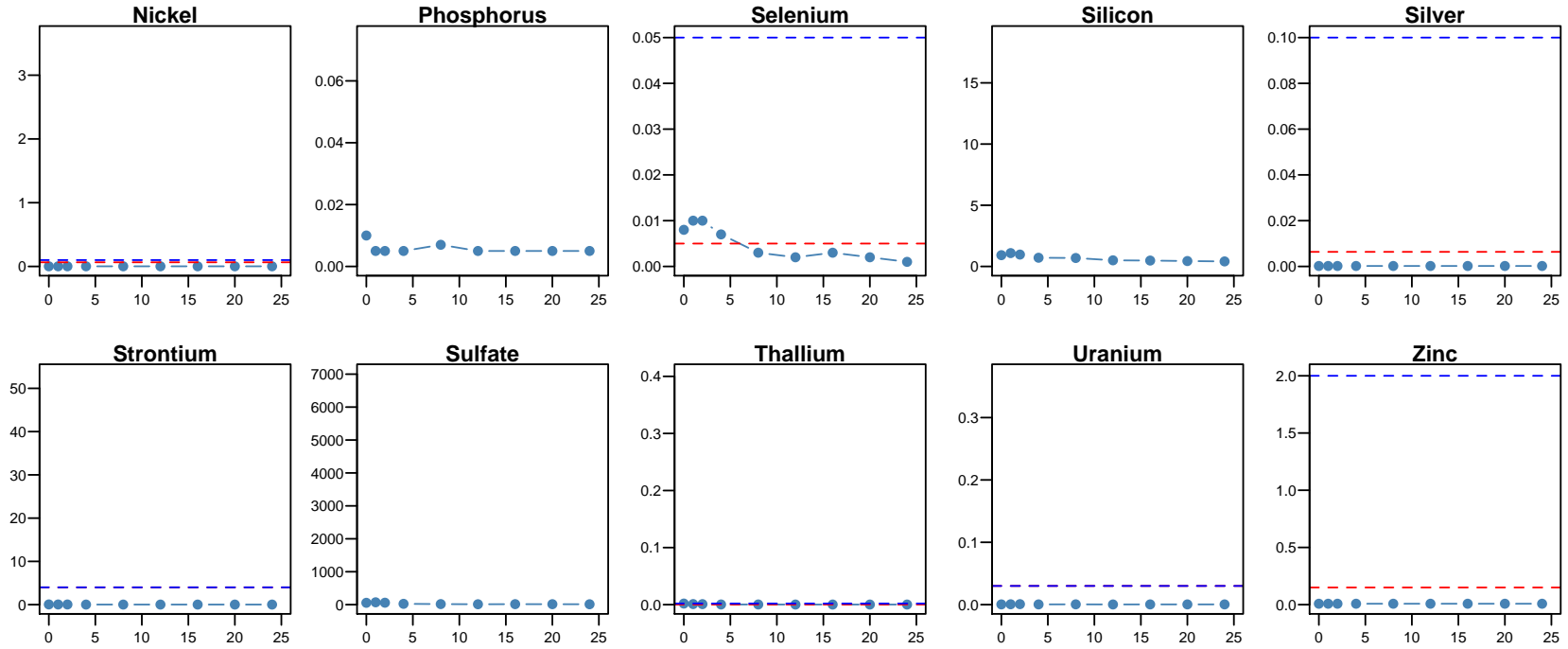


FIGURE 3-15. 2012 Ynl 0 HCT Weekly and Cumulative Parameters



**FIGURE 3-16a. 2012 Ynl 0 HCT Periodic Metals**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing=24



**FIGURE 3-16b. 2012 Ynl 0 HCT Periodic Metals, continued.**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing=24

### 3.2.3.7 2015 Yc – Chamberlain Shale (<1% Waste Rock Tonnage)

Although the current mine design does not include development of the Yc lithotype, earlier versions of the Black Butte Copper Project mine design had incorporated it, and it is possible that this unit could be encountered at depth if mine plans change in the future. It was included in the geochemical testing program for this reason. As described above, this test was started in June 2015 and was terminated after 38 weeks of testing. Below is a summary of observed chemistry.

- Effluent pH was strongly neutral to alkaline; values trended slightly downward with the maximum pH of 8.18 observed in week 4 and a minimum of 7.27 in week 32. The average was 7.63, and the final pH was 7.60.
- Redox potential remained oxidizing and stable, with values ranging from 222 mV (week 0) to 396 mV (week 11), and an average of 309 mV.
- Initially high conductivity values dropped to stable low values ranging from 450  $\mu\text{S}/\text{cm}$  (week 0) to 126  $\mu\text{S}/\text{cm}$  (week 38).
- Iron release was only detected in weeks 4, 7, 10 and 32, and was comprised primarily of  $\text{Fe}^{3+}$ .
- After an initial flush, sulfate production declined and generally stabilized. Sulfate release ranged from 107 mg/kg (130 mg/L, week 0) to 8.9 mg/kg (19 mg/L, week 33), and average release was 19.6 mg/kg (41 mg/L).
- Acidity was not detected in any effluent.
- Alkalinity was detected in all weekly samples, and release ranged from a minimum of 14.5 mg/kg (36 mg/L, week 4) to a maximum of 73.2 mg/kg (89 mg/L, week 0). Average alkalinity release was 23.2 mg/kg (49 mg/L).

Metal production during the Yc HCT indicated a potentially high rate of As release: all weekly extracts analyzed for metals demonstrated As levels in excess of the MT DEQ groundwater water quality standard. No other metals exceeded respective MT DEQ groundwater standards. A summary of metal release potential of all HCTs for the Black Butte Copper Project is presented in **Table 3-6**.

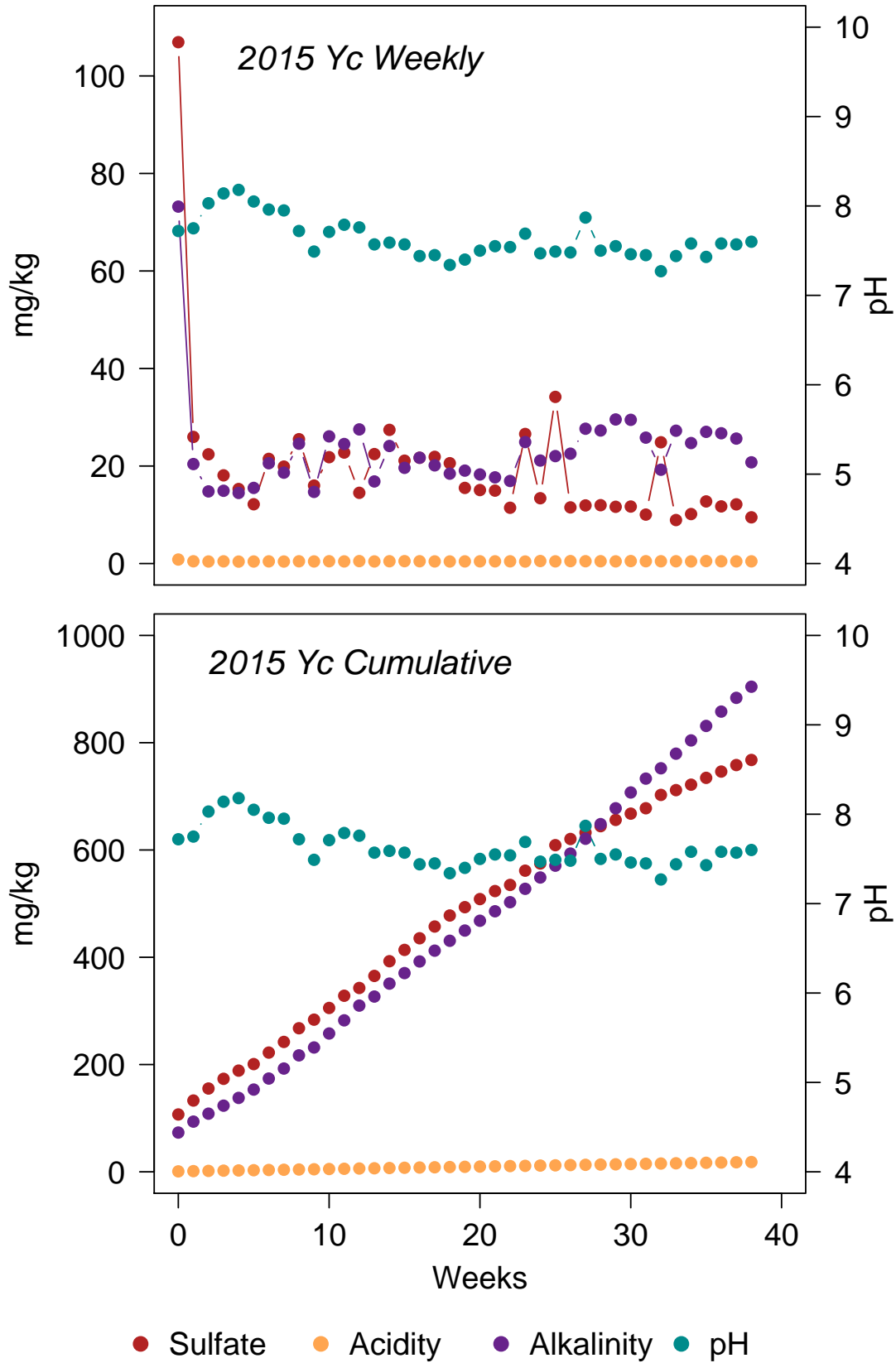
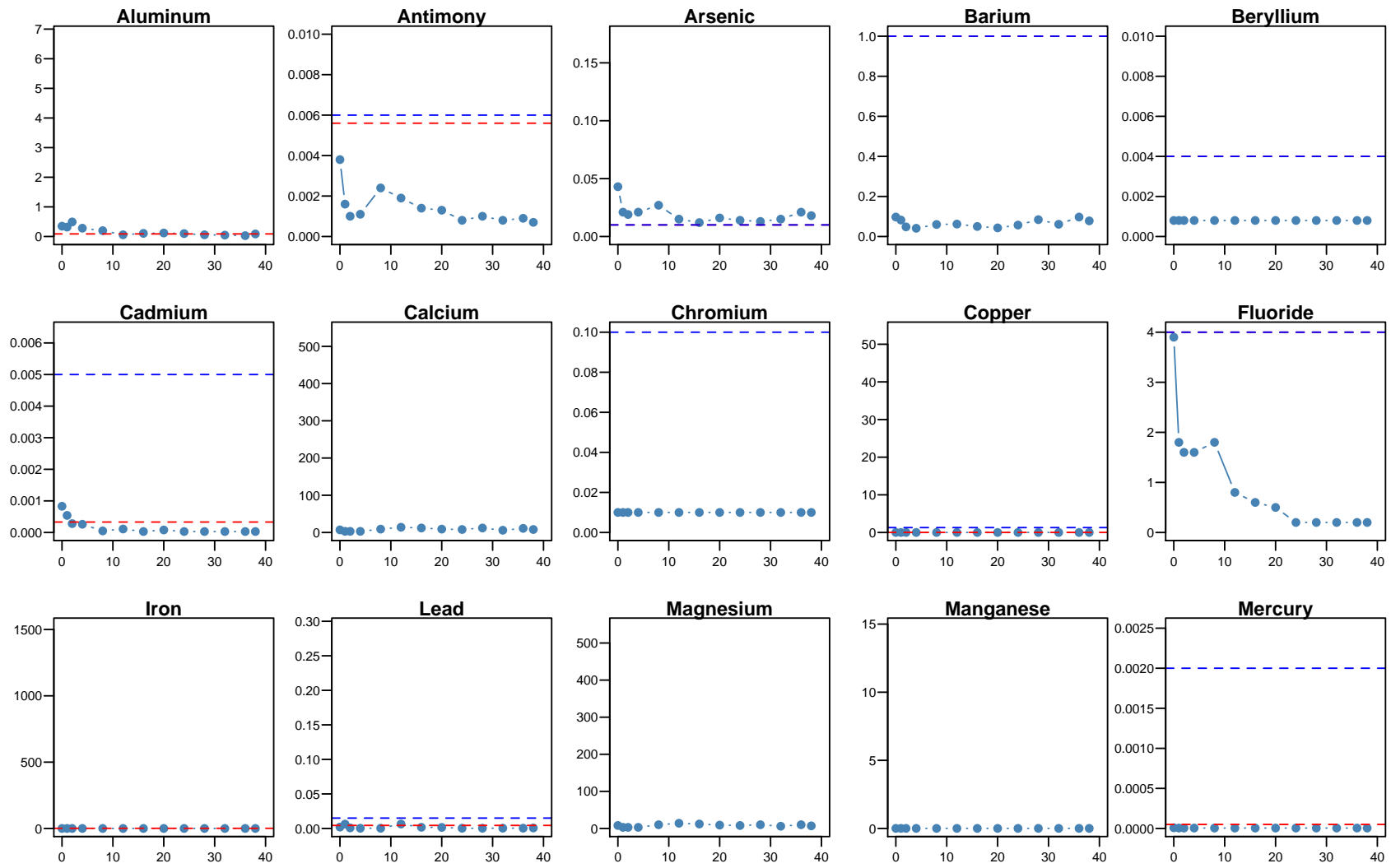
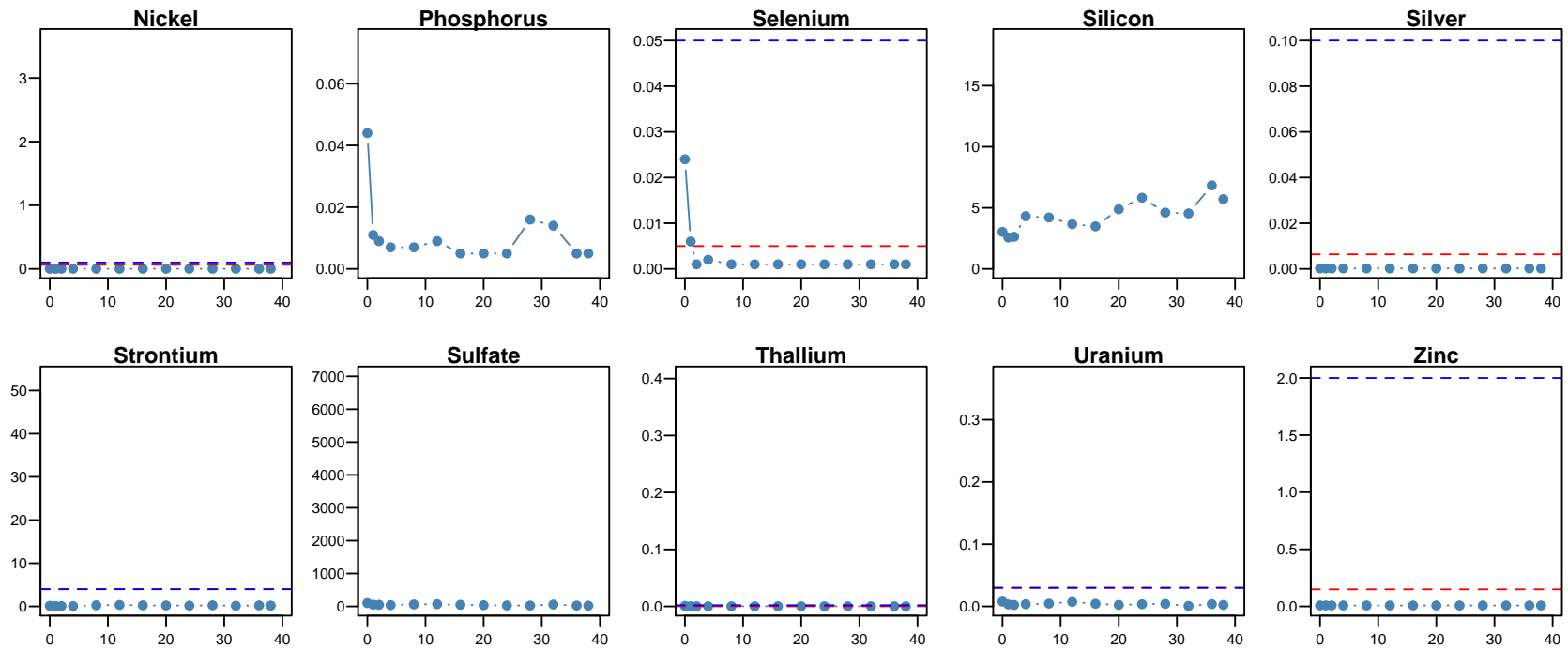


FIGURE 3-17. 2015 Yc HCT Weekly and Cumulative Parameters



**FIGURE 3-18a. 2015 Yc HCT Periodic Metals**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing=38.



**FIGURE 3-18b. 2015 Yc HCT Periodic Metals, continued.**

Y-axes are in mg/L and have been standardized, by element, for comparison with HCTs of other lithotypes. X-axes are weeks of testing. Red dashed lines are relevant surface water standards at a hardness of 130 mg/L. Blue dashed lines are relevant groundwater water standards. Total weeks of testing=38.



### 3.2.4 Summary of all Waste Rock HCT data

All eight HCTs of waste rock material were terminated once steady state solute release was established and in consultation with the MT DEQ. **Table 3-6** provides a summary of metal mobility observed in each of the eight HCTs.

**TABLE 3-6. Metals Exceedances in 2012 and 2015 HCTs**

Humidity Cell Name	Weeks of testing	Final pH (s.u.)	Constituents above MT DEQ Groundwater Standards, based on 2012 DEQ-7 <sup>1</sup>
2012 Ynl A	88	7.36	Ni, Tl
2012 USZ	24	7.28	Pb, Ni, Tl
2015 USZ	73	3.04	<i>As, Be, Cd, Cu, Pb, Hg, Ni, Sr, Tl</i>
2012 Ynl B	56	7.69	Sb
2015 Ynl B	36	7.53	Tl
2015 LZ FW	56	7.49	<b>As, Sb, Ni, U</b>
2012 Ynl O	24	7.74	None
2015 Yc	38	7.60	As

<sup>1</sup> Regular font indicates exceedance(s) only in weeks 0-3

*Italicized font indicates early exceedances and later exceedances.*

**Bold font indicates regular exceedances in all or nearly all weeks of testing**

## 4 Tailings Characterization

Geochemical testing of the tailings for the Black Butte Copper Project has addressed various scenarios for tailings storage and disposal. A homogeneous and representative tailings composite was created during metallurgical testing for use in all environmental geochemistry tests. Testing was focused on Tintina's proposed placement of tailings as a cemented paste, both underground as backfill and in the CTF. Both raw (non-amended) and cemented paste tailings were thus assessed under subaqueous and sub-aerial weathering conditions in laboratory tests. A summary of how tests of these materials relate to Tintina's proposed actions, as well as foreseeable alternatives, is presented in **Table 1-3**.

### 4.1 Paste Tailings

Varying proportions of binding agents have been added to the raw tailings to produce cemented pastes for backfill or surface placement. A combination of 50% cement and 50% slag was used as the binding material. Four percent (by weight) was added to simulate paste backfill and 2 wt. % was added to evaluate cement paste tailings placed in the surface impoundment. A supplemental test of paste tailings with 10% run-of-mine (ROM) waste rock fully mixed into the cemented paste was also included in the geochemical testing program to simulate proposed co-disposal of the tailings and waste rock. The ROM was created using the following proportions of waste rock: *USZ*: 34%, *LZ FW*: 32%, *Ynl B*: 17%, *Yc*: 10%, and *Ynl A*: 5%; it was evenly distributed through the paste amended tailings. These proportions reflect the estimated proportions of waste rock available *at the time* the ROM composite was constructed and differ somewhat from the final proportions of waste rock units described in **Table 1-1**. The geochemical tests conducted on the different paste tailings scenarios are summarized in **Table 1-2**.

#### 4.1.1 Static Testing

Replicate paste samples with 2 and 4% binder were subjected to multi-element whole rock analysis using inductively coupled plasma-atomic emission spectroscopy (ICP-AES) following a 4-acid digestion with a mixture of perchloric, nitric, hydrofluoric, and hydrochloric acids. ABA and NAG analyses were also completed as described above. Results of the static testing of paste tailings are presented in **Tables 4-1** and **4-2** and respective lab reports are found in **Appendix D**.

The results of static testing of paste tailings demonstrate that the 4% cemented paste was very similar to the 2% cemented paste in metal and sulfide content. Although the NP was higher in the 4% cemented paste, the NNP, NP/AP ratio, and final NAG pH are comparable between the two cement paste treatments and suggest potential for acid production.

#### 4.1.2 Diffusion Testing

ASTM method C1308 (diffusion testing) was used to evaluate the oxidation and leaching potential of the cement paste tailings in saturated environments. This method has been approved by the state of Nevada, where certain labs are now state-certified to perform ASTM C1308 to characterize solute release from backfilled paste tailings (Moran *et al.*, 2013).

The method involves submersion of a solid cylinder (2:1 height to diameter ratio) in a solution with a volume equal to 10 times the surface area of the cylinder. Deionized water was used to simulate meteoric water, and because it allowed comparison with the effluent in other HCT tests, this water was replaced periodically over an 11-day period. Specifically, the solution was replaced at 2 hrs, 7 hrs, and 24 hrs, and then every 24 hrs until the 11-day test was complete.

Tintina contracted WETLab, of Sparks, NV (a Nevada-certified lab) to conduct diffusion tests for the 2%, 4% and 4% with ROM amended tailings. Unfortunately, due to the small size and high relative surface area of the cylinders, the 2% paste-amended cylinder disaggregated when saturated in the diffusion test and was terminated before the first sample could be collected (<2 hours). Results of the 4% and 4% with ROM amended tailings diffusion tests are thus presented, along with HCT data (described below) in **Figures 4-1 through 4-7** and **Appendix D, Tables D1a-b**, and indicate the reactivity of the amended paste material under saturated conditions over time. These results are relevant to the prediction of the geochemistry of amended paste tailings when placed as backfill.

#### 4.1.3 Kinetic HCTs

In addition to assessing the acid production and metal release potential of paste tailings under saturated conditions, modified HCTs of the paste tailings cylinders were also used to evaluate subaerial weathering. These aerated tests better represent the effects of the cyclic oxidation and intermittent wetting conditions anticipated to occur in the surface storage facility. The procedure for these tests is identical to the ASTM method for kinetic humidity cell testing, except that the solid material loaded into the column was not crushed. The pasted tailing was added as an intact cylinder. Due to the small cylinder size of the 4% with ROM (2 in wide: 4 in high), the minimum 1 kg requirement for sample mass described in the ASTM procedure was not met. Additionally, the volume of effluent was modified to accommodate submersion of the cylinder. This adjustment is not, strictly

speaking, an alteration in ASTM protocol, as it falls within the range of testing options for the method.

Cylinders containing 2%, 4% and 4% with ROM amended tailings were tested using this modified HCT method, as presented above in **Table 1-2**. These tests were terminated after 28, 28, and 24 weeks of testing, respectively. Results are presented in **Figures 4-1 through 4-7** and **Appendix D, Tables D-2 and D-3**.

**TABLE 4-1. ICP metal results for tailings materials.**

Tailings Sample	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs
	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
Raw Tailings	12.6	0.96	2160	20	0.72	218	0.3	0.23	0.63	1580	292	1.45
C601-15 (2% Paste)	10	0.83	1340	4830	<10	160	1	<10	NA	1100	290	NA
C586-15 (4% Paste)	10	1.02	1450	5970	<10	170	1.88	<10	NA	1110	290	NA

Tailings Sample	Cu	Fe	Ga	Ge	Hf	In	K	La	Li	Mg	Mn	Mo
	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
Raw Tailings	2620	22.5	5.7	0.16	0.3	0.416	0.68	<0.5	34.5	0.14	330	7.16
C601-15 (2% Paste)	2980	20.2	<50	NA	NA	NA	0.6	<50	NA	0.18	240	<10
C586-15 (4% Paste)	3170	20.4	<50	NA	NA	NA	0.6	<50	NA	0.22	270	<10

Tailings Sample	Na	Nb	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn
	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Raw Tailings	0.03	1.3	465	260	751	14.9	0.002	>10.0	23.2	1.5	1	0.9
C601-15 (2% Paste)	<0.05	NA	550	250	760	NA	NA	>10.0	<50	<10	NA	NA
C586-15 (4% Paste)	<0.05	NA	560	240	780	NA	NA	>10.0	<50	<10	NA	NA

Tailings Sample	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zn	Zr
	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Raw Tailings	78.3	0.08	0.06	<0.2	0.032	71.3	1.6	13	1.8	3.1	96	12.5
C601-15 (2% Paste)	490	NA	NA	<50	<0.05	70	<50	20	<50	NA	140	NA
C586-15 (4% Paste)	480	NA	NA	<50	<0.05	60	<50	20	<50	NA	100	NA

**TABLE 4-2. ABA and NAG results of tailings materials**

Sample Identification		NAG @pH 4.5	NAG @pH 7.0	NAG pH	Fizz Rating	AP	NP*	NNP	NP/AP	Paste pH	Total S (%)	NaOH- leachable S (%)	HCl- leachable S (%)	Sulfide S (%)	Total Carbon (%)	Carbonate (%)
						tCaCO3/Kt										
Straight (Raw) tailings	CA12185-JUN15	NA	NA	NA	1	802	2.0	-800	0.003	3.23	25.5	NA	<0.01	25.7	0.372	0.220
	CA15079-JUL15	NA	NA	NA	1	935	<1	-934	0.01	3.30	28.9	NA	<0.01	29.9	0.304	0.100
	CA12531-JUL15	NA	NA	NA	1	781	<1	-780	0.01	3.31	24.1	NA	<0.01	25.0	0.459	0.145
	CA15000-AUG15	NA	NA	NA	1	845	9.4	-836	0.01	3.58	28.3	NA	1.29	27.0	0.406	0.295
	CA14523-AUG15	NA	NA	NA	1	554	61.1	-493	0.11	3.92	21.4	NA	3.70	17.7	1.19	3.20
	Enviromin Tails Sample	282	406	2.2	1	775	<1	-770	0.01	4.0	24.8	0.71	0.68	24.1	NA	NA
Paste tailings	C601-15 (2% Binders)	131.5	182	2.1	1	741	<1	-740	0.01	3.8	23.7	2.08	1.15	21.6	NA	NA
	C586-15 (4% Binders)	124	179.5	2.3	1	744	9	-738	0.01	7.9	23.9	1.99	1.19	21.9	NA	NA

\*negative NP values (italicized) adjusted to <1; "1" used for calculation of NP:AP and NNP

Red shading indicates that based on the ratings systems presented in Tables 3-1 and 3-2 of Appendix D, these samples all have potential to generate acid.

## **4.2 Raw (Non-amended) Tailings**

The raw (non-amended) tailings material were also characterized to provide basic information about the acid generation and metal release potential of this material, as well as geochemical data for modeling of a possible dry stack storage alternative. Tintina does not plan to store or stack raw tailings material, however, and has proposed that all tailings should be placed underground as paste backfill or placed as paste in a lined and monitored cemented tailings facility.

### **4.2.1 Static Testing**

Similar to the approach used in characterization of the waste rock and paste amended tailings, whole rock metal analysis, ABA and NAG methods were used to assess the acid generation potential of the raw tailings. Results of the static testing of raw tailings indicate that this material is likely to produce acidic drainage and contains elevated levels of sulfur and metals.

### **4.2.2 Kinetic HCTs**

The raw tailings were subjected to two styles of kinetic HCT tests. One followed the ASTM standard HCT method (D5744-13) that is described above for waste rock. A second kinetic test was a modified version of the ASTM standard for HCTs, in which a constant head of water was maintained over the sample in the test column. Rock was submerged and remained under saturated and suboxic conditions until the seventh day of each weekly cycle, at which time the leachate was allowed to freely drain from the sample and fresh influent was added. In this version of the test, the typical forced-air technique was not employed, and contact with air (i.e., oxygen) was limited to 15 to 30 minutes between the draining of effluent and addition of new influent deionized water, as well as any oxygen present in the water itself. All other aspects of the testing (weekly test parameters and periodic metal analysis) were identical to ASTM standard D5744-13. These kinetic HCTs were terminated after 47 weeks of testing as described below. McClelland Laboratories' discussion of results is found in their Interim Report of Kinetic Testing (in **Appendix C** of this report)

There is a clear difference in the potential environmental impact of saturated and unsaturated tailings. Suboxic conditions, which are maintained in the saturated test using a constant head of water to limit the infiltration of oxygen, produce much lower amounts of sulfate, acidity and metals than the aerated tailing HCT. **Figures 4-1 through 4-7** clearly demonstrate these differences, which are also presented in **Appendix D, Table D-2 and D-3**.

## **4.3 Discussion of All Tailings Kinetic Results**

Acid and sulfate production varied between the paste tailings HCTs, with the 2% test exhibiting greater release than the 4% with ROM test, which was in turn greater than the 4% test. At the conclusion of testing, the cumulative and individual measurements of sulfate production were distinctly lower in the 4% HCT than in the 2% and 4% with ROM HCTs. All tests began at a pH above 6, which was maintained for 1, 2, and 4 weeks in the 2%, 4% with ROM, and 4% cylinders, respectively, but eventually, all paste HCTs dropped below a pH of 3. Groundwater metal exceedances are summarized by test in Table 4-3.

The 4% binder and 4% with ROM cylinders in the diffusion tests showed different trends in sulfide oxidation. The 4% binder cylinder maintained a variable, but overall higher, pH between 6.5 and 9.5, with available alkalinity, and produced less sulfate throughout the test than the 4% with ROM cylinder. This is likely due to the disruption of the massive cemented paste matrix by the ROM rock particles. Rates of metal release were significantly lower in diffusion tests of cemented paste tailings than in HCTs of corresponding material. Because the diffusion tests were intended to simulate underground backfill scenarios, the results have been compared to relevant groundwater standards in **Appendix D, Table D-1a and b**. Relevant As and TI groundwater standards were exceeded in the 4% binder and 4% with ROM cylinders, respectively.

The HCT results demonstrate that the paste-amended treatments have lower potential for acid, sulfate and metal release than HCTs of raw tailings. Initially, the saturated raw tailings HCT exhibited the lowest sulfate, acid and metal release, but near the conclusion of testing, many of these constituents increased in concentration. Meanwhile, the corresponding sub-aerial HCT of raw tailings exhibited the highest rates of release, with some slightly decreasing trends over time.

In terms of metal release, the 4% cemented paste HCT exceeded fewer groundwater standards than the 2% cemented paste HCT. Furthermore, the 4% cemented paste HCT began to release increasing concentrations of sulfate and metals of, e.g. Cu and Ni, in week 8, while the 2% HCT began producing high concentrations of metals sooner.

Addition of ROM into the matrix of the 4% cemented paste tailings appears to have modestly affected sulfate and acid production during the first half of the test, with the pH of the ROM-amended test approximately one unit lower than the 4% cemented paste tailings. This is likely due to the disruption of the paste cylinder matrix by rock fragments, thereby enhancing its rate of disaggregation. In the second half of the test, the rate of solute release for this HCT began to approach that observed for the 2% HCT, reflecting its disaggregation as the test proceeded. Metal release signatures of the 4% and the 4% with ROM HCTs followed similar trends, but had variable magnitudes of release. For example, groundwater exceedances in effluent from the 4% with ROM HCT were similar to those observed in the 4% paste cement HCT (**Table 4-3**).

HCT results for paste cylinder samples provide an interesting contrast to the HCTs of non-amended tailings. The unsaturated, sub-aerial HCT of non-amended tailings exhibited distinctly higher sulfide oxidation rates than all other kinetic tests of tailings, with a cumulative sulfate production of more than 200,000 mg/kg and pH consistently below 3. Conversely, anoxic conditions in the saturated HCT significantly limited acid and metal production until alkalinity was fully depleted after week 35.

Results of the non-amended tailings sample tested in the conventional, subaerial kinetic test demonstrated strong acid generation and a correspondingly high potential to generate sulfate and several metals at low pH. Effluent from this test routinely exceeded groundwater standards for Sb, As, Be, Cd, Cr, Cu, Pb, Ni, TI, and Zn (**Table 4-3 and Appendix D**)

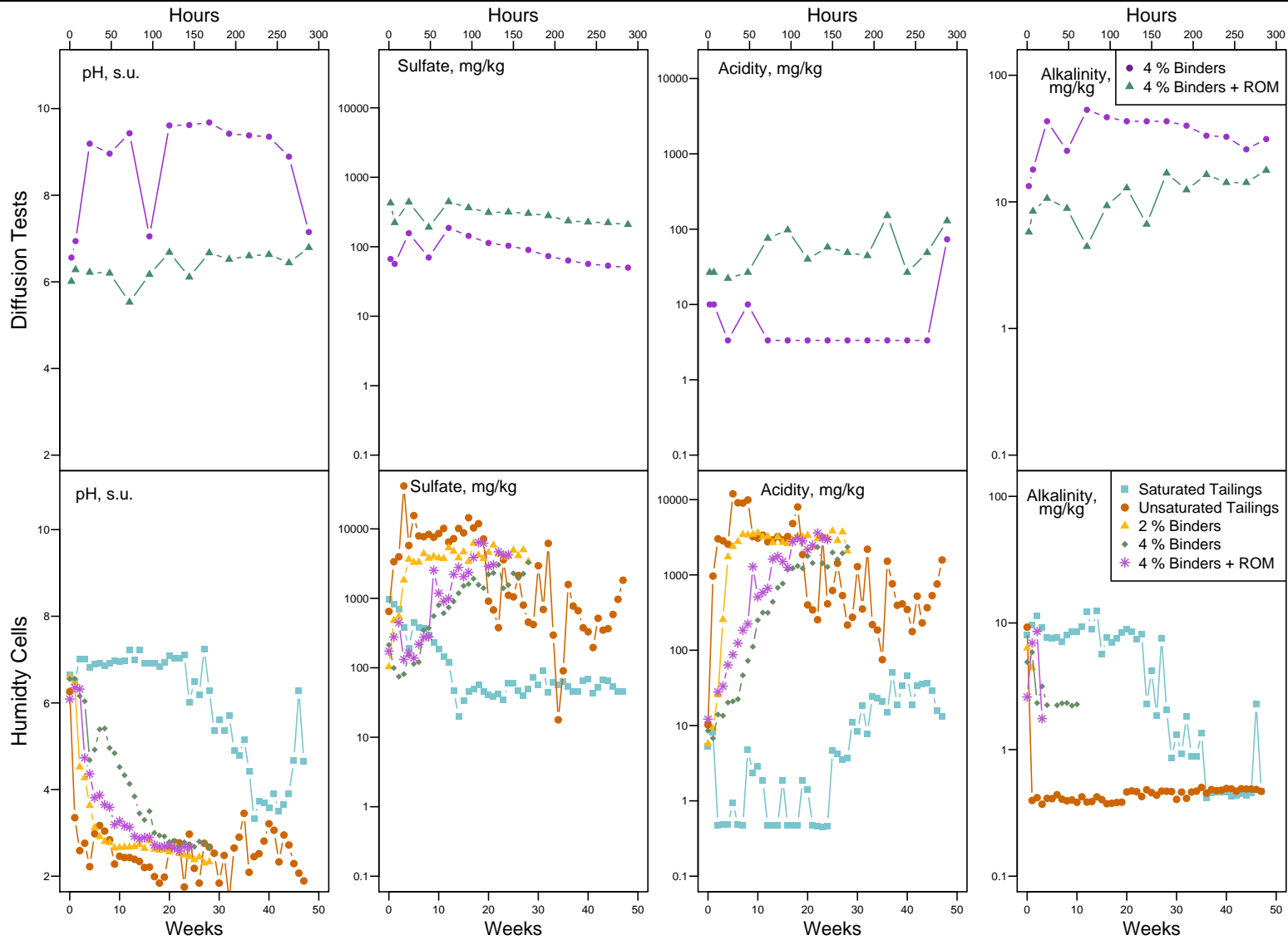
In contrast, the saturated kinetic test showed much lower sulfide oxidation and release of metals, and maintained a circum-neutral pH for most of the test. After 30 weeks of testing, as available alkalinity began to decrease, this material also produced acidic leachate. At the lower oxidation rate in the saturated HCT, fewer metals exceeded relevant groundwater quality standards. Specifically, in nearly all weeks of testing relevant groundwater standards for As, Ni, and TI were exceeded in the saturated tailings HCT effluent, with isolated groundwater standard exceedances for Pb and Cu.

**TABLE 4-3. Exceedances in Kinetic Tests of Paste and Non-Amended Tailings**

Test Name	Weeks of testing	Final pH (s.u.)	Constituents above MT DEQ Groundwater Standards, based on 2012 DEQ-7 <sup>1</sup>
4% Diffusion	11 days	7.15	As
4%+ROM Diffusion	11 days	6.79	Tl
4% HCT	28	2.67	As, Be, Cr, <b>Cu, Ni, Tl</b>
2% HCT	28	2.87	Sb, <b>As, Be, Cr, Cu, F, Ni, Tl, U, Zn</b>
4%+ROM HCT	24	2.67	Sb, As, Be, Cr, <b>Cu, Pb, Ni, Tl</b>
Sat. Raw HCT	47	4.66	<b>As, Cu, Pb, Ni, Tl</b>
Unsat. Raw HCT	47	1.89	<b>Sb, As, Be, Cr, Cd, Cu, Pb, Ni, Tl, U, Zn</b>

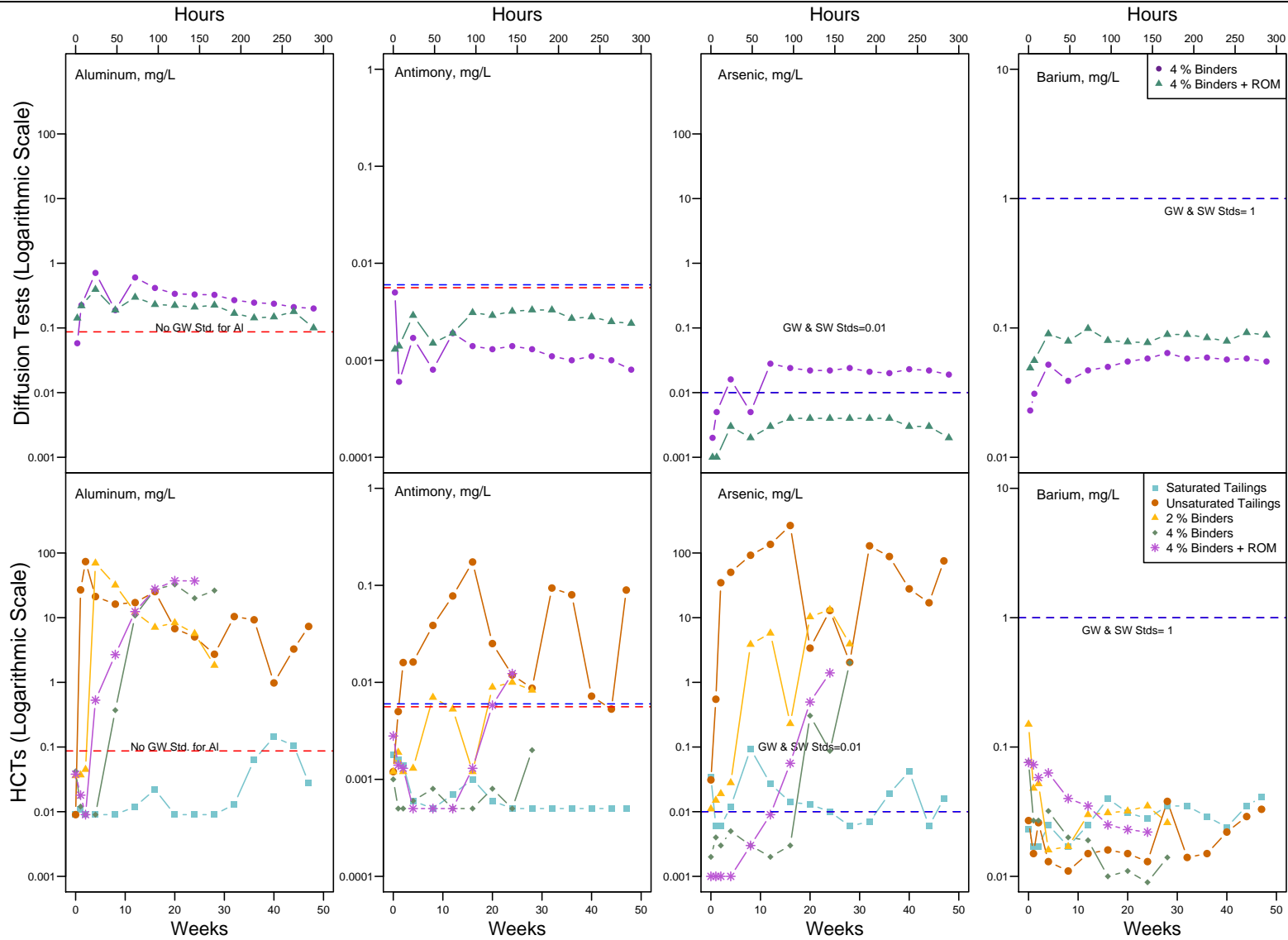
<sup>1</sup> Regular font indicates exceedance(s) once or more in weeks 0-2, only  
*Italicized font indicates isolated or few exceedance(s) typically in later weeks (week 8 or later) in paste HCTs, and earlier weeks (before week 12) in raw tailings HCTs*  
**Bold font indicates exceedances in all or nearly all weeks of testing**



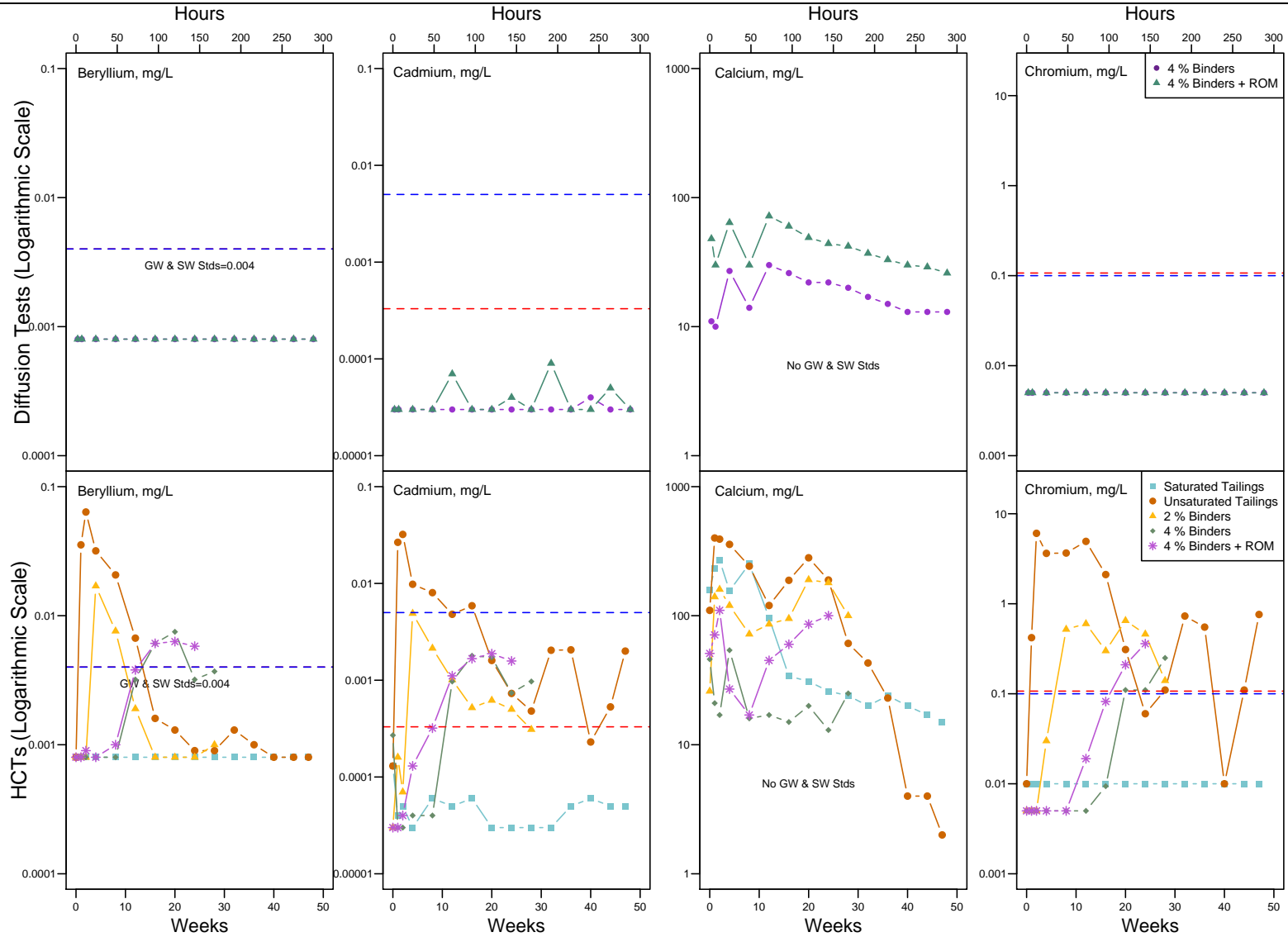


**FIGURE 4-1. Tailings Kinetic Test Results: pH, Sulfate, Acidity, and Alkalinity.**

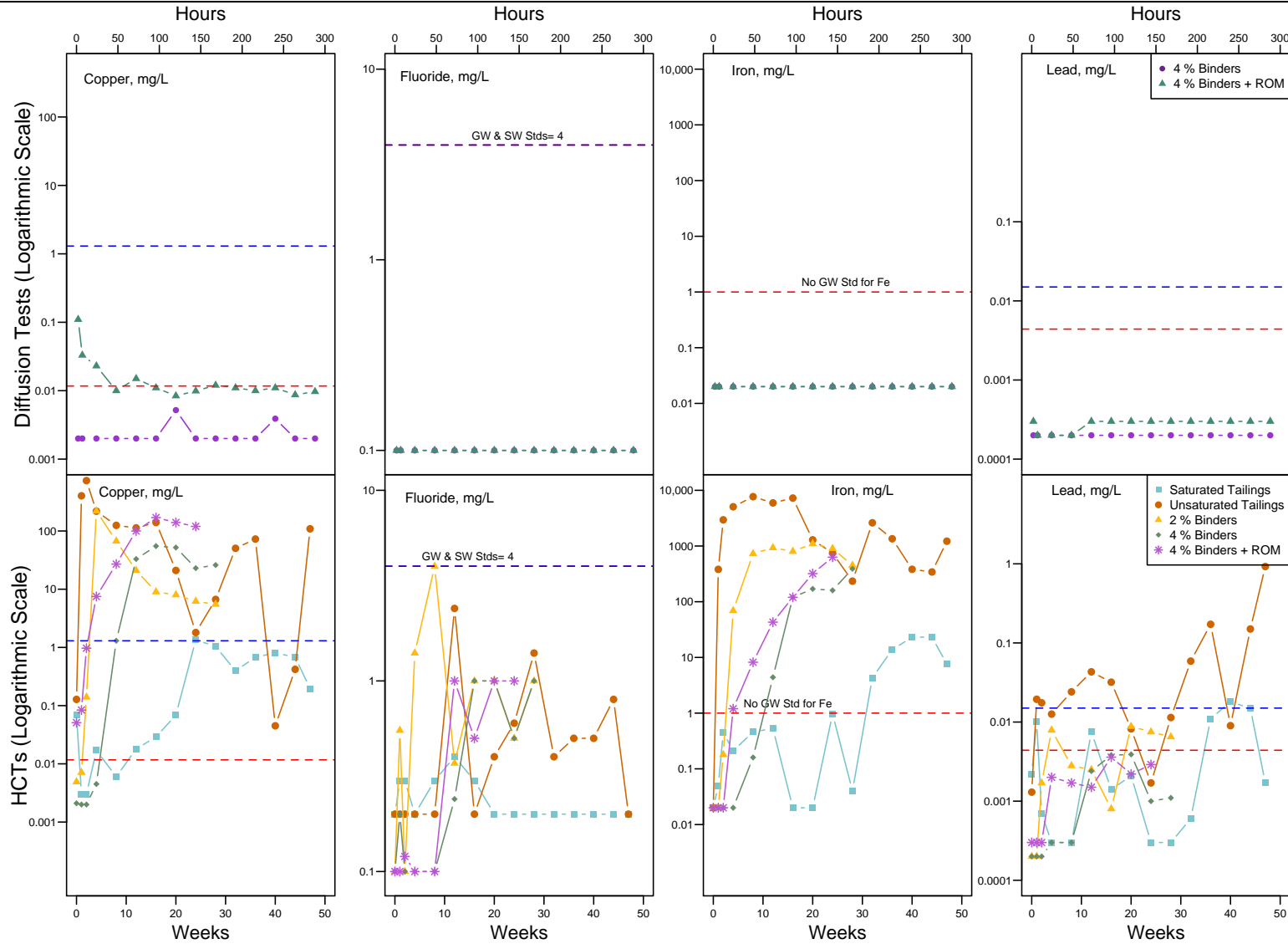
Diffusion tests presented in top row, HCTs presented in bottom row. All y-axes, except pH are presented in logarithmic scale.



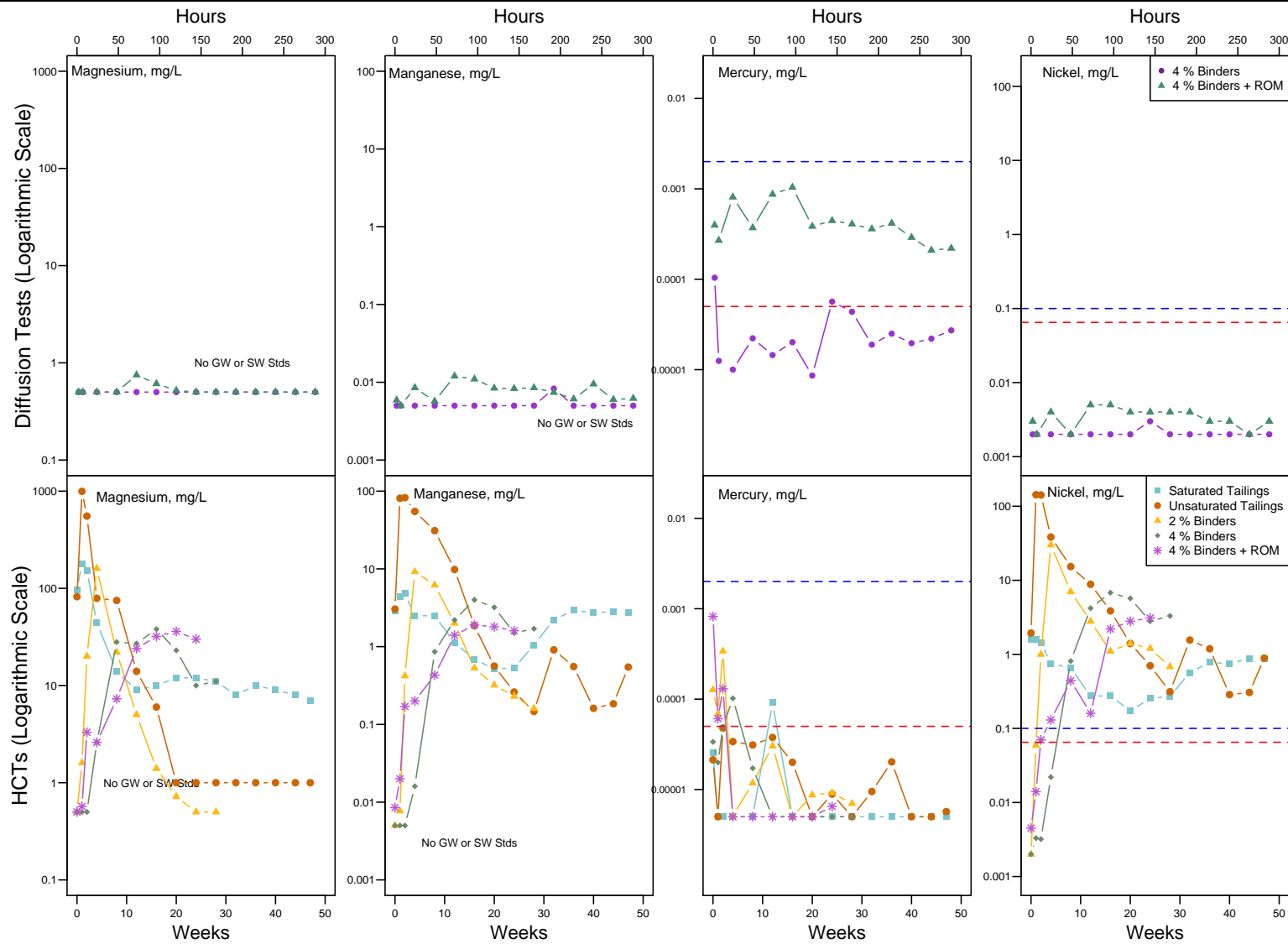
**FIGURE 4-2. Tailings Kinetic Test Results: Al, Sb, As, and Ba.**  
Red and blue dashed lines are relevant surface water and groundwater standards, respectively.



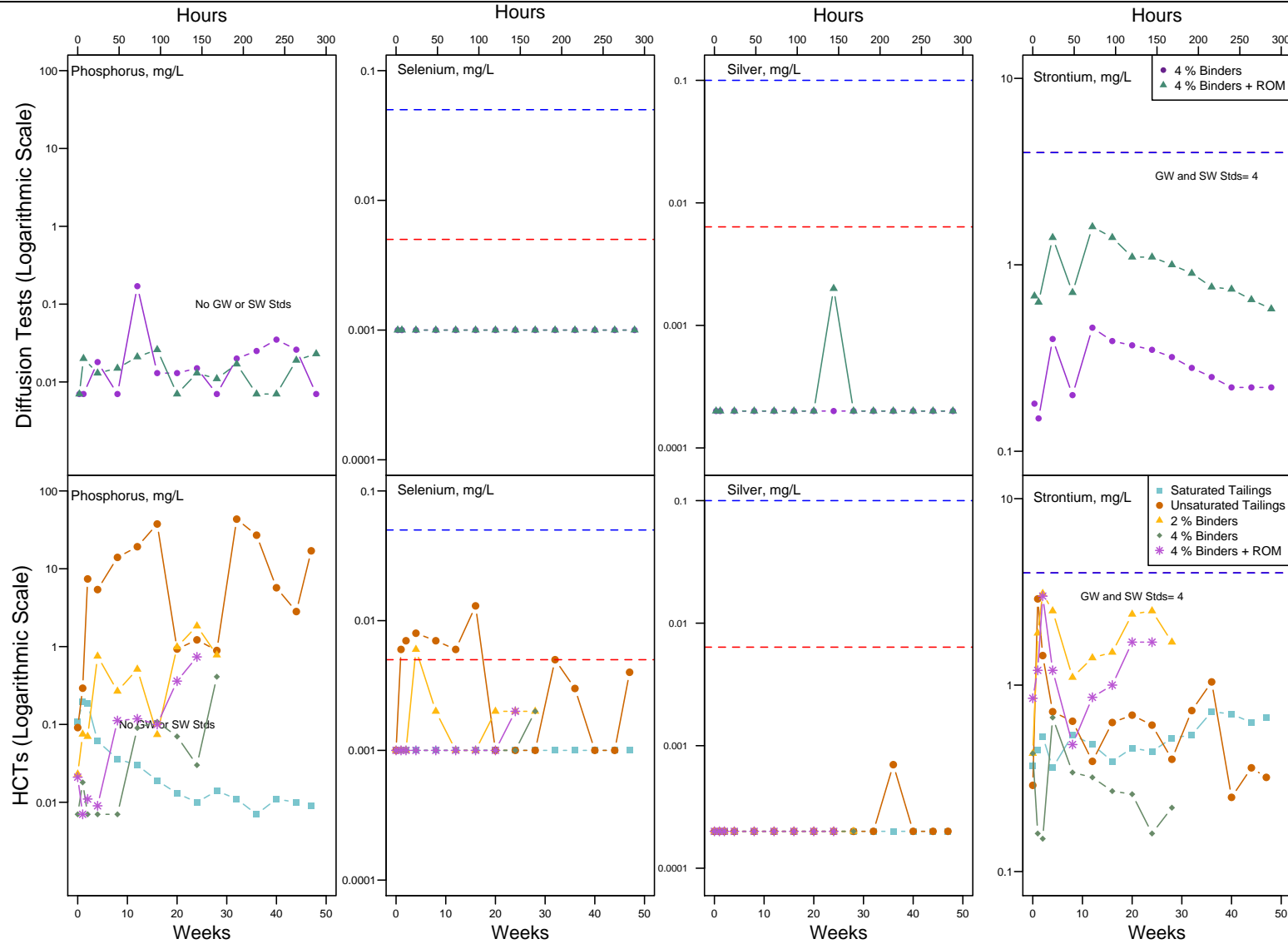
**FIGURE 4-3. Tailings Kinetic Test Results: Be, Cd, Ca, and Cr.**  
Red and blue dashed lines are relevant surface water and groundwater standards, respectively.



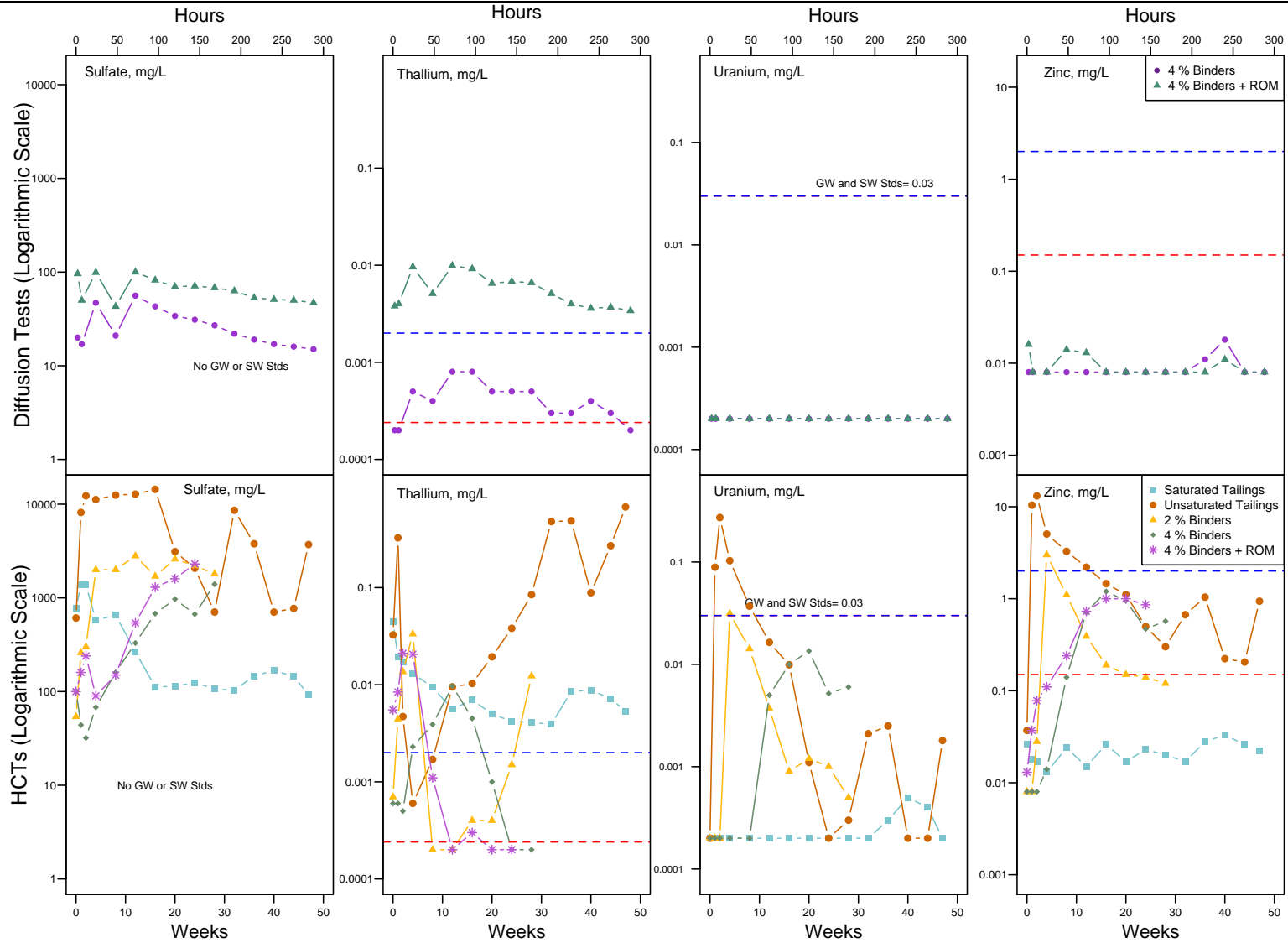
**FIGURE 4-4. Tailings Kinetic Test Results: Cu, F, Fe, and Pb.**  
Red and blue dashed lines are relevant surface water and groundwater standards, respectively.



**FIGURE 4-5. Tailings Kinetic Test Results: Mg, Mn, Hg, and Ni.**  
Red and blue dashed lines are relevant surface water and groundwater standards, respectively.



**FIGURE 4-6. Tailings Kinetic Test Results: P, Se, Ag, and Sr.**  
Red and blue dashed lines are relevant surface water and groundwater standards, respectively.



**FIGURE 4-7. Tailings Kinetic Test Results:  $\text{SO}_4^{2-}$ , TI, U, and Zn.**  
Red and blue dashed lines are relevant surface water and groundwater standards, respectively.

## 5 Conclusions and Recommendations

The acid generation and metal release potential of waste rock and tailings to be produced by Tintina's proposed Black Butte Copper Project have been characterized using static multi-element analysis, acid-base accounting, net acid generation potential, and kinetic methods. Mineralogical analyses of metal residence and asbestiform mineral analyses were also completed.

The testing program has addressed all proposed management plans and anticipated alternatives. Static and kinetic tests of all waste rock with tonnage >1% included in the total life of mine plan (totaling 778,810 tons or 706,525 tonnes) as stated in the MOP Application have been completed, and additional waste lithotypes representing tonnages <1% (including *IG*, *Ynl 0*, *Yne*, and *Yc*) have also been characterized. Raw (non-amended) tailings were tested along with cemented paste tailings with 2% and 4% cement binder, and 4% cement binder mixed with run-of-mine rock to simulate alternative disposal methods. Tailings have been tested under both subaerial weathering and saturated conditions. Predictive models of water quality for the underground workings during operations and at closure, for the waste rock stockpile, and for the cement tailings facility are reported elsewhere (Enviromin 2017c). Additionally, geochemical characterization of near-surface rock has been conducted and is reported separately (Enviromin, 2017b).

### 5.1 Waste Rock Geochemistry.

Waste rock from the life of mine underground mine plan is associated with the following units (in decreasing order of abundance): Lower-Zone Footwall (*LZ FW*, 35% of waste rock tonnage), the Lower Newland basal shale and conglomerate (*Ynl B*, 32%), the Upper Sulfide Zone (*USZ*, 28%), and the Undifferentiated Lower Newland (*Ynl A*, 4%). A total of 7,497 whole rock samples of waste rock, including 5,642 samples of the four dominant waste rock lithotypes, were statistically analyzed to characterize overall geochemical variability within multiple lithotypes and to identify representative sample subsets for static and kinetic testing. No asbestiform minerals were identified in any lithotype to be mined from the Project. A total of 138 static tests of acid generation potential, using both acid-base accounting (ABA) and net acid generation (NAG) methods, were completed by ALS Laboratories (Sparks NV) for the dominant waste rock lithotypes. Results of ABA and NAG tests indicate that the majority (90%) of *Ynl B* and *Ynl A* samples are unlikely to form acid, while many *USZ* and *LZ FW* samples have an uncertain potential or have the potential to generate acid.

Kinetic tests of *Ynl B*, *USZ*, and *Ynl A* waste rock collected from the vicinity of the previously proposed 2012 Decline were completed by McClelland Laboratories (Sparks NV) following the ASTM protocol D5744 in 2012. The *Ynl A* composite tested in 2012 was comprised of subsamples that were representative of this lithotype site wide, but the *Ynl B* and *USZ* composites were not. To address this limitation, additional tests of these two waste rock lithotypes were initiated in 2015 using representative subsamples collected site wide. Also, as a result of updates in the mine plan, the *LZ FW* was identified as a significant portion of the waste rock tonnage to be produced; representative samples were therefore identified, analyzed and composited for kinetic testing of this unit as well. The 2015 *Ynl B*, *LZ FW*, and *USZ HCTs* were terminated in consultation with MT DEQ after 36, 56, and 73 weeks of testing, respectively.



Sulfide oxidation was observed in HCTs for the four dominant waste rock units. However, consistent with static test results and the presence of abundant carbonate mineralization, oxidation in the *Ynl B*, *Ynl A*, and *LZ FW* tests did not produce sufficient acidity to deplete alkalinity, nor did these tests produce acidic pH values. Despite indications of sulfide oxidation, depleted alkalinity and increased acidity with somewhat lower pH was observed solely in the 2015 *USZ* test. While static tests suggest that the *USZ* unit is likely acidic, the 2015 kinetic test of this material demonstrated its strong buffering capacity: despite consistently high sulfate release, this HCT did not become acidic until week 60.

All assessments of metal release potential for waste rock lithotypes (tonnage >1%) and tailings were based on metal concentrations measured in kinetic test effluents in weeks 0, 1, 2, 4, and every 4 weeks thereafter. The data allow assessment of potential impacts by individual rock type, but overall water quality should be considered based on facility scale predictions provided by Enviromin (2017c)

The *Ynl B* and *Ynl A* units maintained neutral pH in the test cells and did not exceed groundwater standards after week 2. Subsequent to rinsing observed in week 0 in the 2012 *USZ* HCT, only TI exceeded its respective groundwater standard. In contrast to low metal release in the 2012 *USZ* HCT, the 2015 *USZ* HCT exhibited repeated groundwater standard exceedances for As, Be, Cd, Cu, Pb, and Ni, while groundwater exceedances were also observed for Hg in weeks 1 and 2, and Sr and TI in all weeks. The *LZ FW* lithotype exhibited repeated exceedances of the Sb groundwater standard in early weeks and As, and U exceeded respective groundwater quality standards in all weeks. Because each of the waste rock lithotypes has some, if variably significant, potential to generate acid or release concentrations of metals exceeding water quality standards, Tintina proposes to encapsulate waste rock in cemented paste tailings within the lined and monitored CTF impoundment. Further, Tintina proposes to collect all water from the waste rock stockpile, the CTF, and the underground workings for treatment to meet non-degradation standards prior to discharge into underground infiltration galleries. Potential for waste rock drainage impact to surface and groundwater is therefore low.

Mineralogical analyses, using the Mineral Liberation Analysis/Scanning Electron Microscopy method, were completed for samples of waste rock post-weathering to evaluate the mineral residence of metals detected in HCT effluent, such as TI and Se. No discrete mineral phases containing TI or Se were identified, but analysis of the TI and Se content of heavy liquid separates (which separated the light feldspars from the heavy sulfides) suggested that these elements occur as trace substitutes in the sulfides.

## 5.2 Tailings Geochemistry

Splits of homogenized tailings reject produced in bench-scale metallurgical testing were used for all tests. There is minor variation in AP and NP, but the ABA and NAG tests indicate that the tailings will have a strong potential to generate acid with or without paste amendment. Although the neutralization potential resulting from the addition of 2 to 4% cement binder is not sufficient to neutralize the sulfide in the tailings, this was not the intent of binder addition. The binders will be added to provide structural strength in support of drift and fill mining methods underground, and to change the physical properties of the tailings to a stable, non-flowable material with low hydraulic conductivities on the order of  $10^{-8}$  cm/sec in both surface and underground settings.

Cemented paste tailing cylinders were tested (without crushing) in conventional ASTM method D5744 humidity test cells, to simulate sub-aerial weathering, and in ASTM

C1308 diffusion tests, to simulate diffusion through backfill in saturated underground workings. Raw (non-amended) tailings were tested using ASTM method D5744, both sub-aerially and in a modified, saturated ASTM method D5744 test, to represent the alternative scenarios of dry stack surface placement and subaqueous deposition impoundment, respectively.

The 4% binder and 4% with ROM cylinders showed different trends in sulfide oxidation in the diffusion tests. The 4% binder cylinder maintained a variable, but overall higher, pH between 6.6 and 9.7, with available alkalinity and less sulfate throughout the test than the 4% with ROM cylinder, in which pH ranged from 5.5 to 6.8. This suggests that the massive cemented paste tailings, in which the matrix is not interrupted by rock fragments, may be important in controlling sulfide exposure for oxidation. Rates of metal release were significantly lower in diffusion tests of saturated cement paste tailings than in unsaturated HCTs of cemented paste tailings. In fact, groundwater standards were only exceeded for As and TI in the 4% binder and 4% with ROM cylinders, respectively. Furthermore, because the backfilled paste tailings have very low transmissivity they will react slowly with groundwater and are unlikely to create acidity or release concentrations of metals above groundwater standards. The influence of this low reactivity on water quality in the underground workings is modeled and reported separately (Enviromin 2017c).

Conventional, aerated HCTs of paste tailings were used to evaluate behavior of the paste tailings in surface deposits within the CTF. Acid and sulfate production as well as pH and metal release varied between the cemented paste treatments, largely as a result of differences in disaggregation rates, which change the reactive surface area. Generally, the cemented paste cylinders with higher binder contents crumbled more slowly and released sulfate, acidity, and metals more slowly. Specifically, the 2% HCT test exhibited greater sulfate and acid release than the 4% test, which was similar to but lower than the 4% with ROM test. All tests began at a pH above 6, which was maintained for weeks 0 and 1 in the 2% HCT, through week 3 in the 4% HCT and through week 2 in the 4% with ROM HCT.

It is likely that these HCTs conservatively represent the potential rates of oxidation for cemented paste tailings, because tests were run on small, laterally-unconfined cylinders with a higher surface area to mass ratio than would exist within the more massive CTF deposits. Furthermore, it is widely accepted that sulfide oxidation in an HCT, which optimizes and accelerates the intrinsic oxidation rate, is typically greater than that under field conditions. Therefore, the disaggregation observed in these tests is considered conservative with respect to ultimate field conditions. The results of early weeks of testing, prior to excessive disaggregation, are, thus, more relevant to geochemistry of paste tailings in the CTF.

Tintina proposes to place 0.5 to 2% paste cement amended materials in its surface CTF and to collect and remove water from that impoundment continuously. Discharge of tailings seepage to surface water is unlikely because mine-affected water will be treated prior to discharge to groundwater. The following discussion, therefore, compares results to groundwater standards, except for the saturated HCT of raw tailings, which represents surface water in a subaqueous tailings facility pond.

Although the initial rates of metal release for cemented paste tailings were generally lower than those for raw tailings, the rates of Al, Cu, Cd, Ni, and TI release from the 2% cement paste HCT approached those of the unsaturated raw tailings HCT after 4 weeks. Metal concentrations in effluent from the 4% HCT were lowest and exhibited isolated

groundwater exceedances for As, Be, Cr, and Tl and more frequent exceedances for Cu and Ni. Similarly, the 4% with ROM HCT exceeded the groundwater quality standard for Cu and Ni in most weeks of testing, with isolated exceedances of Sb, As, Be, Cr, Pb, and Tl. Based on exceedances observed in early weeks, groundwater interacting with oxidized 4% cemented paste tailings backfill could exceed standards for Tl prior to water treatment. These data have been used in geochemical models predicting water quality for various facilities at the Project, and those findings are reported elsewhere (Enviromin, 2017c).

The raw “non-amended” tailings sample tested in the conventional, subaerial kinetic test was strongly acidic and showed a correspondingly high potential to generate sulfate and several metals at low pH. In contrast, the saturated kinetic test of non-amended tailings showed much lower sulfide oxidation, a largely circum-neutral pH, and relatively limited release of metals for approximately 30 weeks of testing. After 35 weeks of testing, alkalinity was depleted and pH dropped notably. At the lower oxidation rate in the saturated HCT, which is intended to represent tailings deposited in a subaqueous impoundment pond, fewer metals initially exceeded relevant groundwater and surface water quality standards. After 35 weeks of testing, when alkalinity was depleted and pH dropped, and metal concentrations rose to exceed numerous relevant groundwater and surface water quality standards.

### **5.3 Recommendations**

Despite the clear buffering capacity of the waste rock, these rocks are sulfidic and have potential to release some metals during oxidation. Therefore, Enviromin has recommended that these rocks be managed through placement in lined facilities to allow the collection and treatment of affected water. Tintina thus proposes that waste rock will be temporarily stored on a lined pad and then be used to construct the underdrain for (and ramp into) the double-lined CTF, where waste rock would then become encapsulated in paste tailings. Based on the results presented here, Enviromin has recommended that Tintina collect all seepage from the waste rock stockpile, the CTF, and the underground workings for treatment prior to discharge via underground infiltration galleries. Results of water quality predictions suggest that this will keep potential impacts to surface and groundwater low (Enviromin, 2017c).

Results of HCTs indicate that all cemented paste amended tailings treatments have the potential to oxidize when weathered subaerially (after a lag time) and to release at least some sulfate, acidity, and metals if left exposed to air and water. Importantly, this is not observed immediately in test cells, and the rate of optimized weathering in a humidity cell is recognized to be substantially greater than in the field. In the CTF, each new lift of cemented paste tailings will behave as a massive block of material with low transmissivity, with a thin upper surface that will be exposed to some degree of oxidation before being covered by fresh paste tails within days of placement. Enviromin has therefore recommended that the cement pasted material be covered in a timely manner (on the scale of weeks) to minimize oxidation, acidity, and leaching of metals. Oxidation would thus be limited to the immediate surface of the cemented paste tailings and any water interacting with oxidized tailings will react with dominantly net neutralizing waste rock before being collected within a lined facility for treatment.

At closure, Tintina has elected to cover the paste tailings deposit with a recommended final lift of 4% cemented paste tailings. They also propose use of a geotextile membrane cover, which will eliminate long-term exposure of the final lifts to oxygen and water. The double-lined CTF with drainage collection is designed to prevent discharge to surface

water and groundwater. Thus, any solutes resulting from oxidation and release of metals by cement-amended tailings within the CTF are unlikely to reach or affect surface water or groundwater.

Though subaqueous placement of raw tailings appears to be effective at limiting sulfide oxidation, some release of metals to the tailings pond would be expected to occur in concentrations exceeding surface water standards. There is also a potential for pH to drop if alkalinity is depleted. For these reasons, Enviromin does not recommend a subaqueous storage alternative. Significant acid rock drainage should be expected to develop in subaerially weathered, fine-grained raw tailings, suggesting that a “dry stack” alternative management scenario may not be effective. Backfill placement of 4% cemented paste tailings offers the best potential to reduce sulfide oxidation.

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## **APPENDICES**

# **Appendix A**

**FINAL Black Butte Copper Project Baseline  
Environmental Geochemistry Evaluation, 2012  
Johnny Lee Decline**

**FINAL**

**BLACK BUTTE COPPER PROJECT**

**BASELINE ENVIRONMENTAL GEOCHEMISTRY EVALUATION**  
2012 Johnny Lee Decline

Prepared for

**Tintina Resources**  
**White Sulphur Springs, MT**

Prepared by



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March 20, 2013



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## Executive Summary

Tintina Resources is evaluating the economic feasibility of the Black Butte Copper deposit, located approximately 17 miles north of the town of White Sulphur Springs, in Meagher County, MT. Mineral exploration is ongoing, and would be advanced underground through a decline proposed for construction. This report describes baseline characterization of acid generation and trace element release potential, and asbestiform mineral occurrence, for rock that would be intercepted during construction of the proposed decline, in support of Tintina's exploration permit. These data will also guide a larger baseline geochemistry study focused on evaluation of the proposed mining operation and alternatives.

**Objective.** Recognizing the locally massive sulfide character of portions of the black shale and dolomite-hosted Cu-Co-Ag mineralization at Black Butte Copper, rock from the 2012 Johnny Lee Decline would be selectively handled and placed into designated waste rock repositories based on non-acid generating (NAG) and potentially acid generating (PAG) classification. The objective of this study was to characterize the rock using static methods of evaluating acid rock and metal release potential, in order to identify selective handling criteria and monitoring/mitigation requirements.

**Methods.** This document describes the multi-element whole rock (ICP, n=248), Acid Base Accounting (ABA, n=48), Net Acid Generation (NAG pH, n=48), Synthetic Precipitation Leachability Procedure (SPLP, n=8), and asbestiform mineral characterization (n=8) results for samples collected from drilling along the alignment of the proposed decline. The decline is designated the "2012 Johnny Lee Decline" to distinguish it from other facilities which may be proposed as exploration continues.

The zone of exploration interest targeted by the 2012 Johnny Lee Decline is the Upper Sulfide Zone (*USZ*), which hosts copper-cobalt mineralization in the calcareous shale of the lower Newland Formation (Resource Modeling, Inc., 2012). The *USZ* zone is overlain by shale and dolostone (*Ynl*), with *0/1 sulfide zone (SZ)* and dolomite (*Ynl 0* "Nose") interbeds, and underlain by the lower Newland footwall shale and conglomerate (*Ynl B*). The 135,000 tonnes of rock to be produced by the decline would thus be comprised of *IG* (<1%), *0/1 SZ* (5%), *Ynl* (41%), *Ynl 0* (6%), *USZ* (11%), *Ynl B* (26%), and copper ore (10%). This study characterized the *IG*, *Ynl*, *Ynl 0*, *Ynl B*, and *USZ* lithotypes.

**Results.** Results of this study indicate that the igneous intrusive (*IG*), lower Newland dolomite "nose" (*Ynl 0*), lower Newland footwall shale and conglomerate (*Ynl B*), and much of the undifferentiated lower Newland Formation (*Ynl*), are strongly net neutralizing and are unlikely to generate acid. With the exception of the *IG*, these lithotypes also have low potential to release metals in concentrations that are likely to exceed groundwater standards, indicating that they can safely be stockpiled off liner. Based on SPLP tests, potential does exist for leachate concentrations to exceed MDEQ surface water standards for aluminum, iron, chromium, and selenium, particularly from the *IG*, suggesting that care should be taken to prevent discharge from the rock pile facilities to surface water.

The *USZ* and *0/1 SZ* should be handled as potentially acid generating (PAG) rock. Due to the occurrence of sulfide interbeds, which increase in frequency with proximity to the *USZ*, the *Ynl* requires further evaluation prior to and during construction of the adit. Results of metal mobility testing using the SPLP method indicate low levels of potential metal release, but are limited by the elevated pH (in some cases, above 9) associated with the high carbonate content of the samples and resulting disequilibrium in the bottle roll tests. For this reason, and to confirm static test predictions of acid generation potential, kinetic tests of *USZ*, *Ynl*, *Ynl O*, and *Ynl B* lithotypes are recommended for initiation as soon as possible, to provide further information for rock handling during construction of the evaluation adit.

There are no identified asbestiform minerals in any of the lithotypes to be mined from the 2012 Johnny Lee Decline at Black Butte Copper.

Rock Management. The results of this study provide clear guidance for management of rock that would be produced from the 2012 Johnny Lee Decline. The lithotypes *USZ* and *0/1 SZ* should be placed in the lined PAG facility based on lithotype. The non-acidic but potentially metalliferous *IG* unit should also be placed in the PAG facility, along with any identified acid subsections of the *Ynl*. An additional 20 samples of the *Ynl* should be tested to develop NAG pH and ABA data for use in operational selective handling during the development of the Johnny Lee Decline. All remaining lithologies can be placed in the NAG facility.

Monitoring and Mitigation. Geological mapping with onsite operational NAG pH testing should be used where needed to screen the *Ynl* for selective handling, with offsite confirmation testing of a subset of samples to allow results to be added to the data presented here. Rock with visual sulfide, or a NAG pH of less than 4.5, should be managed as PAG. Additional metal mobility and kinetic tests of *Ynl* NAG and PAG composites are also recommended, to evaluate the effectiveness management strategy.

Classification of the lithotypes *Ynl O* and *Ynl B* as NAG rock should be verified with limited operational sampling to validate the results of this baseline study and to support efforts to characterize these units for the overall mining operation.

Monitoring of water quality and weathering products within the decline, and in the NAG and PAG waste rock facilities, would provide *in situ* data of use in confirming laboratory test results and interpreting future kinetic test work.

# 1 Introduction

## 1.1 Background

Tintina Resources is evaluating the economic feasibility of its Black Butte Cu-Co-Ag deposit, which is located approximately 17 miles north of the town of White Sulphur Springs, MT (Figure 1-1). Mineral exploration is ongoing, in support of a proposed underground mining operation, and Tintina plans to advance underground delineation of ore reserves through the Johnny Lee Decline shown in Figure 1-2. A thorough baseline characterization of acid generation and trace element release potential is needed to evaluate the proposed underground construction program in compliance with MDEQ regulations for mineral exploration. Such data are also needed for design of mined rock storage facilities to manage rock produced during the exploration program and to plan a geochemical baseline program for the overall mining operation. Enviromin, Inc. was contracted to develop and implement the baseline geochemistry program, which has been conducted in consultation with Tetra Tech.

## 1.2 Johnny Lee Decline Description

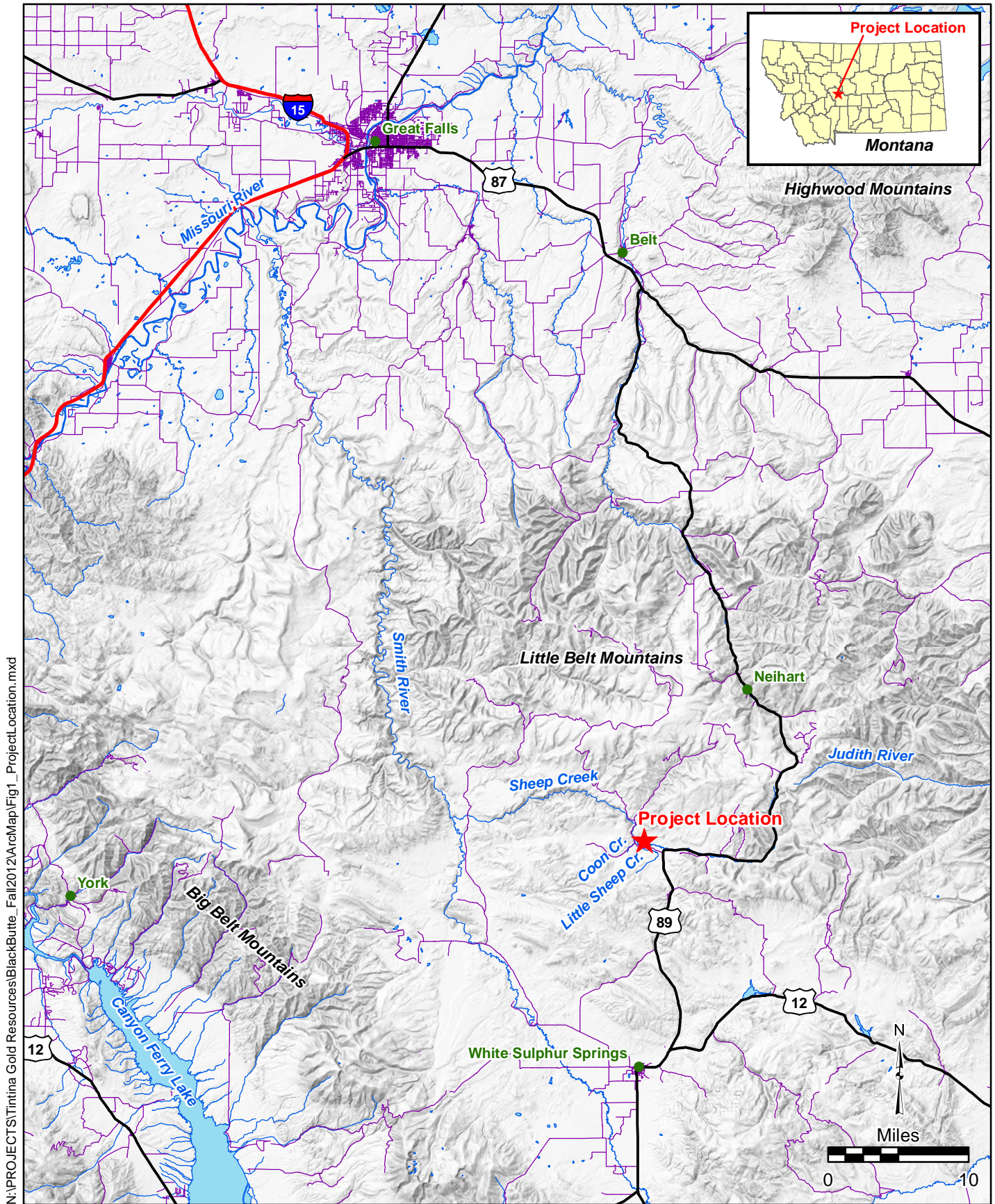
As shown in Figure 1-2, the length of the proposed Johnny Lee Decline is approximately 5200 feet (a horizontal distance of 5000 feet) and is divided into two segments. The first segment trends north-northwest and declines approximately 460 feet in elevation over a distance of approximately 3200 feet. This segment of the decline passes beneath Coon Creek at a depth of approximately 90 feet and ultimately reaches a depth of approximately 250 feet below ground surface at its lower end. The decline then turns to the northwest and the second segment continues at a fixed elevation for an additional 1800 feet.

As mapped in Figure 1-2, the decline is collared in the lower Newland just above the *Ynl 0* Dolomite (aka, the Nose), and is driven through a section of interbedded *Ynl* and *Ynl 0* until the *0/1 SZ* horizon is intercepted just above the *USZ*. The decline is expected to intercept the *Ynl B* footwall unit at the lower end. The decline and intercepted stratigraphy are shown in the cross-section presented as Figure 1-3.

As exploration advances within the Black Butte Copper deposit, the location of facilities may be adjusted to accommodate changing ore deposit models. The decline that is the focus of this study is thus identified as the 2012 Johnny Lee Decline and is distinguished from the previously considered 2011 decline.

Recognizing the massive sulfide nature of mineralization within the Black Butte Copper deposit, Tintina proposes to selectively handle rock for placement onto designated potentially acid generating (PAG) and net acid neutralizing (NAG) waste rock pads to protect water resources. The PAG facility is proposed to be lined and managed as a zero discharge facility, with associated water treatment. The NAG facility would not be lined, unless data collected during the exploration program suggest that a liner is needed.





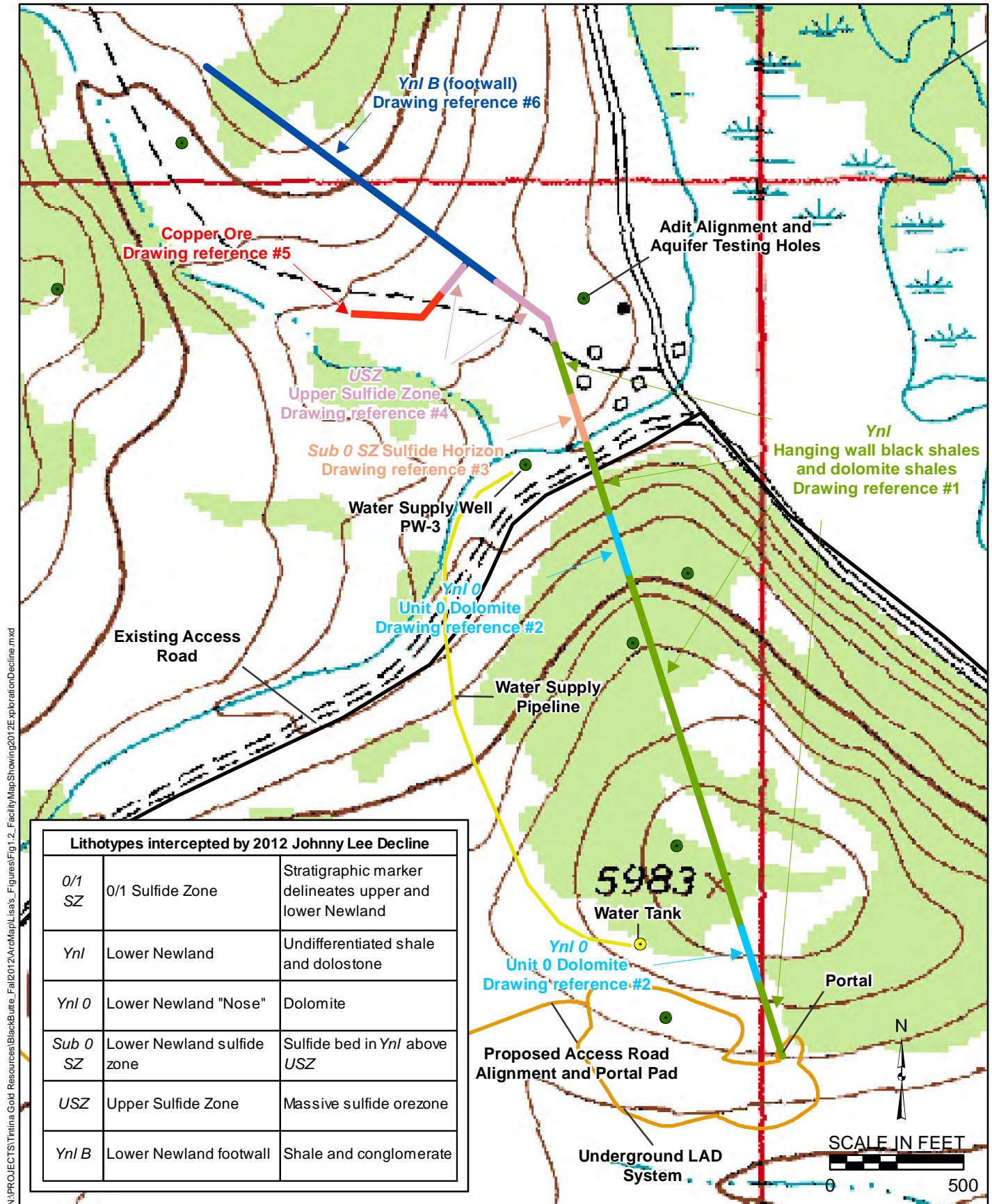
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- ★ Project Location
- City
- Interstate
- U.S. Route
- Local Road
- Stream
- Lake

**Figure 1-1**  
 Project Location  
 Black Butte Copper Project  
 Meagher County, Montana







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**Figure 1-2**

Facility Map Showing 2012 Johnny Lee Decline  
Black Butte Copper Project

**Meagher County**

March 20, 2013

### 1.3 Geology

The Black Butte Copper ore body consists of a massive sulfide Cu-Co-Ag deposit within the mid-Proterozoic-aged Newland Formation of the Belt Supergroup. The Newland Formation is typically divided into a lower member that consists of primarily dolomitic shale and an upper member of interbedded shales and carbonates (Nelson, 1963).

The massive sulfide sediments were deposited within the Helena embayment and exposed along the Volcano Valley thrust fault at the end of the Laramide orogeny (Resource Modeling Inc., 2012). Ore is hosted in sulfide within marine sediments associated with submarine hydrothermal vents and contains varying amounts of primary and secondary pyrite, chalcopyrite, barite, and silica. Microfossils identified in the sulfides at Black Butte Copper are suggestive of vent fauna grown on submarine hydrothermal vents. Approximately 750 meters of interbedded sulfide mineralization has been defined, with approximately 350 meters of overlying and interbedded carbonate (Resource Modeling, Inc., 2012). The stratigraphy of the Newland Formation shales, dolomites, and interbedded sulfides is shown in Figure 1-4.

The uppermost member of the Upper Newland Formation (*Ynu*) in the vicinity of the decline, which is designated as Unit II (or *Ynu II*) in the Tintina geological model, is a black-gray silty dolomite. Black chert layers and nodules appear in core and outcrop and are a diagnostic feature of the unit. A thin sulfide horizon known as the *II SZ* sulfide zone is developed at the contact between the *Ynu I* and the underlying Unit I (*Ynu I*), a thinly laminated to well-bedded stylonitic, silty dolomite that is typically less than 15 m thick. Sheets of sulfide localized immediately below *Ynu I* provide a definitive stratigraphic marker, known as the *O/I SZ* sulfide zone, indicating the transition to the more sulfidic lower Newland Formation (*Ynl*). This is the uppermost portion of the Newland Formation that will be intercepted by the decline.

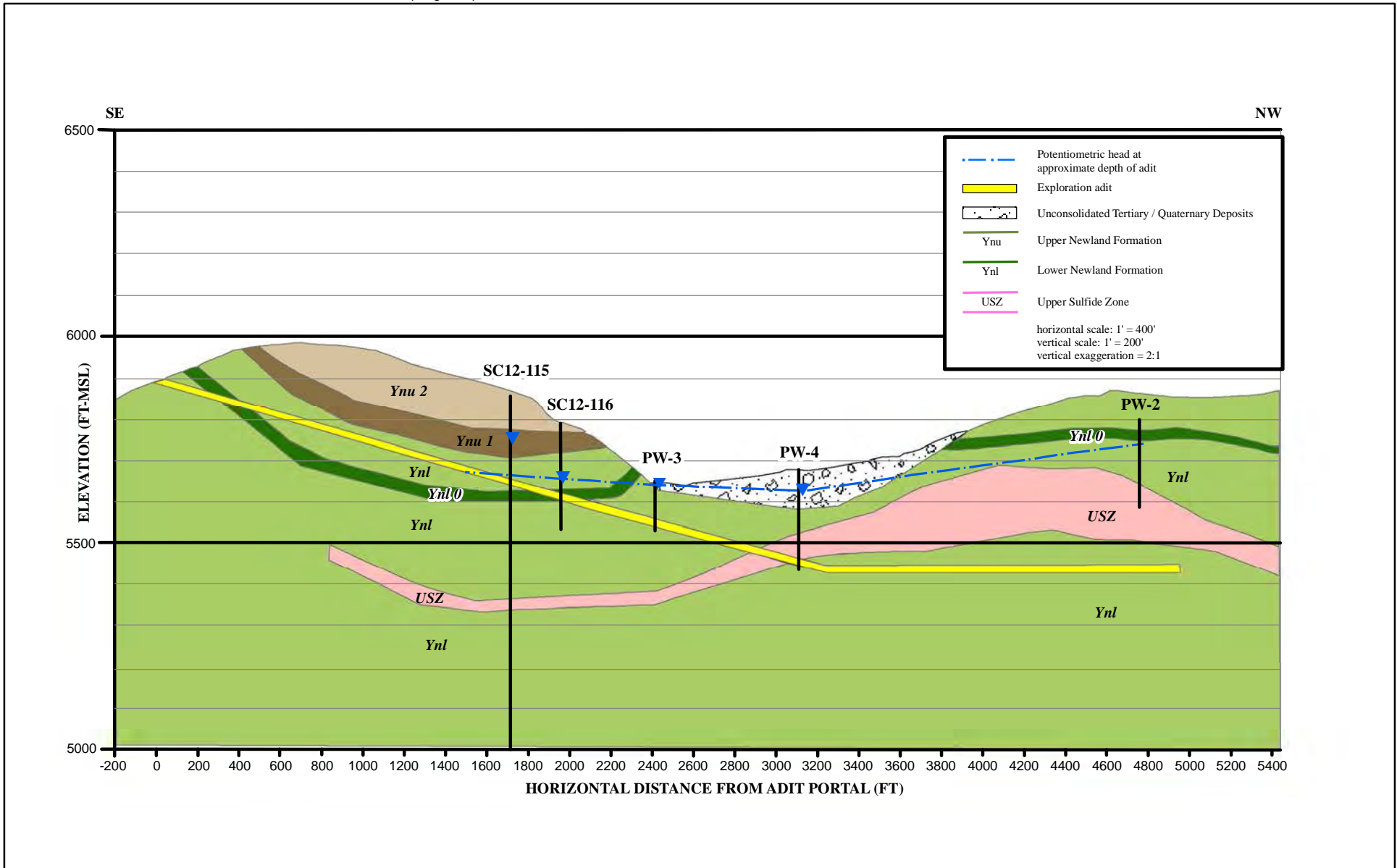
The Lower Newland (*Ynl*) is comprised of interbedded black-grey laminar silts, dolostones, and shales. Upper and lower blocks of *Ynl* are separated by a relatively thin interbed of stylonitic, medium grey dolomite known as Unit 0 (*Ynl 0*) or "the Nose". *Ynl 0* is the lowest distinguishable carbonate bed overlying the *USZ*. Above the *Ynl 0*, trace sulfide occurs in local zones of faulting and remineralization, commonly in association with calcite. Below the *Ynl 0*, the *Ynl* contains visible pyrite and barite laminations which increase with depth. Conglomeratic sediments resulting from debris flows associated with submarine turbidites are also visible, and in at least one stratigraphic interval, are laterally continuous across the entire width of the deposit. The *USZ*, which hosts significant copper mineralization, immediately underlies the lower block of undifferentiated *Ynl* and can be up to 100 meters in thickness (Resource Modeling, Inc., 2012). The *Ynl B* unit that lies between the *USZ* and the *MSZ* is comprised of shale and conglomerate.

The zone of exploration interest targeted by the 2012 Johnny Lee Decline is the Upper Sulfide Zone (*USZ*), which hosts Cu-Co-Ag mineralization in the calcareous shale of the lower Newland Formation (Resource Modeling, Inc., 2012). The *USZ* at Strawberry Butte contains fine-grained bedded pyrite up to 55 meters thick with three chalcopyrite-bearing zones. Bornite and chalcopyrite occur in the southern part of the *USZ*. The cobalt minerals are unknown but are most likely cobaltite or glaucodot. Economic grade mineralization is also hosted in the *MSZ*, *Zn SZ*, and *LSZ* sulfide zones, but as those



intervals will not be intercepted by the 2012 Johnny Lee Decline, they are not described in detail here.

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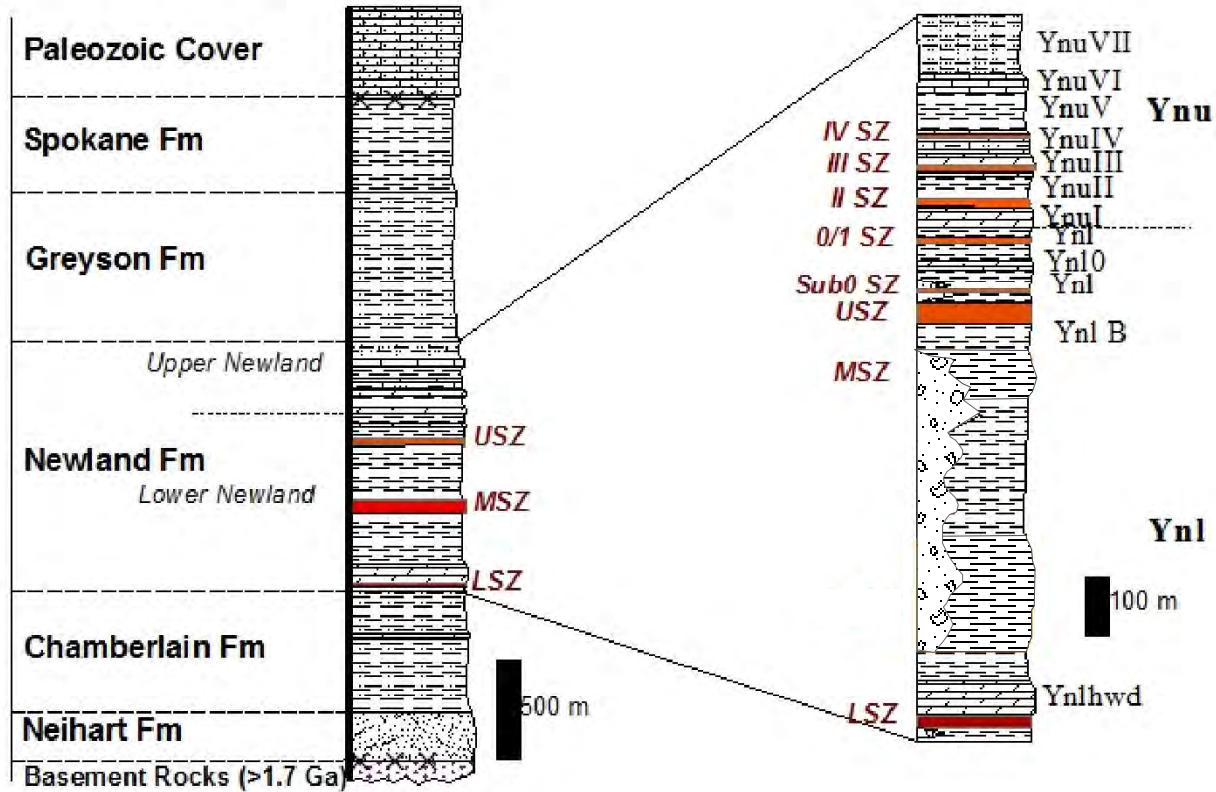


Prepared by Hydrometrics, Inc. 2012

**Figure 1-3**  
2012 Johnny Lee Decline Cross-Section  
Black Butte Copper Project  
Meagher County, Montana

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## Black Butte Copper Project Generalized Stratigraphic Column



**Figure 1-4**  
Black Butte Copper Stratigraphy  
Black Butte Copper Project  
Meagher County, Montana

Lithotypes that will be intercepted are shown in plan view in Figure 1-2, and listed in Figure 1-4. The stratigraphy along the decline is also shown in cross section in Figure 1-3. The corresponding lithotypes designated for geochemical characterization are listed in Table 1-1, together with estimates of tonnage, and a list of environmentally relevant minerals identified in drill samples.

## **2 Previous Geochemical Characterization**

Mineral exploration in the vicinity of the Black Butte Copper deposit has been ongoing for more than 30 years, and a substantial amount of exploration geochemistry data has been collected (Resource Modeling, Inc., 2012). These historical efforts have focused on assay and multi-element geochemical analyses rather than environmental geochemistry, and are not discussed further in this document, which is specifically focused on the acid generation and trace metal release potential of the rock to be mined from the proposed 2012 Johnny Lee Decline. Recent multi-element exploration geochemistry data were used to guide sample selection for the decline study, however.

<b>Table 2-1. Mineralogy and Tonnage by Lithotypes for 2012 Johnny Lee Decline</b>						
	<b>IG</b>	<b>Ynl</b>	<b>Ynl O</b>	<b>Ynl B</b>	<b>0/1 SZ</b>	<b>USZ</b>
	<1000	56000	8000	35000	7000	15000
% of total tonnes	1%	41%	6%	26%	5%	11%
<b>Silicates</b>						
Quartz	SiO <sub>2</sub>	x			x <sup>1</sup>	x <sup>1</sup>
Chert	SiO <sub>2</sub>		x		x <sup>2</sup>	x <sup>2</sup>
<b>Carbonates</b>						
Dolomite	CaMg(CO <sub>3</sub> ) <sub>2</sub>		x	x	x	x
Calcite	CaCO <sub>3</sub>		x	x	x <sup>3</sup>	x <sup>3</sup>
<b>Sulfides</b>						
Pyrite	FeS <sub>2</sub>	x			x	x
Marcasite	FeS <sub>2</sub>				x	x
Chalcopyrite	CuFeS <sub>2</sub>				x	x
Bornite	Cu <sub>5</sub> FeS <sub>4</sub>				x	x
Tennantite	Cu <sub>12</sub> Sb <sub>4</sub> S <sub>13</sub>				x	x
Chalcocite	Cu <sub>2</sub> S				x	x
Enargite	Cu <sub>3</sub> AsS <sub>4</sub>				x	x
Sphalerite	ZnS				x	x
<b>Sulfates</b>						
Barite	BaSO <sub>4</sub>				x	x
Celestine	SrSO <sub>4</sub>				x	x
<b>Other Metal Minerals</b>						
Cobaltite	CoAsS				x	x
Glaucodot	Co,Fe,AsS				x	x

<sup>1</sup> Silicification Common

<sup>2</sup> Top of oxidized sulfide zone often cherty

<sup>3</sup> As veinlets

Note: 10% of production will be copper ore, which will be removed for metallurgical testing and is therefore not characterized in this study

### 3 Sampling

The environmental geochemistry of rocks that will be mined from the Black Butte Copper Johnny Lee Decline will be strongly influenced by sulfide, carbonate, and metal-bearing mineralization (Table 1-1). To ensure baseline geochemical data represent the full range of mineralization and metal content observed in samples collected during the 2012 drilling program, a three-phase sampling program was implemented.

Phase one of this program consisted of initial sample collection during the 2012 Johnny Lee Decline drilling program. This program included boring five drill holes along the Johnny Lee Decline alignment (Figure 1-3). Tintina completed a total of 2,030 feet of drilling with 1,424 feet intercepting bedrock. The drilling program produced 248 two-meter (approximate) intervals of drill core collected from bedrock. Each of these samples were described by Tintina geologists and classified according to the rock types identified for geochemical testing, as presented in Table 3-1 (i.e. *USZ*, *Ynl*, *Ynl 0*, *Ynl B*, and *IG*). All samples collected during the 2012 drilling program were submitted for analysis of whole-rock concentrations of 61 elements using the ICP techniques described below in Section 4.3.

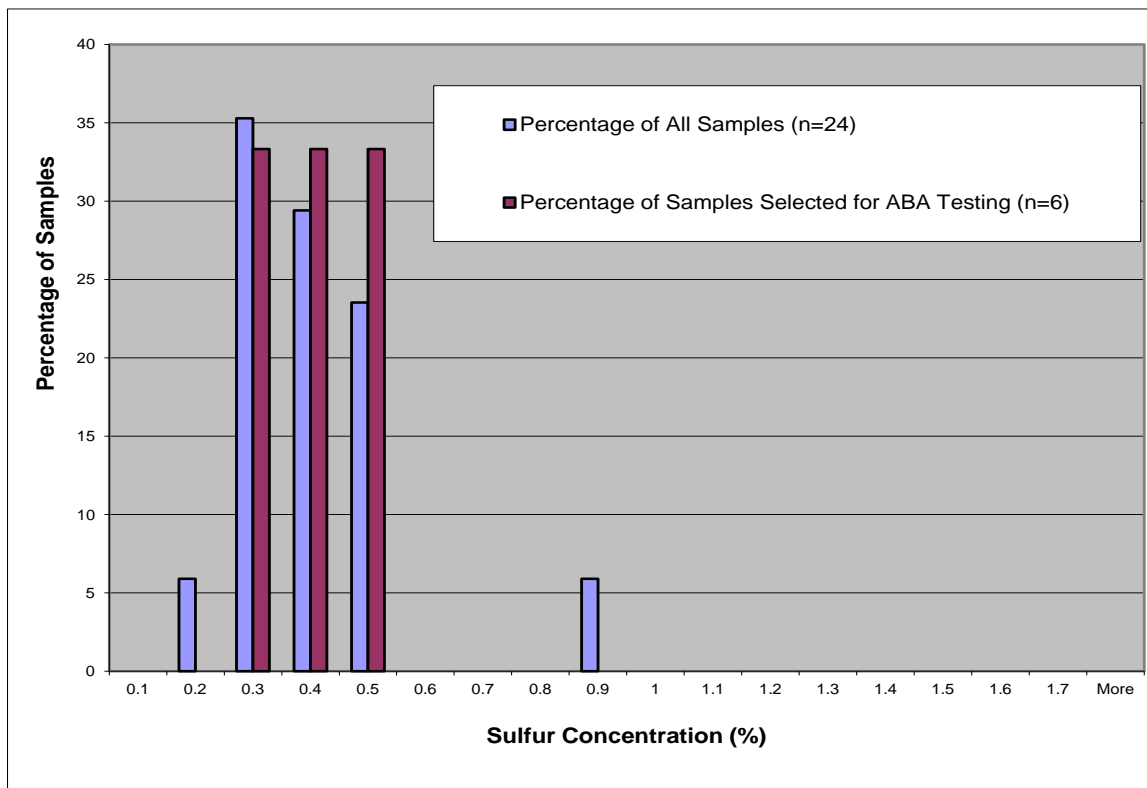
<b>Table 3-1. Summary of Geochemical Samples for 2012 Johnny Lee Decline</b>				
<b>Lithology</b>	<b>2012 Drill Core Intervals</b>	<b>Whole Rock Total Element Analyses<sup>1</sup></b>	<b>Static Test Samples<sup>1</sup></b>	<b>Metal Mobility Composites<sup>2</sup></b>
<b>Number of Samples</b>				
<i>IG</i>	15	15	8	1
<i>USZ</i>	14	14	11	2
<i>Ynl</i>	195	195	9	2
<i>Ynl 0</i>	17	17	6	1
<i>Ynl B</i>	7	7	7	1

<sup>1</sup> Data distributions for these samples are provided in Appendix A1.

<sup>2</sup> Data distributions for these samples are provided in Appendix A2.

The second phase of the sampling program consisted of selecting a subset of samples representing each individual rock type to submit for static tests of acid generation potential (Acid base Accounting and Net Acid Generation pH tests described in Section 4). The total sulfur concentration of samples measured using ICP was used to guide selection of static test samples. Specifically, the distribution of total sulfur concentrations measured for all samples of a respective lithotype were plotted and subsamples selected to match that distribution as closely as possible. Figure 3-1 provides an example showing the percentage of all *IG* samples with total sulfur concentrations falling within a certain range (blue bars) and the same data for the percentage of samples selected for static testing (red bars). Similar graphs for the other lithotypes are included in Appendix A-1.

A third phase of sampling was focused on development of composite samples for each lithotype to submit for metal mobility testing and asbestiform mineral characterization. The process for this phase of sampling was similar to that used to select samples for static testing, in that it relied on statistical analysis of the ICP results for key elements. However, instead of selecting a smaller number of discrete samples across the observed distribution, the goal of this phase was to construct a single 11 kg to 12 kg composite sample representing each individual lithotype.



**Figure 3-1. Sulfur Distribution for All *Ynl 0* Samples and *Ynl 0* Samples Selected for Static Testing.**

Metal mobility compositing relied on ICP data for arsenic, iron, sulfur, and zinc concentrations as these elements are likely to be important in this style of mineralization. Distributions of these element concentrations were again plotted for the entire 2012 sample pool for each lithotype. Individual subsamples were selected and the weights of each to include in the composite were adjusted such that the percentage of material in each composite and their element concentrations reflected the distributions for the overall sample pool. Examples of this strategy for the *Ynl 0* composite iron and zinc concentrations are shown in Figures 3-2 and 3-3. The percentage of samples in the overall sample pool having a certain concentration of each element is depicted with blue bars while the percentage of material in the composite with those concentrations is represented by red bars. Similar distributions for the remaining composite samples and for all five of the target elements are included in Appendix A-2.



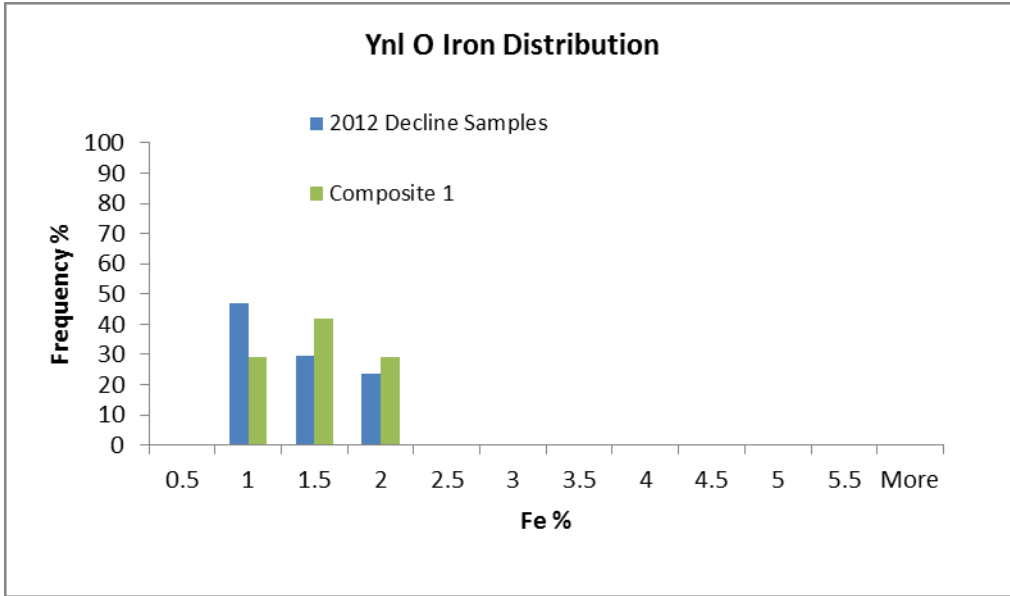


Figure 3-2. Iron Distribution for All *Ynl O* Samples and *Ynl O* Composite Sample.

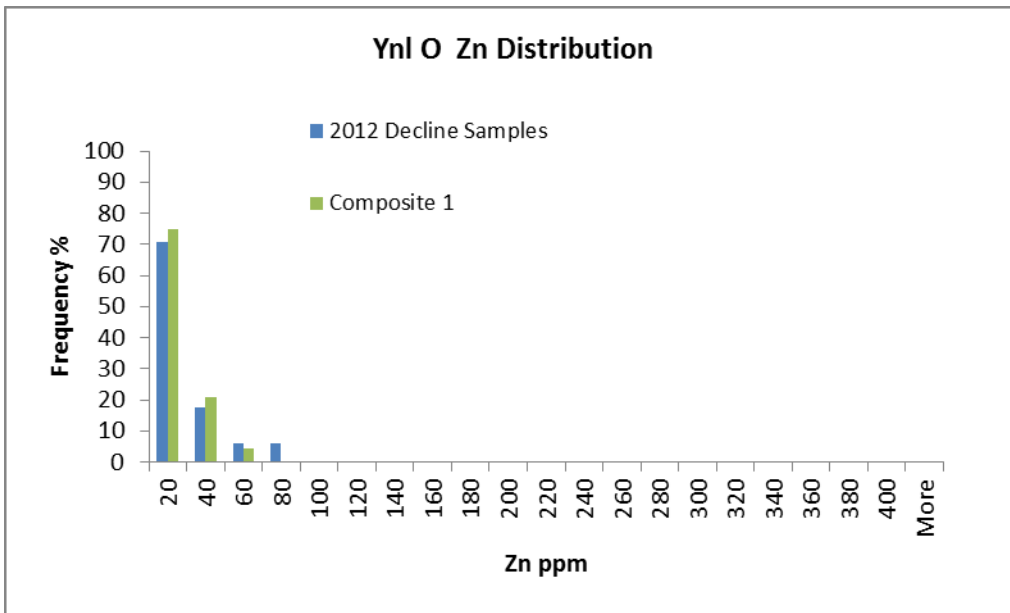


Figure 3-3. Zinc Distribution for All *Ynl O* Samples and *Ynl O* Composite Sample.

During the third phase of sample selection, review of the multi-element ICP data indicated that development of multiple composite samples for the *USZ* and *Ynl* lithotypes was warranted. The rationale for their construction and inclusion in the study is outlined below:

- USZ rock type. Samples from the Upper Sulfide Zone appeared to have a bimodal distribution of iron concentrations. Therefore, two composites of this material were submitted for metal mobility testing; Composite 1 is comprised of material with comparatively high iron concentrations, and Composite 2 contains material with low iron concentrations. This was done to facilitate geochemical understanding, and does not necessarily correspond to a selective handling strategy.
- Ynl rock type. The Lower Newland rock type represents the greatest proportion of waste that would be excavated while driving the Johnny Lee Decline and also represents the greatest number of sample intervals intercepted during the 2012 drilling program. For these reasons it was decided that two composites of this material would be submitted for metal mobility testing in order to test for variability in metal release from this material.

## 4 Static Testing

Static testing methods were used to evaluate both acid generation and metal release potential. Static testing, which refers to analysis at a fixed point in time, differs from kinetic testing which measures changes in oxidation and solute release over time. The Acid Base Accounting (ABA) and Net Acid Generation (NAG) pH methods were used to evaluate potential for acid generation. Multi-element tests of rock composition (ICP) were used to evaluate whole rock metal content, and the EPA method 1312 Synthetic Precipitation Leachability Procedure (SPLP) was used to evaluate potential metal mobility.

### 4.1 Acid Base Accounting

Sulfide minerals in waste rock, particularly pyrite, react with water and oxygen to produce sulfuric acid ( $H_2SO_4$ ), which can be neutralized by minerals capable of consuming acid, such as calcite. The ABA test measures the relative acid production and neutralization properties of a mine waste material based on the conservative assumption that all sulfide present in a rock will oxidize, releasing acidity. The acid base accounting test quantifies the acid production potential (AP) and neutralization potential (NP) of a sample in units of tons  $CaCO_3$  / kiloton of rock (Sobek et al. 1978), allowing calculation of the net neutralization potential (NNP) as NP less AP and the neutralization potential ratio (NPR) as NP divided by AP (INAP, 2012). The ABA test uses a relatively complete digestion of finely ground rock, and therefore conservatively estimates the reactivity of available sulfide minerals.

To determine neutralization potential, a sample is treated with excess standardized hydrochloric acid (HCl) at ambient temperatures for 24 hours. The remaining acid is titrated with a standardized base to pH of 8.3 after the test is complete to allow the calculation of calcium carbonate equivalent for acid consumed. This study used the modified Sobek method of ABA analysis, which uses a fizz test to adjust the amount of acid used in alkalinity titration.

Review of the sulfur-bearing minerals in Table 1-1 indicates that both sulfide and sulfate minerals occur within the Black Butte Copper deposit. Sulfur was therefore fractionated to identify the sulfide, acid soluble and insoluble sulfate, and residual sulfur fractions. Total sulfur was determined by LECO S, and total sulfate sulfur was measured by analysis of the carbonate soluble sulfur fraction. Sulfide was then calculated by subtracting total sulfate from total sulfur. Acid insoluble sulfate was calculated by subtracting the HCl-soluble sulfate from the total sulfate. Barium determined by x-ray diffraction was used to calculate the amount of barite present. Potential acidity (AP) was calculated based on sulfide sulfur for this study.

The NNP and NPR are used by regulatory agencies to assess acid generation potential of rock samples based on the criteria shown in Table 4-1. Samples falling in the "uncertain" category require kinetic testing using humidity cells to evaluate whether they would generate acidic leachate over an extended period of weathering.

<b>Table 4-1. Criteria for Classifying Acid Generation Potential of Rock Samples</b>		
<b>Classification</b>	<b>ABA Criteria<sup>1</sup></b>	<b>NAG Criteria<sup>2</sup></b>
Potentially Acid Generating	NP:AP < 1 and NNP < -20 tons/kton	Final NAG pH < 4.5
Uncertain Acid Generation Potential	NP:AP between 1 and 3 and/or NNP between -20 and +20 tons/kton	
Unlikely to Generate Acid	NP:AP > 3 and NNP > +20 tons/kton	Final NAG pH > 4.5

<sup>1</sup> From BLM (1996) and USEPA (1994).

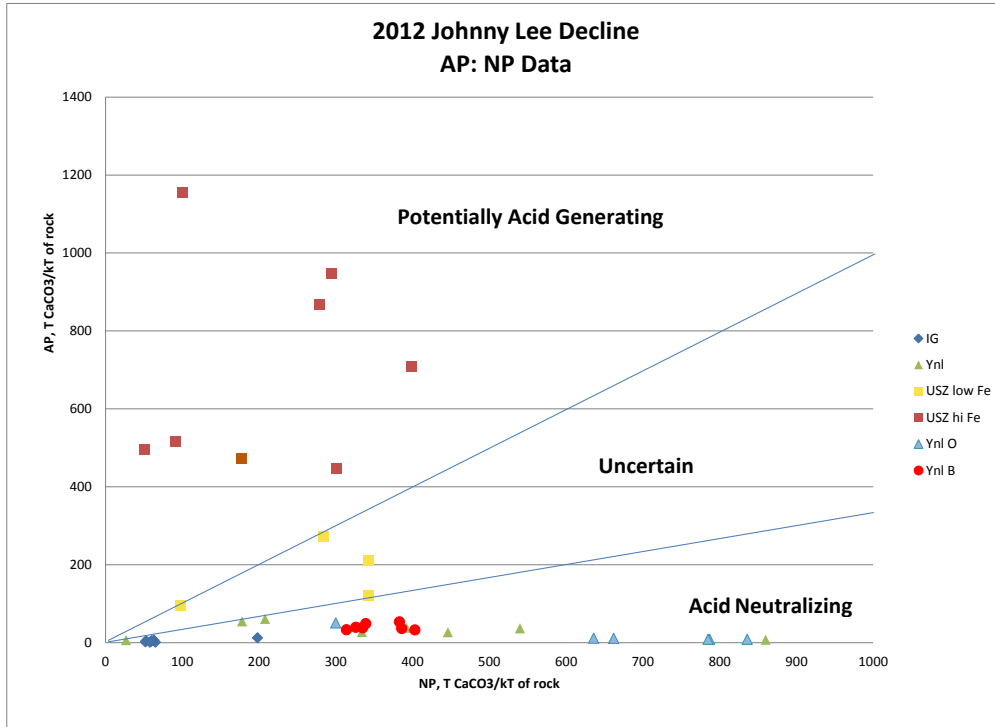
<sup>2</sup> INAP (2012) GARD Guide

Results of the acid base accounting analyses provided in Table 4-2 and Figure 4-1 indicate that the igneous intrusive *IG*, *Ynl 0* dolomite, *Ynl B* and the *Ynl* lithotype samples are strongly net neutralizing with little potential to generate acid.

The *Ynl* samples are net neutralizing and the statistical summary provided in Table 4-2 suggests that the *Ynl* lithotype is not acid generating, but due to the occurrence of sulfide interbeds, which increase in frequency with proximity to the *USZ*, the *Ynl* requires further evaluation prior to and during construction of the adit. Review of the stratigraphy in drill logs indicates that sulfide in the upper *Ynl* (above the *Ynl 0* dolomite) occurs in trace quantities in local interbeds within carbonaceous rock and may only be locally enriched to concentrations that could produce significant acidity. In the lower *Ynl*, sulfide content is higher and more consistent, with local interbeds such as the *0/1 SZ*, as the rock transitions to the more massive sulfide mineralization of the lower ore zones. If the frequency of acidic rock in the overall *Ynl* is low, it may be possible to rely on the strongly net neutralizing character of the remaining *Ynl* and other non-*USZ* lithotypes to neutralize any acid that is produced. The collection of additional *Ynl* samples for static testing is thus highly recommended prior to placement of any *Ynl* in the NAG waste rock facility.

The *USZ* and a minor portion of the lower Newland Formation (*Ynl*) are potentially acid generating, however. Within the *USZ*, rock with lower iron has lower acid generation potential than rock with high iron content. This likely corresponds to the presence of higher concentrations of acid generating pyrite, FeS<sub>2</sub>, in the higher iron *USZ* rock. There is also a difference in sulfate mineralization, with the highest sulfate concentrations in the *USZ* associated with the high Fe samples. In spite of these differences, all of the *USZ* samples have an NP/AP ratio below 3, with a strongly acidic mean NNP of -323 T CaCO<sub>3</sub>/kT rock, and should be considered potentially acid generating (PAG). For this reason, following the initial ABA work, high and low Fe *USZ* samples were not distinguished from one another for NAG and metal mobility work.

Figure 4-1. Acid Generation Potential for 2012 Johnny Lee Decline.



**Table 4-2. Summary of Acid Base Account Data for 2012 Johnny Lee Decline Samples**

Lithology	Number of Samples	Minimum	Mean	Maximum
<b>NP:AP<sup>1</sup></b>				
IG	8	10	24	52
USZ low Fe	4	1	1.6	2.8
hi Fe	8	0.1	0.4	0.7
all	12	0.1	0.8	2.8
Ynl	8	3.3	22	115
Ynl O	6	56	86	103
Ynl B	7	7	9	12
<b>NNP<sup>2</sup></b>				
IG	8	48	72	186
USZ low Fe	4	1	90	220
hi Fe	8	-1055	-415	-149
all	12	-1055	-231	220
Ynl	8	21	341	852
Ynl O	6	625	732	828
Ynl B	7	281	315	370

<sup>1</sup> NP:AP is the ratio of neutralization potential to acid generation potential, based on sulfide S.

<sup>2</sup> NNP is net neutralization potential in units of tons CaCO<sub>3</sub> / kT of rock.

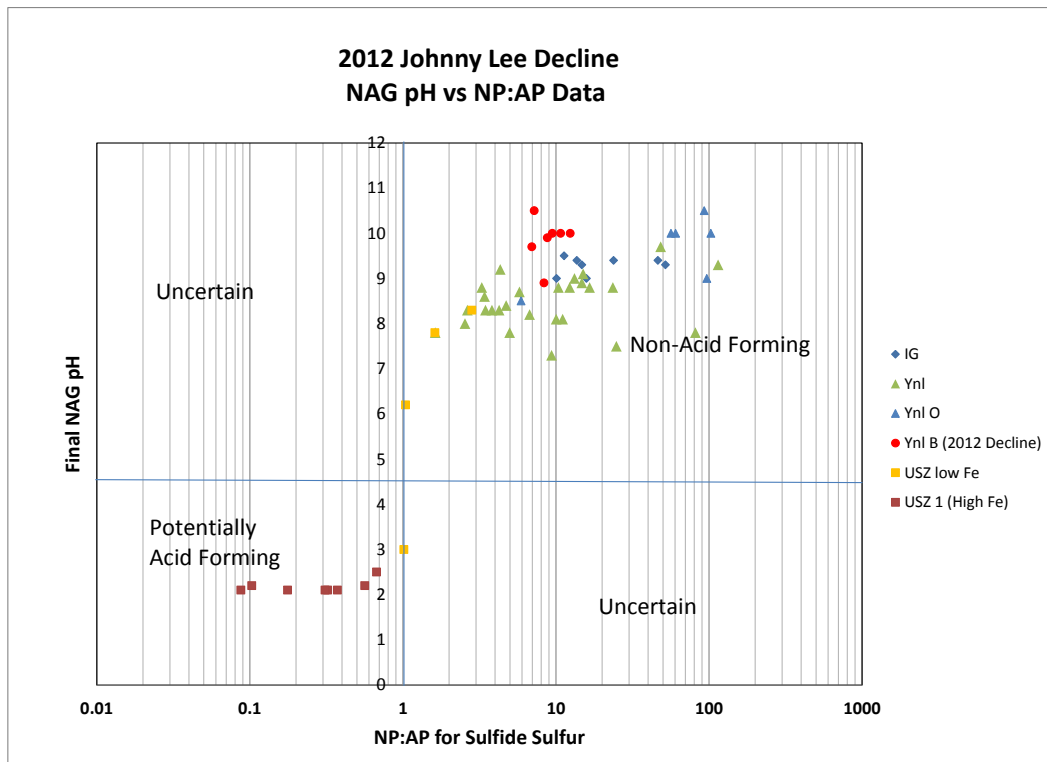
## 4.2 Net Acid Generation

The net acid generation pH (NAG pH) test is a method of evaluating the acid generation potential of a sample which relies on oxidation of a ground sample using hydrogen peroxide (INAP, 2012). The NAG pH method avoids the potential bias of assumptions in the ABA method including sulfide mineralogy stoichiometry and the relative efficiency of speciation methods.

A 2.5 gram sample is pulverized and 250 mL of 15% H<sub>2</sub>O<sub>2</sub> is added. The sample reacts overnight, and is then heated for up to 2 hours to remove excess H<sub>2</sub>O<sub>2</sub> and encourage the release of inherent neutralizing capacity. The sample is allowed to cool, ending pH is measured, and the solution is then titrated to pH 4.5 and 7.0. A pH after reaction (NAG pH) of less than 4.5 indicates that the sample is net acid generating.

The results of the NAG pH analyses for Black Butte Copper summarized in Table 4-3 and compared with the NPR in Figure 4-2 support the results of the ABA testing. The *Ynl O* and *IG* lithotypes are net neutralizing, and the *USZ* is clearly acidic, although the low Fe samples are less so. The *Ynl* and *Ynl B* are also neutralizing in most samples, but a small number of samples have some potential to produce acid, as is indicated by the amount of titrated acid per tonne shown in Table 4-3. Neither of these lithotypes had an acidic final NAG pH, however. Figure 4-2 provides a clear illustration of the distinction between the acidic *USZ* and other net neutralizing lithotypes,

**Figure 4-2. Black Butte Copper 2012 Johnny Lee Decline Comparison of NAG pH with NP:AP**



<b>Table 4-3. Summary of NAG pH Data for 2012 Johnny Lee Decline Samples</b>				
<b>Lithology</b>	<b>Number of Samples</b>	<b>Minimum</b>	<b>Mean</b>	<b>Maximum</b>
<b>Titration to pH 4.5 (kg H<sub>2</sub>SO<sub>4</sub>/tonne)</b>				
<i>IG</i>	8	<0.1	<0.1	<0.1
<i>USZ</i>	12	<0.1	221	617
<i>Ynl</i>	8	<0.1	<0.1	<0.1
<i>Ynl 0</i>	6	<0.1	<0.1	<0.1
<i>Ynl B</i>	7	<0.1	<0.1	<0.1
<b>Titration to pH 7.0 (kg H<sub>2</sub>SO<sub>4</sub>/tonne)</b>				
<i>IG</i>	8	<0.1	<0.1	<0.1
<i>USZ</i>	12	<0.1	256	734
<i>Ynl</i>	8	<0.1	<0.1	<0.1
<i>Ynl 0</i>	6	<0.1	<0.1	<0.1
<i>Ynl B</i>	7	<0.1	<0.1	81.5
<b>NAG pH</b>				
<i>IG</i>	8	9.0	9.3	9.5
<i>USZ</i>	12	2.1	3.6	8.3
<i>Ynl</i>	8	8.6	8.9	9.3
<i>Ynl 0</i>	6	9.0	9.9	10.5
<i>Ynl B</i>	7	8.9	9.8	10.5

### 4.3 Multi-Element Whole Rock Chemistry

Multi-elemental analyses of rock composition were measured as part of the exploration program and used to develop a framework to facilitate sample selection and development of composites for mineralogy and metal mobility testing. Whole-rock data may also be useful for “fingerprinting” samples during mining operations and correlating future samples with those included in the baseline characterization.

The elemental composition of the samples was determined using inductively coupled plasma-atomic emission spectroscopy following a 4-acid digestion with a mixture of perchloric, nitric, hydrofluoric and hydrochloric acids, in order to fully dissolve the mineral matrix, including the silicates (ALS Chemex Method MEICP61a). The results of the multi-element analyses used to describe and sample the Black Butte Copper samples are summarized in Table 4-4, and indicate differences in variability by element between lithotypes. These differences are explored in the histograms provided in Appendix A.

<b>Table 4-4. Multi-element Whole Rock Chemistry for As, Fe, S, and Zn 2012 Johnny Lee Decline Samples</b>					
Lithotype	IG	USZ	Ynl	Ynl 0	Ynl B
Number of samples	15	16	193	17	7
Arsenic, ppm*					
Minimum	25	25	25	25	25
Arithmetic Mean	25	84	26	25	45
Geometric Mean	25	72	25	25	37
Maximum	25	190	70	25	110
Std Dev	0	43	5	0	29
Iron, %					
Minimum	4.33	5.4	2	0.76	2.7
Arithmetic Mean	5	15.6	3.6	1.14	4.3
Geometric Mean	4.98	14.2	3.4	1.1	4.1
Maximum	6.06	26.7	12	1.73	6.5
Std Dev	0.5	6.1	1.2	0.31	1.3
Sulfur, %					
Minimum	0.06	4.3	0.08	0.2	1.25
Arithmetic Mean	0.15	9.0	173	0.37	2.22
Geometric Mean	0.12	8.7	1.28	0.35	2.06
Maximum	0.47	10	8.6	0.86	4.33
Std Dev	0.11	1.9	1.3	0.14	0.87
Zinc, ppm					
Minimum	70	10	10	10	10
Arithmetic Mean	90	8.8	197	23	225
Geometric Mean	87	64	84	18	79
Maximum	110	8	1790	70	910
Std Dev	12	63	312	18	302
*ppm = parts per million					

#### 4.4 Metal Mobility Tests

The Synthetic Precipitation Leaching Procedure (SPLP) is a U.S. EPA (2007) method designed to determine the mobility of both organic and inorganic analytes present in liquids, soils, and wastes. Waste rock is digested using an unbuffered pH 5 solution acidified with 60% H<sub>2</sub>SO<sub>4</sub> and 40% nitric acid (HNO<sub>3</sub>), at a liquid-solid ratio of 20:1. The sample is rolled in a bottle for 18 hours, after which the sample is filtered using a 1 microgram glass frit and analyzed for total recoverable concentrations of constituents of interest at detection levels appropriate to regulatory standards, typically using ICP-AES or ICP-MS. The final pH is also measured.



The metal mobility test provides an indication of the metals which have potential to be released from rock exposed to meteoric water, but the actual concentrations are sensitive to the rock:water ratio used in the test as well as the final pH. Concentrations measured in extracts should therefore be interpreted with caution (Fey, 2003). The metals detected in extracts from the Black Butte Copper composites are compared with MDEQ surface and groundwater standards for convenience, but this should not be construed to infer that the measured concentrations represent ultimate water quality under field conditions.

The metal mobility results for the Black Butte project are shown in Table 4-5; results which exceed relevant MDEQ water quality standards are bolded in the table. In these alkaline solutions, where final pH was always above 8.4, the metal concentrations were quite low and with the exception of iron, did not exceed groundwater standards. The metals antimony, arsenic, beryllium, cadmium, cobalt, copper, mercury, nickel, silver, thallium, uranium, and zinc were below detection in all extracts. The metals aluminum, iron, and chromium were detected in concentrations which exceed surface water criteria in the igneous intrusive extracts. The high concentrations of aluminum likely reflect the influence of artificially elevated final pH of the SPLP extracts (over 9), which are unlikely to be observed under field conditions, on colloidal aluminum in the total recoverable analysis of 1 microgram filtered water. The lower Newland tests also indicated potential for release of aluminum at a concentration that exceeds the surface water criterion, and selenium was detected in one each of the *USZ* and *Ynl* extracts at the surface water standard. Aluminum was detected at the surface water standard in an extract of the high Fe *USZ*. These results are consistent with water quality observed in local surface and groundwater (Hydrometrics, 2012).

**Table 4-5. Black Butte 2012 Johnny Lee Decline SPLP Data<sup>1</sup>**

	Aluminum	Barium	Calcium	Chromium	Iron	Lead	Magnesium	Manganese	Molybdenum	pH	Potassium	Selenium	Sodium	Strontium
	Milligrams Per Liter													
Reporting Limit	0.03	0.005	1	0.001	0.05	0.0005	1	0.005	0.001	0.1	1	0.001	1	0.01
MDEQ-7 Groundwater Standard <sup>2</sup>	none	1	none	0.1	0.3 <sup>5</sup>	0.015	none	0.05 <sup>5</sup>	none	none	none	0.05	none	4
MDEQ-7 Surface Water Standard <sup>2</sup>	0.087 <sup>3</sup>	1	none	0.011 <sup>4</sup>	1	0.0044 <sup>6</sup>	none	none	none	none	none	0.005	none	4
IG	<b>3.2</b>	0.059	4	<b>0.012</b>	<b>1.91</b>	0.0014	3	0.03	<0.001	9.5	2	<0.001	56	0.09
USZ 1	0.03	0.023	25	<0.001	<0.05	<0.0005	18	0.092	<0.001	8.4	1	<b>0.005</b>	50	0.25
USZ 2	<b>0.09</b>	0.007	15	0.003	<0.05	<0.0005	10	0.006	<0.001	8.9	1	<0.001	21	0.03
Ynl 0	0.07	<0.005	6	0.009	<0.05	<0.0005	4	<0.005	<0.001	9.9	<1	<0.001	34	<0.01
Ynl – repl 1	<b>0.17</b>	0.011	7	0.003	<0.05	<0.0005	4	<0.005	0.006	9.2	<1	<b>0.005</b>	16	0.04
Ynl – repl 2	<b>0.16</b>	<0.005	5	0.008	<0.05	<0.0005	4	<0.005	0.01	9.6	<1	<0.001	72	<0.01
Ynl B	<b>0.12</b>	0.006	7	0.001	<0.05	<0.0005	3	<0.005	<0.001	9.7	<1	<0.001	18	0.03

**Bold** values indicate concentrations that exceed lowest applicable standard.

<sup>1</sup> Constituents measured at concentrations below the reporting limit were excluded from this table (i.e. antimony, arsenic, beryllium, cadmium, cobalt, copper, mercury, nickel, silver, thallium, uranium, and zinc). SPLP concentrations are total recoverable.

<sup>2</sup> Reported surface water standards are lowest of applicable MDEQ 7 (August 2012) standards. Groundwater standards based on dissolved concentrations, surface water based on total recoverable.

<sup>3</sup> Aluminum standard is based on dissolved concentration and applicable to waters with pH between 6.5 to 9.0 only.

<sup>4</sup> Standard reported for chromium assumes all chromium is present as Cr (VI).

<sup>5</sup> Groundwater standards for iron and manganese are 2010 MDEQ-7 secondary standards.

<sup>6</sup> Hardness dependent standards (i.e. lead) calculated based on 25th percentile hardness concentration in Sheep Creek (130 mg/L).

## 5 Asbestiform Minerals

Asbestiform serpentine and amphibole minerals do not typically occur in carbonaceous sedimentary deposits. Chrysotile fibers are most commonly found in serpentized ultramafic and dolomitic marbles. Although amphibole minerals are widely found throughout the earth's crust, only a few varieties exhibit the rare asbestiform habit that results from mechanical shearing and/or high temperature metamorphism. Asbestiform mineralization is therefore highly unlikely in the Black Butte copper deposit. To confirm the absence of such mineralization, the composites used to evaluate metal mobility were also screened for the presence of asbestiform minerals at the request of the Montana Department of Environmental Quality.

The presence/absence of chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite was evaluated by the R.J. Lee Group using Polarized Light Microscopy (PLM) methods at a 400 point count, followed by evaluation of any identified asbestiform fibers following U.S. EPA regulations. Any samples containing uncertain or demonstrated asbestiform mineral content were to be analyzed using Transmission Electron Microscopic (TEM) analysis to clearly distinguish between mineral cleavage and fibers, along with element analysis of the samples. For this project, detection between 0.001 and 0.1 weight percent was required.

All samples submitted for asbestiform mineral screening were determined to be composed of 100% non-fibrous minerals with no asbestos detected during PLM analysis. For this reason, confirmation testing using TEM methods was not warranted. Results of these analyses are provided in Appendix B.

## 6 Conclusions and Recommendations

There are no identified asbestiform minerals in any of the lithotypes to be mined from the 2012 Johnny Lee Decline at Black Butte Copper.

Results of this study indicate that the *IG*, *Ynl 0*, *Ynl B*, and the *Ynl*, are net neutralizing and are unlikely to generate acid. Apart from the *IG*, which showed elevated metal concentrations in SPLP extracts, these lithotypes have low potential to release metals in concentrations that are likely to exceed groundwater standards, suggesting that they can safely be stockpiled off liner as NAG with confirmation testing. Potential does exist for leachate to develop concentrations which could exceed surface water standards for aluminum, iron, chromium, and selenium, particularly from the *IG*, suggesting that care should be taken to prevent discharge from the rock pile facilities to surface water. Given the small tonnage of *IG* that would be intercepted, it might be best to place *IG* on the PAG facility to avoid associated release of metal. Potential for metal release should be confirmed through kinetic testing and with *in situ* monitoring in the evaluation adit.

The *USZ* and *0/1 SZ* are potentially acid generating, with potential to release aluminum, and selenium, and will require management as PAG. The occurrence of sulfide interbeds with increasing frequency in the *Ynl* with proximity to the *USZ* indicates that careful selective handling based on detailed geological mapping, hand specimen analysis, and operational NAG pH analysis should be used operationally to distinguish these two lithotypes for proper handling.

### 6.1 Rock Management Recommendations

Results of this baseline geochemistry study for the 2012 Johnny Lee Decline suggest that at least 70%, and perhaps as much as 80%, of the 135,000 tons of rock to be mined during construction is non-acid generating with low potential to release metals. The rock to be mined from the Black Butte Copper 2012 Johnny Lee Decline would be selectively handled and placed into designated waste rock facilities based on NAG and PAG designations. The *USZ*, as expected, would be acid generating, and should be handled as PAG, along with the *0/1 SZ*, the *IG*, and minor acid portions of the *Ynl*. Rock from *Ynl 0*, *Ynl B*, and much of the *Ynl*, can be placed as NAG. Results of this study suggest that a final NAG pH greater than 4.5 and/or an NP:AP ratio above 3 will suitably discriminate between NAG and PAG material for selective handling purposes.

Additional sampling and analysis, particularly of the *Ynl*, will be conducted prior to and during the decline construction and operation program. The baseline results presented here are based on limited analysis of a relatively small number of drill samples, and will be validated through analysis of an additional 20 samples of *Ynl* using ABA and NAG pH methods prior to initiation of work in the Johnny Lee Decline. Kinetic testing of the *USZ*, *Ynl*, *Ynl 0*, and *Ynl B* are also recommended, to confirm the results of the static and metal mobility testing reported here. Results of this work will be reported by Enviromin in two separate reports to Tintina.

Operational geochemical sampling and analysis would be needed to support selective handling of the *Ynl* from the evaluation adit, and to confirm the NAG classifications of lithotypes based on drill samples. These efforts would support the decline mining operation in the short term, and would inform the overall geochemical baseline study that

is planned for the proposed mining operation. The criteria put forward in Table 6-1 are intentionally conservative, to prevent any problems associated with the unlined NAG facility and to provide information for future geochemical studies for the larger proposed mining operation. The implementation of this rock management program involves three recommended levels of additional operational analysis during the Johnny Lee Decline program:

1. NAG Confirmation Sampling. The sampling strategy for this baseline study was focused on covering the range of variation observed in lithology, hand specimen mineralogy, and exploration geochemistry of observed in a small number of drill samples. Although the number of tested samples is high, relative to the low proposed tonnage for each lithotype, Tintina should confirm the baseline results through collection of additional samples for static analysis during construction of the adit, to provide infill information between the intervals sampled by drilling. Additional samples would be collected from each lithotype during decline construction, the number of which would be justified through geologic mapping of exposed rock. These samples would be subjected to further testing using NAG pH, with splits archived for offsite confirmation NAG and ABA testing, as well as possible additional metal mobility and kinetic work. This testing could be conducted on or offsite, depending upon the need to conduct Ynl NAG pH screening onsite during decline construction.

Lithotype	% tonnage	Designation	Criteria	Justification	Add. Data <sup>1</sup>
Ynl O	6	NAG	lithology	NAG pH > 4.5, NP:AP > 3, low metals	Confirmation sampling
Ynl B	26	NAG	lithology	NAG pH > 4.5, NP:AP > 3, low metals	Confirmation sampling
Ynl	41	NAG	Operational NAG pH < 4.5	NAG pH > 4.5, NP:AP > 3, low metals	Mapping, static analyses, kinetics
Ynl sulfide	Unknown % of Ynl	PAG	Operational NAG pH < 4.5	NAG pH < 4.5, NP:AP < 3	Mapping, static analyses, kinetics
O/1 SZ	5	PAG	lithology	Nd	none
IG	<1	PAG	lithology	Elevated SPLP metals	Confirmation sampling
USZ	11	PAG	lithology	NAG pH < 4.5 NP:AP < 3	none
Copper Ore	10	PAG	lithology	Nd	none

<sup>1</sup> See detailed testing plan below

<sup>2</sup> Nd – not determined

Note: O/1 SZ and Copper Ore were not included in the baseline geochemistry study for the decline

2. Delineation and potential operational NAG testing of the Ynl to identify PAG fraction

- a. Review the results of the additional 20 ABA and NAG pH tests of *Ynl* conducted prior to decline construction to determine need for further operational testing during decline constructions with agencies.
  - b. Detailed geologic mapping of the *Ynl* to define sulfide distribution and locate zones of sulfide enrichment, relative to stratigraphic markers of relevance to mining operations. Identify sedimentary or structural features controlling sulfide occurrence, in anticipation of operational selective handling. Collect *Ynl* samples for static and kinetic analysis to represent observed variation.
  - c. These samples would be screened initially, with all rock having visual sulfide sent for handling as PAG. Any rock not identified as PAG would be subjected to further testing using NAG pH test method.
  - d. Onsite NAG pH testing during construction would be used operationally to differentiate between NAG and PAG rock within the *Ynl* material which passes the initial visual screening tests. Materials with final NAG pH less than 4.5 would be placed in the lined PAG repository. Materials with NAG pH above 4.5 would be designated as non-acid generating material.
  - e. Splits for ABA, as well as confirmation NAG pH testing, would be collected for offsite analysis, to allow correlation with baseline analyses (Figure 2) and onsite analyses.
  - f. One composite each of delineated NAG and PAG *Ynl* would be submitted for both metal mobility and kinetic humidity cell testing.
3. *In situ* monitoring of water quality in decline and on NAG/PAG waste rock pads.

Water quality would be monitored on or near the waste rock pads, and in the decline, over a period of years, to evaluate changes in chemistry due to weathering of exposed and blasted rock. Also, analysis of mineral products of weathering is also recommended for both run-of-mine NAG and PAG. Results of this *in situ* work would be important for use in scaling future kinetic test results during the site-wide baseline geochemistry program.

Results of the exploration adit geochemical sampling and static testing program would be submitted in quarterly reports to the agencies during construction, and in an annual report following construction for any longer term water quality monitoring. A separate report would be prepared describing the selective handling, metal mobility, and kinetic testing of the *Ynl* NAG and PAG materials.

## **6.2 Implications for Overall Geochemistry Baseline Study**

The data presented here are focused on characterization of the lithotypes to be intercepted during construction of the 2012 Johnny Lee Decline, based on sampling in the vicinity of this decline, and should not be interpreted to represent the environmental geochemistry of all rock to be mined at Black Butte Copper. Nevertheless, these results provide important information which should be considered in future testing and evaluation, including:

1. The NAG pH and ABA tests together provide a clear indication of potential acid generating material for the project. It would be useful to continue both types of analysis through the remainder of the baseline program, with a goal of defining a

- robust set of NAG criteria for operational use in selective handling within units like the *Ynl*.
2. Metal mobility predicted by SPLP extraction of drill core samples is generally low, but cannot reflect changes that may result from oxidation as weathering progresses. Also, the pH of the SPLP tests were higher than is likely to be observed under field conditions. Alternative methods such as the Nevada Meteoric Water Mobility Procedure (MWMP) should be considered for future work. Metal mobility should also be evaluated in kinetic tests, together with *in situ* field scale monitoring of waste rock facilities, to better understand potential shifts in metal mobility related to sulfide oxidation.
  3. Initial multi-element, ABA, and NAG test results indicate relatively low variability in composition and acid generation potential for the *IG*, *Ynl O*, *Ynl B* and *Ynl* units, with much greater variability for the *USZ* lithotypes. Geologic results suggest that additional *Ynl* samples should be collected prior to initiation of work in the decline. These observations should be confirmed during the next phase of sampling, and the number of samples collected within rock type adjusted to reflect both the observed variability and relative tonnage of rock units.
  4. In spite of the massive sulfide mineralization in targeted ore zones, much of the waste rock is strongly neutralizing and exhibits low potential for metal release. These initial conclusions should be confirmed through additional sampling and analysis of rock collected throughout the larger proposed mine area.
  5. *In situ* monitoring of water quality underground, and on the waste rock pads, will provide important information regarding field scale weathering processes which will inform the overall geochemistry program. These data will be especially useful in scaling the application of laboratory data to field scale predictive water quality models.

### 6.3 Conclusions

Placement of *USZ* and acid *Ynl* rock from the decline into the lined PAG facility, with the remainder of the rock placed into the unlined NAG facility, will protect groundwater during construction of the Johnny Lee Decline. Water accumulating in the underground workings and PAG sump may require treatment to neutralize acidity and remove metals, while water from the NAG facility should be suitable for LAD discharge. As both facilities will be constructed to prevent surface water discharge, there is little risk of impact to surface water resources. Sampling and static analysis to confirm NAG classification, with more in depth static and kinetic study of the *Ynl* NAG and PAG sub-lithotypes, and water quality monitoring of underground and waste rock storage facilities will allow Tintina to effectively manage risk associated with rock to be mined from the decline.

The construction of the 2012 Johnny Lee Decline provides an opportunity for Tintina to advance understanding of sulfide distribution and environmental geochemistry within the lower Newland formation, the results of which would benefit the broader environmental geochemistry program for the proposed mining operation. More importantly, it provides an opportunity for Tintina to demonstrate an ability to selectively handle and appropriately manage potentially acid generating rock at Black Butte Copper during future operations.

## 7 References

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## **APPENDICES**

## **Appendix A**

### **Histograms of Exploration ICP Data**

A-1 Selection of Individual Samples for Static Testing

A-2 Development of Composites for Metal Mobility and Asbestiform  
Mineral Characterization

## A-1 Selection of Individual Samples for Static Testing

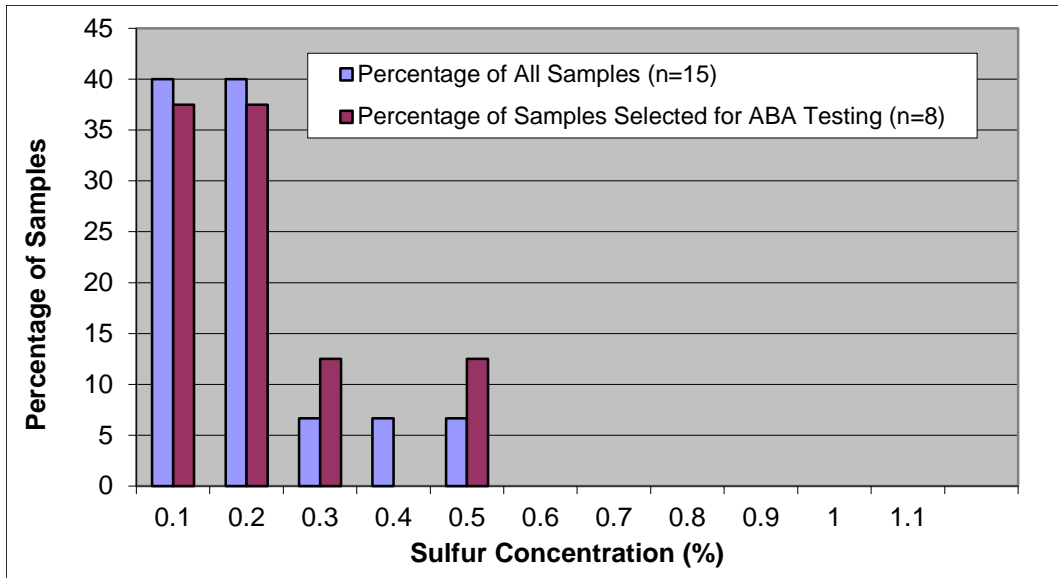


Figure A1-1. Sulfur Distribution for All *IG* Samples and *IG* Samples Selected for Static Testing.

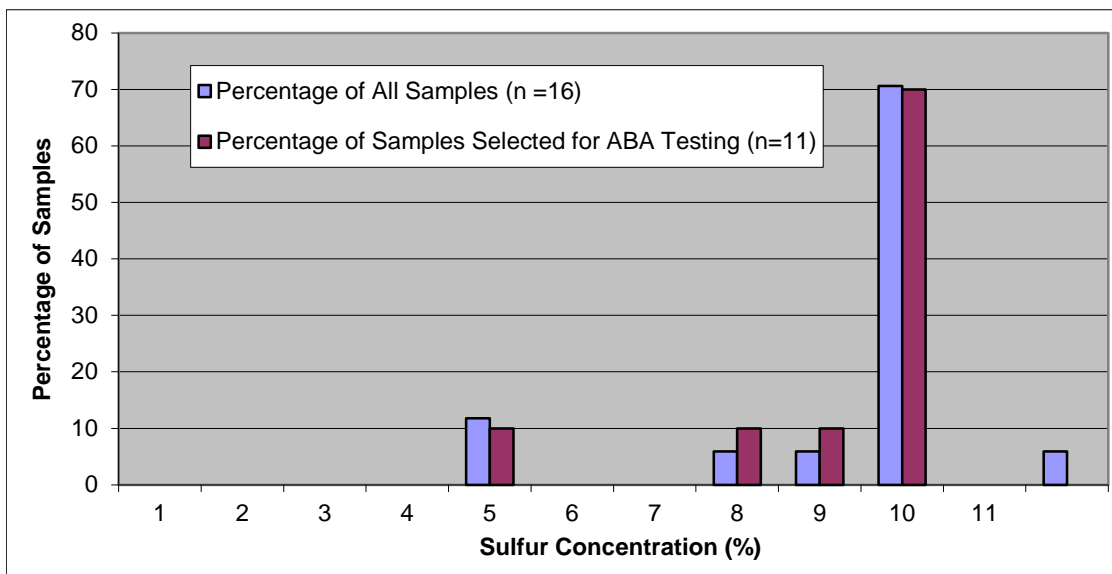


Figure A1-2. Sulfur Distribution for All *USZ* Samples and *USZ* Samples Selected for Static Testing.

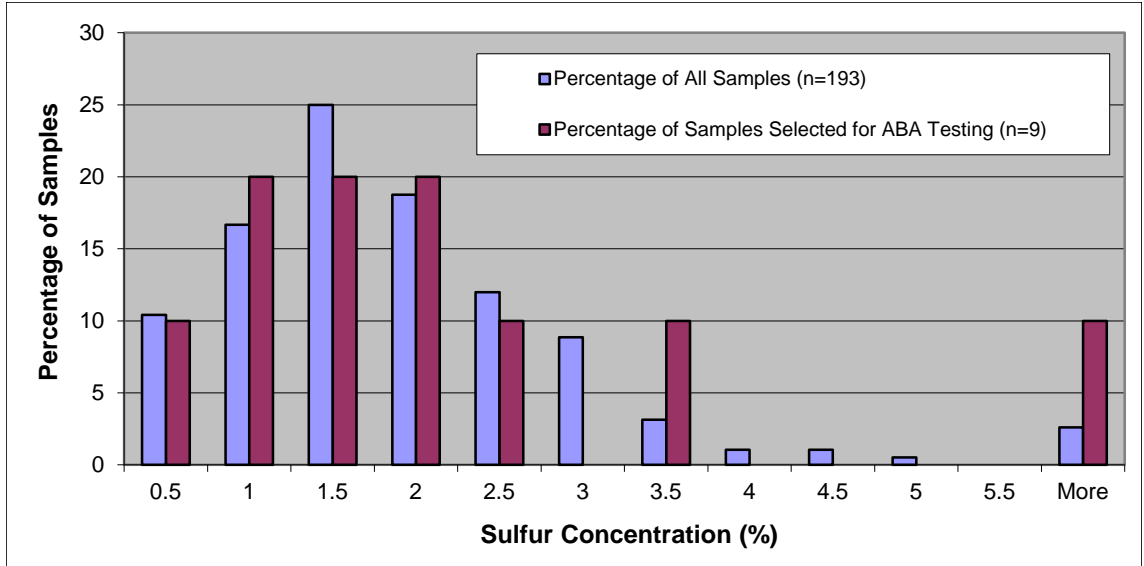


Figure A1-3. Sulfur Distribution for All *Ynl* Samples and *Ynl* Samples Selected for Static Testing.

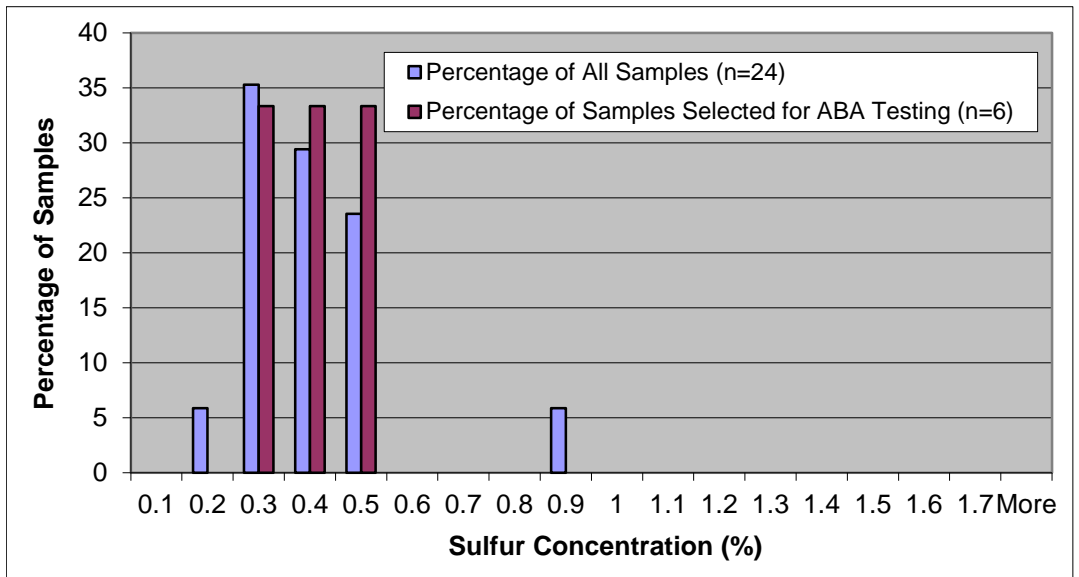


Figure A1-4. Sulfur Distribution for All *Ynl O* Samples and *Ynl O* Samples Selected for Static Testing.

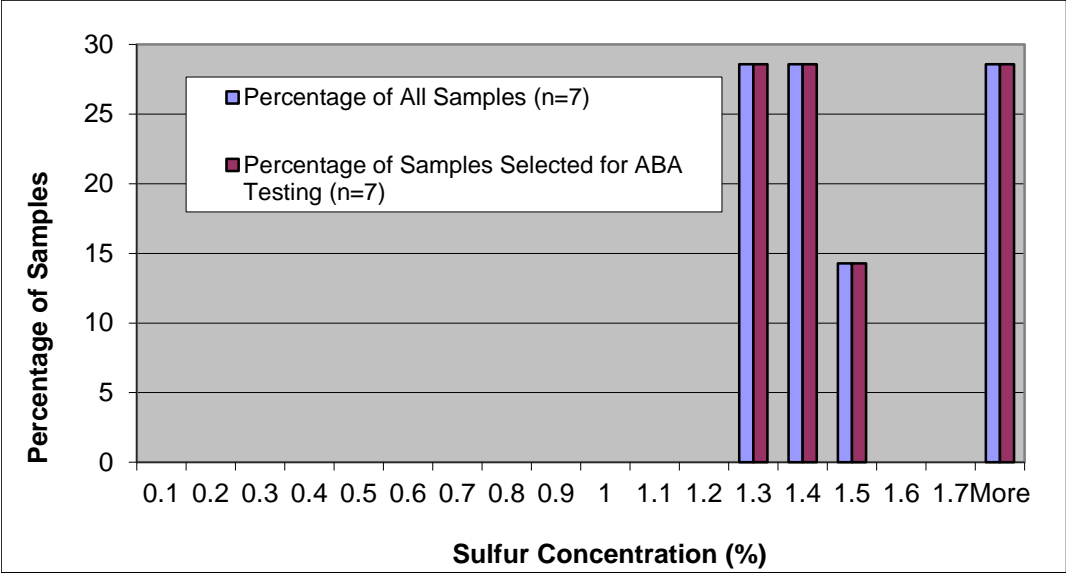


Figure A1-5. Sulfur Distribution for All *Ynl B* Samples and *Ynl B* Samples Selected for Static Testing.

A-2 Development of Composites for Metal Mobility and Asbestiform  
Mineral Characterization

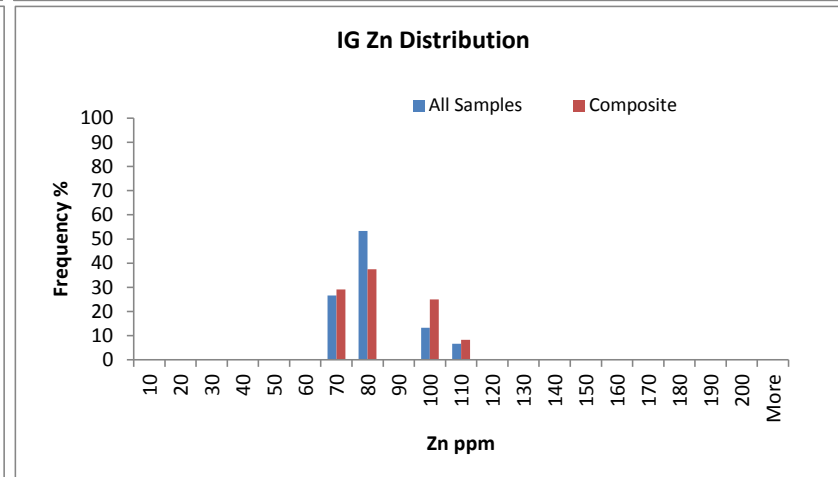
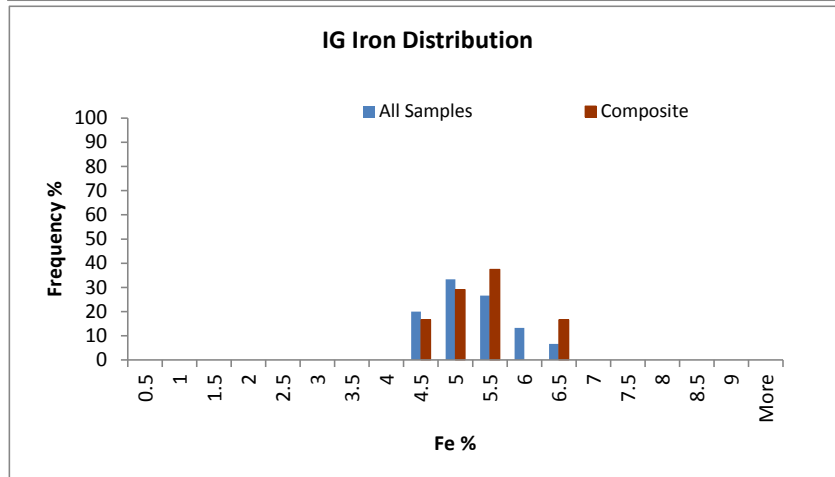
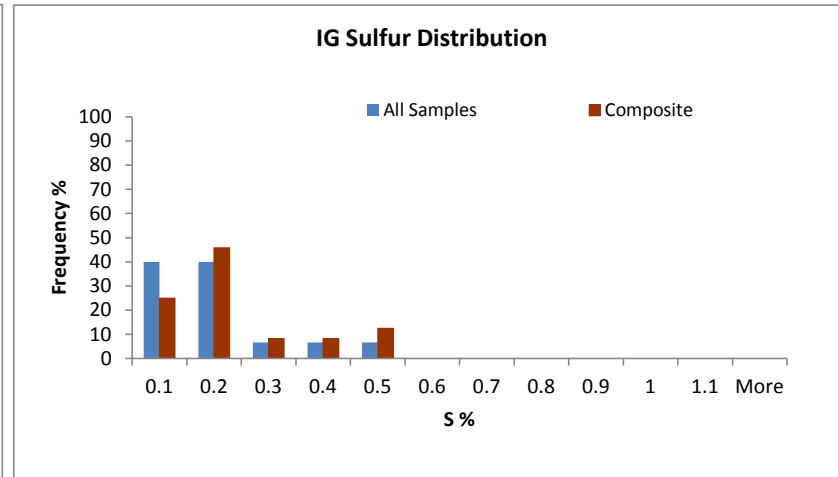
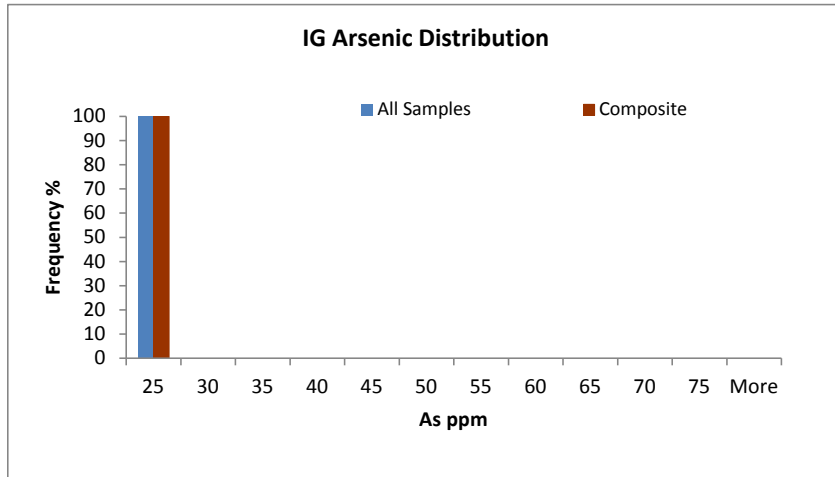


Figure A2-1. Arsenic, Iron, Sulfur, and Zinc Distributions for All IG Samples and IG Metal Mobility Test Composite.



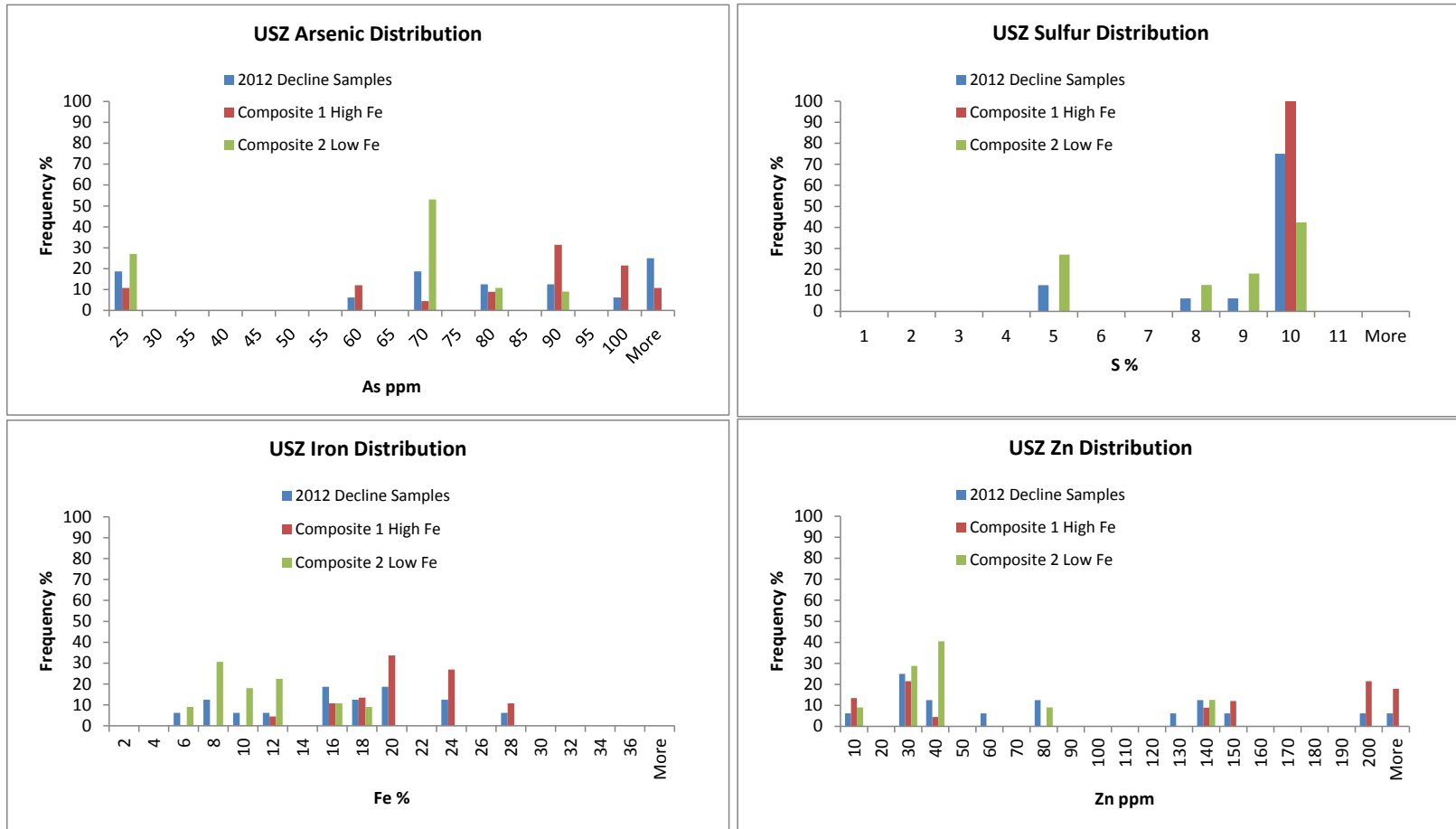


Figure A2-2. Arsenic, Iron, Sulfur, and Zinc Distributions for All *USZ* Samples and *USZ* Metal Mobility Test Composite.

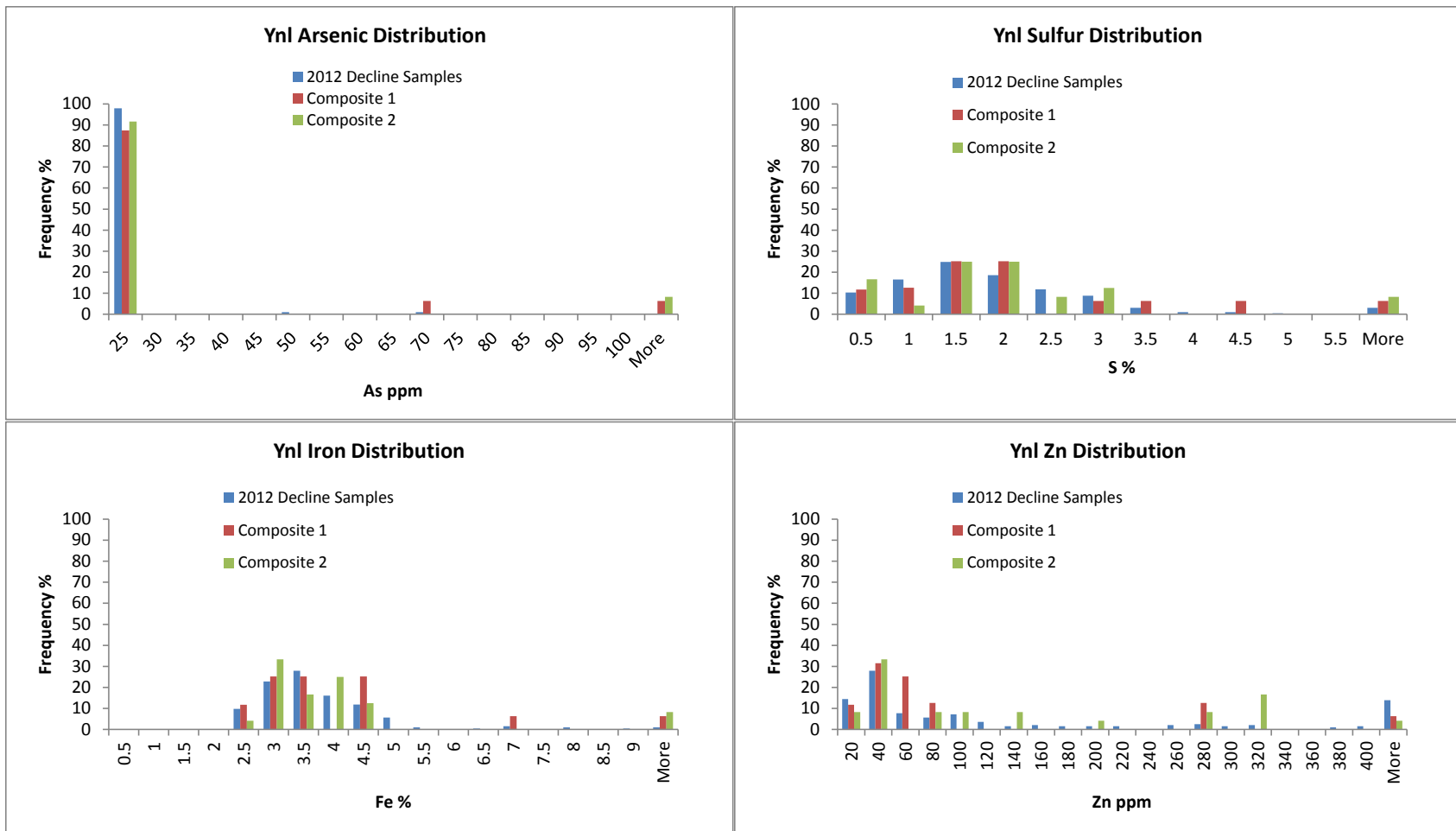


Figure A2-3. Arsenic, Iron, Sulfur, and Zinc Distributions for All *Ynl* Samples and *Ynl* Metal Mobility Test Composite.

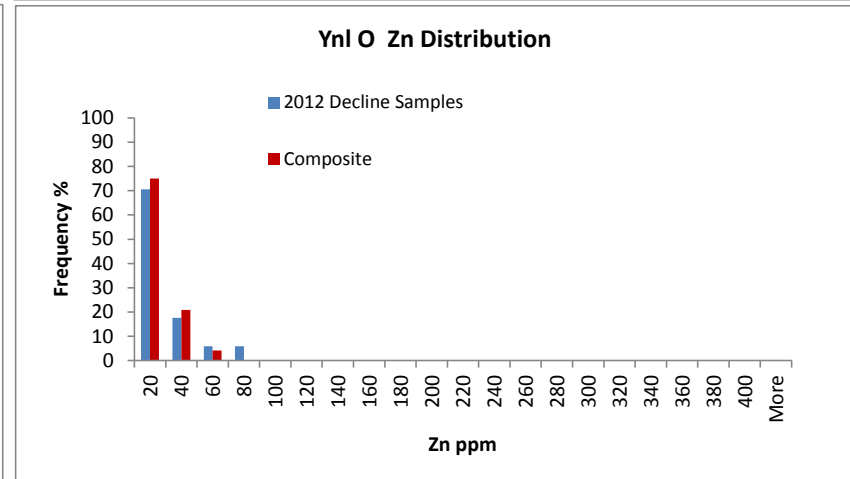
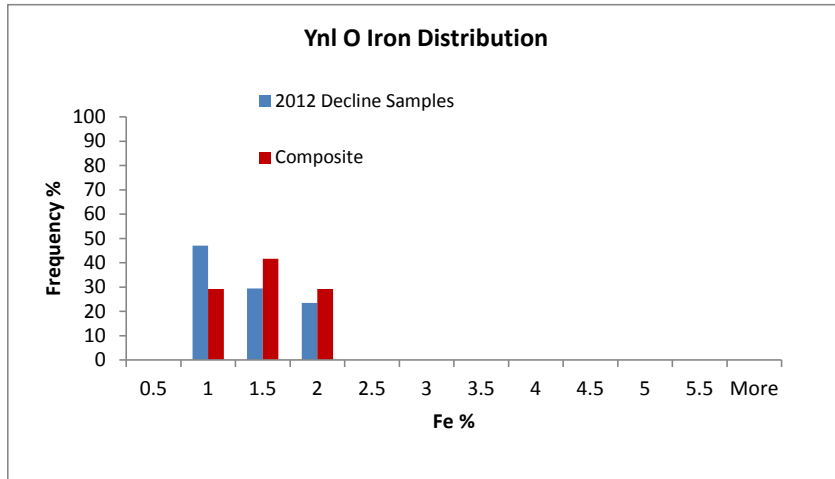
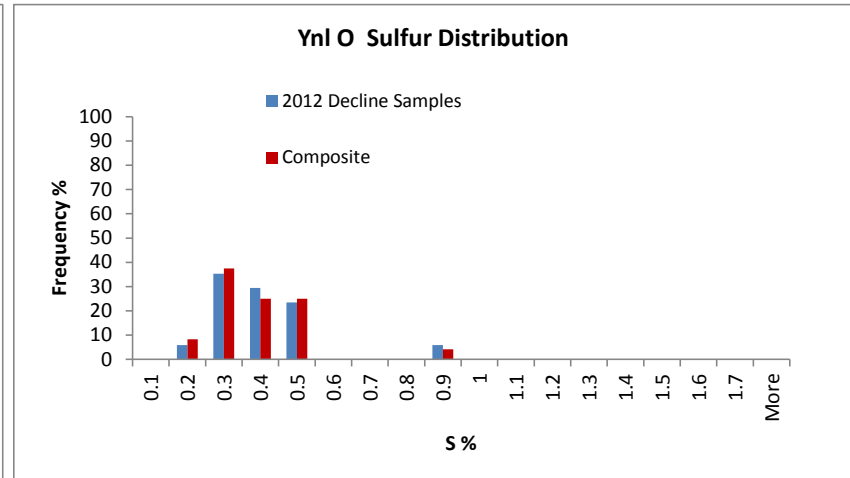
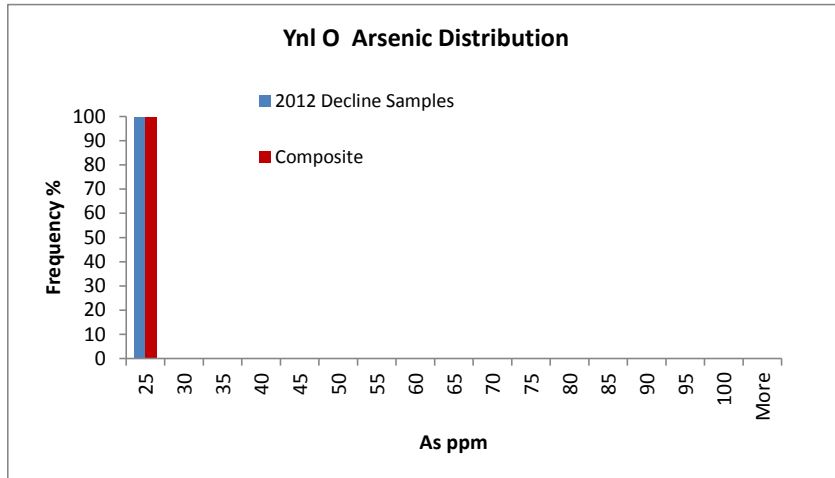


Figure A2-4. Arsenic, Iron, Sulfur, and Zinc Distributions for All *Ynl O* Samples and *Ynl O* Metal Mobility Test Composite.

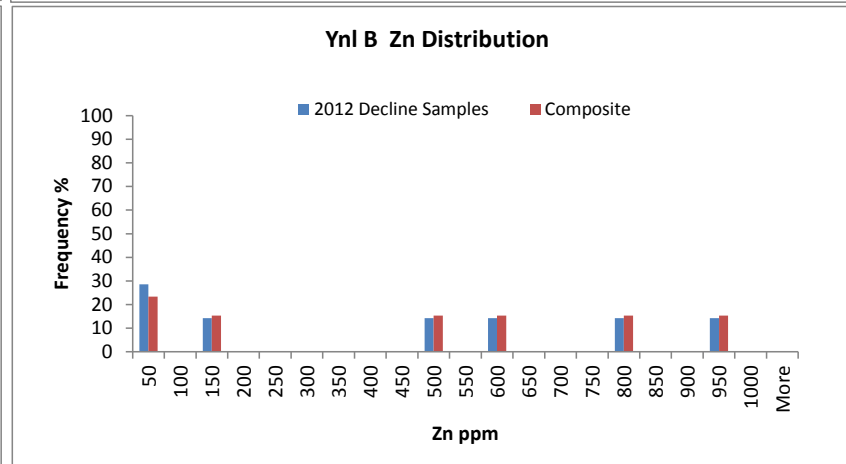
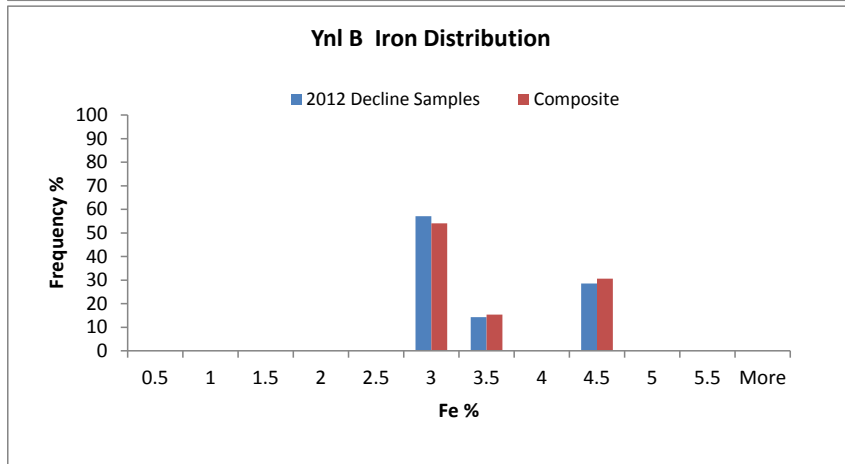
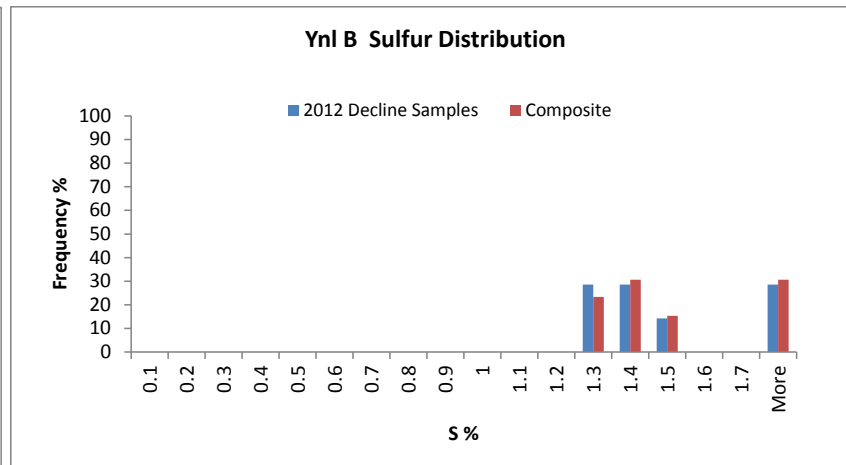
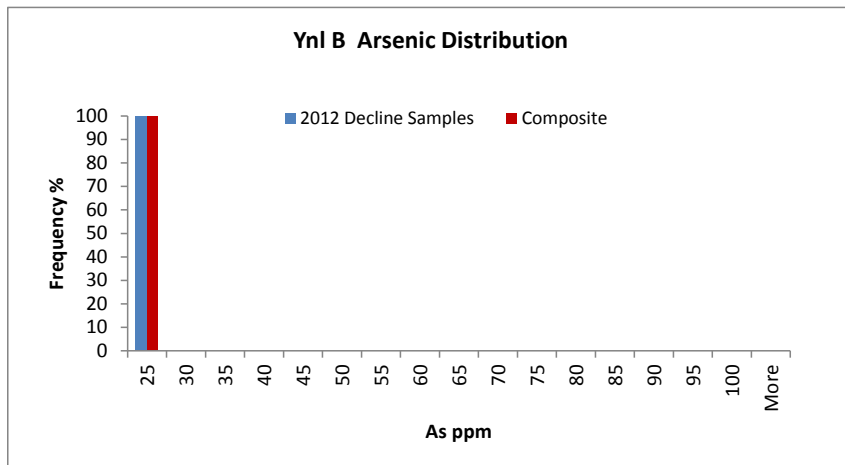


Figure A2-5. Arsenic, Iron, Sulfur, and Zinc Distributions for All *Ynl B* Samples and *Ynl B* Metal Mobility Test Composite.

## **Appendix B**

### **Analytical Laboratory Reports**

B-1 ALS Chemex Acid Base Accounting Results

B-2 ALS Chemex NAG pH Results

B-3 Energy Laboratories SPLP Results

B-4 R.J. Lee Asbestiform Mineral Characterization

B-1 ALS Chemex Acid Base Accounting Results



ALS Canada Ltd.  
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To: TINTINA ALASKA EXPLORATION INC.  
 17 MAIN STREET  
 WHITE SULPHUR SPRINGS MT 59645  
 USA

Page: 1  
 Finalized Date: 29- JUN- 2012  
 This copy reported on  
 23- OCT- 2012  
 Account: QDOMAN

**CERTIFICATE RE12122929**

Project: Sheep Creek  
 P.O. No.:  
 This report is for 41 Crushed Rock samples submitted to our lab in Reno, NV, USA on 6- JUN- 2012.  
 The following have access to data associated with this certificate:

JACK COTE JERRY ZEIG	LISA KIRK	VINCE SCARTOZZI
-------------------------	-----------	-----------------

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
PUL- QC	Pulverizing QC Test
PUL- 31	Pulverize split to 85% < 75 um
SPL- 21	Split sample - riffle splitter

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	
OA- VOL11	Static Net Acid Generation	
OA- VOL08	Basic Acid Base Accounting	
S- IR08	Total Sulphur (Leco)	LECO
OA- ELE07	Paste pH	
S- CAL06	Sulfide Sulfur (calculated)	LECO
S- GRA06	Sulfate Sulfur- carbonate leach	LECO
S- GRA06a	Sulfate Sulfur (HCl leachable)	

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim 'or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project. Statement required by Nevada State Law NRS 519

To: TINTINA ALASKA EXPLORATION INC.  
 ATTN: LISA KIRK  
 2560- 200 GRANVILLE STREET  
 PO BOX 36  
 VANCOUVER BC V6C 1S4

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:   
 Colin Ramshaw, Vancouver Laboratory Manager



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 USA

Page: 2 - A  
 Total # Pages: 3 (A)  
 Finalized Date: 29- JUN- 2012  
 Account: QDOMAN

Project: Sheep Creek

**CERTIFICATE OF ANALYSIS RE12122929**

Sample Description	Method	WEI- 21	OA- VOL08	OA- VOL08	OA- VOL08	OA- VOL08	OA- ELE07	OA- VOL08	S- IR08	S- GRA06	S- GRA06a	S- CAL06	OA- VOL11	OA- VOL11	OA- VOL11
	Analyte Units LOR	Recvd Wt. kg	MPA tCaCO3/1000	NNP tCaCO3/1000	FIZZ RAT Unity	NP tCaCO3/1000	pH Unity	Ratio (N) Unity	S %	S %	S %	S %	NAG @ pH kg H2SO4/ton	NAG @ pH kg H2SO4/ton	pH Unity
		0.02	0.3	1	1	1	0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
212584		5.70	6.9	56	2	63	8.5	9.16	0.22	0.02	0.01	0.20	<0.01	<0.01	9.0
212586		5.57	1.6	63	2	65	8.7	41.60	0.05	<0.01	0.02	0.05	<0.01	<0.01	9.3
210585		7.92	5.0	48	2	53	8.5	10.60	0.16	<0.01	0.01	0.16	<0.01	<0.01	9.5
210586		7.79	2.5	50	2	52	8.5	20.80	0.08	<0.01	0.02	0.08	<0.01	<0.01	9.4
210588		7.57	4.4	56	2	60	8.5	13.71	0.14	0.01	0.02	0.13	<0.01	<0.01	9.3
210592		7.92	4.7	55	2	60	8.4	12.80	0.15	0.01	0.02	0.14	<0.01	<0.01	9.4
210594		8.24	1.6	56	2	58	8.4	37.12	0.05	<0.01	0.02	0.05	<0.01	<0.01	9.4
210596		4.89	13.1	185	3	198	8.2	15.09	0.42	0.02	0.02	0.40	<0.01	<0.01	9.0
208137		2.38	476.6	-300	3	177	6.8	0.37	15.25	0.10	0.05	15.15	233	254	2.1
208140		2.64	213.4	130	3	343	7.8	1.61	6.83	0.05	0.01	6.78	<0.01	<0.01	7.8
210602		8.07	122.8	220	3	343	8.7	2.79	3.93	0.04	0.02	3.89	<0.01	<0.01	8.3
210604		6.53	275.0	9	3	284	8.4	1.03	8.80	0.06	0.01	8.74	<0.01	4.62	6.2
210605		5.67	450.0	-149	3	301	7.9	0.67	14.40	0.10	0.07	14.30	102.5	120.5	2.5
212634		4.27	1175.0	-1075	3	101	4.7	0.09	37.6	0.62	0.62	37.0	617	734	2.1
212635		3.07	521.9	-431	3	91	3.9	0.17	16.70	0.19	0.11	16.50	331	384	2.1
212636		5.76	881.3	-602	3	279	7.1	0.32	28.2	0.47	0.48	27.7	392	455	2.1
212638		5.04	953.1	-659	3	294	7.2	0.31	30.5	0.18	0.12	30.3	402	456	2.1
212639		4.82	712.5	-314	3	399	7.9	0.56	22.8	0.15	0.12	22.7	205	231	2.2
208104		8.20	27.8	306	3	334	8.6	12.01	0.89	0.02	0.03	0.87	<0.01	<0.01	8.8
208110		7.95	27.2	419	4	446	8.7	16.40	0.87	0.01	0.02	0.86	<0.01	<0.01	8.8
208120		3.07	61.9	146	3	208	8.6	3.36	1.98	0.03	0.02	1.95	<0.01	<0.01	8.6
212547		3.40	97.2	1	3	98	8.4	1.01	3.11	0.02	0.03	3.09	16.15	29.7	3.0
212551		7.66	38.4	354	3	392	8.7	10.20	1.23	0.02	<0.01	1.21	<0.01	<0.01	8.8
210556		7.25	37.2	503	4	540	8.9	14.52	1.19	0.02	<0.01	1.17	<0.01	<0.01	8.9
210572		7.98	6.9	20	2	27	8.4	3.93	0.22	0.02	<0.01	0.20	<0.01	<0.01	9.2
208254		4.37	54.7	123	3	178	8.4	3.25	1.75	0.01	<0.01	1.74	<0.01	<0.01	8.8
208267		7.90	7.8	852	4	860	9.2	110.10	0.25	0.01	<0.01	0.24	<0.01	<0.01	9.3
212625		3.86	501.6	-451	2	51	4.5	0.10	16.05	0.20	0.16	15.85	366	399	2.2
212565		7.93	50.9	249	3	300	8.7	5.89	1.63	0.01	0.01	1.62	<0.01	<0.01	8.5
212567		8.57	8.4	779	4	787	9.1	93.27	0.27	0.01	0.01	0.26	<0.01	<0.01	9.0
212569		5.07	12.2	624	4	636	9.1	52.18	0.39	0.03	0.01	0.36	<0.01	<0.01	10.0
210552		8.17	9.1	776	4	785	9.2	86.62	0.29	0.02	<0.01	0.27	<0.01	<0.01	10.5
208262		8.34	9.1	827	4	836	9.1	92.25	0.29	0.03	0.01	0.26	<0.01	<0.01	10.0
208265		7.84	11.3	651	4	662	8.9	58.84	0.36	0.01	0.01	0.35	<0.01	<0.01	10.0
208141		6.90	32.8	370	3	403	8.8	12.28	1.05	0.01	0.02	1.04	<0.01	<0.01	10.0
208142		7.79	49.1	290	3	339	8.7	6.91	1.57	0.01	0.01	1.56	<0.01	<0.01	9.7
208143		7.58	53.4	330	3	383	8.9	7.17	1.71	0.01	<0.01	1.70	<0.01	<0.01	10.5
208145		1.94	35.0	279	3	314	8.6	8.97	1.12	0.06	<0.01	1.06	<0.01	<0.01	10.0
208146		7.64	39.1	296	3	335	8.7	8.58	1.25	0.03	<0.01	1.22	<0.01	<0.01	9.9
208147		8.13	39.7	286	3	326	8.8	8.21	1.27	0.02	0.02	1.25	<0.01	<0.01	8.9





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 WHITE SULPHUR SPRINGS MT 59645  
 USA

Page: 3 - A  
 Total # Pages: 3 (A)  
 Finalized Date: 29- JUN- 2012  
 Account: QDOMAN

Project: Sheep Creek

**CERTIFICATE OF ANALYSIS RE12122929**

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg	OA- VOL08 MPA tCaCO3/1000	OA- VOL08 NNP tCaCO3/1000	OA- VOL08 FIZZ RAT Unity	OA- VOL08 NP tCaCO3/1000	OA- ELE07 pH Unity	OA- VOL08 Ratio (N) Unity	S- IR08 S %	S- GRA06 S %	S- GRA06a S %	S- CAL06 S %	OA- VOL11 NAG @ pH kg H2SO4/ton	OA- VOL11 NAG @ pH kg H2SO4/ton	OA- VOL11 pH Unity
208148		3.89	37.5	349	3	386	8.6	10.29	1.20	0.05	<0.01	1.15	<0.01	<0.01	10.0

B-2 ALS Chemex NAG pH Results

## ANALYTICAL SUMMARY REPORT

August 23, 2012

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B12080959

Project Name: Black Butte Copper Proj., White Sulphur Springs, M

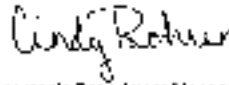
Energy Laboratories Inc Billings MT received the following 8 samples for Tintina Alaska Exploration Inc on 8/9/2012 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B12080959-001	IG		08/09/12	Solid	Metals by ICP/ICPMS, SPLP Mercury, SPLP pH, SPLP Digestion, Mercury by CVAA SPLP Extraction, Regular Digestion, Total Metals
B12080959-002	USZ 1, High Fe		08/09/12	Solid	Same As Above
B12080959-003	USZ 2, Low Fe		08/09/12	Solid	Same As Above
B12080959-004	Ynl 1		08/09/12	Solid	Same As Above
B12080959-005	Ynl 2		08/09/12	Solid	Same As Above
B12080959-006	Ynl 0		08/09/12	Solid	Same As Above
B12080959-007	Ynl B, 2012 Decline		08/09/12	Solid	Same As Above
B12080959-008	Ynl B 2, Orig. Decline		08/09/12	Solid	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Regional Department Manager

Digitally signed by  
Cindy Rohrer  
Date: 2012.08.23 17:03:00 -06:00

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** Black Butte Copper Proj., White Sulphur Springs, M  
**Lab ID:** B12080959-001  
**Client Sample ID** IG

**Report Date:** 08/23/12  
**Collection Date:** Not Provided  
**Date Received:** 08/09/12  
**Matrix:** Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>SPLP EXTRACTABLE CONSTITUENTS</b>							
pH	9.5	s.u.		0.1		SW9045C	08/14/12 11:00 / jh
<b>METALS, SPLP EXTRACTABLE</b>							
Aluminum	3.20	mg/L		0.03		SW6020	08/14/12 20:25 / mas
Antimony	ND	mg/L		0.003		SW6020	08/14/12 20:25 / mas
Arsenic	ND	mg/L		0.003		SW6020	08/14/12 20:25 / mas
Barium	0.059	mg/L		0.005		SW6020	08/14/12 20:25 / mas
Beryllium	ND	mg/L		0.001		SW6020	08/14/12 20:25 / mas
Cadmium	ND	mg/L		0.00008		SW6020	08/14/12 20:25 / mas
Calcium	4	mg/L		1		SW6010B	08/15/12 18:55 / rlh
Chromium	0.012	mg/L		0.001		SW6010B	08/15/12 18:55 / rlh
Cobalt	ND	mg/L		0.005		SW6020	08/14/12 20:25 / mas
Copper	ND	mg/L	D	0.002		SW6020	08/14/12 20:25 / mas
Iron	1.91	mg/L		0.05		SW6010B	08/15/12 18:55 / rlh
Lead	0.0014	mg/L		0.0005		SW6020	08/14/12 20:25 / mas
Magnesium	3	mg/L		1		SW6010B	08/15/12 18:55 / rlh
Manganese	0.030	mg/L		0.005		SW6020	08/14/12 20:25 / mas
Mercury	0.00001	mg/L		0.00001		SW7470A	08/23/12 15:21 / jjw
Molybdenum	ND	mg/L		0.001		SW6020	08/14/12 20:25 / mas
Nickel	ND	mg/L		0.01		SW6020	08/14/12 20:25 / mas
Potassium	2	mg/L		1		SW6010B	08/15/12 18:55 / rlh
Selenium	ND	mg/L		0.001		SW6020	08/14/12 20:25 / mas
Silver	ND	mg/L		0.0005		SW6020	08/14/12 20:25 / mas
Sodium	56	mg/L		1		SW6010B	08/15/12 18:55 / rlh
Strontium	0.09	mg/L		0.01		SW6020	08/14/12 20:25 / mas
Thallium	ND	mg/L		0.0002		SW6020	08/14/12 20:25 / mas
Uranium	0.00024	mg/L		0.00003		SW6020	08/14/12 20:25 / mas
Zinc	ND	mg/L		0.01		SW6010B	08/15/12 18:55 / rlh

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



**LABORATORY ANALYTICAL REPORT**

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** Black Butte Copper Proj., White Sulphur Springs, M  
**Lab ID:** B12080959-002  
**Client Sample ID** USZ 1, High Fe

**Report Date:** 08/23/12  
**Collection Date:** Not Provided  
**Date Received:** 08/09/12  
**Matrix:** Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>SPLP EXTRACTABLE CONSTITUENTS</b>							
pH	8.4	s.u.		0.1		SW9045C	08/14/12 11:00 / jh
<b>METALS, SPLP EXTRACTABLE</b>							
Aluminum	0.03	mg/L		0.03		SW6020	08/14/12 20:28 / mas
Antimony	ND	mg/L		0.003		SW6020	08/14/12 20:28 / mas
Arsenic	ND	mg/L		0.003		SW6020	08/14/12 20:28 / mas
Barium	0.023	mg/L		0.005		SW6020	08/14/12 20:28 / mas
Beryllium	ND	mg/L		0.001		SW6020	08/14/12 20:28 / mas
Cadmium	ND	mg/L		0.00008		SW6020	08/14/12 20:28 / mas
Calcium	25	mg/L		1		SW6010B	08/15/12 19:15 / rlh
Chromium	ND	mg/L		0.001		SW6010B	08/15/12 19:15 / rlh
Cobalt	ND	mg/L		0.005		SW6020	08/14/12 20:28 / mas
Copper	ND	mg/L		0.001		SW6020	08/14/12 20:28 / mas
Iron	ND	mg/L		0.05		SW6010B	08/15/12 19:15 / rlh
Lead	ND	mg/L		0.0005		SW6020	08/14/12 20:28 / mas
Magnesium	18	mg/L		1		SW6010B	08/15/12 19:15 / rlh
Manganese	0.092	mg/L		0.005		SW6020	08/14/12 20:28 / mas
Mercury	ND	mg/L		0.00001		SW7470A	08/23/12 15:28 / jjw
Molybdenum	ND	mg/L		0.001		SW6020	08/14/12 20:28 / mas
Nickel	0.01	mg/L		0.01		SW6020	08/14/12 20:28 / mas
Potassium	1	mg/L		1		SW6010B	08/15/12 19:15 / rlh
Selenium	0.005	mg/L		0.001		SW6020	08/14/12 20:28 / mas
Silver	ND	mg/L		0.0005		SW6020	08/14/12 20:28 / mas
Sodium	50	mg/L		1		SW6010B	08/15/12 19:15 / rlh
Strontium	0.25	mg/L		0.01		SW6020	08/14/12 20:28 / mas
Thallium	ND	mg/L		0.0002		SW6020	08/14/12 20:28 / mas
Uranium	ND	mg/L		0.00003		SW6020	08/14/12 20:28 / mas
Zinc	ND	mg/L		0.01		SW6020	08/14/12 20:28 / mas

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

## LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** Black Butte Copper Proj., White Sulphur Springs, M  
**Lab ID:** B12080959-003  
**Client Sample ID** USZ 2, Low Fe

**Report Date:** 08/23/12  
**Collection Date:** Not Provided  
**Date Received:** 08/09/12  
**Matrix:** Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>SPLP EXTRACTABLE CONSTITUENTS</b>							
pH	8.9	s.u.		0.1		SW9045C	08/14/12 11:00 / jh
<b>METALS, SPLP EXTRACTABLE</b>							
Aluminum	0.09	mg/L		0.03		SW6020	08/14/12 20:31 / mas
Antimony	ND	mg/L		0.003		SW6020	08/14/12 20:31 / mas
Arsenic	ND	mg/L		0.003		SW6020	08/14/12 20:31 / mas
Barium	0.007	mg/L		0.005		SW6020	08/14/12 20:31 / mas
Beryllium	ND	mg/L		0.001		SW6020	08/14/12 20:31 / mas
Cadmium	ND	mg/L		0.00008		SW6020	08/14/12 20:31 / mas
Calcium	15	mg/L		1		SW6010B	08/15/12 19:22 / rlh
Chromium	0.003	mg/L		0.001		SW6010B	08/15/12 19:22 / rlh
Cobalt	ND	mg/L		0.005		SW6020	08/14/12 20:31 / mas
Copper	ND	mg/L	D	0.002		SW6020	08/14/12 20:31 / mas
Iron	ND	mg/L		0.05		SW6010B	08/15/12 19:22 / rlh
Lead	ND	mg/L		0.0005		SW6020	08/14/12 20:31 / mas
Magnesium	10	mg/L		1		SW6010B	08/15/12 19:22 / rlh
Manganese	0.006	mg/L		0.005		SW6020	08/16/12 18:24 / mas
Mercury	ND	mg/L		0.00001		SW7470A	08/23/12 15:33 / jjw
Molybdenum	ND	mg/L		0.001		SW6020	08/14/12 20:31 / mas
Nickel	ND	mg/L		0.01		SW6020	08/14/12 20:31 / mas
Potassium	1	mg/L		1		SW6010B	08/15/12 19:22 / rlh
Selenium	ND	mg/L		0.001		SW6020	08/18/12 04:00 / mas
Silver	ND	mg/L		0.0005		SW6020	08/14/12 20:31 / mas
Sodium	21	mg/L		1		SW6010B	08/15/12 19:22 / rlh
Strontium	0.03	mg/L		0.01		SW6020	08/14/12 20:31 / mas
Thallium	ND	mg/L		0.0002		SW6020	08/14/12 20:31 / mas
Uranium	ND	mg/L		0.00003		SW6020	08/14/12 20:31 / mas
Zinc	ND	mg/L		0.01		SW6020	08/14/12 20:31 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



**LABORATORY ANALYTICAL REPORT**

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** Black Butte Copper Proj., White Sulphur Springs, M  
**Lab ID:** B12080959-004  
**Client Sample ID** Ynl 1

**Report Date:** 08/23/12  
**Collection Date:** Not Provided  
**Date Received:** 08/09/12  
**Matrix:** Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>SPLP EXTRACTABLE CONSTITUENTS</b>							
pH	9.2	s.u.		0.1		SW9045C	08/14/12 11:00 / jh
<b>METALS, SPLP EXTRACTABLE</b>							
Aluminum	0.17	mg/L		0.03		SW6010B	08/15/12 19:30 / rlh
Antimony	ND	mg/L		0.003		SW6020	08/14/12 20:45 / mas
Arsenic	ND	mg/L		0.003		SW6020	08/14/12 20:45 / mas
Barium	0.011	mg/L		0.005		SW6020	08/14/12 20:45 / mas
Beryllium	ND	mg/L		0.001		SW6020	08/14/12 20:45 / mas
Cadmium	ND	mg/L		0.00008		SW6020	08/14/12 20:45 / mas
Calcium	7	mg/L		1		SW6010B	08/15/12 19:30 / rlh
Chromium	0.003	mg/L		0.001		SW6010B	08/15/12 19:30 / rlh
Cobalt	ND	mg/L		0.005		SW6020	08/14/12 20:45 / mas
Copper	ND	mg/L		0.001		SW6020	08/14/12 20:45 / mas
Iron	ND	mg/L		0.05		SW6010B	08/15/12 19:30 / rlh
Lead	ND	mg/L		0.0005		SW6020	08/14/12 20:45 / mas
Magnesium	4	mg/L		1		SW6010B	08/15/12 19:30 / rlh
Manganese	ND	mg/L		0.005		SW6020	08/14/12 20:45 / mas
Mercury	ND	mg/L		0.00001		SW7470A	08/23/12 15:51 / jjw
Molybdenum	0.006	mg/L	D	0.002		SW6010B	08/15/12 19:30 / rlh
Nickel	ND	mg/L		0.01		SW6020	08/14/12 20:45 / mas
Potassium	ND	mg/L		1		SW6010B	08/15/12 19:30 / rlh
Selenium	0.005	mg/L		0.001		SW6020	08/14/12 20:45 / mas
Silver	ND	mg/L		0.0005		SW6020	08/14/12 20:45 / mas
Sodium	16	mg/L		1		SW6010B	08/15/12 19:30 / rlh
Strontium	0.04	mg/L		0.01		SW6020	08/14/12 20:45 / mas
Thallium	ND	mg/L		0.0002		SW6020	08/14/12 20:45 / mas
Uranium	ND	mg/L		0.00003		SW6020	08/14/12 20:45 / mas
Zinc	ND	mg/L		0.01		SW6020	08/14/12 20:45 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** Black Butte Copper Proj., White Sulphur Springs, M  
**Lab ID:** B12080959-005  
**Client Sample ID** Ynl 2

**Report Date:** 08/23/12  
**Collection Date:** Not Provided  
**Date Received:** 08/09/12  
**Matrix:** Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>SPLP EXTRACTABLE CONSTITUENTS</b>							
pH	9.6	s.u.		0.1		SW9045C	08/14/12 11:00 / jh
<b>METALS, SPLP EXTRACTABLE</b>							
Aluminum	0.16	mg/L		0.03		SW6010B	08/15/12 19:38 / rlh
Antimony	ND	mg/L		0.003		SW6020	08/14/12 20:48 / mas
Arsenic	ND	mg/L		0.003		SW6020	08/14/12 20:48 / mas
Barium	ND	mg/L		0.005		SW6020	08/14/12 20:48 / mas
Beryllium	ND	mg/L		0.001		SW6020	08/14/12 20:48 / mas
Cadmium	ND	mg/L		0.00008		SW6020	08/14/12 20:48 / mas
Calcium	5	mg/L		1		SW6010B	08/15/12 19:38 / rlh
Chromium	0.008	mg/L		0.001		SW6010B	08/15/12 19:38 / rlh
Cobalt	ND	mg/L		0.005		SW6020	08/14/12 20:48 / mas
Copper	ND	mg/L		0.001		SW6020	08/14/12 20:48 / mas
Iron	ND	mg/L		0.05		SW6010B	08/15/12 19:38 / rlh
Lead	ND	mg/L		0.0005		SW6020	08/14/12 20:48 / mas
Magnesium	4	mg/L		1		SW6010B	08/15/12 19:38 / rlh
Manganese	ND	mg/L		0.005		SW6020	08/14/12 20:48 / mas
Mercury	ND	mg/L		0.00001		SW7470A	08/23/12 15:58 / jjw
Molybdenum	0.010	mg/L		0.001		SW6020	08/14/12 20:48 / mas
Nickel	ND	mg/L		0.01		SW6020	08/14/12 20:48 / mas
Potassium	ND	mg/L		1		SW6010B	08/15/12 19:38 / rlh
Selenium	ND	mg/L		0.001		SW6020	08/14/12 20:48 / mas
Silver	ND	mg/L		0.0005		SW6020	08/14/12 20:48 / mas
Sodium	72	mg/L		1		SW6010B	08/15/12 19:38 / rlh
Strontium	ND	mg/L		0.01		SW6020	08/14/12 20:48 / mas
Thallium	ND	mg/L		0.0002		SW6020	08/14/12 20:48 / mas
Uranium	ND	mg/L		0.00003		SW6020	08/14/12 20:48 / mas
Zinc	ND	mg/L		0.01		SW6020	08/14/12 20:48 / mas

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** Black Butte Copper Proj., White Sulphur Springs, M  
**Lab ID:** B12080959-006  
**Client Sample ID** Ynl 0

**Report Date:** 08/23/12  
**Collection Date:** Not Provided  
**Date Received:** 08/09/12  
**Matrix:** Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>SPLP EXTRACTABLE CONSTITUENTS</b>							
pH	9.9	s.u.		0.1		SW9045C	08/14/12 11:00 / jh
<b>METALS, SPLP EXTRACTABLE</b>							
Aluminum	0.07	mg/L		0.03		SW6010B	08/15/12 19:45 / rlh
Antimony	ND	mg/L		0.003		SW6020	08/14/12 20:51 / mas
Arsenic	ND	mg/L		0.003		SW6020	08/14/12 20:51 / mas
Barium	ND	mg/L		0.005		SW6020	08/14/12 20:51 / mas
Beryllium	ND	mg/L		0.001		SW6020	08/14/12 20:51 / mas
Cadmium	ND	mg/L		0.00008		SW6020	08/14/12 20:51 / mas
Calcium	6	mg/L		1		SW6010B	08/15/12 19:45 / rlh
Chromium	0.009	mg/L		0.001		SW6010B	08/15/12 19:45 / rlh
Cobalt	ND	mg/L		0.005		SW6020	08/14/12 20:51 / mas
Copper	ND	mg/L		0.001		SW6020	08/14/12 20:51 / mas
Iron	ND	mg/L		0.05		SW6010B	08/15/12 19:45 / rlh
Lead	ND	mg/L		0.0005		SW6020	08/14/12 20:51 / mas
Magnesium	4	mg/L		1		SW6010B	08/15/12 19:45 / rlh
Manganese	ND	mg/L		0.005		SW6020	08/14/12 20:51 / mas
Mercury	ND	mg/L		0.00001		SW7470A	08/23/12 16:03 / jjw
Molybdenum	ND	mg/L		0.001		SW6020	08/14/12 20:51 / mas
Nickel	ND	mg/L		0.01		SW6020	08/14/12 20:51 / mas
Potassium	ND	mg/L		1		SW6010B	08/15/12 19:45 / rlh
Selenium	ND	mg/L		0.001		SW6020	08/14/12 20:51 / mas
Silver	ND	mg/L		0.0005		SW6020	08/14/12 20:51 / mas
Sodium	34	mg/L		1		SW6010B	08/15/12 19:45 / rlh
Strontium	ND	mg/L		0.01		SW6020	08/14/12 20:51 / mas
Thallium	ND	mg/L		0.0002		SW6020	08/14/12 20:51 / mas
Uranium	ND	mg/L		0.00003		SW6020	08/14/12 20:51 / mas
Zinc	ND	mg/L		0.01		SW6020	08/14/12 20:51 / mas

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** Black Butte Copper Proj., White Sulphur Springs, M  
**Lab ID:** B12080959-007  
**Client Sample ID** Ynl B, 2012 Decline

**Report Date:** 08/23/12  
**Collection Date:** Not Provided  
**Date Received:** 08/09/12  
**Matrix:** Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>SPLP EXTRACTABLE CONSTITUENTS</b>							
pH	9.7	s.u.		0.1		SW9045C	08/14/12 11:00 / jh
<b>METALS, SPLP EXTRACTABLE</b>							
Aluminum	0.12	mg/L		0.03		SW6020	08/16/12 18:34 / mas
Antimony	ND	mg/L		0.003		SW6020	08/14/12 20:54 / mas
Arsenic	ND	mg/L		0.003		SW6020	08/14/12 20:54 / mas
Barium	0.006	mg/L		0.005		SW6020	08/14/12 20:54 / mas
Beryllium	ND	mg/L		0.001		SW6020	08/14/12 20:54 / mas
Cadmium	ND	mg/L		0.00008		SW6020	08/14/12 20:54 / mas
Calcium	7	mg/L		1		SW6010B	08/15/12 20:00 / rlh
Chromium	0.001	mg/L		0.001		SW6020	08/16/12 18:34 / mas
Cobalt	ND	mg/L		0.005		SW6020	08/14/12 20:54 / mas
Copper	ND	mg/L		0.001		SW6020	08/14/12 20:54 / mas
Iron	ND	mg/L		0.05		SW6010B	08/15/12 20:00 / rlh
Lead	ND	mg/L		0.0005		SW6020	08/14/12 20:54 / mas
Magnesium	3	mg/L		1		SW6010B	08/15/12 20:00 / rlh
Manganese	ND	mg/L		0.005		SW6020	08/14/12 20:54 / mas
Mercury	ND	mg/L		0.00001		SW7470A	08/23/12 16:13 / jjw
Molybdenum	ND	mg/L		0.001		SW6020	08/14/12 20:54 / mas
Nickel	ND	mg/L		0.01		SW6020	08/14/12 20:54 / mas
Potassium	ND	mg/L		1		SW6020	08/16/12 18:34 / mas
Selenium	ND	mg/L		0.001		SW6020	08/14/12 20:54 / mas
Silver	ND	mg/L		0.0005		SW6020	08/14/12 20:54 / mas
Sodium	18	mg/L		1		SW6020	08/16/12 18:34 / mas
Strontium	0.03	mg/L		0.01		SW6020	08/14/12 20:54 / mas
Thallium	ND	mg/L		0.0002		SW6020	08/14/12 20:54 / mas
Uranium	ND	mg/L		0.00003		SW6020	08/14/12 20:54 / mas
Zinc	ND	mg/L		0.01		SW6020	08/14/12 20:54 / mas

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** Black Butte Copper Proj., White Sulphur Springs, M  
**Lab ID:** B12080959-008  
**Client Sample ID** Ynl B 2, Orig. Decline

**Report Date:** 08/23/12  
**Collection Date:** Not Provided  
**Date Received:** 08/09/12  
**Matrix:** Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>SPLP EXTRACTABLE CONSTITUENTS</b>							
pH	9.6	s.u.		0.1		SW9045C	08/14/12 11:00 / jh
<b>METALS, SPLP EXTRACTABLE</b>							
Aluminum	0.64	mg/L		0.03		SW6020	08/16/12 18:39 / mas
Antimony	ND	mg/L		0.003		SW6020	08/14/12 20:57 / mas
Arsenic	0.006	mg/L		0.003		SW6020	08/14/12 20:57 / mas
Barium	0.015	mg/L		0.005		SW6020	08/14/12 20:57 / mas
Beryllium	ND	mg/L		0.001		SW6020	08/14/12 20:57 / mas
Cadmium	ND	mg/L	D	0.0002		SW6020	08/14/12 20:57 / mas
Calcium	5	mg/L		1		SW6010B	08/15/12 20:08 / rlh
Chromium	0.004	mg/L		0.001		SW6010B	08/16/12 23:14 / rlh
Cobalt	ND	mg/L		0.005		SW6020	08/14/12 20:57 / mas
Copper	ND	mg/L		0.001		SW6020	08/14/12 20:57 / mas
Iron	0.09	mg/L		0.05		SW6010B	08/15/12 20:08 / rlh
Lead	ND	mg/L		0.0005		SW6020	08/14/12 20:57 / mas
Magnesium	4	mg/L		1		SW6010B	08/15/12 20:08 / rlh
Manganese	ND	mg/L		0.005		SW6010B	08/16/12 23:14 / rlh
Mercury	ND	mg/L		0.00001		SW7470A	08/23/12 16:23 / jjw
Molybdenum	0.020	mg/L		0.001		SW6020	08/14/12 20:57 / mas
Nickel	ND	mg/L		0.01		SW6020	08/14/12 20:57 / mas
Potassium	2	mg/L		1		SW6020	08/16/12 18:39 / mas
Selenium	0.005	mg/L		0.001		SW6020	08/14/12 20:57 / mas
Silver	ND	mg/L		0.0005		SW6020	08/14/12 20:57 / mas
Sodium	28	mg/L		1		SW6020	08/16/12 18:39 / mas
Strontium	0.08	mg/L		0.01		SW6020	08/14/12 20:57 / mas
Thallium	ND	mg/L		0.0002		SW6020	08/14/12 20:57 / mas
Uranium	ND	mg/L		0.00003		SW6020	08/14/12 20:57 / mas
Zinc	ND	mg/L		0.01		SW6020	08/14/12 20:57 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: SW6010B</b>										Analytical Run: ICP203-B_120815A	
<b>Sample ID: QCS</b>	9	Initial Calibration Verification Standard									08/15/12 11:41
Aluminum		3.93	mg/L	0.10	98	90	110				
Chromium		0.777	mg/L	0.050	97	90	110				
Iron		4.07	mg/L	0.030	102	90	110				
Molybdenum		0.805	mg/L	0.10	101	90	110				
Zinc		0.788	mg/L	0.010	99	90	110				
Calcium		40.4	mg/L	1.0	101	90	110				
Magnesium		40.2	mg/L	1.0	100	90	110				
Potassium		40.0	mg/L	1.0	100	90	110				
Sodium		40.9	mg/L	1.0	102	90	110				
<b>Sample ID: ICSA</b>	9	Interference Check Sample A									08/15/12 11:56
Aluminum		482	mg/L	0.10	96	80	120				
Chromium		0.0271	mg/L	0.050		0	0				
Iron		181	mg/L	0.030	90	80	120				
Molybdenum		-0.00252	mg/L	0.10		0	0				
Zinc		0.00704	mg/L	0.010		0	0				
Calcium		471	mg/L	1.0	94	80	120				
Magnesium		507	mg/L	1.0	101	80	120				
Potassium		0.0535	mg/L	1.0		0	0				
Sodium		0.0997	mg/L	1.0		0	0				
<b>Sample ID: ICSAB</b>	9	Interference Check Sample AB									08/15/12 12:00
Aluminum		478	mg/L	0.10	96	80	120				
Chromium		0.462	mg/L	0.050	92	80	120				
Iron		178	mg/L	0.030	89	80	120				
Molybdenum		0.887	mg/L	0.10	89	80	120				
Zinc		0.912	mg/L	0.010	91	80	120				
Calcium		466	mg/L	1.0	93	80	120				
Magnesium		501	mg/L	1.0	100	80	120				
Potassium		19.7	mg/L	1.0	99	80	120				
Sodium		20.0	mg/L	1.0	100	80	120				
<b>Method: SW6010B</b>										Batch: 64624	
<b>Sample ID: MB-64624</b>	10	Method Blank							Run: ICP203-B_120815A		08/15/12 18:44
Aluminum		ND	mg/L	0.02							
Calcium		0.2	mg/L	0.09							
Chromium		ND	mg/L	0.002							
Iron		0.009	mg/L	0.005							
Magnesium		0.01	mg/L	0.01							
Manganese		ND	mg/L	0.001							
Molybdenum		ND	mg/L	0.002							
Potassium		ND	mg/L	0.06							
Sodium		0.02	mg/L	0.009							
Zinc		ND	mg/L	0.002							

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW6010B</b> <span style="float: right;">Batch: 64624</span>										
<b>Sample ID: LCS-64624</b>	10	Laboratory Control Sample					Run: ICP203-B_120815A		08/15/12 18:48	
Aluminum		2.24	mg/L	0.030	90	85	115			
Calcium		23.6	mg/L	1.0	94	85	115			
Chromium		0.450	mg/L	0.0050	90	85	115			
Iron		2.34	mg/L	0.030	93	85	115			
Magnesium		23.1	mg/L	1.0	92	85	115			
Manganese		2.26	mg/L	0.0010	90	85	115			
Molybdenum		0.453	mg/L	0.0020	91	85	115			
Potassium		23.0	mg/L	1.0	92	85	115			
Sodium		22.8	mg/L	1.0	91	85	115			
Zinc		0.437	mg/L	0.010	87	85	115			
<b>Sample ID: LCSD-64624</b>	10	Laboratory Control Sample Duplicate					Run: ICP203-B_120815A		08/15/12 18:52	
Aluminum		2.26	mg/L	0.030	91	85	115			
Calcium		23.8	mg/L	1.0	94	85	115			
Chromium		0.448	mg/L	0.0050	90	85	115			
Iron		2.37	mg/L	0.030	94	85	115			
Magnesium		23.2	mg/L	1.0	93	85	115			
Manganese		2.28	mg/L	0.0010	91	85	115			
Molybdenum		0.457	mg/L	0.0020	91	85	115			
Potassium		23.3	mg/L	1.0	93	85	115			
Sodium		23.0	mg/L	1.0	92	85	115			
Zinc		0.432	mg/L	0.010	86	85	115			
<b>Sample ID: B12080959-001ADIL</b>	10	Serial Dilution					Run: ICP203-B_120815A		08/15/12 18:59	
Aluminum		3.00	mg/L	0.10		0	0	2.4	20	
Calcium		3.71	mg/L	1.0		0	0		20	N
Chromium		0.0135	mg/L	0.0050		0	0		20	N
Iron		1.98	mg/L	0.030		0	0	3.6	20	
Magnesium		3.38	mg/L	1.0		0	0	1.6	20	
Manganese		0.0238	mg/L	0.0020		0	0		20	N
Molybdenum		ND	mg/L	0.010		0	0		20	
Potassium		2.36	mg/L	1.0		0	0		20	N
Sodium		56.2	mg/L	1.5		0	0			
Zinc		ND	mg/L	0.015		0	0		20	
<b>Sample ID: B12080959-001AMS3</b>	10	Sample Matrix Spike					Run: ICP203-B_120815A		08/15/12 19:03	
Aluminum		5.46	mg/L	0.030	101	75	125			
Calcium		26.9	mg/L	1.0	94	75	125			
Chromium		0.455	mg/L	0.0050	89	75	125			
Iron		4.21	mg/L	0.030	92	75	125			
Magnesium		26.2	mg/L	1.0	91	75	125			
Manganese		2.27	mg/L	0.0010	90	75	125			
Molybdenum		0.460	mg/L	0.0020	92	75	125			
Potassium		25.4	mg/L	1.0	92	75	125			
Sodium		78.1	mg/L	1.0	90	75	125			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW6010B</b>										
Batch: 64624										
<b>Sample ID: B12080959-001AMS3</b>	10	Sample Matrix Spike								
Zinc		0.438	mg/L	0.010	87	75	125			08/15/12 19:03
Run: ICP203-B_120815A										
<b>Sample ID: B12080959-002AMS3</b>	10	Sample Matrix Spike								
Aluminum		2.15	mg/L	0.030	85	75	125			08/15/12 19:18
Calcium		46.1	mg/L	1.0	84	75	125			
Chromium		0.440	mg/L	0.0050	88	75	125			
Iron		2.20	mg/L	0.030	88	75	125			
Magnesium		39.3	mg/L	1.0	86	75	125			
Manganese		2.19	mg/L	0.0010	84	75	125			
Molybdenum		0.443	mg/L	0.0020	88	75	125			
Potassium		22.6	mg/L	1.0	86	75	125			
Sodium		70.0	mg/L	1.0	79	75	125			
Zinc		0.424	mg/L	0.010	85	75	125			
Run: ICP203-B_120815A										
<b>Sample ID: B12080959-003AMS3</b>	10	Sample Matrix Spike								
Aluminum		2.25	mg/L	0.030	86	75	125			08/15/12 19:26
Calcium		36.8	mg/L	1.0	89	75	125			
Chromium		0.425	mg/L	0.0050	84	75	125			
Iron		2.24	mg/L	0.030	89	75	125			
Magnesium		31.6	mg/L	1.0	88	75	125			
Manganese		2.15	mg/L	0.0010	86	75	125			
Molybdenum		0.430	mg/L	0.0020	85	75	125			
Potassium		23.0	mg/L	1.0	87	75	125			
Sodium		43.0	mg/L	1.0	86	75	125			
Zinc		0.411	mg/L	0.010	81	75	125			
Run: ICP203-B_120815A										
<b>Sample ID: B12080959-004AMS3</b>	10	Sample Matrix Spike								
Aluminum		2.26	mg/L	0.030	84	75	125			08/15/12 19:34
Calcium		28.8	mg/L	1.0	87	75	125			
Chromium		0.411	mg/L	0.0050	82	75	125			
Iron		2.19	mg/L	0.030	87	75	125			
Magnesium		25.2	mg/L	1.0	86	75	125			
Manganese		2.10	mg/L	0.0010	84	75	125			
Molybdenum		0.430	mg/L	0.0020	85	75	125			
Potassium		21.9	mg/L	1.0	85	75	125			
Sodium		37.1	mg/L	1.0	85	75	125			
Zinc		0.401	mg/L	0.010	80	75	125			
Run: ICP203-B_120815A										
<b>Sample ID: B12080959-005AMS3</b>	10	Sample Matrix Spike								
Aluminum		2.51	mg/L	0.030	94	75	125			08/15/12 19:41
Calcium		28.6	mg/L	1.0	96	75	125			
Chromium		0.458	mg/L	0.0050	90	75	125			
Iron		2.41	mg/L	0.030	95	75	125			
Magnesium		27.5	mg/L	1.0	94	75	125			
Manganese		2.28	mg/L	0.0010	91	75	125			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: SW6010B</b>										Batch: 64624	
<b>Sample ID: B12080959-005AMS3</b>	10	Sample Matrix Spike								Run: ICP203-B_120815A	08/15/12 19:41
Molybdenum		0.463	mg/L	0.0020	92	75	125				
Potassium		23.9	mg/L	1.0	94	75	125				
Sodium		100	mg/L	1.0	114	75	125				
Zinc		0.442	mg/L	0.010	88	75	125				
<b>Sample ID: B12080959-006AMS3</b>	10	Sample Matrix Spike								Run: ICP203-B_120815A	08/15/12 19:49
Aluminum		2.30	mg/L	0.030	89	75	125				
Calcium		28.9	mg/L	1.0	92	75	125				
Chromium		0.445	mg/L	0.0050	87	75	125				
Iron		2.30	mg/L	0.030	92	75	125				
Magnesium		27.1	mg/L	1.0	91	75	125				
Manganese		2.22	mg/L	0.0010	89	75	125				
Molybdenum		0.436	mg/L	0.0020	87	75	125				
Potassium		22.6	mg/L	1.0	90	75	125				
Sodium		57.0	mg/L	1.0	91	75	125				
Zinc		0.426	mg/L	0.010	85	75	125				
<b>Sample ID: B12080959-007AMS3</b>	3	Sample Matrix Spike								Run: ICP203-B_120815A	08/15/12 20:04
Calcium		29.3	mg/L	1.0	91	75	125				
Iron		2.27	mg/L	0.030	90	75	125				
Magnesium		25.3	mg/L	1.0	89	75	125				
<b>Sample ID: B12080959-008AMS3</b>	3	Sample Matrix Spike								Run: ICP203-B_120815A	08/15/12 20:12
Calcium		27.3	mg/L	1.0	89	75	125				
Iron		2.30	mg/L	0.030	88	75	125				
Magnesium		25.5	mg/L	1.0	87	75	125				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: SW6010B</b>								Analytical Run: ICP203-B_120816A			
<b>Sample ID: QCS</b>	2	Initial Calibration Verification Standard						08/16/12 12:20			
Chromium		0.764	mg/L	0.050	95	90	110				
Manganese		3.90	mg/L	0.010	98	90	110				
<b>Sample ID: ICSA</b>	2	Interference Check Sample A						08/16/12 12:35			
Chromium		0.0217	mg/L	0.050		0	0				
Manganese		-0.00955	mg/L	0.010		0	0				
<b>Sample ID: ICSAB</b>	2	Interference Check Sample AB						08/16/12 12:40			
Chromium		0.443	mg/L	0.050	89	80	120				
Manganese		0.423	mg/L	0.010	85	80	120				
<b>Method: SW6010B</b>								Batch: 64624			
<b>Sample ID: MB-64624</b>	2	Method Blank						Run: ICP203-B_120816A 08/16/12 22:43			
Chromium		ND	mg/L	0.002							
Manganese		ND	mg/L	0.001							
<b>Sample ID: LCS-64624</b>	2	Laboratory Control Sample						Run: ICP203-B_120816A 08/16/12 22:47			
Chromium		0.490	mg/L	0.0050	98	85	115				
Manganese		2.48	mg/L	0.0010	99	85	115				
<b>Sample ID: LCSD-64624</b>	2	Laboratory Control Sample Duplicate						Run: ICP203-B_120816A 08/16/12 22:51			
Chromium		0.488	mg/L	0.0050	98	85	115				
Manganese		2.51	mg/L	0.0010	100	85	115				
<b>Sample ID: B12080959-007ADIL</b>	2	Serial Dilution						Run: ICP203-B_120816A 08/16/12 23:06			
Chromium		0.0297	mg/L	0.0050		0	0		20	N	
Manganese		ND	mg/L	0.0020		0	0		20		
<b>Sample ID: B12080959-007AMS3</b>	2	Sample Matrix Spike						Run: ICP203-B_120816A 08/16/12 23:10			
Chromium		0.489	mg/L	0.0050	97	75	125				
Manganese		2.45	mg/L	0.0010	98	75	125				
<b>Sample ID: B12080959-008AMS3</b>	2	Sample Matrix Spike						Run: ICP203-B_120816A 08/16/12 23:18			
Chromium		0.485	mg/L	0.0050	96	75	125				
Manganese		2.43	mg/L	0.0010	97	75	125				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> SW6020		Analytical Run: ICPMS202-B_120814A									
<b>Sample ID:</b> QCS	18	Initial Calibration Verification Standard							08/14/12 10:44		
Aluminum		0.243	mg/L	0.0010	97	90	110				
Antimony		0.0514	mg/L	0.0010	103	90	110				
Arsenic		0.0492	mg/L	0.0010	98	90	110				
Barium		0.0492	mg/L	0.0010	98	90	110				
Beryllium		0.0252	mg/L	0.0010	101	90	110				
Cadmium		0.0251	mg/L	0.0010	100	90	110				
Cobalt		0.0512	mg/L	0.0010	102	90	110				
Copper		0.0517	mg/L	0.0010	103	90	110				
Lead		0.0498	mg/L	0.0010	100	90	110				
Manganese		0.256	mg/L	0.0010	102	90	110				
Molybdenum		0.0489	mg/L	0.0010	98	90	110				
Nickel		0.0514	mg/L	0.0010	103	90	110				
Selenium		0.0494	mg/L	0.0010	99	90	110				
Silver		0.0254	mg/L	0.0010	101	90	110				
Strontium		0.0493	mg/L	0.0010	99	90	110				
Thallium		0.0503	mg/L	0.0010	101	90	110				
Uranium		0.0190	mg/L	0.00030	95	90	110				
Zinc		0.0503	mg/L	0.0010	101	90	110				
<b>Sample ID:</b> ICSA	18	Interference Check Sample A							08/14/12 10:53		
Aluminum		35.2	mg/L	0.0010	88	70	130				
Antimony		0.00134	mg/L	0.0010							
Arsenic		0.000240	mg/L	0.0010							
Barium		0.000140	mg/L	0.0010							
Beryllium		2.00E-05	mg/L	0.0010							
Cadmium		0.000900	mg/L	0.0010							
Cobalt		0.000270	mg/L	0.0010							
Copper		0.00222	mg/L	0.0010							
Lead		0.000260	mg/L	0.0010							
Manganese		0.00121	mg/L	0.0010							
Molybdenum		0.804	mg/L	0.0010	101	70	130				
Nickel		0.00232	mg/L	0.0010							
Selenium		0.000320	mg/L	0.0010							
Silver		0.000130	mg/L	0.0010							
Strontium		0.000390	mg/L	0.0010							
Thallium		3.00E-05	mg/L	0.0010							
Uranium		5.00E-05	mg/L	0.00030							
Zinc		0.00170	mg/L	0.0010							
<b>Sample ID:</b> ICSAB	18	Interference Check Sample AB							08/14/12 10:56		
Aluminum		32.2	mg/L	0.0010	81	70	130				
Antimony		0.000600	mg/L	0.0010		0	0				
Arsenic		0.0107	mg/L	0.0010	107	70	130				
Barium		4.00E-05	mg/L	0.0010		0	0				
Beryllium		-2.00E-05	mg/L	0.0010		0	0				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: SW6020</b>										Analytical Run: ICPMS202-B_120814A	
<b>Sample ID: ICSAB</b>	18	Interference Check Sample AB							08/14/12 10:56		
Cadmium		0.0110	mg/L	0.0010	110	70	130				
Cobalt		0.0203	mg/L	0.0010	101	70	130				
Copper		0.0220	mg/L	0.0010	110	70	130				
Lead		0.000220	mg/L	0.0010		0	0				
Manganese		0.0214	mg/L	0.0010	107	70	130				
Molybdenum		0.789	mg/L	0.0010	99	70	130				
Nickel		0.0221	mg/L	0.0010	111	70	130				
Selenium		0.00987	mg/L	0.0010	99	70	130				
Silver		0.0209	mg/L	0.0010	105	70	130				
Strontium		0.000360	mg/L	0.0010		0	0				
Thallium		ND	mg/L	0.0010		0	0				
Uranium		1.00E-05	mg/L	0.00030		0	0				
Zinc		0.0110	mg/L	0.0010	110	70	130				
<b>Method: SW6020</b>										Batch: 64624	
<b>Sample ID: MB-64624</b>	19	Method Blank							08/14/12 20:22		
									Run: ICPMS202-B_120814A		
Aluminum		ND	mg/L	0.001							
Antimony		ND	mg/L	0.003							
Arsenic		ND	mg/L	0.004							
Barium		0.001	mg/L	0.0007							
Beryllium		ND	mg/L	0.0002							
Cadmium		ND	mg/L	0.002							
Chromium		0.003	mg/L	0.001							
Cobalt		ND	mg/L	0.002							
Copper		ND	mg/L	0.01							
Lead		ND	mg/L	0.001							
Manganese		0.005	mg/L	0.0006							
Molybdenum		ND	mg/L	0.005							
Nickel		0.005	mg/L	0.004							
Selenium		ND	mg/L	0.005							
Silver		ND	mg/L	0.001							
Strontium		0.0004	mg/L	0.0003							
Thallium		0.001	mg/L	0.0002							
Uranium		ND	mg/L	0.0002							
Zinc		0.002	mg/L	0.002							
<b>Sample ID: B12080959-008ADIL</b>	19	Serial Dilution							08/14/12 21:00		
									Run: ICPMS202-B_120814A		
Aluminum		0.804	mg/L	0.030		0	0	3.5	20		
Antimony		ND	mg/L	0.0010		0	0		20		
Arsenic		ND	mg/L	0.0055		0	0		20		
Barium		0.0167	mg/L	0.050		0	0		20	N	
Beryllium		ND	mg/L	0.0010		0	0		20		
Cadmium		ND	mg/L	0.0010		0	0		20		
Chromium		ND	mg/L	0.0050		0	0		20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: SW6020</b>										Batch: 64624	
<b>Sample ID: B12080959-008ADIL</b>	19	Serial Dilution			Run: ICPMS202-B_120814A			08/14/12 21:00			
Cobalt		ND	mg/L	0.0050		0	0				
Copper		ND	mg/L	0.0050		0	0				
Lead		ND	mg/L	0.0010		0	0				
Manganese		0.0250	mg/L	0.0010		0	0			N	
Molybdenum		ND	mg/L	0.0010		0	0				
Nickel		ND	mg/L	0.0071		0	0				
Selenium		ND	mg/L	0.0055		0	0				
Silver		ND	mg/L	0.0010		0	0				
Strontium		0.0809	mg/L	0.010		0	0	4.5			
Thallium		ND	mg/L	0.00050		0	0				
Uranium		ND	mg/L	0.00030		0	0				
Zinc		ND	mg/L	0.010		0	0				
<b>Sample ID: LCS-64624</b>	19	Laboratory Control Sample			Run: ICPMS202-B_120814A			08/14/12 21:03			
Aluminum		2.62	mg/L	0.030	105	85	115				
Antimony		0.493	mg/L	0.0010	99	85	115				
Arsenic		0.463	mg/L	0.0011	93	85	115				
Barium		5.02	mg/L	0.050	91	85	115				
Beryllium		0.242	mg/L	0.0010	97	85	115				
Cadmium		0.237	mg/L	0.0010	95	85	115				
Chromium		0.460	mg/L	0.0050	91	85	115				
Cobalt		0.485	mg/L	0.0050	97	85	115				
Copper		0.485	mg/L	0.0050	97	85	115				
Lead		0.480	mg/L	0.0010	96	85	115				
Manganese		2.36	mg/L	0.0010	94	85	115				
Molybdenum		0.455	mg/L	0.0010	91	85	115				
Nickel		0.486	mg/L	0.0050	96	85	115				
Selenium		0.470	mg/L	0.0011	94	85	115				
Silver		0.0476	mg/L	0.0010	95	85	115				
Strontium		0.456	mg/L	0.010	91	85	115				
Thallium		0.476	mg/L	0.00050	95	85	115				
Uranium		0.482	mg/L	0.00030	96	85	115				
Zinc		0.486	mg/L	0.010	97	85	115				
<b>Sample ID: LCSD-64624</b>	19	Laboratory Control Sample Duplicate			Run: ICPMS202-B_120814A			08/14/12 21:06			
Aluminum		2.64	mg/L	0.030	106	85	115				
Antimony		0.493	mg/L	0.0010	99	85	115				
Arsenic		0.472	mg/L	0.0011	94	85	115				
Barium		5.12	mg/L	0.050	93	85	115				
Beryllium		0.238	mg/L	0.0010	95	85	115				
Cadmium		0.238	mg/L	0.0010	95	85	115				
Chromium		0.470	mg/L	0.0050	93	85	115				
Cobalt		0.490	mg/L	0.0050	98	85	115				
Copper		0.490	mg/L	0.0050	98	85	115				
Lead		0.483	mg/L	0.0010	97	85	115				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW6020</b> <span style="float: right;">Batch: 64624</span>										
<b>Sample ID: LCSD-64624</b>	19	Laboratory Control Sample Duplicate					Run: ICPMS202-B_120814A			08/14/12 21:06
Manganese		2.40	mg/L	0.0010	96	85	115			
Molybdenum		0.459	mg/L	0.0010	92	85	115			
Nickel		0.491	mg/L	0.0050	97	85	115			
Selenium		0.475	mg/L	0.0011	95	85	115			
Silver		0.0480	mg/L	0.0010	96	85	115			
Strontium		0.463	mg/L	0.010	92	85	115			
Thallium		0.484	mg/L	0.00050	97	85	115			
Uranium		0.492	mg/L	0.00030	98	85	115			
Zinc		0.488	mg/L	0.010	97	85	115			
<b>Sample ID: B12080959-007AMS3</b>	19	Sample Matrix Spike					Run: ICPMS202-B_120814A			08/14/12 21:09
Aluminum		2.84	mg/L	0.030	110	75	125			
Antimony		0.496	mg/L	0.0010	99	75	125			
Arsenic		0.471	mg/L	0.0011	94	75	125			
Barium		5.08	mg/L	0.050	92	75	125			
Beryllium		0.244	mg/L	0.0010	98	75	125			
Cadmium		0.241	mg/L	0.0010	96	75	125			
Chromium		0.470	mg/L	0.0050	93	75	125			
Cobalt		0.492	mg/L	0.0050	98	75	125			
Copper		0.496	mg/L	0.0050	99	75	125			
Lead		0.488	mg/L	0.0010	98	75	125			
Manganese		2.39	mg/L	0.0010	95	75	125			
Molybdenum		0.460	mg/L	0.0010	92	75	125			
Nickel		0.492	mg/L	0.0050	98	75	125			
Selenium		0.474	mg/L	0.0011	95	75	125			
Silver		0.0477	mg/L	0.0010	95	75	125			
Strontium		0.490	mg/L	0.010	93	75	125			
Thallium		0.484	mg/L	0.00050	97	75	125			
Uranium		0.496	mg/L	0.00030	99	75	125			
Zinc		0.480	mg/L	0.010	95	75	125			
<b>Sample ID: B12080959-006AMS3</b>	19	Sample Matrix Spike					Run: ICPMS202-B_120814A			08/14/12 21:12
Aluminum		2.79	mg/L	0.030	109	75	125			
Antimony		0.493	mg/L	0.0010	99	75	125			
Arsenic		0.469	mg/L	0.0011	94	75	125			
Barium		5.03	mg/L	0.050	91	75	125			
Beryllium		0.238	mg/L	0.0010	95	75	125			
Cadmium		0.236	mg/L	0.0010	94	75	125			
Chromium		0.469	mg/L	0.0050	92	75	125			
Cobalt		0.487	mg/L	0.0050	97	75	125			
Copper		0.498	mg/L	0.0050	100	75	125			
Lead		0.486	mg/L	0.0010	97	75	125			
Manganese		2.39	mg/L	0.0010	96	75	125			
Molybdenum		0.450	mg/L	0.0010	90	75	125			
Nickel		0.492	mg/L	0.0050	98	75	125			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: SW6020</b>											
Batch: 64624											
<b>Sample ID: B12080959-006AMS3</b>	19	Sample Matrix Spike									
										Run: ICPMS202-B_120814A	08/14/12 21:12
Selenium		0.459	mg/L	0.0011	92	75	125				
Silver		0.0479	mg/L	0.0010	96	75	125				
Strontium		0.466	mg/L	0.010	91	75	125				
Thallium		0.488	mg/L	0.00050	98	75	125				
Uranium		0.488	mg/L	0.00030	98	75	125				
Zinc		0.487	mg/L	0.010	96	75	125				
<b>Sample ID: B12080959-001AMS3</b>	19	Sample Matrix Spike									
										Run: ICPMS202-B_120814A	08/14/12 21:27
Aluminum		6.76	mg/L	0.030	142	75	125				S
Antimony		0.510	mg/L	0.0010	102	75	125				
Arsenic		0.475	mg/L	0.0011	95	75	125				
Barium		5.19	mg/L	0.050	93	75	125				
Beryllium		0.244	mg/L	0.0010	98	75	125				
Cadmium		0.240	mg/L	0.0010	96	75	125				
Chromium		0.479	mg/L	0.0050	92	75	125				
Cobalt		0.492	mg/L	0.0050	98	75	125				
Copper		0.501	mg/L	0.0050	100	75	125				
Lead		0.491	mg/L	0.0010	98	75	125				
Manganese		2.37	mg/L	0.0010	93	75	125				
Molybdenum		0.468	mg/L	0.0010	94	75	125				
Nickel		0.503	mg/L	0.0050	101	75	125				
Selenium		0.468	mg/L	0.0011	94	75	125				
Silver		0.0481	mg/L	0.0010	96	75	125				
Strontium		0.546	mg/L	0.010	92	75	125				
Thallium		0.485	mg/L	0.00050	97	75	125				
Uranium		0.496	mg/L	0.00030	99	75	125				
Zinc		0.487	mg/L	0.010	95	75	125				
<b>Sample ID: B12080959-002AMS3</b>	19	Sample Matrix Spike									
										Run: ICPMS202-B_120814A	08/14/12 21:30
Aluminum		2.64	mg/L	0.030	104	75	125				
Antimony		0.502	mg/L	0.0010	100	75	125				
Arsenic		0.477	mg/L	0.0011	95	75	125				
Barium		5.12	mg/L	0.050	93	75	125				
Beryllium		0.236	mg/L	0.0010	94	75	125				
Cadmium		0.238	mg/L	0.0010	95	75	125				
Chromium		0.465	mg/L	0.0050	92	75	125				
Cobalt		0.486	mg/L	0.0050	97	75	125				
Copper		0.499	mg/L	0.0050	100	75	125				
Lead		0.481	mg/L	0.0010	96	75	125				
Manganese		2.50	mg/L	0.0010	96	75	125				
Molybdenum		0.464	mg/L	0.0010	93	75	125				
Nickel		0.502	mg/L	0.0050	98	75	125				
Selenium		0.480	mg/L	0.0011	95	75	125				
Silver		0.0477	mg/L	0.0010	95	75	125				
Strontium		0.704	mg/L	0.010	91	75	125				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW6020</b>										Batch: 64624
<b>Sample ID: B12080959-002AMS3</b>	19	Sample Matrix Spike					Run: ICPMS202-B_120814A			08/14/12 21:30
Thallium		0.482	mg/L	0.00050	96	75	125			
Uranium		0.491	mg/L	0.00030	98	75	125			
Zinc		0.485	mg/L	0.010	96	75	125			
<b>Sample ID: B12080959-003AMS3</b>	19	Sample Matrix Spike					Run: ICPMS202-B_120814A			08/14/12 21:33
Aluminum		2.70	mg/L	0.030	104	75	125			
Antimony		0.496	mg/L	0.0010	99	75	125			
Arsenic		0.474	mg/L	0.0011	95	75	125			
Barium		5.10	mg/L	0.050	93	75	125			
Beryllium		0.241	mg/L	0.0010	96	75	125			
Cadmium		0.241	mg/L	0.0010	96	75	125			
Chromium		0.471	mg/L	0.0050	93	75	125			
Cobalt		0.487	mg/L	0.0050	97	75	125			
Copper		0.482	mg/L	0.0050	96	75	125			
Lead		0.479	mg/L	0.0010	96	75	125			
Manganese		2.42	mg/L	0.0010	97	75	125			
Molybdenum		0.467	mg/L	0.0010	93	75	125			
Nickel		0.492	mg/L	0.0050	98	75	125			
Selenium		0.479	mg/L	0.0011	95	75	125			
Silver		0.0482	mg/L	0.0010	96	75	125			
Strontium		0.496	mg/L	0.010	93	75	125			
Thallium		0.481	mg/L	0.00050	96	75	125			
Uranium		0.486	mg/L	0.00030	97	75	125			
Zinc		0.477	mg/L	0.010	94	75	125			
<b>Sample ID: B12080959-005AMS3</b>	19	Sample Matrix Spike					Run: ICPMS202-B_120814A			08/14/12 21:36
Aluminum		2.85	mg/L	0.030	106	75	125			
Antimony		0.502	mg/L	0.0010	101	75	125			
Arsenic		0.484	mg/L	0.0011	97	75	125			
Barium		5.18	mg/L	0.050	94	75	125			
Beryllium		0.246	mg/L	0.0010	98	75	125			
Cadmium		0.249	mg/L	0.0010	100	75	125			
Chromium		0.491	mg/L	0.0050	96	75	125			
Cobalt		0.499	mg/L	0.0050	100	75	125			
Copper		0.500	mg/L	0.0050	100	75	125			
Lead		0.494	mg/L	0.0010	99	75	125			
Manganese		2.47	mg/L	0.0010	99	75	125			
Molybdenum		0.478	mg/L	0.0010	94	75	125			
Nickel		0.502	mg/L	0.0050	100	75	125			
Selenium		0.486	mg/L	0.0011	97	75	125			
Silver		0.0484	mg/L	0.0010	97	75	125			
Strontium		0.478	mg/L	0.010	94	75	125			
Thallium		0.489	mg/L	0.00050	98	75	125			
Uranium		0.501	mg/L	0.00030	100	75	125			
Zinc		0.499	mg/L	0.010	99	75	125			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW6020</b>										Batch: 64624
<b>Sample ID: B12080959-005AMS3</b> 19 Sample Matrix Spike										Run: ICPMS202-B_120814A 08/14/12 21:36
<b>Sample ID: B12080959-004AMS3</b> 19 Sample Matrix Spike										Run: ICPMS202-B_120814A 08/14/12 21:39
Aluminum		2.82	mg/L	0.030	106	75	125			
Antimony		0.498	mg/L	0.0010	99	75	125			
Arsenic		0.476	mg/L	0.0011	95	75	125			
Barium		5.14	mg/L	0.050	93	75	125			
Beryllium		0.244	mg/L	0.0010	98	75	125			
Cadmium		0.243	mg/L	0.0010	97	75	125			
Chromium		0.469	mg/L	0.0050	93	75	125			
Cobalt		0.490	mg/L	0.0050	98	75	125			
Copper		0.492	mg/L	0.0050	98	75	125			
Lead		0.487	mg/L	0.0010	97	75	125			
Manganese		2.41	mg/L	0.0010	96	75	125			
Molybdenum		0.476	mg/L	0.0010	92	75	125			
Nickel		0.489	mg/L	0.0050	98	75	125			
Selenium		0.470	mg/L	0.0011	93	75	125			
Silver		0.0476	mg/L	0.0010	95	75	125			
Strontium		0.502	mg/L	0.010	93	75	125			
Thallium		0.486	mg/L	0.00050	97	75	125			
Uranium		0.493	mg/L	0.00030	99	75	125			
Zinc		0.489	mg/L	0.010	96	75	125			
<b>Sample ID: B12080959-008AMS3</b> 19 Sample Matrix Spike										Run: ICPMS202-B_120814A 08/14/12 21:42
Aluminum		3.51	mg/L	0.030	109	75	125			
Antimony		0.505	mg/L	0.0010	101	75	125			
Arsenic		0.467	mg/L	0.0011	92	75	125			
Barium		5.24	mg/L	0.050	95	75	125			
Beryllium		0.238	mg/L	0.0010	95	75	125			
Cadmium		0.239	mg/L	0.0010	96	75	125			
Chromium		0.466	mg/L	0.0050	92	75	125			
Cobalt		0.487	mg/L	0.0050	97	75	125			
Copper		0.490	mg/L	0.0050	98	75	125			
Lead		0.483	mg/L	0.0010	97	75	125			
Manganese		2.38	mg/L	0.0010	95	75	125			
Molybdenum		0.492	mg/L	0.0010	94	75	125			
Nickel		0.486	mg/L	0.0050	97	75	125			
Selenium		0.450	mg/L	0.0011	89	75	125			
Silver		0.0482	mg/L	0.0010	96	75	125			
Strontium		0.542	mg/L	0.010	93	75	125			
Thallium		0.484	mg/L	0.00050	97	75	125			
Uranium		0.497	mg/L	0.00030	99	75	125			
Zinc		0.475	mg/L	0.010	94	75	125			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW6020</b>								Analytical Run: ICPMS203-B_120816A		
<b>Sample ID: QCS</b>	5	Initial Calibration Verification Standard								08/16/12 17:21
Aluminum		0.241	mg/L	0.0010	96	90	110			
Chromium		0.0487	mg/L	0.0010	97	90	110			
Manganese		0.253	mg/L	0.0010	101	90	110			
Potassium		2.47	mg/L	0.0066	99	90	110			
Sodium		2.55	mg/L	0.0035	102	90	110			
<b>Sample ID: ICSA</b>	5	Interference Check Sample A								08/16/12 17:30
Aluminum		34.9	mg/L	0.0010	87	70	130			
Chromium		0.000980	mg/L	0.0010						
Manganese		0.000255	mg/L	0.0010						
Potassium		37.7	mg/L	0.0066	75					
Sodium		94.9	mg/L	0.0035	76					
<b>Sample ID: ICSAB</b>	5	Interference Check Sample AB								08/16/12 17:35
Aluminum		36.0	mg/L	0.0010	90	70	130			
Chromium		0.0212	mg/L	0.0010	106	70	130			
Manganese		0.0200	mg/L	0.0010	100	70	130			
Potassium		38.7	mg/L	0.0066	97	70	130			
Sodium		95.6	mg/L	0.0035	96	70	130			
<b>Method: SW6020</b>								Batch: 64624		
<b>Sample ID: MB-64624</b>	21	Method Blank						Run: ICPMS203-B_120816A		08/16/12 18:20
Aluminum		0.005	mg/L	0.002						
Antimony		ND	mg/L	0.0003						
Arsenic		0.0004	mg/L	0.0003						
Barium		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0001						
Cadmium		0.0001	mg/L	7E-05						
Chromium		ND	mg/L	0.0004						
Cobalt		ND	mg/L	0.0002						
Copper		0.002	mg/L	0.0003						
Lead		0.0002	mg/L	8E-05						
Manganese		ND	mg/L	0.0007						
Molybdenum		ND	mg/L	0.0007						
Nickel		ND	mg/L	0.001						
Potassium		ND	mg/L	0.2						
Selenium		ND	mg/L	0.002						
Silver		0.0002	mg/L	0.0001						
Sodium		ND	mg/L	0.5						
Strontium		0.0007	mg/L	7E-05						
Thallium		ND	mg/L	9E-05						
Uranium		ND	mg/L	9E-05						
Zinc		0.003	mg/L	0.001						

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: SW6020</b>											
Batch: 64624											
<b>Sample ID: B12080959-008ADIL</b>	21	Serial Dilution		Run: ICPMS203-B_120816A				08/16/12 19:04			
Aluminum		0.617	mg/L	0.030		0	0	3.5	20		
Antimony		0.00525	mg/L	0.0021		0	0		20	N	
Arsenic		0.00728	mg/L	0.0015		0	0		20	N	
Barium		0.0161	mg/L	0.050		0	0		20	N	
Beryllium		ND	mg/L	0.0010		0	0		20		
Cadmium		0.000512	mg/L	0.0010		0	0		20	N	
Chromium		0.00431	mg/L	0.0050		0	0		20	N	
Cobalt		ND	mg/L	0.0050		0	0		20		
Copper		ND	mg/L	0.0050		0	0		20		
Lead		0.000558	mg/L	0.0010		0	0		20	N	
Manganese		ND	mg/L	0.0010		0	0		20		
Molybdenum		0.0240	mg/L	0.0010		0	0		20	N	
Nickel		ND	mg/L	0.0050		0	0		20		
Potassium		2.80	mg/L	1.0		0	0		20	N	
Selenium		ND	mg/L	0.0024		0	0		20		
Silver		ND	mg/L	0.0010		0	0		20		
Sodium		27.9	mg/L	1.0		0	0				
Strontium		0.0828	mg/L	0.010		0	0	0.1	20		
Thallium		ND	mg/L	0.00050		0	0		20		
Uranium		ND	mg/L	0.00030		0	0		20		
Zinc		0.0161	mg/L	0.010		0	0		20	N	
<b>Sample ID: LCS-64624</b>	21	Laboratory Control Sample		Run: ICPMS203-B_120816A				08/16/12 19:09			
Aluminum		2.39	mg/L	0.030	95	85	115				
Antimony		0.505	mg/L	0.0010	101	85	115				
Arsenic		0.475	mg/L	0.0010	95	85	115				
Barium		5.48	mg/L	0.050	100	85	115				
Beryllium		0.254	mg/L	0.0010	101	85	115				
Cadmium		0.254	mg/L	0.0010	102	85	115				
Chromium		0.504	mg/L	0.0050	101	85	115				
Cobalt		0.497	mg/L	0.0050	99	85	115				
Copper		0.494	mg/L	0.0050	99	85	115				
Lead		0.504	mg/L	0.0010	101	85	115				
Manganese		2.52	mg/L	0.0010	101	85	115				
Molybdenum		0.484	mg/L	0.0010	97	85	115				
Nickel		0.498	mg/L	0.0050	100	85	115				
Potassium		25.3	mg/L	1.0	101	85	115				
Selenium		0.469	mg/L	0.0010	94	85	115				
Silver		0.0497	mg/L	0.0010	99	85	115				
Sodium		26.4	mg/L	1.0	105	85	115				
Strontium		0.494	mg/L	0.010	99	85	115				
Thallium		0.498	mg/L	0.00050	100	85	115				
Uranium		0.518	mg/L	0.00030	104	85	115				
Zinc		0.495	mg/L	0.010	98	85	115				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW6020</b>										
Batch: 64624										
<b>Sample ID: LCSD-64624</b>	21	Laboratory Control Sample Duplicate					Run: ICPMS203-B_120816A			08/16/12 19:14
Aluminum		2.42	mg/L	0.030	96	85	115			
Antimony		0.502	mg/L	0.0010	100	85	115			
Arsenic		0.458	mg/L	0.0010	92	85	115			
Barium		5.46	mg/L	0.050	99	85	115			
Beryllium		0.256	mg/L	0.0010	102	85	115			
Cadmium		0.253	mg/L	0.0010	101	85	115			
Chromium		0.491	mg/L	0.0050	98	85	115			
Cobalt		0.493	mg/L	0.0050	99	85	115			
Copper		0.486	mg/L	0.0050	97	85	115			
Lead		0.507	mg/L	0.0010	101	85	115			
Manganese		2.49	mg/L	0.0010	100	85	115			
Molybdenum		0.478	mg/L	0.0010	96	85	115			
Nickel		0.491	mg/L	0.0050	98	85	115			
Potassium		24.7	mg/L	1.0	99	85	115			
Selenium		0.465	mg/L	0.0010	93	85	115			
Silver		0.0510	mg/L	0.0010	102	85	115			
Sodium		26.2	mg/L	1.0	105	85	115			
Strontium		0.487	mg/L	0.010	97	85	115			
Thallium		0.500	mg/L	0.00050	100	85	115			
Uranium		0.520	mg/L	0.00030	104	85	115			
Zinc		0.478	mg/L	0.010	95	85	115			
<b>Sample ID: B12080959-007AMS3</b>	21	Sample Matrix Spike					Run: ICPMS203-B_120816A			08/16/12 19:18
Aluminum		2.58	mg/L	0.030	98	75	125			
Antimony		0.503	mg/L	0.0010	100	75	125			
Arsenic		0.451	mg/L	0.0010	90	75	125			
Barium		5.46	mg/L	0.050	99	75	125			
Beryllium		0.259	mg/L	0.0010	104	75	125			
Cadmium		0.253	mg/L	0.0010	101	75	125			
Chromium		0.476	mg/L	0.0050	95	75	125			
Cobalt		0.497	mg/L	0.0050	99	75	125			
Copper		0.469	mg/L	0.0050	94	75	125			
Lead		0.508	mg/L	0.0010	102	75	125			
Manganese		2.52	mg/L	0.0010	101	75	125			
Molybdenum		0.483	mg/L	0.0010	96	75	125			
Nickel		0.468	mg/L	0.0050	94	75	125			
Potassium		24.4	mg/L	1.0	96	75	125			
Selenium		0.458	mg/L	0.0010	92	75	125			
Silver		0.0498	mg/L	0.0010	100	75	125			
Sodium		43.3	mg/L	1.0	101	75	125			
Strontium		0.526	mg/L	0.010	100	75	125			
Thallium		0.503	mg/L	0.00050	101	75	125			
Uranium		0.520	mg/L	0.00030	104	75	125			
Zinc		0.467	mg/L	0.010	92	75	125			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW6020</b>										
Batch: 64624										
<b>Sample ID: B12080959-005AMS3</b>	21	Sample Matrix Spike					Run: ICPMS203-B_120816A			08/16/12 19:23
Aluminum		2.55	mg/L	0.030	94	75	125			
Antimony		0.493	mg/L	0.0010	99	75	125			
Arsenic		0.453	mg/L	0.0010	90	75	125			
Barium		5.34	mg/L	0.050	97	75	125			
Beryllium		0.249	mg/L	0.0010	99	75	125			
Cadmium		0.247	mg/L	0.0010	99	75	125			
Chromium		0.483	mg/L	0.0050	95	75	125			
Cobalt		0.480	mg/L	0.0050	96	75	125			
Copper		0.473	mg/L	0.0050	94	75	125			
Lead		0.490	mg/L	0.0010	98	75	125			
Manganese		2.45	mg/L	0.0010	98	75	125			
Molybdenum		0.476	mg/L	0.0010	93	75	125			
Nickel		0.471	mg/L	0.0050	94	75	125			
Potassium		24.4	mg/L	1.0	96	75	125			
Selenium		0.465	mg/L	0.0010	93	75	125			
Silver		0.0491	mg/L	0.0010	98	75	125			
Sodium		108	mg/L	1.0	101	75	125			
Strontium		0.484	mg/L	0.010	95	75	125			
Thallium		0.485	mg/L	0.00050	97	75	125			
Uranium		0.503	mg/L	0.00030	101	75	125			
Zinc		0.478	mg/L	0.010	94	75	125			
<b>Sample ID: B12080959-003AMS3</b>	21	Sample Matrix Spike					Run: ICPMS203-B_120816A			08/16/12 19:28
Aluminum		2.48	mg/L	0.030	95	75	125			
Antimony		0.500	mg/L	0.0010	100	75	125			
Arsenic		0.468	mg/L	0.0010	93	75	125			
Barium		5.38	mg/L	0.050	98	75	125			
Beryllium		0.254	mg/L	0.0010	102	75	125			
Cadmium		0.250	mg/L	0.0010	100	75	125			
Chromium		0.485	mg/L	0.0050	97	75	125			
Cobalt		0.485	mg/L	0.0050	97	75	125			
Copper		0.479	mg/L	0.0050	95	75	125			
Lead		0.496	mg/L	0.0010	99	75	125			
Manganese		2.49	mg/L	0.0010	100	75	125			
Molybdenum		0.473	mg/L	0.0010	94	75	125			
Nickel		0.481	mg/L	0.0050	96	75	125			
Potassium		25.3	mg/L	1.0	98	75	125			
Selenium		0.481	mg/L	0.0010	96	75	125			
Silver		0.0494	mg/L	0.0010	99	75	125			
Sodium		52.9	mg/L	1.0	105	75	125			
Strontium		0.517	mg/L	0.010	97	75	125			
Thallium		0.491	mg/L	0.00050	98	75	125			
Uranium		0.510	mg/L	0.00030	102	75	125			
Zinc		0.478	mg/L	0.010	94	75	125			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> SW6020										Batch: 64624
<b>Sample ID:</b> B12080959-008AMS3	21	Sample Matrix Spike								Run: ICPMS203-B_120816A
										08/16/12 19:33
Aluminum		3.07	mg/L	0.030	97	75	125			
Antimony		0.484	mg/L	0.0010	97	75	125			
Arsenic		0.453	mg/L	0.0010	89	75	125			
Barium		5.33	mg/L	0.050	97	75	125			
Beryllium		0.244	mg/L	0.0010	98	75	125			
Cadmium		0.239	mg/L	0.0010	96	75	125			
Chromium		0.470	mg/L	0.0050	93	75	125			
Cobalt		0.474	mg/L	0.0050	95	75	125			
Copper		0.462	mg/L	0.0050	92	75	125			
Lead		0.482	mg/L	0.0010	96	75	125			
Manganese		2.42	mg/L	0.0010	97	75	125			
Molybdenum		0.481	mg/L	0.0010	92	75	125			
Nickel		0.465	mg/L	0.0050	93	75	125			
Potassium		25.6	mg/L	1.0	94	75	125			
Selenium		0.441	mg/L	0.0010	88	75	125			
Silver		0.0476	mg/L	0.0010	95	75	125			
Sodium		55.0	mg/L	1.0	107	75	125			
Strontium		0.552	mg/L	0.010	94	75	125			
Thallium		0.476	mg/L	0.00050	95	75	125			
Uranium		0.505	mg/L	0.00030	101	75	125			
Zinc		0.466	mg/L	0.010	92	75	125			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> SW6020										Analytical Run: ICPMS203-B_120817A
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								08/18/12 02:51
Selenium		0.0509	mg/L	0.0010	102	90	110			
<b>Sample ID:</b> ICSA		Interference Check Sample A								08/17/12 12:23
Selenium		0.000841	mg/L	0.0010						
<b>Sample ID:</b> ICSAB		Interference Check Sample AB								08/17/12 12:28
Selenium		0.00991	mg/L	0.0010	99	70	130			
<b>Method:</b> SW6020										Batch: 64624
<b>Sample ID:</b> MB-64624		Method Blank								08/18/12 03:55
Selenium		ND	mg/L	0.002				Run: ICPMS203-B_120817A		
<b>Sample ID:</b> B12080959-005ADIL		Serial Dilution								08/18/12 04:30
Selenium		ND	mg/L	0.0024		0	0	Run: ICPMS203-B_120817A		20
<b>Sample ID:</b> LCS-64624		Laboratory Control Sample								08/18/12 04:35
Selenium		0.489	mg/L	0.0010	98	85	115	Run: ICPMS203-B_120817A		
<b>Sample ID:</b> LCSD-64624		Laboratory Control Sample Duplicate								08/18/12 04:40
Selenium		0.508	mg/L	0.0010	102	85	115	Run: ICPMS203-B_120817A		
<b>Sample ID:</b> B12080959-003AMS3		Sample Matrix Spike								08/18/12 04:45
Selenium		0.501	mg/L	0.0010	100	75	125	Run: ICPMS203-B_120817A		
<b>Sample ID:</b> B12080959-005AMS3		Sample Matrix Spike								08/18/12 04:50
Selenium		0.512	mg/L	0.0010	102	75	125	Run: ICPMS203-B_120817A		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/23/12

**Project:** Black Butte Copper Proj., White Sulphur Springs, M

**Work Order:** B12080959

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: SW7470A</b>								Analytical Run: HGCV202-B_120823A			
<b>Sample ID: QCS</b>	Initial Calibration Verification Standard									08/23/12 14:48	
Mercury		0.000108	mg/L	1.0E-05	108	90	110				
<b>Method: SW7470A</b>								Batch: 64792			
<b>Sample ID: MB-64792</b>	Method Blank									Run: HGCV202-B_120823A	08/23/12 15:02
Mercury		2E-06	mg/L	1E-06							
<b>Sample ID: LCS-64792</b>	Laboratory Control Sample									Run: HGCV202-B_120823A	08/23/12 15:13
Mercury		0.000209	mg/L	0.0020	104	85	115				
<b>Sample ID: LCSD-64792</b>	Laboratory Control Sample Duplicate									Run: HGCV202-B_120823A	08/23/12 15:18
Mercury		0.000209	mg/L	0.0020	104	85	115			20	
<b>Sample ID: B12080959-001ADIL</b>	Serial Dilution									Run: HGCV202-B_120823A	08/23/12 15:23
Mercury		2.02E-05	mg/L	0.0020		0	0			20	
<b>Sample ID: B12080959-001AMS</b>	Sample Matrix Spike									Run: HGCV202-B_120823A	08/23/12 15:26
Mercury		0.000168	mg/L	0.00020	77	85	115			S	
<b>Sample ID: B12080959-002AMS</b>	Sample Matrix Spike									Run: HGCV202-B_120823A	08/23/12 15:30
Mercury		0.000157	mg/L	0.0020	75	85	115			S	
<b>Sample ID: B12080959-003AMS</b>	Sample Matrix Spike									Run: HGCV202-B_120823A	08/23/12 15:39
Mercury		0.000181	mg/L	0.0020	87	85	115				
<b>Sample ID: B12080959-004AMS</b>	Sample Matrix Spike									Run: HGCV202-B_120823A	08/23/12 15:54
Mercury		0.000189	mg/L	0.0020	90	85	115				
<b>Sample ID: B12080959-005AMS</b>	Sample Matrix Spike									Run: HGCV202-B_120823A	08/23/12 16:00
Mercury		0.000192	mg/L	0.0020	96	85	115				
<b>Sample ID: B12080959-006AMS</b>	Sample Matrix Spike									Run: HGCV202-B_120823A	08/23/12 16:08
Mercury		0.000149	mg/L	0.0020	72	85	115			S	
<b>Sample ID: B12080959-007AMS</b>	Sample Matrix Spike									Run: HGCV202-B_120823A	08/23/12 16:21
Mercury		0.000221	mg/L	0.0020	110	85	115				
<b>Sample ID: B12080959-008AMS</b>	Sample Matrix Spike									Run: HGCV202-B_120823A	08/23/12 16:25
Mercury		0.000155	mg/L	0.0020	74	85	115			S	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B12080959

Login completed by: Randa Nees

Date Received: 8/9/2012

Reviewed by: BL2000\jklrier

Received by: rln

Reviewed Date: 8/10/2012

Carrier Hand Del  
name:

- |   |   |                             |  |
|---|---|-----------------------------|--|
| Shipping container/cooler in good condition?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/>                       |
| Custody seals intact on shipping container/cooler?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/>            |
| Custody seals intact on sample bottles?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/>            |
| Chain of custody present?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Chain of custody signed when relinquished and received?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Chain of custody agrees with sample labels?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Samples in proper container/bottle?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Sample containers intact?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters<br>such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Temp Blank received?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Applicable <input checked="" type="checkbox"/>         |
| Container/Temp Blank temperature:   | °C NA                                   |                             |  |
| Water - VOA vials have zero headspace?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Applicable <input checked="" type="checkbox"/>         |

Contact and Corrective Action Comments:

None









**Table 1.  
Sub-Sample Compositing for Black Butte Copper Project Core Samples**

Composite Identification	Sub-Samples for Composite				
	Sub-Sample Identification	Drill Hole Identification	Depth Interval Beginning (meters)	Depth Interval End (meters)	Mass for Composite (grams)
IG	212584	SC12-114	126.04	127.5	1000
	212587	SC12-114	129	130.76	1000
	210582	SC12-115	125.25	127	1000
	210583	SC12-115	127	129	2500
	210585	SC12-115	129	131	2000
	210589	SC12-115	137	139	2000
	210591	SC12-115	139	141	1000
	210596	SC12-115	147	148.25	1500
USZ 1 (High Fe)	208136	SC12-113	72.3	74.3	500
	208138	SC12-113	75.1	76	1500
	210605	SC12-115	161.5	162.75	1000
	212634	SC12-117	57.3	58.11	1000
	212635	SC12-117	58.11	58.81	2500
	212636	SC12-117	58.81	60	1000
	212638	SC12-117	60	61	2000
	212639	SC12-117	61	61.93	2500
USZ 2 (Low Fe)	208135	SC12-113	71.1	72.3	1000
	208136	SC12-113	72.3	74.3	2000
	208137	SC12-113	74.3	75.1	2500
	208138	SC12-113	75.1	76	500
	208140	SC12-113	76	76.8	2000
	210602	SC12-115	158.1	160	2000
	210604	SC12-115	160	161.5	2000
Ynl 1	208113	SC12-113	35.38	37.2	1500
	208122	SC12-113	49.7	51.7	1500
	212594	SC12-114	140	140.66	1500
	210554	SC12-115	81.9	83.5	750
	210563	SC12-115	97	99	1500
	210600	SC12-115	154.2	156.2	750
	210608	SC12-115	163.9	165	1500
	212627	SC12-117	47.22	48.61	750
	212628	SC12-117	48.61	50	750
	212657	SC12-117	90	91.5	1500

**Table 1.  
Sub-Sample Compositing for Black Butte Copper Project Core Samples**

Composite Identification	Sub-Samples for Composite				
	Sub-Sample Identification	Drill Hole Identification	Depth Interval Beginning (meters)	Depth Interval End (meters)	Mass for Composite (grams)
Ynl 2	208102	SC12-113	18.33	20.17	2000
	208106	SC12-113	24.13	26.12	500
	208116	SC12-113	41.14	43.1	1000
	212550	SC12-114	73	75	1000
	212561	SC12-114	93	94.19	1000
	210547	SC12-115	71	72.8	1000
	210560	SC12-115	91	93	1000
	210630	SC12-115	200.5	201.7	2000
	208257	SC12-116	48	49.1	1000
	208266	SC12-116	59	61	500
212625	SC12-117	45.11	46.43	1000	
Ynl O	212562	SC12-114	94.19	96	500
	212563	SC12-114	96	98	1000
	212567	SC12-114	102	104	500
	212568	SC12-114	104	105.5	2000
	212569	SC12-114	105.5	106.66	1000
	210550	SC12-115	76	78	3000
	210553	SC12-115	80	81.9	2000
	208261	SC12-116	52	54	2000
Ynl B (2012 Decline)	208141	SC12-113	76.8	78.8	1750
	208142	SC12-113	78.8	80.8	1750
	208143	SC12-113	80.8	82.8	1750
	208145	SC12-113	82.8	83.4	1750
	208146	SC12-113	83.4	85.4	1750
	208147	SC12-113	85.4	87.4	1750
	208148	SC12-113	87.4	88.4	1750

**Table 1.  
Sub-Sample Compositing for Black Butte Copper Project Core Samples**

Composite Identification	Sub-Samples for Composite				
	Sub-Sample Identification	Drill Hole Identification	Depth Interval Beginning (meters)	Depth Interval End (meters)	Mass for Composite (grams)
Ynl B 2 (Orig Decline)	203787	SC11-024	207.39	209.38	1000
	202281	SC11-042	188	190	1500
	202288	SC11-042	199	201	1500
	203532	SC11-033	214.42	216.42	1000
	107723	SC10-003	142.65	143.6	500
	107727	SC10-003	147.23	149.23	1000
	108430	SC10-004	123.5	125.5	1000
	108435	SC10-004	134	136	1500
	108441	SC10-004	146	148	1000
	107501	SC10-001	135	137	1000
	107505	SC10-001	141	142.07	1000

**Synthetic Precipitation Leaching Procedure Testing**

Each composite sample is to be analyzed for metal mobility using EPA Method 1312 SPLP test methodology. Please select the minimum representative aliquot of each composite sample necessary to complete the testing. SPLP test extracts are to be analyzed for the constituents listed in **Table 2**.

Please report the results of SPLP testing (including a data file in Microsoft Excel format) to Shane Matolyak at the following email address; [shane.matolyak@tetratech.com](mailto:shane.matolyak@tetratech.com)

Tintina Resources should be invoiced directly for this work.

**Table 2.  
List of Parameters for SPLP Testing**

<b>Parameter</b>	<b>Reporting Limit (mg/L)</b>	<b>Parameter</b>	<b>Reporting Limit (mg/L)</b>
pH	0.1 (s.u.)	Magnesium	1
Aluminum	0.03	Manganese	0.005
Antimony	0.003	Mercury	0.00001
Arsenic	0.003	Molybdenum	0.001
Barium	0.005	Nickel	0.01
Beryllium	0.001	Potassium	1
Cadmium	0.00008	Selenium	0.001
Calcium	1	Silver	0.0005
Chromium	0.001	Sodium	1
Cobalt	0.005	Strontium	0.01
Copper	0.001	Thallium	0.0002
Iron	0.05	Uranium	0.00003
Lead	0.0005	Zinc	0.01

**Sample Splitting and Shipping**

A representative 100 to 200 gram aliquot of each composite sample should be split off and sealed in zip-lock bags labeled with the composite identification. These samples are to be shipped to the RJ Lee Group for analysis of potentially asbestiform mineral content. Please ship these samples, under chain-of-custody with the attached analytical request, to the following address.

Mr. Bill Powers, Manager of Optical Group  
 RJ Lee Group  
 350 Hochberg Road  
 Monroeville, PA 151446  
 (724) 325-1776

### B-3 Energy Laboratories SPLP Results

Black Butte Copper 2012 Johnny Lee Decline Appendix B-3 ALS Chemex Acid Base Accounting Results

Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Lith Code	Modifier 1	Modifier 2	Modifier 3	Working Lith Code
2012 Decline Realignment	208102	RE12048006	SC12-113	18.33	20.17	SH	BG	DL		Ynl
2012 Decline Realignment	208104	RE12048006	SC12-113	20.17	22.14	SH	BG	DL		Ynl
2012 Decline Realignment	208105	RE12048006	SC12-113	22.14	24.13	SH	BG	DL		Ynl
2012 Decline Realignment	208106	RE12048006	SC12-113	24.13	26.12	SH	BG	DL		Ynl
2012 Decline Realignment	208107	RE12048006	SC12-113	26.12	28.08	SH	BG	DL		Ynl
2012 Decline Realignment	208108	RE12048006	SC12-113	28.08	29.8	SH	BG	DL		Ynl
2012 Decline Realignment	208110	RE12048006	SC12-113	29.8	31.76	SH	BG	DL		Ynl
2012 Decline Realignment	208111	RE12048006	SC12-113	31.76	33.56	SH	BG	DL		Ynl
2012 Decline Realignment	208112	RE12048006	SC12-113	33.56	35.38	SH	BG	DL		Ynl
2012 Decline Realignment	208113	RE12048006	SC12-113	35.38	37.2	SH	BG	DL		Ynl
2012 Decline Realignment	208114	RE12048006	SC12-113	37.2	39.18	SH	BG	DL		Ynl
2012 Decline Realignment	208115	RE12048006	SC12-113	39.18	41.14	SH	BG	DL		Ynl
2012 Decline Realignment	208116	RE12048006	SC12-113	41.14	43.1	SH	BG	DL		Ynl
2012 Decline Realignment	208118	RE12048006	SC12-113	43.1	45.01	SH	BG	DL		Ynl
2012 Decline Realignment	208119	RE12048006	SC12-113	45.01	47	SH	BG	DL		Ynl
2012 Decline Realignment	208120	RE12048006	SC12-113	47	47.7	SH	BG	DL		Ynl
2012 Decline Realignment	208121	RE12048006	SC12-113	47.7	49.7	SH	BL	SI		Ynl
2012 Decline Realignment	208122	RE12048006	SC12-113	49.7	51.7	SH	BL	SI		Ynl
2012 Decline Realignment	208123	RE12048006	SC12-113	51.7	53.7	SH	BL	SI		Ynl
2012 Decline Realignment	208124	RE12048006	SC12-113	53.7	55.7	SH	BL	SI		Ynl
2012 Decline Realignment	208125	RE12048006	SC12-113	55.7	57.6	SH	BL	SI		Ynl
2012 Decline Realignment	208127	RE12048006	SC12-113	57.6	59.6	SH	SU			Ynl
2012 Decline Realignment	212551	RE12056057	SC12-114	75	77	SH	DL			Ynl
2012 Decline Realignment	212552	RE12056057	SC12-114	77	79	SH	DL			Ynl
2012 Decline Realignment	212553	RE12056057	SC12-114	79	81	SH	DL			Ynl
2012 Decline Realignment	212554	RE12056057	SC12-114	81	83	SH	DL			Ynl
2012 Decline Realignment	212555	RE12056057	SC12-114	83	85	SH	DL			Ynl
2012 Decline Realignment	212556	RE12056057	SC12-114	85	87	SH	DL			Ynl
2012 Decline Realignment	212557	RE12056057	SC12-114	87	89	SH	DL			Ynl
2012 Decline Realignment	212559	RE12056057	SC12-114	89	91	SH	DL			Ynl
2012 Decline Realignment	212560	RE12056057	SC12-114	91	93	SH	DL			Ynl
2012 Decline Realignment	212561	RE12056057	SC12-114	93	94.19	SH	DL			Ynl
2012 Decline Realignment	212562	RE12056057	SC12-114	94.19	96	DL				Ynl 0
2012 Decline Realignment	212563	RE12056057	SC12-114	96	98	DL				Ynl 0
2012 Decline Realignment	212565	RE12056057	SC12-114	98	100	DL				Ynl 0
2012 Decline Realignment	212566	RE12056057	SC12-114	100	102	DL				Ynl 0
2012 Decline Realignment	212567	RE12056057	SC12-114	102	104	DL				Ynl 0
2012 Decline Realignment	212568	RE12056057	SC12-114	104	105.5	DL				Ynl 0
2012 Decline Realignment	212569	RE12056057	SC12-114	105.5	106.66	DL				Ynl 0
2012 Decline Realignment	212570	RE12056057	SC12-114	106.66	108	SH	DL			Ynl
2012 Decline Realignment	212571	RE12056057	SC12-114	108	110	SH	DL			Ynl
2012 Decline Realignment	212573	RE12056057	SC12-114	110	112	SH	DL			Ynl

Black Butte Copper 2012 Johnny Lee Decline Appendix B-3 ALS Chemex Acid Base Accounting Results

Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Lith Code	Modifier 1	Modifier 2	Modifier 3	Working Lith Code
2012 Decline Realignment	212574	RE12056057	SC12-114	112	113.15	SH	DL			Ynl
2012 Decline Realignment	212575	RE12056057	SC12-114	113.15	114.45	SH	DL			Ynl
2012 Decline Realignment	212576	RE12056057	SC12-114	114.45	116	SH	DL			Ynl
2012 Decline Realignment	212577	RE12056057	SC12-114	116	117.5	SH	DL			Ynl
2012 Decline Realignment	212579	RE12056057	SC12-114	117.5	119	SH	DL			Ynl
2012 Decline Realignment	212580	RE12056057	SC12-114	119	121	SH	DL			Ynl
2012 Decline Realignment	212581	RE12056057	SC12-114	121	123	SH	DL			Ynl
2012 Decline Realignment	212582	RE12056057	SC12-114	123	124.5	SH	DL			Ynl
2012 Decline Realignment	212583	RE12056057	SC12-114	124.5	126.04	SH	DL			Ynl
2012 Decline Realignment	212588	RE12056057	SC12-114	130.76	132	SH	DL			Ynl
2012 Decline Realignment	212589	RE12056057	SC12-114	132	134	SH	DL			Ynl
2012 Decline Realignment	212591	RE12056057	SC12-114	134	136	SH	DL			Ynl
2012 Decline Realignment	212592	RE12056057	SC12-114	136	138	SH	DL			Ynl
2012 Decline Realignment	212593	RE12056057	SC12-114	138	140	SH	DL			Ynl
2012 Decline Realignment	212594	RE12056057	SC12-114	140	140.66	SH	DL			Ynl
2012 Decline Realignment	212595	RE12056057	SC12-114	140.66	142	SH	BL			Ynl
2012 Decline Realignment	212596	RE12056057	SC12-114	142	143.5	SH	BL			Ynl
2012 Decline Realignment	212598	RE12056057	SC12-114	143.5	145.08	SH	BL			Ynl
2012 Decline Realignment	212540	RE12056058	SC12-114	59.04	61	SH	DL			Ynl
2012 Decline Realignment	212541	RE12056058	SC12-114	61	63	SH	DL			Ynl
2012 Decline Realignment	212543	RE12056058	SC12-114	63	65	SH	DL			Ynl
2012 Decline Realignment	212544	RE12056058	SC12-114	65	67	SH	DL			Ynl
2012 Decline Realignment	212545	RE12056058	SC12-114	67	69	SH	DL			Ynl
2012 Decline Realignment	212546	RE12056058	SC12-114	69	70	SH	DL			Ynl
2012 Decline Realignment	212547	RE12056058	SC12-114	70	71	SH	DL			Ynl
2012 Decline Realignment	212548	RE12056058	SC12-114	71	73	SH	DL			Ynl
2012 Decline Realignment	212550	RE12056058	SC12-114	73	75	SH	DL			Ynl
2012 Decline Realignment	208128	RE12056059	SC12-113	59.6	61.5	SH	BL	SI		Ynl
2012 Decline Realignment	208129	RE12056059	SC12-113	61.5	63.5	SH	BL	SI		Ynl
2012 Decline Realignment	208130	RE12056059	SC12-113	63.5	65.5	SH	BL	SI		Ynl
2012 Decline Realignment	208131	RE12056059	SC12-113	65.5	67.5	SH	DL			Ynl
2012 Decline Realignment	208133	RE12056059	SC12-113	67.5	69.5	SH	DL			Ynl
2012 Decline Realignment	208134	RE12056059	SC12-113	69.5	71.1	SH	DL			Ynl
2012 Decline Realignment	208135	RE12056059	SC12-113	71.1	72.3	SH	SU			USZ
2012 Decline Realignment	208136	RE12056059	SC12-113	72.3	74.3	SM	SH			USZ
2012 Decline Realignment	208137	RE12056059	SC12-113	74.3	75.1	SM	SH			USZ
2012 Decline Realignment	208138	RE12056059	SC12-113	75.1	76	MS	SH			USZ
2012 Decline Realignment	208140	RE12056059	SC12-113	76	76.8	SH	SU			USZ
2012 Decline Realignment	208141	RE12056059	SC12-113	76.8	78.8	SH	DL			Ynl B
2012 Decline Realignment	208142	RE12056059	SC12-113	78.8	80.8	SH	DL			Ynl B
2012 Decline Realignment	208143	RE12056059	SC12-113	80.8	82.8	SH	DL			Ynl B
2012 Decline Realignment	208145	RE12056059	SC12-113	82.8	83.4	SH	DL			Ynl B



Black Butte Copper 2012 Johnny Lee Decline Appendix B-3 ALS Chemex Acid Base Accounting Results

Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Lith Code	Modifier 1	Modifier 2	Modifier 3	Working Lith Code	
2012 Decline Realignment	208146	RE12056059	SC12-113	83.4	85.4	SH	BL			Ynl	Ynl B
2012 Decline Realignment	208147	RE12056059	SC12-113	85.4	87.4	SH	BL			Ynl	Ynl B
2012 Decline Realignment	208148	RE12056059	SC12-113	87.4	88.4	SH	BL			Ynl	Ynl B
2012 Decline Realignment	208242	RE12056120	SC12-116	24.4	25	SH	BG	SI		Ynl	Ynl
2012 Decline Realignment	208243	RE12056120	SC12-116	25	27	SH	BG	SI		Ynl	Ynl
2012 Decline Realignment	208244	RE12056120	SC12-116	27	29	SH	BG	SI		Ynl	Ynl
2012 Decline Realignment	208245	RE12056120	SC12-116	29	31	SH	BG	SI		Ynl	Ynl
2012 Decline Realignment	208247	RE12056120	SC12-116	31	33	SH	BG	SI		Ynl	Ynl
2012 Decline Realignment	208248	RE12056120	SC12-116	33	35	SH	DL			Ynl	Ynl
2012 Decline Realignment	208249	RE12056120	SC12-116	35	37	SH	DL			Ynl	Ynl
2012 Decline Realignment	208250	RE12056120	SC12-116	37	39	SH	DL			Ynl	Ynl
2012 Decline Realignment	208251	RE12056120	SC12-116	39	41	SH	DL			Ynl	Ynl
2012 Decline Realignment	208253	RE12056120	SC12-116	41	42.9	SH	DL			Ynl	Ynl
2012 Decline Realignment	208254	RE12056120	SC12-116	42.9	44	SH	BG	DL	SI	Ynl	Ynl
2012 Decline Realignment	208255	RE12056120	SC12-116	44	46	SH	BG	DL	SI	Ynl	Ynl
2012 Decline Realignment	208256	RE12056121	SC12-116	46	48	SH	BG	DL	SI	Ynl	Ynl
2012 Decline Realignment	208257	RE12056121	SC12-116	48	49.1	SH	BG	DL	SI	Ynl	Ynl
2012 Decline Realignment	208259	RE12056121	SC12-116	49.1	50.2	SH	BG	DL	SI	Ynl	Ynl
2012 Decline Realignment	208260	RE12056121	SC12-116	50.2	52	SH	DL			Ynl	Ynl 0
2012 Decline Realignment	208261	RE12056121	SC12-116	52	54	SH	DL			Ynl	Ynl 0
2012 Decline Realignment	208262	RE12056121	SC12-116	54	56	SH	DL			Ynl	Ynl 0
2012 Decline Realignment	208263	RE12056121	SC12-116	56	57	SH	DL			Ynl	Ynl 0
2012 Decline Realignment	208265	RE12056121	SC12-116	57	59	SH	DL			Ynl	Ynl 0
2012 Decline Realignment	208266	RE12056121	SC12-116	59	61	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	208267	RE12056121	SC12-116	61	63	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	208268	RE12056121	SC12-116	63	65	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	208269	RE12056121	SC12-116	65	67	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	208271	RE12056121	SC12-116	67	69	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	208272	RE12056121	SC12-116	69	71	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	208273	RE12056121	SC12-116	71	73	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	208274	RE12056121	SC12-116	73	75	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	208275	RE12056121	SC12-116	75	76.6	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	208278	RE12056121	SC12-116	78.6	79.5	SH	BL			Ynl	Ynl
2012 Decline Realignment	208277	RE12059936	SC12-116	76.6	78.6	SH	BL			Ynl	Ynl
2012 Decline Realignment	212584	RE12059937	SC12-114	126.04	127.5	IG	MFI			IG	IG
2012 Decline Realignment	212586	RE12059937	SC12-114	127.5	129	IG	MFI			IG	IG
2012 Decline Realignment	212587	RE12059937	SC12-114	129	130.76	IG	MFI			IG	IG
2012 Decline Realignment	212620	RE12062433	SC12-117	38	40	SH	DL	SU		Ynl	Ynl
2012 Decline Realignment	212621	RE12062433	SC12-117	40	42	SH	DL	SU		Ynl	Ynl
2012 Decline Realignment	212623	RE12062433	SC12-117	44	45.11	SH	DL	SU		Ynl	Ynl
2012 Decline Realignment	212625	RE12062433	SC12-117	45.11	46.43	SM	SH	DL		Ynl	Ynl
2012 Decline Realignment	212634	RE12062433	SC12-117	57.3	58.11	MS	VF	BA		USZ	USZ

Black Butte Copper 2012 Johnny Lee Decline Appendix B-3 ALS Chemex Acid Base Accounting Results

Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Lith Code	Modifier 1	Modifier 2	Modifier 3	Working Lith Code	
2012 Decline Realignment	212638	RE12062433	SC12-117	60	61	MS	VF	BA		USZ	USZ
2012 Decline Realignment	212639	RE12062433	SC12-117	61	61.93	MS	VF	BA		USZ	USZ
2012 Decline Realignment	212645	RE12062435	SC12-117	71	73	SH	DL	DL	CG	Ynl	Ynl
2012 Decline Realignment	212647	RE12062435	SC12-117	73	75	SH	DL	DL	CG	Ynl	Ynl
2012 Decline Realignment	212648	RE12062435	SC12-117	75	77	SH	DL	DL	CG	Ynl	Ynl
2012 Decline Realignment	212649	RE12062435	SC12-117	77	79	SH	DL	DL	CG	Ynl	Ynl
2012 Decline Realignment	212651	RE12062435	SC12-117	79	81	SH	DL	DL	CG	Ynl	Ynl
2012 Decline Realignment	212652	RE12062435	SC12-117	81	83	SH	DL	DL	CG	Ynl	Ynl
2012 Decline Realignment	212653	RE12062435	SC12-117	83	85	SH	DL	DL	CG	Ynl	Ynl
2012 Decline Realignment	212654	RE12062435	SC12-117	85	87	SH	DL	DL	CG	Ynl	Ynl
2012 Decline Realignment	212655	RE12062435	SC12-117	87	88.48	SH	DL	DL	CG	Ynl	Ynl
2012 Decline Realignment	212656	RE12062435	SC12-117	88.48	90	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	212657	RE12062435	SC12-117	90	91.5	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	212658	RE12062435	SC12-117	91.5	92.52	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	212660	RE12062435	SC12-117	92.52	94	SH	DL	DL		Ynl	Ynl
2012 Decline Realignment	212661	RE12062435	SC12-117	94	96	SH	DL	DL		Ynl	Ynl
2012 Decline Realignment	212662	RE12062435	SC12-117	96	98	SH	DL	DL		Ynl	Ynl
2012 Decline Realignment	212663	RE12062435	SC12-117	98	100	SH	DL	DL		Ynl	Ynl
2012 Decline Realignment	212664	RE12062435	SC12-117	100	102	SH	DL	DL		Ynl	Ynl
2012 Decline Realignment	212665	RE12062435	SC12-117	102	103.98	SH	DL	DL		Ynl	Ynl
2012 Decline Realignment	210530	RE12064256	SC12-115	47.8	49.5	SH	BL	DL	SI	Ynl	Ynl
2012 Decline Realignment	210532	RE12064256	SC12-115	49.5	51.5	SH	BL	DL	SI	Ynl	Ynl
2012 Decline Realignment	210533	RE12064256	SC12-115	51.5	53.5	SH	BL	DL	SI	Ynl	Ynl
2012 Decline Realignment	210535	RE12064256	SC12-115	53.5	55.5	SH	BL	DL	SI	Ynl	Ynl
2012 Decline Realignment	210536	RE12064256	SC12-115	55.5	56.65	SH	BL	DL	SI	Ynl	Ynl
2012 Decline Realignment	210538	RE12064256	SC12-115	56.65	58	SH	DL	DL	SL	Ynl	Ynl
2012 Decline Realignment	210539	RE12064256	SC12-115	58	60	SH	DL	DL	SL	Ynl	Ynl
2012 Decline Realignment	210540	RE12064256	SC12-115	60	62	SH	DL	DL	SL	Ynl	Ynl
2012 Decline Realignment	210541	RE12064256	SC12-115	62	64	SH	DL	DL	SL	Ynl	Ynl
2012 Decline Realignment	210542	RE12064256	SC12-115	64	65.2	SH	DL	DL	SL	Ynl	Ynl
2012 Decline Realignment	210543	RE12064256	SC12-115	65.2	67	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210544	RE12064256	SC12-115	67	69	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210546	RE12064256	SC12-115	69	71	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210547	RE12064256	SC12-115	71	72.8	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210548	RE12064256	SC12-115	72.8	74	DL	SY	SL		Ynl 0	Ynl 0
2012 Decline Realignment	210549	RE12064256	SC12-115	74	76	DL	SY	SL		Ynl 0	Ynl 0
2012 Decline Realignment	210550	RE12064256	SC12-115	76	78	DL	SY	SL		Ynl 0	Ynl 0
2012 Decline Realignment	210552	RE12064256	SC12-115	78	80	DL	SY	SL		Ynl 0	Ynl 0
2012 Decline Realignment	210553	RE12064256	SC12-115	80	81.9	DL	SY	SL		Ynl 0	Ynl 0
2012 Decline Realignment	210554	RE12064256	SC12-115	81.9	83.5	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210555	RE12064256	SC12-115	83.5	85	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210556	RE12064256	SC12-115	85	87	SH	DL	BG	SI	Ynl	Ynl

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Lith Code	Modifier 1	Modifier 2	Modifier 3	Working Lith Code	
2012 Decline Realignment	210558	RE12064256	SC12-115	87	89	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210559	RE12064256	SC12-115	89	91	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210560	RE12064256	SC12-115	91	93	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210561	RE12064256	SC12-115	93	95	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210562	RE12064256	SC12-115	95	97	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210563	RE12064256	SC12-115	97	99	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210564	RE12064256	SC12-115	99.9	101	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	212617	RE12065437	SC12-117	34.84	36	SH	DL	SU		Ynl	Ynl
2012 Decline Realignment	212619	RE12065437	SC12-117	36	38	SH	DL	SU		Ynl	Ynl
2012 Decline Realignment	212622	RE12065437	SC12-117	42	44	SH	DL	SU		Ynl	Ynl
2012 Decline Realignment	212626	RE12065437	SC12-117	46.43	47.22	SM	SH	DL		Ynl	Ynl
2012 Decline Realignment	212627	RE12065437	SC12-117	47.22	48.61	SM	SH	DL		Ynl	Ynl
2012 Decline Realignment	212628	RE12065437	SC12-117	48.61	50	SH	BL	CG		Ynl	Ynl
2012 Decline Realignment	212629	RE12065437	SC12-117	50	52	SH	BL	CG		Ynl	Ynl
2012 Decline Realignment	212631	RE12065437	SC12-117	52	54	SH	BL	CG		Ynl	Ynl
2012 Decline Realignment	212632	RE12065437	SC12-117	54	56	SH	BL	CG		Ynl	Ynl
2012 Decline Realignment	212633	RE12065437	SC12-117	56	57.3	SH	BL	CG		Ynl	Ynl
2012 Decline Realignment	212635	RE12065437	SC12-117	58.11	58.81	MS	VF	BA		USZ	USZ
2012 Decline Realignment	212636	RE12065437	SC12-117	58.81	60	MS	VF	BA		USZ	USZ
2012 Decline Realignment	212640	RE12065437	SC12-117	61.93	63	SH	DL	DL	CG	Ynl	Ynl
2012 Decline Realignment	212641	RE12065437	SC12-117	63	65	SH	DL	DL	CG	Ynl	Ynl
2012 Decline Realignment	212642	RE12065437	SC12-117	65	67	SH	DL	DL	CG	Ynl	Ynl
2012 Decline Realignment	212643	RE12065437	SC12-117	67	69	SH	DL	DL	CG	Ynl	Ynl
2012 Decline Realignment	212644	RE12065437	SC12-117	69	71	SH	DL	DL	CG	Ynl	Ynl
2012 Decline Realignment	210565	RE12071230	SC12-115	101	103	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210566	RE12071230	SC12-115	103	105	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210567	RE12071230	SC12-115	105	107	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210568	RE12071230	SC12-115	107	108.57	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210569	RE12071230	SC12-115	108.57	110	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210570	RE12071230	SC12-115	110	112	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210572	RE12071230	SC12-115	112	114	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210573	RE12071230	SC12-115	114	116	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210575	RE12071230	SC12-115	116	117.6	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210576	RE12071230	SC12-115	117.6	118.6	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210577	RE12071230	SC12-115	118.6	120	SH	BC			Ynl	Ynl
2012 Decline Realignment	210578	RE12071230	SC12-115	120	122	SH	BC			Ynl	Ynl
2012 Decline Realignment	210580	RE12071230	SC12-115	122	124	SH	BC			Ynl	Ynl
2012 Decline Realignment	210581	RE12071230	SC12-115	124	125.25	SH	BC			Ynl	Ynl
2012 Decline Realignment	210582	RE12071230	SC12-115	125.25	127	IG	AL			IG	IG
2012 Decline Realignment	210583	RE12071230	SC12-115	127	129	IG	AL			IG	IG
2012 Decline Realignment	210585	RE12071230	SC12-115	129	131	IG	AL			IG	IG
2012 Decline Realignment	210586	RE12071230	SC12-115	131	133	IG	AL			IG	IG

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Lith Code	Modifier 1	Modifier 2	Modifier 3	Working Lith Code	
2012 Decline Realignment	210587	RE12071230	SC12-115	133	135	IG	AL			IG	IG
2012 Decline Realignment	210588	RE12071230	SC12-115	135	137	IG	AL			IG	IG
2012 Decline Realignment	210589	RE12071230	SC12-115	137	139	IG	AL			IG	IG
2012 Decline Realignment	210591	RE12071230	SC12-115	139	141	IG	AL			IG	IG
2012 Decline Realignment	210592	RE12071230	SC12-115	141	143	IG	AL			IG	IG
2012 Decline Realignment	210593	RE12071230	SC12-115	143	145	IG	AL			IG	IG
2012 Decline Realignment	210594	RE12071230	SC12-115	145	147	IG	AL			IG	IG
2012 Decline Realignment	210596	RE12071230	SC12-115	147	148.25	IG	AL			IG	IG
2012 Decline Realignment	210597	RE12071230	SC12-115	148.25	150.25	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210598	RE12071230	SC12-115	150.25	152.2	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210599	RE12071230	SC12-115	152.2	154.2	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210600	RE12071230	SC12-115	154.2	156.2	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210601	RE12071230	SC12-115	156.2	158.1	SH	DL	BG	SI	Ynl	Ynl
2012 Decline Realignment	210602	RE12071230	SC12-115	158.1	160	SU	SH	DL		Ynl	USZ
2012 Decline Realignment	210604	RE12071230	SC12-115	160	161.5	SU	SH	DL		Ynl	USZ
2012 Decline Realignment	210605	RE12071230	SC12-115	161.5	162.75	SU	SH	DL		Ynl	USZ
2012 Decline Realignment	210607	RE12071230	SC12-115	162.75	163.9	SH	DL	BG		Ynl	Ynl
2012 Decline Realignment	210608	RE12071230	SC12-115	163.9	165	SH	DL	BG		Ynl	Ynl
2012 Decline Realignment	210609	RE12071230	SC12-115	165	167	SH	DL	BG		Ynl	Ynl
2012 Decline Realignment	210610	RE12071230	SC12-115	167	168.5	SH	DL	BG		Ynl	Ynl
2012 Decline Realignment	210611	RE12071230	SC12-115	168.5	170	SH	DL	BG		Ynl	Ynl
2012 Decline Realignment	210612	RE12071230	SC12-115	170	172	SH	DL	BG		Ynl	Ynl
2012 Decline Realignment	210613	RE12071230	SC12-115	172	174	SH	DL	BG		Ynl	Ynl
2012 Decline Realignment	210615	RE12071230	SC12-115	174	176	SH	DL	BG		Ynl	Ynl
2012 Decline Realignment	210616	RE12071230	SC12-115	176	178	SH	DL	BG		Ynl	Ynl
2012 Decline Realignment	210617	RE12071230	SC12-115	178	179.94	SH	DL	BG		Ynl	Ynl
2012 Decline Realignment	210618	RE12071230	SC12-115	179.94	181.5	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210619	RE12071230	SC12-115	181.5	183	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210620	RE12071230	SC12-115	183	185	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210621	RE12071230	SC12-115	185	187	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210622	RE12071230	SC12-115	187	189	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210623	RE12071230	SC12-115	189	191	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210625	RE12071230	SC12-115	191	193	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210626	RE12071230	SC12-115	193	195	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210627	RE12071230	SC12-115	195	197	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210628	RE12071230	SC12-115	197	199	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210629	RE12071230	SC12-115	199	200.5	CG	SH	DL		Ynl	Ynl
2012 Decline Realignment	210630	RE12071230	SC12-115	200.5	201.7	CG	SH	DL		Ynl	Ynl

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	SampleCode	Ag_ppm	Al_pct	Ars_ppm	Au_ppm	
2012 Decline Realignment	208102	RE12048006	SC12-113	18.33	20.17	1-ORG	1	4.91	25	0.0025	
2012 Decline Realignment	208104	RE12048006	SC12-113	20.17	22.14	1-ORG	1	4.65	25	0.007	
2012 Decline Realignment	208105	RE12048006	SC12-113	22.14	24.13	1-ORG	0.5	4.55	25	0.005	
2012 Decline Realignment	208106	RE12048006	SC12-113	24.13	26.12	1-ORG	0.5	4.85	25	0.0025	
2012 Decline Realignment	208107	RE12048006	SC12-113	26.12	28.08	1-ORG	0.5	4.43	25	0.008	
2012 Decline Realignment	208108	RE12048006	SC12-113	28.08	29.8	1-ORG	0.5	4.47	25	0.0025	
2012 Decline Realignment	208110	RE12048006	SC12-113	29.8	31.76	1-ORG	1	4.12	25	0.005	
2012 Decline Realignment	208111	RE12048006	SC12-113	31.76	33.56	1-ORG	0.5	4.41	25	0.007	
2012 Decline Realignment	208112	RE12048006	SC12-113	33.56	35.38	1-ORG	1	4	25	0.01	
2012 Decline Realignment	208113	RE12048006	SC12-113	35.38	37.2	1-ORG	0.5	4.25	25	0.006	
2012 Decline Realignment	208114	RE12048006	SC12-113	37.2	39.18	1-ORG	0.5	4.42	25	0.014	
2012 Decline Realignment	208115	RE12048006	SC12-113	39.18	41.14	1-ORG	1	4.33	25	0.007	
2012 Decline Realignment	208116	RE12048006	SC12-113	41.14	43.1	1-OFD	0.5	5.29	25	0.007	
2012 Decline Realignment	208118	RE12048006	SC12-113	43.1	45.01	1-ORG	0.5	4.35	25	0.008	
2012 Decline Realignment	208119	RE12048006	SC12-113	45.01	47	1-ORG	0.5	4.85	25	0.0025	
2012 Decline Realignment	208120	RE12048006	SC12-113	47	47.7	1-ORG	0.5	5.12	25	0.008	
2012 Decline Realignment	208121	RE12048006	SC12-113	47.7	49.7	1-ORG	0.5	5.88	25	0.0025	
2012 Decline Realignment	208122	RE12048006	SC12-113	49.7	51.7	1-ORG	0.5	5.57	25	0.0025	
2012 Decline Realignment	208123	RE12048006	SC12-113	51.7	53.7	1-ORG	0.5	5.39	25	0.008	
2012 Decline Realignment	208124	RE12048006	SC12-113	53.7	55.7	1-ORG	0.5	5.39	25	0.0025	
2012 Decline Realignment	208125	RE12048006	SC12-113	55.7	57.6	1-ORG	0.5	5.03	25	0.0025	
2012 Decline Realignment	208127	RE12048006	SC12-113	57.6	59.6	1-ORG	1	4.57	25	0.0025	
2012 Decline Realignment	212551	RE12056057	SC12-114	75	77	1-ORG	0.5	4.26	25	0.009	
2012 Decline Realignment	212552	RE12056057	SC12-114	77	79	1-ORG	0.5	4.55	25	0.005	
2012 Decline Realignment	212553	RE12056057	SC12-114	79	81	1-ORG	0.5	4.01	25	0.0025	
2012 Decline Realignment	212554	RE12056057	SC12-114	81	83	1-ORG	1	4.54	25	0.0025	
2012 Decline Realignment	212555	RE12056057	SC12-114	83	85	1-ORG	0.5	3.68	25	0.0025	
2012 Decline Realignment	212556	RE12056057	SC12-114	85	87	1-ORG	0.5	5.25	25	0.0025	
2012 Decline Realignment	212557	RE12056057	SC12-114	87	89	1-OFD	0.5	5.12	25	0.0025	
2012 Decline Realignment	212559	RE12056057	SC12-114	89	91	1-ORG	1	5.34	25	0.0025	
2012 Decline Realignment	212560	RE12056057	SC12-114	91	93	1-ORG	0.5	5.46	25	0.0025	
2012 Decline Realignment	212561	RE12056057	SC12-114	93	94.19	1-ORG	1	3.62	25	0.0025	
2012 Decline Realignment	212562	RE12056057	SC12-114	94.19	96	Dolomite	1-ORG	0.5	0.63	25	0.0025
2012 Decline Realignment	212563	RE12056057	SC12-114	96	98	Dolomite	1-ORG	1	0.85	25	0.0025
2012 Decline Realignment	212565	RE12056057	SC12-114	98	100	Dolomite	1-ORG	0.5	1.17	25	0.0025
2012 Decline Realignment	212566	RE12056057	SC12-114	100	102	Dolomite	1-ORG	1	1.19	25	0.0025
2012 Decline Realignment	212567	RE12056057	SC12-114	102	104	Dolomite	1-ORG	1	1.29	25	0.0025
2012 Decline Realignment	212568	RE12056057	SC12-114	104	105.5	Dolomite	1-ORG	1	1.69	25	0.0025
2012 Decline Realignment	212569	RE12056057	SC12-114	105.5	106.66	Dolomite	1-ORG	0.5	2.59	25	0.0025
2012 Decline Realignment	212570	RE12056057	SC12-114	106.66	108	1-ORG	0.5	4.89	25	0.0025	
2012 Decline Realignment	212571	RE12056057	SC12-114	108	110	1-OFD	0.5	4.9	25	0.0025	
2012 Decline Realignment	212573	RE12056057	SC12-114	110	112	1-ORG	0.5	4.15	25	0.0025	

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	SampleCode	Ag_ppm	Al_pct	Ars_ppm	Au_ppm	
2012 Decline Realignment	212574	RE12056057	SC12-114	112	113.15	1-ORG	1	3.65	25	0.0025	
2012 Decline Realignment	212575	RE12056057	SC12-114	113.15	114.45	1-ORG	1	4.38	25	0.0025	
2012 Decline Realignment	212576	RE12056057	SC12-114	114.45	116	1-ORG	1	4.69	25	0.0025	
2012 Decline Realignment	212577	RE12056057	SC12-114	116	117.5	1-ORG	0.5	4.15	25	0.0025	
2012 Decline Realignment	212579	RE12056057	SC12-114	117.5	119	1-ORG	0.5	4.72	25	0.0025	
2012 Decline Realignment	212580	RE12056057	SC12-114	119	121	1-ORG	1	5.07	25	0.0025	
2012 Decline Realignment	212581	RE12056057	SC12-114	121	123	1-ORG	0.5	4.23	25	0.0025	
2012 Decline Realignment	212582	RE12056057	SC12-114	123	124.5	1-ORG	0.5	4.79	25	0.0025	
2012 Decline Realignment	212583	RE12056057	SC12-114	124.5	126.04	1-ORG	0.5	4.61	25	0.0025	
2012 Decline Realignment	212588	RE12056057	SC12-114	130.76	132	1-ORG	1	5.06	25	0.0025	
2012 Decline Realignment	212589	RE12056057	SC12-114	132	134	1-ORG	0.5	4.9	25	0.0025	
2012 Decline Realignment	212591	RE12056057	SC12-114	134	136	1-ORG	1	4.19	25	0.0025	
2012 Decline Realignment	212592	RE12056057	SC12-114	136	138	1-ORG	1	3.72	25	0.0025	
2012 Decline Realignment	212593	RE12056057	SC12-114	138	140	1-ORG	0.5	4.57	25	0.0025	
2012 Decline Realignment	212594	RE12056057	SC12-114	140	140.66	1-ORG	1	2.28	25	0.0025	
2012 Decline Realignment	212595	RE12056057	SC12-114	140.66	142	1-ORG	0.5	5.41	25	0.006	
2012 Decline Realignment	212596	RE12056057	SC12-114	142	143.5	1-ORG	1	4.89	25	0.0025	
2012 Decline Realignment	212598	RE12056057	SC12-114	143.5	145.08	1-ORG	0.5	5.62	25	0.0025	
2012 Decline Realignment	212540	RE12056058	SC12-114	59.04	61	1-ORG	1	3.38	25	0.01	
2012 Decline Realignment	212541	RE12056058	SC12-114	61	63	1-ORG	1	3.94	25	0.007	
2012 Decline Realignment	212543	RE12056058	SC12-114	63	65	1-ORG	1	4.75	25	0.0025	
2012 Decline Realignment	212544	RE12056058	SC12-114	65	67	1-ORG	0.5	5.22	25	0.0025	
2012 Decline Realignment	212545	RE12056058	SC12-114	67	69	1-ORG	0.5	5.42	50	0.0025	
2012 Decline Realignment	212546	RE12056058	SC12-114	69	70	1-ORG	0.5	5.31	25	0.006	
2012 Decline Realignment	212547	RE12056058	SC12-114	70	71	1-ORG	0.5	5.7	25	0.007	
2012 Decline Realignment	212548	RE12056058	SC12-114	71	73	1-ORG	0.5	5.36	25	0.005	
2012 Decline Realignment	212550	RE12056058	SC12-114	73	75	1-ORG	0.5	5.39	25	0.0025	
2012 Decline Realignment	208128	RE12056059	SC12-113	59.6	61.5	1-ORG	0.5	4.69	25	0.0025	
2012 Decline Realignment	208129	RE12056059	SC12-113	61.5	63.5	1-ORG	1	4.34	25	0.025	
2012 Decline Realignment	208130	RE12056059	SC12-113	63.5	65.5	1-ORG	0.5	4.7	25	0.0025	
2012 Decline Realignment	208131	RE12056059	SC12-113	65.5	67.5	1-ORG	0.5	5.2	25	0.0025	
2012 Decline Realignment	208133	RE12056059	SC12-113	67.5	69.5	1-ORG	0.5	5.22	25	0.0025	
2012 Decline Realignment	208134	RE12056059	SC12-113	69.5	71.1	1-ORG	0.5	3.86	25	0.0025	
2012 Decline Realignment	208135	RE12056059	SC12-113	71.1	72.3	Upper Sulfide Zone	1-ORG	1	4.48	25	0.0025
2012 Decline Realignment	208136	RE12056059	SC12-113	72.3	74.3	Upper Sulfide Zone	1-ORG	0.5	3.63	70	0.0025
2012 Decline Realignment	208137	RE12056059	SC12-113	74.3	75.1	Upper Sulfide Zone	1-ORG	1	4.24	80	0.0025
2012 Decline Realignment	208138	RE12056059	SC12-113	75.1	76	Upper Sulfide Zone	1-OFD	2	1.8	90	0.0025
2012 Decline Realignment	208140	RE12056059	SC12-113	76	76.8	Upper Sulfide Zone	1-ORG	1	3.71	70	0.0025
2012 Decline Realignment	208141	RE12056059	SC12-113	76.8	78.8		1-ORG	1	4.11	25	0.006
2012 Decline Realignment	208142	RE12056059	SC12-113	78.8	80.8		1-ORG	1	4.49	25	0.011
2012 Decline Realignment	208143	RE12056059	SC12-113	80.8	82.8		1-ORG	0.5	3.78	25	0.008
2012 Decline Realignment	208145	RE12056059	SC12-113	82.8	83.4		1-ORG	0.5	4.54	25	0.01

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo		SampleCode	Ag_ppm	Al_pct	Ars_ppm	Au_ppm
2012 Decline Realignment	208146	RE12056059	SC12-113	83.4	85.4		1-ORG	0.5	4.42	25	0.01
2012 Decline Realignment	208147	RE12056059	SC12-113	85.4	87.4		1-ORG	1	4.07	25	0.007
2012 Decline Realignment	208148	RE12056059	SC12-113	87.4	88.4		1-ORG	0.5	3.96	25	0.0025
2012 Decline Realignment	208242	RE12056120	SC12-116	24.4	25		1-ORG	0.5	4.21	25	0.0025
2012 Decline Realignment	208243	RE12056120	SC12-116	25	27		1-ORG	0.5	4.97	25	0.0025
2012 Decline Realignment	208244	RE12056120	SC12-116	27	29		1-ORG	0.5	5.24	25	0.0025
2012 Decline Realignment	208245	RE12056120	SC12-116	29	31		1-ORG	0.5	5.51	25	0.0025
2012 Decline Realignment	208247	RE12056120	SC12-116	31	33		1-ORG	1	5.48	25	0.007
2012 Decline Realignment	208248	RE12056120	SC12-116	33	35		1-ORG	0.5	4.29	25	0.0025
2012 Decline Realignment	208249	RE12056120	SC12-116	35	37		1-ORG	0.5	4.9	25	0.0025
2012 Decline Realignment	208250	RE12056120	SC12-116	37	39		1-ORG	0.5	3.31	25	0.0025
2012 Decline Realignment	208251	RE12056120	SC12-116	39	41		1-ORG	0.5	3.88	25	0.0025
2012 Decline Realignment	208253	RE12056120	SC12-116	41	42.9		1-ORG	0.5	3.64	25	0.0025
2012 Decline Realignment	208254	RE12056120	SC12-116	42.9	44		1-ORG	0.5	5.62	50	0.0025
2012 Decline Realignment	208255	RE12056120	SC12-116	44	46		1-ORG	0.5	4.57	25	0.0025
2012 Decline Realignment	208256	RE12056121	SC12-116	46	48		1-ORG	0.5	5.33	25	0.0025
2012 Decline Realignment	208257	RE12056121	SC12-116	48	49.1		1-OFD	0.5	6.49	25	0.0025
2012 Decline Realignment	208259	RE12056121	SC12-116	49.1	50.2		1-ORG	1	4.27	25	0.0025
2012 Decline Realignment	208260	RE12056121	SC12-116	50.2	52	Dolomite	1-ORG	1	0.74	25	0.0025
2012 Decline Realignment	208261	RE12056121	SC12-116	52	54	Dolomite	1-ORG	0.5	0.79	25	0.0025
2012 Decline Realignment	208262	RE12056121	SC12-116	54	56	Dolomite	1-ORG	0.5	1.16	25	0.0025
2012 Decline Realignment	208263	RE12056121	SC12-116	56	57	Dolomite	1-ORG	2	1.21	25	0.0025
2012 Decline Realignment	208265	RE12056121	SC12-116	57	59	Dolomite	1-ORG	1	2.22	25	0.0025
2012 Decline Realignment	208266	RE12056121	SC12-116	59	61		1-ORG	1	4.9	25	0.0025
2012 Decline Realignment	208267	RE12056121	SC12-116	61	63		1-ORG	0.5	4.53	25	0.038
2012 Decline Realignment	208268	RE12056121	SC12-116	63	65		1-ORG	0.5	3.13	25	0.0025
2012 Decline Realignment	208269	RE12056121	SC12-116	65	67		1-ORG	0.5	4.52	25	0.0025
2012 Decline Realignment	208271	RE12056121	SC12-116	67	69		1-ORG	0.5	4.43	25	0.0025
2012 Decline Realignment	208272	RE12056121	SC12-116	69	71		1-ORG	0.5	4.87	25	0.0025
2012 Decline Realignment	208273	RE12056121	SC12-116	71	73		1-ORG	0.5	3.52	25	0.0025
2012 Decline Realignment	208274	RE12056121	SC12-116	73	75		1-ORG	0.5	4.27	25	0.0025
2012 Decline Realignment	208275	RE12056121	SC12-116	75	76.6		1-OFD	0.5	4.68	25	0.0025
2012 Decline Realignment	208278	RE12056121	SC12-116	78.6	79.5	IG last 5 inches	1-ORG	0.5	5.14	25	0.0025
2012 Decline Realignment	208277	RE12059936	SC12-116	76.6	78.6	IG last 5 inches	1-ORG	0.5	5.36	25	0.0025
2012 Decline Realignment	212584	RE12059937	SC12-114	126.04	127.5	intrusive dike	1-OFD	1	6.31	25	0.0025
2012 Decline Realignment	212586	RE12059937	SC12-114	127.5	129	intrusive dike	1-ORG	1	6.3	25	0.0025
2012 Decline Realignment	212587	RE12059937	SC12-114	129	130.76	intrusive dike	1-ORG	1	6.4	25	0.0025
2012 Decline Realignment	212620	RE12062433	SC12-117	38	40		1-ORG	0.5	4.49	25	0.0025
2012 Decline Realignment	212621	RE12062433	SC12-117	40	42		1-ORG	0.5	4.65	25	0.0025
2012 Decline Realignment	212623	RE12062433	SC12-117	44	45.11		1-ORG	1	3.77	25	0.0025
2012 Decline Realignment	212625	RE12062433	SC12-117	45.11	46.43		1-ORG	15	4.24	150	0.0025
2012 Decline Realignment	212634	RE12062433	SC12-117	57.3	58.11		1-ORG	8	0.66	25	0.02

Black Butte Copper 2012 Johnny Lee Decline Appendix B-3 ALS Chemex Acid Base Accounting Results

Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	SampleCode	Ag_ppm	Al_pct	Ars_ppm	Au_ppm	
2012 Decline Realignment	212638	RE12062433	SC12-117	60	61	1-ORG	15	0.13	90	0.0025	
2012 Decline Realignment	212639	RE12062433	SC12-117	61	61.93	1-ORG	10	0.66	100	0.0025	
2012 Decline Realignment	212645	RE12062435	SC12-117	71	73	1-OFD	1	3.92	25	0.0025	
2012 Decline Realignment	212647	RE12062435	SC12-117	73	75	1-ORG	1	4.49	25	0.0025	
2012 Decline Realignment	212648	RE12062435	SC12-117	75	77	1-ORG	1	3.92	25	0.0025	
2012 Decline Realignment	212649	RE12062435	SC12-117	77	79	1-ORG	0.5	4.62	25	0.0025	
2012 Decline Realignment	212651	RE12062435	SC12-117	79	81	1-ORG	1	4.46	25	0.0025	
2012 Decline Realignment	212652	RE12062435	SC12-117	81	83	1-ORG	1	4.08	25	0.0025	
2012 Decline Realignment	212653	RE12062435	SC12-117	83	85	1-ORG	0.5	4.09	25	0.0025	
2012 Decline Realignment	212654	RE12062435	SC12-117	85	87	1-ORG	1	4.04	25	0.0025	
2012 Decline Realignment	212655	RE12062435	SC12-117	87	88.48	1-ORG	0.5	3.97	25	0.0025	
2012 Decline Realignment	212656	RE12062435	SC12-117	88.48	90	1-ORG	1	4.65	25	0.0025	
2012 Decline Realignment	212657	RE12062435	SC12-117	90	91.5	1-ORG	1	4.97	25	0.0025	
2012 Decline Realignment	212658	RE12062435	SC12-117	91.5	92.52	1-ORG	2	5.13	25	0.006	
2012 Decline Realignment	212660	RE12062435	SC12-117	92.52	94	1-ORG	1	4.62	25	0.011	
2012 Decline Realignment	212661	RE12062435	SC12-117	94	96	1-ORG	1	4.56	25	0.005	
2012 Decline Realignment	212662	RE12062435	SC12-117	96	98	1-ORG	2	4.65	25	0.0025	
2012 Decline Realignment	212663	RE12062435	SC12-117	98	100	1-ORG	1	4.42	25	0.0025	
2012 Decline Realignment	212664	RE12062435	SC12-117	100	102	1-ORG	2	4.06	25	0.0025	
2012 Decline Realignment	212665	RE12062435	SC12-117	102	103.98	1-ORG	1	4.81	25	0.0025	
2012 Decline Realignment	210530	RE12064256	SC12-115	47.8	49.5	1-ORG	0.5	5.63	25	0.008	
2012 Decline Realignment	210532	RE12064256	SC12-115	49.5	51.5	1-ORG	0.5	5.64	25	0.01	
2012 Decline Realignment	210533	RE12064256	SC12-115	51.5	53.5	1-ORG	0.5	5.49	25	0.005	
2012 Decline Realignment	210535	RE12064256	SC12-115	53.5	55.5	1-ORG	1	5.52	25	0.01	
2012 Decline Realignment	210536	RE12064256	SC12-115	55.5	56.65	1-OFD	0.5	5.89	25	0.007	
2012 Decline Realignment	210538	RE12064256	SC12-115	56.65	58	1-ORG	0.5	3.6	25	0.0025	
2012 Decline Realignment	210539	RE12064256	SC12-115	58	60	1-ORG	0.5	4.61	25	0.009	
2012 Decline Realignment	210540	RE12064256	SC12-115	60	62	1-ORG	0.5	3.58	25	0.008	
2012 Decline Realignment	210541	RE12064256	SC12-115	62	64	1-ORG	0.5	3.73	25	0.01	
2012 Decline Realignment	210542	RE12064256	SC12-115	64	65.2	1-ORG	0.5	3.7	25	0.006	
2012 Decline Realignment	210543	RE12064256	SC12-115	65.2	67	1-ORG	0.5	5.35	25	0.006	
2012 Decline Realignment	210544	RE12064256	SC12-115	67	69	1-ORG	0.5	5.13	25	0.014	
2012 Decline Realignment	210546	RE12064256	SC12-115	69	71	1-ORG	0.5	5.33	25	0.009	
2012 Decline Realignment	210547	RE12064256	SC12-115	71	72.8	1-ORG	0.5	5.64	25	0.009	
2012 Decline Realignment	210548	RE12064256	SC12-115	72.8	74	Dolomite	1-ORG	0.5	0.8	25	0.008
2012 Decline Realignment	210549	RE12064256	SC12-115	74	76	Dolomite	1-ORG	1	0.75	25	0.007
2012 Decline Realignment	210550	RE12064256	SC12-115	76	78	Dolomite	1-ORG	0.5	1.12	25	0.005
2012 Decline Realignment	210552	RE12064256	SC12-115	78	80	Dolomite	1-ORG	0.5	1.47	25	0.0025
2012 Decline Realignment	210553	RE12064256	SC12-115	80	81.9	Dolomite	1-ORG	0.5	2.43	25	0.0025
2012 Decline Realignment	210554	RE12064256	SC12-115	81.9	83.5	1-ORG	0.5	5.26	25	0.009	
2012 Decline Realignment	210555	RE12064256	SC12-115	83.5	85	1-ORG	0.5	5.33	25	0.014	
2012 Decline Realignment	210556	RE12064256	SC12-115	85	87	1-OFD	0.5	3.21	25	0.0025	



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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	SampleCode	Ag_ppm	Al_pct	Ars_ppm	Au_ppm	
2012 Decline Realignment	210558	RE12064256	SC12-115	87	89	1-ORG	0.5	4.62	25	0.006	
2012 Decline Realignment	210559	RE12064256	SC12-115	89	91	1-ORG	0.5	4.93	25	0.005	
2012 Decline Realignment	210560	RE12064256	SC12-115	91	93	1-ORG	0.5	5.08	25	0.0025	
2012 Decline Realignment	210561	RE12064256	SC12-115	93	95	1-ORG	0.5	4.65	25	0.0025	
2012 Decline Realignment	210562	RE12064256	SC12-115	95	97	1-ORG	0.5	4.3	25	0.006	
2012 Decline Realignment	210563	RE12064256	SC12-115	97	99	1-ORG	0.5	4.7	25	0.005	
2012 Decline Realignment	210564	RE12064256	SC12-115	99.9	101	1-ORG	0.5	5.92	25	0.005	
2012 Decline Realignment	212617	RE12065437	SC12-117	34.84	36	1-OFD	0.5	4.36	25	0.0025	
2012 Decline Realignment	212619	RE12065437	SC12-117	36	38	1-ORG	0.5	4.83	25	0.0025	
2012 Decline Realignment	212622	RE12065437	SC12-117	42	44	1-ORG	0.5	4.24	25	0.0025	
2012 Decline Realignment	212626	RE12065437	SC12-117	46.43	47.22	1-ORG	14	3.99	190	0.0025	
2012 Decline Realignment	212627	RE12065437	SC12-117	47.22	48.61	1-ORG	9	0.98	110	0.0025	
2012 Decline Realignment	212628	RE12065437	SC12-117	48.61	50	1-ORG	0.5	5.8	70	0.006	
2012 Decline Realignment	212629	RE12065437	SC12-117	50	52	1-OFD	0.5	5.43	25	0.0025	
2012 Decline Realignment	212631	RE12065437	SC12-117	52	54	1-ORG	0.5	7.51	25	0.0025	
2012 Decline Realignment	212632	RE12065437	SC12-117	54	56	1-ORG	0.5	8.96	25	0.0025	
2012 Decline Realignment	212633	RE12065437	SC12-117	56	57.3	1-ORG	0.5	5.78	25	0.0025	
2012 Decline Realignment	212635	RE12065437	SC12-117	58.11	58.81	1-ORG	5	4.82	60	0.0025	
2012 Decline Realignment	212636	RE12065437	SC12-117	58.81	60	1-ORG	15	0.54	80	0.0025	
2012 Decline Realignment	212640	RE12065437	SC12-117	61.93	63	1-ORG	0.5	5.22	25	0.0025	
2012 Decline Realignment	212641	RE12065437	SC12-117	63	65	1-ORG	6	4.34	70	0.0025	
2012 Decline Realignment	212642	RE12065437	SC12-117	65	67	1-ORG	0.5	4.48	25	0.0025	
2012 Decline Realignment	212643	RE12065437	SC12-117	67	69	1-ORG	0.5	3.96	25	0.0025	
2012 Decline Realignment	212644	RE12065437	SC12-117	69	71	1-ORG	0.5	3.98	25	0.0025	
2012 Decline Realignment	210565	RE12071230	SC12-115	101	103	1-ORG	1	4.34	25	0.005	
2012 Decline Realignment	210566	RE12071230	SC12-115	103	105	1-ORG	0.5	4.52	25	0.0025	
2012 Decline Realignment	210567	RE12071230	SC12-115	105	107	1-ORG	1	4.57	25	0.005	
2012 Decline Realignment	210568	RE12071230	SC12-115	107	108.57	1-ORG	1	4.6	25	0.005	
2012 Decline Realignment	210569	RE12071230	SC12-115	108.57	110	1-ORG	1	6.87	25	0.006	
2012 Decline Realignment	210570	RE12071230	SC12-115	110	112	1-ORG	1	7.37	25	0.006	
2012 Decline Realignment	210572	RE12071230	SC12-115	112	114	1-ORG	1	6.69	25	0.009	
2012 Decline Realignment	210573	RE12071230	SC12-115	114	116	1-OFD	1	7.09	25	0.009	
2012 Decline Realignment	210575	RE12071230	SC12-115	116	117.6	1-ORG	0.5	8.1	25	0.006	
2012 Decline Realignment	210576	RE12071230	SC12-115	117.6	118.6	1-ORG	1	7.16	25	0.006	
2012 Decline Realignment	210577	RE12071230	SC12-115	118.6	120	1-ORG	1	4.12	25	0.005	
2012 Decline Realignment	210578	RE12071230	SC12-115	120	122	1-ORG	1	3.18	25	0.005	
2012 Decline Realignment	210580	RE12071230	SC12-115	122	124	1-ORG	1	3.78	25	0.01	
2012 Decline Realignment	210581	RE12071230	SC12-115	124	125.25	1-ORG	1	4.44	25	0.005	
2012 Decline Realignment	210582	RE12071230	SC12-115	125.25	127	intrusive dike	1-ORG	2	6.16	25	0.0025
2012 Decline Realignment	210583	RE12071230	SC12-115	127	129	intrusive dike	1-OFD	1	5.55	25	0.005
2012 Decline Realignment	210585	RE12071230	SC12-115	129	131	intrusive dike	1-ORG	1	5.84	25	0.006
2012 Decline Realignment	210586	RE12071230	SC12-115	131	133	intrusive dike	1-ORG	1	6.36	25	0.006

Black Butte Copper 2012 Johnny Lee Decline Appendix B-3 ALS Chemex Acid Base Accounting Results

Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo		SampleCode	Ag_ppm	Al_pct	Ars_ppm	Au_ppm
2012 Decline Realignment	210587	RE12071230	SC12-115	133	135	intrusive dike	1-ORG	1	6.4	25	0.006
2012 Decline Realignment	210588	RE12071230	SC12-115	135	137	intrusive dike	1-ORG	1	6.02	25	0.006
2012 Decline Realignment	210589	RE12071230	SC12-115	137	139	intrusive dike	1-ORG	2	6.12	25	0.005
2012 Decline Realignment	210591	RE12071230	SC12-115	139	141	intrusive dike	1-ORG	1	6.29	25	0.008
2012 Decline Realignment	210592	RE12071230	SC12-115	141	143	intrusive dike	1-ORG	2	6.24	25	0.007
2012 Decline Realignment	210593	RE12071230	SC12-115	143	145	intrusive dike	1-ORG	2	6.12	25	0.005
2012 Decline Realignment	210594	RE12071230	SC12-115	145	147	intrusive dike	1-ORG	2	6.08	25	0.011
2012 Decline Realignment	210596	RE12071230	SC12-115	147	148.25	intrusive dike	1-ORG	2	5.7	25	0.006
2012 Decline Realignment	210597	RE12071230	SC12-115	148.25	150.25		1-ORG	1	4.53	25	0.005
2012 Decline Realignment	210598	RE12071230	SC12-115	150.25	152.2		1-ORG	1	4.64	25	0.006
2012 Decline Realignment	210599	RE12071230	SC12-115	152.2	154.2		1-ORG	0.5	4.41	25	0.0025
2012 Decline Realignment	210600	RE12071230	SC12-115	154.2	156.2		1-ORG	1	4.38	25	0.006
2012 Decline Realignment	210601	RE12071230	SC12-115	156.2	158.1		1-ORG	0.5	4.73	25	0.006
2012 Decline Realignment	210602	RE12071230	SC12-115	158.1	160	Upper Sulfide Zone	1-ORG	0.5	3.93	25	0.007
2012 Decline Realignment	210604	RE12071230	SC12-115	160	161.5	Upper Sulfide Zone	1-ORG	1	3.9	70	0.051
2012 Decline Realignment	210605	RE12071230	SC12-115	161.5	162.75	Upper Sulfide Zone	1-ORG	1	2.97	110	0.007
2012 Decline Realignment	210607	RE12071230	SC12-115	162.75	163.9		1-ORG	0.5	3.75	25	0.007
2012 Decline Realignment	210608	RE12071230	SC12-115	163.9	165		1-ORG	0.5	4.56	25	0.006
2012 Decline Realignment	210609	RE12071230	SC12-115	165	167		1-ORG	0.5	0.59	25	0.006
2012 Decline Realignment	210610	RE12071230	SC12-115	167	168.5		1-ORG	0.5	3.58	25	0.005
2012 Decline Realignment	210611	RE12071230	SC12-115	168.5	170		1-ORG	0.5	4.37	25	0.009
2012 Decline Realignment	210612	RE12071230	SC12-115	170	172		1-ORG	0.5	3.75	25	0.0025
2012 Decline Realignment	210613	RE12071230	SC12-115	172	174		1-OFD	0.5	4.52	25	0.025
2012 Decline Realignment	210615	RE12071230	SC12-115	174	176		1-ORG	0.5	4.28	25	0.0025
2012 Decline Realignment	210616	RE12071230	SC12-115	176	178		1-ORG	0.5	4.03	25	0.0025
2012 Decline Realignment	210617	RE12071230	SC12-115	178	179.94		1-ORG	0.5	4.13	25	0.005
2012 Decline Realignment	210618	RE12071230	SC12-115	179.94	181.5		1-ORG	0.5	4.89	25	0.006
2012 Decline Realignment	210619	RE12071230	SC12-115	181.5	183		1-ORG	0.5	5.32	25	0.005
2012 Decline Realignment	210620	RE12071230	SC12-115	183	185		1-ORG	0.5	5.5	25	0.006
2012 Decline Realignment	210621	RE12071230	SC12-115	185	187		1-ORG	0.5	5.8	25	0.005
2012 Decline Realignment	210622	RE12071230	SC12-115	187	189		1-ORG	0.5	5.85	25	0.0025
2012 Decline Realignment	210623	RE12071230	SC12-115	189	191		1-ORG	0.5	6.27	25	0.013
2012 Decline Realignment	210625	RE12071230	SC12-115	191	193		1-ORG	0.5	6.33	25	0.009
2012 Decline Realignment	210626	RE12071230	SC12-115	193	195		1-ORG	0.5	5.89	25	0.0025
2012 Decline Realignment	210627	RE12071230	SC12-115	195	197		1-ORG	0.5	5.23	25	0.0025
2012 Decline Realignment	210628	RE12071230	SC12-115	197	199		1-ORG	0.5	4.68	25	0.005
2012 Decline Realignment	210629	RE12071230	SC12-115	199	200.5		1-ORG	0.5	5.62	25	0.0025
2012 Decline Realignment	210630	RE12071230	SC12-115	200.5	201.7		1-ORG	0.5	6.65	25	0.006

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Ba_Method	Ba_ppm	Be_ppm	Bi_ppm	Ca_pct	Cd_ppm	Co_ppm
2012 Decline Realignment	208102	RE12048006	SC12-113	18.33	20.17	ALS_ME-ICP61a	290	5	10	6.14	5	10
2012 Decline Realignment	208104	RE12048006	SC12-113	20.17	22.14	ALS_ME-ICP61a	280	5	10	7.1	5	10
2012 Decline Realignment	208105	RE12048006	SC12-113	22.14	24.13	ALS_ME-ICP61a	570	5	10	7.11	5	10
2012 Decline Realignment	208106	RE12048006	SC12-113	24.13	26.12	ALS_ME-ICP61a	300	5	10	7.61	5	10
2012 Decline Realignment	208107	RE12048006	SC12-113	26.12	28.08	ALS_ME-ICP61a	230	5	10	7.62	5	10
2012 Decline Realignment	208108	RE12048006	SC12-113	28.08	29.8	ALS_ME-ICP61a	250	5	10	8.06	5	10
2012 Decline Realignment	208110	RE12048006	SC12-113	29.8	31.76	ALS_ME-ICP61a	220	5	10	8.89	5	10
2012 Decline Realignment	208111	RE12048006	SC12-113	31.76	33.56	ALS_ME-ICP61a	260	5	10	7.75	5	10
2012 Decline Realignment	208112	RE12048006	SC12-113	33.56	35.38	ALS_ME-ICP61a	240	5	10	8.61	5	10
2012 Decline Realignment	208113	RE12048006	SC12-113	35.38	37.2	ALS_ME-ICP61a	250	5	10	7.57	5	10
2012 Decline Realignment	208114	RE12048006	SC12-113	37.2	39.18	ALS_ME-ICP61a	250	5	10	7.3	5	10
2012 Decline Realignment	208115	RE12048006	SC12-113	39.18	41.14	ALS_ME-ICP61a	240	5	10	7.57	5	10
2012 Decline Realignment	208116	RE12048006	SC12-113	41.14	43.1	ALS_ME-ICP61a	460	5	10	5.71	5	10
2012 Decline Realignment	208118	RE12048006	SC12-113	43.1	45.01	ALS_ME-ICP61a	250	5	10	6.81	5	10
2012 Decline Realignment	208119	RE12048006	SC12-113	45.01	47	ALS_ME-ICP61a	280	5	10	5.38	5	10
2012 Decline Realignment	208120	RE12048006	SC12-113	47	47.7	ALS_ME-ICP61a	270	5	10	4.48	5	10
2012 Decline Realignment	208121	RE12048006	SC12-113	47.7	49.7	ALS_ME-ICP61a	280	5	10	3	5	10
2012 Decline Realignment	208122	RE12048006	SC12-113	49.7	51.7	ALS_ME-ICP61a	260	5	10	4.17	5	10
2012 Decline Realignment	208123	RE12048006	SC12-113	51.7	53.7	ALS_ME-ICP61a	270	5	10	4.68	5	10
2012 Decline Realignment	208124	RE12048006	SC12-113	53.7	55.7	ALS_ME-ICP61a	280	5	10	4.72	5	10
2012 Decline Realignment	208125	RE12048006	SC12-113	55.7	57.6	ALS_ME-ICP61a	260	5	10	5.05	5	10
2012 Decline Realignment	208127	RE12048006	SC12-113	57.6	59.6	ALS_ME-ICP61a	240	5	10	6.53	5	10
2012 Decline Realignment	212551	RE12056057	SC12-114	75	77	ALS_ME-ICP61a	470	5	10	8.5	5	10
2012 Decline Realignment	212552	RE12056057	SC12-114	77	79	ALS_ME-ICP61a	340	5	10	7.59	5	10
2012 Decline Realignment	212553	RE12056057	SC12-114	79	81	ALS_ME-ICP61a	230	5	10	9.21	5	10
2012 Decline Realignment	212554	RE12056057	SC12-114	81	83	ALS_ME-ICP61a	560	5	10	8.28	5	10
2012 Decline Realignment	212555	RE12056057	SC12-114	83	85	ALS_ME-ICP61a	480	5	10	10.4	5	10
2012 Decline Realignment	212556	RE12056057	SC12-114	85	87	ALS_ME-ICP61a	330	5	10	4.54	5	10
2012 Decline Realignment	212557	RE12056057	SC12-114	87	89	ALS_ME-ICP61a	320	5	10	4.96	5	10
2012 Decline Realignment	212559	RE12056057	SC12-114	89	91	ALS_ME-ICP61a	340	5	10	4.98	5	10
2012 Decline Realignment	212560	RE12056057	SC12-114	91	93	ALS_ME-ICP61a	450	5	10	5.43	5	10
2012 Decline Realignment	212561	RE12056057	SC12-114	93	94.19	ALS_ME-ICP61a	360	5	10	10.35	5	10
2012 Decline Realignment	212562	RE12056057	SC12-114	94.19	96	ALS_ME-ICP61a	140	5	10	18.6	5	10
2012 Decline Realignment	212563	RE12056057	SC12-114	96	98	ALS_ME-ICP61a	470	5	10	19.1	5	5
2012 Decline Realignment	212565	RE12056057	SC12-114	98	100	ALS_ME-ICP61a	240	5	10	19	5	5
2012 Decline Realignment	212566	RE12056057	SC12-114	100	102	ALS_ME-ICP61a	140	5	10	17.75	5	5
2012 Decline Realignment	212567	RE12056057	SC12-114	102	104	ALS_ME-ICP61a	140	5	10	16.95	5	5
2012 Decline Realignment	212568	RE12056057	SC12-114	104	105.5	ALS_ME-ICP61a	170	5	10	15.5	5	10
2012 Decline Realignment	212569	RE12056057	SC12-114	105.5	106.66	ALS_ME-ICP61a	260	5	10	13.4	5	5
2012 Decline Realignment	212570	RE12056057	SC12-114	106.66	108	ALS_ME-ICP61a	370	5	10	4.79	5	10
2012 Decline Realignment	212571	RE12056057	SC12-114	108	110	ALS_ME-ICP61a	350	5	10	5.17	5	10
2012 Decline Realignment	212573	RE12056057	SC12-114	110	112	ALS_ME-ICP61a	310	5	10	8.25	5	10

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Ba_Method	Ba_ppm	Be_ppm	Bi_ppm	Ca_pct	Cd_ppm	Co_ppm
2012 Decline Realignment	212574	RE12056057	SC12-114	112	113.15	ALS_ME-ICP61a	280	5	10	9.88	5	5
2012 Decline Realignment	212575	RE12056057	SC12-114	113.15	114.45	ALS_ME-ICP61a	280	5	10	7.59	5	10
2012 Decline Realignment	212576	RE12056057	SC12-114	114.45	116	ALS_ME-ICP61a	300	5	10	6.09	5	10
2012 Decline Realignment	212577	RE12056057	SC12-114	116	117.5	ALS_ME-ICP61a	280	5	10	7.72	5	10
2012 Decline Realignment	212579	RE12056057	SC12-114	117.5	119	ALS_ME-ICP61a	300	5	10	5.4	5	10
2012 Decline Realignment	212580	RE12056057	SC12-114	119	121	ALS_ME-ICP61a	390	5	10	6.05	5	10
2012 Decline Realignment	212581	RE12056057	SC12-114	121	123	ALS_ME-ICP61a	280	5	10	8.39	5	10
2012 Decline Realignment	212582	RE12056057	SC12-114	123	124.5	ALS_ME-ICP61a	300	5	10	5.5	5	10
2012 Decline Realignment	212583	RE12056057	SC12-114	124.5	126.04	ALS_ME-ICP61a	290	5	10	7.24	5	10
2012 Decline Realignment	212588	RE12056057	SC12-114	130.76	132	ALS_ME-ICP61a	390	5	10	7.68	5	10
2012 Decline Realignment	212589	RE12056057	SC12-114	132	134	ALS_ME-ICP61a	280	5	10	5.79	5	10
2012 Decline Realignment	212591	RE12056057	SC12-114	134	136	ALS_ME-ICP61a	250	5	10	9.54	5	10
2012 Decline Realignment	212592	RE12056057	SC12-114	136	138	ALS_ME-ICP61a	220	5	10	8.75	5	10
2012 Decline Realignment	212593	RE12056057	SC12-114	138	140	ALS_ME-ICP61a	250	5	10	6.93	5	10
2012 Decline Realignment	212594	RE12056057	SC12-114	140	140.66	ALS_ME-ICP61a	330	5	10	14.8	5	10
2012 Decline Realignment	212595	RE12056057	SC12-114	140.66	142	ALS_ME-ICP61a	380	5	10	4.31	5	10
2012 Decline Realignment	212596	RE12056057	SC12-114	142	143.5	ALS_ME-ICP61a	280	5	10	6.91	5	10
2012 Decline Realignment	212598	RE12056057	SC12-114	143.5	145.08	ALS_ME-ICP61a	560	5	10	4.42	5	10
2012 Decline Realignment	212540	RE12056058	SC12-114	59.04	61	ALS_ME-ICP61a	240	5	10	10.3	5	10
2012 Decline Realignment	212541	RE12056058	SC12-114	61	63	ALS_ME-ICP61a	330	5	10	9.57	5	10
2012 Decline Realignment	212543	RE12056058	SC12-114	63	65	ALS_ME-ICP61a	400	5	10	6.4	5	10
2012 Decline Realignment	212544	RE12056058	SC12-114	65	67	ALS_ME-ICP61a	470	5	10	4.7	5	10
2012 Decline Realignment	212545	RE12056058	SC12-114	67	69	ALS_ME-ICP61a	360	5	10	4.03	5	10
2012 Decline Realignment	212546	RE12056058	SC12-114	69	70	ALS_ME-ICP61a	420	5	10	3.07	5	10
2012 Decline Realignment	212547	RE12056058	SC12-114	70	71	ALS_ME-ICP61a	410	5	10	1.61	5	10
2012 Decline Realignment	212548	RE12056058	SC12-114	71	73	ALS_ME-ICP61a	500	5	10	3.41	5	10
2012 Decline Realignment	212550	RE12056058	SC12-114	73	75	ALS_ME-ICP61a	400	5	10	3.63	5	10
2012 Decline Realignment	208128	RE12056059	SC12-113	59.6	61.5	ALS_ME-ICP61a	250	5	10	6.72	5	10
2012 Decline Realignment	208129	RE12056059	SC12-113	61.5	63.5	ALS_ME-ICP61a	220	5	10	7.16	5	10
2012 Decline Realignment	208130	RE12056059	SC12-113	63.5	65.5	ALS_ME-ICP61a	240	5	10	6.7	5	10
2012 Decline Realignment	208131	RE12056059	SC12-113	65.5	67.5	ALS_ME-ICP61a	290	5	10	5.73	5	10
2012 Decline Realignment	208133	RE12056059	SC12-113	67.5	69.5	ALS_ME-ICP61a	240	5	10	6.49	5	10
2012 Decline Realignment	208134	RE12056059	SC12-113	69.5	71.1	ALS_ME-ICP61a	200	5	10	8.18	5	10
2012 Decline Realignment	208135	RE12056059	SC12-113	71.1	72.3	ALS_ME-ICP61a	290	5	10	5.85	5	10
2012 Decline Realignment	208136	RE12056059	SC12-113	72.3	74.3	ALS_ME-ICP61a	210	5	10	6.17	5	10
2012 Decline Realignment	208137	RE12056059	SC12-113	74.3	75.1	ALS_ME-ICP61a	100	5	10	3.59	5	10
2012 Decline Realignment	208138	RE12056059	SC12-113	75.1	76	ALS_ME-ICP61a	70	5	10	2.37	5	5
2012 Decline Realignment	208140	RE12056059	SC12-113	76	76.8	ALS_ME-ICP61a	170	5	10	7.92	5	10
2012 Decline Realignment	208141	RE12056059	SC12-113	76.8	78.8	ALS_ME-ICP61a	220	5	10	8.99	5	10
2012 Decline Realignment	208142	RE12056059	SC12-113	78.8	80.8	ALS_ME-ICP61a	240	5	10	7.49	5	10
2012 Decline Realignment	208143	RE12056059	SC12-113	80.8	82.8	ALS_ME-ICP61a	250	5	10	8.59	5	10
2012 Decline Realignment	208145	RE12056059	SC12-113	82.8	83.4	ALS_ME-ICP61a	240	5	10	6.58	5	10

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Ba_Method	Ba_ppm	Be_ppm	Bi_ppm	Ca_pct	Cd_ppm	Co_ppm
2012 Decline Realignment	208146	RE12056059	SC12-113	83.4	85.4	ALS_ME-ICP61a	280	5	10	7.28	5	10
2012 Decline Realignment	208147	RE12056059	SC12-113	85.4	87.4	ALS_ME-ICP61a	240	5	10	6.89	5	10
2012 Decline Realignment	208148	RE12056059	SC12-113	87.4	88.4	ALS_ME-ICP61a	250	5	10	8.58	5	10
2012 Decline Realignment	208242	RE12056120	SC12-116	24.4	25	ALS_ME-ICP61a	320	5	10	8.12	5	10
2012 Decline Realignment	208243	RE12056120	SC12-116	25	27	ALS_ME-ICP61a	370	5	10	5.26	5	10
2012 Decline Realignment	208244	RE12056120	SC12-116	27	29	ALS_ME-ICP61a	390	5	10	4.13	5	10
2012 Decline Realignment	208245	RE12056120	SC12-116	29	31	ALS_ME-ICP61a	460	5	10	3.07	5	10
2012 Decline Realignment	208247	RE12056120	SC12-116	31	33	ALS_ME-ICP61a	470	5	10	2.91	5	10
2012 Decline Realignment	208248	RE12056120	SC12-116	33	35	ALS_ME-ICP61a	350	5	10	9.23	5	10
2012 Decline Realignment	208249	RE12056120	SC12-116	35	37	ALS_ME-ICP61a	360	5	10	6.46	5	10
2012 Decline Realignment	208250	RE12056120	SC12-116	37	39	ALS_ME-ICP61a	230	5	10	10.85	5	10
2012 Decline Realignment	208251	RE12056120	SC12-116	39	41	ALS_ME-ICP61a	260	5	10	9.98	5	10
2012 Decline Realignment	208253	RE12056120	SC12-116	41	42.9	ALS_ME-ICP61a	240	5	10	10.65	5	10
2012 Decline Realignment	208254	RE12056120	SC12-116	42.9	44	ALS_ME-ICP61a	550	5	10	3.53	5	10
2012 Decline Realignment	208255	RE12056120	SC12-116	44	46	ALS_ME-ICP61a	340	5	10	5.27	5	10
2012 Decline Realignment	208256	RE12056121	SC12-116	46	48	ALS_ME-ICP61a	420	5	10	4.6	5	10
2012 Decline Realignment	208257	RE12056121	SC12-116	48	49.1	ALS_ME-ICP61a	470	5	10	2.3	5	10
2012 Decline Realignment	208259	RE12056121	SC12-116	49.1	50.2	ALS_ME-ICP61a	300	5	10	8.48	5	10
2012 Decline Realignment	208260	RE12056121	SC12-116	50.2	52	ALS_ME-ICP61a	90	5	10	19.05	5	10
2012 Decline Realignment	208261	RE12056121	SC12-116	52	54	ALS_ME-ICP61a	90	5	10	19.25	5	10
2012 Decline Realignment	208262	RE12056121	SC12-116	54	56	ALS_ME-ICP61a	90	5	10	18.85	5	10
2012 Decline Realignment	208263	RE12056121	SC12-116	56	57	ALS_ME-ICP61a	100	5	10	17.35	5	10
2012 Decline Realignment	208265	RE12056121	SC12-116	57	59	ALS_ME-ICP61a	250	5	10	14.25	5	5
2012 Decline Realignment	208266	RE12056121	SC12-116	59	61	ALS_ME-ICP61a	430	5	10	3.88	5	10
2012 Decline Realignment	208267	RE12056121	SC12-116	61	63	ALS_ME-ICP61a	330	5	10	5.98	5	10
2012 Decline Realignment	208268	RE12056121	SC12-116	63	65	ALS_ME-ICP61a	260	5	10	11.75	5	10
2012 Decline Realignment	208269	RE12056121	SC12-116	65	67	ALS_ME-ICP61a	330	5	10	6.43	5	10
2012 Decline Realignment	208271	RE12056121	SC12-116	67	69	ALS_ME-ICP61a	340	5	10	5.56	5	10
2012 Decline Realignment	208272	RE12056121	SC12-116	69	71	ALS_ME-ICP61a	410	5	10	6.17	5	20
2012 Decline Realignment	208273	RE12056121	SC12-116	71	73	ALS_ME-ICP61a	340	5	10	10.65	5	10
2012 Decline Realignment	208274	RE12056121	SC12-116	73	75	ALS_ME-ICP61a	420	5	10	7.52	5	10
2012 Decline Realignment	208275	RE12056121	SC12-116	75	76.6	ALS_ME-ICP61a	690	5	10	6.07	5	10
2012 Decline Realignment	208278	RE12056121	SC12-116	78.6	79.5	ALS_ME-ICP61a	450	5	10	4.05	5	10
2012 Decline Realignment	208277	RE12059936	SC12-116	76.6	78.6	ALS_Ba-XRF10	1300	5	10	5.32	5	10
2012 Decline Realignment	212584	RE12059937	SC12-114	126.04	127.5	ALS_Ba-XRF10	2200	5	10	3.81	5	30
2012 Decline Realignment	212586	RE12059937	SC12-114	127.5	129	ALS_Ba-XRF10	2200	5	10	4.03	5	40
2012 Decline Realignment	212587	RE12059937	SC12-114	129	130.76	ALS_Ba-XRF10	3000	5	10	4.12	5	40
2012 Decline Realignment	212620	RE12062433	SC12-117	38	40	ALS_ME-ICP61a	850	5	10	3.61	5	20
2012 Decline Realignment	212621	RE12062433	SC12-117	40	42	ALS_ME-ICP61a	810	5	20	4.27	5	10
2012 Decline Realignment	212623	RE12062433	SC12-117	44	45.11	ALS_ME-ICP61a	910	5	10	6.8	5	10
2012 Decline Realignment	212625	RE12062433	SC12-117	45.11	46.43	ALS_ME-ICP61a	930	5	20	1.32	5	30
2012 Decline Realignment	212634	RE12062433	SC12-117	57.3	58.11	ALS_ME-ICP61a	790	5	10	1.73	5	5

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Ba_Method	Ba_ppm	Be_ppm	Bi_ppm	Ca_pct	Cd_ppm	Co_ppm
2012 Decline Realignment	212638	RE12062433	SC12-117	60	61	ALS_ME-ICP61a	490	5	10	5	5	5
2012 Decline Realignment	212639	RE12062433	SC12-117	61	61.93	ALS_ME-ICP61a	680	5	10	7.78	5	20
2012 Decline Realignment	212645	RE12062435	SC12-117	71	73	ALS_ME-ICP61a	750	5	10	7.9	5	10
2012 Decline Realignment	212647	RE12062435	SC12-117	73	75	ALS_ME-ICP61a	1250	5	10	8.21	5	10
2012 Decline Realignment	212648	RE12062435	SC12-117	75	77	ALS_ME-ICP61a	1240	5	10	9.06	5	10
2012 Decline Realignment	212649	RE12062435	SC12-117	77	79	ALS_ME-ICP61a	1720	5	10	6.35	5	10
2012 Decline Realignment	212651	RE12062435	SC12-117	79	81	ALS_ME-ICP61a	580	5	10	6.5	5	10
2012 Decline Realignment	212652	RE12062435	SC12-117	81	83	ALS_ME-ICP61a	440	5	10	7.51	5	10
2012 Decline Realignment	212653	RE12062435	SC12-117	83	85	ALS_ME-ICP61a	480	5	10	7.69	5	10
2012 Decline Realignment	212654	RE12062435	SC12-117	85	87	ALS_ME-ICP61a	560	5	10	7.34	5	10
2012 Decline Realignment	212655	RE12062435	SC12-117	87	88.48	ALS_ME-ICP61a	430	5	10	7.73	5	10
2012 Decline Realignment	212656	RE12062435	SC12-117	88.48	90	ALS_ME-ICP61a	440	5	10	5.43	5	10
2012 Decline Realignment	212657	RE12062435	SC12-117	90	91.5	ALS_ME-ICP61a	500	5	10	5.1	5	10
2012 Decline Realignment	212658	RE12062435	SC12-117	91.5	92.52	ALS_ME-ICP61a	500	5	10	5.27	5	10
2012 Decline Realignment	212660	RE12062435	SC12-117	92.52	94	ALS_ME-ICP61a	380	5	10	7.5	5	10
2012 Decline Realignment	212661	RE12062435	SC12-117	94	96	ALS_ME-ICP61a	410	5	10	7.8	5	10
2012 Decline Realignment	212662	RE12062435	SC12-117	96	98	ALS_ME-ICP61a	450	5	10	6.97	5	10
2012 Decline Realignment	212663	RE12062435	SC12-117	98	100	ALS_ME-ICP61a	430	5	10	7.6	5	10
2012 Decline Realignment	212664	RE12062435	SC12-117	100	102	ALS_ME-ICP61a	350	5	10	8.3	5	10
2012 Decline Realignment	212665	RE12062435	SC12-117	102	103.98	ALS_ME-ICP61a	420	5	10	6.98	5	10
2012 Decline Realignment	210530	RE12064256	SC12-115	47.8	49.5	ALS_ME-ICP61a	390	5	10	4.7	5	10
2012 Decline Realignment	210532	RE12064256	SC12-115	49.5	51.5	ALS_ME-ICP61a	360	5	10	4.16	5	10
2012 Decline Realignment	210533	RE12064256	SC12-115	51.5	53.5	ALS_ME-ICP61a	400	5	10	2.84	5	10
2012 Decline Realignment	210535	RE12064256	SC12-115	53.5	55.5	ALS_ME-ICP61a	400	5	10	2.93	5	10
2012 Decline Realignment	210536	RE12064256	SC12-115	55.5	56.65	ALS_ME-ICP61a	460	5	10	3.24	5	20
2012 Decline Realignment	210538	RE12064256	SC12-115	56.65	58	ALS_ME-ICP61a	230	5	10	10.4	5	10
2012 Decline Realignment	210539	RE12064256	SC12-115	58	60	ALS_ME-ICP61a	290	5	10	6.9	5	10
2012 Decline Realignment	210540	RE12064256	SC12-115	60	62	ALS_ME-ICP61a	250	5	10	10.35	5	10
2012 Decline Realignment	210541	RE12064256	SC12-115	62	64	ALS_ME-ICP61a	240	5	10	10.85	5	10
2012 Decline Realignment	210542	RE12064256	SC12-115	64	65.2	ALS_ME-ICP61a	230	5	10	11.1	5	10
2012 Decline Realignment	210543	RE12064256	SC12-115	65.2	67	ALS_ME-ICP61a	370	5	10	4.17	5	10
2012 Decline Realignment	210544	RE12064256	SC12-115	67	69	ALS_ME-ICP61a	350	5	10	4.33	5	10
2012 Decline Realignment	210546	RE12064256	SC12-115	69	71	ALS_ME-ICP61a	390	5	10	4.77	5	10
2012 Decline Realignment	210547	RE12064256	SC12-115	71	72.8	ALS_ME-ICP61a	360	5	10	6.11	5	10
2012 Decline Realignment	210548	RE12064256	SC12-115	72.8	74	ALS_ME-ICP61a	110	5	10	18.4	5	5
2012 Decline Realignment	210549	RE12064256	SC12-115	74	76	ALS_ME-ICP61a	70	5	10	19.7	5	5
2012 Decline Realignment	210550	RE12064256	SC12-115	76	78	ALS_ME-ICP61a	100	5	10	18.35	5	5
2012 Decline Realignment	210552	RE12064256	SC12-115	78	80	ALS_ME-ICP61a	130	5	10	19.6	5	5
2012 Decline Realignment	210553	RE12064256	SC12-115	80	81.9	ALS_ME-ICP61a	170	5	10	13.85	5	5
2012 Decline Realignment	210554	RE12064256	SC12-115	81.9	83.5	ALS_ME-ICP61a	390	5	10	4.05	5	10
2012 Decline Realignment	210555	RE12064256	SC12-115	83.5	85	ALS_ME-ICP61a	360	5	10	4.48	5	10
2012 Decline Realignment	210556	RE12064256	SC12-115	85	87	ALS_ME-ICP61a	230	5	10	11.65	5	10

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Ba_Method	Ba_ppm	Be_ppm	Bi_ppm	Ca_pct	Cd_ppm	Co_ppm
2012 Decline Realignment	210558	RE12064256	SC12-115	87	89	ALS_ME-ICP61a	370	5	10	7.26	5	10
2012 Decline Realignment	210559	RE12064256	SC12-115	89	91	ALS_ME-ICP61a	340	5	10	6.07	5	10
2012 Decline Realignment	210560	RE12064256	SC12-115	91	93	ALS_ME-ICP61a	350	5	10	5.64	5	10
2012 Decline Realignment	210561	RE12064256	SC12-115	93	95	ALS_ME-ICP61a	350	5	10	8.26	5	5
2012 Decline Realignment	210562	RE12064256	SC12-115	95	97	ALS_ME-ICP61a	360	5	10	8.26	5	10
2012 Decline Realignment	210563	RE12064256	SC12-115	97	99	ALS_ME-ICP61a	450	5	10	6.79	5	10
2012 Decline Realignment	210564	RE12064256	SC12-115	99.9	101	ALS_ME-ICP61a	400	5	10	5.64	5	10
2012 Decline Realignment	212617	RE12065437	SC12-117	34.84	36	ALS_Ba-XRF10	1100	5	10	3.89	5	20
2012 Decline Realignment	212619	RE12065437	SC12-117	36	38	ALS_Ba-XRF10	1200	5	20	5.23	5	10
2012 Decline Realignment	212622	RE12065437	SC12-117	42	44	ALS_Ba-XRF10	1300	5	10	6.49	5	10
2012 Decline Realignment	212626	RE12065437	SC12-117	46.43	47.22	ALS_Ba-XRF10	6800	5	10	0.31	5	50
2012 Decline Realignment	212627	RE12065437	SC12-117	47.22	48.61	ALS_Ba-XRF10	22600	5	20	0.28	5	40
2012 Decline Realignment	212628	RE12065437	SC12-117	48.61	50	ALS_Ba-XRF10	1700	5	10	3.31	5	20
2012 Decline Realignment	212629	RE12065437	SC12-117	50	52	ALS_Ba-XRF10	1500	5	10	4.01	5	20
2012 Decline Realignment	212631	RE12065437	SC12-117	52	54	ALS_Ba-XRF10	1400	5	10	2.21	5	20
2012 Decline Realignment	212632	RE12065437	SC12-117	54	56	ALS_Ba-XRF10	1300	10	10	0.12	5	20
2012 Decline Realignment	212633	RE12065437	SC12-117	56	57.3	ALS_Ba-XRF10	2300	5	10	3.93	5	10
2012 Decline Realignment	212635	RE12065437	SC12-117	58.11	58.81	ALS_Ba-XRF10	2000	5	10	1.05	5	20
2012 Decline Realignment	212636	RE12065437	SC12-117	58.81	60	ALS_Ba-XRF10	13800	5	10	4.6	5	10
2012 Decline Realignment	212640	RE12065437	SC12-117	61.93	63	ALS_Ba-XRF10	2100	5	20	5.07	5	10
2012 Decline Realignment	212641	RE12065437	SC12-117	63	65	ALS_Ba-XRF10	4300	5	10	4.27	5	20
2012 Decline Realignment	212642	RE12065437	SC12-117	65	67	ALS_Ba-XRF10	2900	5	10	6.87	5	10
2012 Decline Realignment	212643	RE12065437	SC12-117	67	69	ALS_Ba-XRF10	2100	5	10	7.1	5	10
2012 Decline Realignment	212644	RE12065437	SC12-117	69	71	ALS_Ba-XRF10	1200	5	10	8.05	5	10
2012 Decline Realignment	210565	RE12071230	SC12-115	101	103	ALS_ME-ICP61a	330	5	10	6.23	5	10
2012 Decline Realignment	210566	RE12071230	SC12-115	103	105	ALS_ME-ICP61a	390	5	10	6.25	5	10
2012 Decline Realignment	210567	RE12071230	SC12-115	105	107	ALS_ME-ICP61a	310	5	10	7.19	5	10
2012 Decline Realignment	210568	RE12071230	SC12-115	107	108.57	ALS_ME-ICP61a	330	5	10	4.45	5	10
2012 Decline Realignment	210569	RE12071230	SC12-115	108.57	110	ALS_ME-ICP61a	510	5	10	1.56	5	10
2012 Decline Realignment	210570	RE12071230	SC12-115	110	112	ALS_ME-ICP61a	540	5	10	1.11	5	20
2012 Decline Realignment	210572	RE12071230	SC12-115	112	114	ALS_ME-ICP61a	480	5	10	0.45	5	10
2012 Decline Realignment	210573	RE12071230	SC12-115	114	116	ALS_ME-ICP61a	510	5	10	0.79	5	20
2012 Decline Realignment	210575	RE12071230	SC12-115	116	117.6	ALS_ME-ICP61a	570	5	10	0.9	5	20
2012 Decline Realignment	210576	RE12071230	SC12-115	117.6	118.6	ALS_ME-ICP61a	530	5	10	3.02	5	20
2012 Decline Realignment	210577	RE12071230	SC12-115	118.6	120	ALS_ME-ICP61a	310	5	10	9.11	5	10
2012 Decline Realignment	210578	RE12071230	SC12-115	120	122	ALS_ME-ICP61a	310	5	10	4.98	5	10
2012 Decline Realignment	210580	RE12071230	SC12-115	122	124	ALS_ME-ICP61a	280	5	10	8.85	5	10
2012 Decline Realignment	210581	RE12071230	SC12-115	124	125.25	ALS_ME-ICP61a	440	5	10	8.53	5	10
2012 Decline Realignment	210582	RE12071230	SC12-115	125.25	127	ALS_ME-ICP61a	1150	5	10	3.23	5	30
2012 Decline Realignment	210583	RE12071230	SC12-115	127	129	ALS_ME-ICP61a	1190	5	10	3.41	5	30
2012 Decline Realignment	210585	RE12071230	SC12-115	129	131	ALS_ME-ICP61a	970	5	10	4.26	5	40
2012 Decline Realignment	210586	RE12071230	SC12-115	131	133	ALS_ME-ICP61a	1190	5	10	3.23	5	30

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Ba_Method	Ba_ppm	Be_ppm	Bi_ppm	Ca_pct	Cd_ppm	Co_ppm
2012 Decline Realignment	210587	RE12071230	SC12-115	133	135	ALS_ME-ICP61a	1180	5	10	3.23	5	30
2012 Decline Realignment	210588	RE12071230	SC12-115	135	137	ALS_ME-ICP61a	1140	5	10	3.83	5	30
2012 Decline Realignment	210589	RE12071230	SC12-115	137	139	ALS_ME-ICP61a	1250	5	10	3.35	5	30
2012 Decline Realignment	210591	RE12071230	SC12-115	139	141	ALS_ME-ICP61a	1330	5	10	2.77	5	30
2012 Decline Realignment	210592	RE12071230	SC12-115	141	143	ALS_ME-ICP61a	1680	5	10	4.06	5	30
2012 Decline Realignment	210593	RE12071230	SC12-115	143	145	ALS_ME-ICP61a	2580	5	10	4.09	5	40
2012 Decline Realignment	210594	RE12071230	SC12-115	145	147	ALS_ME-ICP61a	2570	5	10	4.2	5	40
2012 Decline Realignment	210596	RE12071230	SC12-115	147	148.25	ALS_ME-ICP61a	2300	5	10	5.77	5	30
2012 Decline Realignment	210597	RE12071230	SC12-115	148.25	150.25	ALS_ME-ICP61a	460	5	10	7.15	5	10
2012 Decline Realignment	210598	RE12071230	SC12-115	150.25	152.2	ALS_ME-ICP61a	350	5	10	5.8	5	10
2012 Decline Realignment	210599	RE12071230	SC12-115	152.2	154.2	ALS_ME-ICP61a	360	5	10	6.39	5	10
2012 Decline Realignment	210600	RE12071230	SC12-115	154.2	156.2	ALS_ME-ICP61a	350	5	10	6.71	5	10
2012 Decline Realignment	210601	RE12071230	SC12-115	156.2	158.1	ALS_ME-ICP61a	430	5	10	6.7	5	10
2012 Decline Realignment	210602	RE12071230	SC12-115	158.1	160	ALS_ME-ICP61a	320	5	10	7.48	5	10
2012 Decline Realignment	210604	RE12071230	SC12-115	160	161.5	ALS_ME-ICP61a	330	5	10	6.29	5	10
2012 Decline Realignment	210605	RE12071230	SC12-115	161.5	162.75	ALS_ME-ICP61a	210	5	10	6.48	5	10
2012 Decline Realignment	210607	RE12071230	SC12-115	162.75	163.9	ALS_ME-ICP61a	300	5	10	9.2	5	10
2012 Decline Realignment	210608	RE12071230	SC12-115	163.9	165	ALS_ME-ICP61a	350	5	10	7.4	5	10
2012 Decline Realignment	210609	RE12071230	SC12-115	165	167	ALS_ME-ICP61a	500	5	10	18.2	5	10
2012 Decline Realignment	210610	RE12071230	SC12-115	167	168.5	ALS_ME-ICP61a	350	5	10	9.15	5	10
2012 Decline Realignment	210611	RE12071230	SC12-115	168.5	170	ALS_ME-ICP61a	310	5	10	7.72	5	5
2012 Decline Realignment	210612	RE12071230	SC12-115	170	172	ALS_ME-ICP61a	270	5	10	8.93	5	10
2012 Decline Realignment	210613	RE12071230	SC12-115	172	174	ALS_ME-ICP61a	280	5	10	7.18	5	10
2012 Decline Realignment	210615	RE12071230	SC12-115	174	176	ALS_ME-ICP61a	300	5	10	7.6	5	10
2012 Decline Realignment	210616	RE12071230	SC12-115	176	178	ALS_ME-ICP61a	290	5	10	8.97	5	10
2012 Decline Realignment	210617	RE12071230	SC12-115	178	179.94	ALS_ME-ICP61a	300	5	10	8.72	5	10
2012 Decline Realignment	210618	RE12071230	SC12-115	179.94	181.5	ALS_ME-ICP61a	300	5	10	4.36	5	10
2012 Decline Realignment	210619	RE12071230	SC12-115	181.5	183	ALS_ME-ICP61a	310	5	10	3.75	5	10
2012 Decline Realignment	210620	RE12071230	SC12-115	183	185	ALS_ME-ICP61a	300	5	10	3.45	5	10
2012 Decline Realignment	210621	RE12071230	SC12-115	185	187	ALS_ME-ICP61a	320	5	10	2.81	5	10
2012 Decline Realignment	210622	RE12071230	SC12-115	187	189	ALS_ME-ICP61a	330	5	10	3.05	5	10
2012 Decline Realignment	210623	RE12071230	SC12-115	189	191	ALS_ME-ICP61a	350	5	10	2.66	5	10
2012 Decline Realignment	210625	RE12071230	SC12-115	191	193	ALS_ME-ICP61a	360	5	10	2.4	5	10
2012 Decline Realignment	210626	RE12071230	SC12-115	193	195	ALS_ME-ICP61a	330	5	10	2.65	5	10
2012 Decline Realignment	210627	RE12071230	SC12-115	195	197	ALS_ME-ICP61a	300	5	10	2.94	5	10
2012 Decline Realignment	210628	RE12071230	SC12-115	197	199	ALS_ME-ICP61a	270	5	10	4.22	5	10
2012 Decline Realignment	210629	RE12071230	SC12-115	199	200.5	ALS_ME-ICP61a	310	5	10	3.29	5	10
2012 Decline Realignment	210630	RE12071230	SC12-115	200.5	201.7	ALS_ME-ICP61a	370	5	10	0.29	5	10



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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Cr_ppm	Cu_Method	Cu_ppm	Fe_pct	Ga_ppm	K_pct	La_ppm
2012 Decline Realignment	208102	RE12048006	SC12-113	18.33	20.17	40		20	3.02	25	1.6	25
2012 Decline Realignment	208104	RE12048006	SC12-113	20.17	22.14	40		20	2.51	25	1.2	25
2012 Decline Realignment	208105	RE12048006	SC12-113	22.14	24.13	30		10	2.29	25	1.1	25
2012 Decline Realignment	208106	RE12048006	SC12-113	24.13	26.12	30		10	2.18	25	1.1	25
2012 Decline Realignment	208107	RE12048006	SC12-113	26.12	28.08	30		10	2.38	25	1	25
2012 Decline Realignment	208108	RE12048006	SC12-113	28.08	29.8	30		20	2.5	25	0.8	25
2012 Decline Realignment	208110	RE12048006	SC12-113	29.8	31.76	30		10	2.56	25	0.9	25
2012 Decline Realignment	208111	RE12048006	SC12-113	31.76	33.56	30		30	2.87	25	1.5	25
2012 Decline Realignment	208112	RE12048006	SC12-113	33.56	35.38	30		20	2.53	25	1.2	25
2012 Decline Realignment	208113	RE12048006	SC12-113	35.38	37.2	30		20	2.76	25	1.5	25
2012 Decline Realignment	208114	RE12048006	SC12-113	37.2	39.18	30		20	2.66	25	1.1	25
2012 Decline Realignment	208115	RE12048006	SC12-113	39.18	41.14	30		20	2.53	25	1.7	25
2012 Decline Realignment	208116	RE12048006	SC12-113	41.14	43.1	30		20	2.72	25	1.3	25
2012 Decline Realignment	208118	RE12048006	SC12-113	43.1	45.01	30		20	3.39	25	1	25
2012 Decline Realignment	208119	RE12048006	SC12-113	45.01	47	40		30	4.01	25	1.2	25
2012 Decline Realignment	208120	RE12048006	SC12-113	47	47.7	40		30	3.92	25	1.3	25
2012 Decline Realignment	208121	RE12048006	SC12-113	47.7	49.7	30		20	3.03	25	1.8	25
2012 Decline Realignment	208122	RE12048006	SC12-113	49.7	51.7	50		50	3.31	25	1.6	25
2012 Decline Realignment	208123	RE12048006	SC12-113	51.7	53.7	40		20	4.23	25	1.5	25
2012 Decline Realignment	208124	RE12048006	SC12-113	53.7	55.7	40		20	3.82	25	1.4	25
2012 Decline Realignment	208125	RE12048006	SC12-113	55.7	57.6	40		30	4.28	25	1.3	25
2012 Decline Realignment	208127	RE12048006	SC12-113	57.6	59.6	30		30	4.18	25	1.4	25
2012 Decline Realignment	212551	RE12056057	SC12-114	75	77	40		30	2.96	25	1.8	25
2012 Decline Realignment	212552	RE12056057	SC12-114	77	79	30		10	2.29	25	1.8	25
2012 Decline Realignment	212553	RE12056057	SC12-114	79	81	30		10	2.19	25	1.9	25
2012 Decline Realignment	212554	RE12056057	SC12-114	81	83	30		10	2.64	25	1.6	25
2012 Decline Realignment	212555	RE12056057	SC12-114	83	85	20		5	2.09	25	1.3	25
2012 Decline Realignment	212556	RE12056057	SC12-114	85	87	30		20	3.5	25	2.8	25
2012 Decline Realignment	212557	RE12056057	SC12-114	87	89	30		10	2.98	25	2.6	25
2012 Decline Realignment	212559	RE12056057	SC12-114	89	91	40		10	3.34	25	2.7	25
2012 Decline Realignment	212560	RE12056057	SC12-114	91	93	40		40	3.42	25	3.1	25
2012 Decline Realignment	212561	RE12056057	SC12-114	93	94.19	30		20	2.58	25	1.3	25
2012 Decline Realignment	212562	RE12056057	SC12-114	94.19	96	10		5	1.53	25	0.5	25
2012 Decline Realignment	212563	RE12056057	SC12-114	96	98	10		5	0.77	25	0.5	25
2012 Decline Realignment	212565	RE12056057	SC12-114	98	100	10		5	0.88	25	0.6	25
2012 Decline Realignment	212566	RE12056057	SC12-114	100	102	10		5	0.92	25	0.5	25
2012 Decline Realignment	212567	RE12056057	SC12-114	102	104	10		5	0.99	25	0.6	25
2012 Decline Realignment	212568	RE12056057	SC12-114	104	105.5	20		5	1.17	25	0.6	25
2012 Decline Realignment	212569	RE12056057	SC12-114	105.5	106.66	20		5	1.51	25	0.9	25
2012 Decline Realignment	212570	RE12056057	SC12-114	106.66	108	40		20	3.68	25	2	25
2012 Decline Realignment	212571	RE12056057	SC12-114	108	110	30		20	3.46	25	2.3	25
2012 Decline Realignment	212573	RE12056057	SC12-114	110	112	30		10	2.98	25	1.5	25

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Cr_ppm	Cu_Method	Cu_ppm	Fe_pct	Ga_ppm	K_pct	La_ppm
2012 Decline Realignment	212574	RE12056057	SC12-114	112	113.15	30		10	2.63	25	1.1	25
2012 Decline Realignment	212575	RE12056057	SC12-114	113.15	114.45	30		10	3.14	25	1.4	25
2012 Decline Realignment	212576	RE12056057	SC12-114	114.45	116	40		40	3.97	25	1.6	25
2012 Decline Realignment	212577	RE12056057	SC12-114	116	117.5	30		10	3.02	25	1.3	25
2012 Decline Realignment	212579	RE12056057	SC12-114	117.5	119	30		50	3.3	25	1.8	25
2012 Decline Realignment	212580	RE12056057	SC12-114	119	121	40		20	2.92	25	1.9	25
2012 Decline Realignment	212581	RE12056057	SC12-114	121	123	40		20	2.57	25	1.3	25
2012 Decline Realignment	212582	RE12056057	SC12-114	123	124.5	30		20	3.4	25	1.6	25
2012 Decline Realignment	212583	RE12056057	SC12-114	124.5	126.04	30		10	2.68	25	1.8	25
2012 Decline Realignment	212588	RE12056057	SC12-114	130.76	132	40		20	2.8	25	1.7	25
2012 Decline Realignment	212589	RE12056057	SC12-114	132	134	40		10	3.06	25	1.3	25
2012 Decline Realignment	212591	RE12056057	SC12-114	134	136	30		20	3.69	25	1.1	25
2012 Decline Realignment	212592	RE12056057	SC12-114	136	138	30		10	2.45	25	0.8	25
2012 Decline Realignment	212593	RE12056057	SC12-114	138	140	30		20	2.88	25	1.3	25
2012 Decline Realignment	212594	RE12056057	SC12-114	140	140.66	20		5	2.02	25	0.7	25
2012 Decline Realignment	212595	RE12056057	SC12-114	140.66	142	50		30	4.17	25	1.8	25
2012 Decline Realignment	212596	RE12056057	SC12-114	142	143.5	40		20	4.13	25	1.5	25
2012 Decline Realignment	212598	RE12056057	SC12-114	143.5	145.08	40		30	4.18	25	1.9	25
2012 Decline Realignment	212540	RE12056058	SC12-114	59.04	61	20		10	2.25	25	1	25
2012 Decline Realignment	212541	RE12056058	SC12-114	61	63	30		10	2.4	25	1.4	25
2012 Decline Realignment	212543	RE12056058	SC12-114	63	65	30		20	3.28	25	1.6	25
2012 Decline Realignment	212544	RE12056058	SC12-114	65	67	30		20	2.88	25	1.5	25
2012 Decline Realignment	212545	RE12056058	SC12-114	67	69	40		30	3.27	25	2.1	25
2012 Decline Realignment	212546	RE12056058	SC12-114	69	70	40		40	4.65	25	1.8	25
2012 Decline Realignment	212547	RE12056058	SC12-114	70	71	50		40	4.82	25	2.4	25
2012 Decline Realignment	212548	RE12056058	SC12-114	71	73	40		30	4.13	25	1.9	25
2012 Decline Realignment	212550	RE12056058	SC12-114	73	75	40		40	4.4	25	1.9	25
2012 Decline Realignment	208128	RE12056059	SC12-113	59.6	61.5	40		10	4.07	25	1.1	25
2012 Decline Realignment	208129	RE12056059	SC12-113	61.5	63.5	30		10	3.41	25	1.1	25
2012 Decline Realignment	208130	RE12056059	SC12-113	63.5	65.5	30		10	3.2	25	1.1	25
2012 Decline Realignment	208131	RE12056059	SC12-113	65.5	67.5	30		10	3.34	25	1.3	25
2012 Decline Realignment	208133	RE12056059	SC12-113	67.5	69.5	30		10	3.79	25	1.4	25
2012 Decline Realignment	208134	RE12056059	SC12-113	69.5	71.1	30		10	4.23	25	1	25
2012 Decline Realignment	208135	RE12056059	SC12-113	71.1	72.3	40		10	5.38	25	1.1	25
2012 Decline Realignment	208136	RE12056059	SC12-113	72.3	74.3	30		40	10.75	25	1	25
2012 Decline Realignment	208137	RE12056059	SC12-113	74.3	75.1	30		40	15.5	25	1.3	25
2012 Decline Realignment	208138	RE12056059	SC12-113	75.1	76	10		30	16.75	25	0.6	25
2012 Decline Realignment	208140	RE12056059	SC12-113	76	76.8	30		10	7.98	25	1	25
2012 Decline Realignment	208141	RE12056059	SC12-113	76.8	78.8	30		10	3.01	25	1	25
2012 Decline Realignment	208142	RE12056059	SC12-113	78.8	80.8	40		20	4.2	25	1.1	25
2012 Decline Realignment	208143	RE12056059	SC12-113	80.8	82.8	30		10	4.01	25	1	25
2012 Decline Realignment	208145	RE12056059	SC12-113	82.8	83.4	30		20	2.79	25	1.4	25

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Cr_ppm	Cu_Method	Cu_ppm	Fe_pct	Ga_ppm	K_pct	La_ppm
2012 Decline Realignment	208146	RE12056059	SC12-113	83.4	85.4	30		20	2.74	25	1.6	25
2012 Decline Realignment	208147	RE12056059	SC12-113	85.4	87.4	30		30	2.83	25	1	25
2012 Decline Realignment	208148	RE12056059	SC12-113	87.4	88.4	30		20	2.66	25	1.4	25
2012 Decline Realignment	208242	RE12056120	SC12-116	24.4	25	30		20	3.09	25	1.6	25
2012 Decline Realignment	208243	RE12056120	SC12-116	25	27	30		20	3.8	25	2.5	25
2012 Decline Realignment	208244	RE12056120	SC12-116	27	29	40		30	3.57	25	3.2	25
2012 Decline Realignment	208245	RE12056120	SC12-116	29	31	50		40	4.8	25	2.7	25
2012 Decline Realignment	208247	RE12056120	SC12-116	31	33	40		40	4.54	25	3.4	25
2012 Decline Realignment	208248	RE12056120	SC12-116	33	35	30		20	2.98	25	1.5	25
2012 Decline Realignment	208249	RE12056120	SC12-116	35	37	30		20	2.47	25	2.4	25
2012 Decline Realignment	208250	RE12056120	SC12-116	37	39	20		20	2.38	25	1.1	25
2012 Decline Realignment	208251	RE12056120	SC12-116	39	41	30		20	2.51	25	1.6	25
2012 Decline Realignment	208253	RE12056120	SC12-116	41	42.9	20		10	2.29	25	2.2	25
2012 Decline Realignment	208254	RE12056120	SC12-116	42.9	44	30		30	3.73	25	3.8	25
2012 Decline Realignment	208255	RE12056120	SC12-116	44	46	30		30	3.68	25	2.4	25
2012 Decline Realignment	208256	RE12056121	SC12-116	46	48	30		20	3.58	25	2.6	25
2012 Decline Realignment	208257	RE12056121	SC12-116	48	49.1	40		30	3.82	25	3.2	25
2012 Decline Realignment	208259	RE12056121	SC12-116	49.1	50.2	30		30	3.18	25	1.4	25
2012 Decline Realignment	208260	RE12056121	SC12-116	50.2	52	10		10	0.98	25	0.5	25
2012 Decline Realignment	208261	RE12056121	SC12-116	52	54	10		5	0.8	25	0.5	25
2012 Decline Realignment	208262	RE12056121	SC12-116	54	56	10		10	1.13	25	0.5	25
2012 Decline Realignment	208263	RE12056121	SC12-116	56	57	10		5	1.19	25	0.4	25
2012 Decline Realignment	208265	RE12056121	SC12-116	57	59	10		10	1.73	25	0.6	25
2012 Decline Realignment	208266	RE12056121	SC12-116	59	61	30		40	4.14	25	2	25
2012 Decline Realignment	208267	RE12056121	SC12-116	61	63	30		30	3.27	25	1.3	25
2012 Decline Realignment	208268	RE12056121	SC12-116	63	65	20		20	2.64	25	0.7	25
2012 Decline Realignment	208269	RE12056121	SC12-116	65	67	30		30	3.22	25	1.2	25
2012 Decline Realignment	208271	RE12056121	SC12-116	67	69	30		20	3.47	25	1.1	25
2012 Decline Realignment	208272	RE12056121	SC12-116	69	71	40		30	2.68	25	1.9	25
2012 Decline Realignment	208273	RE12056121	SC12-116	71	73	30		10	2.46	25	1.3	25
2012 Decline Realignment	208274	RE12056121	SC12-116	73	75	40		10	3.13	25	1.3	25
2012 Decline Realignment	208275	RE12056121	SC12-116	75	76.6	30		10	2.97	25	1.7	25
2012 Decline Realignment	208278	RE12056121	SC12-116	78.6	79.5	50		30	3.82	25	1.5	25
2012 Decline Realignment	208277	RE12059936	SC12-116	76.6	78.6	30		10	2.78	25	2.6	25
2012 Decline Realignment	212584	RE12059937	SC12-114	126.04	127.5	600		30	5.25	25	3.5	50
2012 Decline Realignment	212586	RE12059937	SC12-114	127.5	129	610		40	5.32	25	3.6	50
2012 Decline Realignment	212587	RE12059937	SC12-114	129	130.76	620		190	5.28	25	3.5	50
2012 Decline Realignment	212620	RE12062433	SC12-117	38	40	40		40	9.22	25	3.1	25
2012 Decline Realignment	212621	RE12062433	SC12-117	40	42	40		40	7.52	25	3.5	25
2012 Decline Realignment	212623	RE12062433	SC12-117	44	45.11	30		30	6.63	25	2.8	25
2012 Decline Realignment	212625	RE12062433	SC12-117	45.11	46.43	30		60	16.45	25	3.1	25
2012 Decline Realignment	212634	RE12062433	SC12-117	57.3	58.11	10		50	26.7	25	0.3	25

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Cr_ppm	Cu_Method	Cu_ppm	Fe_pct	Ga_ppm	K_pct	La_ppm
2012 Decline Realignment	212638	RE12062433	SC12-117	60	61	5		130	22.6	25	0.05	25
2012 Decline Realignment	212639	RE12062433	SC12-117	61	61.93	10		90	19.65	25	0.2	25
2012 Decline Realignment	212645	RE12062435	SC12-117	71	73	30		30	4	25	1.4	25
2012 Decline Realignment	212647	RE12062435	SC12-117	73	75	30		10	3.47	25	2.3	25
2012 Decline Realignment	212648	RE12062435	SC12-117	75	77	30		20	3	25	1.5	25
2012 Decline Realignment	212649	RE12062435	SC12-117	77	79	30		10	2.7	25	2.8	25
2012 Decline Realignment	212651	RE12062435	SC12-117	79	81	30		10	2.69	25	2.5	25
2012 Decline Realignment	212652	RE12062435	SC12-117	81	83	30		20	3.14	25	1.5	25
2012 Decline Realignment	212653	RE12062435	SC12-117	83	85	30		20	3.13	25	1.7	25
2012 Decline Realignment	212654	RE12062435	SC12-117	85	87	30		10	3.21	25	1.4	25
2012 Decline Realignment	212655	RE12062435	SC12-117	87	88.48	30		10	3.34	25	1.6	25
2012 Decline Realignment	212656	RE12062435	SC12-117	88.48	90	40		20	3.11	25	2.6	25
2012 Decline Realignment	212657	RE12062435	SC12-117	90	91.5	40		30	3.28	25	3	25
2012 Decline Realignment	212658	RE12062435	SC12-117	91.5	92.52	40		10	3.27	25	2.6	25
2012 Decline Realignment	212660	RE12062435	SC12-117	92.52	94	30		10	3.23	25	1.9	25
2012 Decline Realignment	212661	RE12062435	SC12-117	94	96	30		10	3.56	25	2	25
2012 Decline Realignment	212662	RE12062435	SC12-117	96	98	40		20	3.81	25	1.9	25
2012 Decline Realignment	212663	RE12062435	SC12-117	98	100	30		20	4.7	25	2.2	25
2012 Decline Realignment	212664	RE12062435	SC12-117	100	102	30		10	3.66	25	1.9	25
2012 Decline Realignment	212665	RE12062435	SC12-117	102	103.98	30		10	3.75	25	2.3	25
2012 Decline Realignment	210530	RE12064256	SC12-115	47.8	49.5	40		20	3.54	25	3.3	25
2012 Decline Realignment	210532	RE12064256	SC12-115	49.5	51.5	30		20	3.02	25	3.6	25
2012 Decline Realignment	210533	RE12064256	SC12-115	51.5	53.5	50		40	4.45	25	2.5	25
2012 Decline Realignment	210535	RE12064256	SC12-115	53.5	55.5	40		40	4.24	25	3	25
2012 Decline Realignment	210536	RE12064256	SC12-115	55.5	56.65	50		40	4.59	25	3.2	25
2012 Decline Realignment	210538	RE12064256	SC12-115	56.65	58	20		20	2.66	25	1.4	25
2012 Decline Realignment	210539	RE12064256	SC12-115	58	60	20		20	2.25	25	2.7	25
2012 Decline Realignment	210540	RE12064256	SC12-115	60	62	20		20	2.39	25	1.3	25
2012 Decline Realignment	210541	RE12064256	SC12-115	62	64	30		20	2.44	25	1.7	25
2012 Decline Realignment	210542	RE12064256	SC12-115	64	65.2	20		20	2.35	25	1.7	25
2012 Decline Realignment	210543	RE12064256	SC12-115	65.2	67	30		30	3.53	25	2.8	25
2012 Decline Realignment	210544	RE12064256	SC12-115	67	69	30		30	3.77	25	2.6	25
2012 Decline Realignment	210546	RE12064256	SC12-115	69	71	40		30	3.37	25	2.7	25
2012 Decline Realignment	210547	RE12064256	SC12-115	71	72.8	40		30	3.57	25	2.5	25
2012 Decline Realignment	210548	RE12064256	SC12-115	72.8	74	10		10	0.99	25	0.5	25
2012 Decline Realignment	210549	RE12064256	SC12-115	74	76	10		5	0.76	25	0.5	25
2012 Decline Realignment	210550	RE12064256	SC12-115	76	78	10		10	1.01	25	0.6	25
2012 Decline Realignment	210552	RE12064256	SC12-115	78	80	10		20	1.35	25	0.8	25
2012 Decline Realignment	210553	RE12064256	SC12-115	80	81.9	20		10	1.71	25	1	25
2012 Decline Realignment	210554	RE12064256	SC12-115	81.9	83.5	40		30	4.19	25	2.7	25
2012 Decline Realignment	210555	RE12064256	SC12-115	83.5	85	30		30	3.47	25	2.7	25
2012 Decline Realignment	210556	RE12064256	SC12-115	85	87	20		20	2.91	25	1.2	25

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Cr_ppm	Cu_Method	Cu_ppm	Fe_pct	Ga_ppm	K_pct	La_ppm
2012 Decline Realignment	210558	RE12064256	SC12-115	87	89	30		30	3.5	25	1.7	25
2012 Decline Realignment	210559	RE12064256	SC12-115	89	91	30		30	3.85	25	1.6	25
2012 Decline Realignment	210560	RE12064256	SC12-115	91	93	30		30	3.66	25	1.9	25
2012 Decline Realignment	210561	RE12064256	SC12-115	93	95	30		20	2.8	25	1.7	25
2012 Decline Realignment	210562	RE12064256	SC12-115	95	97	30		30	3.46	25	1.5	25
2012 Decline Realignment	210563	RE12064256	SC12-115	97	99	30		20	3	25	1.7	25
2012 Decline Realignment	210564	RE12064256	SC12-115	99.9	101	30		20	2.91	25	2.5	25
2012 Decline Realignment	212617	RE12065437	SC12-117	34.84	36	30		30	12	25	3.4	25
2012 Decline Realignment	212619	RE12065437	SC12-117	36	38	40		30	6.08	25	3.8	25
2012 Decline Realignment	212622	RE12065437	SC12-117	42	44	30		20	4.8	25	3.2	25
2012 Decline Realignment	212626	RE12065437	SC12-117	46.43	47.22	50		120	14.95	25	3.2	25
2012 Decline Realignment	212627	RE12065437	SC12-117	47.22	48.61	20		120	18.6	25	0.5	25
2012 Decline Realignment	212628	RE12065437	SC12-117	48.61	50	50		60	4.01	25	4	25
2012 Decline Realignment	212629	RE12065437	SC12-117	50	52	50		40	4.59	25	4.2	25
2012 Decline Realignment	212631	RE12065437	SC12-117	52	54	70		50	4.33	25	4.7	25
2012 Decline Realignment	212632	RE12065437	SC12-117	54	56	90		50	3.91	25	4.4	25
2012 Decline Realignment	212633	RE12065437	SC12-117	56	57.3	40		30	7.94	25	4.1	25
2012 Decline Realignment	212635	RE12065437	SC12-117	58.11	58.81	50		60	19.4	25	3.5	25
2012 Decline Realignment	212636	RE12065437	SC12-117	58.81	60	10		70	23.8	25	0.2	25
2012 Decline Realignment	212640	RE12065437	SC12-117	61.93	63	30		30	4.16	25	4.3	25
2012 Decline Realignment	212641	RE12065437	SC12-117	63	65	30		80	8.56	25	3.4	25
2012 Decline Realignment	212642	RE12065437	SC12-117	65	67	30		30	5.24	25	3.5	25
2012 Decline Realignment	212643	RE12065437	SC12-117	67	69	30		30	6.57	25	2.8	25
2012 Decline Realignment	212644	RE12065437	SC12-117	69	71	30		30	4.71	25	2.1	25
2012 Decline Realignment	210565	RE12071230	SC12-115	101	103	30		30	3.51	25	1.9	25
2012 Decline Realignment	210566	RE12071230	SC12-115	103	105	20		30	4.36	25	2.3	25
2012 Decline Realignment	210567	RE12071230	SC12-115	105	107	20		20	3.72	25	2	25
2012 Decline Realignment	210568	RE12071230	SC12-115	107	108.57	30		20	4.01	25	2.5	25
2012 Decline Realignment	210569	RE12071230	SC12-115	108.57	110	60		20	3.33	25	3.9	25
2012 Decline Realignment	210570	RE12071230	SC12-115	110	112	70		40	3.45	25	4.2	25
2012 Decline Realignment	210572	RE12071230	SC12-115	112	114	80		40	3.45	25	3.7	25
2012 Decline Realignment	210573	RE12071230	SC12-115	114	116	70		40	3.44	25	4	25
2012 Decline Realignment	210575	RE12071230	SC12-115	116	117.6	80		50	4.15	25	4.3	25
2012 Decline Realignment	210576	RE12071230	SC12-115	117.6	118.6	70		50	3.99	25	3.9	25
2012 Decline Realignment	210577	RE12071230	SC12-115	118.6	120	20		20	3.33	25	2.5	25
2012 Decline Realignment	210578	RE12071230	SC12-115	120	122	30		30	2.7	25	2.4	25
2012 Decline Realignment	210580	RE12071230	SC12-115	122	124	30		30	3.69	25	2	25
2012 Decline Realignment	210581	RE12071230	SC12-115	124	125.25	30		30	3.29	25	2	25
2012 Decline Realignment	210582	RE12071230	SC12-115	125.25	127	290		30	4.41	25	2.3	25
2012 Decline Realignment	210583	RE12071230	SC12-115	127	129	200		50	5.46	25	2.1	25
2012 Decline Realignment	210585	RE12071230	SC12-115	129	131	180		40	6.06	25	1.6	25
2012 Decline Realignment	210586	RE12071230	SC12-115	131	133	260		20	4.57	25	2.3	25

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Cr_ppm	Cu_Method	Cu_ppm	Fe_pct	Ga_ppm	K_pct	La_ppm
2012 Decline Realignment	210587	RE12071230	SC12-115	133	135	290		20	4.33	25	2.3	25
2012 Decline Realignment	210588	RE12071230	SC12-115	135	137	260		30	4.69	25	2.3	25
2012 Decline Realignment	210589	RE12071230	SC12-115	137	139	300		20	4.6	25	2.4	25
2012 Decline Realignment	210591	RE12071230	SC12-115	139	141	270		40	4.39	25	2.6	25
2012 Decline Realignment	210592	RE12071230	SC12-115	141	143	400		40	4.72	25	2.4	25
2012 Decline Realignment	210593	RE12071230	SC12-115	143	145	570		50	5.54	25	3.5	50
2012 Decline Realignment	210594	RE12071230	SC12-115	145	147	600		50	5.51	25	3.5	25
2012 Decline Realignment	210596	RE12071230	SC12-115	147	148.25	460		50	4.92	25	3.2	25
2012 Decline Realignment	210597	RE12071230	SC12-115	148.25	150.25	30		20	3.95	25	2.2	25
2012 Decline Realignment	210598	RE12071230	SC12-115	150.25	152.2	30		30	5.08	25	2.3	25
2012 Decline Realignment	210599	RE12071230	SC12-115	152.2	154.2	30		20	4.55	25	2.5	25
2012 Decline Realignment	210600	RE12071230	SC12-115	154.2	156.2	30		30	6.82	25	2	25
2012 Decline Realignment	210601	RE12071230	SC12-115	156.2	158.1	30		30	4.86	25	2.3	25
2012 Decline Realignment	210602	RE12071230	SC12-115	158.1	160	30		30	6.2	25	1.9	25
2012 Decline Realignment	210604	RE12071230	SC12-115	160	161.5	30		40	9.87	25	2	25
2012 Decline Realignment	210605	RE12071230	SC12-115	161.5	162.75	20		40	15.45	25	1.6	25
2012 Decline Realignment	210607	RE12071230	SC12-115	162.75	163.9	30		10	3.58	25	2.1	25
2012 Decline Realignment	210608	RE12071230	SC12-115	163.9	165	40		30	4.46	25	2.6	25
2012 Decline Realignment	210609	RE12071230	SC12-115	165	167	10		5	4.09	25	0.4	25
2012 Decline Realignment	210610	RE12071230	SC12-115	167	168.5	30		20	3.37	25	1.9	25
2012 Decline Realignment	210611	RE12071230	SC12-115	168.5	170	30		20	3.2	25	2.4	25
2012 Decline Realignment	210612	RE12071230	SC12-115	170	172	30		20	2.7	25	1.9	25
2012 Decline Realignment	210613	RE12071230	SC12-115	172	174	30		10	2.59	25	2.3	25
2012 Decline Realignment	210615	RE12071230	SC12-115	174	176	40		20	2.76	25	1.9	25
2012 Decline Realignment	210616	RE12071230	SC12-115	176	178	40		20	2.73	25	1.8	25
2012 Decline Realignment	210617	RE12071230	SC12-115	178	179.94	40		10	2.85	25	2	25
2012 Decline Realignment	210618	RE12071230	SC12-115	179.94	181.5	50		30	2.89	25	2.2	25
2012 Decline Realignment	210619	RE12071230	SC12-115	181.5	183	50		30	3.03	25	2.7	25
2012 Decline Realignment	210620	RE12071230	SC12-115	183	185	50		40	3.2	25	2.8	25
2012 Decline Realignment	210621	RE12071230	SC12-115	185	187	50		30	3.36	25	2.9	25
2012 Decline Realignment	210622	RE12071230	SC12-115	187	189	50		20	3.37	25	2.9	25
2012 Decline Realignment	210623	RE12071230	SC12-115	189	191	60		20	3.42	25	3	25
2012 Decline Realignment	210625	RE12071230	SC12-115	191	193	50		30	3.35	25	3	25
2012 Decline Realignment	210626	RE12071230	SC12-115	193	195	50		30	3.31	25	2.7	25
2012 Decline Realignment	210627	RE12071230	SC12-115	195	197	40		20	3.09	25	2.2	25
2012 Decline Realignment	210628	RE12071230	SC12-115	197	199	40		20	2.87	25	1.9	25
2012 Decline Realignment	210629	RE12071230	SC12-115	199	200.5	50		30	2.97	25	2.3	25
2012 Decline Realignment	210630	RE12071230	SC12-115	200.5	201.7	60		40	2.65	25	3.3	25

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Mg_pct	Mn_ppm	Mo_ppm	Na_pct	Ni_ppm	P_ppm	Pb_ppm	S_pct
2012 Decline Realignment	208102	RE12048006	SC12-113	18.33	20.17	5.25	440	5	0.22	20	530	30	1.26
2012 Decline Realignment	208104	RE12048006	SC12-113	20.17	22.14	5.89	370	5	0.24	10	550	30	0.99
2012 Decline Realignment	208105	RE12048006	SC12-113	22.14	24.13	6.01	370	5	0.17	10	430	20	0.83
2012 Decline Realignment	208106	RE12048006	SC12-113	24.13	26.12	6.03	370	5	0.18	10	470	10	0.81
2012 Decline Realignment	208107	RE12048006	SC12-113	26.12	28.08	6.14	480	5	0.18	20	430	30	0.88
2012 Decline Realignment	208108	RE12048006	SC12-113	28.08	29.8	6.37	440	5	0.2	10	470	20	0.95
2012 Decline Realignment	208110	RE12048006	SC12-113	29.8	31.76	6.88	520	5	0.18	10	420	20	0.94
2012 Decline Realignment	208111	RE12048006	SC12-113	31.76	33.56	5.96	390	5	0.17	20	420	40	1.42
2012 Decline Realignment	208112	RE12048006	SC12-113	33.56	35.38	6.22	480	5	0.18	10	410	20	1.03
2012 Decline Realignment	208113	RE12048006	SC12-113	35.38	37.2	5.89	410	5	0.17	10	400	20	1.26
2012 Decline Realignment	208114	RE12048006	SC12-113	37.2	39.18	5.78	440	5	0.15	10	380	20	1.14
2012 Decline Realignment	208115	RE12048006	SC12-113	39.18	41.14	5.99	480	5	0.16	10	400	10	0.96
2012 Decline Realignment	208116	RE12048006	SC12-113	41.14	43.1	5.22	390	5	0.19	10	420	20	1.1
2012 Decline Realignment	208118	RE12048006	SC12-113	43.1	45.01	5.57	610	5	0.2	20	440	30	1.64
2012 Decline Realignment	208119	RE12048006	SC12-113	45.01	47	5.13	480	5	0.21	30	550	40	2.19
2012 Decline Realignment	208120	RE12048006	SC12-113	47	47.7	4.81	470	5	0.21	30	460	30	2.09
2012 Decline Realignment	208121	RE12048006	SC12-113	47.7	49.7	3.97	290	5	0.16	20	450	30	1.41
2012 Decline Realignment	208122	RE12048006	SC12-113	49.7	51.7	4.09	490	5	0.16	40	440	70	1.57
2012 Decline Realignment	208123	RE12048006	SC12-113	51.7	53.7	4.44	480	5	0.19	20	470	50	2.41
2012 Decline Realignment	208124	RE12048006	SC12-113	53.7	55.7	4.08	440	5	0.21	20	490	40	2.28
2012 Decline Realignment	208125	RE12048006	SC12-113	55.7	57.6	4.53	430	5	0.22	30	470	40	2.5
2012 Decline Realignment	208127	RE12048006	SC12-113	57.6	59.6	5.05	540	5	0.2	20	510	50	2.6
2012 Decline Realignment	212551	RE12056057	SC12-114	75	77	5.8	390	5	0.08	20	320	50	1.47
2012 Decline Realignment	212552	RE12056057	SC12-114	77	79	5.64	330	5	0.07	5	280	10	0.61
2012 Decline Realignment	212553	RE12056057	SC12-114	79	81	6.27	310	5	0.06	5	260	20	0.77
2012 Decline Realignment	212554	RE12056057	SC12-114	81	83	6.16	310	5	0.07	5	340	20	1.07
2012 Decline Realignment	212555	RE12056057	SC12-114	83	85	7.05	380	5	0.06	5	250	20	0.58
2012 Decline Realignment	212556	RE12056057	SC12-114	85	87	4.52	210	5	0.07	10	410	30	2.11
2012 Decline Realignment	212557	RE12056057	SC12-114	87	89	4.7	270	5	0.08	5	360	30	1.49
2012 Decline Realignment	212559	RE12056057	SC12-114	89	91	4.64	240	5	0.07	5	440	40	1.74
2012 Decline Realignment	212560	RE12056057	SC12-114	91	93	4.3	220	5	0.07	20	410	80	2.21
2012 Decline Realignment	212561	RE12056057	SC12-114	93	94.19	5.89	290	5	0.05	5	320	70	1.82
2012 Decline Realignment	212562	RE12056057	SC12-114	94.19	96	10.15	420	5	0.05	5	120	60	0.86
2012 Decline Realignment	212563	RE12056057	SC12-114	96	98	10.45	410	5	0.06	5	140	20	0.2
2012 Decline Realignment	212565	RE12056057	SC12-114	98	100	10.4	390	5	0.05	5	200	10	0.29
2012 Decline Realignment	212566	RE12056057	SC12-114	100	102	9.66	370	5	0.06	5	180	10	0.35
2012 Decline Realignment	212567	RE12056057	SC12-114	102	104	9.35	370	5	0.05	5	170	10	0.29
2012 Decline Realignment	212568	RE12056057	SC12-114	104	105.5	8.77	380	5	0.025	5	200	10	0.28
2012 Decline Realignment	212569	RE12056057	SC12-114	105.5	106.66	7.97	370	5	0.06	5	240	10	0.47
2012 Decline Realignment	212570	RE12056057	SC12-114	106.66	108	4.53	180	5	0.12	20	570	40	2.59
2012 Decline Realignment	212571	RE12056057	SC12-114	108	110	4.59	280	5	0.12	10	420	30	2.29
2012 Decline Realignment	212573	RE12056057	SC12-114	110	112	5.87	440	5	0.09	5	350	30	1.88

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Mg_pct	Mn_ppm	Mo_ppm	Na_pct	Ni_ppm	P_ppm	Pb_ppm	S_pct
2012 Decline Realignment	212574	RE12056057	SC12-114	112	113.15	6.52	440	5	0.11	5	340	20	1.57
2012 Decline Realignment	212575	RE12056057	SC12-114	113.15	114.45	5.79	350	5	0.13	5	450	60	2.01
2012 Decline Realignment	212576	RE12056057	SC12-114	114.45	116	5.45	300	5	0.13	10	480	80	2.89
2012 Decline Realignment	212577	RE12056057	SC12-114	116	117.5	6.02	420	5	0.1	5	400	50	1.56
2012 Decline Realignment	212579	RE12056057	SC12-114	117.5	119	4.96	300	5	0.11	30	470	90	1.98
2012 Decline Realignment	212580	RE12056057	SC12-114	119	121	5.32	310	5	0.12	5	520	30	1.45
2012 Decline Realignment	212581	RE12056057	SC12-114	121	123	6.08	450	5	0.15	5	560	30	1.25
2012 Decline Realignment	212582	RE12056057	SC12-114	123	124.5	5.23	330	5	0.22	10	560	250	2.02
2012 Decline Realignment	212583	RE12056057	SC12-114	124.5	126.04	5.53	460	5	0.25	5	490	50	1.42
2012 Decline Realignment	212588	RE12056057	SC12-114	130.76	132	4.04	670	5	0.26	10	480	80	1.6
2012 Decline Realignment	212589	RE12056057	SC12-114	132	134	5.17	400	5	0.22	10	460	50	1.42
2012 Decline Realignment	212591	RE12056057	SC12-114	134	136	6.35	690	5	0.15	5	370	50	2.51
2012 Decline Realignment	212592	RE12056057	SC12-114	136	138	6.08	630	5	0.14	5	300	20	0.81
2012 Decline Realignment	212593	RE12056057	SC12-114	138	140	5.01	470	5	0.17	5	420	150	1.47
2012 Decline Realignment	212594	RE12056057	SC12-114	140	140.66	8.17	980	5	0.11	5	340	10	0.48
2012 Decline Realignment	212595	RE12056057	SC12-114	140.66	142	4.09	300	5	0.19	20	530	50	2.77
2012 Decline Realignment	212596	RE12056057	SC12-114	142	143.5	5.2	450	5	0.22	10	500	70	2.46
2012 Decline Realignment	212598	RE12056057	SC12-114	143.5	145.08	4.3	330	5	0.23	20	520	40	2.46
2012 Decline Realignment	212540	RE12056058	SC12-114	59.04	61	6.7	520	5	0.08	5	270	30	0.36
2012 Decline Realignment	212541	RE12056058	SC12-114	61	63	6.52	520	5	0.11	10	320	20	0.44
2012 Decline Realignment	212543	RE12056058	SC12-114	63	65	4.99	390	5	0.13	20	400	40	1.54
2012 Decline Realignment	212544	RE12056058	SC12-114	65	67	4.32	270	5	0.17	10	440	160	1.39
2012 Decline Realignment	212545	RE12056058	SC12-114	67	69	3.73	260	5	0.15	20	430	70	1.87
2012 Decline Realignment	212546	RE12056058	SC12-114	69	70	3.47	260	10	0.23	40	560	80	3.12
2012 Decline Realignment	212547	RE12056058	SC12-114	70	71	2.87	180	10	0.18	70	600	280	3.28
2012 Decline Realignment	212548	RE12056058	SC12-114	71	73	3.53	240	5	0.2	40	530	90	2.61
2012 Decline Realignment	212550	RE12056058	SC12-114	73	75	3.77	230	5	0.18	40	560	60	2.83
2012 Decline Realignment	208128	RE12056059	SC12-113	59.6	61.5	5.38	620	5	0.25	5	480	20	2.38
2012 Decline Realignment	208129	RE12056059	SC12-113	61.5	63.5	5.59	570	5	0.19	5	410	10	1.85
2012 Decline Realignment	208130	RE12056059	SC12-113	63.5	65.5	5.42	520	5	0.18	5	440	20	1.66
2012 Decline Realignment	208131	RE12056059	SC12-113	65.5	67.5	4.56	590	5	0.19	5	480	20	1.67
2012 Decline Realignment	208133	RE12056059	SC12-113	67.5	69.5	5.45	800	5	0.09	5	420	10	1.6
2012 Decline Realignment	208134	RE12056059	SC12-113	69.5	71.1	5.74	980	5	0.1	5	350	40	2.47
2012 Decline Realignment	208135	RE12056059	SC12-113	71.1	72.3	4.67	480	5	0.14	10	430	50	4.28
2012 Decline Realignment	208136	RE12056059	SC12-113	72.3	74.3	4.65	560	5	0.11	10	340	150	10
2012 Decline Realignment	208137	RE12056059	SC12-113	74.3	75.1	3.7	510	5	0.025	10	270	160	10
2012 Decline Realignment	208138	RE12056059	SC12-113	75.1	76	2.28	370	5	0.025	5	160	150	10
2012 Decline Realignment	208140	RE12056059	SC12-113	76	76.8	5.5	1030	5	0.05	5	270	110	7.14
2012 Decline Realignment	208141	RE12056059	SC12-113	76.8	78.8	6.03	900	5	0.16	5	400	30	1.29
2012 Decline Realignment	208142	RE12056059	SC12-113	78.8	80.8	5.45	1020	5	0.18	10	470	60	2.07
2012 Decline Realignment	208143	RE12056059	SC12-113	80.8	82.8	5.59	1390	5	0.19	10	480	140	2.06
2012 Decline Realignment	208145	RE12056059	SC12-113	82.8	83.4	5.63	420	5	0.24	10	450	50	1.25



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2012 Decline Realignment	208146	RE12056059	SC12-113	83.4	85.4	5.63	420	10	0.22	20	480	170	1.38
2012 Decline Realignment	208147	RE12056059	SC12-113	85.4	87.4	5.68	370	5	0.21	20	520	130	1.41
2012 Decline Realignment	208148	RE12056059	SC12-113	87.4	88.4	6.33	390	10	0.23	20	480	30	1.35
2012 Decline Realignment	208242	RE12056120	SC12-116	24.4	25	6.38	650	5	0.07	10	350	20	0.57
2012 Decline Realignment	208243	RE12056120	SC12-116	25	27	4.82	450	5	0.08	20	410	30	1.33
2012 Decline Realignment	208244	RE12056120	SC12-116	27	29	4.14	310	10	0.11	30	490	50	1.89
2012 Decline Realignment	208245	RE12056120	SC12-116	29	31	4.18	280	10	0.15	50	590	60	2.89
2012 Decline Realignment	208247	RE12056120	SC12-116	31	33	3.78	230	10	0.13	50	530	80	2.88
2012 Decline Realignment	208248	RE12056120	SC12-116	33	35	7.03	440	5	0.06	10	330	30	1.19
2012 Decline Realignment	208249	RE12056120	SC12-116	35	37	5.67	330	5	0.06	20	270	30	0.74
2012 Decline Realignment	208250	RE12056120	SC12-116	37	39	7.78	410	5	0.05	10	260	30	0.69
2012 Decline Realignment	208251	RE12056120	SC12-116	39	41	7.4	410	5	0.06	10	290	40	0.87
2012 Decline Realignment	208253	RE12056120	SC12-116	41	42.9	7.89	470	5	0.05	10	300	20	0.6
2012 Decline Realignment	208254	RE12056120	SC12-116	42.9	44	4.62	240	10	0.07	30	400	50	1.93
2012 Decline Realignment	208255	RE12056120	SC12-116	44	46	5.21	330	10	0.06	30	420	40	2.01
2012 Decline Realignment	208256	RE12056121	SC12-116	46	48	4.38	320	5	0.1	30	360	50	1.6
2012 Decline Realignment	208257	RE12056121	SC12-116	48	49.1	3.35	190	5	0.09	30	450	90	2.07
2012 Decline Realignment	208259	RE12056121	SC12-116	49.1	50.2	5.82	390	5	0.08	30	360	80	1.78
2012 Decline Realignment	208260	RE12056121	SC12-116	50.2	52	10.45	390	5	0.06	5	120	50	0.41
2012 Decline Realignment	208261	RE12056121	SC12-116	52	54	10.65	390	5	0.09	5	150	20	0.26
2012 Decline Realignment	208262	RE12056121	SC12-116	54	56	10.4	470	5	0.08	5	170	20	0.38
2012 Decline Realignment	208263	RE12056121	SC12-116	56	57	9.7	530	5	0.08	5	170	10	0.29
2012 Decline Realignment	208265	RE12056121	SC12-116	57	59	8.31	540	5	0.05	5	250	30	0.43
2012 Decline Realignment	208266	RE12056121	SC12-116	59	61	4.25	260	5	0.1	40	530	50	2.57
2012 Decline Realignment	208267	RE12056121	SC12-116	61	63	4.95	360	5	0.1	20	370	50	1.83
2012 Decline Realignment	208268	RE12056121	SC12-116	63	65	7.31	700	5	0.1	10	300	30	1.21
2012 Decline Realignment	208269	RE12056121	SC12-116	65	67	5.64	370	5	0.13	30	470	50	1.75
2012 Decline Realignment	208271	RE12056121	SC12-116	67	69	5.37	380	5	0.14	20	440	40	1.76
2012 Decline Realignment	208272	RE12056121	SC12-116	69	71	5.09	440	5	0.13	20	570	60	1.12
2012 Decline Realignment	208273	RE12056121	SC12-116	71	73	6.97	820	5	0.1	5	470	20	0.74
2012 Decline Realignment	208274	RE12056121	SC12-116	73	75	5.83	590	5	0.16	5	520	20	1.5
2012 Decline Realignment	208275	RE12056121	SC12-116	75	76.6	5.39	430	5	0.21	5	550	30	1.42
2012 Decline Realignment	208278	RE12056121	SC12-116	78.6	79.5	4.4	450	5	0.24	30	620	30	2.19
2012 Decline Realignment	208277	RE12059936	SC12-116	76.6	78.6	4.34	470	5	0.21	5	490	20	1.47
2012 Decline Realignment	212584	RE12059937	SC12-114	126.04	127.5	5.8	640	5	1.74	210	2820	20	0.27
2012 Decline Realignment	212586	RE12059937	SC12-114	127.5	129	5.81	750	5	1.76	230	2800	20	0.06
2012 Decline Realignment	212587	RE12059937	SC12-114	129	130.76	5.95	680	5	1.75	340	2850	30	0.32
2012 Decline Realignment	212620	RE12062433	SC12-117	38	40	2.5	540	10	0.08	50	600	160	7.23
2012 Decline Realignment	212621	RE12062433	SC12-117	40	42	2.73	380	10	0.08	30	560	140	7.29
2012 Decline Realignment	212623	RE12062433	SC12-117	44	45.11	3.71	680	5	0.07	20	370	170	6.5
2012 Decline Realignment	212625	RE12062433	SC12-117	45.11	46.43	1	330	10	0.06	40	470	1270	10
2012 Decline Realignment	212634	RE12062433	SC12-117	57.3	58.11	0.89	510	5	0.025	10	90	600	10

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2012 Decline Realignment	212638	RE12062433	SC12-117	60	61	2.51	700	5	0.025	5	70	3250	10
2012 Decline Realignment	212639	RE12062433	SC12-117	61	61.93	4.05	860	5	0.025	10	180	2030	10
2012 Decline Realignment	212645	RE12062435	SC12-117	71	73	4.4	1060	5	0.06	10	490	20	1.83
2012 Decline Realignment	212647	RE12062435	SC12-117	73	75	4.61	1090	5	0.06	20	420	10	1.34
2012 Decline Realignment	212648	RE12062435	SC12-117	75	77	5.19	930	5	0.06	10	430	10	1.17
2012 Decline Realignment	212649	RE12062435	SC12-117	77	79	4.18	620	5	0.07	5	360	10	0.88
2012 Decline Realignment	212651	RE12062435	SC12-117	79	81	4.28	620	5	0.06	5	390	10	1.01
2012 Decline Realignment	212652	RE12062435	SC12-117	81	83	5.1	640	5	0.05	10	470	20	1.19
2012 Decline Realignment	212653	RE12062435	SC12-117	83	85	4.88	790	5	0.06	10	500	10	1.18
2012 Decline Realignment	212654	RE12062435	SC12-117	85	87	4.97	640	5	0.05	10	470	10	1.24
2012 Decline Realignment	212655	RE12062435	SC12-117	87	88.48	4.9	950	5	0.06	5	430	10	1.21
2012 Decline Realignment	212656	RE12062435	SC12-117	88.48	90	3.54	1060	5	0.05	20	270	20	0.21
2012 Decline Realignment	212657	RE12062435	SC12-117	90	91.5	3.67	830	5	0.06	20	320	20	0.61
2012 Decline Realignment	212658	RE12062435	SC12-117	91.5	92.52	3.89	580	5	0.06	10	380	40	1.03
2012 Decline Realignment	212660	RE12062435	SC12-117	92.52	94	5.27	760	5	0.06	10	460	30	0.87
2012 Decline Realignment	212661	RE12062435	SC12-117	94	96	5.4	850	5	0.06	10	460	30	1.04
2012 Decline Realignment	212662	RE12062435	SC12-117	96	98	5.01	720	5	0.06	20	490	30	1.43
2012 Decline Realignment	212663	RE12062435	SC12-117	98	100	5.05	900	5	0.06	10	500	40	2.64
2012 Decline Realignment	212664	RE12062435	SC12-117	100	102	5.38	920	5	0.05	10	440	40	1.32
2012 Decline Realignment	212665	RE12062435	SC12-117	102	103.98	4.69	870	5	0.06	20	490	20	1.19
2012 Decline Realignment	210530	RE12064256	SC12-115	47.8	49.5	4.5	310	5	0.12	30	440	30	1.7
2012 Decline Realignment	210532	RE12064256	SC12-115	49.5	51.5	3.53	350	5	0.12	20	350	30	1.63
2012 Decline Realignment	210533	RE12064256	SC12-115	51.5	53.5	4.08	230	10	0.17	50	560	80	2.89
2012 Decline Realignment	210535	RE12064256	SC12-115	53.5	55.5	3.53	240	10	0.17	60	530	80	2.97
2012 Decline Realignment	210536	RE12064256	SC12-115	55.5	56.65	3.62	250	10	0.15	50	550	60	3.24
2012 Decline Realignment	210538	RE12064256	SC12-115	56.65	58	6.86	480	5	0.06	10	270	30	1.13
2012 Decline Realignment	210539	RE12064256	SC12-115	58	60	5.29	360	5	0.07	20	260	30	0.74
2012 Decline Realignment	210540	RE12064256	SC12-115	60	62	7.2	400	5	0.06	20	270	30	0.79
2012 Decline Realignment	210541	RE12064256	SC12-115	62	64	7.45	420	5	0.07	10	280	30	0.87
2012 Decline Realignment	210542	RE12064256	SC12-115	64	65.2	7.8	470	5	0.06	10	280	30	0.63
2012 Decline Realignment	210543	RE12064256	SC12-115	65.2	67	4.47	250	10	0.08	30	420	50	1.9
2012 Decline Realignment	210544	RE12064256	SC12-115	67	69	4.61	290	5	0.08	40	390	40	1.99
2012 Decline Realignment	210546	RE12064256	SC12-115	69	71	4.53	300	5	0.08	30	430	80	1.57
2012 Decline Realignment	210547	RE12064256	SC12-115	71	72.8	5.16	300	5	0.09	40	410	100	2
2012 Decline Realignment	210548	RE12064256	SC12-115	72.8	74	10.65	400	5	0.05	5	140	40	0.4
2012 Decline Realignment	210549	RE12064256	SC12-115	74	76	11.2	410	5	0.07	5	150	20	0.23
2012 Decline Realignment	210550	RE12064256	SC12-115	76	78	10.5	460	5	0.05	5	190	10	0.36
2012 Decline Realignment	210552	RE12064256	SC12-115	78	80	11.4	650	5	0.06	20	220	20	0.34
2012 Decline Realignment	210553	RE12064256	SC12-115	80	81.9	8.48	590	5	0.05	10	250	20	0.42
2012 Decline Realignment	210554	RE12064256	SC12-115	81.9	83.5	4.4	260	10	0.08	50	590	50	2.75
2012 Decline Realignment	210555	RE12064256	SC12-115	83.5	85	4.21	360	5	0.08	30	410	40	2.03
2012 Decline Realignment	210556	RE12064256	SC12-115	85	87	7.49	840	5	0.07	20	350	30	1.36

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Mg_pct	Mn_ppm	Mo_ppm	Na_pct	Ni_ppm	P_ppm	Pb_ppm	S_pct
2012 Decline Realignment	210558	RE12064256	SC12-115	87	89	5.92	460	5	0.13	30	500	40	2.05
2012 Decline Realignment	210559	RE12064256	SC12-115	89	91	5.88	450	5	0.14	30	500	40	2.03
2012 Decline Realignment	210560	RE12064256	SC12-115	91	93	5.39	460	5	0.15	20	510	40	1.8
2012 Decline Realignment	210561	RE12064256	SC12-115	93	95	6.09	660	5	0.13	20	550	20	0.97
2012 Decline Realignment	210562	RE12064256	SC12-115	95	97	6.41	670	5	0.16	30	510	30	1.48
2012 Decline Realignment	210563	RE12064256	SC12-115	97	99	5.76	440	5	0.21	20	530	20	1.26
2012 Decline Realignment	210564	RE12064256	SC12-115	99.9	101	4.99	440	5	0.19	20	510	30	1.18
2012 Decline Realignment	212617	RE12065437	SC12-117	34.84	36	2.35	1230	5	0.08	20	510	140	4.98
2012 Decline Realignment	212619	RE12065437	SC12-117	36	38	3.17	770	10	0.09	30	590	110	3.31
2012 Decline Realignment	212622	RE12065437	SC12-117	42	44	3.69	560	5	0.08	20	510	100	4.05
2012 Decline Realignment	212626	RE12065437	SC12-117	46.43	47.22	0.49	140	10	0.08	30	250	1600	10
2012 Decline Realignment	212627	RE12065437	SC12-117	47.22	48.61	0.22	130	5	0.1	10	100	1840	10
2012 Decline Realignment	212628	RE12065437	SC12-117	48.61	50	2.02	350	5	0.09	30	550	1150	3.46
2012 Decline Realignment	212629	RE12065437	SC12-117	50	52	2.29	440	10	0.09	40	600	210	3.89
2012 Decline Realignment	212631	RE12065437	SC12-117	52	54	1.94	320	10	0.1	50	500	60	2.83
2012 Decline Realignment	212632	RE12065437	SC12-117	54	56	1.29	70	5	0.1	50	260	30	2.35
2012 Decline Realignment	212633	RE12065437	SC12-117	56	57.3	2.44	590	10	0.1	30	620	80	6.72
2012 Decline Realignment	212635	RE12065437	SC12-117	58.11	58.81	0.93	900	10	0.06	40	280	1010	10
2012 Decline Realignment	212636	RE12065437	SC12-117	58.81	60	2.31	580	5	0.025	5	110	1640	10
2012 Decline Realignment	212640	RE12065437	SC12-117	61.93	63	2.8	510	10	0.08	20	570	110	3.24
2012 Decline Realignment	212641	RE12065437	SC12-117	63	65	2.39	410	10	0.09	30	520	820	8.61
2012 Decline Realignment	212642	RE12065437	SC12-117	65	67	3.82	920	5	0.1	20	420	60	3.72
2012 Decline Realignment	212643	RE12065437	SC12-117	67	69	3.9	920	5	0.08	20	370	60	5.51
2012 Decline Realignment	212644	RE12065437	SC12-117	69	71	4.29	1090	10	0.08	20	450	30	2.74
2012 Decline Realignment	210565	RE12071230	SC12-115	101	103	5.1	610	5	0.16	30	470	50	1.48
2012 Decline Realignment	210566	RE12071230	SC12-115	103	105	4.78	800	5	0.18	30	520	60	2
2012 Decline Realignment	210567	RE12071230	SC12-115	105	107	4.73	1060	5	0.14	20	330	40	0.96
2012 Decline Realignment	210568	RE12071230	SC12-115	107	108.57	3.41	740	5	0.17	20	390	30	1.01
2012 Decline Realignment	210569	RE12071230	SC12-115	108.57	110	2.08	280	5	0.41	30	350	10	0.22
2012 Decline Realignment	210570	RE12071230	SC12-115	110	112	1.99	190	5	0.46	30	360	10	0.13
2012 Decline Realignment	210572	RE12071230	SC12-115	112	114	1.83	120	5	0.42	40	360	10	0.21
2012 Decline Realignment	210573	RE12071230	SC12-115	114	116	1.68	130	5	0.42	40	390	20	0.5
2012 Decline Realignment	210575	RE12071230	SC12-115	116	117.6	1.8	140	5	0.45	50	330	20	1.25
2012 Decline Realignment	210576	RE12071230	SC12-115	117.6	118.6	1.83	310	5	0.38	40	290	40	1.63
2012 Decline Realignment	210577	RE12071230	SC12-115	118.6	120	2.98	940	5	0.19	20	500	30	1.18
2012 Decline Realignment	210578	RE12071230	SC12-115	120	122	2.16	430	5	0.23	20	380	30	1.09
2012 Decline Realignment	210580	RE12071230	SC12-115	122	124	3.46	820	5	0.2	30	540	40	1.61
2012 Decline Realignment	210581	RE12071230	SC12-115	124	125.25	4.75	940	5	0.18	30	480	40	1.28
2012 Decline Realignment	210582	RE12071230	SC12-115	125.25	127	4.1	660	5	2.08	140	850	10	0.15
2012 Decline Realignment	210583	RE12071230	SC12-115	127	129	3.6	790	5	2.14	100	940	10	0.11
2012 Decline Realignment	210585	RE12071230	SC12-115	129	131	3.54	810	5	2.16	100	640	10	0.15
2012 Decline Realignment	210586	RE12071230	SC12-115	131	133	3.87	750	5	2.33	120	940	20	0.07

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Mg_pct	Mn_ppm	Mo_ppm	Na_pct	Ni_ppm	P_ppm	Pb_ppm	S_pct
2012 Decline Realignment	210587	RE12071230	SC12-115	133	135	4.13	720	5	2.19	140	830	20	0.12
2012 Decline Realignment	210588	RE12071230	SC12-115	135	137	3.83	850	5	2.12	130	920	20	0.16
2012 Decline Realignment	210589	RE12071230	SC12-115	137	139	4.03	750	5	2.09	130	960	30	0.06
2012 Decline Realignment	210591	RE12071230	SC12-115	139	141	4.01	790	5	2.25	140	900	30	0.1
2012 Decline Realignment	210592	RE12071230	SC12-115	141	143	4.6	680	5	1.82	190	1700	20	0.15
2012 Decline Realignment	210593	RE12071230	SC12-115	143	145	6.02	720	5	1.56	270	2970	30	0.06
2012 Decline Realignment	210594	RE12071230	SC12-115	145	147	5.92	700	5	1.57	290	2990	30	0.06
2012 Decline Realignment	210596	RE12071230	SC12-115	147	148.25	5.19	840	5	1.18	220	2400	30	0.47
2012 Decline Realignment	210597	RE12071230	SC12-115	148.25	150.25	4.53	960	5	0.26	20	510	40	1.89
2012 Decline Realignment	210598	RE12071230	SC12-115	150.25	152.2	4.41	990	5	0.2	30	520	50	2.66
2012 Decline Realignment	210599	RE12071230	SC12-115	152.2	154.2	4.39	970	5	0.18	30	500	40	2.34
2012 Decline Realignment	210600	RE12071230	SC12-115	154.2	156.2	4.17	1580	5	0.16	30	450	50	4.35
2012 Decline Realignment	210601	RE12071230	SC12-115	156.2	158.1	4.53	1390	5	0.17	30	410	40	2.1
2012 Decline Realignment	210602	RE12071230	SC12-115	158.1	160	4.61	1300	5	0.17	20	390	40	4.28
2012 Decline Realignment	210604	RE12071230	SC12-115	160	161.5	4.08	1060	5	0.14	30	310	70	8.8
2012 Decline Realignment	210605	RE12071230	SC12-115	161.5	162.75	3.9	1460	5	0.08	30	240	130	10
2012 Decline Realignment	210607	RE12071230	SC12-115	162.75	163.9	5.29	1810	5	0.15	10	370	20	1.09
2012 Decline Realignment	210608	RE12071230	SC12-115	163.9	165	4.52	1610	5	0.15	30	430	30	1.86
2012 Decline Realignment	210609	RE12071230	SC12-115	165	167	8.51	3690	5	0.06	5	120	10	0.61
2012 Decline Realignment	210610	RE12071230	SC12-115	167	168.5	5.53	1140	5	0.19	20	470	40	1.61
2012 Decline Realignment	210611	RE12071230	SC12-115	168.5	170	5.23	950	5	0.2	20	440	30	1.33
2012 Decline Realignment	210612	RE12071230	SC12-115	170	172	5.75	910	5	0.18	10	420	30	0.96
2012 Decline Realignment	210613	RE12071230	SC12-115	172	174	5.15	610	5	0.19	10	400	20	0.85
2012 Decline Realignment	210615	RE12071230	SC12-115	174	176	5.46	670	5	0.22	10	450	20	0.94
2012 Decline Realignment	210616	RE12071230	SC12-115	176	178	6.08	650	5	0.22	10	440	20	0.92
2012 Decline Realignment	210617	RE12071230	SC12-115	178	179.94	6.05	620	5	0.21	10	440	30	0.94
2012 Decline Realignment	210618	RE12071230	SC12-115	179.94	181.5	3.93	650	5	0.24	20	210	30	0.17
2012 Decline Realignment	210619	RE12071230	SC12-115	181.5	183	3.72	540	5	0.25	20	200	10	0.11
2012 Decline Realignment	210620	RE12071230	SC12-115	183	185	3.72	500	5	0.24	20	200	10	0.09
2012 Decline Realignment	210621	RE12071230	SC12-115	185	187	3.55	410	5	0.28	20	220	10	0.08
2012 Decline Realignment	210622	RE12071230	SC12-115	187	189	3.69	380	5	0.28	30	270	10	0.14
2012 Decline Realignment	210623	RE12071230	SC12-115	189	191	3.55	400	5	0.31	30	230	10	0.12
2012 Decline Realignment	210625	RE12071230	SC12-115	191	193	3.38	420	5	0.32	30	220	10	0.12
2012 Decline Realignment	210626	RE12071230	SC12-115	193	195	3.64	340	5	0.28	20	220	10	0.11
2012 Decline Realignment	210627	RE12071230	SC12-115	195	197	3.76	330	5	0.25	20	210	10	0.11
2012 Decline Realignment	210628	RE12071230	SC12-115	197	199	4.08	440	5	0.23	20	200	10	0.11
2012 Decline Realignment	210629	RE12071230	SC12-115	199	200.5	3.97	440	5	0.31	20	230	10	0.08
2012 Decline Realignment	210630	RE12071230	SC12-115	200.5	201.7	2.78	70	5	0.41	30	230	10	0.08

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Sb_ppm	Sc_ppm	Sr_ppm	Th_ppm	Ti_pct	Tl_ppm	U_ppm	V_ppm
2012 Decline Realignment	208102	RE12048006	SC12-113	18.33	20.17	25	10	80	25	0.21	25	25	60
2012 Decline Realignment	208104	RE12048006	SC12-113	20.17	22.14	25	10	80	25	0.21	25	25	50
2012 Decline Realignment	208105	RE12048006	SC12-113	22.14	24.13	25	10	70	25	0.19	25	25	40
2012 Decline Realignment	208106	RE12048006	SC12-113	24.13	26.12	25	10	80	25	0.2	25	25	50
2012 Decline Realignment	208107	RE12048006	SC12-113	26.12	28.08	25	10	70	25	0.19	25	25	40
2012 Decline Realignment	208108	RE12048006	SC12-113	28.08	29.8	25	10	80	25	0.19	25	25	60
2012 Decline Realignment	208110	RE12048006	SC12-113	29.8	31.76	25	10	80	25	0.18	25	25	50
2012 Decline Realignment	208111	RE12048006	SC12-113	31.76	33.56	25	10	70	25	0.2	25	25	50
2012 Decline Realignment	208112	RE12048006	SC12-113	33.56	35.38	25	10	80	25	0.19	25	25	40
2012 Decline Realignment	208113	RE12048006	SC12-113	35.38	37.2	25	10	70	25	0.2	25	25	50
2012 Decline Realignment	208114	RE12048006	SC12-113	37.2	39.18	25	10	70	25	0.19	25	25	50
2012 Decline Realignment	208115	RE12048006	SC12-113	39.18	41.14	25	10	70	25	0.18	25	25	40
2012 Decline Realignment	208116	RE12048006	SC12-113	41.14	43.1	25	10	60	25	0.2	25	25	40
2012 Decline Realignment	208118	RE12048006	SC12-113	43.1	45.01	25	10	70	25	0.19	25	25	60
2012 Decline Realignment	208119	RE12048006	SC12-113	45.01	47	25	10	70	25	0.22	25	25	70
2012 Decline Realignment	208120	RE12048006	SC12-113	47	47.7	25	10	60	25	0.21	25	25	70
2012 Decline Realignment	208121	RE12048006	SC12-113	47.7	49.7	25	10	60	25	0.2	25	25	50
2012 Decline Realignment	208122	RE12048006	SC12-113	49.7	51.7	25	10	70	25	0.21	25	25	60
2012 Decline Realignment	208123	RE12048006	SC12-113	51.7	53.7	25	10	70	25	0.22	25	25	70
2012 Decline Realignment	208124	RE12048006	SC12-113	53.7	55.7	25	10	90	25	0.22	25	25	60
2012 Decline Realignment	208125	RE12048006	SC12-113	55.7	57.6	25	10	90	25	0.21	25	25	80
2012 Decline Realignment	208127	RE12048006	SC12-113	57.6	59.6	25	10	100	25	0.21	25	25	70
2012 Decline Realignment	212551	RE12056057	SC12-114	75	77	25	10	80	25	0.16	25	25	60
2012 Decline Realignment	212552	RE12056057	SC12-114	77	79	25	10	70	25	0.16	25	25	40
2012 Decline Realignment	212553	RE12056057	SC12-114	79	81	25	10	80	25	0.15	25	25	50
2012 Decline Realignment	212554	RE12056057	SC12-114	81	83	25	10	80	25	0.17	25	25	60
2012 Decline Realignment	212555	RE12056057	SC12-114	83	85	25	5	90	25	0.12	25	25	30
2012 Decline Realignment	212556	RE12056057	SC12-114	85	87	25	10	60	25	0.19	25	25	90
2012 Decline Realignment	212557	RE12056057	SC12-114	87	89	25	10	70	25	0.17	25	25	60
2012 Decline Realignment	212559	RE12056057	SC12-114	89	91	25	10	70	25	0.21	25	25	70
2012 Decline Realignment	212560	RE12056057	SC12-114	91	93	25	10	100	25	0.22	25	25	80
2012 Decline Realignment	212561	RE12056057	SC12-114	93	94.19	25	10	290	25	0.14	25	25	70
2012 Decline Realignment	212562	RE12056057	SC12-114	94.19	96	25	5	220	25	0.025	25	25	10
2012 Decline Realignment	212563	RE12056057	SC12-114	96	98	25	5	200	25	0.025	25	25	10
2012 Decline Realignment	212565	RE12056057	SC12-114	98	100	25	5	160	25	0.05	25	25	10
2012 Decline Realignment	212566	RE12056057	SC12-114	100	102	25	5	160	25	0.05	25	25	10
2012 Decline Realignment	212567	RE12056057	SC12-114	102	104	25	5	120	25	0.05	25	25	10
2012 Decline Realignment	212568	RE12056057	SC12-114	104	105.5	25	5	100	25	0.06	25	25	20
2012 Decline Realignment	212569	RE12056057	SC12-114	105.5	106.66	25	5	100	25	0.1	25	25	30
2012 Decline Realignment	212570	RE12056057	SC12-114	106.66	108	25	10	70	25	0.21	25	25	100
2012 Decline Realignment	212571	RE12056057	SC12-114	108	110	25	10	70	25	0.18	25	25	70
2012 Decline Realignment	212573	RE12056057	SC12-114	110	112	25	10	70	25	0.15	25	25	60

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Sb_ppm	Sc_ppm	Sr_ppm	Th_ppm	Ti_pct	Tl_ppm	U_ppm	V_ppm
2012 Decline Realignment	212574	RE12056057	SC12-114	112	113.15	25	10	90	25	0.14	25	25	40
2012 Decline Realignment	212575	RE12056057	SC12-114	113.15	114.45	25	10	90	25	0.17	25	25	60
2012 Decline Realignment	212576	RE12056057	SC12-114	114.45	116	25	10	80	25	0.19	25	25	70
2012 Decline Realignment	212577	RE12056057	SC12-114	116	117.5	25	10	90	25	0.16	25	25	60
2012 Decline Realignment	212579	RE12056057	SC12-114	117.5	119	25	10	70	25	0.18	25	25	60
2012 Decline Realignment	212580	RE12056057	SC12-114	119	121	25	10	80	25	0.21	25	25	60
2012 Decline Realignment	212581	RE12056057	SC12-114	121	123	25	10	90	25	0.19	25	25	60
2012 Decline Realignment	212582	RE12056057	SC12-114	123	124.5	25	10	90	25	0.2	25	25	80
2012 Decline Realignment	212583	RE12056057	SC12-114	124.5	126.04	25	10	110	25	0.19	25	25	60
2012 Decline Realignment	212588	RE12056057	SC12-114	130.76	132	25	10	200	25	0.19	25	25	70
2012 Decline Realignment	212589	RE12056057	SC12-114	132	134	25	10	100	25	0.19	25	25	70
2012 Decline Realignment	212591	RE12056057	SC12-114	134	136	25	10	90	25	0.16	25	25	40
2012 Decline Realignment	212592	RE12056057	SC12-114	136	138	25	10	80	25	0.14	25	25	50
2012 Decline Realignment	212593	RE12056057	SC12-114	138	140	25	10	70	25	0.18	25	25	70
2012 Decline Realignment	212594	RE12056057	SC12-114	140	140.66	25	5	100	25	0.09	25	25	30
2012 Decline Realignment	212595	RE12056057	SC12-114	140.66	142	25	10	60	25	0.21	25	25	100
2012 Decline Realignment	212596	RE12056057	SC12-114	142	143.5	25	10	90	25	0.21	25	25	80
2012 Decline Realignment	212598	RE12056057	SC12-114	143.5	145.08	25	10	70	25	0.24	25	25	90
2012 Decline Realignment	212540	RE12056058	SC12-114	59.04	61	25	10	90	25	0.15	25	25	30
2012 Decline Realignment	212541	RE12056058	SC12-114	61	63	25	10	80	25	0.17	25	25	40
2012 Decline Realignment	212543	RE12056058	SC12-114	63	65	25	10	80	25	0.2	25	25	50
2012 Decline Realignment	212544	RE12056058	SC12-114	65	67	25	10	80	25	0.19	25	25	50
2012 Decline Realignment	212545	RE12056058	SC12-114	67	69	25	10	70	25	0.22	25	25	70
2012 Decline Realignment	212546	RE12056058	SC12-114	69	70	25	10	60	25	0.25	25	25	100
2012 Decline Realignment	212547	RE12056058	SC12-114	70	71	25	10	40	25	0.26	25	25	140
2012 Decline Realignment	212548	RE12056058	SC12-114	71	73	25	10	60	25	0.24	25	25	100
2012 Decline Realignment	212550	RE12056058	SC12-114	73	75	25	10	60	25	0.25	25	25	100
2012 Decline Realignment	208128	RE12056059	SC12-113	59.6	61.5	25	10	100	25	0.2	25	25	60
2012 Decline Realignment	208129	RE12056059	SC12-113	61.5	63.5	25	10	80	25	0.18	25	25	50
2012 Decline Realignment	208130	RE12056059	SC12-113	63.5	65.5	25	10	70	25	0.19	25	25	50
2012 Decline Realignment	208131	RE12056059	SC12-113	65.5	67.5	25	10	70	25	0.2	25	25	50
2012 Decline Realignment	208133	RE12056059	SC12-113	67.5	69.5	25	10	60	25	0.2	25	25	50
2012 Decline Realignment	208134	RE12056059	SC12-113	69.5	71.1	25	10	70	25	0.16	25	25	50
2012 Decline Realignment	208135	RE12056059	SC12-113	71.1	72.3	25	10	60	25	0.2	25	25	70
2012 Decline Realignment	208136	RE12056059	SC12-113	72.3	74.3	25	10	50	25	0.16	25	25	50
2012 Decline Realignment	208137	RE12056059	SC12-113	74.3	75.1	25	10	40	25	0.16	25	25	60
2012 Decline Realignment	208138	RE12056059	SC12-113	75.1	76	25	5	20	25	0.07	25	25	30
2012 Decline Realignment	208140	RE12056059	SC12-113	76	76.8	25	10	60	25	0.15	25	25	50
2012 Decline Realignment	208141	RE12056059	SC12-113	76.8	78.8	25	10	70	25	0.18	25	25	60
2012 Decline Realignment	208142	RE12056059	SC12-113	78.8	80.8	25	10	80	25	0.19	25	25	70
2012 Decline Realignment	208143	RE12056059	SC12-113	80.8	82.8	25	10	90	25	0.16	25	25	60
2012 Decline Realignment	208145	RE12056059	SC12-113	82.8	83.4	25	10	90	25	0.2	25	25	40

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Sb_ppm	Sc_ppm	Sr_ppm	Th_ppm	Ti_pct	Tl_ppm	U_ppm	V_ppm
2012 Decline Realignment	208146	RE12056059	SC12-113	83.4	85.4	25	10	90	25	0.2	25	25	50
2012 Decline Realignment	208147	RE12056059	SC12-113	85.4	87.4	25	10	100	25	0.2	25	25	50
2012 Decline Realignment	208148	RE12056059	SC12-113	87.4	88.4	25	10	110	25	0.2	25	25	40
2012 Decline Realignment	208242	RE12056120	SC12-116	24.4	25	25	10	100	25	0.18	25	25	40
2012 Decline Realignment	208243	RE12056120	SC12-116	25	27	25	10	90	25	0.2	25	25	50
2012 Decline Realignment	208244	RE12056120	SC12-116	27	29	25	10	90	25	0.22	25	25	70
2012 Decline Realignment	208245	RE12056120	SC12-116	29	31	25	10	80	25	0.25	25	25	110
2012 Decline Realignment	208247	RE12056120	SC12-116	31	33	25	10	80	25	0.24	25	25	100
2012 Decline Realignment	208248	RE12056120	SC12-116	33	35	25	10	110	25	0.17	25	25	50
2012 Decline Realignment	208249	RE12056120	SC12-116	35	37	25	10	90	25	0.17	25	25	40
2012 Decline Realignment	208250	RE12056120	SC12-116	37	39	25	10	110	25	0.12	25	25	50
2012 Decline Realignment	208251	RE12056120	SC12-116	39	41	25	10	110	25	0.14	25	25	40
2012 Decline Realignment	208253	RE12056120	SC12-116	41	42.9	25	5	110	25	0.12	25	25	30
2012 Decline Realignment	208254	RE12056120	SC12-116	42.9	44	25	10	80	25	0.19	25	25	70
2012 Decline Realignment	208255	RE12056120	SC12-116	44	46	25	10	100	25	0.17	25	25	80
2012 Decline Realignment	208256	RE12056121	SC12-116	46	48	25	10	70	25	0.2	25	25	60
2012 Decline Realignment	208257	RE12056121	SC12-116	48	49.1	25	10	50	25	0.27	25	25	80
2012 Decline Realignment	208259	RE12056121	SC12-116	49.1	50.2	25	10	100	25	0.17	25	25	70
2012 Decline Realignment	208260	RE12056121	SC12-116	50.2	52	25	5	140	25	0.025	25	25	20
2012 Decline Realignment	208261	RE12056121	SC12-116	52	54	25	5	150	25	0.025	25	25	10
2012 Decline Realignment	208262	RE12056121	SC12-116	54	56	25	5	150	25	0.05	25	25	10
2012 Decline Realignment	208263	RE12056121	SC12-116	56	57	25	5	140	25	0.05	25	25	10
2012 Decline Realignment	208265	RE12056121	SC12-116	57	59	25	5	100	25	0.09	25	25	20
2012 Decline Realignment	208266	RE12056121	SC12-116	59	61	25	10	60	25	0.2	25	25	90
2012 Decline Realignment	208267	RE12056121	SC12-116	61	63	25	10	70	25	0.17	25	25	70
2012 Decline Realignment	208268	RE12056121	SC12-116	63	65	25	5	110	25	0.12	25	25	40
2012 Decline Realignment	208269	RE12056121	SC12-116	65	67	25	10	80	25	0.18	25	25	60
2012 Decline Realignment	208271	RE12056121	SC12-116	67	69	25	10	80	25	0.18	25	25	70
2012 Decline Realignment	208272	RE12056121	SC12-116	69	71	25	10	80	25	0.21	25	25	50
2012 Decline Realignment	208273	RE12056121	SC12-116	71	73	25	10	100	25	0.15	25	25	40
2012 Decline Realignment	208274	RE12056121	SC12-116	73	75	25	10	90	25	0.2	25	25	60
2012 Decline Realignment	208275	RE12056121	SC12-116	75	76.6	25	10	80	25	0.2	25	25	50
2012 Decline Realignment	208278	RE12056121	SC12-116	78.6	79.5	25	10	100	25	0.21	25	25	90
2012 Decline Realignment	208277	RE12059936	SC12-116	76.6	78.6	25	10	90	25	0.2	25	25	50
2012 Decline Realignment	212584	RE12059937	SC12-114	126.04	127.5	25	10	890	25	0.44	25	25	130
2012 Decline Realignment	212586	RE12059937	SC12-114	127.5	129	25	10	780	25	0.44	25	25	130
2012 Decline Realignment	212587	RE12059937	SC12-114	129	130.76	25	10	870	25	0.44	25	25	130
2012 Decline Realignment	212620	RE12062433	SC12-117	38	40	25	10	130	25	0.21	25	25	110
2012 Decline Realignment	212621	RE12062433	SC12-117	40	42	25	10	130	25	0.22	25	25	90
2012 Decline Realignment	212623	RE12062433	SC12-117	44	45.11	25	10	180	25	0.17	25	25	50
2012 Decline Realignment	212625	RE12062433	SC12-117	45.11	46.43	25	10	120	25	0.18	25	25	80
2012 Decline Realignment	212634	RE12062433	SC12-117	57.3	58.11	25	5	110	25	0.025	70	25	10

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Sb_ppm	Sc_ppm	Sr_ppm	Th_ppm	Ti_pct	Tl_ppm	U_ppm	V_ppm
2012 Decline Realignment	212638	RE12062433	SC12-117	60	61	25	5	160	25	0.025	50	25	5
2012 Decline Realignment	212639	RE12062433	SC12-117	61	61.93	25	5	220	25	0.025	50	25	20
2012 Decline Realignment	212645	RE12062435	SC12-117	71	73	25	10	120	25	0.18	25	25	60
2012 Decline Realignment	212647	RE12062435	SC12-117	73	75	25	10	130	25	0.2	25	25	40
2012 Decline Realignment	212648	RE12062435	SC12-117	75	77	25	10	150	25	0.19	25	25	40
2012 Decline Realignment	212649	RE12062435	SC12-117	77	79	25	10	140	25	0.18	25	25	30
2012 Decline Realignment	212651	RE12062435	SC12-117	79	81	25	10	120	25	0.18	25	25	40
2012 Decline Realignment	212652	RE12062435	SC12-117	81	83	25	10	120	25	0.19	25	25	50
2012 Decline Realignment	212653	RE12062435	SC12-117	83	85	25	10	120	25	0.2	25	25	50
2012 Decline Realignment	212654	RE12062435	SC12-117	85	87	25	10	120	25	0.2	25	25	50
2012 Decline Realignment	212655	RE12062435	SC12-117	87	88.48	25	10	120	25	0.19	25	25	50
2012 Decline Realignment	212656	RE12062435	SC12-117	88.48	90	25	10	100	25	0.2	25	25	50
2012 Decline Realignment	212657	RE12062435	SC12-117	90	91.5	25	10	130	25	0.21	25	25	50
2012 Decline Realignment	212658	RE12062435	SC12-117	91.5	92.52	25	10	170	25	0.21	25	25	50
2012 Decline Realignment	212660	RE12062435	SC12-117	92.52	94	25	10	140	25	0.2	25	25	40
2012 Decline Realignment	212661	RE12062435	SC12-117	94	96	25	10	140	25	0.2	25	25	50
2012 Decline Realignment	212662	RE12062435	SC12-117	96	98	25	10	170	25	0.2	25	25	50
2012 Decline Realignment	212663	RE12062435	SC12-117	98	100	25	10	130	25	0.2	25	25	50
2012 Decline Realignment	212664	RE12062435	SC12-117	100	102	25	10	130	25	0.19	25	25	50
2012 Decline Realignment	212665	RE12062435	SC12-117	102	103.98	25	10	160	25	0.21	25	25	60
2012 Decline Realignment	210530	RE12064256	SC12-115	47.8	49.5	25	10	70	25	0.22	25	25	60
2012 Decline Realignment	210532	RE12064256	SC12-115	49.5	51.5	25	10	80	25	0.19	25	25	50
2012 Decline Realignment	210533	RE12064256	SC12-115	51.5	53.5	25	10	70	25	0.25	25	25	110
2012 Decline Realignment	210535	RE12064256	SC12-115	53.5	55.5	25	10	60	25	0.24	25	25	110
2012 Decline Realignment	210536	RE12064256	SC12-115	55.5	56.65	25	10	60	25	0.26	25	25	120
2012 Decline Realignment	210538	RE12064256	SC12-115	56.65	58	25	10	90	25	0.13	25	25	40
2012 Decline Realignment	210539	RE12064256	SC12-115	58	60	25	10	70	25	0.15	25	25	40
2012 Decline Realignment	210540	RE12064256	SC12-115	60	62	25	10	90	25	0.12	25	25	50
2012 Decline Realignment	210541	RE12064256	SC12-115	62	64	25	10	100	25	0.13	25	25	50
2012 Decline Realignment	210542	RE12064256	SC12-115	64	65.2	25	5	90	25	0.12	25	25	30
2012 Decline Realignment	210543	RE12064256	SC12-115	65.2	67	25	10	60	25	0.18	25	25	80
2012 Decline Realignment	210544	RE12064256	SC12-115	67	69	25	10	60	25	0.17	25	25	70
2012 Decline Realignment	210546	RE12064256	SC12-115	69	71	25	10	70	25	0.2	25	25	70
2012 Decline Realignment	210547	RE12064256	SC12-115	71	72.8	25	10	70	25	0.21	25	25	80
2012 Decline Realignment	210548	RE12064256	SC12-115	72.8	74	25	5	140	25	0.025	25	25	20
2012 Decline Realignment	210549	RE12064256	SC12-115	74	76	25	5	140	25	0.025	25	25	10
2012 Decline Realignment	210550	RE12064256	SC12-115	76	78	25	5	150	25	0.025	25	25	10
2012 Decline Realignment	210552	RE12064256	SC12-115	78	80	25	5	140	25	0.05	25	25	20
2012 Decline Realignment	210553	RE12064256	SC12-115	80	81.9	25	5	100	25	0.09	25	25	30
2012 Decline Realignment	210554	RE12064256	SC12-115	81.9	83.5	25	10	70	25	0.2	25	25	110
2012 Decline Realignment	210555	RE12064256	SC12-115	83.5	85	25	10	60	25	0.18	25	25	70
2012 Decline Realignment	210556	RE12064256	SC12-115	85	87	25	5	100	25	0.12	25	25	50



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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Sb_ppm	Sc_ppm	Sr_ppm	Th_ppm	Ti_pct	Tl_ppm	U_ppm	V_ppm
2012 Decline Realignment	210558	RE12064256	SC12-115	87	89	25	10	90	25	0.17	25	25	70
2012 Decline Realignment	210559	RE12064256	SC12-115	89	91	25	10	90	25	0.18	25	25	80
2012 Decline Realignment	210560	RE12064256	SC12-115	91	93	25	10	80	25	0.19	25	25	60
2012 Decline Realignment	210561	RE12064256	SC12-115	93	95	25	10	100	25	0.19	25	25	60
2012 Decline Realignment	210562	RE12064256	SC12-115	95	97	25	10	100	25	0.17	25	25	70
2012 Decline Realignment	210563	RE12064256	SC12-115	97	99	25	10	90	25	0.19	25	25	50
2012 Decline Realignment	210564	RE12064256	SC12-115	99.9	101	25	10	80	25	0.2	25	25	50
2012 Decline Realignment	212617	RE12065437	SC12-117	34.84	36	25	10	120	25	0.19	25	25	70
2012 Decline Realignment	212619	RE12065437	SC12-117	36	38	25	10	150	25	0.23	25	25	90
2012 Decline Realignment	212622	RE12065437	SC12-117	42	44	25	10	180	25	0.19	25	25	60
2012 Decline Realignment	212626	RE12065437	SC12-117	46.43	47.22	25	10	110	25	0.19	25	25	60
2012 Decline Realignment	212627	RE12065437	SC12-117	47.22	48.61	25	5	130	25	0.025	25	25	10
2012 Decline Realignment	212628	RE12065437	SC12-117	48.61	50	25	10	160	25	0.26	25	25	80
2012 Decline Realignment	212629	RE12065437	SC12-117	50	52	25	10	150	25	0.24	25	25	90
2012 Decline Realignment	212631	RE12065437	SC12-117	52	54	25	10	110	25	0.32	25	25	110
2012 Decline Realignment	212632	RE12065437	SC12-117	54	56	25	20	110	25	0.38	25	25	120
2012 Decline Realignment	212633	RE12065437	SC12-117	56	57.3	25	10	140	25	0.27	25	25	90
2012 Decline Realignment	212635	RE12065437	SC12-117	58.11	58.81	25	10	140	25	0.2	70	25	70
2012 Decline Realignment	212636	RE12065437	SC12-117	58.81	60	25	5	180	25	0.025	90	25	10
2012 Decline Realignment	212640	RE12065437	SC12-117	61.93	63	25	10	210	25	0.21	25	25	70
2012 Decline Realignment	212641	RE12065437	SC12-117	63	65	25	10	210	25	0.18	25	25	80
2012 Decline Realignment	212642	RE12065437	SC12-117	65	67	25	10	180	25	0.18	25	25	60
2012 Decline Realignment	212643	RE12065437	SC12-117	67	69	25	10	160	25	0.16	25	25	60
2012 Decline Realignment	212644	RE12065437	SC12-117	69	71	25	10	150	25	0.17	25	25	60
2012 Decline Realignment	210565	RE12071230	SC12-115	101	103	25	10	90	25	0.17	25	25	60
2012 Decline Realignment	210566	RE12071230	SC12-115	103	105	25	10	90	25	0.18	25	25	80
2012 Decline Realignment	210567	RE12071230	SC12-115	105	107	25	10	90	25	0.17	25	25	50
2012 Decline Realignment	210568	RE12071230	SC12-115	107	108.57	25	10	80	25	0.2	25	25	60
2012 Decline Realignment	210569	RE12071230	SC12-115	108.57	110	25	10	80	25	0.3	25	25	70
2012 Decline Realignment	210570	RE12071230	SC12-115	110	112	25	10	90	25	0.35	25	25	80
2012 Decline Realignment	210572	RE12071230	SC12-115	112	114	25	10	80	25	0.35	25	25	100
2012 Decline Realignment	210573	RE12071230	SC12-115	114	116	25	10	90	25	0.33	25	25	100
2012 Decline Realignment	210575	RE12071230	SC12-115	116	117.6	25	10	100	25	0.36	25	25	110
2012 Decline Realignment	210576	RE12071230	SC12-115	117.6	118.6	25	10	140	25	0.33	25	25	100
2012 Decline Realignment	210577	RE12071230	SC12-115	118.6	120	25	10	180	25	0.2	25	25	50
2012 Decline Realignment	210578	RE12071230	SC12-115	120	122	25	5	160	25	0.18	25	25	70
2012 Decline Realignment	210580	RE12071230	SC12-115	122	124	25	10	210	25	0.22	25	25	90
2012 Decline Realignment	210581	RE12071230	SC12-115	124	125.25	25	10	150	25	0.2	25	25	80
2012 Decline Realignment	210582	RE12071230	SC12-115	125.25	127	25	10	570	25	0.37	25	25	120
2012 Decline Realignment	210583	RE12071230	SC12-115	127	129	25	10	560	25	0.44	25	25	150
2012 Decline Realignment	210585	RE12071230	SC12-115	129	131	25	10	610	25	0.45	25	25	140
2012 Decline Realignment	210586	RE12071230	SC12-115	131	133	25	10	540	25	0.39	25	25	110

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	Sb_ppm	Sc_ppm	Sr_ppm	Th_ppm	Ti_pct	Tl_ppm	U_ppm	V_ppm
2012 Decline Realignment	210587	RE12071230	SC12-115	133	135	25	10	610	25	0.37	25	25	110
2012 Decline Realignment	210588	RE12071230	SC12-115	135	137	25	10	580	25	0.39	25	25	130
2012 Decline Realignment	210589	RE12071230	SC12-115	137	139	25	10	540	25	0.38	25	25	120
2012 Decline Realignment	210591	RE12071230	SC12-115	139	141	25	10	500	25	0.38	25	25	110
2012 Decline Realignment	210592	RE12071230	SC12-115	141	143	25	10	910	25	0.41	25	25	120
2012 Decline Realignment	210593	RE12071230	SC12-115	143	145	25	20	1030	25	0.47	25	25	130
2012 Decline Realignment	210594	RE12071230	SC12-115	145	147	25	20	1020	25	0.47	25	25	140
2012 Decline Realignment	210596	RE12071230	SC12-115	147	148.25	25	10	850	25	0.41	25	25	110
2012 Decline Realignment	210597	RE12071230	SC12-115	148.25	150.25	25	10	110	25	0.22	25	25	60
2012 Decline Realignment	210598	RE12071230	SC12-115	150.25	152.2	25	10	90	25	0.2	25	25	80
2012 Decline Realignment	210599	RE12071230	SC12-115	152.2	154.2	25	10	90	25	0.21	25	25	60
2012 Decline Realignment	210600	RE12071230	SC12-115	154.2	156.2	25	10	70	25	0.19	25	25	70
2012 Decline Realignment	210601	RE12071230	SC12-115	156.2	158.1	25	10	80	25	0.19	25	25	60
2012 Decline Realignment	210602	RE12071230	SC12-115	158.1	160	25	10	80	25	0.18	25	25	50
2012 Decline Realignment	210604	RE12071230	SC12-115	160	161.5	25	10	60	25	0.17	25	25	50
2012 Decline Realignment	210605	RE12071230	SC12-115	161.5	162.75	25	5	50	25	0.12	25	25	40
2012 Decline Realignment	210607	RE12071230	SC12-115	162.75	163.9	25	10	80	25	0.17	25	25	50
2012 Decline Realignment	210608	RE12071230	SC12-115	163.9	165	25	10	60	25	0.19	25	25	60
2012 Decline Realignment	210609	RE12071230	SC12-115	165	167	25	5	100	25	0.025	25	25	10
2012 Decline Realignment	210610	RE12071230	SC12-115	167	168.5	25	10	70	25	0.18	25	25	50
2012 Decline Realignment	210611	RE12071230	SC12-115	168.5	170	25	10	70	25	0.2	25	25	50
2012 Decline Realignment	210612	RE12071230	SC12-115	170	172	25	10	80	25	0.18	25	25	40
2012 Decline Realignment	210613	RE12071230	SC12-115	172	174	25	10	80	25	0.19	25	25	30
2012 Decline Realignment	210615	RE12071230	SC12-115	174	176	25	10	80	25	0.2	25	25	40
2012 Decline Realignment	210616	RE12071230	SC12-115	176	178	25	10	90	25	0.2	25	25	40
2012 Decline Realignment	210617	RE12071230	SC12-115	178	179.94	25	10	80	25	0.2	25	25	40
2012 Decline Realignment	210618	RE12071230	SC12-115	179.94	181.5	25	10	60	25	0.2	25	25	50
2012 Decline Realignment	210619	RE12071230	SC12-115	181.5	183	25	10	60	25	0.22	25	25	50
2012 Decline Realignment	210620	RE12071230	SC12-115	183	185	25	10	60	25	0.22	25	25	50
2012 Decline Realignment	210621	RE12071230	SC12-115	185	187	25	10	60	25	0.24	25	25	60
2012 Decline Realignment	210622	RE12071230	SC12-115	187	189	25	10	60	25	0.24	25	25	60
2012 Decline Realignment	210623	RE12071230	SC12-115	189	191	25	10	60	25	0.26	25	25	60
2012 Decline Realignment	210625	RE12071230	SC12-115	191	193	25	10	60	25	0.27	25	25	60
2012 Decline Realignment	210626	RE12071230	SC12-115	193	195	25	10	70	25	0.24	25	25	60
2012 Decline Realignment	210627	RE12071230	SC12-115	195	197	25	10	70	25	0.21	25	25	50
2012 Decline Realignment	210628	RE12071230	SC12-115	197	199	25	10	70	25	0.19	25	25	50
2012 Decline Realignment	210629	RE12071230	SC12-115	199	200.5	25	10	70	25	0.23	25	25	50
2012 Decline Realignment	210630	RE12071230	SC12-115	200.5	201.7	25	10	70	25	0.28	25	25	60

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Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	W_ppm	WtRecvd_kg	Zn_ppm
2012 Decline Realignment	208102	RE12048006	SC12-113	18.33	20.17	25	7.9	310
2012 Decline Realignment	208104	RE12048006	SC12-113	20.17	22.14	25	8.6	40
2012 Decline Realignment	208105	RE12048006	SC12-113	22.14	24.13	25	7.46	30
2012 Decline Realignment	208106	RE12048006	SC12-113	24.13	26.12	25	7.88	190
2012 Decline Realignment	208107	RE12048006	SC12-113	26.12	28.08	25	9.14	70
2012 Decline Realignment	208108	RE12048006	SC12-113	28.08	29.8	25	6.22	30
2012 Decline Realignment	208110	RE12048006	SC12-113	29.8	31.76	25	8.36	30
2012 Decline Realignment	208111	RE12048006	SC12-113	31.76	33.56	25	7.44	30
2012 Decline Realignment	208112	RE12048006	SC12-113	33.56	35.38	25	7.16	30
2012 Decline Realignment	208113	RE12048006	SC12-113	35.38	37.2	25	7.9	60
2012 Decline Realignment	208114	RE12048006	SC12-113	37.2	39.18	25	8.18	30
2012 Decline Realignment	208115	RE12048006	SC12-113	39.18	41.14	25	8.2	40
2012 Decline Realignment	208116	RE12048006	SC12-113	41.14	43.1	25	8.22	30
2012 Decline Realignment	208118	RE12048006	SC12-113	43.1	45.01	25	7.88	40
2012 Decline Realignment	208119	RE12048006	SC12-113	45.01	47	25	6.9	100
2012 Decline Realignment	208120	RE12048006	SC12-113	47	47.7	25	3.36	850
2012 Decline Realignment	208121	RE12048006	SC12-113	47.7	49.7	25	7.9	50
2012 Decline Realignment	208122	RE12048006	SC12-113	49.7	51.7	25	7.72	80
2012 Decline Realignment	208123	RE12048006	SC12-113	51.7	53.7	25	8.36	50
2012 Decline Realignment	208124	RE12048006	SC12-113	53.7	55.7	25	8.04	160
2012 Decline Realignment	208125	RE12048006	SC12-113	55.7	57.6	25	7.52	370
2012 Decline Realignment	208127	RE12048006	SC12-113	57.6	59.6	25	7.28	50
2012 Decline Realignment	212551	RE12056057	SC12-114	75	77	25	8.06	140
2012 Decline Realignment	212552	RE12056057	SC12-114	77	79	25	7.72	10
2012 Decline Realignment	212553	RE12056057	SC12-114	79	81	25	8.68	10
2012 Decline Realignment	212554	RE12056057	SC12-114	81	83	25	8.12	20
2012 Decline Realignment	212555	RE12056057	SC12-114	83	85	25	7.72	100
2012 Decline Realignment	212556	RE12056057	SC12-114	85	87	25	8.4	1070
2012 Decline Realignment	212557	RE12056057	SC12-114	87	89	25	8.2	110
2012 Decline Realignment	212559	RE12056057	SC12-114	89	91	25	7.94	130
2012 Decline Realignment	212560	RE12056057	SC12-114	91	93	25	8.14	70
2012 Decline Realignment	212561	RE12056057	SC12-114	93	94.19	25	4.84	20
2012 Decline Realignment	212562	RE12056057	SC12-114	94.19	96	25	7.94	30
2012 Decline Realignment	212563	RE12056057	SC12-114	96	98	25	9.02	20
2012 Decline Realignment	212565	RE12056057	SC12-114	98	100	25	8.26	10
2012 Decline Realignment	212566	RE12056057	SC12-114	100	102	25	8.8	10
2012 Decline Realignment	212567	RE12056057	SC12-114	102	104	25	8.9	60
2012 Decline Realignment	212568	RE12056057	SC12-114	104	105.5	25	6.32	10
2012 Decline Realignment	212569	RE12056057	SC12-114	105.5	106.66	25	5.42	10
2012 Decline Realignment	212570	RE12056057	SC12-114	106.66	108	25	5.28	1420
2012 Decline Realignment	212571	RE12056057	SC12-114	108	110	25	7.56	400
2012 Decline Realignment	212573	RE12056057	SC12-114	110	112	25	8.76	180

Black Butte Copper 2012 Johnny Lee Decline Appendix B-3 ALS Chemex Acid Base Accounting Results

Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	W_ppm	WtRecvd_kg	Zn_ppm
2012 Decline Realignment	212574	RE12056057	SC12-114	112	113.15	25	5.78	110
2012 Decline Realignment	212575	RE12056057	SC12-114	113.15	114.45	25	5.28	280
2012 Decline Realignment	212576	RE12056057	SC12-114	114.45	116	25	6.58	290
2012 Decline Realignment	212577	RE12056057	SC12-114	116	117.5	25	6.2	100
2012 Decline Realignment	212579	RE12056057	SC12-114	117.5	119	25	5.5	200
2012 Decline Realignment	212580	RE12056057	SC12-114	119	121	25	8.42	20
2012 Decline Realignment	212581	RE12056057	SC12-114	121	123	25	7.96	110
2012 Decline Realignment	212582	RE12056057	SC12-114	123	124.5	25	6.26	1560
2012 Decline Realignment	212583	RE12056057	SC12-114	124.5	126.04	25	6.22	90
2012 Decline Realignment	212588	RE12056057	SC12-114	130.76	132	25	5.14	170
2012 Decline Realignment	212589	RE12056057	SC12-114	132	134	25	8.64	370
2012 Decline Realignment	212591	RE12056057	SC12-114	134	136	25	7.62	50
2012 Decline Realignment	212592	RE12056057	SC12-114	136	138	25	8.74	10
2012 Decline Realignment	212593	RE12056057	SC12-114	138	140	25	7.5	550
2012 Decline Realignment	212594	RE12056057	SC12-114	140	140.66	25	3.24	10
2012 Decline Realignment	212595	RE12056057	SC12-114	140.66	142	25	5.78	910
2012 Decline Realignment	212596	RE12056057	SC12-114	142	143.5	25	6.02	300
2012 Decline Realignment	212598	RE12056057	SC12-114	143.5	145.08	25	6.78	220
2012 Decline Realignment	212540	RE12056058	SC12-114	59.04	61	25	8.44	20
2012 Decline Realignment	212541	RE12056058	SC12-114	61	63	25	7.56	20
2012 Decline Realignment	212543	RE12056058	SC12-114	63	65	25	8.5	120
2012 Decline Realignment	212544	RE12056058	SC12-114	65	67	25	8.28	80
2012 Decline Realignment	212545	RE12056058	SC12-114	67	69	25	8.08	270
2012 Decline Realignment	212546	RE12056058	SC12-114	69	70	25	4.1	180
2012 Decline Realignment	212547	RE12056058	SC12-114	70	71	25	3.72	1460
2012 Decline Realignment	212548	RE12056058	SC12-114	71	73	25	8.32	470
2012 Decline Realignment	212550	RE12056058	SC12-114	73	75	25	7.68	270
2012 Decline Realignment	208128	RE12056059	SC12-113	59.6	61.5	25	7.4	320
2012 Decline Realignment	208129	RE12056059	SC12-113	61.5	63.5	25	7.82	80
2012 Decline Realignment	208130	RE12056059	SC12-113	63.5	65.5	25	7.36	260
2012 Decline Realignment	208131	RE12056059	SC12-113	65.5	67.5	25	8.34	140
2012 Decline Realignment	208133	RE12056059	SC12-113	67.5	69.5	25	7.66	20
2012 Decline Realignment	208134	RE12056059	SC12-113	69.5	71.1	25	5.62	320
2012 Decline Realignment	208135	RE12056059	SC12-113	71.1	72.3	25	4.64	80
2012 Decline Realignment	208136	RE12056059	SC12-113	72.3	74.3	25	8.64	40
2012 Decline Realignment	208137	RE12056059	SC12-113	74.3	75.1	25	2.72	30
2012 Decline Realignment	208138	RE12056059	SC12-113	75.1	76	25	5.24	10
2012 Decline Realignment	208140	RE12056059	SC12-113	76	76.8	25	2.98	140
2012 Decline Realignment	208141	RE12056059	SC12-113	76.8	78.8	25	7.4	760
2012 Decline Realignment	208142	RE12056059	SC12-113	78.8	80.8	25	8.3	480
2012 Decline Realignment	208143	RE12056059	SC12-113	80.8	82.8	25	8.1	910
2012 Decline Realignment	208145	RE12056059	SC12-113	82.8	83.4	25	2.26	50

Black Butte Copper 2012 Johnny Lee Decline Appendix B-3 ALS Chemex Acid Base Accounting Results

Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	W_ppm	WtRecvd_kg	Zn_ppm
2012 Decline Realignment	208146	RE12056059	SC12-113	83.4	85.4	25	8.14	120
2012 Decline Realignment	208147	RE12056059	SC12-113	85.4	87.4	25	8.7	570
2012 Decline Realignment	208148	RE12056059	SC12-113	87.4	88.4	25	4.28	20
2012 Decline Realignment	208242	RE12056120	SC12-116	24.4	25	25	2.3	390
2012 Decline Realignment	208243	RE12056120	SC12-116	25	27	25	9.06	390
2012 Decline Realignment	208244	RE12056120	SC12-116	27	29	25	7.74	420
2012 Decline Realignment	208245	RE12056120	SC12-116	29	31	25	8.3	260
2012 Decline Realignment	208247	RE12056120	SC12-116	31	33	25	8.3	220
2012 Decline Realignment	208248	RE12056120	SC12-116	33	35	25	7.74	90
2012 Decline Realignment	208249	RE12056120	SC12-116	35	37	25	8.54	110
2012 Decline Realignment	208250	RE12056120	SC12-116	37	39	25	8.28	90
2012 Decline Realignment	208251	RE12056120	SC12-116	39	41	25	9.04	70
2012 Decline Realignment	208253	RE12056120	SC12-116	41	42.9	25	7.28	100
2012 Decline Realignment	208254	RE12056120	SC12-116	42.9	44	25	4.7	100
2012 Decline Realignment	208255	RE12056120	SC12-116	44	46	25	8.38	1050
2012 Decline Realignment	208256	RE12056121	SC12-116	46	48	25	8.3	160
2012 Decline Realignment	208257	RE12056121	SC12-116	48	49.1	25	4.82	70
2012 Decline Realignment	208259	RE12056121	SC12-116	49.1	50.2	25	5.18	30
2012 Decline Realignment	208260	RE12056121	SC12-116	50.2	52	25	8.16	10
2012 Decline Realignment	208261	RE12056121	SC12-116	52	54	25	8.42	10
2012 Decline Realignment	208262	RE12056121	SC12-116	54	56	25	8.72	20
2012 Decline Realignment	208263	RE12056121	SC12-116	56	57	25	4.58	20
2012 Decline Realignment	208265	RE12056121	SC12-116	57	59	25	8.2	70
2012 Decline Realignment	208266	RE12056121	SC12-116	59	61	25	8.34	1240
2012 Decline Realignment	208267	RE12056121	SC12-116	61	63	25	8.3	280
2012 Decline Realignment	208268	RE12056121	SC12-116	63	65	25	7.92	60
2012 Decline Realignment	208269	RE12056121	SC12-116	65	67	25	8.32	470
2012 Decline Realignment	208271	RE12056121	SC12-116	67	69	25	7.62	630
2012 Decline Realignment	208272	RE12056121	SC12-116	69	71	25	8.72	40
2012 Decline Realignment	208273	RE12056121	SC12-116	71	73	25	8.34	20
2012 Decline Realignment	208274	RE12056121	SC12-116	73	75	25	9.18	510
2012 Decline Realignment	208275	RE12056121	SC12-116	75	76.6	25	5.82	150
2012 Decline Realignment	208278	RE12056121	SC12-116	78.6	79.5	25	3.36	570
2012 Decline Realignment	208277	RE12059936	SC12-116	76.6	78.6	25	8	320
2012 Decline Realignment	212584	RE12059937	SC12-114	126.04	127.5	25	6.38	70
2012 Decline Realignment	212586	RE12059937	SC12-114	127.5	129	25	5.92	80
2012 Decline Realignment	212587	RE12059937	SC12-114	129	130.76	25	6.72	100
2012 Decline Realignment	212620	RE12062433	SC12-117	38	40	25	8.16	40
2012 Decline Realignment	212621	RE12062433	SC12-117	40	42	25	8.12	20
2012 Decline Realignment	212623	RE12062433	SC12-117	44	45.11	25	4.8	20
2012 Decline Realignment	212625	RE12062433	SC12-117	45.11	46.43	25	4.18	130
2012 Decline Realignment	212634	RE12062433	SC12-117	57.3	58.11	25	4.62	30

Black Butte Copper 2012 Johnny Lee Decline Appendix B-3 ALS Chemex Acid Base Accounting Results

Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	W_ppm	WtRecvd_kg	Zn_ppm
2012 Decline Realignment	212638	RE12062433	SC12-117	60	61	25	5.36	210
2012 Decline Realignment	212639	RE12062433	SC12-117	61	61.93	25	5.12	200
2012 Decline Realignment	212645	RE12062435	SC12-117	71	73	25	8.78	40
2012 Decline Realignment	212647	RE12062435	SC12-117	73	75	25	8.14	30
2012 Decline Realignment	212648	RE12062435	SC12-117	75	77	25	8.38	20
2012 Decline Realignment	212649	RE12062435	SC12-117	77	79	25	8.7	10
2012 Decline Realignment	212651	RE12062435	SC12-117	79	81	25	8.62	20
2012 Decline Realignment	212652	RE12062435	SC12-117	81	83	25	7.84	30
2012 Decline Realignment	212653	RE12062435	SC12-117	83	85	25	7.44	20
2012 Decline Realignment	212654	RE12062435	SC12-117	85	87	25	9.14	30
2012 Decline Realignment	212655	RE12062435	SC12-117	87	88.48	25	6.04	20
2012 Decline Realignment	212656	RE12062435	SC12-117	88.48	90	25	6.82	20
2012 Decline Realignment	212657	RE12062435	SC12-117	90	91.5	25	6.6	30
2012 Decline Realignment	212658	RE12062435	SC12-117	91.5	92.52	25	4.38	20
2012 Decline Realignment	212660	RE12062435	SC12-117	92.52	94	25	6.04	40
2012 Decline Realignment	212661	RE12062435	SC12-117	94	96	25	8.58	30
2012 Decline Realignment	212662	RE12062435	SC12-117	96	98	25	8.12	100
2012 Decline Realignment	212663	RE12062435	SC12-117	98	100	25	8.7	20
2012 Decline Realignment	212664	RE12062435	SC12-117	100	102	25	8.78	20
2012 Decline Realignment	212665	RE12062435	SC12-117	102	103.98	25	8.18	20
2012 Decline Realignment	210530	RE12064256	SC12-115	47.8	49.5	25	6.72	290
2012 Decline Realignment	210532	RE12064256	SC12-115	49.5	51.5	25	7.58	210
2012 Decline Realignment	210533	RE12064256	SC12-115	51.5	53.5	25	7.94	650
2012 Decline Realignment	210535	RE12064256	SC12-115	53.5	55.5	25	8.1	790
2012 Decline Realignment	210536	RE12064256	SC12-115	55.5	56.65	25	5.08	550
2012 Decline Realignment	210538	RE12064256	SC12-115	56.65	58	25	5.8	120
2012 Decline Realignment	210539	RE12064256	SC12-115	58	60	25	8.06	90
2012 Decline Realignment	210540	RE12064256	SC12-115	60	62	25	7.84	70
2012 Decline Realignment	210541	RE12064256	SC12-115	62	64	25	8.58	60
2012 Decline Realignment	210542	RE12064256	SC12-115	64	65.2	25	4.54	60
2012 Decline Realignment	210543	RE12064256	SC12-115	65.2	67	25	7.4	560
2012 Decline Realignment	210544	RE12064256	SC12-115	67	69	25	7.52	1500
2012 Decline Realignment	210546	RE12064256	SC12-115	69	71	25	8.04	250
2012 Decline Realignment	210547	RE12064256	SC12-115	71	72.8	25	7.66	40
2012 Decline Realignment	210548	RE12064256	SC12-115	72.8	74	25	5.24	20
2012 Decline Realignment	210549	RE12064256	SC12-115	74	76	25	8.74	10
2012 Decline Realignment	210550	RE12064256	SC12-115	76	78	25	8.82	10
2012 Decline Realignment	210552	RE12064256	SC12-115	78	80	25	8.48	30
2012 Decline Realignment	210553	RE12064256	SC12-115	80	81.9	25	7.38	40
2012 Decline Realignment	210554	RE12064256	SC12-115	81.9	83.5	25	6.18	1790
2012 Decline Realignment	210555	RE12064256	SC12-115	83.5	85	25	6.12	530
2012 Decline Realignment	210556	RE12064256	SC12-115	85	87	25	7.9	190

Black Butte Copper 2012 Johnny Lee Decline Appendix B-3 ALS Chemex Acid Base Accounting Results

Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	W_ppm	WtRecvd_kg	Zn_ppm
2012 Decline Realignment	210558	RE12064256	SC12-115	87	89	25	8.06	560
2012 Decline Realignment	210559	RE12064256	SC12-115	89	91	25	8.26	1060
2012 Decline Realignment	210560	RE12064256	SC12-115	91	93	25	8.02	100
2012 Decline Realignment	210561	RE12064256	SC12-115	93	95	25	8.6	30
2012 Decline Realignment	210562	RE12064256	SC12-115	95	97	25	7.76	520
2012 Decline Realignment	210563	RE12064256	SC12-115	97	99	25	7.78	280
2012 Decline Realignment	210564	RE12064256	SC12-115	99.9	101	25	8.02	70
2012 Decline Realignment	212617	RE12065437	SC12-117	34.84	36	25	5.36	80
2012 Decline Realignment	212619	RE12065437	SC12-117	36	38	25	8.12	30
2012 Decline Realignment	212622	RE12065437	SC12-117	42	44	25	8.92	30
2012 Decline Realignment	212626	RE12065437	SC12-117	46.43	47.22	25	3.2	80
2012 Decline Realignment	212627	RE12065437	SC12-117	47.22	48.61	25	7.48	60
2012 Decline Realignment	212628	RE12065437	SC12-117	48.61	50	25	3.78	30
2012 Decline Realignment	212629	RE12065437	SC12-117	50	52	25	8.26	30
2012 Decline Realignment	212631	RE12065437	SC12-117	52	54	25	8.2	50
2012 Decline Realignment	212632	RE12065437	SC12-117	54	56	25	7.98	40
2012 Decline Realignment	212633	RE12065437	SC12-117	56	57.3	25	5.92	20
2012 Decline Realignment	212635	RE12065437	SC12-117	58.11	58.81	25	3.42	150
2012 Decline Realignment	212636	RE12065437	SC12-117	58.81	60	25	6.08	140
2012 Decline Realignment	212640	RE12065437	SC12-117	61.93	63	25	4.54	20
2012 Decline Realignment	212641	RE12065437	SC12-117	63	65	25	8.44	60
2012 Decline Realignment	212642	RE12065437	SC12-117	65	67	25	8.82	20
2012 Decline Realignment	212643	RE12065437	SC12-117	67	69	25	8.8	40
2012 Decline Realignment	212644	RE12065437	SC12-117	69	71	25	8.14	30
2012 Decline Realignment	210565	RE12071230	SC12-115	101	103	25	8.52	250
2012 Decline Realignment	210566	RE12071230	SC12-115	103	105	25	7.94	520
2012 Decline Realignment	210567	RE12071230	SC12-115	105	107	25	8.48	20
2012 Decline Realignment	210568	RE12071230	SC12-115	107	108.57	25	6.72	40
2012 Decline Realignment	210569	RE12071230	SC12-115	108.57	110	25	6.38	100
2012 Decline Realignment	210570	RE12071230	SC12-115	110	112	25	8.48	30
2012 Decline Realignment	210572	RE12071230	SC12-115	112	114	25	8.32	120
2012 Decline Realignment	210573	RE12071230	SC12-115	114	116	25	8.54	40
2012 Decline Realignment	210575	RE12071230	SC12-115	116	117.6	25	6.82	90
2012 Decline Realignment	210576	RE12071230	SC12-115	117.6	118.6	25	4.14	60
2012 Decline Realignment	210577	RE12071230	SC12-115	118.6	120	25	5.18	30
2012 Decline Realignment	210578	RE12071230	SC12-115	120	122	25	7.62	50
2012 Decline Realignment	210580	RE12071230	SC12-115	122	124	25	8.12	150
2012 Decline Realignment	210581	RE12071230	SC12-115	124	125.25	25	5.36	440
2012 Decline Realignment	210582	RE12071230	SC12-115	125.25	127	25	7.5	70
2012 Decline Realignment	210583	RE12071230	SC12-115	127	129	25	8.66	80
2012 Decline Realignment	210585	RE12071230	SC12-115	129	131	25	8.3	100
2012 Decline Realignment	210586	RE12071230	SC12-115	131	133	25	8.22	80

Black Butte Copper 2012 Johnny Lee Decline Appendix B-3 ALS Chemex Acid Base Accounting Results

Sample Event/Purpose	SampleID	CertName	HoleID	mFrom	mTo	W_ppm	WtRecvd_kg	Zn_ppm
2012 Decline Realignment	210587	RE12071230	SC12-115	133	135	25	8.12	70
2012 Decline Realignment	210588	RE12071230	SC12-115	135	137	25	7.94	80
2012 Decline Realignment	210589	RE12071230	SC12-115	137	139	25	8	80
2012 Decline Realignment	210591	RE12071230	SC12-115	139	141	25	7.84	110
2012 Decline Realignment	210592	RE12071230	SC12-115	141	143	25	8.34	80
2012 Decline Realignment	210593	RE12071230	SC12-115	143	145	25	7.44	80
2012 Decline Realignment	210594	RE12071230	SC12-115	145	147	25	8.66	80
2012 Decline Realignment	210596	RE12071230	SC12-115	147	148.25	25	5.24	70
2012 Decline Realignment	210597	RE12071230	SC12-115	148.25	150.25	25	8.34	80
2012 Decline Realignment	210598	RE12071230	SC12-115	150.25	152.2	25	8.3	40
2012 Decline Realignment	210599	RE12071230	SC12-115	152.2	154.2	25	8.58	30
2012 Decline Realignment	210600	RE12071230	SC12-115	154.2	156.2	25	8.68	50
2012 Decline Realignment	210601	RE12071230	SC12-115	156.2	158.1	25	8.08	40
2012 Decline Realignment	210602	RE12071230	SC12-115	158.1	160	25	8.42	40
2012 Decline Realignment	210604	RE12071230	SC12-115	160	161.5	25	6.88	30
2012 Decline Realignment	210605	RE12071230	SC12-115	161.5	162.75	25	5.98	30
2012 Decline Realignment	210607	RE12071230	SC12-115	162.75	163.9	25	4.86	30
2012 Decline Realignment	210608	RE12071230	SC12-115	163.9	165	25	4.92	30
2012 Decline Realignment	210609	RE12071230	SC12-115	165	167	25	8.9	40
2012 Decline Realignment	210610	RE12071230	SC12-115	167	168.5	25	6.42	40
2012 Decline Realignment	210611	RE12071230	SC12-115	168.5	170	25	6.62	50
2012 Decline Realignment	210612	RE12071230	SC12-115	170	172	25	8.3	30
2012 Decline Realignment	210613	RE12071230	SC12-115	172	174	25	8.28	20
2012 Decline Realignment	210615	RE12071230	SC12-115	174	176	25	9.06	50
2012 Decline Realignment	210616	RE12071230	SC12-115	176	178	25	7.98	30
2012 Decline Realignment	210617	RE12071230	SC12-115	178	179.94	25	8.62	90
2012 Decline Realignment	210618	RE12071230	SC12-115	179.94	181.5	25	6.42	40
2012 Decline Realignment	210619	RE12071230	SC12-115	181.5	183	25	6.1	40
2012 Decline Realignment	210620	RE12071230	SC12-115	183	185	25	8.2	30
2012 Decline Realignment	210621	RE12071230	SC12-115	185	187	25	8.48	30
2012 Decline Realignment	210622	RE12071230	SC12-115	187	189	25	8.3	30
2012 Decline Realignment	210623	RE12071230	SC12-115	189	191	25	8.12	40
2012 Decline Realignment	210625	RE12071230	SC12-115	191	193	25	8.16	40
2012 Decline Realignment	210626	RE12071230	SC12-115	193	195	25	8.34	40
2012 Decline Realignment	210627	RE12071230	SC12-115	195	197	25	8.1	40
2012 Decline Realignment	210628	RE12071230	SC12-115	197	199	25	8.14	30
2012 Decline Realignment	210629	RE12071230	SC12-115	199	200.5	25	5.96	40
2012 Decline Realignment	210630	RE12071230	SC12-115	200.5	201.7	25	5.06	30



B-4 R.J. Lee Asbestiform Mineral Characterization

## Laboratory Report

Tetra Tech Inc  
 851 Bridger Drive  
 Suite 6  
 Bozeman, MT 59715  
 United States  
 Attention: Shane Matolyak  
 Telephone: 406-582-8780

Report Date 09/04/2012  
 Sample Receipt Date 08/17/2012  
 RJ Lee Group Job No. AOH1023419-0  
 Authorization/P.O. No.  
 Client Job No./Name 114-710301-200

Analysis: Asbestos in Bulk Samples by Point Count  
 Method: EPA/600/R-93/116

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
10210420.HPL	IG	Yes	1	ND		100.00	CA, AM, OP, MI, M	WHP-09/04/2012
Description:		Gray Crushed Rock No asbestiform minerals detected. Contains 10.5% cleavage fragment amphibole.						
Weight Loss:		0.0%						
10210421.HPL	USZ 1 (High Fe)	Yes	1	ND		100.00	Q, CA, OP, MI, M	WHP-09/04/2012
Description:		Gray Crushed Rock No asbestiform minerals detected.						
Weight Loss:		0.0%						
10210422.HPL	USZ 2 (Low Fe)	Yes	1	ND		100.00	Q, CA, OP, M	WHP-09/04/2012
Description:		Gray Crushed Rock No asbestiform minerals detected.						
Weight Loss:		0.0%						

Client Job No./Name: 114-710301-200

RJ Lee Group Job No: AOH1023419-0

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
10210423.HPL	Ynl 1	Yes	1	ND		100.00	Q, CA, OP, MI, M	WHP-09/04/2012
Description:		Gray Crushed Rock No asbestiform minerals detected.						
Weight Loss:		0.0%						
10210424.HPL	Ynl 2	Yes	1	ND		100.00	Q, CA, OP, M	WHP-09/04/2012
Description:		Gray Crushed Rock No asbestiform minerals detected.						
Weight Loss:		0.0%						
10210425.HPL	Ynl O	Yes	1	ND		100.00	Q, CA, OP, M	WHP-09/04/2012
Description:		Gray Crushed Rock No asbestiform minerals detected.						
Weight Loss:		0.0%						
10210426.HPL	Ynl B (2012 Decline)	Yes	1	ND		100.00	Q, CA, OP, M	WHP-09/04/2012
Description:		Gray Crushed Rock No asbestiform minerals detected.						
Weight Loss:		0.0%						
10210427.HPL	Ynl B 2 (Orig Decline)	Yes	1	ND		100.00	Q, CA, OP, MI, M	WHP-09/04/2012
Description:		Gray Crushed Rock No asbestiform minerals detected.						
Weight Loss:		0.0%						

Client Job No./Name: 114-710301-200

RJ Lee Group Job No: AOH1023419-0

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
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Authorized Signature: \_\_\_\_\_

William H. Powers, Manager-Optical

**ASBESTOS**

- AM = Amosite
- AC = Actinolite
- AN = Anthophyllite
- CH = Chrysotile
- CR = Crocidolite
- TR = Tremolite

**NON-ASBESTOS**

- CE = Cellulose
- MW = Mineral Wool
- FG = Fibrous Glass
- SF = Synthetic Fibers
- H = Hair
- W = Wollastonite
- OF = Other Fibers

**NON-FIBROUS MATERIALS**

- AM = Amphibole
- B = Binder
- CA = Carbonates
- CL = Clay
- F = Feldspar
- G = Gypsum
- HY = Hydromagnesite
- M = Miscellaneous
- MI = Mica
- OP = Opaque
- OR = Organic
- P = Perlite
- Q = Quartz
- T = Tar
- V = Vermiculite

**DISCLAIMER NOTES**

- "ND" indicates no asbestos was detected; the method detection limit is 0.25%.
- "Trace" or "<1" indicates asbestos was identified in the sample, but the concentration is less than the method quantitation limit of 0.25%. PLM coefficients of variance range from approximately 1.8 at the quantitation limit of 0.25% to 0.32 at high fiber concentrations.
- Samples are archived for three months following analysis and are then properly discarded.
- These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
- This test report relates to the items tested.
- This report is not valid unless it bears the name of a NVLAP-approved signatory.
- Any reproduction of this document must be in full in order for the report to be valid.
- This report may not be used to claim product endorsement by NVLAP, any agency of the U.S. Government or any other laboratory accrediting agency.
- Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar nonfriable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as "non-asbestos-containing."
- Sample(s) for this project were analyzed at our: Monroeville, PA (AIHA #100364) facility.
- If RJ Lee Group, Inc. did not collect the samples analyzed, the verifiability of the laboratorys results are limited to the reported values.

# Appendix B

## Waste Rock Static Data

Table B-1	Summary of whole rock chemistry, by lithotype
Table B-2	Subsets Used in 2015 geochemical testing program
Table B-3	Summary of all ABA, NAG results
Figure B-1a/b	Boxplots 2015 subset and site-wide <i>LZ FW</i>
Figure B-2a/b	Boxplots 2015 subset and site-wide <i>Ynl B</i>
Figure B-3a/b	Boxplots 2015 subset and site-wide <i>USZ</i>

2015 ABA/NAG Laboratory Reports from ALS

2015 SPLP Laboratory Report from Energy Labs

2015 Asbestiform Mineral Laboratory Reports from R.J. Lee Group

## **Appendix B:**

Table B-1	Summary of whole rock chemistry, by lithotype
Table B-2	Subsets Used in 2015 geochemical testing program
Table B-3	Summary of all ABA, NAG results

**Appendix B Table B-1: Summary of Whole Rock Chemistry, by lithotype**

		Number of Samples	Minimum	1st Quartile	Median	Mean	3rd Quartile	Maximum	Standard Deviation
Yn/A	Aluminum (%)	1138	0.11	4.1	4.77	5.13	6.32	11.65	1.83
	Arsenic (ppm)	1138	25	25	25	33	25	380	28
	Copper (ppm)	1138	5	20	30	105	50	10200	566
	Iron (%)	1138	1.2	3.4	4.1	5.7	6.3	31.1	4.3
	Manganese (ppm)	1138	10	220	390	469	620	3470	374
	Nickel (ppm)	1138	5	20	30	31	40	670	25
	Lead (ppm)	1138	10	20	50	133	110	3700	277
	Sulfur (%)	1138	0.03	0.95	2.05	3.16	4.40	10	3.03
	Thallium (ppm)	1138	25	25	25	27	25	150	10
	Zinc (ppm)	1138	10	30	40	177	70	4180	483

		Number of Samples	Minimum	1st Quartile	Median	Mean	3rd Quartile	Maximum	Standard Deviation
USZ	Aluminum (%)	2542	0.03	0.31	0.97	1.951	3.43	11.65	2.06
	Arsenic (ppm)	2542	25	70	190	262	360	4780	285.03
	Copper (ppm)	2542	5	80	750	2255	3060	61400	4065.70
	Iron (%)	2542	0.1	11	20.2	19.51	27.1	44.3	10.17
	Manganese (ppm)	2542	5	120	230	376.6	540	8280	438.79
	Nickel (ppm)	2542	5	10	30	46.35	50	1680	74.94
	Lead (ppm)	2542	10	270	620	886.4	1160	10500	1001.61
	Sulfur (%)	2542	0.03	10	10	8.854	10	10	2.43
	Thallium (ppm)	2542	25	25	50	54.86	80	260	32.90
	Zinc (ppm)	2542	10	40	70	111.2	140	1860	135.15

**Appendix B Table B-1: Summary of Whole Rock Chemistry, by lithotype**

		Number of Samples	Minimum	1st Quartile	Median	Mean	3rd Quartile	Maximum	Standard Deviation
<i>Yn/B</i>	Aluminum (%)	1412	0.16	3.91	4.4	4.62	5.25	9.4	1.51
	Arsenic (ppm)	1412	25	25	25	37	25	1040	49
	Copper (ppm)	1412	5	20	30	143	80	24900	768
	Iron (%)	1412	1	3	3.7	4.4	4.6	42.3	3.0
	Manganese (ppm)	1412	10	290	510	563	750	4010	396
	Nickel (ppm)	1412	5	10	20	28	30	670	33
	Lead (ppm)	1412	10	10	20	45	30	2350	136
	Sulfur (%)	1412	0.03	0.54	1.19	1.92	2.40	10	2.15
	Thallium (ppm)	1412	25	25	25	25	25	110	5
	Zinc (ppm)	1412	10	20	30	53	40	2510	140

		Number of Samples	Minimum	1st Quartile	Median	Mean	3rd Quartile	Maximum	Standard Deviation
<i>LZ FW</i>	Aluminum (%)	331	0.81	1.665	2.64	3.205	4.47	8.64	1.79
	Arsenic (ppm)	550	0.5	20	25	85.57	50	6430	336.36
	Copper (ppm)	550	1	12.25	39	560	160	36600	2261.86
	Iron (%)	550	0.3	0.76	1.62	2.727	3.2	24.5	3.47
	Manganese (ppm)	550	0.5	0.5	50	113.2	130	1570	194.64
	Nickel (ppm)	550	0.5	12	26	45.43	42.75	1840	101.94
	Lead (ppm)	550	1	10	14	48.89	50	859	95.38
	Sulfur (%)	331	0.03	0.27	0.9	2.274	3.06	20.9	3.07
	Thallium (ppm)	331	25	25	25	26.37	25	100	7.36
	Zinc (ppm)	550	2	10	12	19.21	20	240	22.19



**Appendix B Table B-1: Summary of Whole Rock Chemistry, by lithotype**

		Number of Samples	Minimum	1st Quartile	Median	Mean	3rd Quartile	Maximum	Standard Deviation
IG	Aluminum (%)	74	0.88	5.84	6.02	5.79	6.3	7.31	1.16
	Arsenic (ppm)	74	25	25	25	35	25	410	63
	Copper (ppm)	74	10	30	40	55	50	470	75
	Iron (%)	74	2.8	4.4	5.1	5.3	5.4	24.6	3.3
	Manganese (ppm)	74	110	700	760	753	810	1220	149
	Nickel (ppm)	74	10	130	210	199	280	340	85
	Lead (ppm)	74	10	10	20	38	30	690	110
	Sulfur (%)	74	0.03	0.06	0.11	0.42	0.17	10	1.61
	Thallium (ppm)	74	25	25	25	27.0	25	100	12
	Zinc (ppm)	74	20	70	80	80	90	150	22

		Number of Samples	Minimum	1st Quartile	Median	Mean	3rd Quartile	Maximum	Standard Deviation
Yn/O	Aluminum (%)	66	0.15	0.9125	1.48	2.198	3.27	6.5	1.60
	Arsenic (ppm)	66	25	25	25	26.67	25	60	6.70
	Copper (ppm)	66	5	5	10	14.92	20	100	14.77
	Iron (%)	66	0.8	1.225	1.85	2.712	3.375	18.2	2.58
	Manganese (ppm)	66	130	390	515	560.5	677.5	1120	234.55
	Nickel (ppm)	66	5	5	5	13.56	20	70	14.70
	Lead (ppm)	66	10	10	30	47.73	40	1030	125.00
	Sulfur (%)	66	0.03	0.3625	0.52	1.021	1.23	10	1.38
	Thallium (ppm)	66	25	25	25	25	25	25	0.00
	Zinc (ppm)	66	10	10	20	56.21	30	1500	187.78

**Appendix B Table B-1: Summary of Whole Rock Chemistry, by lithotype**

		Number of Samples	Minimum	1st Quartile	Median	Mean	3rd Quartile	Maximum	Standard Deviation
Yc	Aluminum (%)	51	2.96	5.15	7.47	6.819	8.375	9.26	1.83
	Arsenic (ppm)	51	25	25	25	25.49	25	50	3.50
	Copper (ppm)	51	5	7.5	20	122.8	70	1210	243.16
	Iron (%)	51	0.7	1.74	1.99	1.927	2.2	2.7	0.41
	Manganese (ppm)	51	30	80	100	147.5	140	1090	170.71
	Nickel (ppm)	51	5	20	30	27.75	30	40	9.86
	Lead (ppm)	51	10	10	10	11.76	10	40	5.18
	Sulfur (%)	51	0.025	0.075	0.14	0.1769	0.18	0.72	0.16
	Thallium (ppm)	51	25	25	25	25	25	25	0.00
	Zinc (ppm)	51	10	20	20	21.76	20	90	13.37

		Number of Samples	Minimum	1st Quartile	Median	Mean	3rd Quartile	Maximum	Standard Deviation
Yne	Aluminum (%)	43	0.37	0.59	0.78	1.682	2.755	4.74	1.32
	Arsenic (ppm)	43	25	25	25	25	25	25	0.00
	Copper (ppm)	43	5	10	10	16.98	20	60	11.91
	Iron (%)	43	0.2	0.35	0.48	0.5923	0.855	1.23	0.31
	Manganese (ppm)	43	10	20	30	50.47	40	400	72.64
	Nickel (ppm)	43	5	5	10	9.884	10	20	6.02
	Lead (ppm)	43	10	10	10	34.19	30	260	49.96
	Sulfur (%)	43	0.025	0.025	0.025	0.02674	0.03	0.03	0.00
	Thallium (ppm)	43	25	25	25	25	25	25	0.00
	Zinc (ppm)	43	10	10	10	15.58	20	100	14.85

Table B-2. Subsets used in 2015 Environmental geochemistry testing program

Subset <sup>1</sup>	Hole ID	From	to	Iron (%)	Sulfur (%)	Copper (ppm)	Lead (ppm)	Zinc (ppm)	Aluminum (%)	Arsenic (ppm)	Manganese (ppm)	Nickel (ppm)	Thallium (ppm)
USZ	SC10-004	104.0	106.1	17.2	10	2250	540	50	0.48	470	100	40	50
	SC10-004	106.1	107.9	18.4	10	3720	500	50	0.53	330	100	20	25
	SC10-004	118.4	120.0	22.7	10	3290	420	50	0.25	230	90	110	60
	SC10-004	120.0	121.4	23.5	10	2910	560	80	0.33	390	270	30	70
	SC11-031	59.5	61.5	5.9	4.95	100	400	30	4.2	25	700	20	25
	SC11-031	79.8	81.8	5.8	5.62	1190	140	30	4.05	160	460	40	25
	SC12-122	153.0	155.0	31.3	10	6120	1290	150	0.4	380	170	10	90
	SC12-122	155.0	157.0	30.4	10	4760	1110	180	0.24	360	160	5	70
	SC12-122	157.0	158.3	30.5	10	2230	1360	130	1.45	290	480	5	80
	SC12-122	158.3	159.5	16.4	10	790	320	40	2.73	130	520	20	25
	SC12-122	159.5	161.0	13.4	10	320	200	40	3.21	70	510	20	25
	SC12-137	103.4	105.4	7.3	7.18	50	570	90	4.66	50	540	30	25
	SC12-137	133.3	135.0	29.1	10	5660	1680	100	0.34	1050	250	190	90
	SC12-137	136.8	138.8	35.9	10	3770	2200	130	0.27	310	280	5	100
	SC12-137	138.8	140.8	37.1	10	2090	2100	200	0.61	400	470	5	80
	<b>SUBSET AVERAGE</b>				<b>21.7</b>	<b>9.2</b>	<b>2616.7</b>	<b>892.7</b>	<b>90.0</b>	<b>1.6</b>	<b>309.7</b>	<b>340.0</b>	<b>36.7</b>
<b>OVERALL AVERAGE</b>				<b>19.5</b>	<b>8.9</b>	<b>2261.5</b>	<b>881.8</b>	<b>110.5</b>	<b>2.0</b>	<b>262.4</b>	<b>375.4</b>	<b>46.8</b>	<b>54.7</b>
<b>% DIFFERENCE</b>				<b>-11.3</b>	<b>-3.7</b>	<b>-15.7</b>	<b>-1.2</b>	<b>18.6</b>	<b>19.4</b>	<b>-18.0</b>	<b>9.4</b>	<b>21.6</b>	<b>-2.4</b>

Table B-2. Subsets used in 2015 Environmental geochemistry testing program

Subset <sup>1</sup>	Hole ID	From	to	Iron (%)	Sulfur (%)	Copper (ppm)	Lead (ppm)	Zinc (ppm)	Aluminum (%)	Arsenic (ppm)	Manganese (ppm)	Nickel (ppm)	Thallium (ppm)	
Ynl B	SC10-004	197.6	199.0	4.3	1.76	40	10	20	6.22	25	320	30	25	
	SC10-003	157.2	159.2	4.5	0.9	70	10	20	5.66	25	410	10	25	
	SC10-003	172.1	174.1	3.2	0.24	70	10	20	5.81	25	490	20	25	
	SC10-003	185.7	186.3	2.7	0.03	10	10	20	8.45	25	140	20	25	
	SC10-003	190.3	192.3	2.9	0.21	120	10	20	7.51	25	270	20	25	
	SC10-004	223.0	225.0	4.6	0.57	10	10	130	4.88	25	140	10	25	
	SC10-004	221.0	223.0	4.6	0.54	30	10	30	6.05	25	180	20	25	
	SC10-004	263.3	265.0	3.4	0.24	5	10	10	2.11	25	700	5	25	
	SC10-004	170.0	172.0	3.7	0.9	100	10	30	7.77	25	60	40	25	
	SC10-003	217.2	218.2	2.7	0.22	10	10	30	8.31	25	70	40	25	
	SC10-004	301.0	303.0	4.1	1.66	30	20	20	8.27	25	110	40	25	
	SC10-003	244.3	245.7	11.2	0.1	60	10	30	4.87	25	1360	30	25	
	SC10-003	251.7	251.9	4.4	0.2	20	10	10	7.71	25	270	40	25	
	SC10-004	273.0	275.0	4.2	0.09	10	10	10	5.65	25	330	10	25	
	SC10-004	275.0	276.4	4.9	0.1	5	10	10	4.3	25	640	10	25	
	SC10-004	154.0	155.5	3.6	1.69	10	10	10	4.56	25	520	20	25	
	SC10-004	146.0	148.0	2.8	1.15	80	10	60	4.66	25	530	20	25	
	SC10-004	121.4	123.5	4.9	4.42	270	40	30	4.2	110	660	30	25	
	<b>SUBSET AVERAGE</b>				<b>4.3</b>	<b>0.83</b>	<b>52.8</b>	<b>12.2</b>	<b>28.3</b>	<b>5.94</b>	<b>29.7</b>	<b>400</b>	<b>23.1</b>	<b>25</b>
	<b>OVERALL AVERAGE <sup>2</sup></b>				<b>4.0</b>	<b>0.89</b>	<b>58.7</b>	<b>13.2</b>	<b>28.3</b>	<b>5.88</b>	<b>27.4</b>	<b>401</b>	<b>25.2</b>	<b>25</b>
<b>% DIFFERENCE</b>				<b>-7.6</b>	<b>6.4</b>	<b>10.1</b>	<b>7.2</b>	<b>0.0</b>	<b>-1.1</b>	<b>-8.6</b>	<b>0.4</b>	<b>8.6</b>	<b>0.0</b>	

Table B-2. Subsets used in 2015 Environmental geochemistry testing program

Subset <sup>1</sup>	Hole ID	From	to	Iron (%)	Sulfur (%)	Copper (ppm)	Lead (ppm)	Zinc (ppm)	Aluminum (%)	Arsenic (ppm)	Manganese (ppm)	Nickel (ppm)	Thallium (ppm)	
<b>LZFW</b>	SC10 003	351.7	353.7	3.2	3	830	30	30	1.82	70	100	40	25	
	SC10 003	362.7	363.3	2	1.85	270	20	10	1.63	50	70	20	25	
	SC10 004	426.3	427.0	1	0.25	20	10	10	3.68	25	20	20	25	
	SC11 008	375.3	377.0	1.7	0.06	10	10	20	7.65	25	60	20	25	
	SC11 009	406.0	408.0	2.5	1.88	590	10	10	5.87	25	60	20	25	
	SC11 031	452.0	453.4	3.3	1.5	10	10	20	6.03	25	120	40	25	
	SC11 036	372.1	373.2	9.4	9.12	90	250	20	1.82	160	570	60	25	
	SC11 048	370.3	372.2	5.8	4.52	940	150	50	2.3	120	160	100	25	
	SC11 048	374.2	376.2	1.2	0.44	40	20	10	1.36	25	40	20	25	
	SC12 100	430.3	432.3	1.5	1.08	3000	40	10	1.89	280	70	120	25	
	SC12 100	432.3	434.1	1.2	0.63	90	30	10	1.72	50	60	20	25	
	SC12 107	449.6	450.4	2.9	0.45	1260	40	30	5.18	100	250	90	25	
	SC12 123	366.8	368.8	2.4	2.31	80	10	10	2.6	110	240	100	25	
	SC12 142	360.5	362.5	1	0.36	70	10	10	1.2	25	180	20	25	
	SC14 172	378.9	380.9	1.95	0.86	60	50	30	1.38	25	60	30	25	
	<b>SUBSET AVERAGE</b>				<b>2.7</b>	<b>1.9</b>	<b>490.7</b>	<b>46.0</b>	<b>18.7</b>	<b>3.1</b>	<b>74.3</b>	<b>137.3</b>	<b>48.0</b>	<b>25.0</b>
	<b>OVERALL AVERAGE</b>				<b>2.8</b>	<b>2.3</b>	<b>603.5</b>	<b>50.0</b>	<b>19.3</b>	<b>3.2</b>	<b>89.7</b>	<b>113.6</b>	<b>46.4</b>	<b>26.6</b>
<b>% DIFFERENCE</b>				<b>1.4</b>	<b>18.7</b>	<b>18.7</b>	<b>8.1</b>	<b>3.4</b>	<b>3.8</b>	<b>17.1</b>	<b>-20.9</b>	<b>-3.4</b>	<b>5.9</b>	

Table B-2. Subsets used in 2015 Environmental geochemistry testing program

Subset <sup>1</sup>	Hole ID	From	to	Iron (%)	Sulfur (%)	Copper (ppm)	Lead (ppm)	Zinc (ppm)	Aluminum (%)	Arsenic (ppm)	Manganese (ppm)	Nickel (ppm)	Thallium (ppm)	
<i>Yne</i>	SC12-108	390.1	392.0	1.01	0.025	30	20	40	1.66	25	90	10	25	
	SC12 108	410.5	412.5	0.5	0.025	10	30	10	0.7	25	60	5	25	
	SC12 108	414.5	416.5	0.47	0.025	10	30	10	0.73	25	50	5	25	
	SC12 108	394.0	396.5	0.41	0.025	20	30	10	0.54	25	40	5	25	
	SC12 108	412.5	414.5	0.39	0.025	10	20	10	0.62	25	40	5	25	
	SC12-108	402.5	404.5	0.34	0.025	10	20	10	0.73	25	30	10	25	
	SC11-036	412.0	413.6	1.08	0.025	10	10	10	3.41	25	20	20	25	
	SC11-036	413.6	414.4	1.1	0.025	10	10	10	3.61	25	20	20	25	
	<b>SUBSET AVERAGE</b>				<b>0.7</b>	<b>0.0</b>	<b>13.8</b>	<b>21.3</b>	<b>13.8</b>	<b>1.5</b>	<b>25.0</b>	<b>43.8</b>	<b>10.0</b>	<b>25.0</b>
	<b>OVERALL AVERAGE</b>				<b>0.6</b>	<b>0.0</b>	<b>17.0</b>	<b>34.2</b>	<b>15.6</b>	<b>1.7</b>	<b>25.0</b>	<b>50.5</b>	<b>9.9</b>	<b>25.0</b>
<b>% DIFFERENCE</b>				<b>-11.8</b>	<b>6.5</b>	<b>19.0</b>	<b>37.8</b>	<b>11.8</b>	<b>10.8</b>	<b>0.0</b>	<b>13.3</b>	<b>-1.2</b>	<b>0.0</b>	
<i>Yc</i>	SC11 010	506.1	507.0	2.7	0.18	730	10	30	7.86	25	130	40	25	
	SC11 010	508.9	510.5	2.6	0.14	690	10	40	8.17	25	110	40	25	
	SC11 036	373.9	375.0	2.1	0.72	30	20	30	3.91	50	590	30	25	
	SC14 169	452.0	454.0	1.61	0.11	30	10	20	6.42	25	100	30	25	
	SC14 169	454.0	456.0	1.85	0.13	5	10	20	8.72	25	70	30	25	
	SC14 169	466.0	468.0	1.99	0.14	5	10	20	8.66	25	80	30	25	
	SC14 171	392.1	394.1	1.61	0.025	5	10	20	7.63	25	60	20	25	
	SC14 171	394.1	396.1	1.73	0.08	10	10	20	7.79	25	90	20	25	
	SC14 171	400.0	402.0	1.94	0.05	30	10	20	8.3	25	110	30	25	
	<b>SUBSET AVERAGE</b>				<b>2.0</b>	<b>0.2</b>	<b>170.6</b>	<b>11.1</b>	<b>24.4</b>	<b>7.5</b>	<b>27.8</b>	<b>148.9</b>	<b>30.0</b>	<b>25.0</b>
	<b>OVERALL AVERAGE</b>				<b>1.8</b>	<b>0.2</b>	<b>110.0</b>	<b>12.8</b>	<b>19.1</b>	<b>6.2</b>	<b>25.4</b>	<b>132.2</b>	<b>24.7</b>	<b>25.0</b>
	<b>% DIFFERENCE <sup>3</sup></b>				<b>-15.1</b>	<b>15.7</b>	<b>-55.1</b>	<b>12.9</b>	<b>-27.8</b>	<b>-20.5</b>	<b>-9.5</b>	<b>-12.6</b>	<b>-21.4</b>	<b>0.0</b>

<sup>1</sup> All samples listed were analyzed, individually, using ABA and NAG methods and were then composited, by lithotype, and used in the 2015 HCTs. The exception being *Yne*, which was not subjected to kinetic tests, but rather composited and tested using the SPLP

<sup>2</sup> Tintina geologists provided a dataset of *Ynl B* that is most relevant to the area of proposed workings, to improve sample selection. These averages are from a dataset of n=192, rather than the larger, regional dataset with n=1412.

<sup>3</sup> Intervals of the *Yc* contained either distinctly low-metal(iod) concentrations or high concentrations, and the overall dataset was relatively small, so strict adherence to the 20% margin was not possible. Subset samples were generated that reflected conservative values with

Appendix B Table B-3: Summary of all Acid Base Accounting, NAG Results

SAMPLE ID	HOLE ID	FROM	TO	Paste pH	AP*	NNP	FIZZ	NP**	NP:AP	Total S	S NaCO <sub>3</sub> SO <sub>4</sub>	S HCl SO <sub>4</sub>	S as Sulfide	C HClO <sub>4</sub> DIG	CO <sub>2</sub> HClO <sub>4</sub> DIG	NAG 4.5	NAG 7.0	NAG pH	Rating
		ft	ft	s.u.	tCaCO <sub>3</sub> /Kton	tCaCO <sub>3</sub> /Kton	s.u.	tCaCO <sub>3</sub> /Kton	s.u.	%	%	%	%	%	%	kgH <sub>2</sub> SO <sub>4</sub> /t	kgH <sub>2</sub> SO <sub>4</sub> /t	s.u.	
107409	SC10_001	16.1	18.1	7	2	-1	1	1	0.64	0.41	0.36	0.39	0.05	0.05	0.2	0.01	14.45	6.1	UN
107413	SC10_001	21.7	23.6	6.8	1	0	1	1	1.60	0.11	0.09	0.07	0.02	0.05	0.2	0.01	11	6.5	UN
107414	SC10_001	23.6	25.7	6.9	0	7	1	7	22.40	0.56	0.56	0.52	0.01	0.05	0.2	0.01	3.35	6.7	NAG
107441	SC10_001	60.2	61.5	7.9	201	-35	3	166	0.83	6.44	0.02	0.01	6.42	2.09	7.7	18.3	28.9	2.8	PAG
107528	SC10_002	36.2	38.1	5.5	28	-27	1	1	0.04	1.2	0.29	0.29	0.91	0.18	0.7	NA	NA	NA	UN
107548	SC10_002	68.4	70.4	8.3	54	194	3	248	4.61	1.78	0.06	0.01	1.72	3.02	11.1	0.01	0.01	9.4	NAG
107630	SC10_003	27.7	28.5	7.8	135	20	3	155	1.15	4.38	0.05	0.01	4.33	1.72	6.3	0.01	1.15	6.6	UN
107653	SC10_003	59.5	60.6	8.3	50	126	3	176	3.50	1.65	0.04	0.01	1.61	1.84	6.7	0.01	0.01	9.3	NAG
108354	SC10_004	12.2	14.3	6.4	2	2	1	4	1.83	1.72	1.65	1.64	0.07	0.05	0.2	0.01	5.03	6.1	UN
108379	SC10_004	64.2	65.5	4.7	339	-288	2	51	0.15	11.6	0.76	0.6	10.85	0.64	2.3	237	272	2.1	PAG
200956	SC11_024	133.1	135.1	8.3	42	-25	1	17	0.41	1.38	0.04	0.01	1.34	0.32	1.2	17.15	24.9	2.7	PAG
200958	SC11_024	137.0	139.0	7	53	-38	1	15	0.28	1.76	0.07	0.04	1.69	0.3	1.1	24	33.4	2.8	PAG
202161	SC11_042	30.0	32.0	8.6	36	708	4	744	20.88	1.15	0.01	0.04	1.14	9.73	35.7	0.01	0.01	9.2	NAG
203605	SC11_033	102.4	104.4	8.2	76	127	3	203	2.66	2.5	0.06	0.02	2.44	2.34	8.6	0.01	0.01	8.6	UN
203609	SC11_033	110.3	112.1	7.5	91	32	3	123	1.36	3.02	0.12	0.03	2.9	1.28	4.7	0.01	0.01	7.4	UN
203627	SC11_033	139.1	141.1	8.5	12	18	2	30	2.53	0.41	0.03	0.01	0.38	0.39	1.4	0.01	0.01	8.8	UN
203632	SC11_033	147.0	149.0	8.3	1	23	1	24	25.60	0.05	0.02	0.01	0.03	0.05	0.2	0.01	0.01	7.1	NAG
203636	SC11_033	153.6	155.3	8.6	21	-13	1	8	0.38	0.68	0.01	0.01	0.67	0.06	0.2	NA	NA	NA	UN
203728	SC11_024	54.9	56.9	8	97	15	3	112	1.15	3.15	0.04	0.02	3.11	1.71	6.3	NA	NA	NA	UN
203761	SC11_024	102.3	104.0	8.5	13	29	2	42	3.28	0.44	0.03	0.01	0.41	0.69	2.5	0.01	0.01	8.9	NAG
203770	SC11_024	113.1	115.1	8.4	16	14	1	30	1.92	0.53	0.03	0.01	0.5	0.19	0.7	0.84	6.18	4	UN
203773	SC11_024	116.3	118.2	8.4	30	8	2	38	1.27	1.01	0.05	0.01	0.96	0.66	2.4	0.01	0.01	7.5	UN
203779	SC11_024	125.6	126.6	8.7	96	231	3	327	3.41	3.08	0.01	0.01	3.07	4.25	15.6	NA	NA	NA	NAG
208104	SC12_113	20.2	22.1	8.6	27	307	3	334	12.29	0.89	0.02	0.03	0.87	NA	NA	0.01	0.01	8.8	NAG
208107	SC12_113	26.1	28.1	8.5	24	338	3	362	15.04	0.78	0.01	0.01	0.77	NA	NA	0.01	0.01	9.1	NAG
208110	SC12_113	29.8	31.8	8.7	27	419	4	446	16.60	0.87	0.01	0.02	0.86	NA	NA	0.01	0.01	8.8	NAG
208115	SC12_113	39.2	41.1	8.5	27	328	3	355	13.06	0.87	0.01	0.01	0.87	NA	NA	0.01	0.01	9	NAG
208120	SC12_113	47.0	47.7	8.6	61	147	3	208	3.41	1.98	0.03	0.02	1.95	NA	NA	0.01	0.01	8.6	NAG
208242	SC12_116	24.4	25.0	8.6	16	367	3	383	23.57	0.53	0.01	0.01	0.52	NA	NA	0.01	0.01	8.8	NAG
208254	SC12_116	42.9	44.0	8.4	54	124	3	178	3.27	1.75	0.01	0.01	1.74	NA	NA	0.01	0.01	8.8	NAG
208267	SC12_116	61.0	63.0	9.2	8	853	4	860	114.67	0.25	0.01	0.01	0.24	NA	NA	0.01	0.01	9.3	NAG
208272	SC12_116	69.0	71.0	8.6	33	272	3	304	9.35	1.06	0.02	0.01	1.04	NA	NA	0.01	0.01	7.3	NAG
208273	SC12_116	71.0	73.0	8.7	20	477	4	497	24.85	0.66	0.02	0.01	0.64	NA	NA	0.01	0.01	7.5	NAG
210546	SC12_115	69.0	71.0	8.4	44	177	3	221	4.98	1.45	0.03	0.01	1.42	NA	NA	0.01	0.01	7.8	NAG
210555	SC12_115	83.5	85.0	8.4	60	147	3	207	3.47	1.94	0.03	0.01	1.91	NA	NA	0.01	0.01	8.3	NAG
210556	SC12_115	85.0	87.0	8.9	37	503	4	540	14.77	1.19	0.02	0.01	1.17	NA	NA	0.01	0.01	8.9	NAG
210572	SC12_115	112.0	114.0	8.4	6	21	2	27	4.32	0.22	0.02	0.01	0.2	NA	NA	0.01	0.01	9.2	NAG
212540	SC12_114	59.0	61.0	8.6	11	488	4	499	46.96	0.34	0.01	0.02	0.34	NA	NA	0.01	0.01	9.7	NAG
212545	SC12_114	67.0	69.0	8.4	50	141	3	191	3.82	1.62	0.02	0.01	1.6	NA	NA	0.01	0.01	8.3	NAG
212546	SC12_114	69.0	70.0	8.3	91	57	3	148	1.63	2.93	0.02	0.01	2.91	NA	NA	0.01	0.01	7.8	UN
212547	SC12_114	70.0	71.0	8.4	97	1	3	98	1.01	3.11	0.02	0.03	3.09	NA	NA	16.15	29.7	3	UN
212551	SC12_114	75.0	77.0	8.7	38	354	3	392	10.37	1.23	0.02	0.01	1.21	NA	NA	0.01	0.01	8.8	NAG
212557	SC12_114	87.0	89.0	8.3	40	193	3	233	5.78	1.3	0.01	0.02	1.29	NA	NA	0.01	0.01	8.7	NAG
212559	SC12_114	89.0	91.0	8.4	48	181	3	229	4.73	1.56	0.01	0.02	1.55	NA	NA	0.01	0.01	8.4	NAG
212560	SC12_114	91.0	93.0	8.2	60	194	3	254	4.26	1.94	0.03	0.02	1.91	NA	NA	0.01	0.01	8.3	NAG
212581	SC12_114	121.0	123.0	8.7	35	352	3	387	11.06	1.14	0.02	0.02	1.12	NA	NA	0.01	0.01	8.1	NAG
212589	SC12_114	132.0	134.0	8.6	40	229	3	269	6.73	1.31	0.03	0.01	1.28	NA	NA	0.01	0.01	8.2	NAG
212595	SC12_114	140.7	142.0	8.5	78	120	3	197	2.54	2.51	0.03	0.02	2.48	NA	NA	0.01	0.01	8	UN

Yr/ A ABA Testing Results

Appendix B Table B-3: Summary of all Acid Base Accounting, NAG Results

SAMPLE ID	HOLE ID	FROM	TO	Paste pH	AP*	NNP	FIZZ	NP**	NP:AP	Total S	S NaCO <sub>3</sub> SO <sub>4</sub>	S HCl SO <sub>4</sub>	S as Sulfide	C HClO <sub>4</sub> DIG	CO <sub>2</sub> HClO <sub>4</sub> DIG	NAG 4.5	NAG 7.0	NAG pH	Rating
		ft	ft	s.u.	tCaCO <sub>3</sub> /Kton	tCaCO <sub>3</sub> /Kton	s.u.	tCaCO <sub>3</sub> /Kton	s.u.	%	%	%	%	%	%	kgH <sub>2</sub> SO <sub>4</sub> /t	kgH <sub>2</sub> SO <sub>4</sub> /t	s.u.	
107479	SC10_001	117.66	118.25999	5.9	137.8125	-133	1	5	0.04	5.02	0.61	0.53	4.41	0.05	0.2	68.3	82.3	2.5	PAG
107576	SC10_002	106.32	108.32	7.7	130.625	-69	2	62	0.47	4.32	0.14	0.04	4.18	0.8	2.9	NA	NA	NA	UN
107584	SC10_002	115	117	4.3	625	-617	1	8	0.01	20.8	0.8	0.59	20	0.1	0.4	249	282	2.1	PAG
107586	SC10_002	117	119	6.2	364.0625	-252	3	112	0.31	12.5	0.87	0.69	11.65	1.37	5	158.5	189.5	2.2	PAG
107589	SC10_002	120.14999	122.14999	7.4	53.4375	58	3	111	2.08	5	3.29	0.34	1.71	1.76	6.4	0.01	0.01	8.2	UN
107597	SC10_002	130.66	131.31	7.6	63.125	-37	2	26	0.41	7.67	5.65	0.26	2.02	0.27	1	7.44	13.3	2.9	PAG
108385	SC10_004	69	71	7.4	246.875	-50	3	197	0.80	8.3	0.4	0.33	7.9	2.45	9	27	49.6	2.9	PAG
108387	SC10_004	73	75	8.2	177.8125	132	3	310	1.74	5.87	0.18	0.04	5.69	3.91	14.3	0.01	0.01	7.8	UN
108390	SC10_004	79	81	5.1	567.1875	-488	3	79	0.14	21	2.84	0.35	18.15	1.1	4	330	388	2	PAG
108406	SC10_004	104	106.07	4.1	843.75	-843	1	1	0.01	27.6	0.57	0.49	27	NA	NA	328	473	2.2	PAG
108407	SC10_004	106.07	107.9	4	943.75	-943	1	1	0.01	30.9	0.68	0.69	30.2	NA	NA	347	402	2.3	PAG
108427	SC10_004	118.41	120	2.7	1340.625	-1340	1	1	0.01	44.2	1.27	1.2	42.9	NA	NA	417	482	2.2	PAG
108428	SC10_004	120	121.4	3.6	1193.75	-1144	2	50	0.04	39.3	1.11	1.13	38.2	NA	NA	414	482	2.3	PAG
200966	SC11_024	148.27	150.25	7.9	293.4375	-80	3	213	0.73	9.52	0.13	0.05	9.39	3.13	11.5	NA	NA	NA	UN
202098	SC11_031	59.5	61.5	8	141.5625	99	3	241	1.70	4.57	0.04	0.06	4.53	NA	NA	0.01	0.01	8	UN
202114	SC11_031	79.83	81.75	7	181.875	-17	3	165	0.91	7.5	1.68	0.63	5.82	NA	NA	0.01	0.01	7.3	UN
202232	SC11_042	138	139.3	3	1284.375	-1267	2	17	0.01	42.7	1.62	0.56	41.1	0.54	2	432	496	2.1	PAG
202248	SC11_042	153.64	154.22	4.9	381.25	-380	1	1	0.01	19.2	6.99	0.48	12.2	0.07	0.2	182.5	203	2.2	PAG
202264	SC11_042	170.81	171.84999	2.9	1143.75	-1143	1	1	0.01	37.1	0.46	0.41	36.6	0.11	0.4	344	425	2.1	PAG
205924	SC12_137	103.35	105.35	8.1	233.125	-75	3	158	0.68	7.76	0.3	0.29	7.46	NA	NA	26	43.5	3.1	PAG
205947	SC12_137	133.3	135	7.3	1018.75	-947	3	72	0.07	33.5	0.92	0.74	32.6	NA	NA	289	337	2.5	PAG
205950	SC12_137	138.85	140.85	7.3	1240.625	-1155	3	86	0.07	40.7	0.96	0.91	39.7	NA	NA	375	437	2.4	PAG
205951	SC12_137	136.85	138.85	7.1	1228.125	-1110	3	118	0.10	39.7	0.39	0.39	39.3	NA	NA	366	468	2.2	PAG
208137	SC12_113	74.3	75.1	6.8	473.4375	-296	3	177	0.37	15.25	0.1	0.05	15.15	NA	NA	233	254	2.1	PAG
208140	SC12_113	76	76.8	7.8	211.875	131	3	343	1.62	6.83	0.05	0.01	6.78	NA	NA	0.01	0.01	7.8	UN
210602	SC12_115	158.09999	160	8.7	121.5625	221	3	343	2.82	3.93	0.04	0.02	3.89	NA	NA	0.01	0.01	8.3	UN
210604	SC12_115	160	161.5	8.4	273.125	11	3	284	1.04	8.8	0.06	0.01	8.74	NA	NA	0.01	4.62	6.2	UN
210605	SC12_115	161.5	162.75	7.9	446.875	-146	3	301	0.67	14.4	0.1	0.07	14.3	NA	NA	102.5	120.5	2.5	PAG
210784	SC12_122	153	155	7	1168.75	-1121	2	48	0.04	38.9	1.49	0.65	37.4	NA	NA	296	346	2.4	PAG
210785	SC12_122	155	157	7	1262.5	-1210	2	53	0.04	41.8	1.45	0.64	40.4	NA	NA	362	429	2.4	PAG
210786	SC12_122	157	158.34	7.2	1068.75	-884	3	185	0.17	34.4	0.21	0.24	34.2	NA	NA	308	373	2.4	PAG
210788	SC12_122	158.34	159.5	7.7	542.1875	-337	3	205	0.38	18.7	1.36	0.64	17.35	NA	NA	148.5	193.5	2.4	PAG
210789	SC12_122	159.5	161	7.7	445.3125	-232	3	213	0.48	15.2	0.96	0.72	14.25	NA	NA	125	168	2.8	PAG
212622	SC12_117	42	44	8.2	114.6875	188	3	303	2.64	3.7	0.03	0.01	3.67	NA	NA	0.01	0.01	8.3	UN
212625	SC12_117	45.11	46.43	4.5	495.3125	-444	2	51	0.10	16.05	0.2	0.16	15.85	NA	NA	366	399	2.2	PAG
212633	SC12_117	56	57.3	6.9	194.6875	-15	3	180	0.92	6.29	0.06	0.01	6.23	NA	NA	16.05	22.9	2.7	PAG
212634	SC12_117	57.3	58.11	4.7	1156.25	-1055	3	101	0.09	37.6	0.62	0.62	37	NA	NA	617	734	2.1	PAG
212635	SC12_117	58.11	58.81	3.9	515.625	-425	3	91	0.18	16.7	0.19	0.11	16.5	NA	NA	331	384	2.1	PAG
212636	SC12_117	58.81	60	7.1	865.625	-587	3	279	0.32	28.2	0.47	0.48	27.7	NA	NA	392	455	2.1	PAG
212638	SC12_117	60	61	7.2	946.875	-653	3	294	0.31	30.5	0.18	0.12	30.3	NA	NA	402	456	2.1	PAG
212639	SC12_117	61	61.93	7.9	709.375	-310	3	399	0.56	22.8	0.15	0.12	22.7	NA	NA	205	231	2.2	PAG

USZ, ABA Testing Results



Appendix B Table B-3: Summary of all Acid Base Accounting, NAG Results

	SAMPLE ID	HOLE ID	FROM	TO	Paste pH	AP*	NNP	FIZZ	NP**	NP:AP	Total S	S NaCO <sub>3</sub> SO <sub>4</sub>	S HCl SO <sub>4</sub>	S as Sulfide	C HClO <sub>4</sub> DIG	CO <sub>2</sub> HClO <sub>4</sub> DIG	NAG 4.5	NAG 7.0	NAG pH	Rating
			ft	ft	s.u.	tCaCO <sub>3</sub> /Kton	tCaCO <sub>3</sub> /Kton	s.u.	tCaCO <sub>3</sub> /Kton	s.u.	%	%	%	%	%	%	kgH <sub>2</sub> SO <sub>4</sub> /t	kgH <sub>2</sub> SO <sub>4</sub> /t	s.u.	
Y/n/B, ABA Testing Results	107503	SC10_001	139	141	8.5	20.3125	203	3	223	10.98	0.66	0.01	0.01	0.65	2.68	9.8	0.01	0.01	8.8	NAG
	107505	SC10_001	141	142.07	8.7	56.5625	366	3	423	7.48	1.83	0.02	0.01	1.81	5.25	19.2	0.01	0.01	9.4	NAG
	107615	SC10_002	142.62999	143.62999	7.2	95	-91	1	4	0.04	3.17	0.13	0.11	3.04	0.1	0.4	70	81.5	2.4	PAG
	107733	SC10_003	157.19	159.18	8.3	22.5	57	3	79	3.42	0.81	0.09	0.06	0.72	NA	NA	0.01	0.01	9.6	NAG
	107743	SC10_003	172.1	174.1	8.6	5.9375	117	3	123	20.19	0.2	0.01	0.02	0.19	NA	NA	0.01	0.01	10.4	NAG
	107754	SC10_003	185.66	186.33	8.6	1.25	42	2	43	33.52	0.04	0.01	0.01	0.04	NA	NA	0.01	0.01	9.9	NAG
	107758	SC10_003	190.33	192.33	8.6	2.8125	91	3	94	32.57	0.09	0.01	0.02	0.09	NA	NA	0.01	0.01	10.3	NAG
	107778	SC10_003	217.23	218.24	8.5	5.625	7	1	13	2.25	0.18	0.01	0.01	0.18	NA	NA	0.01	0.01	8.3	UN
	107797	SC10_003	244.22	245.67	8.5	3.75	51	2	55	14.29	0.14	0.02	0.02	0.12	NA	NA	0.01	0.01	8.8	NAG
	108241	SC10_003	251.67	253.67	8.6	5.9375	9	1	15	2.46	0.19	0.01	0.01	0.19	NA	NA	0.01	0.01	8.9	UN
	108429	SC10_004	121.4	123.5	7.3	117.8125	167	4	285	2.36	4.07	0.3	0.18	3.77	NA	NA	0.01	0.01	8.5	UN
	108434	SC10_004	132	134	8.6	32.5	318	3	350	10.77	1.09	0.05	0.01	1.04	4.27	15.7	0.01	0.01	9	NAG
	108441	SC10_004	146	148	8.5	35	250	4	285	7.93	1.12	0.01	0.01	1.12	NA	NA	0.01	0.01	8.6	NAG
	108445	SC10_004	154	156	8.5	37.1875	220	4	257	6.73	1.21	0.02	0.01	1.19	NA	NA	0.01	0.01	8.8	NAG
	108453	SC10_004	170	172	8.3	30.3125	-25	1	5	0.16	0.97	0.01	0.01	0.97	NA	NA	13.65	23.5	2.8	PAG
	108467	SC10_004	197.6	199	8.3	48.75	90	3	139	2.78	1.58	0.02	0.02	1.56	NA	NA	0.01	0.01	8.5	UN
	108479	SC10_004	221	223	8.5	13.125	51	2	64	4.75	0.42	0.01	0.01	0.42	NA	NA	0.01	0.01	9.6	NAG
	108480	SC10_004	223	225	8.3	18.125	41	2	59	3.17	0.59	0.01	0.01	0.58	NA	NA	0.01	0.01	8.9	NAG
	108500	SC10_004	263.3	265	8.8	7.5	279	4	286	37.16	0.24	0.01	0.01	0.24	NA	NA	0.01	0.01	10.8	NAG
	108505	SC10_004	273	275	8.7	2.1875	142	3	144	64.15	0.07	0.01	0.01	0.07	NA	NA	0.01	0.01	10.1	NAG
	108506	SC10_004	275	277	8.7	2.1875	280	4	282	125.62	0.07	0.01	0.02	0.07	NA	NA	0.01	0.01	9.2	NAG
	108519	SC10_004	301	303	7.8	33.125	-23	1	10	0.29	1.08	0.02	0.02	1.06	NA	NA	12.55	21.4	2.8	PAG
	202275	SC11_042	176.7	178.37999	8.2	145	207	3	352	2.43	4.72	0.08	0.07	4.64	4.51	16.5	0.01	0.01	8.4	UN
	203529	SC11_033	210.48999	212.42	8.9	59.6875	275	3	335	5.61	2.3	0.39	0.35	1.91	4.13	15.2	0.01	0.01	9.2	NAG
	203535	SC11_033	220.37999	222.2	8.3	33.4375	129	3	162	4.84	1.12	0.05	0.02	1.07	2.39	8.8	0.01	0.01	9.2	NAG
	208141	SC12_113	76.8	78.8	8.8	32.5	371	3	403	12.40	1.05	0.01	0.02	1.04	NA	NA	0.01	0.01	10	NAG
	208142	SC12_113	78.8	80.8	8.7	48.75	290	3	339	6.95	1.57	0.01	0.01	1.56	NA	NA	0.01	0.01	9.7	NAG
	208143	SC12_113	80.8	82.8	8.9	53.125	330	3	383	7.21	1.71	0.01	0.01	1.7	NA	NA	0.01	0.01	10.5	NAG
208145	SC12_113	82.8	83.4	8.6	33.125	281	3	314	9.48	1.12	0.06	0.01	1.06	NA	NA	0.01	0.01	10	NAG	
208146	SC12_113	83.4	85.4	8.7	38.125	297	3	335	8.79	1.25	0.03	0.01	1.22	NA	NA	0.01	0.01	9.9	NAG	
208147	SC12_113	85.4	87.4	8.8	39.0625	287	3	326	8.35	1.27	0.02	0.02	1.25	NA	NA	0.01	0.01	8.9	NAG	
208148	SC12_113	87.4	88.4	8.6	35.9375	350	3	386	10.74	1.2	0.05	0.01	1.15	NA	NA	0.01	0.01	10	NAG	
210629	SC12_115	199	200.5	9.2	2.5	176	3	178	71.20	0.08	0.01	0.01	0.08	NA	NA	0.01	0.01	7.8	NAG	
212665	SC12_117	102	103.98	8.5	33.75	305	3	339	10.04	1.09	0.01	0.01	1.08	NA	NA	0.01	0.01	8.1	NAG	
LZ FW, ABA Testing Results	108331	SC10_003	362.72	363.26999	7.1	98.4375	-73	2	25	0.25	3.23	0.08	0.01	3.15	NA	NA	51.4	60.6	2.7	PAG
	108340	SC10_003	351.69	353.69	7.5	56.875	-36	2	21	0.37	1.9	0.08	0.01	1.82	NA	NA	21.7	27.5	2.5	PAG
	108594	SC12_107	449.59998	450.38	8.1	7.8125	0	1	8	1.02	0.26	0.01	0.01	0.25	NA	NA	0.01	0.01	7	UN
	200636	SC11_048	370.31998	372.16	8.4	1.5625	8	1	10	6.40	0.06	0.01	0.01	0.05	NA	NA	0.01	0.01	8.8	NAG
	200681	SC11_048	374.16	376.16	7.5	55	-51	1	4	0.07	1.84	0.08	0.01	1.76	NA	NA	35.6	43	2.7	PAG
	202590	SC11_009	406	408	7.2	144.0625	-113	2	31	0.22	4.69	0.08	0.01	4.61	NA	NA	60.4	77.3	2.6	PAG
	202592	SC11_008	375.32999	377	7.9	12.5	-3	1	10	0.80	0.43	0.03	0.02	0.4	NA	NA	0.01	1.04	4.7	UN
	203867	SC12_100	432.29999	434.14999	8	41.875	-7	1	35	0.84	1.39	0.05	0.01	1.34	NA	NA	0.01	2.63	4.8	UN
	205670	SC14_172	378.9	380.9	8.6	10.625	51	2	62	5.84	0.36	0.02	0.01	0.34	NA	NA	0.01	0.01	8.9	NAG
	207833	SC10_004	425	426.31	7.7	33.75	-13	2	21	0.62	1.13	0.05	0.02	1.08	NA	NA	0.64	6.63	4	PAG
	207834	SC12_142	360.5	362.5	7.9	23.4375	10	2	33	1.41	0.79	0.04	0.04	0.75	NA	NA	0.01	0.01	7.8	UN
	211766	SC11_031	451.98999	453.35999	8.2	89.375	-44	3	45	0.50	2.9	0.04	0.01	2.86	NA	NA	29.5	37.1	2.8	PAG
	212737	SC12_100	430.34998	432.29999	7.8	270.3125	-167	3	103	0.38	8.71	0.06	0.01	8.65	NA	NA	120	132.5	2.4	PAG
	214929	SC12_123	366.84	368.84	8.2	10.3125	5	2	15	1.45	0.35	0.02	0.01	0.33	NA	NA	0.01	0.01	8.6	UN
	219900	SC11_036	372.13	373.19998	8.1	29.0625	-4	2	25	0.86	0.94	0.01	0.01	0.93	NA	NA	2.12	6.19	3.6	PAG

Appendix B Table B-3: Summary of all Acid Base Accounting, NAG Results

	SAMPLE ID	HOLE ID	FROM	TO	Paste pH	AP*	NNP	FIZZ	NP**	NP:AP	Total S	S NaCO <sub>3</sub> SO <sub>4</sub>	S HCl SO <sub>4</sub>	S as Sulfide	C HClO <sub>4</sub> DIG	CO <sub>2</sub> HClO <sub>4</sub> DIG	NAG 4.5	NAG 7.0	NAG pH	Rating
			ft	ft	s.u.	tCaCO <sub>3</sub> /Kton	tCaCO <sub>3</sub> /Kton	s.u.	tCaCO <sub>3</sub> /Kton	s.u.	%	%	%	%	%	%	kgH <sub>2</sub> SO <sub>4</sub> /t	kgH <sub>2</sub> SO <sub>4</sub> /t	s.u.	
Yc, ABA Testing Results	200746	SC11_010	506.1	507	8.6	16.25	23	2	39	2.40	0.52	0.01	0.01	0.52	NA	NA	0.01	4.73	5.5	UN
	200747	SC11_010	508.9	510.5	8.8	3.75	34	2	38	10.13	0.12	0.01	0.01	0.12	NA	NA	0.01	4.83	6.6	NAG
	212740	SC11_036	373.94	375	7.9	30.3125	57	3	87	2.87	0.97	0.01	0.01	0.97	NA	NA	0.01	0.01	7.1	UN
	220439	SC14_169	452	454	8.9	4.375	15	1	19	4.34	0.14	0.01	0.02	0.14	NA	NA	0.01	0.01	8.3	NAG
	220440	SC14_169	454	456	7.8	3.75	6	1	10	2.67	0.12	0.01	0.01	0.12	NA	NA	0.01	0.01	8.3	UN
	220446	SC14_169	466	468	8.1	3.4375	7	1	10	2.91	0.12	0.01	0.01	0.11	NA	NA	0.01	0.01	8.3	UN
	220452	SC14_171	392.05	394.05	8.7	0.625	17	1	18	28.80	0.02	0.01	0.01	0.02	NA	NA	0.01	0.01	8.4	NAG
	220453	SC14_171	394.05	396.05	8.7	2.5	16	1	18	7.20	0.09	0.01	0.01	0.08	NA	NA	0.01	0.01	8.4	NAG
220458	SC14_171	400	402	9.3	0.625	28	1	29	46.40	0.03	0.01	0.04	0.02	NA	NA	0.01	0.01	8.3	NAG	
Ynl 0, ABA Testing Results	108363	SC10_004	30.5	32.8	8.1	0.3125	149	3	149	476.80	0.01	0.02	0.02	0.01	1.72	6.3	0.01	0.01	9.2	NAG
	202188	SC11_042	71.81	73.6	9.1	16.5625	819	4	836	50.48	0.59	0.06	0.03	0.53	10.4	38.2	0.01	0.01	9.5	NAG
	202191	SC11_042	75.59	75.7	4.3	1175	-1028	3	147	0.13	37.9	0.29	0.3	37.6	1.91	7	684	758	2.1	PAG
	208262	SC12_116	54	56	9.1	8.125	828	4	836	102.89	0.29	0.03	0.01	0.26	NA	NA	0.01	0.01	10	NAG
	208265	SC12_116	57	59	8.9	10.9375	651	4	662	60.53	0.36	0.01	0.01	0.35	NA	NA	0.01	0.01	10	NAG
	210552	SC12_115	78	80	9.2	8.4375	777	4	785	93.04	0.29	0.02	0.01	0.27	NA	NA	0.01	0.01	10.5	NAG
	212565	SC12_114	98	100	8.7	50.625	249	3	300	5.93	1.63	0.01	0.01	1.62	NA	NA	0.01	0.01	8.5	NAG
	212567	SC12_114	102	104	9.1	8.125	779	4	787	96.86	0.27	0.01	0.01	0.26	NA	NA	0.01	0.01	9	NAG
212569	SC12_114	105.5	106.66	9.1	11.25	625	4	636	56.53	0.39	0.03	0.01	0.36	NA	NA	0.01	0.01	10	NAG	
Yne, ABA Testing Results	220466	SC12_108	390.14	392	7.3	0.3125	2	1	2	6.40	0.01	0.01	0.02	0.01	NA	NA	0.01	4.81	6.5	NAG
	220467	SC12_108	410.5	412.5	7.3	0.3125	2	1	2	6.40	0.01	0.01	0.02	0.01	NA	NA	0.01	6.2	6.3	NAG
	220479	SC12_108	414.5	416.5	7.5	1.25	0	1	1	0.80	0.04	0.01	0.02	0.04	NA	NA	0.01	0.01	7.1	UN
	220481	SC12_108	394	396.5	7	0.3125	1	1	1	3.20	0.02	0.01	0.01	0.01	NA	NA	0.01	4.82	6.2	NAG
	220486	SC12_108	412.5	414.5	8.5	0.625	1	1	2	3.20	0.02	0.01	0.02	0.02	NA	NA	0.01	0.01	7	NAG
	220490	SC12_108	402.5	404.5	7.4	0.3125	1	1	1	3.20	0.01	0.01	0.01	0.01	NA	NA	0.01	3.22	6.4	NAG
	220491	SC11_036	412	413.61	7.3	0.3125	1	1	1	3.20	0.01	0.01	0.01	0.01	NA	NA	0.01	5.57	6.2	NAG
	220492	SC11_036	413.61	414.41	7.4	0.3125	1	1	1	3.20	0.01	0.01	0.01	0.01	NA	NA	0.01	4.56	6.2	NAG
IG, ABA Testing Results	210585	SC12_115	129	131	8.5	5	48	2	53	10.60	0.16	0.01	0.01	0.16	NA	NA	0.01	0.01	9.5	NAG
	210586	SC12_115	131	133	8.5	2.5	50	2	52	20.80	0.08	0.01	0.02	0.08	NA	NA	0.01	0.01	9.4	NAG
	210588	SC12_115	135	137	8.5	4.0625	56	2	60	14.77	0.14	0.01	0.02	0.13	NA	NA	0.01	0.01	9.3	NAG
	210592	SC12_115	141	143	8.4	4.375	56	2	60	13.71	0.15	0.01	0.02	0.14	NA	NA	0.01	0.01	9.4	NAG
	210594	SC12_115	145	147	8.4	1.5625	56	2	58	37.12	0.05	0.01	0.02	0.05	NA	NA	0.01	0.01	9.4	NAG
	210596	SC12_115	147	148.25	8.2	12.5	186	3	198	15.84	0.42	0.02	0.02	0.4	NA	NA	0.01	0.01	9	NAG
	212584	SC12_114	126.04	127.5	8.5	6.25	57	2	63	10.08	0.22	0.02	0.01	0.2	NA	NA	0.01	0.01	9	NAG
	212586	SC12_114	127.5	129	8.7	1.5625	63	2	65	41.60	0.05	0.01	0.02	0.05	NA	NA	0.01	0.01	9.3	NAG
Misc. Lith., ABA Testing Results	202152	SC11_042	17.98	19.05	2.1	1315.625	-1315	1	1	0.01	43	0.86	0.96	42.1	0.05	0.2	1000	1000	1.9	PAG
	202174	SC11_042	51.75	53.19	7	423.4375	-61	3	362	0.85	13.6	0.06	0.1	13.55	4.38	16.1	34.9	56	2.7	PAG
	203560	SC11_033	35.44	37.44	9	1.875	470	4	472	251.73	0.08	0.02	0.01	0.06	5.85	21.4	0.01	0.01	8.7	NAG

\* AP calculated with sulfide sulfur. NNP and NP:AP also recalculated.

\*\*Negative NP values (see lab reports) changed to "<1" for calculations and graphing. Affected NP:AP have also been controled with a reporting limit of "<0.01"

Red text indicates a "less than" method detection limit value

PAG, based on NP:AP <1, NAG <4.5, or both

Uncertain based on NP:AP between 1 and 3, and/or discrepancy between two ratings

NAG, based on NP:AP>3, NAG >4.5, or both

## **Appendix B:**

Figure B-1a/b	Boxplots 2015 subset and site-wide <i>LZ FW</i>
Figure B-2a/b	Boxplots 2015 subset and site-wide <i>Ynl B</i>
Figure B-3a/b	Boxplots 2015 subset and site-wide <i>USZ</i>

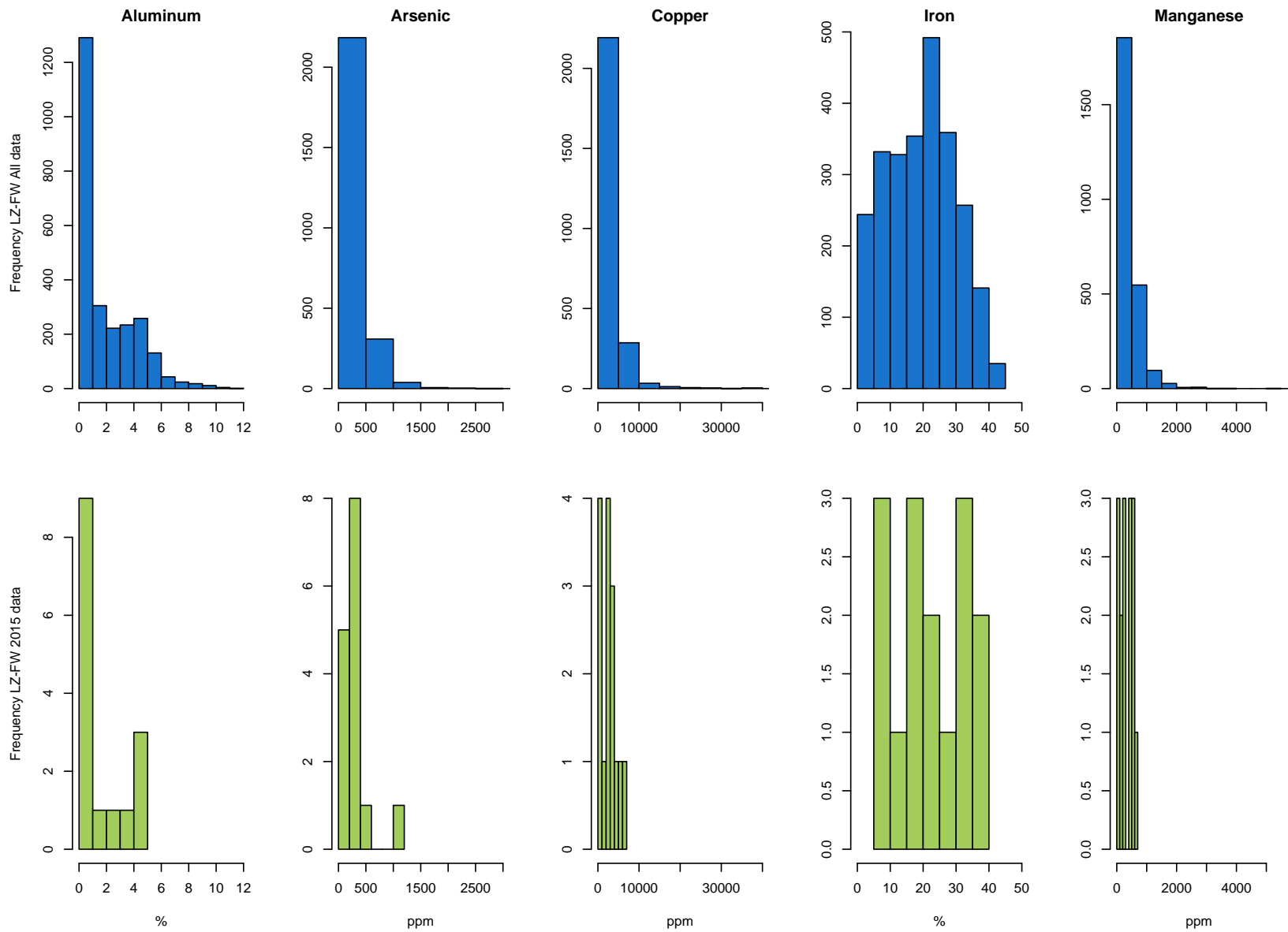


Figure B-1a. Distribution of select ICP metals for complete LZ FW dataset (blue, n=550) and 2015 LZ FW subset (green, n=15)

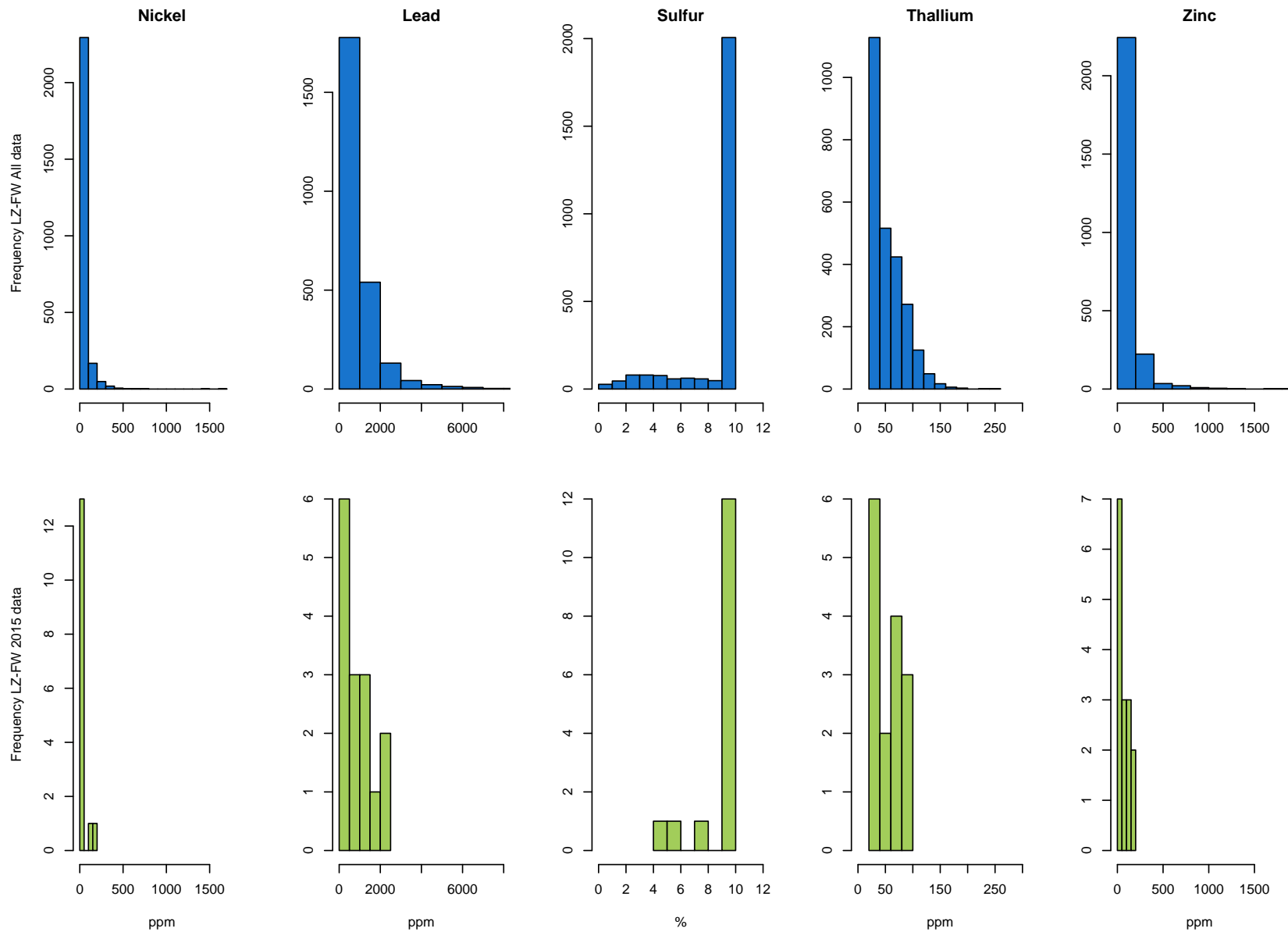


Figure B-1b. Distribution of select ICP metals for complete LZ FW dataset (blue, n=550) and 2015 LZ FW subset (green, n=15)

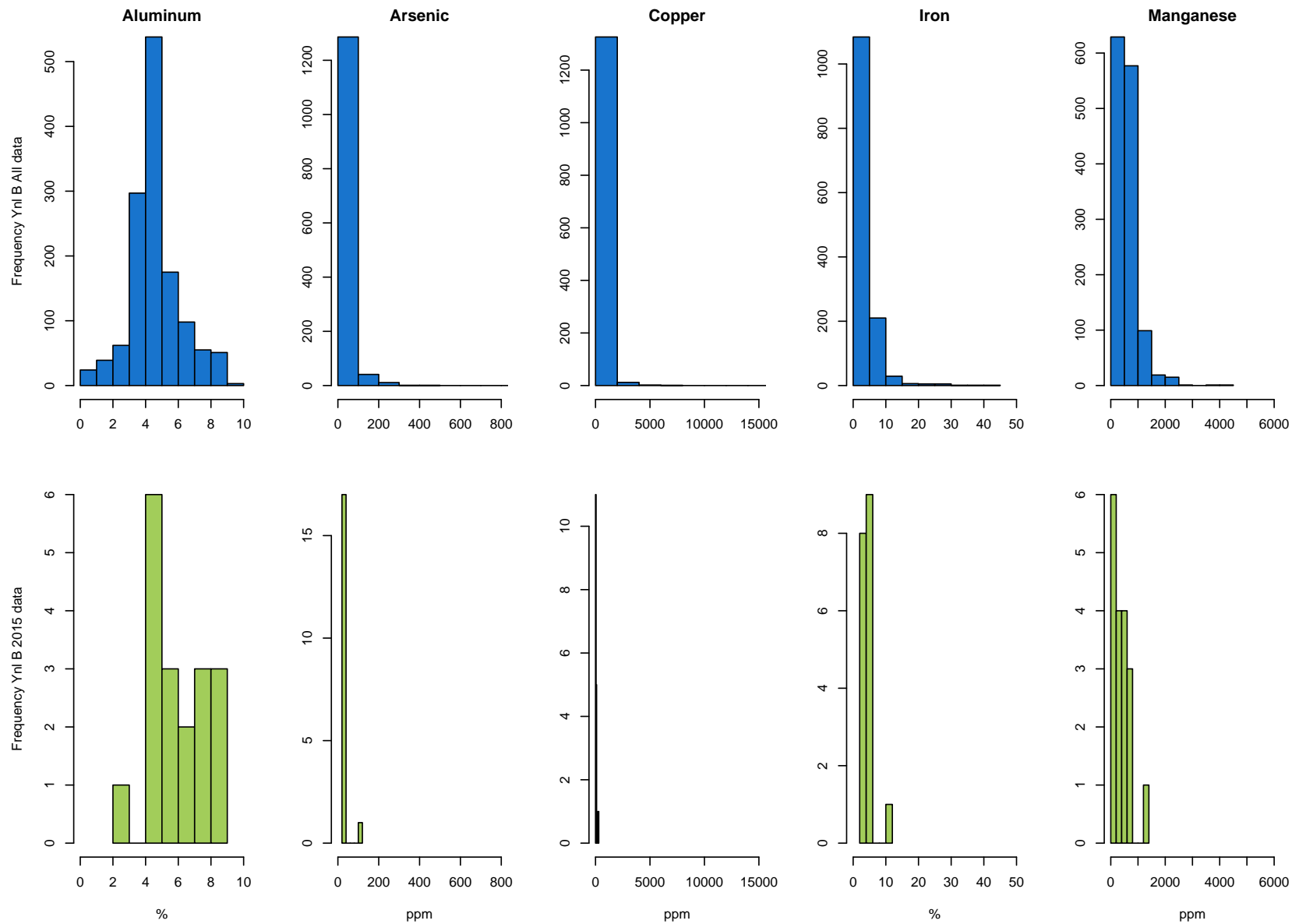


Figure B-2a. Distribution of select ICP metals for complete *Ynl B* dataset (blue, n=1412) and 2015 *Ynl B* subset (green, n=18)

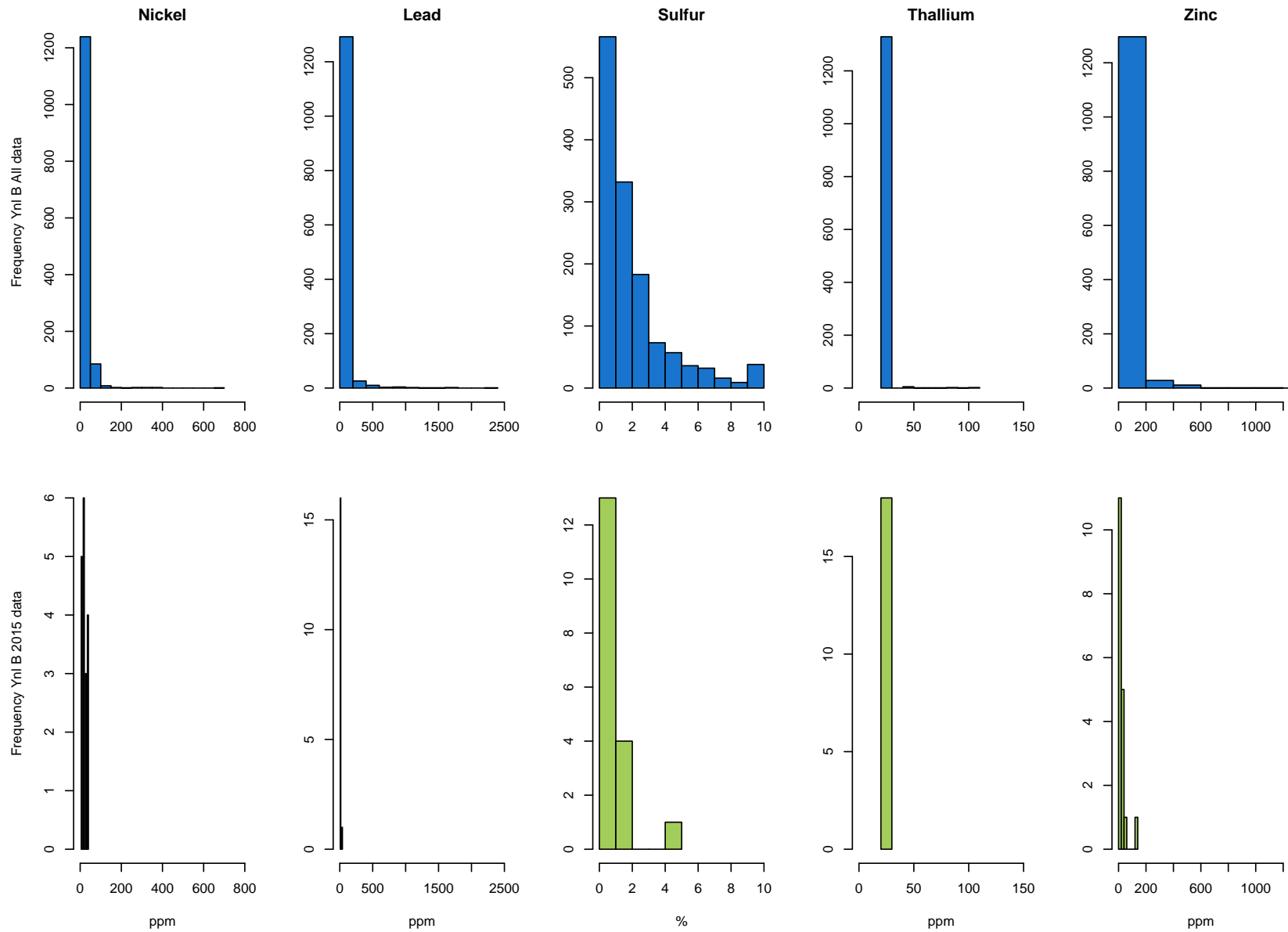


Figure B-2b. Distribution of select ICP metals for complete *Ynl B* dataset (blue, n=1412) and 2015 *Ynl B* subset (green, n=18)

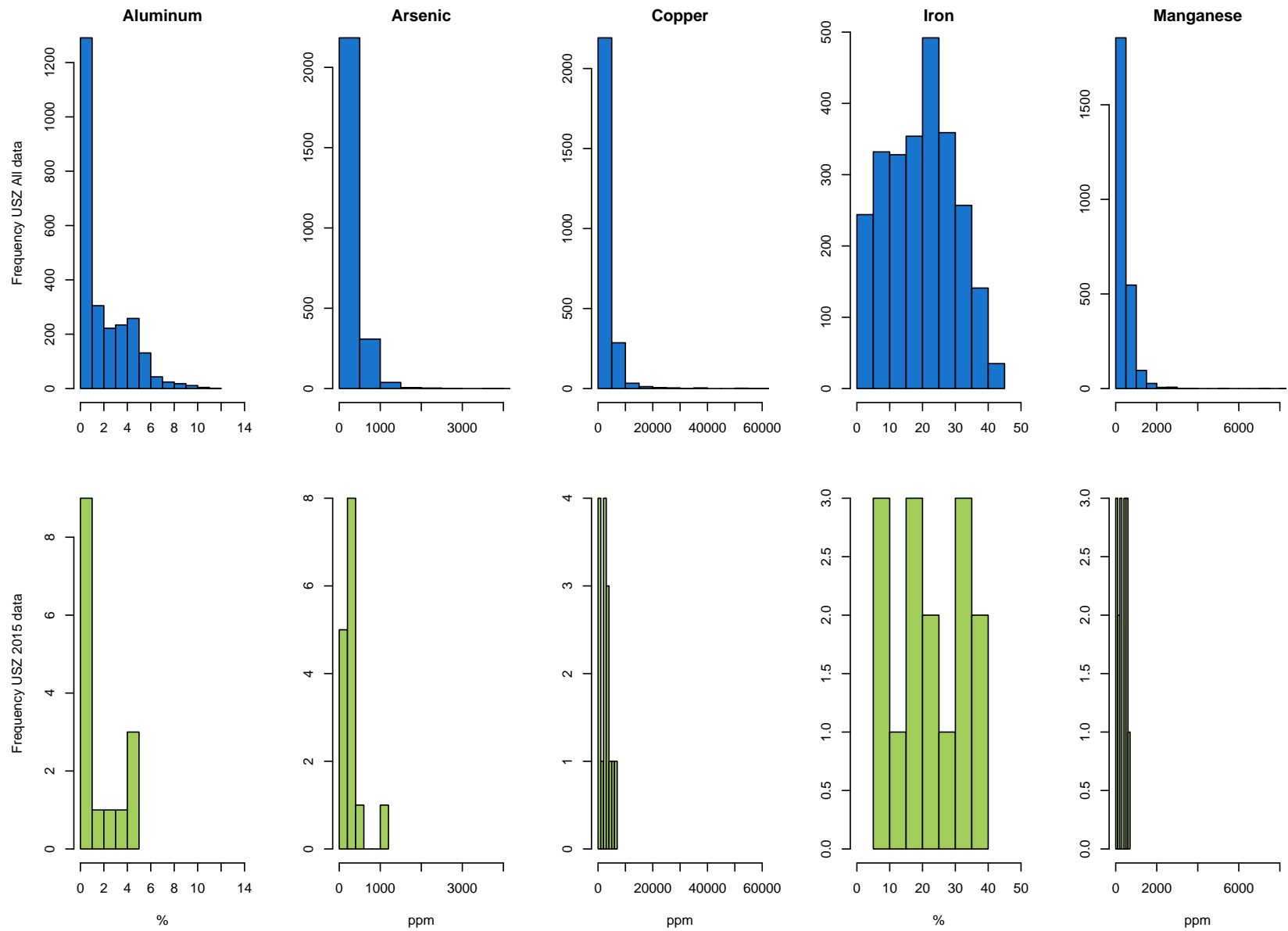


Figure B-3a. Distribution of select ICP metals for complete *USZ* dataset (blue, n=2542) and 2015 *USZ* subset (green, n=15)



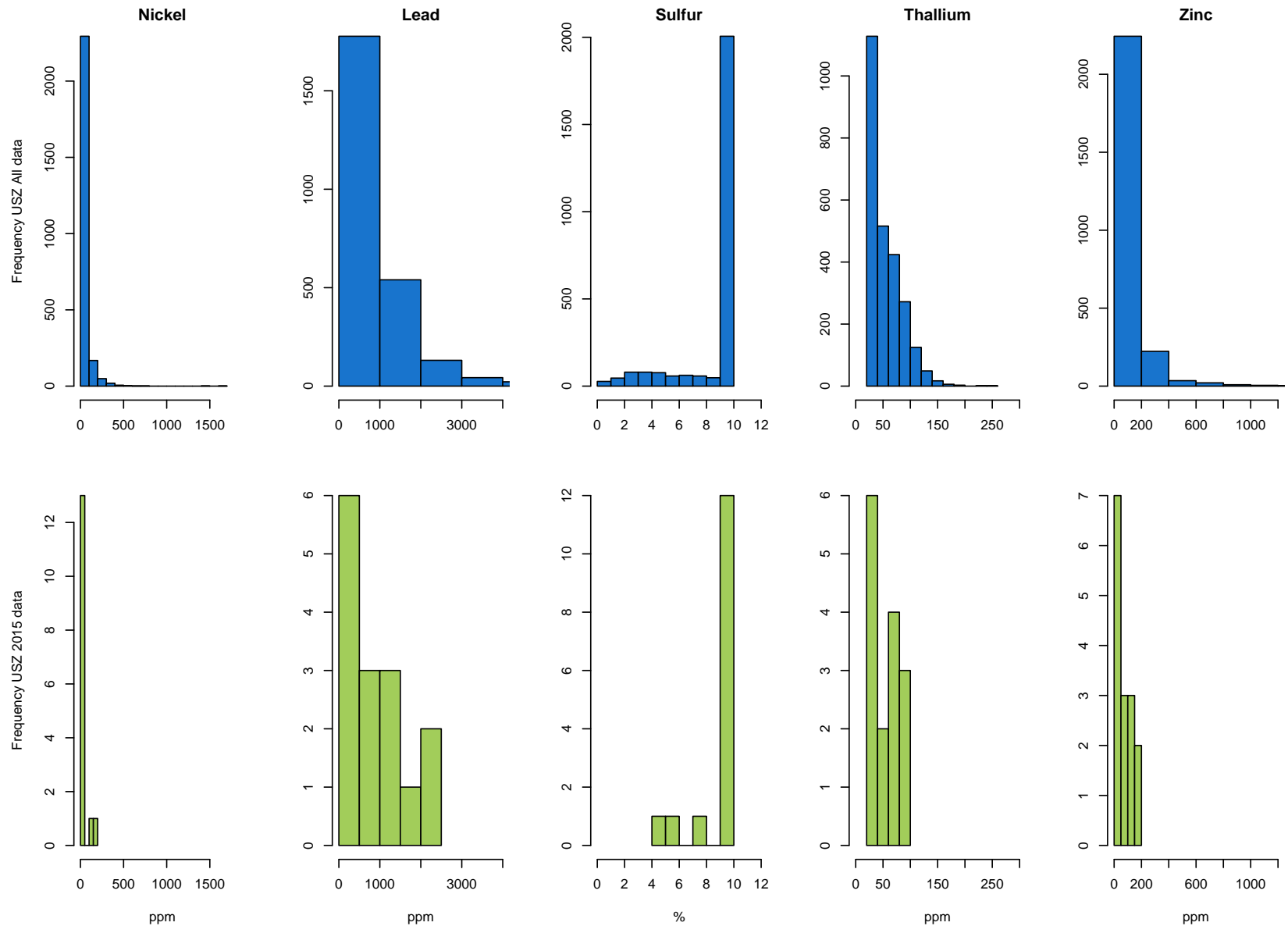


Figure B-3b. Distribution of select ICP metals for complete *USZ* dataset (blue, n=2542) and 2015 *USZ* subset (green, n=15)

## **Appendix B:**

2015 ABA/NAG Laboratory Reports from ALS



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

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**CERTIFICATE RE15038031**

Project: Black Butte Copper Project

This report is for 34 Drill Core samples submitted to our lab in Reno, NV, USA on 13- MAR- 2015.

The following have access to data associated with this certificate:

JACK COTE KATERINE SEIPEL	LISA KIRK JERRY ZIEG	VINCE SCARTOZZI
------------------------------	-------------------------	-----------------

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
FND- 02	Find Sample for Addn Analysis
WEI- 25	Wt. of Crushed Reject

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
S- IR08	Total Sulphur (Leco)	LECO
OA- ELE07	Paste pH	
S- CAL06	Sulfide Sulfur (calculated)	LECO
S- GRA06	Sulfate Sulfur- carbonate leach	WST- SEQ
S- GRA06a	Sulfate Sulfur (HCl leachable)	WST- SEQ
OA- VOL11	Static Net Acid Generation	
OA- VOL08m	Modified NP	

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim 'or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project. Statement required by Nevada State Law NRS 519

To: TINTINA ALASKA EXPLORATION, INC.  
 ATTN: KATERINE SEIPEL  
 17 MAIN ST  
 WHITE SULPHUR SPRINGS MT 59645  
 USA

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Comments: \*\*\*Corrected copy with reject sample weights (WEI- 25) reported\*\*\*

Signature:   
 Colin Ramshaw, Vancouver Laboratory Manager



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

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 17 MAIN ST  
 WHITE SULPHUR SPRINGS MT 59645  
 USA

Page: 2 - A  
 Total # Pages: 2 (A)  
 Plus Appendix Pages  
 Finalized Date: 28- MAR- 2015  
 Account: TINALEX

Project: Black Butte Copper Project

**CERTIFICATE OF ANALYSIS RE15038031**

Sample Description	Method Analyte Units LOR	WEI- 25 Reject W kg	OA- VOL11 NAGpH4.5 kg H2SO4/t	OA- VOL11 NAGpH7.0 kg H2SO4/t	OA- VOL11 pH Unity	OA- VOL08m MPA tCaCO3/1Kt	OA- VOL08m NNP tCaCO3/1Kt	OA- VOL08m FIZZ RAT Unity	OA- VOL08m NP tCaCO3/1Kt	OA- ELE07 pH Unity	OA- VOL08m Ratio (N) Unity	S- IR08 S %	S- GRA06 S %	S- GRA06a S %	S- CAL06 S %
220464		0.001	0.01	0.01	0.1	0.3	1	1	1	0.1	0.01	0.01	0.01	0.01	0.01
220465		6.43													
220466		7.06													
220467		5.96	<0.01	4.81	6.5	0.3	2	1	2	7.3	6.40	0.01	<0.01	0.02	0.01
220468		3.34	<0.01	6.20	6.3	<0.3	2	1	2	7.3	12.80	<0.01	<0.01	0.02	<0.01
220469		4.95													
220470		4.31													
220471		2.62													
220472		7.18													
220473		7.25													
220474		7.70													
220475		6.76													
220476		0.330													
220477		7.66													
220479		6.69	<0.01	<0.01	7.1	1.3	0	1	1	7.5	0.80	0.04	<0.01	0.02	0.04
220480		6.59													
220481		6.85													
220482		6.69	<0.01	4.82	6.2	0.6	-1	1	0	7.0	0.00	0.02	0.01	0.01	0.01
220483		6.98													
220484		0.370													
220485		7.27													
220486		7.05													
220487		7.01	<0.01	<0.01	7.0	0.6	1	1	2	8.5	3.20	0.02	<0.01	0.02	0.02
220488		7.09													
220489		6.53													
220490		7.21													
220491		6.16	<0.01	3.22	6.4	0.3	1	1	1	7.4	3.20	0.01	0.01	0.01	<0.01
220492		6.64	<0.01	5.57	6.2	0.3	1	1	1	7.3	3.20	0.01	<0.01	0.01	0.01
220493		6.98	<0.01	4.56	6.2	<0.3	0	1	0	7.4	0.00	<0.01	<0.01	0.01	<0.01
220494		2.88													
220495		3.57													
220496		5.47													
220496		6.38													

Comments: \*\*\*Corrected copy with reject sample weights (WEI- 25) reported\*\*\*

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*





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 WHITE SULPHUR SPRINGS MT 59645  
 USA

Page: 1  
 Total # Pages: 2 (A)  
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 Finalized Date: 12- MAY- 2015  
 Account: TINALEX

**CERTIFICATE RE15061162**

Project: Black Butte Copper Project

This report is for 18 Drill Core samples submitted to our lab in Reno, NV, USA on 27- APR- 2015.

The following have access to data associated with this certificate:

JACK COTE KATERINE SEIPEL	LISA KIRK JERRY ZIEG	VINCE SCARTOZZI
------------------------------	-------------------------	-----------------

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
CRU- 22c	Crush entire sample > 70% - 19 mm
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
PUL- 31	Pulverize split to 85% < 75 um
WEI- 21	Received Sample Weight
WEI- 25	Wt. of Crushed Reject

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
S- IR08	Total Sulphur (Leco)	LECO
OA- ELE07	Paste pH	
S- CAL06	Sulfide Sulfur (calculated)	LECO
S- GRA06	Sulfate Sulfur- carbonate leach	WST- SEQ
S- GRA06a	Sulfate Sulfur (HCl leachable)	WST- SEQ
OA- VOL11	Static Net Acid Generation	
OA- VOL08m	Modified NP	

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim 'or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project. Statement required by Nevada State Law NRS 519

To: TINTINA ALASKA EXPLORATION, INC.  
 ATTN: KATERINE SEIPEL  
 17 MAIN ST  
 WHITE SULPHUR SPRINGS MT 59645  
 USA

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Comments: OA- VOL11 method is a single addition NAG test, thus it may not account for the total acid potential of a given sample.

Signature:   
 Colin Ramshaw, Vancouver Laboratory Manager



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Page: 2 - A  
 Total # Pages: 2 (A)  
 Plus Appendix Pages  
 Finalized Date: 12- MAY- 2015  
 Account: TINALEX

Project: Black Butte Copper Project

**CERTIFICATE OF ANALYSIS RE15061162**

Sample Description	Method Analyte Units LOR	WEI- 21	WEI- 25	OA- VOL11	OA- VOL11	OA- VOL11	OA- VOL08m	OA- VOL08m	OA- VOL08m	OA- VOL08m	OA- ELE07	OA- VOL08m	S- IR08	S- GRA06	S- GRA06a	S- CAL06
		Recvd Wt. kg	Reject W kg	NAGpH4.5 kg H2SO4/t	NAGpH7.0 kg H2SO4/t	pH Unity	MPA tCaCO3/1Kt	NNP tCaCO3/1Kt	FIZZ RAT Unity	NP tCaCO3/1Kt	pH Unity	Ratio (N) Unity	S %	S %	S %	S %
108467		2.55	2.26	<0.01	<0.01	8.5	49.4	90	3	139	8.3	2.82	1.58	0.02	0.02	1.56
107733		3.74	3.44	<0.01	<0.01	9.6	25.3	54	3	79	8.3	3.12	0.81	0.09	0.06	0.72
107743		4.02	3.73	<0.01	<0.01	10.4	6.3	117	3	123	8.6	19.68	0.20	0.01	0.02	0.19
107754		1.18	0.970	<0.01	<0.01	9.9	1.3	42	2	43	8.6	34.40	0.04	<0.01	<0.01	0.04
107758		3.63	3.33	<0.01	<0.01	10.3	2.8	91	3	94	8.6	33.42	0.09	<0.01	0.02	0.09
108480		3.38	3.09	<0.01	<0.01	8.9	18.4	41	2	59	8.3	3.20	0.59	0.01	<0.01	0.58
108479		3.36	3.07	<0.01	<0.01	9.6	13.1	51	2	64	8.5	4.88	0.42	<0.01	0.01	0.42
108500		3.11	2.82	<0.01	<0.01	10.8	7.5	279	4	286	8.8	38.13	0.24	<0.01	<0.01	0.24
108453		4.38	4.05	13.65	23.5	2.8	30.3	-25	1	5	8.3	0.16	0.97	<0.01	0.01	0.97
107778		1.56	1.290	<0.01	<0.01	8.3	5.6	7	1	13	8.5	2.31	0.18	<0.01	0.01	0.18
108519		5.88	5.53	12.55	21.4	2.8	33.8	-24	1	10	7.8	0.30	1.08	0.02	0.02	1.06
107797		2.95	2.67	<0.01	<0.01	8.8	4.4	51	2	55	8.5	12.57	0.14	0.02	0.02	0.12
108241		3.89	3.60	<0.01	<0.01	8.9	5.9	9	1	15	8.6	2.53	0.19	<0.01	0.01	0.19
108505		3.75	3.46	<0.01	<0.01	10.1	2.2	142	3	144	8.7	65.83	0.07	<0.01	<0.01	0.07
108506		3.92	3.62	<0.01	<0.01	9.2	2.2	280	4	282	8.7	128.91	0.07	<0.01	0.02	0.07
108445		2.39	2.16	<0.01	<0.01	8.8	37.8	219	4	257	8.5	6.80	1.21	0.02	0.01	1.19
108441		2.35	2.12	<0.01	<0.01	8.6	35.0	250	4	285	8.5	8.14	1.12	<0.01	<0.01	1.12
108429		3.87	3.57	<0.01	<0.01	8.5	127.0	158	4	285	7.3	2.24	4.07	0.30	0.18	3.77

Comments: OA- VOL11 method is a single addition NAG test, thus it may not account for the total acid potential of a given sample.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*







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To: **TINTINA MONTANA INC.**  
**17 MAIN ST**  
**WHITE SULPHUR SPRINGS MT 59645**  
**USA**

Page: 1  
 Total # Pages: 2 (A)  
 Plus Appendix Pages  
 Finalized Date: 20- JUL- 2015  
 Account: TINALEX

**CERTIFICATE RE15093627**

Project: Black Butte Copper Project

This report is for 15 Drill Core samples submitted to our lab in Reno, NV, USA on 24- JUN- 2015.

The following have access to data associated with this certificate:

JACK COTE KATERINE SEIPEL	LISA KIRK JERRY ZIEG	VINCE SCARTOZZI
------------------------------	-------------------------	-----------------

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
SPL- 21X	Crush split for send out
CRU- 22c	Crush entire sample > 70% - 19 mm
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
PUL- 31	Pulverize split to 85% < 75 um
WEI- 21	Received Sample Weight
WEI- 25	Wt. of Crushed Reject

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
S- IR08	Total Sulphur (Leco)	LECO
OA- ELE07	Paste pH	
S- CAL06	Sulfide Sulfur (calculated)	LECO
S- GRA06	Sulfate Sulfur- carbonate leach	WST- SEQ
S- GRA06a	Sulfate Sulfur (HCl leachable)	WST- SEQ
OA- VOL11	Static Net Acid Generation	
OA- VOL08m	Modified NP	

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim 'or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project. Statement required by Nevada State Law NRS 519

To: **TINTINA MONTANA INC.**  
**ATTN: KATERINE SEIPEL**  
**17 MAIN ST**  
**WHITE SULPHUR SPRINGS MT 59645**  
**USA**

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

**Signature:**   
 Colin Ramshaw, Vancouver Laboratory Manager



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Page: 2 - A  
 Total # Pages: 2 (A)  
 Plus Appendix Pages  
 Finalized Date: 20- JUL- 2015  
 Account: TINALEX

Project: Black Butte Copper Project

**CERTIFICATE OF ANALYSIS RE15093627**

Sample Description	Method Analyte Units LOR	WEI- 21	WEI- 25	OA- VOL11	OA- VOL11	OA- VOL11	OA- VOL08m	OA- VOL08m	OA- VOL08m	OA- VOL08m	OA- ELE07	OA- VOL08m	S- IR08	S- GRA06	S- GRA06a	S- CAL06
		Recvd Wt. kg	Reject W kg	NAGpH4.5 kg H2SO4/t	NAGpH7.0 kg H2SO4/t	pH Unity	MPA tCaCO3/1Kt	NNP tCaCO3/1Kt	FIZZ RAT Unity	NP tCaCO3/1Kt	pH Unity	Ratio (N) Unity	S %	S %	S %	S %
108331		3.33	2.84	51.4	60.6	2.7	101.0	-76	2	25	7.1	0.25	3.23	0.08	<0.01	3.15
108340		1.04	0.500	21.7	27.5	2.5	59.4	-38	2	21	7.5	0.35	1.90	0.08	<0.01	1.82
108594		4.13	3.56	<0.01	<0.01	7.0	8.1	0	1	8	8.1	0.98	0.26	0.01	<0.01	0.25
200636		2.69	2.13	<0.01	<0.01	8.8	1.9	8	1	10	8.4	5.33	0.06	0.01	<0.01	0.05
200681		3.84	3.26	35.6	43.0	2.7	57.5	-54	1	4	7.5	0.07	1.84	0.08	<0.01	1.76
203867		2.42	1.850	<0.01	2.63	4.8	43.4	-8	1	35	8.0	0.81	1.39	0.05	0.01	1.34
212737		2.48	1.920	120.0	132.5	2.4	272	-169	3	103	7.8	0.38	8.71	0.06	<0.01	8.65
202590		3.69	3.12	60.4	77.3	2.6	146.5	-116	2	31	7.2	0.21	4.69	0.08	<0.01	4.61
202592		4.09	3.52	<0.01	1.04	4.7	13.4	-3	1	10	7.9	0.74	0.43	0.03	0.02	0.40
207833		3.47	2.92	0.64	6.63	4.0	35.3	-14	2	21	7.7	0.59	1.13	0.05	0.02	1.08
207834		3.18	2.63	<0.01	<0.01	7.8	24.7	8	2	33	7.9	1.34	0.79	0.04	0.04	0.75
205670		2.01	1.460	<0.01	<0.01	8.9	11.3	51	2	62	8.6	5.51	0.36	0.02	<0.01	0.34
211766		3.80	3.24	29.5	37.1	2.8	90.6	-46	3	45	8.2	0.50	2.90	0.04	0.01	2.86
214929		4.07	3.51	<0.01	<0.01	8.6	10.9	4	2	15	8.2	1.37	0.35	0.02	0.01	0.33
219900		3.68	3.12	2.12	6.19	3.6	29.4	-4	2	25	8.1	0.85	0.94	0.01	<0.01	0.93

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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 USA

Page: Appendix 1  
 Total # Appendix Pages: 1  
 Finalized Date: 20- JUL- 2015  
 Account: TINALEX

Project: Black Butte Copper Project

**CERTIFICATE OF ANALYSIS RE15093627**

	<b>CERTIFICATE COMMENTS</b>												
	<b>LABORATORY ADDRESSES</b>												
Applies to Method:	<p>Processed at ALS Reno located at 4977 Energy Way, Reno, NV, USA.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">CRU- 22c</td> <td style="width: 33%;">CRU- 31</td> <td style="width: 33%;">CRU- QC</td> <td style="width: 15%;">LOG- 22</td> </tr> <tr> <td>PUL- 31</td> <td>PUL- QC</td> <td>SPL- 21</td> <td>SPL- 21X</td> </tr> <tr> <td>WEI- 21</td> <td>WEI- 25</td> <td></td> <td></td> </tr> </table>	CRU- 22c	CRU- 31	CRU- QC	LOG- 22	PUL- 31	PUL- QC	SPL- 21	SPL- 21X	WEI- 21	WEI- 25		
CRU- 22c	CRU- 31	CRU- QC	LOG- 22										
PUL- 31	PUL- QC	SPL- 21	SPL- 21X										
WEI- 21	WEI- 25												
Applies to Method:	<p>Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">OA- ELE07</td> <td style="width: 33%;">OA- VOL08m</td> <td style="width: 33%;">OA- VOL11</td> <td style="width: 15%;">S- CAL06</td> </tr> <tr> <td>S- GRA06</td> <td>S- GRA06a</td> <td>S- IR08</td> <td></td> </tr> </table>	OA- ELE07	OA- VOL08m	OA- VOL11	S- CAL06	S- GRA06	S- GRA06a	S- IR08					
OA- ELE07	OA- VOL08m	OA- VOL11	S- CAL06										
S- GRA06	S- GRA06a	S- IR08											



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Page: 1  
 Total # Pages: 2 (A)  
 Plus Appendix Pages  
 Finalized Date: 15- APR- 2015  
 Account: TINALEX

**CERTIFICATE RE15038040**

Project: Black Butte Copper Project

This report is for 6 Drill Core samples submitted to our lab in Reno, NV, USA on 13- MAR- 2015.

The following have access to data associated with this certificate:

JACK COTE KATERINE SEIPEL	LISA KIRK JERRY ZIEG	VINCE SCARTOZZI
------------------------------	-------------------------	-----------------

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
FND- 02	Find Sample for Addn Analysis
FND- 03	Find Reject for Addn Analysis
WEI- 25	Wt. of Crushed Reject

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
S- IR08	Total Sulphur (Leco)	LECO
OA- ELE07	Paste pH	
S- CAL06	Sulfide Sulfur (calculated)	LECO
S- GRA06	Sulfate Sulfur- carbonate leach	WST- SEQ
S- GRA06a	Sulfate Sulfur (HCl leachable)	WST- SEQ
OA- VOL11	Static Net Acid Generation	
OA- VOL08m	Modified NP	

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim 'or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project. Statement required by Nevada State Law NRS 519

To: TINTINA ALASKA EXPLORATION, INC.  
 ATTN: KATERINE SEIPEL  
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This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Signature:   
 Colin Ramshaw, Vancouver Laboratory Manager



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Page: 2 - A  
 Total # Pages: 2 (A)  
 Plus Appendix Pages  
 Finalized Date: 15- APR- 2015  
 Account: TINALEX

Project: Black Butte Copper Project

**CERTIFICATE OF ANALYSIS RE15038040**

Sample Description	Method Analyte Units LOR	WEI- 25 Reject W kg	OA- VOL11 NAGpH4.5 kg H2SO4/t	OA- VOL11 NAGpH7.0 kg H2SO4/t	OA- VOL11 pH Unity	OA- VOL08m MPA tCaCO3/1Kt	OA- VOL08m NNP tCaCO3/1Kt	OA- VOL08m FIZZ RAT Unity	OA- VOL08m NP tCaCO3/1Kt	OA- ELE07 pH Unity	OA- VOL08m Ratio (N) Unity	S- IR08 S %	S- GRA06 S %	S- GRA06a S %	S- CAL06 S %
220439		6.92	<0.01	<0.01	8.9	4.4	15	1	19	8.3	4.34	0.14	<0.01	0.02	0.14
220440		6.96	<0.01	<0.01	7.8	3.8	6	1	10	8.3	2.67	0.12	<0.01	0.01	0.12
220446		6.50	<0.01	<0.01	8.1	3.8	6	1	10	8.3	2.67	0.12	0.01	<0.01	0.11
220452		5.62	<0.01	<0.01	8.7	0.6	17	1	18	8.4	28.80	0.02	<0.01	<0.01	0.02
220453		5.85	<0.01	<0.01	8.7	2.8	15	1	18	8.4	6.40	0.09	0.01	<0.01	0.08
220458		6.31	<0.01	<0.01	9.3	0.9	28	1	29	8.3	30.93	0.03	0.01	0.04	0.02

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*





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Page: 1  
 Total # Pages: 2 (A - B)  
 Plus Appendix Pages  
 Finalized Date: 22- APR- 2015  
 Account: TINALEX

**CERTIFICATE RE15036597**

Project: Black Butte Copper Project

This report is for 20 Drill Core samples submitted to our lab in Reno, NV, USA on 13- MAR- 2015.

The following have access to data associated with this certificate:

JACK COTE KATERINE SEIPEL	LISA KIRK JERRY ZIEG	VINCE SCARTOZZI
------------------------------	-------------------------	-----------------

<b>SAMPLE PREPARATION</b>	
ALS CODE	DESCRIPTION
CRU- 22c	Crush entire sample > 70% - 19 mm
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
PUL- 31	Pulverize split to 85% < 75 um
WEI- 21	Received Sample Weight
WEI- 25	Wt. of Crushed Reject

<b>ANALYTICAL PROCEDURES</b>		
ALS CODE	DESCRIPTION	INSTRUMENT
S- IR08	Total Sulphur (Leco)	LECO
OA- ELE07	Paste pH	
S- CAL06	Sulfide Sulfur (calculated)	LECO
S- GRA06	Sulfate Sulfur- carbonate leach	WST- SEQ
S- GRA06a	Sulfate Sulfur (HCl leachable)	WST- SEQ
OA- VOL08	Basic Acid Base Accounting	
OA- VOL11	Static Net Acid Generation	
OA- VOL08m	Modified NP	

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim 'or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project. Statement required by Nevada State Law NRS 519

To: TINTINA ALASKA EXPLORATION, INC.  
 ATTN: KATERINE SEIPEL  
 17 MAIN ST  
 WHITE SULPHUR SPRINGS MT 59645  
 USA

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Comments: OA- VOL11 method is a single addition NAG test, thus it may not account for the total acid potential of a given sample.

**Signature:**   
 Colin Ramshaw, Vancouver Laboratory Manager



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: TINTINA ALASKA EXPLORATION, INC.  
 17 MAIN ST  
 WHITE SULPHUR SPRINGS MT 59645  
 USA

Page: 2 - A  
 Total # Pages: 2 (A - B)  
 Plus Appendix Pages  
 Finalized Date: 22- APR- 2015  
 Account: TINALEX

Project: Black Butte Copper Project

**CERTIFICATE OF ANALYSIS RE15036597**

Sample Description	Method Analyte Units LOR	WEI- 21	WEI- 25	OA- VOL11	OA- VOL11	OA- VOL11	OA- VOL08m	OA- VOL08m	OA- VOL08m	OA- VOL08m	OA- ELE07	OA- VOL08m	S- IR08	S- GRA06	S- GRA06a	S- CAL06
		Recvd Wt. kg	Reject W kg	NAGpH4.5 kg H2SO4/t	NAGpH7.0 kg H2SO4/t	pH Unity	MPA tCaCO3/1Kt	NNP tCaCO3/1Kt	FIZZ RAT Unity	NP tCaCO3/1Kt	pH Unity	Ratio (N) Unity	S %	S %	S %	S %
		0.02	0.001	0.01	0.01	0.1	0.3	1	1	1	0.1	0.01	0.01	0.01	0.01	0.01
108406		4.03	3.64	328	473	2.2	863	-882	1	-19	4.1	-0.02	27.6	0.57	0.49	27.0
108407		4.45	4.10	347	402	2.3	966	-985	1	-19	4.0	-0.02	30.9	0.68	0.69	30.2
108427		3.09	2.44	417	482	2.2	1380	-1410	1	-31	2.7	-0.02	44.2	1.27	1.20	42.9
108428		3.94	3.55	414	482	2.3	1230	-1180	2	50	3.6	0.04	39.3	1.11	1.13	38.2
202098		3.58	3.31	<0.01	<0.01	8.0	143.0	98	3	241	8.0	1.69	4.57	0.04	0.06	4.53
202114		4.36	4.05	<0.01	<0.01	7.3	234	-69	3	165	7.0	0.70	7.50	1.68	0.63	5.82
210784		4.97	4.68	296	346	2.4	1215	-1170	2	48	7.0	0.04	38.9	1.49	0.65	37.4
210785		5.79	5.48	362	429	2.4	1305	-1255	2	53	7.0	0.04	41.8	1.45	0.64	40.4
210786		3.45	3.18	308	373	2.4	1075	-890	3	185	7.2	0.17	34.4	0.21	0.24	34.2
210788		2.63	2.36	148.5	193.5	2.4	584	-379	3	205	7.7	0.35	18.70	1.36	0.64	17.35
210789		3.28	2.96	125.0	168.0	2.8	475	-262	3	213	7.7	0.45	15.20	0.96	0.72	14.25
205924		3.79	3.53	26.0	43.5	3.1	243	-85	3	158	8.1	0.65	7.76	0.30	0.29	7.46
205947		4.02	3.74	289	337	2.5	1045	-975	3	72	7.3	0.07	33.5	0.92	0.74	32.6
205950		4.98	4.69	375	437	2.4	1270	-1185	3	86	7.3	0.07	40.7	0.96	0.91	39.7
205951		5.08	4.78	366	468	2.2	1240	-1125	3	118	7.1	0.10	39.7	0.39	0.39	39.3
212740		1.78	1.500	<0.01	<0.01	7.1	30.3	57	3	87	7.9	2.87	0.97	<0.01	0.01	0.97
200746		2.21	1.930	<0.01	4.73	5.5	16.3	23	2	39	8.6	2.40	0.52	<0.01	<0.01	0.52
200747		3.64	3.33	<0.01	4.83	6.6	3.8	34	2	38	8.8	10.13	0.12	<0.01	<0.01	0.12
203496		0.65	0.420	<0.01	<0.01	7.2	0.9	871	4	872	8.3	930.13	0.03	<0.01	0.01	0.03
212382		0.52	0.250	<0.01	<0.01	7.2	3.4	815	4	818	8.1	237.96	0.11	<0.01	0.02	0.11

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Comments: OA- VOL11 method is a single addition NAG test, thus it may not account for the total acid potential of a given sample.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*





ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: TINTINA ALASKA EXPLORATION, INC.  
 17 MAIN ST  
 WHITE SULPHUR SPRINGS MT 59645  
 USA

Page: 2 - B  
 Total # Pages: 2 (A - B)  
 Plus Appendix Pages  
 Finalized Date: 22- APR- 2015  
 Account: TINALEX

Project: Black Butte Copper Project

**CERTIFICATE OF ANALYSIS RE15036597**

Sample Description	Method Analyte Units LOR	OA- VOL08 FIZZ RAT Unity	OA- VOL08 NP tCaCO3/1Kt	OA- VOL08 MPA tCaCO3/1Kt	OA- VOL08 NNP tCaCO3/1Kt	OA- VOL08 Ratio (N)
108406 108407 108427 108428 202098		1	1	0.3	1	0.01
202114 210784 210785 210786 210788						
210789 205924 205947 205950 205951		3	161	242.5	-82	0.66
212740 200746 200747 203496 212382		3	94	1272.0	-1180	0.07

Comments: OA- VOL11 method is a single addition NAG test, thus it may not account for the total acid potential of a given sample.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
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To: TINTINA ALASKA EXPLORATION, INC.  
 17 MAIN ST  
 WHITE SULPHUR SPRINGS MT 59645  
 USA

Page: Appendix 1  
 Total # Appendix Pages: 1  
 Finalized Date: 22- APR- 2015  
 Account: TINALEX

Project: Black Butte Copper Project

**CERTIFICATE OF ANALYSIS RE15036597**

	<b>CERTIFICATE COMMENTS</b>												
	<b>LABORATORY ADDRESSES</b>												
Applies to Method:	<p>Processed at ALS Reno located at 4977 Energy Way, Reno, NV, USA.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">CRU- 22c</td> <td style="width: 33%;">CRU- 31</td> <td style="width: 33%;">CRU- QC</td> <td style="width: 15%;">LOG- 22</td> </tr> <tr> <td>PUL- 31</td> <td>PUL- QC</td> <td>SPL- 21</td> <td>WEI- 21</td> </tr> <tr> <td>WEI- 25</td> <td></td> <td></td> <td></td> </tr> </table>	CRU- 22c	CRU- 31	CRU- QC	LOG- 22	PUL- 31	PUL- QC	SPL- 21	WEI- 21	WEI- 25			
CRU- 22c	CRU- 31	CRU- QC	LOG- 22										
PUL- 31	PUL- QC	SPL- 21	WEI- 21										
WEI- 25													
Applies to Method:	<p>Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">OA- ELE07</td> <td style="width: 33%;">OA- VOL08</td> <td style="width: 33%;">OA- VOL08m</td> <td style="width: 15%;">OA- VOL11</td> </tr> <tr> <td>S- CAL06</td> <td>S- GRA06</td> <td>S- GRA06a</td> <td>S- IR08</td> </tr> </table>	OA- ELE07	OA- VOL08	OA- VOL08m	OA- VOL11	S- CAL06	S- GRA06	S- GRA06a	S- IR08				
OA- ELE07	OA- VOL08	OA- VOL08m	OA- VOL11										
S- CAL06	S- GRA06	S- GRA06a	S- IR08										

## **Appendix B:**

2015 SPLP Laboratory Report from Energy Labs



# ANALYTICAL SUMMARY REPORT

June 22, 2015

Tintina Montana Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B15060680  
Project Name: Black Butte Copper

Energy Laboratories Inc Billings MT received the following 9 samples for Tintina Montana Inc on 6/5/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15060680-001	220479, SC12-108, 390.14-392		06/05/15	Soil	Soil Preparation
B15060680-002	220490, SC12-108, 410.5-412.5		06/05/15	Soil	Same As Above
B15060680-003	220492, SC12_108, 414.5-416.5		06/05/15	Soil	Same As Above
B15060680-004	220481, SC12_108, 394-396.5		06/05/15	Soil	Same As Above
B15060680-005	220491, SC12_108, 412.5-414.5		06/05/15	Soil	Same As Above
B15060680-006	220486, SC12-108, 402.5-404.5		06/05/15	Soil	Same As Above
B15060680-007	220466, SC11-036, 412-413.61		06/05/15	Soil	Same As Above
B15060680-008	220467, SC11-036, 413.61-414.41		06/05/15	Soil	Same As Above
B15060680-009	Yne-Comp		06/05/15	Soil	Metals by ICP/ICPMS, SPLP Composite Samples Mercury, SPLP pH, SPLP Digestion, Mercury by CVAA SPLP Extraction, Regular Digestion, Total Metals

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

Digitally signed by  
Cindy Rohrer  
Date: 2015.06.22 09:49:42 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** Black Butte Copper  
**Lab ID:** B15060680-009  
**Client Sample ID:** Yne-Comp

**Report Date:** 06/22/15  
**Collection Date:** Not Provided  
**Date Received:** 06/05/15  
**Matrix:** Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>SPLP EXTRACTABLE CONSTITUENTS</b>							
pH	9.9	s.u.		0.1		SW9045C	06/10/15 09:00 / jh
<b>METALS, SPLP EXTRACTABLE</b>							
Aluminum	6.07	mg/L		0.03		SW6010B	06/12/15 05:21 / prw
Antimony	ND	mg/L		0.003		SW6020	06/11/15 20:48 / mas
Arsenic	0.005	mg/L		0.003		SW6020	06/11/15 20:48 / mas
Barium	0.096	mg/L		0.005		SW6020	06/11/15 20:48 / mas
Beryllium	ND	mg/L		0.001		SW6020	06/11/15 20:48 / mas
Cadmium	ND	mg/L		0.00008		SW6020	06/17/15 19:25 / mas
Calcium	ND	mg/L		1		SW6020	06/11/15 20:48 / mas
Chromium	0.010	mg/L	L	0.002		SW6020	06/17/15 19:25 / mas
Cobalt	ND	mg/L		0.005		SW6020	06/11/15 20:48 / mas
Copper	0.007	mg/L		0.001		SW6020	06/16/15 11:15 / mas
Iron	2.47	mg/L		0.05		SW6020	06/11/15 20:48 / mas
Lead	0.0042	mg/L		0.0005		SW6020	06/11/15 20:48 / mas
Magnesium	ND	mg/L		1		SW6020	06/11/15 20:48 / mas
Manganese	0.006	mg/L		0.005		SW6020	06/11/15 20:48 / mas
Mercury	0.00003	mg/L		0.00001		SW7470A	06/11/15 14:49 / ser
Molybdenum	ND	mg/L		0.001		SW6020	06/11/15 20:48 / mas
Nickel	ND	mg/L		0.01		SW6020	06/11/15 20:48 / mas
Potassium	3	mg/L		1		SW6020	06/11/15 20:48 / mas
Selenium	ND	mg/L		0.001		SW6020	06/11/15 20:48 / mas
Silver	ND	mg/L		0.0005		SW6020	06/11/15 20:48 / mas
Sodium	21	mg/L	L	10		SW6010B	06/12/15 05:21 / prw
Strontium	0.02	mg/L		0.01		SW6020	06/11/15 20:48 / mas
Thallium	ND	mg/L		0.0002		SW6020	06/11/15 20:48 / mas
Uranium	0.0004	mg/L	L	0.0001		SW6020	06/17/15 19:25 / mas
Zinc	0.02	mg/L		0.01		SW6020	06/11/15 20:48 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** Black Butte Copper

**Report Date:** 06/22/15  
**Work Order:** B15060680

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: SW6010B</b>								Analytical Run: ICP203-B_150611A			
<b>Lab ID: QCS</b>	2	Initial Calibration Verification Standard								06/11/15 11:38	
Aluminum		4.09	mg/L	0.10	102	90	110				
Sodium		41.5	mg/L	1.0	104	90	110				
<b>Lab ID: ICSA</b>	2	Interference Check Sample A								06/11/15 11:42	
Aluminum		516	mg/L	0.10	103	80	120				
Sodium		0.0123	mg/L	1.0							
<b>Lab ID: ICSAB</b>	2	Interference Check Sample AB								06/11/15 11:45	
Aluminum		521	mg/L	0.10	104	80	120				
Sodium		20.7	mg/L	1.0	103	80	120				
<b>Method: SW6010B</b>								Batch: 90331			
<b>Lab ID: MB-90331</b>	2	Method Blank								06/12/15 05:03	
Aluminum		0.08	mg/L	0.01							
Sodium		10	mg/L	0.3							
<b>Lab ID: LCS-90331</b>	2	Laboratory Control Sample								06/12/15 05:14	
Aluminum		2.52	mg/L	0.030	98	80	120				
Sodium		35.3	mg/L	1.0	100	80	120				
<b>Lab ID: LCSD-90331</b>	2	Laboratory Control Sample Duplicate								06/12/15 05:17	
Aluminum		2.53	mg/L	0.030	98	80	120	0.4	20		
Sodium		35.6	mg/L	1.0	101	80	120	0.9	20		
<b>Lab ID: B15060680-009ADIL</b>	2	Serial Dilution								06/12/15 05:25	
Aluminum		6.05	mg/L	0.055		0	0	0.2	10		
Sodium		21.1	mg/L	1.6		0	0	1.4	10		
<b>Lab ID: B15060680-009AMS3</b>	2	Sample Matrix Spike								06/12/15 05:28	
Aluminum		17.4	mg/L	0.030	452	75	125			S	
Sodium		44.5	mg/L	1.0	95	75	125				

- S = Spike recovery outside QC advisory limits. The recovery in the Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) was within QC advisory limits. This suggests that the Matrix Spike recovery is due to matrix interference.

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** Black Butte Copper

**Report Date:** 06/22/15  
**Work Order:** B15060680

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> SW6020								Analytical Run: ICPMS206-B_150611A			
<b>Lab ID:</b> QCS	18 Initial Calibration Verification Standard								06/11/15 10:14		
Antimony		0.0512	mg/L	0.0010	102	90	110				
Arsenic		0.0518	mg/L	0.0010	104	90	110				
Barium		0.0503	mg/L	0.0010	101	90	110				
Beryllium		0.0241	mg/L	0.0010	97	90	110				
Calcium		2.66	mg/L	0.0085	106	90	110				
Cobalt		0.0506	mg/L	0.0010	101	90	110				
Iron		0.244	mg/L	0.0010	97	90	110				
Lead		0.0504	mg/L	0.0010	101	90	110				
Magnesium		2.47	mg/L	0.0053	99	90	110				
Manganese		0.261	mg/L	0.0010	104	90	110				
Molybdenum		0.0492	mg/L	0.0010	98	90	110				
Nickel		0.0521	mg/L	0.0010	104	90	110				
Potassium		2.51	mg/L	0.0054	100	90	110				
Selenium		0.0501	mg/L	0.0010	100	90	110				
Silver		0.0256	mg/L	0.0010	102	90	110				
Strontium		0.0500	mg/L	0.0010	100	90	110				
Thallium		0.0501	mg/L	0.0010	100	90	110				
Zinc		0.0524	mg/L	0.0010	105	90	110				
<b>Lab ID:</b> ICSA	18 Interference Check Sample A								06/11/15 10:23		
Antimony		0.00215	mg/L	0.0010							
Arsenic		4.24E-05	mg/L	0.0010							
Barium		0.000104	mg/L	0.0010							
Beryllium		-5.23E-06	mg/L	0.0010							
Calcium		123	mg/L	0.0085	102	70	130				
Cobalt		0.000143	mg/L	0.0010							
Iron		99.1	mg/L	0.0010	79	70	130				
Lead		0.000395	mg/L	0.0010							
Magnesium		39.2	mg/L	0.0053	78						
Manganese		0.000281	mg/L	0.0010							
Molybdenum		0.863	mg/L	0.0010	108	70	130				
Nickel		0.000568	mg/L	0.0010							
Potassium		40.2	mg/L	0.0054	80						
Selenium		0.000155	mg/L	0.0010							
Silver		0.000138	mg/L	0.0010							
Strontium		0.000537	mg/L	0.0010							
Thallium		0.000283	mg/L	0.0010							
Zinc		0.00110	mg/L	0.0010							
<b>Lab ID:</b> ICSAB	18 Interference Check Sample AB								06/11/15 10:27		
Antimony		0.000789	mg/L	0.0010		0	0				
Arsenic		0.0105	mg/L	0.0010	105	70	130				
Barium		0.000152	mg/L	0.0010		0	0				
Beryllium		-1.02E-05	mg/L	0.0010		0	0				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** Black Butte Copper

**Report Date:** 06/22/15  
**Work Order:** B15060680

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: SW6020</b>								Analytical Run: ICPMS206-B_150611A			
<b>Lab ID: ICSAB</b>	18 Interference Check Sample AB							06/11/15 10:27			
Calcium		121	mg/L	0.0085	101	70	130				
Cobalt		0.0198	mg/L	0.0010	99	70	130				
Iron		98.2	mg/L	0.0010	98	70	130				
Lead		0.000308	mg/L	0.0010		0	0				
Magnesium		39.2	mg/L	0.0053	98	70	130				
Manganese		0.0198	mg/L	0.0010	99	70	130				
Molybdenum		0.857	mg/L	0.0010	107	70	130				
Nickel		0.0204	mg/L	0.0010	102	70	130				
Potassium		39.9	mg/L	0.0054	100	70	130				
Selenium		0.0104	mg/L	0.0010	104	70	130				
Silver		0.0194	mg/L	0.0010	97	70	130				
Strontium		0.00107	mg/L	0.0010		0	0				
Thallium		4.25E-05	mg/L	0.0010		0	0				
Zinc		0.0107	mg/L	0.0010	107	70	130				

<b>Method: SW6020</b>								Batch: 90331			
<b>Lab ID: MB-90331</b>	18 Method Blank							Run: ICPMS206-B_150611A 06/11/15 20:44			
Antimony		ND	mg/L	0.0003							
Arsenic		ND	mg/L	0.0007							
Barium		0.008	mg/L	0.0001							
Beryllium		3E-05	mg/L	2E-05							
Calcium		0.5	mg/L	0.10							
Cobalt		7E-05	mg/L	3E-05							
Iron		ND	mg/L	0.01							
Lead		0.0001	mg/L	8E-05							
Magnesium		0.09	mg/L	0.001							
Manganese		0.001	mg/L	7E-05							
Molybdenum		0.0003	mg/L	0.0001							
Nickel		ND	mg/L	0.0004							
Potassium		ND	mg/L	0.07							
Selenium		ND	mg/L	0.0004							
Silver		0.0004	mg/L	5E-05							
Strontium		0.0009	mg/L	5E-05							
Thallium		0.0002	mg/L	5E-05							
Zinc		0.009	mg/L	0.002							

<b>Lab ID: B15060680-009ADIL</b>	18 Serial Dilution							Run: ICPMS206-B_150611A 06/11/15 21:06			
Antimony		0.00325	mg/L	0.0013		0	0		10	N	
Arsenic		0.00464	mg/L	0.0037		0	0		10	N	
Barium		0.0961	mg/L	0.050		0	0	0.3	10		
Beryllium		0.000713	mg/L	0.0010		0	0		10	N	
Calcium		0.944	mg/L	1.0		0	0		10	N	
Cobalt		0.000882	mg/L	0.0050		0	0		10	N	
Iron		2.55	mg/L	0.067		0	0	3.2	10		

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 06/22/15

**Project:** Black Butte Copper

**Work Order:** B15060680

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW6020</b>										
Batch: 90331										
<b>Lab ID:</b>	<b>B15060680-009ADIL</b>	18	Serial Dilution							
						Run: ICPMS206-B_150611A				06/11/15 21:06
Lead		0.00421	mg/L	0.0010		0	0		10	N
Magnesium		0.658	mg/L	1.0		0	0		10	
Manganese		0.00706	mg/L	0.0010		0	0	17	10	R
Molybdenum		ND	mg/L	0.0010		0	0		10	
Nickel		0.00199	mg/L	0.0050		0	0		10	N
Potassium		3.11	mg/L	1.0		0	0		10	N
Selenium		ND	mg/L	0.0018		0	0		10	
Silver		0.000380	mg/L	0.0010		0	0		10	N
Strontium		0.0156	mg/L	0.010		0	0	3.6	10	
Thallium		0.000260	mg/L	0.00050		0	0		10	N
Zinc		0.0303	mg/L	0.010		0	0		10	N
<b>Lab ID:</b>	<b>LCS-90331</b>	18	Laboratory Control Sample							
						Run: ICPMS206-B_150611A				06/11/15 21:10
Antimony		0.524	mg/L	0.0010	105	80	120			
Arsenic		0.472	mg/L	0.0010	94	80	120			
Barium		5.63	mg/L	0.050	102	80	120			
Beryllium		0.248	mg/L	0.0010	99	80	120			
Calcium		25.2	mg/L	1.0	99	80	120			
Cobalt		0.517	mg/L	0.0050	103	80	120			
Iron		2.47	mg/L	0.030	99	80	120			
Lead		0.513	mg/L	0.0010	103	80	120			
Magnesium		24.8	mg/L	1.0	99	80	120			
Manganese		2.62	mg/L	0.0010	105	80	120			
Molybdenum		0.513	mg/L	0.0010	103	80	120			
Nickel		0.494	mg/L	0.0050	99	80	120			
Potassium		23.4	mg/L	1.0	94	80	120			
Selenium		0.471	mg/L	0.0010	94	80	120			
Silver		0.267	mg/L	0.0010	107	80	120			
Strontium		0.505	mg/L	0.010	101	80	120			
Thallium		0.516	mg/L	0.00050	103	80	120			
Zinc		0.472	mg/L	0.010	93	80	120			
<b>Lab ID:</b>	<b>LCSD-90331</b>	18	Laboratory Control Sample Duplicate							
						Run: ICPMS206-B_150611A				06/11/15 21:15
Antimony		0.515	mg/L	0.0010	103	80	120	1.6	20	
Arsenic		0.477	mg/L	0.0010	95	80	120	0.9	20	
Barium		5.60	mg/L	0.050	102	80	120	0.5	20	
Beryllium		0.246	mg/L	0.0010	98	80	120	0.9	20	
Calcium		25.1	mg/L	1.0	98	80	120	0.3	20	
Cobalt		0.511	mg/L	0.0050	102	80	120	1.1	20	
Iron		2.45	mg/L	0.030	98	80	120	0.8	20	
Lead		0.513	mg/L	0.0010	103	80	120	0.1	20	
Magnesium		24.7	mg/L	1.0	98	80	120	0.3	20	
Manganese		2.59	mg/L	0.0010	103	80	120	1.3	20	
Molybdenum		0.519	mg/L	0.0010	104	80	120	1.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

R - RPD exceeds advisory limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 06/22/15

Project: Black Butte Copper

Work Order: B15060680

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW6020</b>										Batch: 90331
<b>Lab ID: LCSD-90331</b>	18	Laboratory Control Sample Duplicate			Run: ICPMS206-B_150611A				06/11/15 21:15	
Nickel		0.495	mg/L	0.0050	99	80	120	0.3	20	
Potassium		23.4	mg/L	1.0	94	80	120	0.0	20	
Selenium		0.473	mg/L	0.0010	95	80	120	0.3	20	
Silver		0.270	mg/L	0.0010	108	80	120	0.9	20	
Strontium		0.502	mg/L	0.010	100	80	120	0.7	20	
Thallium		0.524	mg/L	0.00050	105	80	120	1.4	20	
Zinc		0.472	mg/L	0.010	93	80	120	0.0	20	
<b>Lab ID: B15060680-009AMS3</b>	18	Sample Matrix Spike			Run: ICPMS206-B_150611A				06/11/15 21:19	
Antimony		0.530	mg/L	0.0010	106	75	125			
Arsenic		0.485	mg/L	0.0010	96	75	125			
Barium		5.90	mg/L	0.050	105	75	125			
Beryllium		0.246	mg/L	0.0010	98	75	125			
Calcium		26.2	mg/L	1.0	101	75	125			
Cobalt		0.525	mg/L	0.0050	105	75	125			
Iron		5.41	mg/L	0.030	117	75	125			
Lead		0.526	mg/L	0.0010	104	75	125			
Magnesium		25.8	mg/L	1.0	101	75	125			
Manganese		2.63	mg/L	0.0010	105	75	125			
Molybdenum		0.542	mg/L	0.0010	108	75	125			
Nickel		0.500	mg/L	0.0050	100	75	125			
Potassium		30.6	mg/L	1.0	110	75	125			
Selenium		0.485	mg/L	0.0010	97	75	125			
Silver		0.277	mg/L	0.0010	111	75	125			
Strontium		0.547	mg/L	0.010	106	75	125			
Thallium		0.529	mg/L	0.00050	106	75	125			
Zinc		0.494	mg/L	0.010	95	75	125			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** Black Butte Copper

**Report Date:** 06/22/15  
**Work Order:** B15060680

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: SW6020</b>							Analytical Run: ICPMS206-B_150615A				
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard										
Copper		0.0506	mg/L	0.0010	101	90	110			06/15/15 10:21	
<b>Lab ID: ICSA</b>	Interference Check Sample A										
Copper		-0.000137	mg/L	0.0010						06/15/15 10:25	
<b>Lab ID: ICSAB</b>	Interference Check Sample AB										
Copper		0.0192	mg/L	0.0010	96	70	130			06/15/15 10:30	
<b>Method: SW6020</b>							Batch: 90331				
<b>Lab ID: MB-90331</b>	Method Blank										
Copper		0.0006	mg/L	0.0002						Run: ICPMS206-B_150615A 06/16/15 11:10	
<b>Lab ID: B15060680-009ADIL</b>	Serial Dilution										
Copper		0.00846	mg/L	0.0050		0	0			Run: ICPMS206-B_150615A 06/16/15 11:33 10 N	
<b>Lab ID: LCS-90331</b>	Laboratory Control Sample										
Copper		0.488	mg/L	0.0050	98	80	120			Run: ICPMS206-B_150615A 06/16/15 11:37	
<b>Lab ID: LCSD-90331</b>	Laboratory Control Sample Duplicate										
Copper		0.491	mg/L	0.0050	98	80	120	0.6		Run: ICPMS206-B_150615A 06/16/15 11:41 20	
<b>Lab ID: B15060680-009AMS3</b>	Sample Matrix Spike										
Copper		0.511	mg/L	0.0050	101	75	125			Run: ICPMS206-B_150615A 06/16/15 11:46	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** Black Butte Copper

**Report Date:** 06/22/15  
**Work Order:** B15060680

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW6020</b>								Analytical Run: ICPMS206-B_150617A		
<b>Lab ID: QCS</b>	3	Initial Calibration Verification Standard								06/17/15 09:58
Cadmium		0.0252	mg/L	0.0010	101	90	110			
Chromium		0.0499	mg/L	0.0010	100	90	110			
Uranium		0.0191	mg/L	0.00030	96	90	110			
<b>Lab ID: ICSA</b>	3	Interference Check Sample A								06/17/15 10:07
Cadmium		0.000526	mg/L	0.0010						
Chromium		0.00108	mg/L	0.0010						
Uranium		0.000166	mg/L	0.00030						
<b>Lab ID: ICSAB</b>	3	Interference Check Sample AB								06/17/15 10:11
Cadmium		0.00987	mg/L	0.0010	99	70	130			
Chromium		0.0206	mg/L	0.0010	103	70	130			
Uranium		0.000148	mg/L	0.00030		0	0			
<b>Method: SW6020</b>								Batch: 90331		
<b>Lab ID: MB-90331</b>	3	Method Blank								Run: ICPMS206-B_150617A 06/17/15 19:08
Cadmium		ND	mg/L	8E-05						
Chromium		0.001	mg/L	0.0003						
Uranium		ND	mg/L	0.0001						
<b>Lab ID: B15060680-009ADIL</b>	3	Serial Dilution								Run: ICPMS206-B_150617A 06/17/15 19:30
Cadmium		ND	mg/L	0.0010		0	0			10
Chromium		0.0106	mg/L	0.0050		0	0			10 N
Uranium		ND	mg/L	0.00073		0	0			10
<b>Lab ID: LCS-90331</b>	3	Laboratory Control Sample								Run: ICPMS206-B_150617A 06/17/15 19:34
Cadmium		ND	mg/L	0.0010	0	80	120			
Chromium		ND	mg/L	0.0050	0	80	120			
Uranium		ND	mg/L	0.00030	0	80	120			
<b>Lab ID: LCSD-90331</b>	3	Laboratory Control Sample Duplicate								Run: ICPMS206-B_150617A 06/17/15 19:39
Cadmium		0.247	mg/L	0.0010	99	80	120			20
Chromium		0.498	mg/L	0.0050	99	80	120			20
Uranium		1.08	mg/L	0.00030	108	80	120			20
<b>Lab ID: B15060680-009AMS3</b>	3	Sample Matrix Spike								Run: ICPMS206-B_150617A 06/17/15 19:43
Cadmium		0.255	mg/L	0.0010	102	75	125			
Chromium		0.523	mg/L	0.0050	103	75	125			
Uranium		1.08	mg/L	0.00030	108	75	125			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** Black Butte Copper

**Report Date:** 06/22/15  
**Work Order:** B15060680

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> SW7470A										Analytical Run: HGCV203-B_150611A
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								06/11/15 13:47
Mercury	0.000212	mg/L	5.0E-06	106	90	110				
<b>Method:</b> SW7470A										Batch: 90325
<b>Lab ID:</b> MB-90325		Method Blank								06/11/15 14:40
Mercury	5E-06	mg/L	1E-06				Run: HGCV203-B_150611A			
<b>Lab ID:</b> LCS-90325		Laboratory Control Sample								06/11/15 14:43
Mercury	0.000224	mg/L	5.0E-06	109	80	120	Run: HGCV203-B_150611A			
<b>Lab ID:</b> LCSD-90325		Laboratory Control Sample Duplicate								06/11/15 14:46
Mercury	0.000223	mg/L	5.0E-06	109	80	120	0.4	20		
<b>Lab ID:</b> B15060680-009ADIL		Serial Dilution								06/11/15 14:55
Mercury	3.12E-05	mg/L	2.5E-05		0	0	5.9	10		
<b>Lab ID:</b> B15060680-009AMS		Sample Matrix Spike								06/11/15 14:57
Mercury	0.000257	mg/L	5.0E-06	112	75	125				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 06/22/15

**Project:** Black Butte Copper

**Work Order:** B15060680

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> SW9045C								Analytical Run: ORION 720A HZW_150610A		
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								06/10/15 09:00
pH		7.96	s.u.	0.10	100	98.75	101			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15060680

Login completed by: Randa Nees

Date Received: 6/5/2015

Reviewed by: BL2000\jmueller

Received by: Ig

Reviewed Date: 6/9/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	26.4°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



1807 W Dickerson St Ste D  
 P.O. Box 1685  
 Bozeman, MT 59771  
 (406) 581-8261

13 May 2015

To: Shari Endy  
 Energy Laboratories  
 1120 South 27th Street (59101)  
 PO Box 30916  
 Billings, MT 59107-0916

From: Lisa Kirk, Principal, Geochemist  
 Lauren Bozeman, Geologist

XC: Bob Jacko, VP Operations Tintina

RE: Request for SPLP Analytical Testing  
 Black Butte Copper Project

Tintina plans to conduct a Synthetic Precipitation Leaching Procedure (SPLP) using EPA Method 1312 on a composite of the samples included in this shipment (Neihart Quartzite unit (Yne)). The 8 subsamples shown below in Table 1 of the following shipment should be used to build a single sample for SPLP testing. Each sub-sample is to be individually crushed to the size appropriate for SPLP testing (100 % passing a 3/8" mesh screen). Once crushing is complete the sub-samples are to be combined and homogenized to form one composite sample as shown in Table 1. Once this composite is assembled, the sample should be identified as "Yne-Comp," which will be used to identify the composite for all future testing. Please retain a 200 mg split of this composite for mineralogy and store any excess sample for possible further testing.

Table 1 Samples for Yne-Comp

Sample ID	Hole ID	From	To
220479	SC12-108	390.14	392
220490	SC12_108	410.5	412.5
220492	SC12_108	414.5	416.5
220481	SC12_108	394	396.5
220491	SC12_108	412.5	414.5
220486	SC12-108	402.5	404.5
220466	SC11-036	412	413.61
220467	SC11-036	413.61	414.41

*to build Yne-Comp*

Use all the samples shown in the table to build a single sample for SPLP testing.

*B5D60680-001*  
*002*  
*003*  
*004*  
*005*  
*006*  
*007*  
*008*  
*009*  
 UPS Error  
 26.4° no ice / no seals  
 6-5-15 9:00  
*Lisa Hancock*

Tintina:\Correspondence\MEMOS\May2015TestingInitiationRequests\SPLPAnalyticalRequest



*Tintina Black Butte Copper Project SPLP Analytical Request*

**Synthetic Precipitation Leaching Procedure Testing**

This composite sample is to be analyzed for metal mobility using EPA Method 1312 SPLP test PLP test extracts are to be analyzed for the constituents listed in Table 2.

**Table 2.**

<b>Table 2. List of Parameters for SPLP Testing</b>			
pH	0.1 (s.u.)	Magnesium	1
Aluminum	0.03	Manganese	0.005
Antimony	0.003	Mercury	0.00001
Arsenic	0.003	Molybdenum	0.001
Barium	0.005	Nickel	0.01
Beryllium	0.001	Potassium	1
Cadmium	0.00008	Selenium	0.001
Calcium	1	Silver	0.0005
Chromium	0.001	Sodium	1
Cobalt	0.005	Strontium	0.01
Copper	0.001	Thallium	0.0002
Iron	0.05	Uranium	0.00003
Lead	0.0005	Zinc	0.01

Please report the results of SPLP testing (including a data file in Microsoft Excel format) to Lisa Kirk at the following email address: [lkirk@montana.com](mailto:lkirk@montana.com)

Copy Katie Seipel ([seipel.k@gmail.com](mailto:seipel.k@gmail.com)) and Lauren Bozeman ([lauren.enviromin@gmail.com](mailto:lauren.enviromin@gmail.com)) for all results and related correspondence.

Tintina Resources should be invoiced directly for this work.

**Asbestiform Mineral Characterization**

A representative 100 to 200 gram aliquot of this composite sample should be sealed in double zip-lock bags labeled with the composite identification (Yne-Comp). These samples are to be shipped to the RJ Lee Group for analysis of potentially asbestiform mineral content. Please ship these samples, under chain-of-custody with the attached analytical request, to the following address.

***Tintina Black Butte Copper Project SPLP Analytical Request***

**Mr. Bill Powers, Manager of Optical Group  
RJ Lee Group  
350 Hochberg Road  
Monroeville, PA 151446  
(724) 325-1776**

**Enviromin can provide Chain of Custody for the RJ Lee Optical Group to Energy Laboratories if required. Contact Lauren Bozeman ([lauren.enviromin@gmail.com](mailto:lauren.enviromin@gmail.com)) or at 406-600-6086) for access to this document.**

**Please include the following lab instructions upon shipment to RJ Lee Group:**



1807 W Dickerson St Ste D  
 P.O. Box 1685  
 Bozeman, MT 59771  
 (406) 581-8261

13 May 2015

To: Chuck Whipple  
 ALS Geochemistry  
 Reno NV

From: Lisa Kirk, Principal, Geochemist      XC: Bob Jacko, VP Operations Tintina  
 Lauren Bozeman, Geologist

RE: Request for Sample Shipment to Energy Laboratories  
 Tintina Black Butte Copper Project

The following samples of the Neihart Quartzite from Tintina's Black Butte Copper Project have been archived at ALS Laboratories following previous testing (RE15016043 and RE15038031). **Table 1** includes the sample IDs for these samples. Please ship the indicated mass of reject with size greater than 100% passing a 3/8" mesh screen to Energy Laboratories in Billings, MT for further testing. **Table 1** indicates reject mass available at ALS Laboratories and the mass (in grams) of the split we are requesting to be sent to Energy Labs:

Shari Endy  
 Energy Laboratories  
 1120 South 27th Street  
 Billings, MT 59101

Table 1. Sample for SPLP Testing						
Sample ID	Hole ID	From	To	ALS Lab Report Number	Reject Mass Available (Kg)	Mass to Ship (g)
220479	SC12-108	390.14	392	RE15038031	5.96	150
220490	SC12_108	410.5	412.5	RE15038031	3.34	150
220492	SC12_108	414.5	416.5	RE15038031	6.59	150
220481	SC12_108	394	396.5	RE15038031	6.69	150
220491	SC12_108	412.5	414.5	RE15038031	7.01	150
220486	SC12-108	402.5	404.5	RE15038031	6.16	150
220466	SC11-036	412	413.61	RE15038031	6.64	150
220467	SC11-036	413.61	414.41	RE15038031	6.98	150

Tintina:\Correspondence\MEMOS\May2015TestingInitiationRequests\SPLAnalyticalRequest

## **Appendix B:**

2015 Asbestiform Mineral Laboratory Reports from R.J. Lee Group

## Laboratory Report

Enviromin Inc.  
 PO Box 1685  
 Bozeman , MT 59771  
 Attention: Lisa Kirk  
 Telephone: 406-581-8261

Report Date 07/21/2015  
 Sample Receipt Date 07/15/2015  
 RJ Lee Group Job No. AOH1037435-0  
 Authorization/P.O. No.  
 Client Job No./Name Black Butte Copper Project

Analysis: Asbestos in Bulk Samples by Point Count  
 Method: EPA/600/R-93/116

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
10334740.HPL	Yne-Comp	Yes	1	ND		100.00	Q, OP, M	LL-07/20/2015

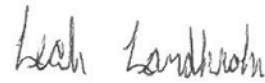
Description: Pink Crushed Rock  
 400 Points Counted for a Detection Limit of 0.25%. No Asbestiform Minerals Detected.

Weight Loss: 0.0%

Client Job No./Name: Black Butte Copper Project

RJ Lee Group Job No: AOH1037435-0

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
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Authorized Signature: \_\_\_\_\_

Leah Landkrohn, Microscopist

**ASBESTOS**

- AM = Amosite
- AC = Actinolite
- AN = Anthophyllite
- CH = Chrysotile
- CR = Crocidolite
- TR = Tremolite

**NON-ASBESTOS**

- CE = Cellulose
- MW = Mineral Wool
- FG = Fibrous Glass
- SF = Synthetic Fibers
- H = Hair
- W = Wollastonite
- OF = Other Fibers

**NON-FIBROUS MATERIALS**

- AM = Amphibole
- B = Binder
- CA = Carbonates
- CL = Clay
- F = Feldspar
- G = Gypsum
- HY = Hydromagnesite
- M = Miscellaneous
- MI = Mica
- OP = Opaque
- OR = Organic
- P = Perlite
- Q = Quartz
- T = Tar
- V = Vermiculite

**DISCLAIMER NOTES**

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- Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar nonfriable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as "non-asbestos-containing."
- Sample(s) for this project were analyzed at our: Monroeville, PA (AIHA #100364) facility.
- If RJ Lee Group, Inc. did not collect the samples analyzed, the verifiability of the laboratorys results are limited to the reported values.

## Laboratory Report

Tintina Resources  
 200 Grandville Street  
 Suite 2560  
 Vancouver, BC V6C 1S4  
 Canada  
 Attention: Mr. Bob Jacko  
 Telephone: 604-628-1162

Report Date 07/16/2015  
 Sample Receipt Date 07/10/2015  
 RJ Lee Group Job No. AOH1037359-0  
 Authorization/P.O. No.  
 Client Job No./Name Tintina Black Butte Copper Project

Analysis: Asbestos in Bulk Samples by Point Count  
 Method: EPA/600/R-93/116

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
10334330.HPL	LZFW Comp	Yes	1	ND		100.00	Q, CA, OP, M	JM-07/16/2015
Description:		Gray Crushed Stone 400 points counted. Detection limit of 0.25%. No asbestos detected.						
Weight Loss:		0.0%						

Client Job No./Name: Tintina Black Butte Copper Project

RJ Lee Group Job No: AOH1037359-0

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
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Authorized Signature: \_\_\_\_\_

Jacquelyn Mershon

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## Laboratory Report

Tintina Resources  
 200 Grandville Street  
 Suite 2560  
 Vancouver, BC V6C 1S4  
 Canada  
 Attention: Mr. Bob Jacko  
 Telephone: 604-628-1162

Report Date 07/07/2015  
 Sample Receipt Date 06/23/2015  
 RJ Lee Group Job No. AOH1037130-0  
 Authorization/P.O. No.  
 Client Job No./Name Tintina Black Butte Copper Project

Analysis: Asbestos in Bulk Samples by Point Count  
 Method: EPA/600/R-93/116

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
10332318.HPL	Yc Comp	Yes	1	ND		100.00	Q, CA, OP, MI, M	LL-07/06/2015

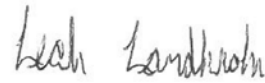
Description: Gray Crushed Rock  
 400 Points Counted for a Detection Limit of 0.25%. No Asbestiform Minerals Detected.

Weight Loss: 0.0%

Client Job No./Name: Tintina Black Butte Copper Project

RJ Lee Group Job No: AOH1037130-0

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
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Authorized Signature: \_\_\_\_\_

Leah Landkrohn, Microscopist

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# Appendix C

## **Waste Rock Kinetic Data**

Table C-1 Weekly Parameters: 2012 HCTs

Table C-2 Periodic Metals: 2012 HCTs

Table C-3 Weekly Parameters: 2015 HCTs

Table C-4 Periodic Metals: 2015 HCTs

McClelland's Final report of 2012 HCTs (with Energy Lab Reports)

McClelland's Interim report of 2015 HCTs (with Energy Lab Reports)

CAMP Mineralogy Report from 2012 HCTs

## **Appendix C:**

Table C-1 Weekly Parameters: 2012 HCTs

Table C-2 Periodic Metals: 2012 HCTs

Table C-3 Weekly Parameters: 2015 HCTs

Table C-4 Periodic Metals: 2015 HCTs

**Table C-1.** Summary of Weekly Data for 2012 HCT Tests

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
USZ (24 Weeks)	0	1.268	5.95	4	1670	101.50	64.499	64.50	9.95	91.55	1140.0	724.43	724.43	162	102.9	102.9	24	15.25	15.25
	1	0.841	7.14	229	2090	0.01	0.004	64.50	0.01	0.01	1160.0	488.90	1213.33	1	0.42	103.37	15	6.32	21.57
	2	0.957	6.44	208	1600	0.01	0.005	64.51	0.01	0.01	940.0	450.83	1664.16	1	0.48	103.85	9	4.32	25.89
	3	0.805	7.07	192	1540	0.01	0.004	64.51	0.01	0.01	920.0	371.15	2035.31	1	0.40	104.25	12	4.84	30.73
	4	0.912	7.12	221	1330	0.01	0.005	64.52	0.01	0.01	760.0	347.36	2382.67	1	0.46	104.71	14	6.40	37.13
	5	0.915	7.23	257	1370	0.01	0.005	64.52	0.01	0.01	860.0	394.36	2777.03	1	0.46	105.16	14	6.42	43.55
	6	0.812	7.02	-11	1330	0.14	0.057	64.58	0.01	0.14	76.0	30.93	2807.95	1	0.41	105.57	13	5.29	48.84
	7	0.843	7.24	200	1320	0.01	0.004	64.58	0.01	0.01	700.0	295.73	3103.68	1	0.42	105.99	19	8.03	56.87
	8	0.939	7.27	215	1200	0.01	0.005	64.59	0.01	0.01	680.0	320.00	3423.68	1	0.47	106.46	16	7.53	64.40
	9	0.927	7.21	214	1050	0.01	0.005	64.59	0.01	0.01	620.0	288.03	3711.71	1	0.46	106.93	19	8.83	73.22
	10	0.904	7.22	214	1090	0.01	0.005	64.60	0.01	0.01	600.0	271.83	3983.54	1	0.45	107.38	19	8.61	81.83
	11	0.965	7.29	232	1130	0.01	0.005	64.60	0.01	0.01	660.0	319.18	4302.72	1	0.48	107.87	16	7.74	89.57
	12	0.946	7.34	220	1050	0.01	0.005	64.61	0.01	0.01	580.0	274.97	4577.69	1	0.47	108.34	20	9.48	99.05
	13	0.937	7.38	192	988	0.01	0.005	64.61	0.01	0.01	580.0	272.36	4850.05	1	0.47	108.81	19	8.92	107.97
	14	0.972	7.29	239	1055	0.01	0.005	64.62	0.01	0.01	580.0	282.53	5132.58	1	0.49	109.30	21	10.23	118.20
	15	0.974	7.25	231	980	0.01	0.005	64.62	0.01	0.01	680.0	331.92	5464.50	1	0.49	109.79	23	11.23	129.43
	16	0.980	7.27	216	978	0.01	0.005	64.63	0.01	0.01	600.0	294.68	5759.18	1	0.49	110.28	23	11.30	140.72
	17	0.966	7.26	227	1011	0.01	0.005	64.63	0.01	0.01	560.0	271.10	6030.29	1	0.48	110.76	23	11.13	151.86
	18	0.996	7.23	215	953	0.02	0.010	64.64	0.01	0.02	550.0	274.53	6304.82	1	0.50	111.26	25	12.48	164.34
	19	0.893	7.23	224	828	0.01	0.004	64.64	0.01	0.01	500.0	223.76	6528.58	1	0.45	111.71	18	8.06	172.39
	20	0.973	7.33	227	984	0.01	0.005	64.65	0.01	0.01	590.0	287.70	6816.28	1	0.49	112.19	21	10.24	182.63
	21	0.978	7.29	222	970	0.02	0.010	64.66	0.01	0.02	560.0	274.47	7090.75	1	0.49	112.68	23	11.27	193.91
	22	0.875	7.29	239	908	0.01	0.004	64.66	0.01	0.01	550.0	241.18	7331.93	1	0.44	113.12	14	6.14	200.05
	23	0.950	7.27	216	941	0.01	0.005	64.67	0.01	0.01	500.0	238.05	7569.98	1	0.48	113.60	19	9.05	209.09
24	0.973	7.28	217	980	0.02	0.010	64.68	0.01	0.02	340.0	165.79	7735.77	1	0.49	114.09	17	8.29	217.38	

**Table C-1.** Summary of Weekly Data for 2012 HCT Tests

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
Yn/O (24 Weeks)	0	1.344	9.19	7	180	0.05	0.033	0.03	0.01	0.05	30.0	20.01	20.0	1	0.67	0.67	42	28.0	28
	1	0.876	8.68	139	240	0.15	0.065	0.10	0.01	0.15	78.0	33.92	53.9	1	0.43	1.10	27	11.7	40
	2	0.989	8.09	111	220	0.01	0.005	0.10	0.01	0.01	64.0	31.42	85.4	1	0.49	1.59	32	15.7	55
	3	0.869	8.32	145	110	0.01	0.004	0.11	0.01	0.01	20.0	8.63	94.0	1	0.43	2.02	25	10.8	66
	4	0.928	8.54	145	110	0.01	0.005	0.11	0.01	0.01	27.0	12.44	106.4	1	0.46	2.48	24	11.1	77
	5	0.940	8.27	187	110	0.01	0.005	0.12	0.01	0.01	22.0	10.27	116.7	1	0.47	2.95	25	11.7	89
	6	0.861	8.73	9	90.0	0.03	0.013	0.13	0.01	0.03	11.0	4.70	121.4	1	0.43	3.38	24	10.3	99
	7	0.867	9.05	114	90.0	0.01	0.004	0.13	0.01	0.01	12.0	5.16	126.6	1	0.43	3.81	23	9.9	109
	8	0.980	8.09	156	100	0.01	0.005	0.14	0.01	0.01	18.0	8.76	135.3	1	0.49	4.30	24	11.7	121
	9	0.911	8.55	138	70.0	0.01	0.005	0.14	0.01	0.01	12.0	5.43	140.7	1	0.45	4.75	20	9.0	130
	10	0.952	7.98	163	80.0	0.01	0.005	0.15	0.01	0.01	14.0	6.62	147.3	1	0.47	5.22	22	10.4	140
	11	0.966	8.18	169	80.0	0.01	0.005	0.15	0.01	0.01	14.0	6.71	154.1	1	0.48	5.70	20	9.6	150
	12	0.942	8.41	139	70.0	0.01	0.005	0.16	0.01	0.01	10.0	4.68	158.7	1	0.47	6.17	20	9.4	159
	13	0.939	7.99	150	67.8	0.01	0.005	0.16	0.01	0.01	11.0	5.13	163.9	1	0.47	6.63	19	8.9	168
	14	0.987	7.98	188	78.2	0.01	0.005	0.17	0.01	0.01	14.0	6.86	170.7	1	0.49	7.12	21	10.3	178
	15	1.003	7.98	178	81.6	0.01	0.005	0.17	0.01	0.01	20.0	9.96	180.7	1	0.50	7.62	23	11.5	190
	16	0.995	8.08	161	81.9	0.01	0.005	0.18	0.01	0.01	20.0	9.88	190.6	1	0.49	8.12	21	10.4	200
	17	0.954	7.46	197	62.0	0.01	0.005	0.18	0.01	0.01	11.0	5.21	195.8	1	0.47	8.59	16	7.6	208
	18	1.005	7.86	169	81.7	0.02	0.010	0.19	0.01	0.02	17.0	8.48	204.3	1	0.50	9.09	23	11.5	219
	19	0.993	7.63	190	75.6	0.01	0.005	0.20	0.01	0.01	15.0	7.39	211.6	1	0.49	9.58	21	10.4	230
	20	0.994	7.66	177	81.1	0.01	0.005	0.20	0.01	0.01	17.0	8.39	220.0	1	0.49	10.1	19	9.4	239
	21	0.912	7.64	182	64.8	0.02	0.009	0.21	0.01	0.02	12.0	5.43	225.5	1	0.45	10.5	17	7.7	247
	22	0.860	8.16	138	72.9	0.02	0.009	0.22	0.01	0.02	14.0	5.98	231.4	1	0.43	11.0	19	8.1	255
	23	0.989	7.72	175	76.6	0.01	0.005	0.22	0.01	0.01	14.0	6.87	238.3	1	0.49	11.4	20	9.8	265
24	0.993	7.74	182	71.6	0.06	0.030	0.25	0.01	0.06	7.0	3.45	241.8	1	0.49	11.9	20	9.9	274	

Table C-1. Summary of Weekly Data for 2012 HCT Tests

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
Ynl/B (62 Weeks)	0	1.048	8.66	133	160	0.01	0.005	0.005	0.01	0.01	20.0	10.51	10.5	1	0.53	0.53	41	21.5	21.5
	1	0.875	8.08	196	320	0.05	0.022	0.027	0.01	0.05	116.0	50.87	61.4	1	0.44	0.96	28	12.3	33.8
	2	0.974	7.89	160	290	0.01	0.005	0.032	0.01	0.01	110.0	53.70	115	1	0.49	1.45	30	14.6	48.5
	3	0.845	7.94	166	180	0.01	0.004	0.036	0.01	0.01	50.0	21.18	136	1	0.42	1.88	24	10.2	58.6
	4	0.930	8.12	154	180	0.01	0.005	0.041	0.01	0.01	54.0	25.17	161	1	0.47	2.34	26	12.1	70.7
	5	0.947	7.91	209	170	0.01	0.005	0.046	0.01	0.01	54.0	25.63	187	1	0.47	2.82	27	12.8	83.6
	6	0.821	8.37	102	120	0.03	0.012	0.058	0.01	0.03	32.0	13.17	200	1	0.41	3.23	23	9.5	93.0
	7	0.883	8.37	150	130	0.01	0.004	0.062	0.01	0.01	35.0	15.49	216	1	0.44	3.67	25	11.1	104.1
	8	0.977	7.84	184	160	0.01	0.005	0.067	0.01	0.01	44.0	21.55	237	1	0.49	4.16	27	13.2	117.3
	9	0.964	7.84	176	190	0.01	0.005	0.072	0.01	0.01	60.0	28.99	266	1	0.48	4.64	25	12.1	129.4
	10	0.987	7.70	189	310	0.01	0.005	0.077	0.01	0.01	65.0	32.16	298	1	0.49	5.14	27	13.4	142.8
	11	0.954	7.69	205	380	0.01	0.005	0.082	0.01	0.01	156.0	74.59	373	1	0.48	5.62	20	9.6	152.3
	12	1.000	7.37	186	470	0.01	0.005	0.087	0.01	0.01	195.0	97.74	471	1	0.50	6.12	25	12.5	164.8
	13	0.941	7.69	171	492	0.01	0.005	0.092	0.01	0.01	240.0	113.2	584	1	0.47	6.59	23	10.8	175.7
	14	0.959	7.65	220	623	0.01	0.005	0.096	0.01	0.01	285.0	137.0	721	1	0.48	7.07	27	13.0	188.7
	15	1.019	7.60	212	553	0.01	0.005	0.102	0.01	0.01	285.0	145.6	867	1	0.51	7.58	31	15.8	204.5
	16	0.991	7.66	199	660	0.01	0.005	0.107	0.01	0.01	350.0	173.9	1040	1	0.50	8.08	29	14.4	218.9
	17	0.977	7.48	222	690	0.01	0.005	0.111	0.01	0.01	315.0	154.3	1195	1	0.49	8.6	27	13.2	232.1
	18	1.000	7.50	202	662	0.01	0.005	0.116	0.01	0.01	315.0	157.9	1352	1	0.50	9.1	28	14.0	246.2
	19	0.904	7.48	206	568	0.01	0.005	0.121	0.01	0.01	290.0	131.4	1484	1	0.45	9.5	22	10.0	256.1
	20	0.984	7.46	194	660	0.01	0.005	0.126	0.01	0.01	315.0	155.4	1639	1	0.49	10.0	19	9.4	265.5
	21	0.985	7.56	196	649	0.01	0.005	0.131	0.01	0.01	315.0	155.5	1795	1	0.49	10.5	26	12.8	278.3
	22	0.850	7.71	169	597	0.01	0.004	0.135	0.01	0.01	320.0	136.3	1931	1	0.43	10.9	19	8.1	286.4
	23	0.958	7.54	191	587	0.01	0.005	0.140	0.01	0.01	280.0	134.4	2066	1	0.48	11.4	21	10.1	296.5
	24	0.974	7.55	185	552	0.05	0.024	0.164	0.01	0.05	200.0	97.6	2163	1	0.49	11.9	23	11.2	307.7
	25	0.979	7.59	213	524	0.01	0.005	0.169	0.01	0.01	220.0	108.0	2271	1	0.49	12.4	22	10.8	318.5
	26	0.941	7.53	224	536	0.10	0.047	0.216	0.10	0.10	240.0	113.2	2384	1	0.47	12.9	29	13.7	332.2
	27	1.035	7.62	187	499	0.10	0.052	0.268	0.10	0.10	260.0	134.9	2519	1	0.52	13.4	32	16.6	348.8
	28	0.978	7.74	167	505	0.10	0.049	0.317	0.10	0.10	210.0	102.9	2622	1	0.49	13.9	29	14.2	363.0
	29	0.991	7.72	187	500	0.10	0.050	0.367	0.10	0.10	190.0	94.4	2717	1	0.50	14.4	31	15.4	378.4
	30	0.988	7.72	198	504	0.10	0.050	0.416	0.10	0.10	190.0	94.1	2811	1	0.50	14.9	32	15.8	394.3
	31	0.979	7.75	194	466	0.10	0.049	0.466	0.10	0.10	200.0	98.1	2909	1	0.49	15.4	29	14.2	408.5
	32	0.964	7.65	218	444	0.10	0.048	0.514	0.10	0.10	180.0	87.0	2996	1	0.48	15.8	29	14.0	422.5
	33	0.993	7.63	158	425	0.10	0.050	0.564	0.10	0.10	170.0	84.6	3080	1	0.50	16.3	30	14.9	437.5
	34	0.991	7.58	109	404	0.10	0.050	0.613	0.10	0.10	150.0	74.5	3155	1	0.50	16.8	30	14.9	452.4
35	0.990	7.60	168	435	0.10	0.050	0.663	0.10	0.10	140.0	69.5	3224	1	0.50	17.3	32	15.9	468.2	

Table C-1. Summary of Weekly Data for 2012 HCT Tests

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
Yn/B (62 Weeks, continued)	36	0.998	7.59	62	396	0.10	0.050	0.713	0.10	0.10	160.0	80.0	3304	1	0.50	17.8	27	13.5	481.7
	37	1.007	7.46	297	420	0.10	0.050	0.763	0.10	0.10	150.0	75.7	3380	1	0.50	18.3	28	14.1	495.9
	38	0.963	7.30	162	416	0.10	0.048	0.812	0.10	0.10	160.0	77.2	3457	1	0.48	18.8	28	13.5	509.4
	39	1.028	7.55	286	402	0.10	0.052	0.863	0.10	0.10	150.0	77.3	3535	1	0.52	19.3	30	15.5	524.9
	40	0.952	7.50	335	473	0.10	0.048	0.911	0.10	0.10	220.0	105.0	3640	1	0.48	19.8	23	11.0	535.8
	41	0.985	7.52	218	430	0.10	0.049	0.960	0.10	0.10	160.0	79.0	3719	1	0.49	20.3	31	15.3	551.1
	42	1.013	7.65	305	397	0.10	0.051	1.011	0.10	0.10	150.0	76.2	3795	1	0.51	20.8	18	9.1	560.3
	43	0.959	7.56	230	396	0.10	0.048	1.059	0.10	0.10	160.0	76.9	3872	1	0.48	21.3	25	12.0	572.3
	44	1.036	7.36	249	377	0.10	0.052	1.111	0.10	0.10	160.0	83.1	3955	1	0.52	21.8	30	15.6	587.9
	45	0.967	7.66	316	431	0.10	0.048	1.160	0.10	0.10	170.0	82.4	4037	1	0.48	22.3	28	13.6	601.4
	46	0.966	7.47	255	405	0.10	0.048	1.208	0.10	0.10	150.0	72.6	4110	1	0.48	22.8	29	14.0	615.5
	47	1.008	7.64	239	352	0.10	0.051	1.259	0.10	0.10	130.0	65.7	4175	1	0.51	23.3	31	15.7	631.1
	48	0.983	7.89	196	383	0.10	0.049	1.308	0.10	0.10	190.0	93.6	4269	1	0.49	23.8	29	14.3	645.4
	49	1.023	7.69	259	385	0.10	0.051	1.359	0.10	0.10	160.0	82.0	4351	1	0.51	24.3	31	15.9	661.3
	50	0.967	7.74	271	381	0.10	0.048	1.408	0.10	0.10	170.0	82.4	4433	1	0.48	24.8	26	12.6	673.9
	51	0.995	7.66	296	398	0.10	0.050	1.457	0.10	0.10	160.0	79.8	4513	1	0.50	25.3	30	15.0	688.9
	52	0.970	7.75	253	388	0.10	0.049	1.506	0.10	0.10	130.0	63.2	4576	1	0.49	25.8	30	14.6	703.5
	53	0.956	7.52	214	404	0.10	0.048	1.554	0.10	0.10	130.0	62.3	4639	1	0.48	26.2	42	20.1	723.6
	54	1.023	7.27	157	380	0.10	0.051	1.605	0.10	0.10	130.0	66.7	4705	1	0.51	26.8	47	24.1	747.7
	55	0.977	7.71	232	360	0.10	0.049	1.654	0.10	0.10	130.0	63.7	4769	1	0.49	27.2	28	13.7	761.4
	56	1.021	7.72	182	387	0.10	0.051	1.705	0.10	0.10	140.0	71.6	4841	1	0.51	27.8	31	16.1	777.5
	57	0.988	7.71	20	350	0.10	0.050	1.755	0.10	0.10	130.0	64.4	4905	1	0.50	28.2	24	11.9	789.4
	58	0.972	7.58	237	412	0.10	0.049	1.804	0.10	0.10	160.0	78.0	4983	1	0.49	28.7	26	12.7	802.1
59	0.980	7.65	207	402	0.10	0.049	1.853	0.10	0.10	150.0	73.7	5057	1	0.49	29.2	30	14.7	816.8	
60	0.814	7.73	185.6	282	0.10	0.041	1.894	0.10	0.10	120.0	49.0	5106	1	0.41	29.6	21	8.7	825.5	
61	0.947	7.76	187	352	0.10	0.047	1.941	0.10	0.10	150.0	71.2	5177	1	0.47	30.1	26	12.3	837.8	
62	0.947	7.69	154	335	0.10	0.047	1.988	0.10	0.10	120.0	57.0	5234	1	0.47	30.6	28	13.3	851.1	



Table C-1. Summary of Weekly Data for 2012 HCT Tests

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	Mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
Ynl A (88 Weeks)	0	1.251	6.77	-37	1020	9.00	5.607	5.61	0.42	8.58	600.0	374	374	14	8.722	8.722	53	33.02	33
	1	0.873	7.15	210	1100	0.05	0.022	5.63	0.01	0.05	600.0	261	635	1	0.435	9.157	14	6.09	39
	2	0.971	7.36	176	910	0.01	0.005	5.63	0.01	0.01	460.0	222	857	1	0.484	9.640	17	8.22	47
	3	0.805	7.34	208	540	0.01	0.004	5.64	0.01	0.01	220.0	88	945	1	0.401	10.041	14	5.61	53
	4	0.913	7.35	201	500	0.01	0.005	5.64	0.01	0.01	210.0	95	1041	1	0.455	10.496	14	6.37	59
	5	0.919	7.42	238	470	0.01	0.005	5.65	0.01	0.01	230.0	105	1146	1	0.458	10.954	15	6.87	66
	6	0.804	7.37	136	360	0.03	0.012	5.66	0.01	0.03	155.0	62	1208	1	0.400	11.354	15	6.01	72
	7	0.835	7.56	181	370	0.01	0.004	5.66	0.01	0.01	150.0	62	1270	1	0.416	11.770	17	7.07	79
	8	0.965	7.43	208	380	0.01	0.005	5.67	0.01	0.01	170.0	82	1352	1	0.481	12.250	16	7.69	87
	9	0.882	7.38	190	280	0.01	0.004	5.67	0.01	0.01	130.0	57	1409	1	0.439	12.690	13	5.71	93
	10	0.932	7.40	207	320	0.01	0.005	5.68	0.01	0.01	135.0	63	1472	1	0.464	13.154	16	7.43	100
	11	0.953	7.45	215	320	0.01	0.005	5.68	0.01	0.01	140.0	66	1538	1	0.475	13.628	14	6.64	107
	12	0.935	7.49	185	300	0.01	0.005	5.69	0.01	0.01	115.0	54	1592	1	0.466	14.094	16	7.45	114
	13	0.929	7.48	176	282	0.01	0.005	5.69	0.01	0.01	115.0	53	1645	1	0.463	14.557	15	6.94	121
	14	0.978	7.52	218	337	0.01	0.005	5.70	0.01	0.01	140.0	68	1713	1	0.487	15.044	19	9.25	130
	15	0.985	7.48	206	273	0.01	0.005	5.70	0.01	0.01	130.0	64	1777	1	0.491	15.534	18	8.83	139
	16	0.983	7.58	187	291	0.01	0.005	5.71	0.01	0.01	130.0	64	1841	1	0.490	16.024	19	9.30	148
	17	0.964	7.35	215	273	0.01	0.005	5.71	0.01	0.01	110.0	53	1894	1	0.480	16.504	17	8.16	157
	18	0.968	7.44	193	251	0.01	0.005	5.72	0.01	0.01	104.0	50	1944	1	0.482	16.986	18	8.68	165
	19	0.889	7.31	209	232	0.01	0.004	5.72	0.01	0.01	100.0	44	1988	1	0.443	17.429	15	6.64	172
	20	0.918	7.24	196	269	0.01	0.005	5.72	0.01	0.01	112.0	51	2039	1	0.457	17.886	12	5.49	177
	21	0.919	7.33	196	292	0.02	0.009	5.73	0.01	0.02	122.0	56	2095	1	0.458	18.344	13	5.95	183
	22	0.809	7.48	174	395	0.01	0.004	5.74	0.01	0.01	176.0	71	2166	1	0.403	18.747	16	6.45	190
	23	0.950	7.33	191	405	0.01	0.005	5.74	0.01	0.01	166.0	79	2244	1	0.473	19.220	15	7.10	197
	24	0.977	7.31	191	536	0.03	0.015	5.76	0.01	0.03	190.0	92	2337	1	0.487	19.706	14	6.81	204
	25	0.957	7.31	225	652	0.01	0.005	5.76	0.01	0.01	320.0	153	2489	1	0.477	20.183	14	6.67	210
	26	0.939	7.37	226	842	0.10	0.047	5.81	0.10	0.10	480.0	224	2714	1	0.468	20.650	16	7.48	218
	27	1.007	7.40	178	802	0.10	0.050	5.86	0.10	0.10	390.0	196	2909	1	0.501	21.152	17	8.53	226
	28	0.976	7.43	182	874	0.10	0.049	5.91	0.10	0.10	510.0	248	3157	1	0.486	21.638	16	7.78	234
	29	0.967	7.40	204	907	0.10	0.048	5.96	0.10	0.10	470.0	226	3384	1	0.482	22.120	19	9.15	243
	30	1.015	7.48	219	969	0.10	0.051	6.01	0.10	0.10	490.0	248	3631	1	0.505	22.625	22	11.12	254
	31	0.957	7.39	212	896	0.10	0.048	6.05	0.10	0.10	490.0	234	3865	1	0.477	23.102	18	8.58	263
	32	0.961	7.33	213	908	0.10	0.048	6.10	0.10	0.10	430.0	206	4071	1	0.479	23.580	22	10.53	274
	33	1.020	7.33	191	847	0.10	0.051	6.15	0.10	0.10	480.0	244	4314	1	0.508	24.088	24	12.19	286
	34	0.966	7.35	144	824	0.10	0.048	6.20	0.10	0.10	420.0	202	4517	1	0.481	24.569	21	10.10	296
35	0.990	7.29	195	831	0.10	0.049	6.25	0.10	0.10	390.0	192	4709	1	0.493	25.062	22	10.85	307	

Table C-1. Summary of Weekly Data for 2012 HCT Tests

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	Mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
Ynl A (88 Weeks, continued)	36	0.990	7.27	232	793	0.10	0.049	6.30	0.10	0.10	410.0	202	4911	1	0.493	25.555	20	9.86	317
	37	0.989	7.31	260	806	0.10	0.049	6.35	0.10	0.10	370.0	182	5093	1	0.493	26.048	20	9.85	326
	38	0.984	7.25	280	795	0.10	0.049	6.40	0.10	0.10	370.0	181	5275	1	0.490	26.538	21	10.29	337
	39	0.991	7.45	241	751	0.10	0.049	6.45	0.10	0.10	380.0	188	5462	1	0.494	27.031	17	8.39	345
	40	0.969	7.28	325	858	0.10	0.048	6.49	0.10	0.10	470.0	227	5689	1	0.483	27.514	17	8.20	353
	41	0.973	7.44	246	778	0.10	0.048	6.54	0.10	0.10	370.0	179	5868	1	0.485	27.999	17	8.24	362
	42	0.972	7.63	289	745	0.10	0.048	6.59	0.10	0.10	350.0	169	6038	1	0.484	28.483	18	8.71	370
	43	0.978	7.56	238	794	0.10	0.049	6.64	0.10	0.10	390.0	190	6228	1	0.487	28.970	25	12.18	382
	44	0.992	7.41	205	662	0.10	0.049	6.69	0.10	0.10	330.0	163	6391	1	0.494	29.464	22	10.87	393
	45	0.991	7.38	399	747	0.10	0.049	6.74	0.10	0.10	350.0	173	6563	1	0.494	29.957	27	13.33	407
	46	0.977	7.66	280	720	0.10	0.049	6.79	0.10	0.10	330.0	161	6724	1	0.487	30.444	18	8.76	415
	47	0.987	7.43	282	639	0.10	0.049	6.84	0.10	0.10	280.0	138	6861	1	0.492	30.935	24	11.80	427
	48	0.986	7.61	119	686	0.10	0.049	6.89	0.10	0.10	370.0	182	7043	2	0.982	31.917	22	10.80	438
	49	0.988	7.59	184	696	0.10	0.049	6.93	0.10	0.10	350.0	172	7215	1	0.492	32.409	20	9.84	448
	50	0.979	7.55	174	655	0.10	0.049	6.98	0.10	0.10	330.0	161	7376	1	0.488	32.897	20	9.75	458
	51	1.001	7.54	196	647	0.10	0.050	7.03	0.10	0.10	300.0	150	7526	1	0.499	33.395	24	11.96	470
	52	0.961	7.62	293	672	0.10	0.048	7.08	0.10	0.10	290.0	139	7665	2	0.957	34.353	21	10.05	480
	53	0.934	7.20	205	668	0.10	0.047	7.13	0.10	0.10	330.0	153	7818	4	1.861	36.213	28	13.02	493
	54	1.013	7.17	163	643	0.10	0.050	7.18	0.10	0.10	310.0	156	7974	4	2.018	38.231	29	14.63	507
	55	0.985	7.75	210	598	0.10	0.049	7.23	0.10	0.10	260.0	128	8102	2	0.981	39.212	25	12.26	520
	56	0.991	7.55	185	651	0.10	0.049	7.28	0.10	0.10	310.0	153	8255	1	0.494	39.706	24	12.04	532
	57	0.987	7.49	42	553	0.10	0.049	7.33	0.10	0.10	270.0	133	8388	1	0.629	40.335	19	9.24	541
	58	0.973	7.28	240	620	0.13	0.063	7.39	0.10	0.13	280.0	136	8523	1	0.485	40.819	23	11.14	552
	59	0.987	7.46	201	658	0.10	0.049	7.44	0.10	0.10	320.0	157	8681	1	0.492	41.311	24	11.80	564
	60	0.835	7.40	198	539	0.10	0.042	7.48	0.10	0.10	290.0	121	8801	2	0.773	42.084	15	6.11	570
	61	0.924	7.45	183	589	0.10	0.046	7.53	0.10	0.10	290.0	133	8935	1	0.460	42.545	16	7.36	577
	62	0.970	7.56	177	670	0.10	0.048	7.57	0.10	0.10	340.0	164	9099	2	0.966	43.511	31	14.98	592
	63	0.913	7.64	153	651	0.10	0.045	7.62	0.10	0.10	220.0	100	9199	1	0.455	43.965	18	8.18	600
64	0.946	7.62	178	711	0.10	0.047	7.67	0.10	0.10	360.0	170	9369	1	0.471	44.436	16	7.54	608	
65	0.949	7.29	189	676	0.10	0.047	7.71	0.10	0.10	350.0	165	9534	1	0.473	44.909	16	7.56	615	
66	0.942	7.57	155	704	0.10	0.047	7.76	0.10	0.10	280.0	131	9665	3	1.407	46.316	18	8.44	624	
67	0.953	7.59	219	663	0.10	0.047	7.81	0.10	0.10	350.0	166	9832	1	0.475	46.791	20	9.49	633	
68	0.960	7.47	243	617	0.10	0.048	7.86	0.10	0.10	280.0	134	9965	1	0.478	47.269	18	8.61	642	
69	0.951	7.35	338	651	0.10	0.047	7.90	0.10	0.10	320.0	152	10117	1	0.474	47.743	18	8.52	651	
70	0.978	7.14	239	611	0.10	0.049	7.95	0.10	0.10	240.0	117	10234	1	0.487	48.230	19	9.25	660	
71	0.952	7.17	296	592	0.10	0.047	8.00	0.10	0.10	310.0	147	10381	1	0.474	48.704	18	8.53	668	
72	0.890	7.10	252	556	0.10	0.044	8.04	0.10	0.10	160.0	71	10452	1	0.443	49.147	23	10.19	679	

**Table C-1.** Summary of Weekly Data for 2012 HCT Tests

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	Mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
Ynl A (88 Weeks, continued)	73	0.951	7.20	282	560	0.10	0.047	8.09	0.10	0.10	210.0	99	10551	1	0.474	49.621	20	9.47	688
	74	0.874	7.07	275	592	0.10	0.044	8.13	0.10	0.10	350.0	152	10704	2	0.871	50.491	17	7.40	695
	75	0.847	6.81	234	521	0.10	0.042	8.18	0.10	0.10	270.0	114	10817	3	1.426	51.917	14	5.91	701
	76	0.972	7.15	339	569	0.10	0.048	8.23	0.10	0.10	300.0	145	10963	1	0.484	52.401	22	10.65	712
	77	0.880	6.87	384	526	0.10	0.044	8.27	0.10	0.10	123.0	54	11017	2	0.876	53.278	13	5.70	718
	78	0.892	6.91	331	537	0.10	0.044	8.31	0.10	0.10	290.0	129	11145	1	0.444	53.722	14	6.22	724
	79	0.817	6.87	336	471	0.10	0.041	8.35	0.10	0.10	270.0	110	11255	1	0.407	54.129	15	6.10	730
	80	0.827	6.95	367	466	0.10	0.041	8.40	0.10	0.10	300.0	124	11379	2	0.824	54.952	17	7.00	737
	81	0.939	6.98	371	458	0.10	0.047	8.44	0.10	0.10	200.0	94	11472	1	0.468	55.420	18	8.42	745
	82	0.918	6.94	239	410	0.10	0.046	8.49	0.10	0.10	190.0	87	11559	1	0.457	55.877	16	7.31	753
	83	0.864	6.85	225	408	0.10	0.043	8.53	0.10	0.10	160.0	69	11628	1	0.430	56.307	16	6.88	760
	84	0.968	6.86	185	433	0.10	0.048	8.58	0.10	0.10	160.0	77	11705	2	0.964	57.272	16	7.71	767
	85	0.945	6.94	194	436	0.10	0.047	8.63	0.10	0.10	140.0	66	11771	1	0.471	57.742	18	8.47	776
	86	0.994	6.84	280	439	0.10	0.050	8.68	0.10	0.10	130.0	64	11835	1	0.495	58.237	18	8.91	785
	87	0.971	7.69	298	479	0.10	0.048	8.72	0.10	0.10	140.0	68	11903	1	0.484	58.721	26	12.57	797
88	1.004	7.36	412	409	0.10	0.050	8.77	0.10	0.10	130.0	65	11968	1	0.500	59.221	27	13.50	811	

Red text indicates "less than detection limit" values.

**Table C-2.** Summary of Energy Labs data for 2012 HCT

MT DEQ Water Quality Standards, 2012	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Fluoride	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Phosphorus	Selenium	Silicon	Silver	Strontium	Sulfate	Thallium	Uranium	Zinc	
<b>GW</b>	None	0.006	0.01	1	0.004	0.005	None	0.1	1.3	4	None	0.015	None	None	0.002	0.1	None	0.05	None	0.1	4	None	0.002	0.03	2	
<b>SW<sup>1</sup></b>	0.087	0.0056	0.01	1	0.004	0.00033	None	0.107	0.0117	4	1	0.0044	None	None	0.00005	0.065	None	0.005	None	0.00637	4	None	0.00024	0.03	0.15	
<b>MDL<sup>2</sup></b>	0.009	0.0005	0.001	0.003	0.0008	0.00003	None	0.01	0.002	0.2	0.02	0.0003	None	0.005	0.00001 <sup>3</sup>	0.002	0.005	0.001	None	0.0002	0.02	None	0.0002	0.0002	0.008	
<b>2012 USZ (Weeks)</b>	0	0.260	0.0010	0.010	0.036	0.0022	0.00445	168	0.01	0.002	0.2	1 1 2	0.0413	144	3.66	0.000005	1.15	0.018	0.004	1.61	0.0002	1.07	1,290	0.0112	0.0015	0.386
	1	0.009	0.0005	0.001	0.023	0.0008	0.00013	147	0.01	0.004	0.3	0.02	0.0003	238	0.912	0.0000079	0.033	0.005	0.010	0.59	0.0002	1.06	1,060	0.0020	0.0002	0.008
	2	0.009	0.0005	0.002	0.014	0.0008	0.00022	111	0.01	0.002	0.2	0.02	0.0006	166	1.01	0.00002	0.03	0.005	0.008	0.74	0.0005	0.79	871	0.0019	0.0002	0.008
	4	0.009	0.0005	0.001	0.011	0.0008	0.00011	95	0.01	0.002	0.2	0.02	0.0003	141	0.793	0.00001	0.014	0.005	0.006	0.44	0.0002	0.55	751	0.0013	0.0002	0.008
	8	0.009	0.0005	0.001	0.009	0.0008	0.00008	109	0.01	0.002	0.2	0.02	0.0003	108	0.749	0.00001	0.009	0.005	0.003	0.38	0.0002	0.41	687	0.0012	0.0002	0.008
	12	0.009	0.0005	0.001	0.007	0.0008	0.00008	100	0.01	0.002	0.2	0.02	0.0003	76	0.616	0.00001	0.01	0.005	0.003	0.36	0.0002	0.33	522	0.0013	0.0002	0.008
	16	0.009	0.0005	0.001	0.006	0.0008	0.00008	122	0.01	0.002	0.2	0.02	0.0003	64	0.483	0.00001	0.01	0.005	0.001	0.34	0.0002	0.32	523	0.0014	0.0002	0.008
	20	0.009	0.0005	0.001	0.006	0.0008	0.00004	114	0.01	0.002	0.2	0.02	0.0003	58	0.245	0.00001	0.009	0.005	0.001	0.29	0.0002	0.25	483	0.0011	0.0002	0.008
24	0.009	0.0005	0.001	0.005	0.0008	0.00003	112	0.01	0.002	0.2	0.02	0.0003	54	0.098	0.00001	0.004	0.005	0.001	0.22	0.0002	0.23	498	0.0011	0.0002	0.008	

<sup>1</sup> Surface Water standards are the lowest available, which in most cases in the "chronic aquatic life" criteria. Hardness-dependent criteria have been adjusted for a site hardness of 130 mg/L.

<sup>2</sup> *Italicized* MDL (Method Detection Limit) values indicate that the limit used by the lab differs from the Required Reporting Limit (RRL). Discrepancies between MDLs and RRLs include: Cadmium (MDL=0.0003 mg/L, RLL=0.008 mg/L); Chromium (MDL=0.01 mg/L, RRL=0.002 mg/L); Mercury (MDL=0.00001 mg/L, RRL=0.000005 mg/L); Phosphorus (MDL=0.005 mg/L, RRL=0.001 mg/L); and Uranium (MDL=0.0002 mg/L, RRL=0.00002 mg/L).

<sup>3</sup> In weeks 0 and 72, the laboratory used a method detection limit of 0.000005 mg/L for Mercury.

GW= Ground water, SW= Surface water, MDL=Required Reporting Limit.

Pink highlighted cells indicate surface water quality exceedances and blue highlighted cells indicate ground water quality exceedances.

Red values indicate values below the detection limit

**Table C-2.** Summary of Energy Labs data for 2012 HCT

MT DEQ Water Quality Standards, 2012	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Fluoride	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Phosphorus	Selenium	Silicon	Silver	Strontium	Sulfate	Thallium	Uranium	Zinc	
<b>GW</b>	None	0.006	0.01	1	0.004	0.005	None	0.1	1.3	4	None	0.015	None	None	0.002	0.1	None	0.05	None	0.1	4	None	0.002	0.03	2	
<b>SW<sup>1</sup></b>	0.087	0.0056	0.01	1	0.004	0.00033	None	0.107	0.0117	4	1	0.0044	None	None	0.00005	0.065	None	0.005	None	0.00637	4	None	0.00024	0.03	0.15	
<b>MDL<sup>2</sup></b>	0.009	0.0005	0.001	0.003	0.0008	0.00003	None	0.01	0.002	0.2	0.02	0.0003	None	0.005	0.00001 <sup>3</sup>	0.002	0.005	0.001	None	0.0002	0.02	None	0.0002	0.0002	0.008	
<b>2012 Ynl 0 (Weeks)</b>	0	0.066	0.0012	0.003	0.022	0.0008	0.00003	17	0.01	0.002	0.6	0.002	0.0003	12	0.005	0.000005 <sup>3</sup>	0.002	0.010	0.008	0.92	0.0002	0.05	56	0.0019	0.0004	0.008
	1	0.054	0.0009	0.002	0.014	0.0008	0.00004	17	0.01	0.006	0.7	0.002	0.0003	13	0.005	0.00001	0.002	0.005	0.010	1.09	0.0002	0.04	71	0.0010	0.0006	0.008
	2	0.046	0.0010	0.001	0.010	0.0008	0.00003	15	0.01	0.002	0.6	0.002	0.0003	13	0.006	0.00001	0.002	0.005	0.010	0.97	0.0002	0.04	59	0.0009	0.0008	0.008
	4	0.041	0.0011	0.002	0.006	0.0008	0.00003	8	0.01	0.003	0.4	0.002	0.0003	7	0.005	0.00001	0.002	0.005	0.007	0.71	0.0002	0.02	25	0.0003	0.0004	0.008
	8	0.038	0.0008	0.001	0.012	0.0008	0.00003	8	0.01	0.004	0.3	0.002	0.0003	5	0.005	0.00001	0.002	0.007	0.003	0.69	0.0002	0.02	17	0.0003	0.0005	0.008
	12	0.028	0.0007	0.001	0.009	0.0008	0.00003	6	0.01	0.002	0.2	0.002	0.0003	4	0.005	0.00001	0.002	0.005	0.002	0.5	0.0002	0.02	12	0.0002	0.0003	0.008
	16	0.026	0.0006	0.001	0.009	0.0008	0.00003	8	0.01	0.002	0.2	0.002	0.0003	4	0.005	0.00001	0.002	0.005	0.003	0.48	0.0002	0.02	15	0.0002	0.0004	0.008
	20	0.023	0.0005	0.001	0.008	0.0008	0.00003	7	0.01	0.002	0.2	0.002	0.0003	4	0.005	0.00001	0.002	0.005	0.002	0.44	0.0002	0.02	14	0.0002	0.0004	0.008
24	0.021	0.0005	0.001	0.012	0.0008	0.00003	7	0.01	0.002	0.2	0.002	0.0003	3	0.01	0.00001	0.002	0.005	0.001	0.41	0.0002	0.02	12	0.0002	0.0004	0.008	

<sup>1</sup> Surface Water standards are the lowest available, which in most cases in the "chronic aquatic life" criteria. Hardness-dependent criteria have been adjusted for a site hardness of 130 mg/L.

<sup>2</sup> *Italicized* MDL (Method Detection Limit) values indicate that the limit used by the lab differs from the Required Reporting Limit (RRL). Discrepancies between MDLs and RRLs include: Cadmium (MDL=0.0003 mg/L, RRL=0.008 mg/L); Chromium (MDL=0.01 mg/L, RRL=0.002 mg/L); Mercury (MDL=0.00001 mg/L, RRL=0.00005 mg/L); Phosphorus (MDL=0.005 mg/L, RRL=0.001 mg/L); and Uranium (MDL=0.0002 mg/L, RRL=0.0002 mg/L).

<sup>3</sup> In weeks 0 and 72, the laboratory used a method detection limit of 0.000005 mg/L for Mercury.

GW= Ground water, SW= Surface water, MDL=Required Reporting Limit,

Pink highlighted cells indicate surface water quality exceedances and blue highlighted cells indicate ground water quality exceedances.

Red values indicate values below the detection limit

**Table C-2.** Summary of Energy Labs data for 2012 HCT

MT DEQ Water Quality Standards, 2012		Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Fluoride	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Phosphorus	Selenium	Silicon	Silver	Strontium	Sulfate	Thallium	Uranium	Zinc
<b>GW</b>	None	0.006	0.01	1	0.004	0.005	None	0.1	1.3	4	None	0.015	None	None	0.002	0.1	None	0.05	None	0.1	4	None	0.002	0.03	2	
<b>SW<sup>1</sup></b>	0.087	0.0056	0.01	1	0.004	0.00033	None	0.107	0.0117	4	1	0.0044	None	None	0.00005	0.065	None	0.005	None	0.00637	4	None	0.00024	0.03	0.15	
<b>MDL<sup>2</sup></b>	0.009	0.0005	0.001	0.003	0.0008	0.00003	None	0.01	0.002	0.2	0.02	0.0003	None	0.005	0.00001 <sup>3</sup>	0.002	0.005	0.001	None	0.0002	0.02	None	0.0002	0.0002	0.008	
<b>2012 Ynl B (Weeks)</b>	0	0.078	0.0061	0.002	0.008	0.0008	0.00012	13	0.01	0.002	1.2	0.02	0.0003	10	0.005	0.000005 <sup>3</sup>	0.002	0.009	0.003	1.50	0.0002	0.10	41	0.0003	0.0002	0.008
	1	0.047	0.0053	0.003	0.008	0.0008	0.00004	19	0.01	0.002	1.1	0.02	0.0003	17	0.005	0.000005 <sup>3</sup>	0.002	0.005	0.007	1.70	0.0002	0.15	106	0.0002	0.0008	0.008
	2	0.026	0.0058	0.003	0.006	0.0008	0.00003	20	0.01	0.002	1.0	0.02	0.0003	17	0.005	0.00001	0.002	0.005	0.007	1.54	0.0002	0.17	104	0.0002	0.0010	0.008
	4	0.043	0.0043	0.002	0.004	0.0008	0.00003	13	0.01	0.002	0.6	0.02	0.0003	11	0.005	0.00001	0.002	0.005	0.006	1.29	0.0002	0.11	50	0.0002	0.0006	0.008
	8	0.037	0.0044	0.001	0.007	0.0008	0.00003	12	0.01	0.002	0.6	0.02	0.0003	9	0.005	0.00001	0.002	0.005	0.001	1.29	0.0002	0.10	42	0.0002	0.0008	0.008
	12	0.016	0.0029	0.001	0.014	0.0008	0.00005	43	0.01	0.002	0.5	0.02	0.0003	25	0.01	0.00001	0.002	0.005	0.002	1.20	0.0002	0.26	197	0.0002	0.0021	0.008
	16	0.009	0.0023	0.001	0.014	0.0008	0.00002	75	0.01	0.002	0.3	0.02	0.0003	39	0.028	0.00001	0.002	0.005	0.002	1.17	0.0002	0.32	297	0.0002	0.0027	0.02
	20	0.014	0.0011	0.001	0.009	0.0008	0.00006	71	0.01	0.002	0.2	0.02	0.0003	34	0.012	0.00001	0.002	0.005	0.001	0.79	0.0002	0.23	309	0.0002	0.0015	0.012
	24	0.012	0.0009	0.001	0.008	0.0008	0.00011	64	0.01	0.002	0.2	0.02	0.0003	29	0.011	0.00001	0.002	0.005	0.001	0.78	0.0002	0.14	262	0.0002	0.0015	0.011
	28	0.011	0.0009	0.001	0.007	0.0008	0.00009	58	0.01	0.002	0.2	0.02	0.0003	29	0.014	0.00001	0.002	0.005	0.001	0.77	0.0002	0.15	229	0.0002	0.0014	0.013
	32	0.011	0.0007	0.001	0.006	0.0008	0.00008	50	0.01	0.002	0.2	0.02	0.0003	25	0.009	0.00001	0.002	0.005	0.001	0.69	0.0002	0.1	213	0.0002	0.0012	0.014
	36	0.012	0.0006	0.001	0.005	0.0008	0.00007	43	0.01	0.002	0.2	0.02	0.0003	21	0.008	0.00001	0.002	0.005	0.001	NR <sup>4</sup>	0.0002	0.09	167	0.0002	0.001	0.01
	40	0.015	0.0005	0.001	0.006	0.0008	0.00005	53	0.01	0.002	0.2	0.02	0.0003	26	0.005	0.00001	0.002	0.005	0.001	0.49	0.0002	0.1	194	0.0002	0.0007	0.01
	44	0.010	0.0005	0.001	0.004	0.0008	0.00001	42	0.01	0.002	0.2	0.02	0.0003	21	0.006	0.00001	0.002	0.005	0.001	0.54	0.0002	0.08	154	0.0002	0.0009	0.009
	48	0.011	0.0005	0.001	0.004	0.0008	0.00008	43	0.01	0.002	0.2	0.02	0.0003	22	0.006	0.00001	0.002	0.009	0.001	0.41	0.0002	0.08	166	0.0002	0.0007	0.012
	52	0.009	0.0005	0.001	0.004	0.0008	0.00008	42	0.01	0.002	0.2	0.02	0.0003	21	0.006	0.00001	0.002	0.006	0.001	1.95	0.0002	0.07	152	0.0002	0.0006	0.01
56	0.009	0.0005	0.001	0.004	0.0008	0.00008	43	0.01	0.002	0.2	0.02	0.0003	21	0.007	0.00001	0.002	0.005	0.001	0.73	0.0002	0.07	163	0.0002	0.0007	0.014	
60	0.020	0.0005	0.001	0.003	0.0008	0.00003	30	0.01	0.002	0.2	0.02	0.0003	15	0.008	0.00001	0.002	0.005	0.001	0.60	0.0002	0.05	105	0.0002	0.0002	0.011	

<sup>1</sup> Surface Water standards are the lowest available, which in most cases in the "chronic aquatic life" criteria. Hardness-dependent criteria have been adjusted for a site hardness of 130 mg/L.

<sup>2</sup> *Italicized* MDL (Method Detection Limit) values indicate that the limit used by the lab differs from the Required Reporting Limit (RRL). Discrepancies between MDLs and RRLs include: Cadmium (MDL=0.0003 mg/L, RRL=0.008 mg/L); Chromium (MDL=0.01 mg/L, RRL=0.002 mg/L); Mercury (MDL=0.00001 mg/L, RRL=0.00005 mg/L); Phosphorus (MDL=0.005 mg/L, RRL=0.001 mg/L); and Uranium (MDL=0.0002 mg/L, RRL=0.00002 mg/L).

<sup>3</sup> In weeks 0 and 72, the laboratory used a method detection limit of 0.000005 mg/L for Mercury.

GW= Ground water, SW= Surface water, MDL=Required Reporting Limit, <sup>4</sup>Value not reported.

Pink highlighted cells indicate surface water quality exceedances and blue highlighted cells indicate ground water quality exceedances.

Red values indicate values below the detection limit



**Table C-2.** Summary of Energy Labs data for 2012 HCT

MT DEQ Water Quality Standards, 2012	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Fluoride	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Phosphorus	Selenium	Silicon	Silver	Strontium	Sulfate	Thallium	Uranium	Zinc	
<b>GW</b>	None	0.006	0.01	1	0.004	0.005	None	0.1	1.3	4	None	0.015	None	None	0.002	0.1	None	0.05	None	0.1	4	None	0.002	0.03	2	
<b>SW<sup>1</sup></b>	0.087	0.0056	0.01	1	0.004	0.00033	None	0.107	0.0117	4	1	0.0044	None	None	0.00005	0.065	None	0.005	None	0.00637	4	None	0.00024	0.03	0.15	
<b>MDL<sup>2</sup></b>	0.009	0.0005	0.001	0.003	0.0008	0.00003	None	0.01	0.002	0.2	0.02	0.0003	None	0.005	0.00001 <sup>3</sup>	0.002	0.005	0.001	None	0.0002	0.02	None	0.0002	0.0002	0.008	
<b>2012 Ynl (Weeks)</b>	0	0.009	0.0008	0.003	0.042	0.0008	103	0.01	0.002	0.2	12.4	0.0005	61	0.513	0.000005 <sup>3</sup>	0.136	0.012	0.005	1.46	0.0002	1.08	541	0.0060	0.0011	0.083	
	1	0.013	0.0021	0.001	0.031	0.0008	101	0.01	0.005	0.7	0.02	0.0003	70	0.079	0.0000070	0.005	0.006	0.009	1.22	0.0002	1.08	557	0.0023	0.0010	0.008	
	2	0.010	0.0012	0.001	0.021	0.0008	0.00005	94	0.01	0.002	0.6	0.02	0.0003	52	0.077	0.00001	0.004	0.005	0.005	1.17	0.0002	0.98	445	0.0021	0.0012	0.008
	4	0.014	0.0007	0.001	0.016	0.0008	0.00004	50	0.01	0.003	0.5	0.02	0.0003	27	0.037	0.00001	0.002	0.006	0.003	0.92	0.0002	0.49	230	0.0011	0.0006	0.008
	8	0.012	0.0009	0.001	0.014	0.0008	0.00003	38	0.01	0.002	0.5	0.02	0.0003	19	0.032	0.00001	0.002	0.007	0.001	0.88	0.0002	0.34	174	0.0009	0.0006	0.008
	12	0.010	0.0008	0.001	0.009	0.0008	0.00003	28	0.01	0.002	0.5	0.02	0.0003	14	0.021	0.00001	0.002	0.007	0.001	0.73	0.0002	0.22	115	0.0006	0.0004	0.008
	16	0.013	0.0007	0.001	0.009	0.0008	0.00003	30	0.01	0.002	0.4	0.02	0.0003	15	0.025	0.00001	0.002	0.005	0.001	0.79	0.0002	0.21	108	0.0005	0.0005	0.008
	20	0.009	0.0005	0.001	0.008	0.0008	0.00003	25	0.01	0.002	0.3	0.02	0.0003	12	0.015	0.00001	0.002	0.005	0.001	0.57	0.0002	0.15	106	0.0004	0.0003	0.008
	24	0.009	0.0005	0.001	0.007	0.0008	0.00003	61	0.01	0.002	0.2	0.02	0.0003	28	0.025	0.00001	0.002	0.005	0.001	0.74	0.0002	0.27	261	0.0007	0.0007	0.008
	28	0.009	0.0005	0.001	0.007	0.0008	0.00007	107	0.01	0.002	0.2	0.02	0.0003	53	0.022	0.00001	0.004	0.005	0.001	0.66	0.0002	0.41	427	0.0006	0.0008	0.008
	32	0.009	0.0005	0.001	0.005	0.0008	0.00012	110	0.01	0.002	0.2	0.02	0.0003	56	0.033	0.00001	0.004	0.006	0.001	0.72	0.0002	0.31	510	0.0006	0.0011	0.008
	36	0.009	0.0005	0.001	0.006	0.0008	0.00008	94	0.01	0.002	0.2	0.02	0.0003	49	0.018	0.00001	0.004	0.005	0.001	NR <sup>4</sup>	0.0002	0.24	402	0.0005	0.0009	0.008
	40	0.009	0.0005	0.001	0.004	0.0008	0.00004	98	0.01	0.002	0.2	0.02	0.0003	51	0.01	0.00001	0.002	0.005	0.001	0.45	0.0002	0.21	381	0.0007	0.0004	0.008
	44	0.009	0.0005	0.001	0.004	0.0008	0.00006	77	0.01	0.002	0.2	0.02	0.0003	40	0.01	0.00001	0.002	0.005	0.001	0.43	0.0002	0.15	338	0.0004	0.0007	0.008
	48	0.009	0.0005	0.001	0.004	0.0008	0.00006	87	0.01	0.003	0.2	0.02	0.0003	46	0.011	0.00001	0.002	0.005	0.001	0.39	0.0002	0.16	358	0.0003	0.0005	0.009
	52	0.009	0.0005	0.001	0.004	0.0008	0.00005	68	0.01	0.002	0.2	0.02	0.0003	37	0.01	0.00001	0.003	0.008	0.001	1.3	0.0002	0.14	316	0.0003	0.0004	0.008
	56	0.009	0.0005	0.001	0.004	0.0008	0.00005	77	0.01	0.002	0.2	0.03	0.0003	42	0.01	0.00001	0.003	0.005	0.001	0.66	0.0002	0.12	325	0.0004	0.0005	0.008
	60	0.010	0.0005	0.001	0.005	0.0008	0.00003	60	0.01	0.002	0.2	0.02	0.0003	29	0.023	0.00001	0.002	0.005	0.001	0.44	0.0002	0.11	247	0.0002	0.0002	0.008
	64	0.009	0.0005	0.001	0.003	0.0008	0.00003	73	0.01	0.002	0.2	0.02	0.0003	39	0.005	0.00001	0.002	0.005	0.001	0.43	0.0002	0.11	313	0.0004	0.0002	0.008
68	0.009	0.0005	0.001	0.004	0.0008	0.00003	64	0.01	0.002	0.2	0.02	0.0003	35	0.005	0.00001	0.002	0.005	0.001	0.31	0.0002	0.09	324	0.0002	0.0002	0.008	
72	0.009	0.0005	0.001	0.005	0.0008	0.00004	62	0.01	0.002	0.2	0.02	0.0003	34	0.007	0.000005 <sup>3</sup>	0.002	0.005	0.001	0.38	0.0002	0.1	264	0.0003	0.0002	0.008	
76	0.009	0.0005	0.001	0.005	0.0008	0.00003	66	0.01	0.002	0.2	0.02	0.0003	35	0.007	0.00001	0.002	0.005	0.001	0.42	0.0002	0.11	281	0.0003	0.0002	0.008	
80	0.009	0.0005	0.001	0.005	0.0008	0.00023	55	0.01	0.002	0.2	0.04	0.0004	29	0.056	0.00001	0.002	0.005	0.001	0.46	0.0002	0.09	229	0.0004	0.0002	0.008	
84	0.009	0.0005	0.001	0.006	0.0008	0.00003	50	0.01	0.002	0.2	0.02	0.0003	25	0.005	0.00001	0.002	0.005	0.001	0.36	0.0002	0.08	198	0.0003	0.0003	0.008	
88	0.009	0.0005	0.001	0.006	0.0008	0.00003	47	0.01	0.002	0.2	0.02	0.0003	24	0.006	0.00001	0.002	0.005	0.001	0.41	0.0002	<0.02	ND	0.0002	0.0002	0.008	

<sup>1</sup> Surface Water standards are the lowest available, which in most cases in the "chronic aquatic life" criteria. Hardness-dependent criteria have been adjusted for a site hardness of 130 mg/L.

<sup>2</sup> *Italicized* MDL (Method Detection Limit) values indicate that the limit used by the lab differs from the Required Reporting Limit (RRL). Discrepancies between MDLs and RRLs include: Cadmium (MDL=0.0003 mg/L, RRL=0.008 mg/L); Chromium (MDL=0.01 mg/L, RRL=0.002 mg/L); Mercury (MDL=0.00001 mg/L, RRL=0.000005 mg/L); Phosphorus (MDL=0.005 mg/L, RRL=0.001 mg/L); and Uranium (MDL=0.0002 mg/L, RRL=0.00002 mg/L).

<sup>3</sup> In weeks 0 and 72, the laboratory used a method detection limit of 0.000005 mg/L for Mercury, <sup>4</sup> Value not reported.

GW= Ground water, SW= Surface water, MDL=Required Reporting Limit.

Pink highlighted cells indicate surface water quality exceedances and blue highlighted cells indicate ground water quality exceedances. Red values indicate values below the detection limit.

Table C-3. Summary of Weekly Data for 2015 HCT

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
2015 USZ (73 Weeks)	0	1.701	4.13	162	5360	1392	1183	1183	217	1175	5100	4334	4334	1417	1204	1204	1	0.85	0.85
	1	0.920	5.55	133	3540	37.5	17.2	1200	17.3	20	2700	1241	5575	50	23.0	1227	6	2.76	3.61
	2	0.912	5.21	289	3100	0.15	0.07	1200	0.10	0.15	2500	1139	6714	10	4.56	1232	3	1.37	4.97
	3	0.885	6.66	399	3150	0.10	0.04	1200	0.10	0.10	2700	1194	7908	1	0.44	1232	46	20.3	25.3
	4	0.799	6.44	381	2920	0.10	0.04	1200	0.10	0.10	3000	1197	9105	3	1.20	1233	11	4.39	29.7
	5	0.805	6.37	428	2920	0.10	0.04	1200	0.10	0.10	3000	1206	10312	5	2.01	1235	8	3.22	32.9
	6	0.873	6.87	322	2730	0.10	0.04	1201	0.10	0.10	2700	1178	11489	9	3.93	1239	11	4.80	37.7
	7	0.842	6.69	421	2760	1.32	0.56	1201	0.10	1.32	2401	1010	12499	1	0.42	1240	20	8.41	46.1
	8	0.827	6.38	428	2700	1.06	0.44	1202	0.10	1.06	2225	919	13418	13	5.37	1245	12	4.96	51.1
	9	0.817	6.24	268	2800	1.40	0.57	1202	0.10	1.40	1886	770	14188	12	4.90	1250	8	3.27	54.4
	10	0.852	6.17	414	2720	0.52	0.22	1202	0.10	0.52	2108	897	15085	13	5.53	1255	8	3.41	57.8
	11	0.865	6.43	341	2730	1.43	0.62	1203	0.10	1.43	2070	895	15980	5	2.16	1258	6	2.59	60.4
	12	0.816	6.13	399	2650	1.79	0.73	1204	0.10	1.79	2140	872	16852	7	2.85	1260	8	3.26	63.6
	13	0.818	6.02	415	2640	1.89	0.77	1204	0.10	1.89	2290	936	17788	8	3.27	1264	7	2.86	66.5
	14	0.893	6.15	417	2490	0.80	0.36	1205	0.10	0.80	2087	931	18719	13	5.80	1270	7	3.12	69.6
	15	0.860	6.07	390	2540	1.93	0.83	1206	0.10	1.93	1929	829	19548	9	3.87	1273	7	3.01	72.6
	16	0.826	6.10	250	2600	1.93	0.80	1206	0.10	1.93	1876	774	20322	10	4.13	1278	7	2.89	75.5
	17	0.803	6.18	300	2600	1.90	0.76	1207	0.10	1.80	2204	884	21206	11	4.41	1282	9	3.61	79.1
	18	0.796	5.95	235	2570	1.89	0.75	1208	0.11	1.78	2295	913	22119	11	4.37	1286	8	3.18	82.3
	19	0.833	5.92	308	2510	1.51	0.63	1209	0.10	1.51	1801	749	22868	10	4.16	1290	7	2.91	85.2
	20	0.843	6.26	306	2490	1.12	0.47	1209	0.10	1.12	1769	745	23613	9	3.79	1294	9	3.79	89.0
	21	0.834	6.07	257	2480	1.06	0.44	1209	0.10	1.06	1650	687	24301	10	4.17	1298	6	2.50	91.5
	22	0.864	6.01	309	2360	1.15	0.50	1210	0.10	1.15	1825	788	25088	8	3.45	1302	6	2.59	94.1
	23	0.897	5.93	253	2500	3.16	1.42	1211	0.10	3.16	1673	750	25838	1	0.45	1302	6	2.69	96.8
	24	0.855	6.06	296	2350	4.84	2.07	1213	0.10	4.84	1700	726	26564	13	5.55	1308	6	2.56	99.3
	25	0.843	6.03	318	2350	17.6	7.40	1221	0.10	17.6	2000	842	27407	18	7.58	1315	11	4.63	104
	26	0.924	6.13	382	2420	14.7	6.79	1228	0.10	14.7	1600	739	28145	12	5.54	1321	6	2.77	107
	27	0.954	6.53	417	2360	17.4	8.30	1236	0.10	17.4	1500	715	28860	29	13.82	1335	19	9.06	116
	28	0.905	6.26	358	2190	1.72	0.78	1237	0.10	17.4	1500	678	29538	11	4.97	1340	7	3.16	119
	29	0.924	6.31	380	2280	3.04	1.40	1238	0.10	3.04	1600	739	30277	6	2.77	1343	8	3.69	123
	30	0.891	6.21	327	2340	3.67	1.63	1240	0.10	3.67	1500	668	30944	8	3.56	1346	7	3.12	126
	31	0.823	6.06	270	2170	5.18	2.13	1242	0.10	5.18	1600	658	31602	10	4.11	1350	6	2.47	128
	32	0.865	5.84	302	2120	11.2	4.82	1247	0.10	11.1	1700	735	32337	14	6.05	1356	6	2.59	131
	33	0.903	5.95	361	2260	6.91	3.12	1250	0.10	6.91	1700	767	33104	19	8.57	1365	8	3.61	134
	34	0.867	5.98	316	2130	4.57	1.98	1252	0.10	4.57	1500	650	33754	10	4.33	1369	8	3.47	138
35	0.863	5.83	298	2200	4.81	2.07	1254	0.18	4.63	1700	733	34486	8	3.45	1373	7	3.02	141	



Table C-3. Summary of Weekly Data for 2015 HCT

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
2015 USZ (73 Weeks, continued)	36	0.927	6.32	360	2300	4.17	1.93	1256	0.10	4.17	1700	787	35274	6	2.78	1375	10	4.63	146
	37	0.900	6.07	368	2230	3.66	1.65	1257	0.1	3.56	1700	764	36038	9	4.05	1379	5	2.25	148
	38	0.861	5.81	311	2170	4.16	1.79	1259	0.16	4.00	2000	860	36898	12	5.16	1385	3	1.29	149
	39	0.947	6.51	384	2280	5.50	2.60	1262	0.10	5.50	1600	757	37655	10	4.73	1389	22	10.4	159
	40	0.925	6.24	383	2400	2.33	1.08	1263	0.1	2.23	1700	786	38441	11	5.08	1394	12	5.55	165
	41	0.925	6.37	411	2240	3.41	1.58	1264	0.10	3.41	1600	739	39180	9	4.16	1399	11	5.08	170
	42	0.920	6.01	372	2390	4.69	2.16	1267	0.13	4.56	1700	781	39962	13	5.97	1405	8	3.68	174
	43	0.895	6.1	312	2290	3.08	1.38	1268	0.14	2.94	1800	805	40766	28	12.5	1417	11	4.92	179
	44	0.868	5.23	285	2280	1.86	0.81	1269	0.21	1.65	1800	781	41547	23	9.97	1427	4	1.73	180
	45	0.936	6.52	408	2320	2.77	1.30	1270	0.10	2.77	1800	842	42389	6	2.81	1430	16	7.48	188
	46	0.989	7.13	392	2310	1.91	0.94	1271	0.10	1.91	1800	889	43278	1	0.49	1430	39	19.3	207
	47	0.893	4.71	362	2260	1.21	0.54	1272	0.10	1.21	1800	803	44081	17	7.58	1438	1	0.45	208
	48	0.856	4.67	349	2410	3.49	1.49	1273	0.10	3.49	2100	898	44979	23	9.84	1448	1	0.43	208
	49	0.925	5.46	305	2240	2.24	1.04	1274	0.10	2.24	1800	832	45811	13	6.01	1454	3	1.39	209
	50	0.853	4.46	353	2380	2.60	1.11	1275	0.10	2.60	2000	852	46663	23	9.80	1464	1	0.43	210
	51	0.971	6.80	341	2070	1.64	0.80	1276	0.10	1.64	1600	776	47439	2	0.97	1465	21	10.2	220
	52	0.909	5.43	239	2380	0.88	0.40	1276	0.10	0.88	1800	817	48257	13	5.90	1470	3	1.36	221
	53	0.986	6.76	285	2190	1.28	0.63	1277	0.10	1.28	1600	788	49045	14	6.90	1477	23	11.3	233
	54	0.954	6.78	368	2230	1.51	0.72	1278	0.10	1.51	1400	667	49712	23	11.0	1488	11	5.24	238
	55	0.961	6.94	279	2010	1.57	0.75	1279	0.10	1.57	1500	720	50432	16	7.7	1496	12	5.76	244
	56	0.969	6.78	283	2010	1.66	0.80	1279	0.10	1.66	1500	726	51158	19	9.2	1505	25	12.1	256
	57	0.993	6.91	293	2140	1.80	0.89	1280	0.10	1.80	1500	744	51902	14	6.9	1512	27	13.4	269
	58	0.955	6.74	309	2220	1.52	0.73	1281	0.10	1.52	1600	763	52666	18	8.6	1521	19	9.06	278
	59	0.973	6.86	328	2230	0.14	0.07	1281	0.10	0.14	1700	826	53492	7	3.4	1524	25	12.2	290
	60	0.961	6.46	236	2270	0.31	0.15	1281	0.10	0.31	1700	816	54308	13	6.2	1530	14	6.72	297
	61	0.928	5.55	218	2420	1.77	0.82	1282	0.25	1.52	1980	918	55226	48	22.3	1553	7	3.25	300
	62	0.898	3.99	392	2650	4.54	2.04	1284	0.47	4.07	2120	951	56177	67	30.1	1583	1	0.45	301
	63	0.913	3.80	408	2630	5.59	2.55	1287	0.48	5.11	2150	981	57158	57	26.0	1609	1	0.46	301
	64	0.795	3.45	414	3030	6.59	2.62	1289	2.13	22.5	2258	897	58055	184	73.1	1682	1	0.40	302
	65	0.910	3.83	368	2880	7.59	3.45	1293	0.78	8.26	2210	1005	59059	106	48.2	1730	1	0.45	302
	66	0.916	3.78	381	2860	8.59	3.93	1297	1.39	13.5	2030	929	59988	111	50.8	1781	1	0.46	303
	67	0.965	5.68	135	2650	9.59	4.62	1301	0.96	6.16	1845	889	60878	37	17.8	1799	6	2.89	306
	68	0.946	4.37	305	2630	15.7	7.44	1309	1.88	13.9	2032	960	61838	74	35.0	1834	1	0.47	306
	69	0.898	3.40	425	2990	46.9	21.03	1330	4.37	42.5	1911	857	62695	215	96.5	1930	1	0.45	306
	70	0.881	3.13	454	4290	87.3	38.42	1368	6.92	80.4	3768	1658	64354	366	161.1	2091	1	0.44	307
	71	0.956	3.59	387	2930	33.1	15.81	1384	7.15	26.0	1629	778	65132	166	79.3	2170	1	0.48	307
	72	0.922	3.15	431	3370	106	48.94	1433	12.0	94.3	2906	1339	66470	329	152	2321	1	0.46	308
	73	0.913	3.04	449	3430	143	65.06	1498	18.1	125	2586	1180	67650	426	194	2515	1	0.46	308

Table C-3. Summary of Weekly Data for 2015 HCT

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
Yc (38 Weeks)	0	1.646	7.72	222	450	0.10	0.082	0.082	0.10	0.10	130	106.92	106.92	1	0.822	0.82	89	73.20	73.20
	1	0.928	7.75	328	229	0.10	0.046	0.129	0.10	0.10	56	25.97	132.89	1	0.464	1.286	44	20.40	93.60
	2	0.846	8.03	316	196	0.10	0.042	0.171	0.10	0.10	53	22.40	155.29	1	0.423	1.709	35	14.80	108.40
	3	0.905	8.14	256	173	0.10	0.045	0.216	0.10	0.10	40	18.09	173.38	1	0.452	2.161	33	14.92	123.32
	4	0.805	8.18	241	170	0.14	0.056	0.272	0.10	0.14	38	15.29	188.67	1	0.402	2.563	36	14.48	137.80
	5	0.839	8.05	280	175	0.10	0.042	0.314	0.10	0.10	29	12.16	200.82	1	0.419	2.983	37	15.51	153.31
	6	0.895	7.96	345	209	0.10	0.045	0.359	0.10	0.10	48	21.47	222.29	1	0.447	3.430	46	20.57	173.88
	7	0.829	7.95	309	210	1.61	0.667	1.026	0.10	1.61	48	19.88	242.17	1	0.414	3.844	45	18.64	192.52
	8	0.928	7.72	323	291	0.10	0.046	1.072	0.10	0.10	55	25.50	267.68	1	0.464	4.308	53	24.58	217.10
	9	0.865	7.49	303	179	0.10	0.043	1.116	0.10	0.10	37	15.99	283.67	1	0.432	4.740	34	14.70	231.80
	10	0.949	7.71	323	288	0.98	0.465	1.580	0.10	0.98	46	21.81	305.48	1	0.474	5.214	55	26.08	257.88
	11	0.876	7.79	396	276	0.10	0.044	1.624	0.10	0.10	52	22.76	328.24	1	0.438	5.652	56	24.51	282.39
	12	1.001	7.76	311	280	0.10	0.050	1.674	0.10	0.10	29	14.51	342.75	1	0.500	6.152	55	27.51	309.90
	13	0.864	7.57	386	253	0.10	0.043	1.717	0.10	0.10	52	22.45	365.20	1	0.432	6.584	39	16.84	326.74
	14	0.946	7.59	363	229	0.10	0.047	1.765	0.10	0.10	58	27.42	392.61	1	0.473	7.056	51	24.11	350.84
	15	0.982	7.57	268	180	0.10	0.049	1.814	0.10	0.10	43	21.10	413.71	1	0.491	7.547	40	19.63	370.47
	16	0.944	7.44	255	218	0.10	0.047	1.861	0.10	0.10	46	21.70	435.41	1	0.472	8.019	46	21.70	392.17
	17	0.876	7.45	311	216	0.10	0.044	1.905	0.10	0.10	50	21.89	457.30	1	0.438	8.457	46	20.13	412.30
	18	0.858	7.34	272	201	0.10	0.043	1.947	0.10	0.10	48	20.58	477.87	1	0.429	8.885	43	18.44	430.74
	19	0.887	7.40	280	189	0.10	0.044	1.992	0.10	0.10	35	15.51	493.39	1	0.443	9.328	43	19.06	449.80
	20	0.914	7.50	318	173	0.10	0.046	2.037	0.10	0.10	33	15.07	508.46	1	0.457	9.785	40	18.27	468.06
	21	0.907	7.55	282	168	0.10	0.045	2.083	0.10	0.10	33	14.96	523.41	1	0.453	10.238	39	17.68	485.74
	22	0.916	7.54	295	158	0.10	0.046	2.128	0.10	0.10	25	11.44	534.86	1	0.458	10.696	37	16.93	502.67
	23	0.831	7.69	350	294	0.10	0.042	2.170	0.10	0.10	64	26.57	561.43	1	0.415	11.111	60	24.91	527.59
	24	1.031	7.47	281	147	0.10	0.052	2.222	0.10	0.10	26	13.39	574.82	1	0.515	11.626	41	21.12	548.71
	25	0.9	7.49	302	228	0.10	0.045	2.266	0.10	0.10	76	34.18	609.00	1	0.450	12.076	49	22.04	570.75
	26	1.002	7.48	343	149	0.10	0.050	2.317	0.10	0.10	23	11.52	620.52	1	0.501	12.577	45	22.53	593.28
	27	0.954	7.87	301	170.7	0.10	0.048	2.364	0.10	0.10	25	11.92	632.44	1	0.477	13.054	58	27.65	620.92
	28	0.958	7.5	337	180.4	0.10	0.048	2.412	0.10	0.10	25	11.97	644.40	1	0.479	13.532	57	27.29	648.21
	29	0.896	7.55	340	193.5	0.10	0.045	2.457	0.10	0.10	26	12	656.06	1	0.448	13.980	66	29.55	677.76
	30	1.017	7.46	333	172.4	0.10	0.051	2.508	0.10	0.10	23	12	667.75	1	0.508	14.488	58	29.47	707.23
	31	0.957	7.45	287	152.8	0.10	0.048	2.555	0.10	0.10	21	10	677.79	1	0.478	14.966	54	25.82	733.05
	32	0.939	7.27	359	285	0.18	0.084	2.640	0.10	0.18	53	24.87	702.66	1	0.469	15.435	41	19.24	752.31
	33	0.94	7.44	274	146	0.10	0.047	2.687	0.10	0.10	19	8.92	711.58	1	0.470	15.905	58	27.24	779.55
	34	0.883	7.58	332	160.8	0.10	0.044	2.731	0.10	0.10	23	10.15	721.73	1	0.441	16.346	56	24.71	804.26
	35	1.02	7.43	302	157	0.10	0.051	2.782	0.10	0.10	25	12.74	734.47	1	0.510	16.856	53	27.01	831.27
	36	0.938	7.58	293	160.4	0.10	0.047	2.829	0.10	0.10	25	11.72	746.19	1	0.469	17.325	57	26.72	857.99
	37	0.9	7.57	328	160.8	0.10	0.045	2.874	0.10	0.10	27	12.14	758.33	1	0.450	17.774	57	25.63	883.62
38	0.903	7.6	295	126.4	0.10	0.045	2.919	0.10	0.10	21	9.48	767.81	1	0.451	18.226	46	20.76	904.38	

Table C-3. Summary of Weekly Data for 2015 HCT

	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents			
	Week	L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
Ynl B (36 Weeks)	0	1.658	7.76	277	1300	0.10	0.083	0.083	0.10	0.10	650	537	537	1	0.826	0.83	90	74.33	74.33
	1	0.886	7.70	282	747	0.10	0.044	0.127	0.10	0.10	400	177	713	1	0.441	1.27	30	13.24	87.57
	2	0.838	7.61	277	448	0.10	0.042	0.168	0.10	0.10	150	62.6	776	1	0.42	1.68	26	10.9	98.4
	3	0.810	7.86	263	331	0.10	0.040	0.209	0.10	0.10	120	48.4	824	1	0.40	2.09	30	12.1	111
	4	0.884	7.60	298	386	0.10	0.044	0.253	0.10	0.10	160	70.5	895	1	0.44	2.53	25	11.0	122
	5	0.836	7.53	313	1431	0.10	0.042	0.294	0.10	0.10	587	244	1139	1	0.42	2.94	31	12.9	134
	6	0.812	7.38	331	1722	0.10	0.040	0.335	0.10	0.10	1016	411	1550	1	0.40	3.35	18	7.28	142
	7	0.840	7.25	232	1723	0.10	0.042	0.377	0.10	0.10	890	372	1923	1	0.42	3.77	25	10.5	152
	8	0.872	7.24	361	1210	0.10	0.043	0.420	0.10	0.10	540	235	2157	1	0.43	4.20	22	9.56	162
	9	0.856	7.36	334	1285	0.10	0.043	0.463	0.10	0.10	645	275	2432	1	0.43	4.63	29	12.4	174
	10	0.818	7.43	339	1035	0.10	0.041	0.504	0.10	0.10	512	209	2641	1	0.41	5.04	23	9.37	183
	11	0.815	7.35	341	936	0.10	0.041	0.544	0.10	0.10	443	180	2821	1	0.41	5.44	22	8.93	192
	12	0.872	7.26	381	833	0.10	0.043	0.588	0.10	0.10	435	189	3010	1	0.43	5.88	24	10.4	203
	13	0.861	7.41	277	798	0.10	0.043	0.631	0.10	0.10	307	132	3141	1	0.43	6.31	24	10.3	213
	14	0.833	7.25	287	707	0.10	0.041	0.672	0.10	0.10	302	125	3267	1	0.41	6.72	29	12.0	225
	15	0.824	7.27	336	693	0.10	0.041	0.713	0.10	0.10	302	124	3391	1	0.41	7.13	28	11.5	237
	16	0.810	7.19	305	607	0.10	0.040	0.753	0.10	0.10	301	121	3512	1	0.40	7.53	26	10.5	247
	17	0.849	7.22	307	573	0.10	0.042	0.796	0.10	0.10	254	107	3619	1	0.42	7.96	27	11.4	259
	18	0.852	7.31	342	553	0.10	0.042	0.838	0.10	0.10	244	104	3723	1	0.42	8.38	26	11.0	270
	19	0.846	7.43	314	521	0.17	0.072	0.910	0.10	0.10	247	104	3827	1	0.42	8.80	25	10.5	280
	20	0.848	7.41	309	486	0.10	0.042	0.952	0.10	0.10	206	87.0	3914	1	0.42	9.23	24	10.1	290
	21	0.889	7.42	337	461	0.10	0.044	0.996	0.10	0.10	182	80.6	3995	1	0.44	9.67	28	12.4	303
	22	0.936	7.44	173	482	0.10	0.047	1.043	0.10	0.10	300	140	4135	1	0.47	10.1	35	16.3	319
	23	0.841	7.46	297	399	0.10	0.042	1.085	0.10	0.10	160	67.0	4202	1	0.42	10.6	34	14.2	333
	24	0.856	7.47	220	435	0.10	0.043	1.127	0.10	0.10	170	72.5	4274	1	0.43	11.0	30	12.8	346
	25	0.935	7.74	313	385	0.10	0.047	1.174	0.10	0.10	140	65.2	4339	1	0.47	11.4	37	17.2	363
	26	0.914	7.44	333	385	0.10	0.046	1.220	0.10	0.10	140	63.7	4403	1	0.46	11.9	35	15.9	379
	27	0.912	7.37	216	348	0.10	0.045	1.265	0.10	0.10	120	54.5	4458	1	0.45	12.4	36	16.4	396
	28	0.868	7.4	230	354	0.10	0.043	1.308	0.10	0.10	120	51.9	4509	1	0.43	12.8	37	16.0	412
	29	0.817	7.34	129	301	0.10	0.041	1.349	0.10	0.10	120	48.8	4558	1	0.41	13.2	31	12.6	424
	30	0.823	7.21	231	339	0.10	0.041	1.390	0.10	0.10	130	53.3	4612	8	3.28	16.5	40	16.4	441
	31	0.843	7.22	107	329	0.17	0.071	1.461	0.10	0.17	110	46.2	4658	5	2.10	18.6	49	20.6	461
	32	0.813	7.28	158	279	0.10	0.040	1.502	0.10	0.10	99	40.1	4698	1	0.40	19.0	29	11.7	473
	33	0.838	7.16	175	339	0.10	0.042	1.544	0.10	0.10	140	58.4	4756	1	0.42	19.4	28	11.7	485
	34	0.915	7.2	155	328	0.10	0.046	1.589	0.10	0.10	130	59.3	4816	1	0.46	19.9	29	13.2	498
	35	0.863	7.34	382	328	0.10	0.043	1.632	0.10	0.10	130	55.9	4871	1	0.43	20.3	28	12.0	510
36	0.82	7.53	338	288	0.10	0.041	1.673	0.10	0.10	110	44.9	4916	1	0.41	20.7	27	11.0	521	

Table C-3. Summary of Weekly Data for 2015 HCT

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
LZ FW (56 Weeks)	0	1.574	7.62	275	1094	0.10	0.078	0.078	0.10	0.10	450	351	351	1	0.78	0.78	61	47.6	47.6
	1	0.872	7.41	337	933	0.10	0.043	0.12	0.10	0.10	480	208	559	1	0.43	1.21	26	11.2	58.9
	2	0.853	7.28	324	591	0.10	0.042	0.16	0.10	0.10	260	110	669	1	0.42	1.64	21	8.89	67.8
	3	0.839	7.43	310	443	0.10	0.042	0.21	0.10	0.10	190	79.1	748	1	0.42	2.05	20	8.33	76.1
	4	0.923	7.53	340	369	0.10	0.046	0.25	0.10	0.10	160	73.3	822	1	0.46	2.51	25	11.4	87.6
	5	0.872	7.60	332	267	0.10	0.043	0.29	0.10	0.10	116	50.2	872	1	0.43	2.94	21	9.09	96.6
	6	0.818	7.43	342	292	0.10	0.041	0.33	0.10	0.10	100	40.6	912	1	0.41	3.35	18	7.31	104
	7	0.886	7.36	263	336	0.10	0.044	0.38	0.10	0.10	119	52.3	965	1	0.44	3.79	22	9.67	114
	8	0.857	7.24	385	295	0.10	0.043	0.42	0.10	0.10	107	45.5	1010	1	0.43	4.21	19	8.08	122
	9	0.876	7.28	358	404	0.10	0.043	0.46	0.10	0.10	159	69.1	1079	1	0.43	4.65	18	7.82	130
	10	0.843	7.4	356	404	0.10	0.042	0.51	0.10	0.10	164	68.6	1148	1	0.42	5.07	20	8.37	138
	11	0.868	7.36	366	365	0.10	0.043	0.55	0.10	0.10	135	58.1	1206	1	0.43	5.50	19	8.18	146
	12	0.859	7.3	393	343	0.10	0.043	0.59	0.10	0.10	153	65.2	1271	1	0.43	5.92	22	9.38	155
	13	0.910	7.45	307	322	0.10	0.045	0.64	0.10	0.10	110	49.7	1321	1	0.45	6.38	30	13.5	169
	14	0.865	7.24	315	276	0.10	0.043	0.68	0.10	0.10	87	37.3	1358	1	0.43	6.81	25	10.7	180
	15	0.895	7.25	356	277	0.10	0.044	0.72	0.10	0.10	100	44.4	1403	1	0.44	7.25	24	10.7	190
	16	0.819	7.14	334	265	0.10	0.041	0.77	0.10	0.10	98	39.8	1442	1	0.41	7.66	22	8.94	199
	17	0.899	7.16	321	258	0.10	0.045	0.81	0.10	0.10	77	34.3	1477	1	0.45	8.10	21	9.37	209
	18	0.862	7.25	358	254	0.10	0.043	0.85	0.10	0.10	77	32.9	1510	1	0.43	8.53	20	8.55	217
	19	0.860	7.33	333	252	0.10	0.043	0.90	0.10	0.10	73	31.2	1541	1	0.43	8.96	20	8.53	226
	20	0.858	7.40	333	247	0.10	0.043	0.94	0.10	0.10	79	33.6	1574	1	0.43	9.38	22	9.37	235
	21	0.982	7.19	374	223	0.10	0.049	0.99	0.10	0.10	52	25.3	1600	1	0.49	9.87	30	14.6	250
	22	0.845	7.25	253	235	0.10	0.042	1.03	0.10	0.10	81	34.0	1634	1	0.42	10.3	27	11.3	261
	23	0.952	7.45	323	235	0.10	0.047	1.08	0.10	0.10	76	35.9	1670	1	0.47	10.8	33	15.6	277
	24	0.932	7.47	309	229	0.10	0.046	1.12	0.10	0.10	70	32.4	1702	1	0.46	11.2	32	14.8	291
	25	0.975	7.78	329	203	0.10	0.048	1.17	0.10	0.10	56	27.1	1729	1	0.48	11.7	37	17.9	309
	26	0.945	7.42	354	236	0.10	0.047	1.22	0.10	0.10	68	31.9	1761	1	0.47	12.2	34	15.9	325
	27	0.954	7.37	289	217	0.10	0.047	1.26	0.10	0.10	62	29.3	1790	1	0.47	12.6	37	17.5	343
	28	0.944	7.36	306	231	0.10	0.047	1.31	0.10	0.10	68	31.9	1822	1	0.47	13.1	36	16.9	360
	29	0.921	7.27	242	214	0.10	0.046	1.36	0.10	0.10	68	31.1	1853	1	0.46	13.6	30	13.7	373
	30	0.906	7.06	301	226	0.10	0.045	1.40	0.10	0.10	76	34.2	1887	8	3.60	17.2	30	13.5	387
	31	0.915	7.11	197	241	0.13	0.059	1.46	0.10	0.10	76	34.5	1922	5	2.27	19.4	40	18.2	405
	32	0.900	7.18	230	214	0.10	0.045	1.51	0.10	0.10	72	32.2	1954	1	0.45	19.9	24	10.7	416
	33	0.885	7.00	228	266	0.10	0.044	1.55	0.10	0.10	100	43.9	1998	1	0.44	20.3	20	8.78	425
	34	0.970	7.26	231	253	0.10	0.048	1.60	0.10	0.10	91	43.8	2042	1	0.48	20.8	28	13.5	438
35	0.901	7.21	388	270	0.10	0.045	1.64	0.10	0.10	100	44.7	2087	1	0.45	21.3	24	10.7	449	

**Table C-3.** Summary of Weekly Data for 2015 HCT

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
LZ FW (56 Weeks, continued)	36	0.911	7.34	353	253	0.10	0.045	1.69	0.10	0.10	99	44.7	2131	1	0.45	21.7	23	10.4	459
	37	0.936	7.67	267	255	0.10	0.046	1.73	0.10	0.10	91	42.3	2174	1	0.46	22.2	30	13.9	473
	38	0.916	7.73	242	263	0.10	0.045	1.78	0.10	0.10	92	41.8	2215	1	0.45	22.6	31	14.1	487
	39	0.947	7.53	322	241	0.10	0.047	1.83	0.10	0.10	85	39.9	2255	1	0.47	23.1	32	15.0	502
	40	0.976	7.64	291	246	0.10	0.048	1.88	0.10	0.1	90	43.6	2299	1	0.48	23.6	34	16.5	519
	41	0.869	7.49	350	267	0.13	0.056	1.93	0.10	0.13	100	43.1	2342	1	0.43	24.0	27	11.6	530
	42	0.824	7.43	311	274	0.10	0.041	1.97	0.10	0.1	110	45.0	2387	1	0.41	24.4	19	7.77	538
	43	0.924	7.49	310	254	0.2	0.092	2.06	0.10	0.2	99	45.4	2432	1	0.46	24.9	26	11.9	550
	44	0.979	7.53	167	235	0.10	0.049	2.11	0.10	0.10	87	42.3	2475	1	0.49	25.4	28	13.6	564
	45	0.836	7.42	190	239	0.10	0.041	2.15	0.10	0.10	96	39.8	2514	1	0.41	25.8	16	6.6	570
	46	0.796	7.44	382	252	0.10	0.039	2.19	0.10	0.10	100	39.5	2554	1	0.39	26.2	17	6.7	577
	47	0.848	7.47	385	224	0.10	0.042	2.24	0.10	0.10	86	36.2	2590	1	0.42	26.6	20	8.4	585
	48	0.972	7.59	357	242	0.10	0.048	2.28	0.10	0.10	86	41.5	2632	1	0.48	27.1	34	16.4	602
	49	0.934	7.68	312	201	0.10	0.046	2.33	0.10	0.10	72	33.4	2665	1	0.46	27.5	22	10.2	612
	50	0.784	7.51	316	190	0.10	0.039	2.37	0.10	0.10	71	27.6	2693	1	0.39	27.9	15	5.84	618
	51	0.964	7.49	268	213	0.10	0.048	2.42	0.10	0.10	75	35.9	2728	1	0.48	28.4	22	10.5	628
	52	1.020	7.38	269	176	0.10	0.051	2.47	0.10	0.10	56	28.3	2757	1	0.51	28.9	9	4.55	633
53	0.891	7.57	231	206	0.10	0.044	2.51	0.10	0.10	68	30.1	2787	1	0.44	29.4	12	5.31	638	
54	0.995	7.83	204	184	0.10	0.049	2.56	0.10	0.10	63	31.1	2818	1	0.49	29.8	23	11.36	650	
55	0.977	7.77	240	187	0.10	0.048	2.61	0.10	0.10	61	29.6	2848	1	0.48	30.3	22	10.66	660	
56	0.863	7.66	252	186	0.10	0.043	2.65	0.10	0.10	68	29.1	2877	1	0.43	30.8	17	7.28	667	

Red text indicates "less than detection limit" values.



Table C-4. Summary of Energy Labs data for 2015

MT DEQ Water Quality Standards, 2012		Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Fluoride	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Phosphorus	Selenium	Silicon	Silver	Strontium	Sulfate	Thallium	Uranium	Zinc
GW		None	0.006	0.01	1	0.004	0.005	None	0.1	1.3	4	None	0.015	None	None	0.002	0.1	None	0.05	None	0.1	4	None	0.002	0.03	2
SW <sup>1</sup>		0.087	0.0056	0.01	1	0.004	0.00033	None	0.107	0.0117	4	1	0.0044	None	None	0.00005	0.065	None	0.005	None	0.00637	4	None	0.00024	0.03	0.15
MDL <sup>2</sup>		0.009	0.0005	0.001	0.003	0.0008	0.00003	None	0.01	0.002	0.2	0.02	0.0003	None	0.005	0.00001 <sup>3</sup>	0.002	0.005	0.001	None	0.0002	0.02	None	0.0002	0.0002	0.008
2015 USZ (72 Weeks)	0	6.76	0.0044	0.085	0.018	0.01	0.00634	499	0.01	8.01	0.4	1510	0.0158	234	14.7	0.000005	3.59	0.074	0.005	2.5	0.0002	52.9	6950	0.401	0.0068	1.38
	1	0.16	0.0011	0.003	0.015	0.0008	0.00048	538	0.01	0.053	0.3	32.6	0.005	349	4.05	0.00250	0.168	0.006	0.003	1.9	0.0002	36.6	2440	0.153	0.0003	0.042
	2	0.009	0.0007	0.001	0.014	0.0008	0.00023	452	0.01	0.016	0.3	0.21	0.0019	428	5.32	0.00208	0.075	0.005	0.003	1.05	0.0002	30.6	3620	0.131	0.001	0.014
	4	0.009	0.0012	0.002	0.012	0.0008	0.00034	436	0.01	0.07	0.2	0.05	0.0004	540	6.19	0.00008	0.081	0.005	0.006	1.2	0.0002	25.1	3290	0.0972	0.0002	0.015
	8	0.009	0.0005	0.003	0.015	0.0008	0.00029	459	0.01	0.15	0.2	0.2	0.0003	324	3.79	0.00002	0.060	0.011	0.002	1.38	0.0002	24.9	2150	0.0658	0.0002	0.02
	12	0.012	0.0005	0.001	0.014	0.0008	0.00034	423	0.01	0.472	0.2	0.06	0.0072	269	4.28	0.00002	0.063	0.009	0.002	0.82	0.0002	19.6	2370	0.0578	0.0002	0.034
	16	0.01	0.0005	0.002	0.014	0.0008	0.00044	457	0.01	0.902	0.2	0.16	0.0067	267	4.31	0.0000155	0.087	0.008	0.002	3.47	0.0002	18.7	2120	0.0589	0.0002	0.069
	20	0.012	0.0005	0.001	0.012	0.0008	0.0002	479	0.01	1.03	0.2	0.12	0.0044	233	4.26	0.0000071	0.085	0.005	0.001	8.8	0.0002	19.5	2060	0.0431	0.0002	0.068
	24	0.009	0.0005	0.001	0.011	0.0008	0.00046	392	0.01	1.08	0.2	0.12	0.0026	184	3.73	0.0000064	0.090	0.005	0.001	3.15	0.0002	18.3	1910	0.0317	0.0002	0.069
	28	0.009	0.0005	0.001	0.013	0.0008	0.00036	449	0.01	0.657	0.2	0.06	0.0037	146	2.99	0.000005	0.067	0.005	0.001	2.71	0.0002	20.2	1560	0.0309	0.0002	0.058
	32	0.009	0.0005	0.002	0.013	0.0008	0.00045	385	0.01	1.4	0.2	0.06	0.0051	167	2.71	0.000005	0.09	0.005	0.001	10.6	0.0002	18	1630	0.0349	0.0002	0.097
	36	0.009	0.0005	0.001	0.013	0.0008	0.00037	431	0.01	0.63	0.2	0.05	0.0024	172	2.31	0.000005	0.073	0.005	0.001	2.61	0.0002	18.9	1720	0.0365	0.0002	0.068
	40	0.009	0.0005	0.001	0.011	0.0008	0.00032	497	0.01	0.556	0.2	0.02	0.0026	138	1.63	0.000005	0.057	0.005	0.001	1.79	0.0002	21.1	1700	0.0349	0.0002	0.057
	44	0.036	0.0005	0.008	0.014	0.0008	0.00089	402	0.01	4.04	0.2	0.33	0.0199	207	2.98	0.000005	0.128	0.006	0.001	3.23	0.0002	18.3	1910	0.0463	0.0002	0.213
	48	0.104	0.0005	0.002	0.016	0.0021	0.00142	408	0.01	7.79	0.2	0.82	0.0313	223	4.08	0.000005	0.203	0.011	0.001	4.32	0.0002	16.8	2040	0.0505	0.0006	0.373
	52	0.037	0.0005	0.001	0.021	0.0008	0.0004	388	0.01	3.05	0.2	0.28	0.0166	158	2.54	0.000005	0.092	0.005	0.001	1.97	0.0002	17	1680	0.0375	0.0002	0.143
	56	0.009	0.0005	0.001	0.018	0.0008	0.00031	398	0.01	0.359	0.2	0.2	0.0059	137	1.49	0.0000261	0.047	0.005	0.002	1.3	0.0002	15.3	1500	0.0251	0.0002	0.059
60	0.017	0.0005	0.001	0.016	0.0008	0.00051	399	0.01	2.50	0.2	0.32	0.0121	173	2.41	0.0000083	0.079	0.005	0.001	1.77	0.0002	15.2	1780	0.0351	0.0002	0.220	
64	1.03	0.0005	0.006	0.017	0.0085	0.00474	392	0.01	53.2	0.2	26.0	0.211	295	11.0	0.0000124	0.516	0.03	0.003	6.64	0.0002	13.8	2560	0.0916	0.0059	1.38	
68	0.538	0.0005	0.002	0.035	0.0034	0.00445	409	0.01	18.8	0.2	18.9	0.0974	272	6.93	0.0000053	0.324	0.013	0.001	4.43	0.0002	15.2	2250	0.0375	0.0024	0.716	
72	2.23	0.0005	0.011	0.019	0.0086	0.00403	430	0.01	41.1	0.2	128	0.290	368	9.35	0.0000375	0.494	0.03	0.006	7.3	0.0002	12.7	3010	0.0790	0.0060	1.19	

<sup>1</sup> Surface Water standards are the lowest available, which in most cases in the "chronic aquatic life" criteria. Hardness-dependent criteria have been adjusted for a site hardness of 130 mg/L.

<sup>2</sup> *Italicized* MDL (Method Detection Limit) values indicate that the limit used by the lab differs from the Required Reporting Limit (RRL). Discrepancies between MDLs and RRLs include: Cadmium (MDL=0.0003 mg/L, RRL=0.008 mg/L); Chromium (MDL=0.01 mg/L, RRL=0.002 mg/L); Mercury (MDL=0.00001 mg/L, RRL=0.000005 mg/L); Phosphorus (MDL=0.005 mg/L, RRL=0.001 mg/L); and Uranium (MDL=0.0002 mg/L, RRL=0.00002 mg/L).

GW= Ground water, SW= Surface water, MDL=Required Reporting Limit, Red values indicate values below the detection limit.

Pink highlighted cells indicate surface water quality exceedances and blue highlighted cells indicate ground water quality exceedances.

Table C-4. Summary of Energy Labs data for 2015

MT DEQ Water Quality Standards, 2012		Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Fluoride	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Phosphorus	Selenium	Silicon	Silver	Strontium	Sulfate	Thallium	Uranium	Zinc
GW		None	0.006	0.01	1	0.004	0.005	None	0.1	1.3	4	None	0.015	None	None	0.002	0.1	None	0.05	None	0.1	4	None	0.002	0.03	2
SW <sup>1</sup>		0.087	0.0056	0.01	1	0.004	0.00033	None	0.107	0.0117	4	1	0.0044	None	None	0.00005	0.065	None	0.005	None	0.00637	4	None	0.00024	0.03	0.15
MDL <sup>2</sup>		0.009	0.0005	0.001	0.003	0.0008	<i>0.00003</i>	None	0.01	0.002	0.2	0.02	0.0003	None	0.005	<i>0.00001<sup>3</sup></i>	0.002	0.005	0.001	None	0.0002	0.02	None	0.0002	0.0002	0.008
2015 Yc (38 Weeks)	0	0.348	0.0038	0.043	0.097	0.0008	0.00083	7	0.01	0.004	3.9	0.04	0.002	8	0.005	8.60E-06	0.002	0.044	0.024	3.03	0.0002	0.13	100	0.0008	0.0077	0.008
	1	0.317	0.0016	0.021	0.082	0.0008	0.00054	3	0.01	0.002	1.8	0.03	0.0063	3	0.005	0.000005	0.002	0.011	0.006	2.57	0.0002	0.08	52	0.0003	0.0032	0.008
	2	0.491	0.001	0.019	0.048	0.0008	0.00028	3	0.01	0.002	1.6	0.05	0.0008	3	0.005	0.000005	0.002	0.009	0.001	2.63	0.0002	0.08	47	0.0002	0.0022	0.008
	4	0.280	0.0011	0.021	0.041	0.0008	0.00026	3	0.01	0.002	1.6	0.17	0.0003	3	0.005	0.000005	0.002	0.007	0.002	4.31	0.0002	0.07	38	0.0002	0.0035	0.008
	8	0.197	0.0024	0.027	0.06	0.0008	0.00005	9	0.01	0.002	1.8	0.04	0.0003	10	0.005	0.000005	0.002	0.007	0.001	4.21	0.0002	0.25	59	0.0003	0.0045	0.008
	12	0.058	0.0019	0.015	0.062	0.0008	0.00011	14	0.01	0.002	0.8	0.02	0.0064	14	0.005	0.000005	0.002	0.009	0.001	3.66	0.0002	0.33	68	0.0002	0.0072	0.008
	16	0.105	0.0014	0.012	0.05	0.0008	0.00003	12	0.01	0.002	0.6	0.02	0.0017	12	0.005	0.000005	0.002	0.005	0.001	3.48	0.0002	0.24	49	0.0003	0.0042	0.008
	20	0.118	0.0013	0.016	0.043	0.0008	0.00003	9	0.01	0.002	0.5	0.03	0.0015	9	0.005	0.000005	0.002	0.005	0.001	4.88	0.0002	0.21	36	0.0002	0.0024	0.008
	24	0.098	0.0008	0.014	0.057	0.0008	0.00003	8	0.01	0.002	0.2	0.02	0.0003	8	0.005	0.000005	0.002	0.005	0.001	5.83	0.0002	0.18	28	0.0002	0.0035	0.008
	28	0.057	0.001	0.013	0.084	0.0008	0.00003	12	0.01	0.002	0.2	0.02	0.0003	10	0.005	0.000005	0.002	0.005	0.001	4.61	0.0002	0.24	26	0.0002	0.004	0.008
	32	0.047	0.0008	0.015	0.061	0.0008	0.00003	6	0.01	0.002	0.2	0.02	0.0003	6	0.005	0.000005	0.002	0.014	0.001	4.54	0.0002	0.14	57	0.0002	0.0007	0.008
	36	0.029	0.0009	0.021	0.097	0.0008	0.00003	11	0.01	0.002	0.2	0.02	0.0004	10	0.005	0.000005	0.002	0.005	0.001	6.84	0.0002	0.22	25	0.0002	0.0036	0.008
38	0.086	0.0007	0.018	0.078	0.0008	0.00003	8	0.01	0.002	0.2	0.02	0.0007	7	0.005	0.000005	0.002	0.005	0.001	5.71	0.0002	0.18	22	0.0002	0.0023	0.008	

<sup>1</sup> Surface Water standards are the lowest available, which in most cases in the “chronic aquatic life” criteria. Hardness-dependent criteria have been adjusted for a site hardness of 130 mg/L.

<sup>2</sup> *Italicized MDL (Method Detection Limit) values indicate that the limit used by the lab differs from the Required Reporting Limit (RRL). Discrepancies between MDLs and RRLs include: Cadmium (MDL=0.0003 mg/L, RRL=0.008 mg/L); Chromium (MDL=0.01 mg/L, RRL=0.002 mg/L); Mercury (MDL=0.00001 mg/L, RRL=0.000005 mg/L); Phosphorus (MDL=0.005 mg/L, RRL=0.001 mg/L); and Uranium (MDL=0.0002 mg/L, RRL=0.00002 mg/L).*

GW= Ground water, SW= Surface water, MDL=Required Reporting Limit, **Red values** indicate values below the detection limit.

Pink highlighted cells indicate surface water quality exceedances and blue highlighted cells indicate ground water quality exceedances.

Table C-4. Summary of Energy Labs data for 2015

MT DEQ Water Quality Standards, 2012		Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Fluoride	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Phosphorus	Selenium	Silicon	Silver	Strontium	Sulfate	Thallium	Uranium	Zinc
GW		None	0.006	0.01	1	0.004	0.005	None	0.1	1.3	4	None	0.015	None	None	0.002	0.1	None	0.05	None	0.1	4	None	0.002	0.03	2
SW <sup>1</sup>		0.087	0.0056	0.01	1	0.004	0.00033	None	0.107	0.0117	4	1	0.0044	None	None	0.00005	0.065	None	0.005	None	0.00637	4	None	0.00024	0.03	0.15
MDL <sup>2</sup>		0.009	0.0005	0.001	0.003	0.0008	<i>0.00003</i>	None	0.01	0.002	0.2	0.02	0.0003	None	0.005	<i>0.00001<sup>3</sup></i>	0.002	0.005	0.001	None	0.0002	0.02	None	0.0002	0.0002	0.008
2015 Ynl/B (36 Weeks)	0	0.055	0.004	0.001	0.038	0.0008	0.00011	58	0.01	0.002	1.6	0.02	0.0011	82	0.054	0.000005	0.021	0.01	0.019	1.48	0.0002	3.38	604	0.0023	0.0036	0.008
	1	0.072	0.0021	0.004	0.029	0.0008	0.00015	38	0.01	0.003	1.7	0.02	0.0066	47	0.011	0.0000114	0.002	0.009	0.015	1.74	0.0002	2.14	341	0.0008	0.0016	0.008
	2	0.068	0.002	0.003	0.032	0.0008	0.0008	22	0.01	0.003	2	0.02	0.0005	26	0.007	0.000005	0.002	0.005	0.007	1.55	0.0002	1.26	185	0.0009	0.0005	0.008
	4	0.076	0.0025	0.004	0.023	0.0008	0.00012	21	0.01	0.002	NA	0.02	0.0014	25	0.005	0.000005	0.002	0.005	0.003	1.84	0.0002	1.01	NA	0.0005	0.0017	0.008
	8	0.026	0.0008	0.001	0.01	0.0008	0.00003	122	0.01	0.002	0.7	0.02	0.0057	94	0.005	0.0000061	0.003	0.005	0.002	1.73	0.0002	2.39	694	0.0007	0.0021	0.008
	12	0.024	0.0007	0.001	0.009	0.0008	0.00003	97	0.01	0.002	0.8	0.02	0.0041	62	0.005	0.000005	0.002	0.005	0.002	1.51	0.0002	1.13	482	0.0004	0.0004	0.008
	16	0.020	0.0007	0.002	0.008	0.0008	0.00003	74	0.01	0.002	0.5	0.02	0.0017	49	0.005	0.000005	0.002	0.005	0.001	18.3	0.0002	0.58	295	0.0002	0.0012	0.008
	20	0.015	0.0005	0.001	0.006	0.0008	0.00003	44	0.01	0.002	0.4	0.11	0.0003	29	0.005	0.000005	0.002	0.005	0.001	7.3	0.0002	0.43	232	0.0007	0.0004	0.008
	24	0.016	0.0005	0.002	0.008	0.0008	0.00003	43	0.01	0.002	0.3	0.02	0.0020	23	0.005	0.000005	0.002	0.01	0.001	4.04	0.0002	0.35	187	0.0002	0.0004	0.008
	28	0.011	0.0005	0.001	0.009	0.0008	0.00003	31	0.01	0.002	0.3	0.02	0.0003	20	0.005	0.000005	0.002	0.01	0.001	8.02	0.0002	0.25	122	0.0002	0.0004	0.008
	32	0.009	0.0019	0.002	0.011	0.0008	0.00003	29	0.01	0.002	0.2	0.02	0.0003	19	0.005	0.000005	0.002	0.01	0.001	3.14	0.0002	0.2	117	0.0002	0.0003	0.008
36	0.021	0.0005	0.001	0.011	0.0008	0.00003	26	0.01	0.002	0.2	0.02	0.0003	17	0.005	0.000005	0.002	0.01	0.001	1.79	0.0002	0.17	122	0.0002	0.0003	0.008	

<sup>1</sup> Surface Water standards are the lowest available, which in most cases in the "chronic aquatic life" criteria. Hardness-dependent criteria have been adjusted for a site hardness of 130 mg/L.

<sup>2</sup> *Italicized* MDL (Method Detection Limit) values indicate that the limit used by the lab differs from the Required Reporting Limit (RRL). Discrepancies between MDLs and RRLs include: Cadmium (MDL=0.0003 mg/L, RRL=0.008 mg/L); Chromium (MDL=0.01 mg/L, RRL=0.002 mg/L); Mercury (MDL=0.00001 mg/L, RRL=0.000005 mg/L); Phosphorus (MDL=0.005 mg/L, RRL=0.001 mg/L); and Uranium (MDL=0.0002 mg/L, RRL=0.00002 mg/L).

GW= Ground water, SW= Surface water, MDL=Required Reporting Limit, **Red values** indicate values below the detection limit.

Pink highlighted cells indicate surface water quality exceedances and blue highlighted cells indicate ground water quality exceedances.



Table C-4. Summary of Energy Labs data for 2015

MT DEQ Water Quality Standards, 2012		Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Fluoride	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Phosphorus	Selenium	Silicon	Silver	Strontium	Sulfate	Thallium	Uranium	Zinc
GW		None	0.006	0.01	1	0.004	0.005	None	0.1	1.3	4	None	0.015	None	None	0.002	0.1	None	0.05	None	0.1	4	None	0.002	0.03	2
SW <sup>1</sup>		0.087	0.0056	0.01	1	0.004	0.00033	None	0.107	0.0117	4	1	0.0044	None	None	0.00005	0.065	None	0.005	None	0.00637	4	None	0.00024	0.03	0.15
MDL <sup>2</sup>		0.009	0.0005	0.001	0.003	0.0008	<i>0.00003</i>	None	0.01	0.002	0.2	0.02	0.0003	None	0.005	<i>0.00001<sup>3</sup></i>	0.002	0.005	0.001	None	0.0002	0.02	None	0.0002	0.0002	0.008
2015 LZ-FW (56 Weeks)	0	0.035	0.0099	0.074	0.073	0.0008	0.00014	34	0.01	0.002	2.2	0.02	0.0007	58	0.032	0.000005	0.126	0.031	0.017	2.51	0.0002	0.93	383	0.0011	0.367	0.008
	1	0.05	0.0095	0.128	0.035	0.0008	0.00019	47	0.01	0.002	2.3	0.02	0.0044	71	0.022	0.000005	0.025	0.016	0.022	2.87	0.0002	0.93	465	0.0008	0.292	0.008
	2	0.054	0.0074	0.137	0.027	0.0008	0.0008	31	0.01	0.002	2.3	0.02	0.0003	46	0.011	0.000005	0.009	0.012	0.013	2.46	0.0002	0.56	278	0.0006	0.174	0.008
	4	0.07	0.0079	0.136	0.018	0.0008	0.00023	19	0.01	0.002	1.8	0.02	0.0004	28	0.008	0.000005	0.005	0.01	0.010	2.97	0.0002	0.31	144	0.0004	0.202	0.008
	8	0.054	0.0052	0.125	0.017	0.0008	0.00012	19	0.01	0.002	1	0.02	0.0058	21	0.009	0.000005	0.003	0.011	0.004	2.67	0.0002	0.25	118	0.0003	0.193	0.008
	12	0.04	0.0048	0.118	0.015	0.0008	0.00006	26	0.01	0.002	0.8	0.02	0.0025	24	0.01	0.000005	0.004	0.028	0.004	3.08	0.0002	0.25	213	0.0002	0.198	0.008
	16	0.048	0.0051	0.173	0.018	0.0008	0.00003	24	0.01	0.003	0.4	0.03	0.0033	22	0.008	0.000005	0.004	0.013	0.004	18.7	0.0002	0.18	101	0.0002	0.156	0.008
	20	0.027	0.0033	0.145	0.019	0.0008	0.00003	19	0.01	0.002	0.3	0.02	0.0003	15	0.008	0.000005	0.004	0.010	0.002	9.73	0.0002	0.16	96	0.0002	0.162	0.008
	24	0.033	0.0029	0.126	0.023	0.0008	0.00003	18	0.01	0.002	0.2	0.02	0.0009	12	0.009	0.000005	0.003	0.007	0.002	7.20	0.0002	0.13	77	0.0002	0.189	0.008
	28	0.019	0.0026	0.101	0.026	0.0008	0.00003	18	0.01	0.002	0.2	0.02	0.0023	14	0.013	0.000005	0.004	0.02	0.001	8.8	0.0002	0.13	65	0.0002	0.178	0.008
	32	0.009	0.0019	0.118	0.018	0.0008	0.00003	20	0.01	0.002	0.2	0.02	0.0003	14	0.01	0.000005	0.005	0.005	0.001	7.74	0.0002	0.13	88	0.0002	0.0844	0.008
	36	0.018	0.0017	0.068	0.018	0.0008	0.00003	23	0.01	0.002	0.2	0.02	0.0003	15	0.007	0.000005	0.004	0.005	0.001	4.86	0.0002	0.12	112	0.0002	0.0732	0.008
	40	0.011	0.0019	0.051	0.022	0.0008	0.00003	24	0.01	0.002	0.1	0.02	0.0005	15	0.006	0.000005	0.005	0.006	0.001	4.59	0.0002	0.11	91	0.0002	0.0976	0.008
	44	0.018	0.0015	0.035	0.021	0.0008	0.00003	22	0.01	0.002	0.2	0.02	0.0013	14	0.005	0.000005	0.004	0.007	0.001	3.32	0.0002	0.1	87	0.0002	0.077	0.008
48	0.017	0.0014	0.025	0.014	0.0008	0.00003	24	0.01	0.002	0.2	0.02	0.0017	14	0.005	0.000005	0.006	0.007	0.001	3.24	0.0002	0.09	85	0.0002	0.132	0.008	
52	0.019	0.0011	0.028	0.01	0.0008	0.00003	16	0.01	0.002	0.2	0.02	0.0003	10	0.005	0.000005	0.002	0.01	0.001	2.15	0.0002	0.06	63	0.0002	0.0301	0.008	
56	0.012	0.0011	0.029	0.012	0.0008	0.00003	17	0.01	0.002	0.2	0.02	0.0020	10	0.005	0.000005	0.002	0.008	0.001	2.00	0.0002	0.06	68	0.0002	0.0356	0.008	

<sup>1</sup> Surface Water standards are the lowest available, which in most cases in the "chronic aquatic life" criteria. Hardness-dependent criteria have been adjusted for a site hardness of 130 mg/L.

<sup>2</sup> *Italicized* MDL (Method Detection Limit) values indicate that the limit used by the lab differs from the Required Reporting Limit (RRL). Discrepancies between MDLs and RRLs include: Cadmium (MDL=0.0003 mg/L, RRL=0.008 mg/L); Chromium (MDL=0.01 mg/L, RRL=0.002 mg/L); Mercury (MDL=0.00001 mg/L, RRL=0.000005 mg/L); Phosphorus (MDL=0.005 mg/L, RRL=0.001 mg/L); and Uranium (MDL=0.0002 mg/L, RRL=0.00002 mg/L).

GW= Ground water, SW= Surface water, MDL=Required Reporting Limit, Red values indicate values below the detection limit.

Pink highlighted cells indicate surface water quality exceedances and blue highlighted cells indicate ground water quality exceedances.

## **Appendix C:**

McClelland's Final report of 2012 HCTs (with Energy Lab Reports)



**McCLELLAND LABORATORIES, INC.**

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E-MAIL [mli@mettest.com](mailto:mli@mettest.com)

March 9, 2017

Ms. Lisa Kirk  
**Enviromin, Inc.**  
P.O. Box 1685  
Bozeman, MT 59717

Dear Lisa:

Enclosed is our report concerning results obtained from humidity cell (HC) kinetic acid rock drainage (ARD) potential tests conducted on four samples for the Black Butte Copper 2012 Johnny Lee Decline Project.

We appreciate the opportunity to serve you and Tintina Resources on this project.

Sincerely,

Michael Medina  
Environmental Project Manager

MM/cd:mh  
Enclosure



**Report  
on  
HC Kinetic ARD Potential Testing -  
Black Butte Copper 2012 Johnny Lee Decline Project  
MLI Job No. 3767  
March 9, 2017**

**for**

**Ms. Lisa Kirk  
Enviromin, Inc.  
P.O. Box 1685  
Bozeman, MT 59717**

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**Report  
on  
HC Kinetic ARD Potential Testing -  
Black Butte Copper 2012 Johnny Lee Decline Project  
MLI Job No. 3767  
March 9, 2017**

**for**

**Ms. Lisa Kirk  
Enviromin, Inc.  
P.O. Box 1685  
Bozeman, MT 59717**

**EXECUTIVE SUMMARY**

A total of 4 samples, designated USZ 1 high Fe/USZ 2 low Fe composite (USZ 1/USZ 2 Composite), Ynl 0, Ynl 1/Ynl 2 Composite and Ynl B 2012 Decline were received on 12/14/12 for ICP metals analysis (4 acid digestion) and HC kinetic ARD potential testing.

HC kinetic ARD potential tests (ASTM D5744-07, Option A) were conducted on a 2.0 kg split of each sample to assess potential of the solids to generate or neutralize acid in a natural weathering and oxidizing environment. The testing duration was 24 weeks for the USZ 1/USZ 2 Composite and Ynl 0 samples, 88 weeks for the Ynl 1/Ynl 2 Composite sample and 62 weeks for the Ynl B 2012 Decline sample.

HC kinetic ARD potential test results show that the USZ 1/USZ 2 Composite, Ynl 0, Ynl 1/Ynl 2 Composite and Ynl B 2012 Decline samples would not produce acid in a natural environment. Specific results are summarized as follows:

**USZ 1/USZ 2 Composite**

- Extract pH was alkaline the majority of the test duration and ranged from pH 5.95 (week 0) to 7.38 (week 12). Week 24 extract pH was 7.28.
- Redox potential was oxidizing, ranged from -11 (week 6) to 257 (week 5) mV and was typical of solid/solution systems exposed to air.
- Conductivity values were fairly stable and ranged from 828 (week 19) to 2,090 (week 1)  $\mu\text{S/cm}$ .
- Iron mobility (dissolution) was minimal. Sulfate mobility was moderate and decreasing throughout the test.
- Acidity was not detected in any weekly extract after week 2.
- Alkalinity was detected in all weekly extracts and concentrations ranged from 9 (week 2) to 25 (week 18)  $\text{mgCaCO}_3/\text{L}$ .

### **Ynl 0**

- Extract pH was alkaline the duration of the test and ranged from pH 7.46 (week 17) to 9.19 (week 0). Week 24 extract pH was 7.74.
- Redox potential was oxidizing, ranged from 7 (week 0) to 197 (week 17) mV, and was typical of solid/solution systems exposed to air.
- Conductivity values were low, stable, and ranged from 62 (week 17) to 240 (week 1)  $\mu\text{S}/\text{cm}$ .
- Iron and sulfate mobility (dissolution) was minimal.
- Acidity was not detected in any weekly extract.
- Alkalinity was detected in all weekly extracts and concentrations ranged from 16 (week 17) to 42 (week 0)  $\text{mgCaCO}_3/\text{L}$ .

### **Ynl 1/Ynl 2 Composite**

- Extract pH was alkaline the majority of the test duration and ranged from pH 6.77 (week 0) to 7.75 (week 55). Week 88 extract pH was 7.36.
- Redox potential was oxidizing, ranged from -37 (week 0) to 412 (week 88) mV and was typical of solid/solution systems exposed to air.
- Conductivity values were low, fairly stable, and ranged from 232 (week 19) to 1,100 (week 1)  $\mu\text{S}/\text{cm}$ .
- Iron mobility (dissolution) was minimal. Sulfate mobility was fairly low and decreasing the last 10 weeks of testing
- Acidity was only detected in 16 weekly extracts and was never above 4  $\text{mgCaCO}_3/\text{L}$ .
- Alkalinity was detected in all weekly extracts and concentrations ranged from 12 (week 20) to 53 (week 0)  $\text{mgCaCO}_3/\text{L}$ .

### **Ynl B 2012 Decline**

- Extract pH was alkaline the duration of the test and ranged from pH 7.27 (week 54) to 8.66 (week 0). Week 62 extract pH was 7.69.
- Redox potential was oxidizing, ranged from 20 (week 57) to 335 (week 40) mV, and was typical of solid/solution systems exposed to air.
- Conductivity values were low, fairly stable, and ranged from 120 (week 6) to 690 (week 17)  $\mu\text{S}/\text{cm}$ .
- Iron mobility (dissolution) was minimal. Sulfate mobility was fairly low and stable.
- Acidity was not detected in any weekly extract.
- Alkalinity was detected in all weekly extracts and concentrations ranged from 18 (week 42) to 47 (week 54)  $\text{mgCaCO}_3/\text{L}$ .

Constituent mobility during the HCT was minimal from the USZ 1/USZ 2 Composite, Ynl 0, Ynl 1/Ynl 2 Composite and Ynl B 2012 Decline samples, likely because acid was not produced during kinetic ARD testing.

**SAMPLE PREPARATION AND FEED ANALYSES**

All samples were received at a -1/4" feed size. Samples were individually blended and split (rotary splitter) to obtain 2.0 kg for humidity cell testing and 0.10 kg for ICP metals analysis. Splits for ICP metals analysis were submitted to ALS.

ICP metals analysis results are provided in Table 1. The ALS report is provided in the Appendix to this report.

**Table 1. - ICP Metals Analyses Results,  
 Humidity Cell Feed Samples, Black Butte Project**

Analysis, mg/kg	Sample I.D.			
	USZ 1/USZ 2 Comp.	Ynl 0	Ynl 1/Ynl 2 Comp.	Ynl B 2012 Decline
Ag	5.00	0.08	1.61	0.14
Al	28,300	13,400	45,200	39,600
As	74.5	<5	30.3	14.0
Ba	160	240	510	230
Be	1.03	0.54	1.41	1.02
Bi	0.22	0.08	0.24	0.27
Ca	57,600	154,500	52,400	73,100
Cd	0.61	0.05	0.61	1.45
Ce	27.6	19.10	49.9	43.2
Co	9.6	2.9	12.2	8.9
Cr	20	7	33	29
Cs	3.84	1.68	6.64	5.38
Cu	50.5	12.1	37.9	37.6
Fe	146,000	10,900	45,600	28,500
Ga	7.78	3.89	12.30	10.90
Ge	0.32	0.09	0.18	0.14
Hf	1.5	0.7	2.6	2.3
Hg	<0.1	<0.1	<0.1	<0.1
In	0.568	0.024	0.100	0.053
K	15,900	9,100	28,100	19,800
La	13.0	10.7	26.6	23.8
Li	38.1	36.3	73.4	64.3
Mg	40,700	96,300	43,800	56,100
Mn	836	421	474	687
Mo	5.33	0.58	3.62	3.63
Na	900	400	1,400	1,800
Nb	5.2	2.8	8.6	7.3
Ni	23.3	7.1	28.3	25.8
P	260	180	400	460
Pb	796	15.1	185.5	71.3
Rb	54.4	33.1	96.9	85.4
Re	0.004	<0.002	0.004	0.004
S (Total)	>100,000	3,600	33,500	13,900
Sb	2.06	0.28	1.50	0.81
Sc	4.5	2.4	7.9	7.1
Se	2	1	1	2
Sn	1.0	0.6	1.8	1.5
Sr	95.1	129.5	93.6	73.5
Ta	0.38	0.20	0.63	0.55
Te	0.09	<0.05	0.06	0.05
Th	4.1	2.5	7.8	7.1
Ti	1,170	540	1,890	1,820
Tl	27.8	1.12	6.19	1.20
U	2.1	1.5	3.7	3.4
V	38	16	59	51
W	0.7	0.4	1.0	0.8
Y	12.5	8.2	19.3	18.6
Zn	105	22	151	445
Zr	50.2	25.6	87.9	80.8



## **HC KINETIC ARD POTENTIAL TEST PROCEDURE AND RESULTS**

Modified HC kinetic ARD potential tests were conducted on 1.9954 kg, 2.0145 kg, 2.0080 kg and 1.9951 kg splits of the USZ 1/USZ 2 Composite, Ynl 0, Ynl 1/Ynl 2 Composite and Ynl B 2012 Decline samples (respectively) at the as received feed size (-1/4") to assess potential of the solids to generate or neutralize acid in an aggressive and accelerated weathering and oxidizing environment. The ASTM standard procedure (D5744-07, Option A) was employed the duration of the kinetic testing. The testing duration was 24 weeks (25 with week 0) for the USZ 1/USZ 2 Composite and Ynl 0 samples, 88 weeks (89 with week 0) for the Ynl 1/Ynl 2 Composite sample and 62 weeks (63 with week 0) for the Ynl B 2012 Decline sample.

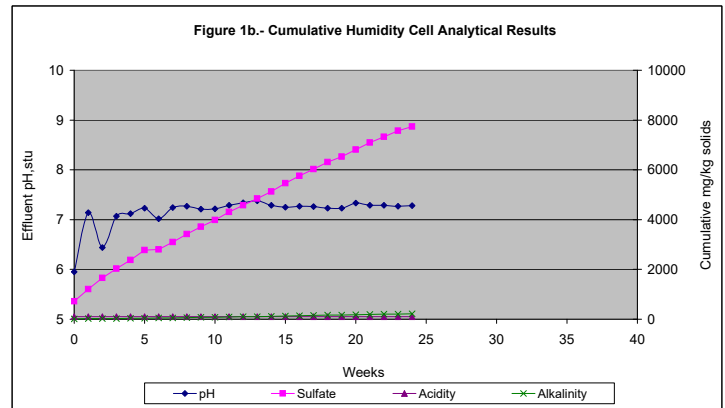
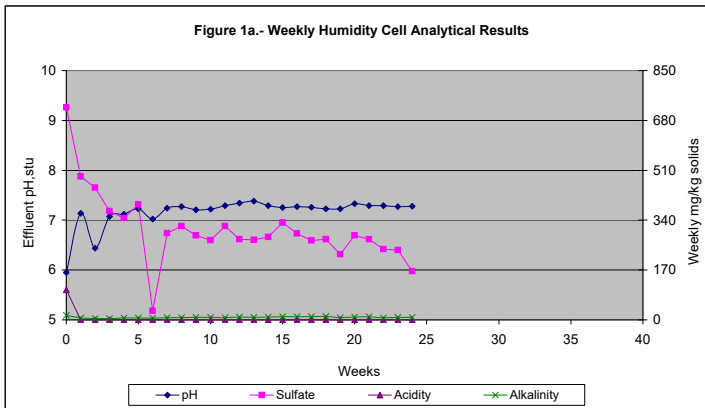
The HC tests were conducted for 24+ weeks in seven day cycles. After initial saturation (week 0), dry, filtered compressed air was passed upwards through the solids charge the first three days of the cycle. Humidified air, generated by sparging filtered compressed air into deionized water (DI H<sub>2</sub>O, pH 5.5) contained in a temperature controlled (30° C) vessel, was passed upwards through the charge the next three days of the cycle. On the seventh day, the charge was saturated (flooded) with DI H<sub>2</sub>O and allowed to soak for one hour. After soaking, effluent was allowed to percolate through and drain freely from the solids charge. Effluent was collected in a sealed container and volume was measured by weighing (1 L/week applied - 1.5 L applied for week 0). Unfiltered, unpreserved effluent samples were analyzed immediately for redox potential (Ag/AgCl reference), pH, EC, SO<sub>4</sub><sup>-</sup>, acidity and alkalinity. Separate effluent samples (50 mL) were filtered through a 0.45µm filter to produce extract. Those extracts were analyzed immediately for Fe, Fe<sup>2+</sup> and Fe<sup>3+</sup> (by difference). Remaining weekly effluents were filtered (0.45µm), appropriately preserved and shipped to Energy Labs for the Montana suite of constituent analyses. Single-use, disposable filters were used for all extracts. Weeks 0, 1, 2, 4, 8, 12, 16, 20, 24 and every 4<sup>th</sup> week thereafter (where applicable) extracts (not composites) were submitted for detailed metals analysis. Interim mineralogy splits (50 g) were taken from the Ynl 1/Ynl 2 Composite and Ynl B 2012 Decline humidity cell samples after 32 weeks of testing.

HC test data for the USZ 1/USZ 2 Composite, Ynl 0, Ynl 1/Ynl 2 Composite and Ynl B 2012 Decline samples are provided in Table 2, 3, 4 and 5, respectively. Figures 1 (a and b), 2 (a and b), 3 (a and b) and 4 (a and b) which follow Table 2, 3, 4 and 5 respectively, depict graphically, on a weekly (a figure) and cumulative (b figure) mass basis, analytical data for pH, SO<sub>4</sub>, acidity and alkalinity. Energy Labs report sheets for metals analyses on extracts are provided in the Appendix to this report.

**Table 2. - Humidity Cell Analytical Results, USZ 1/USZ 2 Composite (1.9954 kg)**

Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity $\mu\text{S}/\text{cm}^{(1)}$	Total Fe		Fe <sup>2+</sup> mg/l	Fe <sup>3+</sup> mg/l	SO <sub>4</sub> <sup>=</sup>		Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents				
					mg/l	mg/kg			Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.268	5.95	4	1670	101.50	64.499	64.499	9.95	91.55	1140.0	724.43	724.43	162	102.95	102.95	24	15.25	15.25
1	0.841	7.14	229	2090	0.01	0.004	64.503	<0.01	<0.01	1160.0	488.90	1213.33	1	0.42	103.37	15	6.32	21.57
2	0.957	6.44	208	1600	<0.01	0.000	64.503	<0.01	<0.01	940.0	450.83	1664.16	1	0.48	103.85	9	4.32	25.89
3	0.805	7.07	192	1540	0.01	0.004	64.507	<0.01	<0.01	920.0	371.15	2035.31	<1	0.00	103.85	12	4.84	30.73
4	0.912	7.12	221	1330	<0.01	0.000	64.507	<0.01	<0.01	760.0	347.36	2382.67	<1	0.00	103.85	14	6.40	37.13
5	0.915	7.23	257	1370	<0.01	0.000	64.507	<0.01	<0.01	860.0	394.36	2777.03	<1	0.00	103.85	14	6.42	43.55
6	0.812	7.02	-11	1330	0.14	0.057	64.564	<0.01	<0.14	76.0	30.93	2807.96	<1	0.00	103.85	13	5.29	48.84
7	0.843	7.24	200	1320	0.01	0.004	64.568	<0.01	<0.01	700.0	295.73	3103.69	<1	0.00	103.85	19	8.03	56.87
8	0.939	7.27	215	1200	0.01	0.005	64.573	<0.01	<0.01	680.0	320.00	3423.69	<1	0.00	103.85	16	7.53	64.40
9	0.927	7.21	214	1050	0.01	0.005	64.578	<0.01	<0.01	620.0	288.03	3711.72	<1	0.00	103.85	19	8.83	73.23
10	0.904	7.22	214	1090	<0.01	0.000	64.578	<0.01	<0.01	600.0	271.83	3983.55	<1	0.00	103.85	19	8.61	81.84
11	0.965	7.29	232	1130	0.01	0.005	64.583	<0.01	<0.01	660.0	319.18	4302.73	<1	0.00	103.85	16	7.74	89.58
12	0.946	7.34	220	1050	<0.01	0.000	64.583	<0.01	<0.01	580.0	274.97	4577.70	<1	0.00	103.85	20	9.48	99.06
13	0.937	7.38	192	988	<0.01	0.000	64.583	<0.01	<0.01	580.0	272.36	4850.06	<1	0.00	103.85	19	8.92	107.98
14	0.972	7.29	239	1055	0.01	0.005	64.588	0.01	0.00	580.0	282.53	5132.59	<1	0.00	103.85	21	10.23	118.21
15	0.974	7.25	231	980	0.01	0.005	64.593	<0.01	<0.01	680.0	331.92	5464.51	<1	0.00	103.85	23	11.23	129.44
16	0.980	7.27	216	978	0.01	0.005	64.598	<0.01	<0.01	600.0	294.68	5759.19	<1	0.00	103.85	23	11.30	140.74
17	0.966	7.26	227	1011	<0.01	0.000	64.598	<0.01	<0.01	560.0	271.10	6030.29	<1	0.00	103.85	23	11.13	151.87
18	0.996	7.23	215	953	0.02	0.010	64.608	<0.01	<0.02	550.0	274.53	6304.82	<1	0.00	103.85	25	12.48	164.35
19	0.893	7.23	224	828	0.01	0.004	64.612	<0.01	<0.01	500.0	223.76	6528.58	<1	0.00	103.85	18	8.06	172.41
20	0.973	7.33	227	984	0.01	0.005	64.617	<0.01	<0.01	590.0	287.70	6816.28	<1	0.00	103.85	21	10.24	182.65
21	0.978	7.29	222	970	0.02	0.010	64.627	<0.01	<0.02	560.0	274.47	7090.75	<1	0.00	103.85	23	11.27	193.92
22	0.875	7.29	239	908	<0.01	0.000	64.627	<0.01	<0.01	550.0	241.18	7331.93	<1	0.00	103.85	14	6.14	200.06
23	0.950	7.27	216	941	<0.01	0.000	64.627	<0.01	<0.01	500.0	238.05	7569.98	<1	0.00	103.85	19	9.05	209.11
24	0.973	7.28	217	980	0.02	0.010	64.637	<0.01	<0.02	340.0	165.79	7735.77	<1	0.00	103.85	17	8.29	217.40

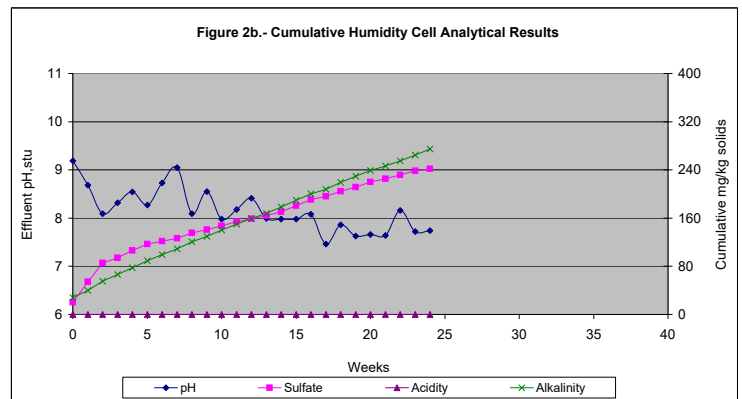
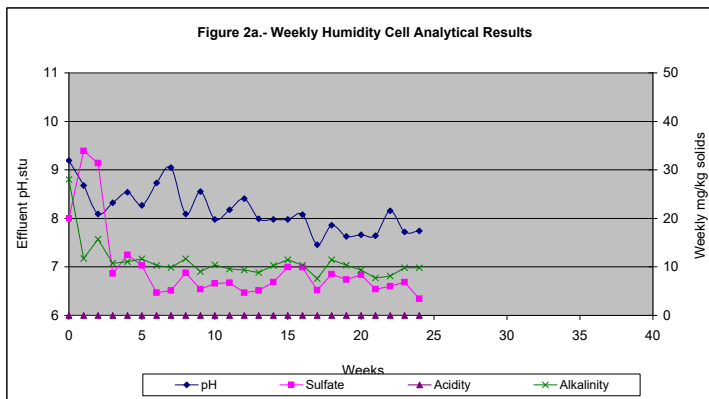
<sup>1)</sup> Conductivity originally reported in mS/cm. Reported in  $\mu\text{S}/\text{cm}$  after week 12.  
 Testing terminated after week 24



**Table 3. - Humidity Cell Analytical Results, Ynl 0 (2.0145 kg)**

Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity $\mu\text{S}/\text{cm}^{(1)}$	Total Fe			$\text{Fe}^{2+}$ mg/l	$\text{Fe}^{3+}$ mg/l	$\text{SO}_4^{=}$		Cum. mg/kg	Acidity, $\text{CaCO}_3$ Equivalents		Alkalinity, $\text{CaCO}_3$ Equivalents			
					mg/l	mg/kg	Cum. mg/kg			mg/l	mg/kg		mg/l	mg/kg	mg/l	mg/kg	Cum. mg/kg	
0	1.344	9.19	7	180	0.05	0.033	0.033	<0.01	<0.05	30.0	20.01	20.01	<1	0.00	0.00	42	28.02	28.02
1	0.876	8.68	139	240	0.15	0.065	0.098	<0.01	<0.15	78.0	33.92	53.93	<1	0.00	0.00	27	11.74	39.76
2	0.989	8.09	111	220	<0.01	0.000	0.098	<0.01	<0.01	64.0	31.42	85.35	<1	0.00	0.00	32	15.71	55.47
3	0.869	8.32	145	110	0.01	0.004	0.102	<0.01	<0.01	20.0	8.63	93.98	<1	0.00	0.00	25	10.78	66.25
4	0.928	8.54	145	110	<0.01	0.000	0.102	<0.01	<0.01	27.0	12.44	106.42	<1	0.00	0.00	24	11.06	77.31
5	0.940	8.27	187	110	<0.01	0.000	0.102	<0.01	<0.01	22.0	10.27	116.69	<1	0.00	0.00	25	11.67	88.98
6	0.861	8.73	9	90.0	0.03	0.013	0.115	<0.01	<0.03	11.0	4.70	121.39	<1	0.00	0.00	24	10.26	99.24
7	0.867	9.05	114	90.0	0.01	0.004	0.119	<0.01	<0.01	12.0	5.16	126.55	<1	0.00	0.00	23	9.90	109.14
8	0.980	8.09	156	100	0.01	0.005	0.124	<0.01	<0.01	18.0	8.76	135.31	<1	0.00	0.00	24	11.68	120.82
9	0.911	8.55	138	70.0	0.01	0.005	0.129	<0.01	<0.01	12.0	5.43	140.74	<1	0.00	0.00	20	9.04	129.86
10	0.952	7.98	163	80.0	<0.01	0.000	0.129	<0.01	<0.01	14.0	6.62	147.36	<1	0.00	0.00	22	10.40	140.26
11	0.966	8.18	169	80.0	<0.01	0.000	0.129	<0.01	<0.01	14.0	6.71	154.07	<1	0.00	0.00	20	9.59	149.85
12	0.942	8.41	139	70.0	0.01	0.005	0.134	<0.01	<0.01	10.0	4.68	158.75	<1	0.00	0.00	20	9.35	159.20
13	0.939	7.99	150	67.8	<0.01	0.000	0.134	<0.01	<0.01	11.0	5.13	163.88	<1	0.00	0.00	19	8.86	168.06
14	0.987	7.98	188	78.2	<0.01	0.000	0.134	<0.01	<0.01	14.0	6.86	170.74	<1	0.00	0.00	21	10.29	178.35
15	1.003	7.98	178	81.6	0.01	0.005	0.139	<0.01	<0.01	20.0	9.96	180.70	<1	0.00	0.00	23	11.45	189.80
16	0.995	8.08	161	81.9	0.01	0.005	0.144	<0.01	<0.01	20.0	9.88	190.58	<1	0.00	0.00	21	10.37	200.17
17	0.954	7.46	197	62.0	0.01	0.005	0.149	<0.01	<0.01	11.0	5.21	195.79	<1	0.00	0.00	16	7.58	207.75
18	1.005	7.86	169	81.7	0.02	0.010	0.159	<0.01	<0.02	17.0	8.48	204.27	<1	0.00	0.00	23	11.47	219.22
19	0.993	7.63	190	75.6	0.01	0.005	0.164	<0.01	<0.01	15.0	7.39	211.66	<1	0.00	0.00	21	10.35	229.57
20	0.994	7.66	177	81.1	0.01	0.005	0.169	<0.01	<0.01	17.0	8.39	220.05	<1	0.00	0.00	19	9.38	238.95
21	0.912	7.64	182	64.8	0.02	0.009	0.178	<0.01	<0.02	12.0	5.43	225.48	<1	0.00	0.00	17	7.70	246.65
22	0.860	8.16	138	72.9	0.02	0.009	0.187	<0.01	<0.02	14.0	5.98	231.46	<1	0.00	0.00	19	8.11	254.76
23	0.989	7.72	175	76.6	<0.01	0.000	0.187	<0.01	<0.01	14.0	6.87	238.33	<1	0.00	0.00	20	9.82	264.58
24	0.993	7.74	182	71.6	0.06	0.030	0.217	<0.01	<0.06	7.0	3.45	241.78	<1	0.00	0.00	20	9.86	274.44

<sup>1)</sup> Conductivity originally reported in mS/cm. Reported in  $\mu\text{S}/\text{cm}$  after week 12.  
Testing terminated after week 24



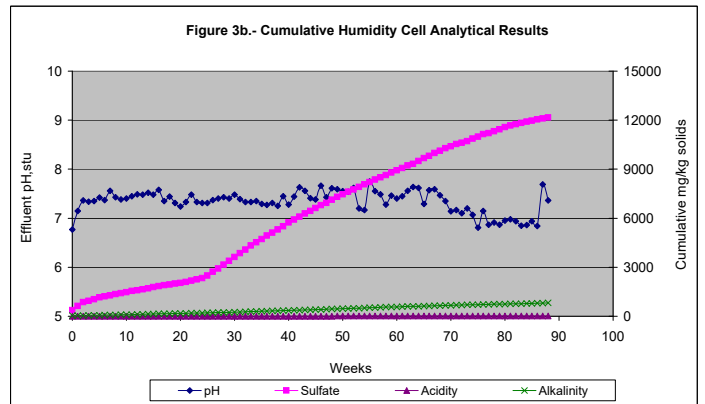
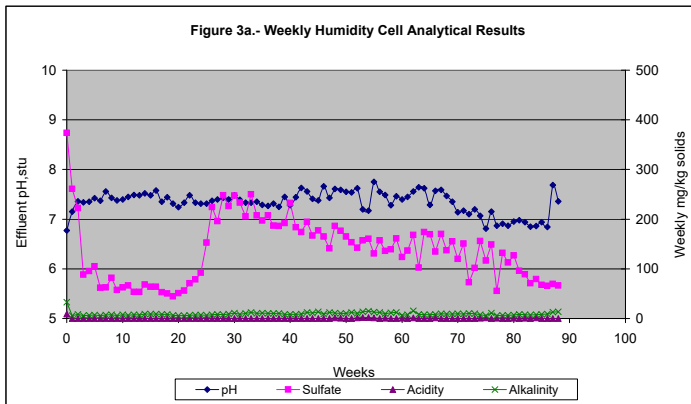
**Table 4. - Humidity Cell Analytical Results, Ynl 1/Ynl 2 Composite (2.0080 kg)**

Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity $\mu\text{S}/\text{cm}^1$	Total Fe					SO <sub>4</sub> =			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
					mg/l	mg/kg	Cum. mg/kg	Fe <sup>2+</sup> mg/l	Fe <sup>3+</sup> mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.251	6.77	-37	1020	9.00	5.607	5.607	0.42	8.58	600.0	373.80	373.80	14	8.72	8.72	53	33.02	33.02
1	0.873	7.15	210	1100	0.05	0.022	5.629	<0.01	<0.05	600.0	260.86	634.66	<1	0.00	8.72	14	6.09	39.11
2	0.971	7.36	176	910	<0.01	0.000	5.629	<0.01	<0.01	460.0	222.44	857.10	<1	0.00	8.72	17	8.22	47.33
3	0.805	7.34	208	540	0.01	0.004	5.633	<0.01	<0.01	220.0	88.20	945.30	<1	0.00	8.72	14	5.61	52.94
4	0.913	7.35	201	500	<0.01	0.000	5.633	<0.01	<0.01	210.0	95.48	1040.78	<1	0.00	8.72	14	6.37	59.31
5	0.919	7.42	238	470	<0.01	0.000	5.633	<0.01	<0.01	230.0	105.26	1146.04	<1	0.00	8.72	15	6.87	66.18
6	0.804	7.37	136	360	0.03	0.012	5.645	<0.01	<0.03	155.0	62.06	1208.10	<1	0.00	8.72	15	6.01	72.19
7	0.835	7.56	181	370	0.01	0.004	5.649	<0.01	<0.01	150.0	62.38	1270.48	<1	0.00	8.72	17	7.07	79.26
8	0.965	7.43	208	380	0.01	0.005	5.654	<0.01	<0.01	170.0	81.70	1352.18	<1	0.00	8.72	16	7.69	86.95
9	0.882	7.38	190	280	0.01	0.004	5.658	<0.01	<0.01	130.0	57.10	1409.28	<1	0.00	8.72	13	5.71	92.66
10	0.932	7.40	207	320	<0.01	0.000	5.658	<0.01	<0.01	135.0	62.66	1471.94	<1	0.00	8.72	16	7.43	100.09
11	0.953	7.45	215	320	<0.01	0.000	5.658	<0.01	<0.01	140.0	66.44	1538.38	<1	0.00	8.72	14	6.64	106.73
12	0.935	7.49	185	300	0.01	0.005	5.663	<0.01	<0.01	115.0	53.55	1591.93	<1	0.00	8.72	16	7.45	114.18
13	0.929	7.48	176	282	0.01	0.005	5.668	<0.01	<0.01	115.0	53.20	1645.13	<1	0.00	8.72	15	6.94	121.12
14	0.978	7.52	218	337	<0.01	0.000	5.668	<0.01	<0.01	140.0	68.19	1713.32	<1	0.00	8.72	19	9.25	130.37
15	0.985	7.48	206	273	0.01	0.005	5.673	<0.01	<0.01	130.0	63.77	1777.09	<1	0.00	8.72	18	8.83	139.20
16	0.983	7.58	187	291	0.01	0.005	5.678	<0.01	<0.01	130.0	63.64	1840.73	<1	0.00	8.72	19	9.30	148.50
17	0.964	7.35	215	273	<0.01	0.000	5.678	<0.01	<0.01	110.0	52.81	1893.54	<1	0.00	8.72	17	8.16	156.66
18	0.968	7.44	193	251	0.01	0.005	5.683	<0.01	<0.01	104.0	50.14	1943.68	<1	0.00	8.72	18	8.68	165.34
19	0.889	7.31	209	232	0.01	0.004	5.687	<0.01	<0.01	100.0	44.27	1987.95	<1	0.00	8.72	15	6.64	171.98
20	0.918	7.24	196	269	0.01	0.005	5.692	<0.01	<0.01	112.0	51.20	2039.15	<1	0.00	8.72	12	5.49	177.47
21	0.919	7.33	196	292	0.02	0.009	5.701	<0.01	<0.02	122.0	55.84	2094.99	<1	0.00	8.72	13	5.95	183.42
22	0.809	7.48	174	395	<0.01	0.000	5.701	<0.01	<0.01	176.0	70.91	2165.90	<1	0.00	8.72	16	6.45	189.87
23	0.950	7.33	191	405	<0.01	0.000	5.701	<0.01	<0.01	166.0	78.54	2244.44	<1	0.00	8.72	15	7.10	196.97
24	0.977	7.31	191	536	0.03	0.015	5.716	<0.01	<0.03	190.0	92.45	2336.89	<1	0.00	8.72	14	6.81	203.78
25	0.957	7.31	225	652	0.01	0.005	5.721	<0.01	<0.01	320.0	152.51	2489.40	<1	0.00	8.72	14	6.67	210.45
26	0.939	7.37	226	842	<0.10	0.000	5.721	<0.10	<0.1	480.0	224.46	2713.86	<1	0.00	8.72	16	7.48	217.93
27	1.007	7.40	178	802	<0.10	0.000	5.721	<0.10	<0.1	390.0	195.58	2909.44	<1	0.00	8.72	17	8.53	226.46
28	0.976	7.43	182	874	<0.10	0.000	5.721	<0.10	<0.1	510.0	247.89	3157.33	<1	0.00	8.72	16	7.78	234.24
29	0.967	7.40	204	907	<0.10	0.000	5.721	<0.10	<0.1	470.0	226.34	3383.67	<1	0.00	8.72	19	9.15	243.39
30	1.015	7.48	219	969	<0.10	0.000	5.721	<0.10	<0.1	490.0	247.68	3631.35	<1	0.00	8.72	22	11.12	254.51
31	0.957	7.39	212	896	<0.10	0.000	5.721	<0.10	<0.1	490.0	233.53	3864.88	<1	0.00	8.72	18	8.58	263.09
32	0.961	7.33	213	908	<0.10	0.000	5.721	<0.10	<0.1	430.0	205.79	4070.67	<1	0.00	8.72	22	10.53	273.62
33	1.020	7.33	191	847	<0.10	0.000	5.721	<0.10	<0.1	480.0	250.05	4320.72	<1	0.00	8.72	24	12.50	286.12
34	0.966	7.35	144	824	<0.10	0.000	5.721	<0.10	<0.1	420.0	207.21	4527.93	<1	0.00	8.72	21	10.36	296.48
35	0.990	7.29	195	831	<0.10	0.000	5.721	<0.10	<0.1	390.0	197.19	4725.12	<1	0.00	8.72	22	11.12	307.60
36	0.990	7.27	232	793	<0.10	0.000	5.721	<0.10	<0.1	410.0	207.30	4932.42	<1	0.00	8.72	20	10.11	317.71
37	0.989	7.31	260	806	<0.10	0.000	5.721	<0.10	<0.1	370.0	186.89	5119.31	<1	0.00	8.72	20	10.10	327.81
38	0.984	7.25	280	795	<0.10	0.000	5.721	<0.10	<0.1	370.0	185.94	5305.25	<1	0.00	8.72	21	10.55	338.36
39	0.991	7.45	241	751	<0.10	0.000	5.721	<0.10	<0.1	380.0	192.33	5497.58	<1	0.00	8.72	17	8.60	346.96
40	0.969	7.28	325	858	<0.10	0.000	5.721	<0.10	<0.1	470.0	232.60	5730.18	<1	0.00	8.72	17	8.41	355.37
41	0.973	7.44	246	778	<0.10	0.000	5.721	<0.10	<0.1	370.0	183.87	5914.05	<1	0.00	8.72	17	8.45	363.82
42	0.972	7.63	289	745	<0.10	0.000	5.721	<0.10	<0.1	350.0	173.75	6087.80	<1	0.00	8.72	18	8.94	372.76
43	0.978	7.56	238	794	<0.10	0.000	5.721	<0.10	<0.1	390.0	194.80	6282.60	<1	0.00	8.72	25	12.49	385.25
44	0.992	7.41	205	662	<0.10	0.000	5.721	<0.10	<0.1	330.0	167.19	6449.79	<1	0.00	8.72	22	11.15	396.40
45	0.991	7.38	399	747	<0.10	0.000	5.721	<0.10	<0.1	350.0	177.15	6626.94	<1	0.00	8.72	27	13.67	410.07
46	0.977	7.66	280	720	<0.10	0.000	5.721	<0.10	<0.1	330.0	164.66	6791.60	<1	0.00	8.72	18	8.98	419.05
47	0.987	7.43	282	639	<0.10	0.000	5.721	<0.10	<0.1	280.0	141.14	6932.74	<1	0.00	8.72	24	12.10	431.15
48	0.986	7.61	119	686	<0.10	0.000	5.721	<0.10	<0.1	370.0	186.32	7119.06	2	1.01	9.73	22	11.08	442.23
49	0.988	7.59	184	696	<0.10	0.000	5.721	<0.10	<0.1	350.0	176.61	7295.67	1	0.51	10.23	20	10.09	452.32
50	0.979	7.55	174	655	<0.10	0.000	5.721	<0.10	<0.1	330.0	165.00	7460.67	<1	0.00	10.23	20	10.00	462.32
51	1.001	7.54	196	647	<0.10	0.000	5.721	<0.10	<0.1	300.0	153.37	7614.04	<1	0.00	10.23	24	12.27	474.59
52	0.961	7.62	293	672	<0.10	0.000	5.721	<0.10	<0.1	290.0	142.33	7756.37	2	0.98	11.22	21	10.31	484.90
53	0.934	7.20	205	668	<0.10	0.000	5.721	<0.10	<0.1	330.0	157.42	7913.79	4	1.91	13.12	28	13.36	498.26
54	1.013	7.17	163	643	<0.10	0.000	5.721	<0.10	<0.1	310.0	160.38	8074.17	4	2.07	15.19	29	15.00	513.26
55	0.985	7.75	210	598	<0.10	0.000	5.721	<0.10	<0.1	260.0	130.80	8204.97	2	1.01	16.20	25	12.58	525.84
56	0.991	7.55	185	651	<0.10	0.000	5.721	<0.10	<0.1	310.0	156.90	8361.87	<1	0.13	16.33	24	12.35	538.19
57	0.987	7.49	42	553	<0.10	0.000	5.721	<0.10	<0.1	270.0	136.10	8497.97	1	0.65	16.97	19	9.48	547.67
58	0.973	7.28	240	620	0.13	0.065	5.786	<0.10	<0.13	280.0	139.14	8637.11	<1	0.00	16.97	23	11.43	559.10
59	0.987	7.46	201	658	<0.10	0.000	5.786	<0.10	<0.1	320.0	161.31	8798.42	<1	0.00	16.97	24	12.10	571.20
60	0.835	7.40	198	539	<0.10	0.000	5.786	<0.10	<0.1	290.0	123.67	8922.09	2	0.79	17.76	15	6.27	577.47
61	0.924	7.45	183	589	<0.10	0.000	5.786	<0.10	<0.1	290.0	136.85	9058.94	<1	0.00	17.76	16	7.55	585.02
62	0.970	7.56	177	670	<0.10	0.000	5.786	<0.10	<0.1	340.0	168.44	9227.38	2	0.99	18.76	31	15.36	600.38
63	0.913	7.64	153	651	<0.10	0.000	5.786	<0.10	<0.1	220.0	102.58	9329.96	<1	0.00	18.76	18	8.39	608.77

**Table 4. - Humidity Cell Analytical Results, Ynl 1/Ynl 2 Composite (2.0080 kg)**

Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity $\mu\text{S}/\text{cm}^{1)}$	Total Fe			$\text{Fe}^{2+}$ mg/l	$\text{Fe}^{3+}$ mg/l	$\text{SO}_4^{=}$			Acidity, $\text{CaCO}_3$ Equivalents			Alkalinity, $\text{CaCO}_3$ Equivalents		
					mg/l	mg/kg	Cum. mg/kg			mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
64	0.946	7.62	178	711	<0.10	0.000	5.786	<0.10	<0.1	360.0	173.93	9503.89	<1	0.00	18.76	16	7.73	616.50
65	0.949	7.29	189	676	<0.10	0.000	5.786	<0.10	<0.1	350.0	169.64	9673.53	<1	0.00	18.76	16	7.75	624.25
66	0.942	7.57	155	704	<0.10	0.000	5.786	<0.10	<0.1	280.0	134.71	9808.24	3	1.44	20.20	18	8.66	632.91
67	0.953	7.59	219	663	<0.10	0.000	5.786	<0.10	<0.1	350.0	170.35	9978.59	<1	0.00	20.20	20	9.73	642.64
68	0.960	7.47	243	617	<0.10	0.000	5.786	<0.10	<0.1	280.0	137.28	10115.87	<1	0.00	20.20	18	8.83	651.47
69	0.951	7.35	338	651	<0.10	0.000	5.786	<0.10	<0.1	320.0	155.42	10271.29	<1	0.00	20.20	18	8.74	660.21
70	0.978	7.14	239	611	<0.10	0.000	5.786	<0.10	<0.1	240.0	119.88	10391.17	<1	0.00	20.20	19	9.49	669.70
71	0.952	7.17	296	592	<0.10	0.000	5.786	<0.10	<0.1	310.0	150.73	10541.90	<1	0.00	20.20	18	8.75	678.45
72	0.890	7.10	252	556	<0.10	0.000	5.786	<0.10	<0.1	160.0	72.73	10614.63	<1	0.00	20.20	23	10.45	688.90
73	0.951	7.20	282	560	<0.10	0.000	5.786	<0.10	<0.1	210.0	102.00	10716.63	<1	0.00	20.20	20	9.71	698.61
74	0.874	7.07	275	592	<0.10	0.000	5.786	<0.10	<0.1	350.0	156.23	10872.86	2	0.89	21.09	17	7.59	706.20
75	0.847	6.81	234	521	<0.10	0.000	5.786	<0.10	<0.1	270.0	116.80	10989.66	3	1.46	22.55	14	6.06	712.26
76	0.972	7.15	339	569	<0.10	0.000	5.786	<0.10	<0.1	300.0	148.93	11138.59	<1	0.00	22.55	22	10.92	723.18
77	0.880	6.87	384	526	<0.10	0.000	5.786	<0.10	<0.1	123.0	55.28	11193.87	2	0.90	23.45	13	5.84	729.02
78	0.892	6.91	331	537	<0.10	0.000	5.786	<0.10	<0.1	290.0	132.11	11325.98	<1	0.00	23.45	14	6.38	735.40
79	0.817	6.87	336	471	<0.10	0.000	5.786	<0.10	<0.1	270.0	112.66	11438.64	<1	0.00	23.45	15	6.26	741.66
80	0.827	6.95	367	466	<0.10	0.000	5.786	<0.10	<0.1	300.0	126.71	11565.35	2	0.85	24.30	17	7.18	748.84
81	0.939	6.98	371	458	<0.10	0.000	5.786	<0.10	<0.1	200.0	95.91	11661.26	<1	0.00	24.30	18	8.63	757.47
82	0.918	6.94	239	410	<0.10	0.000	5.786	<0.10	<0.1	190.0	89.08	11750.34	1	0.47	24.77	16	7.50	764.97
83	0.864	6.85	225	408	<0.10	0.000	5.786	<0.10	<0.1	160.0	70.60	11820.94	<1	0.00	24.77	16	7.06	772.03
84	0.968	6.86	185	433	<0.10	0.000	5.786	<0.10	<0.1	160.0	79.10	11900.04	2	0.99	25.76	16	7.91	779.94
85	0.945	6.94	194	436	<0.10	0.000	5.786	<0.10	<0.1	140.0	67.57	11967.61	<1	0.00	25.76	18	8.69	788.63
86	0.994	6.84	280	439	<0.10	0.000	5.786	<0.10	<0.1	130.0	66.00	12033.61	<1	0.00	25.76	18	9.14	797.77
87	0.971	7.69	298	479	<0.10	0.000	5.786	<0.10	<0.1	140.0	69.43	12103.04	<1	0.00	25.76	26	12.89	810.66
88	1.004	7.36	412	409	<0.10	0.000	5.786	<0.10	<0.1	130.0	66.66	12169.70	<1	0.00	25.76	27	13.84	824.50

<sup>1)</sup> Conductivity originally reported in mS/cm. Reported in  $\mu\text{S}/\text{cm}$  after week 12.  
 Testing terminated after week 88



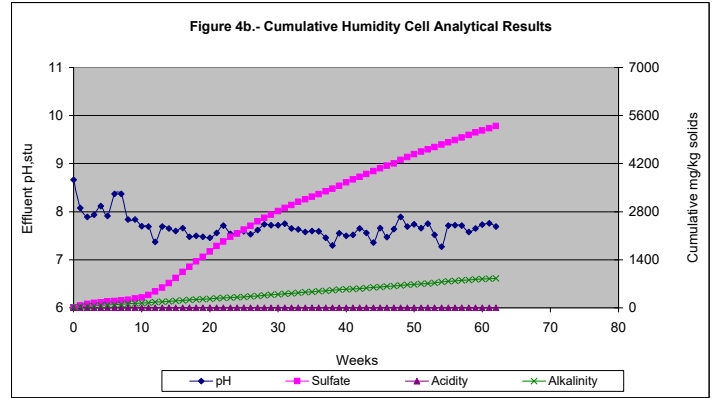
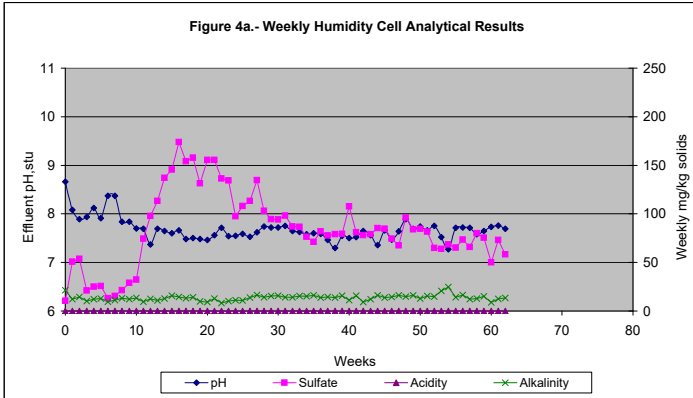
**Table 5. - Humidity Cell Analytical Results, Ynl B 2012 Decline (1.9951 kg)**

Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity $\mu\text{S/cm}^1$	Total Fe					SO <sub>4</sub> =			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
					mg/l	mg/kg	Cum. mg/kg	Fe <sup>2+</sup> mg/l	Fe <sup>3+</sup> mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.048	8.66	133	160	0.01	0.005	0.005	0.01	0.00	20.0	10.51	10.51	<1	0.00	0.00	41	21.54	21.54
1	0.875	8.08	196	320	0.05	0.022	0.027	<0.01	<0.05	116.0	50.87	61.38	<1	0.00	0.00	28	12.28	33.82
2	0.974	7.89	160	290	<0.01	0.000	0.027	<0.01	<0.01	110.0	53.70	115.08	<1	0.00	0.00	30	14.65	48.47
3	0.845	7.94	166	180	0.01	0.004	0.031	<0.01	<0.01	50.0	21.18	136.26	<1	0.00	0.00	24	10.16	58.63
4	0.930	8.12	154	180	<0.01	0.000	0.031	<0.01	<0.01	54.0	25.17	161.43	<1	0.00	0.00	26	12.12	70.75
5	0.947	7.91	209	170	0.01	0.005	0.036	<0.01	<0.01	54.0	25.63	187.06	<1	0.00	0.00	27	12.82	83.57
6	0.821	8.37	102	120	0.03	0.012	0.048	<0.01	<0.03	32.0	13.17	200.23	<1	0.00	0.00	23	9.46	93.03
7	0.883	8.37	150	130	0.01	0.004	0.052	<0.01	<0.01	35.0	15.49	215.72	<1	0.00	0.00	25	11.06	104.09
8	0.977	7.84	184	160	0.01	0.005	0.057	<0.01	<0.01	44.0	21.55	237.27	<1	0.00	0.00	27	13.22	117.31
9	0.964	7.84	176	190	0.01	0.005	0.062	<0.01	<0.01	60.0	28.99	266.26	<1	0.00	0.00	25	12.08	129.39
10	0.987	7.70	189	310	<0.01	0.000	0.062	<0.01	<0.01	65.0	32.16	298.42	<1	0.00	0.00	27	13.36	142.75
11	0.954	7.69	205	380	0.01	0.005	0.067	<0.01	<0.01	156.0	74.59	373.01	<1	0.00	0.00	20	9.56	152.31
12	1.000	7.37	186	470	0.01	0.005	0.072	<0.01	<0.01	195.0	97.74	470.75	<1	0.00	0.00	25	12.53	164.84
13	0.941	7.69	171	492	<0.01	0.000	0.072	<0.01	<0.01	240.0	113.20	583.95	<1	0.00	0.00	23	10.85	175.69
14	0.959	7.65	220	623	<0.01	0.000	0.072	<0.01	<0.01	285.0	136.99	720.94	<1	0.00	0.00	27	12.98	188.67
15	1.019	7.60	212	553	0.01	0.005	0.077	<0.01	<0.01	285.0	145.56	866.50	<1	0.00	0.00	31	15.83	204.50
16	0.991	7.66	199	660	0.01	0.005	0.082	<0.01	<0.01	350.0	173.85	1040.35	<1	0.00	0.00	29	14.40	218.90
17	0.977	7.48	222	690	<0.01	0.000	0.082	<0.01	<0.01	315.0	154.26	1194.61	<1	0.00	0.00	27	13.22	232.12
18	1.000	7.50	202	662	0.01	0.005	0.087	<0.01	<0.01	315.0	157.89	1352.50	<1	0.00	0.00	28	14.03	246.15
19	0.904	7.48	206	568	0.01	0.005	0.092	<0.01	<0.01	290.0	131.40	1483.90	<1	0.00	0.00	22	9.97	256.12
20	0.984	7.46	194	660	0.01	0.005	0.097	<0.01	<0.01	315.0	155.36	1639.26	<1	0.00	0.00	19	9.37	265.49
21	0.985	7.56	196	649	0.01	0.005	0.102	<0.01	<0.01	315.0	155.52	1794.78	<1	0.00	0.00	26	12.84	278.33
22	0.850	7.71	169	597	<0.01	0.000	0.102	<0.01	<0.01	320.0	136.33	1931.11	<1	0.00	0.00	19	8.09	286.42
23	0.958	7.54	191	587	<0.01	0.000	0.102	<0.01	<0.01	280.0	134.45	2065.56	<1	0.00	0.00	21	10.08	296.50
24	0.974	7.55	185	552	0.05	0.024	0.126	<0.01	<0.05	200.0	97.64	2163.20	<1	0.00	0.00	23	11.23	307.73
25	0.979	7.59	213	524	<0.01	0.000	0.126	<0.01	<0.01	220.0	107.95	2271.15	<1	0.00	0.00	22	10.80	318.53
26	0.941	7.53	224	536	<0.10	0.000	0.126	<0.10	<0.1	240.0	113.20	2384.35	<1	0.00	0.00	29	13.68	332.21
27	1.035	7.62	187	499	<0.10	0.000	0.126	<0.10	<0.1	260.0	134.88	2519.23	<1	0.00	0.00	32	16.60	348.81
28	0.978	7.74	167	505	<0.10	0.000	0.126	<0.10	<0.1	210.0	102.94	2622.17	<1	0.00	0.00	29	14.22	363.03
29	0.991	7.72	187	500	<0.10	0.000	0.126	<0.10	<0.1	190.0	94.38	2716.55	<1	0.00	0.00	31	15.40	378.43
30	0.988	7.72	198	504	<0.10	0.000	0.126	<0.10	<0.1	190.0	94.09	2810.64	<1	0.00	0.00	32	15.85	394.28
31	0.979	7.75	194	466	<0.10	0.000	0.126	<0.10	<0.1	200.0	98.14	2908.78	<1	0.00	0.00	29	14.23	408.51
32	0.964	7.65	218	444	<0.10	0.000	0.126	<0.10	<0.1	180.0	86.97	2995.75	<1	0.00	0.00	29	14.01	422.52
33	0.993	7.63	158	425	<0.10	0.000	0.126	<0.10	<0.1	170.0	86.79	3082.54	<1	0.00	0.00	30	15.32	437.84
34	0.991	7.58	109	404	<0.10	0.000	0.126	<0.10	<0.1	150.0	76.42	3158.96	<1	0.00	0.00	30	15.28	453.12
35	0.990	7.60	168	435	<0.10	0.000	0.126	<0.10	<0.1	140.0	71.26	3230.22	<1	0.00	0.00	32	16.29	469.41
36	0.998	7.59	62	396	<0.10	0.000	0.126	<0.10	<0.1	160.0	82.09	3312.31	<1	0.00	0.00	27	13.85	483.26
37	1.007	7.46	297	420	<0.10	0.000	0.126	<0.10	<0.1	150.0	77.66	3389.97	<1	0.00	0.00	28	14.50	497.76
38	0.963	7.30	162	416	<0.10	0.000	0.126	<0.10	<0.1	160.0	79.21	3469.18	<1	0.00	0.00	28	13.86	511.62
39	1.028	7.55	286	402	<0.10	0.000	0.126	<0.10	<0.1	150.0	79.28	3548.46	<1	0.00	0.00	30	15.86	527.48
40	0.952	7.50	335	473	<0.10	0.000	0.126	<0.10	<0.1	220.0	107.68	3656.14	<1	0.00	0.00	23	11.26	538.74
41	0.985	7.52	218	430	<0.10	0.000	0.126	<0.10	<0.1	160.0	81.02	3737.16	<1	0.00	0.00	31	15.70	554.44
42	1.013	7.65	305	397	<0.10	0.000	0.126	<0.10	<0.1	150.0	78.12	3815.28	<1	0.00	0.00	18	9.37	563.81
43	0.959	7.56	230	396	<0.10	0.000	0.126	<0.10	<0.1	160.0	78.89	3894.17	<1	0.00	0.00	25	12.33	576.14
44	1.036	7.36	249	377	<0.10	0.000	0.126	<0.10	<0.1	160.0	85.22	3979.39	<1	0.00	0.00	30	15.98	592.12
45	0.967	7.66	316	431	<0.10	0.000	0.126	<0.10	<0.1	170.0	84.51	4063.90	<1	0.00	0.00	28	13.92	606.04
46	0.966	7.47	255	405	<0.10	0.000	0.126	<0.10	<0.1	150.0	74.49	4138.39	<1	0.00	0.00	29	14.40	620.44
47	1.008	7.64	239	352	<0.10	0.000	0.126	<0.10	<0.1	130.0	67.37	4205.76	<1	0.00	0.00	31	16.06	636.50
48	0.983	7.89	196	383	<0.10	0.000	0.126	<0.10	<0.1	190.0	96.02	4301.78	<1	0.00	0.00	29	14.66	651.16
49	1.023	7.69	259	385	<0.10	0.000	0.126	<0.10	<0.1	160.0	84.15	4385.93	<1	0.00	0.00	31	16.30	667.46
50	0.967	7.74	271	381	<0.10	0.000	0.126	<0.10	<0.1	170.0	84.51	4470.44	<1	0.00	0.00	26	12.93	680.39
51	0.995	7.66	296	398	<0.10	0.000	0.126	<0.10	<0.1	160.0	81.85	4552.29	<1	0.00	0.00	30	15.35	695.74
52	0.970	7.75	253	388	<0.10	0.000	0.126	<0.10	<0.1	130.0	64.83	4617.12	<1	0.00	0.00	30	14.96	710.70
53	0.956	7.52	214	404	<0.10	0.000	0.126	<0.10	<0.1	130.0	63.89	4681.01	<1	0.00	0.00	42	20.64	731.34
54	1.023	7.27	157	380	<0.10	0.000	0.126	<0.10	<0.1	130.0	68.37	4749.38	<1	0.00	0.00	47	24.72	756.06
55	0.977	7.71	232	360	<0.10	0.000	0.126	<0.10	<0.1	130.0	65.30	4814.68	<1	0.00	0.00	28	14.06	770.12
56	1.021	7.72	182	387	<0.10	0.000	0.126	<0.10	<0.1	140.0	73.49	4888.17	<1	0.00	0.00	31	16.48	786.60
57	0.988	7.71	20	350	<0.10	0.000	0.126	<0.10	<0.1	130.0	66.03	4954.20	<1	0.00	0.00	24	12.24	798.84
58	0.972	7.58	237	412	<0.10	0.000	0.126	<0.10	<0.1	160.0	79.95	5034.15	<1	0.00	0.00	26	12.99	811.83
59	0.980	7.65	207	402	<0.10	0.000	0.126	<0.10	<0.1	150.0	75.57	5109.72	<1	0.00	0.00	30	15.11	826.94
60	0.814	7.73	185.6	282	<0.10	0.000	0.126	<0.10	<0.1	120.0	50.22	5159.94	<1	0.00	0.00	21	8.91	835.85
61	0.947	7.76	187	352	<0.10	0.000	0.126	<0.10	<0.1	150.0	73.03	5232.97	<1	0.00	0.00	26	12.66	848.51
62	0.947	7.69	154	335	<0.10	0.000	0.126	<0.10	<0.1	120.0	58.42	5291.39	<1	0.00	0.00	28	13.63	862.14

<sup>1)</sup> Conductivity originally reported in mS/cm. Reported in  $\mu\text{S/cm}$  after week 12.  
Testing terminated after week 62

**Table 5. - Humidity Cell Analytical Results, Ynl B 2012 Decline (1.9951 kg)**

Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity $\mu\text{S}/\text{cm}^1$	Total Fe			$\text{Fe}^{2+}$ mg/l	$\text{Fe}^{3+}$ mg/l	$\text{SO}_4^{=}$		Acidity, $\text{CaCO}_3$ Equivalents			Alkalinity, $\text{CaCO}_3$ Equivalents		
					mg/l	mg/kg	Cum. mg/kg			mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg



HC kinetic ARD potential test data demonstrate that the USZ 1/USZ 2 Composite, Ynl 0, Ynl 1/Ynl 2 Composite and Ynl B 2012 Decline samples would not generate acid in a natural weathering and oxidizing environment. The acid neutralizing nature of the tested sample is demonstrated by the data summary below.

### **USZ 1/USZ 2 Composite**

- Extract pH was basic (alkaline) and was fairly stable the majority of the test duration. Extract pH ranged from pH 5.95 (week 0) to pH 7.38 (week 12).
- Redox potential was oxidizing and ranged from -11 (week 6) to 257 (week 5) mV. This range of oxidizing potential is typical of solid/solution systems exposed to air, but was never at the oxidizing level (> 450 mV) to indicate oxidation of sulfide minerals.
- Conductivity values were low and fairly constant during the kinetic test, and ranged from 828 (week 19) to 2090 (week 1)  $\mu\text{S}/\text{cm}$ .
- Iron mobility (dissolution) was slight. Week 0 extract concentration was 101.50 mg/L. Iron concentration decreased rapidly after week 0 and concentrations were <0.01 mg/L for multiple weeks.
- Sulfate mobility was moderate. Week 0 extract concentration was 1140 mgSO<sub>4</sub>/L. Sulfate concentration decreased gradually after week 0 and week 24 concentration was 340.0 mg/L. Only 1.68 percent of the contained sulfate was mobilized during the kinetic test.
- Acidity was not detected in any weekly extract after week 2.
- Alkalinity was detected in all weekly extracts and concentrations ranged from 9 (week 2) to 25 (week 18) mgCaCO<sub>3</sub> equivalents/L. Maximum available alkalinity in the USZ 1/USZ 2 Composite was 260,000 mg/kg, but only 217.40 mgCaCO<sub>3</sub>/kg was consumed (0.08% of total) during the HCT.

### **Ynl 0**

- Extract pH was basic (alkaline) and was fairly stable the duration of the HCT. Extract pH ranged from pH 7.46 (week 17) to pH 9.19 (week 0).
- Redox potential was oxidizing and ranged from 7 (week 0) to 197 (week 17) mV. This range of oxidizing potential is typical of solid/solution systems exposed to air, but was never at the oxidizing level (> 450 mV) to indicate oxidation of sulfide minerals.
- Conductivity values were low and fairly constant during the kinetic test, and ranged from 62 (week 17) to 240 (week 1)  $\mu\text{S}/\text{cm}$ .
- Iron mobility (dissolution) was slight and the highest Fet concentration was 0.15 mg/L (week 1).
- Sulfate mobility was also slight with the highest concentration being 78.0 mgSO<sub>4</sub>/L. Only 2.60 percent of the contained sulfate was mobilized during the kinetic test.
- Acidity was not detected in any weekly extract.
- Alkalinity was detected in all weekly extracts and concentrations ranged from 16 (week 17) to 42 (week 0) mgCaCO<sub>3</sub> equivalents/L. Maximum available alkalinity in the Ynl 0 sample was 761,000 mg/kg, but only 274.44 mgCaCO<sub>3</sub>/kg was consumed (0.04% of total) during the HCT.



### **Ynl 1/Ynl 2 Composite**

- Extract pH was basic (alkaline) and was fairly stable the majority of the test duration. Extract pH ranged from pH 6.77 (week 0) to pH 7.75 (week 55).
- Redox potential was oxidizing and ranged from -37 (week 0) to 412 (week 88) mV. This range of oxidizing potential is typical of solid/solution systems exposed to air, but was never at the oxidizing level (> 450 mV) to indicate oxidation of sulfide minerals.
- Conductivity values were low and fairly constant during the kinetic test, and ranged from 232 (week 19) to 1,100 (week 1)  $\mu\text{S}/\text{cm}$ .
- Iron mobility (dissolution) was slight. Week 0 extract concentration was 9.00 mg/L. Iron concentration decreased rapidly after week 0 and concentrations were generally <0.10 mg/L for the duration of testing.
- Sulfate mobility was fairly low. Week 0 extract concentration was 600 mgSO<sub>4</sub>/L. Sulfate concentration increased after week 24 and then gradually decreased throughout the duration of the testing. Only 17.26 percent of the contained sulfate was mobilized during the kinetic test.
- Acidity was only detected in 16 weekly extracts and was never above 4 mgCaCO<sub>3</sub>/L.
- Alkalinity was detected in all weekly extracts and concentrations ranged from 12 (week 20) to 53 (week 0) mgCaCO<sub>3</sub> equivalents/L. Maximum available alkalinity in the Ynl 1/Ynl 2 Composite was 263,000 mg/kg, but only 824.50 mgCaCO<sub>3</sub>/kg was consumed (0.31% of total) during the HCT.

### **Ynl B 2012 Decline**

- Extract pH was basic (alkaline) and was fairly stable the duration of the HCT. Extract pH ranged from pH 7.27 (week 54) to pH 8.66 (week 0).
- Redox potential was oxidizing and ranged from 102 (week 6) to 335 (week 40) mV. This range of oxidizing potential is typical of solid/solution systems exposed to air, but was never at the oxidizing level (> 450 mV) to indicate oxidation of sulfide minerals.
- Conductivity values were low and fairly constant during the kinetic test, and ranged from 120 (week 6) to 690 (week 17)  $\mu\text{S}/\text{cm}$ .
- Iron mobility (dissolution) was slight and was <0.10 mg/L for the duration of testing.
- Sulfate mobility was fairly low. Sulfate concentration increased gradually after week 0 to a high of 350.0 mg/L (week 16). Sulfate concentration then decreased gradually through week 31 and leveled off. Only 9.43 percent of the contained sulfate was mobilized during the kinetic test.
- Acidity was not detected in any weekly extract.
- Alkalinity was detected in all weekly extracts and concentrations ranged from 18 (week 42) to 47 (week 54) mgCaCO<sub>3</sub> equivalents/L. Maximum available alkalinity in the Ynl B 2012 Decline sample was 333,000 mg/kg, but only 862.14 mgCaCO<sub>3</sub>/kg was consumed (0.26% of total) during the HCT.

Table 6 provides maximum available acidity, sulfate and alkalinity in the USZ 1/USZ 2 Composite, Ynl 0, Ynl 1/Ynl 2 Composite and Ynl B 2012 Decline samples, on a mass basis, and those component dissolutions (mass basis) during the HC kinetic ARD potential test. Maximum availability data obtained from Mod ABA static ARD potential testing results provided by Enviromin, Inc.

**Table 6. - Comparative Static and Kinetic ARD Test Acidity, Sulfate, and Alkalinity Generation (Dissolution) Data, -1/4" Feed Size**

Sample I.D.	Acidity, mg/kg			Sulfate, mg/kg			Alkalinity, mg/kg		
	Max. from Solids <sup>1)</sup>	Generated		Max. from Solids <sup>2)</sup>	Generated		Max. from Solids <sup>3)</sup>	Generated	
		HC Test	Pct. of Total		HC Test	Pct. of Total		HC Test	Pct. of Total
USZ 1/USZ 2 Comp	541,000	103.85	0.02	459,300	7,735.77	1.68	260,000	217.40	0.08
Ynl 0	10,000	0.00	0.00	9,300	241.78	2.60	761,000	274.44	0.04
Ynl 1/Ynl 2 Comp	76,000	25.76	0.03	70,500	12,169.70	17.26	263,000	824.50	0.31
Ynl B 2012 Decline	41,000	0.00	0.00	38,700	5,291.39	9.43	333,000	862.14	0.26

1) AGP (tons CaCO<sub>3</sub>/1000 tons) x 1000.

2) Total S as SO<sub>4</sub><sup>2-</sup> converted from weight percent to mg/kg.

3) ANP (tons CaCO<sub>3</sub>/1000 tons) x 1000.

Mass data demonstrate that, for most constituents, only small percentages of acidity, sulfate and alkalinity contained in the feeds were generated during the HC tests.

Constituent analysis results for selected weekly extracts are provided in Tables 7, 8, 9 and 10.

**Table 7. - Metals Analysis Results, HC Test Extracts,  
 USZ 1/USZ 2 Composite, Black Butte Project**

Analysis, mg/L	Extract Week								
	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20	Week 24
Aluminum	0.260	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Antimony	0.0010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic	0.010	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	0.036	0.023	0.014	0.011	0.009	0.007	0.006	0.006	0.005
Beryllium	0.0022	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	0.00445	0.00013	0.00022	0.00011	0.00008	0.00008	0.00008	0.00004	<0.00003
Calcium	168	147	111	95	109	100	122	114	112
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Fluoride	0.2	0.3	0.2	0.2	0.2	<0.2	<0.2	<0.2	<0.2
Iron	112	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	0.0413	<0.0003	0.0006	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Magnesium	144	238	166	141	108	76	64	58	54
Manganese	3.66	0.912	1.01	0.793	0.749	0.616	0.483	0.245	0.098
Mercury	<0.000005	0.0000079	0.00002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Nickel	1.15	0.033	0.03	0.014	0.009	0.010	0.010	0.009	0.004
Phosphorus	0.018	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium	0.004	0.010	0.008	0.006	0.003	0.003	0.001	<0.001	<0.001
Silicon	1.61	0.59	0.74	0.44	0.38	0.36	0.34	0.29	0.22
Silver	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	1.07	1.06	0.79	0.55	0.41	0.33	0.32	0.25	0.23
Sulfate	1,290	1,060	871	751	687	522	523	483	498
Thallium	0.0112	0.0020	0.0019	0.0013	0.0012	0.0013	0.0014	0.0011	0.0011
Uranium	0.0015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Zinc	0.386	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Energy Labs Report #	B13010272	B13010272	B13011326	B13020022	B13030044	B13032186	B13041965	B13052064	B13061999

**Table 8. - Metals Analysis Results, HC Test Extracts,  
 Ynl 0, Black Butte Project**

Analysis, mg/L	Extract Week								
	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20	Week 24
Aluminum	0.066	0.054	0.046	0.041	0.038	0.028	0.026	0.023	0.021
Antimony	0.0012	0.0009	0.0010	0.0011	0.0008	0.0007	0.0006	0.0005	0.0005
Arsenic	0.003	0.002	0.001	0.002	0.001	<0.001	<0.001	<0.001	<0.001
Barium	0.022	0.014	0.010	0.006	0.012	0.009	0.009	0.008	0.012
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	<0.00003	0.00004	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Calcium	17	17	15	8	8	6	8	7	7
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.002	0.006	<0.002	0.003	0.004	0.002	<0.002	<0.002	<0.002
Fluoride	0.6	0.7	0.6	0.4	0.3	0.2	<0.2	<0.2	<0.2
Iron	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Magnesium	12	13	13	7	5	4	4	4	3
Manganese	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury	<0.000005	<0.000005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Nickel	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Phosphorus	0.010	<0.005	<0.005	<0.005	0.007	<0.005	<0.005	<0.005	<0.005
Selenium	0.008	0.010	0.010	0.007	0.003	0.002	0.003	0.002	0.001
Silicon	0.92	1.09	0.97	0.71	0.69	0.50	0.48	0.44	0.41
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	0.05	0.04	0.04	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sulfate	56	71	59	25	17	12	15	14	12
Thallium	0.0019	0.0010	0.0009	0.0003	0.0003	0.0002	0.0002	<0.0002	<0.0002
Uranium	0.0004	0.0006	0.0008	0.0004	0.0005	0.0003	0.0004	0.0004	0.0004
Zinc	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Energy Labs Report #	B13010272	B13010867	B13011326	B13020022	B13030044	B13032186	B13041965	B13052064	B13061999

**Table 9. - Metals Analysis Results, HC Test Extracts,  
 Ynl 1/Ynl 2 Composite, Black Butte Project**

Analysis, mg/L	Extract Week								
	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20	Week 24
Aluminum	<0.009	0.013	0.010	0.014	0.012	0.010	0.013	<0.009	<0.009
Antimony	0.0008	0.0021	0.0012	0.0007	0.0009	0.0008	0.0007	<0.0005	<0.0005
Arsenic	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	0.042	0.031	0.021	0.016	0.014	0.009	0.009	0.008	0.007
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	0.00050	0.00008	0.00005	0.00004	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Calcium	103	101	94	50	38	28	30	25	61
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	0.002	0.005	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002
Fluoride	0.2	0.7	0.6	0.5	0.5	0.5	0.4	0.3	0.2
Iron	12.4	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	0.0005	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Magnesium	61	70	52	27	19	14	15	12	28
Manganese	0.513	0.079	0.077	0.037	0.032	0.021	0.025	0.015	0.025
Mercury	<0.000005	0.0000070	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Nickel	0.136	0.005	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Phosphorus	0.012	0.006	<0.005	0.006	0.007	0.007	<0.005	<0.005	<0.005
Selenium	0.005	0.009	0.005	0.003	<0.001	0.001	<0.001	<0.001	<0.001
Silicon	1.46	1.22	1.17	0.92	0.88	0.73	0.79	0.57	0.74
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	1.08	1.08	0.98	0.49	0.34	0.22	0.21	0.15	0.27
Sulfate	541	557	445	230	174	115	108	106	261
Thallium	0.0060	0.0023	0.0021	0.0011	0.0009	0.0006	0.0005	0.0004	0.0007
Uranium	0.0011	0.0010	0.0012	0.0006	0.0006	0.0004	0.0005	0.0003	0.0007
Zinc	0.083	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Energy Labs Report #	B13010272	B13010272	B13011326	B13020022	B13030044	B13032186	B13041965	B13052064	B13061999

**Table 9, Cont'd - Metals Analysis Results, HC Test Extracts,  
 Ynl 1/Ynl 2 Composite, Black Butte Project**

Analysis, mg/L	Extract Week								
	Week 28	Week 32	Week 36	Week 40	Week 44	Week 48	Week 52	Week 56	Week 60
Aluminum	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	0.010
Antimony	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	0.007	0.005	0.006	0.004	0.004	0.004	0.004	0.004	0.005
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	0.00007	0.00012	0.00008	0.00004	0.00006	0.00006	0.00005	0.00005	<0.00003
Calcium	107	110	94	98	77	87	68	77	60
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.002	<0.002	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	<0.002
Fluoride	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2
Iron	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02
Lead	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Magnesium	53	56	49	51	40	46	37	42	29
Manganese	0.022	0.033	0.018	0.010	0.010	0.011	0.010	0.010	0.023
Mercury	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Nickel	0.004	0.004	0.004	0.002	0.002	<0.002	0.003	0.003	<0.002
Phosphorus	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	0.008	<0.005	<0.005
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001
Silicon	0.66	0.72	0.55	0.45	0.43	0.39	1.30	0.66	0.44
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	0.41	0.31	0.24	0.21	0.15	0.16	0.14	0.12	0.11
Sulfate	427	510	402	381	338	358	316	325	247
Thallium	0.0006	0.0006	0.0005	0.0007	0.0004	0.0003	0.0003	0.0004	0.0002
Uranium	0.0008	0.0011	0.0009	0.0004	0.0007	0.0005	0.0004	0.0005	<0.0002
Zinc	<0.008	<0.008	<0.008	<0.008	<0.008	0.009	<0.008	0.008	<0.008
Energy Labs Report #	B13071759	B13081474	B13091213	B13101177	B13110762	B13120511	B14010135	B14012000	B14021785

**Table 9, Cont'd - Metals Analysis Results, HC Test Extracts,  
 Ynl 1/Ynl 2 Composite, Black Butte Project**

Analysis, mg/L	Extract Week						
	Week 64	Week 68	Week 72	Week 76	Week 80	Week 84	Week 88
Aluminum	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Antimony	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	0.003	0.004	0.005	0.005	0.005	0.006	0.006
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	0.00003	0.00003	0.00004	<0.00003	0.00023	<0.00003	<0.00003
Calcium	73	64	62	66	55	50	47
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Fluoride	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Iron	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02
Lead	<0.0003	<0.0003	<0.0003	<0.0003	0.0004	<0.0003	<0.0003
Magnesium	39	35	34	35	29	25	24
Manganese	<0.005	<0.005	0.007	0.007	0.056	<0.005	0.006
Mercury	<0.00001	<0.00001	<0.000005	<0.00001	<0.00001	<0.00001	<0.00001
Nickel	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Phosphorus	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium	<0.001	0.001	<0.001	<0.001	<0.001	0.001	<0.001
Silicon	0.43	0.31	0.38	0.42	0.46	0.36	0.41
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	0.11	0.09	0.10	0.11	0.09	0.08	0.08
Sulfate	313	324	264	281	229	198	164
Thallium	0.0004	<0.0002	0.0003	0.0003	0.0004	0.0003	0.0002
Uranium	0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0003	0.0002
Zinc	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Energy Labs Report #	B14032166	B14042300	B14052147	B14061973	B14071768	B14081625	B14091238

**Table 10. - Metals Analysis Results, HC Test Extracts,  
 Ynl B 2012 Decline, Black Butte Project**

Analysis, mg/L	Extract Week								
	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20	Week 24
Aluminum	0.078	0.047	0.026	0.043	0.037	0.016	<0.009	0.014	0.012
Antimony	0.0061	0.0053	0.0058	0.0043	0.0044	0.0029	0.0023	0.0011	0.0009
Arsenic	0.002	0.003	0.003	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	0.008	0.008	0.006	0.004	0.007	0.014	0.014	0.009	0.008
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	0.00012	0.00004	<0.00003	<0.00003	<0.00003	0.00005	0.00020	0.00006	0.00011
Calcium	13	19	20	13	12	43	75	71	64
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Fluoride	1.2	1.1	1.0	0.6	0.6	0.5	0.3	0.2	0.2
Iron	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Magnesium	10	17	17	11	9	25	39	34	29
Manganese	<0.005	<0.005	<0.005	<0.005	<0.005	0.010	0.028	0.012	0.011
Mercury	<0.000005	<0.000005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Nickel	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Phosphorus	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium	0.003	0.007	0.007	0.006	0.001	0.002	0.002	0.001	0.001
Silicon	1.50	1.70	1.54	1.29	1.29	1.20	1.17	0.79	0.78
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	0.10	0.15	0.17	0.11	0.10	0.26	0.32	0.23	0.14
Sulfate	41	106	104	50	42	197	297	309	262
Thallium	0.0003	0.0002	0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
Uranium	<0.0002	0.0008	0.0010	0.0006	0.0008	0.0021	0.0027	0.0015	0.0015
Zinc	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	0.020	0.012	0.011
Energy Labs Report #	B13010272	B13010272	B13011326	B13020022	B13030044	B13032186	B13041965	B13052064	B13061999

**Table 10, Cont'd - Metals Analysis Results, HC Test Extracts,  
 Ynl B 2012 Decline, Black Butte Project**

Analysis, mg/L	Extract Week								
	Week 28	Week 32	Week 36	Week 40	Week 44	Week 48	Week 52	Week 56	Week 60
Aluminum	0.011	0.011	0.012	0.015	0.010	0.011	<0.009	<0.009	0.020
Antimony	0.0009	0.0007	0.0006	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	0.007	0.006	0.005	0.006	0.004	0.004	0.004	0.004	0.003
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	0.00009	0.00008	0.00007	0.00005	0.00007	0.00008	0.00008	0.00008	<0.00008
Calcium	58	50	43	53	42	43	42	43	30
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Fluoride	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Iron	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Magnesium	29	25	21	26	21	22	21	21	15
Manganese	0.014	0.009	0.008	0.005	0.006	0.006	0.006	0.007	0.008
Mercury	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Nickel	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Phosphorus	0.005	<0.005	<0.005	<0.005	<0.005	0.009	0.006	<0.005	<0.005
Selenium	0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Silicon	0.77	0.69	0.56	0.49	0.54	0.41	<0.05	0.73	0.60
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	0.15	0.10	0.09	0.10	0.08	0.08	0.07	0.07	0.05
Sulfate	229	213	167	194	154	166	152	163	105
Thallium	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Uranium	0.0014	0.0012	0.0010	0.0007	0.0009	0.0007	0.0006	0.0007	<0.0002
Zinc	0.013	0.014	0.010	0.010	0.009	0.012	0.010	0.014	0.011
Energy Labs Report #	B13071759	B13081474	B13091213	B13101177	B13110762	B13120511	B14010135	B14012000	B14021785

Extract analysis results show that constituent (metals) mobility was minimal during the kinetic HCT. Some metals concentrations may have exceeded chronic aquatic limits in week 0 extracts, but with the exception of Tl for the USZ 1/USZ 2 Composite sample, metals concentrations dropped off after the initial flush.

## RESIDUE ANALYSIS

After testing , the USZ 1/USZ 2 Composite, Ynl 1/Ynl 2 Composite, and Ynl B 2012 Decline samples had splits taken from the humidity cell residue for size fraction, ICP metals, and ABA analyses. Samples were air dried and then individually blended and split (rotary splitter) to obtain appropriate splits for analysis.

Splits for ICP metals analysis were submitted to ALS. Splits for Mod ABA analysis were submitted to SVL Analytical, Inc.

Size fraction screen analysis results are provided in Tables 11 through 13. Mod ABA analysis results are provided in Table 14. The SVL Analytical report is provided in the Appendix to this report. ICP metals analysis results are provided in Table 15. The ALS report is provided in the Appendix to this report.

**Table 11. - Residue Screen Analysis, 100%-1/4" Feed Size,  
 USZ 1/USZ 2 Composite, Black Butte Project**

Size Fraction (Tyler Mesh)	Weight	
	%	Cum. %
+6M	33.7	33.7
-6M+10M	24.3	58.0
-10M+28M	22.0	80.0
-28M+35M	6.5	86.5
-35M+48M	1.9	88.4
-48M+100M	2.7	91.1
-100M+200M	2.7	93.8
-200M+270M	0.6	94.4
-270M	5.6	100.0
Composite	100.0	

**Table 12. - Residue Screen Analysis, 100%-1/4" Feed Size,  
 Ynl 1/Ynl 2 Composite, Black Butte Project**

Size Fraction (Tyler Mesh)	Weight	
	%	Cum. %
+6M	40.1	40.1
-6M+10M	22.5	62.6
-10M+28M	16.8	79.4
-28M+35M	3.5	82.9
-35M+48M	2.6	85.5
-48M+100M	4.2	89.7
-100M+200M	2.9	92.6
-200M+270M	1.3	93.9
-270M	6.1	100.0
Composite	100.0	

**Table 13. - Residue Screen Analysis, 100%-1/4" Feed Size,  
 Ynl B 2012 Decline, Black Butte Project**

Size Fraction (Tyler Mesh)	Weight	
	%	Cum. %
+6M	33.9	33.9
-6M+10M	26.3	60.2
-10M+28M	18.6	78.8
-28M+35M	2.9	81.7
-35M+48M	3.0	84.7
-48M+100M	4.5	89.2
-100M+200M	2.9	92.1
-200M+270M	1.3	93.4
-270M	6.6	100.0
Composite	100.0	

**Table 14. - Modified Acid/Base Accounting (Mod ABA) Static ARD  
 Potential Test Results, Humidity Cell Residue, Black Butte Project**

Sample I.D.	Paste pH	Sulfur, weight percent (as S)					AGP <sup>1)</sup>	ANP	NNP	Ratio
		Total	SO <sub>4</sub>	Pyritic S <sup>-</sup>	Non-Ext S	Non Sulfate S				
USZ 1/USZ 2 Comp.	6.7	15.9	6.08	9.69	0.13	9.82	302.8	251	-51.8	0.83
Ynl 1/ Ynl 2 Com.	7.66	2.64	0.40	2.23	0.01	2.24	69.7	258	188.3	3.70
Ynl B 2012 Decline	8.64	1.30	0.22	1.07	0.01	1.08	33.4	337	303.6	10.09

1) AGP based on Pyritic S= content (%S= x 31.25). AGP, ANP and NNP in units of tons CaCO<sub>3</sub> equivalents per 1,000 tons of solids.  
 SVL Report # W4C0387, W4J0033, W6I0161

**Table 15. - ICP Metals Analysis Results, Humidity Cell Residue, Black Butte Project**

Analysis, mg/kg	Residue		
	USZ 1/USZ 2	Ynl 1/ Ynl 2	Ynl B 2012
Ag	4.84	1.39	0.09
Al	27,300	47,900	43,000
As	77.8	38.0	16.1
Ba	50	320	260
Be	1.28	1.97	1.42
Bi	0.24	0.29	0.33
Ca	53,000	47,800	78,000
Cd	0.53	0.55	1.41
Ce	23.4	53.7	47.4
Co	10.9	10.9	8.8
Cr	40	36	54
Cs	3.15	7.07	5.54
Cu	52.1	39.5	24.9
Fe	162,500	44,600	31,200
Ga	7.36	12.60	11.00
Ge	0.14	0.15	0.12
Hf	1.3	2.7	2.4
Hg	0.210	0.086	0.055
In	0.579	0.104	0.057
K	15,500	31,500	21,900
La	9.8	29.1	25.9
Li	47.3	91.8	80.4
Mg	37,600	43,400	59,900
Mn	801	472	716
Mo	5.31	3.47	3.96
Na	600	1,400	1,900
Nb	4.2	8.6	7.2
Ni	26.4	29.8	26.1
P	260	440	510
Pb	737	198.0	104.0
Rb	55.8	109.5	92.3
Re	0.003	0.004	0.004
S (Total)	>10,000	26,300	12,800
Sb	1.81	1.76	1.02
Sc	4.8	8.2	7.2
Se	2	1	1
Sn	1.0	1.7	1.4
Sr	96.1	91.6	75.9
Ta	0.30	0.64	0.52
Te	<0.05	0.07	0.06
Th	3.59	9.2	7.39
Ti	1,120	2,100	1,960
Tl	29.5	5.63	1.31
U	2.0	4.0	3.5
V	37	64	54
W	0.6	1.0	1.4
Y	11.5	20.8	18.2
Zn	102	156	439
Zr	48.7	92.4	84.2
Chemex Report #	RE16149263	RE14140407	RE16149263



## CONCLUSIONS

- USZ 1/USZ 2 Composite, Ynl 0, Ynl 1/Ynl 2 Composite and Ynl B 2012 Decline samples would not produce acid in a natural weathering and oxidizing environment.
- Constituent (metals) mobility was minimal.



Michael Medina  
Environmental Project Manager

MM/cd:mh

**APPENDIX**

(See Attachments)

# ANALYTICAL SUMMARY REPORT

January 17, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B13010272      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:0

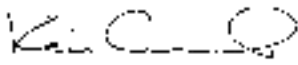
Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Alaska Exploration Inc on 1/4/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13010272-001	USZ 1 High Fe/USZ 2 Low Fe Composite	01/03/13 9:00	01/04/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13010272-002	Ynl 0	01/03/13 9:00	01/04/13	Aqueous	Same As Above
B13010272-003	Ynl 1/Ynl 2 Composite	01/03/13 9:00	01/04/13	Aqueous	Same As Above
B13010272-004	Ynl B 2012 Decline	01/03/13 9:00	01/04/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2013.01.17 14:23:36 -07:00

## LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:0  
**Lab ID:** B13010272-001  
**Client Sample ID** USZ 1 High Fe/USZ 2 Low Fe Composite

**Report Date:** 01/17/13  
**Collection Date:** 01/03/13 09:00  
**Date Received:** 01/04/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	1290	mg/L	D	10		E300.0	01/07/13 22:35 / jrs
Fluoride	0.2	mg/L		0.2		A4500-F C	01/07/13 10:56 / jll
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.018	mg/L	L	0.005		E365.1	01/08/13 16:51 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.260	mg/L		0.009		E200.8	01/07/13 13:49 / mas
Antimony	0.0010	mg/L		0.0005		E200.8	01/07/13 13:49 / mas
Arsenic	0.010	mg/L		0.001		E200.8	01/07/13 13:49 / mas
Barium	0.036	mg/L		0.003		E200.8	01/07/13 13:49 / mas
Beryllium	0.0022	mg/L		0.0008		E200.8	01/07/13 13:49 / mas
Cadmium	0.00445	mg/L		0.00003		E200.8	01/07/13 13:49 / mas
Calcium	168	mg/L		1		E200.7	01/07/13 18:54 / rlh
Chromium	ND	mg/L		0.01		E200.8	01/07/13 13:49 / mas
Copper	ND	mg/L		0.002		E200.8	01/08/13 14:03 / mas
Iron	112	mg/L		0.02		E200.7	01/07/13 18:54 / rlh
Lead	0.0413	mg/L		0.0003		E200.8	01/07/13 13:49 / mas
Magnesium	144	mg/L		1		E200.7	01/07/13 18:54 / rlh
Manganese	3.66	mg/L		0.005		E200.8	01/07/13 13:49 / mas
Mercury	ND	mg/L		5E-06		E245.1	01/11/13 14:26 / ser
Nickel	1.15	mg/L		0.002		E200.8	01/07/13 13:49 / mas
Selenium	0.004	mg/L		0.001		E200.8	01/07/13 13:49 / mas
Silicon	1.61	mg/L		0.05		E200.7	01/07/13 18:54 / rlh
Silver	ND	mg/L		0.0002		E200.8	01/08/13 14:03 / mas
Strontium	1.07	mg/L		0.02		E200.8	01/07/13 13:49 / mas
Thallium	0.0112	mg/L		0.0002		E200.8	01/07/13 13:49 / mas
Uranium	0.0015	mg/L		0.0002		E200.8	01/07/13 13:49 / mas
Zinc	0.386	mg/L		0.008		E200.8	01/07/13 13:49 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.  
 L - Lowest available reporting limit for the analytical method us

## LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:0  
**Lab ID:** B13010272-002  
**Client Sample ID** Ynl 0

**Report Date:** 01/17/13  
**Collection Date:** 01/03/13 09:00  
**Date Received:** 01/04/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	56	mg/L		1		E300.0	01/07/13 22:51 / jrs
Fluoride	0.6	mg/L		0.2		A4500-F C	01/07/13 10:59 / jll
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.010	mg/L	L	0.005		E365.1	01/08/13 16:52 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.066	mg/L		0.009		E200.8	01/07/13 14:04 / mas
Antimony	0.0012	mg/L		0.0005		E200.8	01/07/13 14:04 / mas
Arsenic	0.003	mg/L		0.001		E200.8	01/07/13 14:04 / mas
Barium	0.022	mg/L		0.003		E200.8	01/07/13 14:04 / mas
Beryllium	ND	mg/L		0.0008		E200.8	01/07/13 14:04 / mas
Cadmium	ND	mg/L		0.00003		E200.8	01/07/13 14:04 / mas
Calcium	17	mg/L		1		E200.7	01/07/13 18:58 / rlh
Chromium	ND	mg/L		0.01		E200.8	01/07/13 14:04 / mas
Copper	ND	mg/L		0.002		E200.8	01/07/13 14:04 / mas
Iron	ND	mg/L		0.02		E200.7	01/07/13 18:58 / rlh
Lead	ND	mg/L		0.0003		E200.8	01/07/13 14:04 / mas
Magnesium	12	mg/L		1		E200.7	01/07/13 18:58 / rlh
Manganese	ND	mg/L		0.005		E200.8	01/07/13 14:04 / mas
Mercury	ND	mg/L		5E-06		E245.1	01/15/13 14:37 / ser
Nickel	ND	mg/L		0.002		E200.8	01/07/13 14:04 / mas
Selenium	0.008	mg/L		0.001		E200.8	01/07/13 14:04 / mas
Silicon	0.92	mg/L		0.05		E200.7	01/07/13 18:58 / rlh
Silver	ND	mg/L		0.0002		E200.8	01/09/13 14:46 / mas
Strontium	0.05	mg/L		0.02		E200.8	01/07/13 14:04 / mas
Thallium	0.0019	mg/L		0.0002		E200.8	01/07/13 14:04 / mas
Uranium	0.0004	mg/L		0.0002		E200.8	01/07/13 14:04 / mas
Zinc	ND	mg/L		0.008		E200.8	01/07/13 14:04 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:0  
**Lab ID:** B13010272-003  
**Client Sample ID** Ynl 1/Ynl 2 Composite

**Report Date:** 01/17/13  
**Collection Date:** 01/03/13 09:00  
**Date Received:** 01/04/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	541	mg/L	D	5		E300.0	01/09/13 14:03 / jrs
Fluoride	0.2	mg/L		0.2		A4500-F C	01/07/13 11:02 / jll
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.012	mg/L	L	0.005		E365.1	01/08/13 16:53 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	01/07/13 14:07 / mas
Antimony	0.0008	mg/L		0.0005		E200.8	01/07/13 14:07 / mas
Arsenic	0.003	mg/L		0.001		E200.8	01/07/13 14:07 / mas
Barium	0.042	mg/L		0.003		E200.8	01/07/13 14:07 / mas
Beryllium	ND	mg/L		0.0008		E200.8	01/07/13 14:07 / mas
Cadmium	0.00050	mg/L		0.00003		E200.8	01/07/13 14:07 / mas
Calcium	103	mg/L		1		E200.7	01/07/13 19:21 / rlh
Chromium	ND	mg/L		0.01		E200.8	01/07/13 14:07 / mas
Copper	ND	mg/L		0.002		E200.8	01/07/13 14:07 / mas
Iron	12.4	mg/L		0.02		E200.7	01/07/13 19:21 / rlh
Lead	0.0005	mg/L		0.0003		E200.8	01/07/13 14:07 / mas
Magnesium	61	mg/L		1		E200.7	01/07/13 19:21 / rlh
Manganese	0.513	mg/L		0.005		E200.8	01/07/13 14:07 / mas
Mercury	ND	mg/L		5E-06		E245.1	01/15/13 14:45 / ser
Nickel	0.136	mg/L		0.002		E200.8	01/07/13 14:07 / mas
Selenium	0.005	mg/L		0.001		E200.8	01/07/13 14:07 / mas
Silicon	1.46	mg/L		0.05		E200.7	01/07/13 19:21 / rlh
Silver	ND	mg/L		0.0002		E200.8	01/09/13 15:26 / mas
Strontium	1.08	mg/L		0.02		E200.8	01/07/13 14:07 / mas
Thallium	0.0060	mg/L		0.0002		E200.8	01/07/13 14:07 / mas
Uranium	0.0011	mg/L		0.0002		E200.8	01/07/13 14:07 / mas
Zinc	0.083	mg/L		0.008		E200.8	01/07/13 14:07 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.  
 L - Lowest available reporting limit for the analytical method us

## LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:0  
**Lab ID:** B13010272-004  
**Client Sample ID** Ynl B 2012 Decline

**Report Date:** 01/17/13  
**Collection Date:** 01/03/13 09:00  
**Date Received:** 01/04/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	41	mg/L		1		E300.0	01/07/13 23:21 / jrs
Fluoride	1.2	mg/L		0.2		A4500-F C	01/07/13 11:05 / jll
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.009	mg/L	L	0.005		E365.1	01/08/13 16:54 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.078	mg/L		0.009		E200.8	01/07/13 14:10 / mas
Antimony	0.0061	mg/L		0.0005		E200.8	01/07/13 14:10 / mas
Arsenic	0.002	mg/L		0.001		E200.8	01/07/13 14:10 / mas
Barium	0.008	mg/L		0.003		E200.8	01/07/13 14:10 / mas
Beryllium	ND	mg/L		0.0008		E200.8	01/07/13 14:10 / mas
Cadmium	0.00012	mg/L		0.00003		E200.8	01/07/13 14:10 / mas
Calcium	13	mg/L		1		E200.7	01/07/13 19:25 / rlh
Chromium	ND	mg/L		0.01		E200.8	01/07/13 14:10 / mas
Copper	ND	mg/L		0.002		E200.8	01/07/13 14:10 / mas
Iron	ND	mg/L		0.02		E200.7	01/07/13 19:25 / rlh
Lead	ND	mg/L		0.0003		E200.8	01/07/13 14:10 / mas
Magnesium	10	mg/L		1		E200.7	01/07/13 19:25 / rlh
Manganese	ND	mg/L		0.005		E200.8	01/07/13 14:10 / mas
Mercury	ND	mg/L		5E-06		E245.1	01/11/13 14:41 / ser
Nickel	ND	mg/L		0.002		E200.8	01/07/13 14:10 / mas
Selenium	0.003	mg/L		0.001		E200.8	01/07/13 14:10 / mas
Silicon	1.50	mg/L		0.05		E200.7	01/07/13 19:25 / rlh
Silver	ND	mg/L		0.0002		E200.8	01/09/13 15:33 / mas
Strontium	0.10	mg/L		0.02		E200.8	01/07/13 14:10 / mas
Thallium	0.0003	mg/L		0.0002		E200.8	01/07/13 14:10 / mas
Uranium	ND	mg/L		0.0002		E200.8	01/07/13 14:10 / mas
Zinc	ND	mg/L		0.008		E200.8	01/07/13 14:10 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:0

**Report Date:** 01/17/13  
**Work Order:** B13010272

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_130107A			
<b>Sample ID: ICV</b>	4	Continuing Calibration Verification Standard						01/07/13 14:43			
Calcium		25.3	mg/L	1.0	101	95	105				
Iron		2.54	mg/L	0.030	102	95	105				
Magnesium		25.1	mg/L	1.0	100	95	105				
Silicon		5.06	mg/L	0.10	101	95	105				
<b>Method: E200.7</b>								Batch: R197805			
<b>Sample ID: MB-6500DIS130107A</b>	4	Method Blank						Run: ICP203-B_130107A 01/07/13 14:20			
Calcium		ND	mg/L	0.05							
Iron		0.004	mg/L	0.003							
Magnesium		ND	mg/L	0.003							
Silicon		ND	mg/L	0.01							
<b>Sample ID: LFB-6500DIS130107A</b>	4	Laboratory Fortified Blank						Run: ICP203-B_130107A 01/07/13 14:24			
Calcium		50.7	mg/L	1.0	101	85	115				
Iron		5.08	mg/L	0.030	101	85	115				
Magnesium		51.1	mg/L	1.0	102	85	115				
Silicon		10.4	mg/L	0.10	104	85	115				
<b>Sample ID: B13010272-002BMS2</b>	4	Sample Matrix Spike						Run: ICP203-B_130107A 01/07/13 19:13			
Calcium		67.3	mg/L	1.0	100	70	130				
Iron		4.94	mg/L	0.030	99	70	130				
Magnesium		63.5	mg/L	1.0	103	70	130				
Silicon		11.2	mg/L	0.10	103	70	130				
<b>Sample ID: B13010272-002BMSD</b>	4	Sample Matrix Spike Duplicate						Run: ICP203-B_130107A 01/07/13 19:17			
Calcium		67.3	mg/L	1.0	100	70	130	0.1	20		
Iron		4.97	mg/L	0.030	99	70	130	0.5	20		
Magnesium		63.4	mg/L	1.0	103	70	130	0.1	20		
Silicon		11.3	mg/L	0.10	104	70	130	0.3	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:0

**Report Date:** 01/17/13  
**Work Order:** B13010272

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_130107A			
<b>Sample ID: QCS</b>	16	Initial Calibration Verification Standard						01/07/13 11:20			
Aluminum		0.230	mg/L	0.10	92	90	110				
Antimony		0.0478	mg/L	0.050	96	90	110				
Arsenic		0.0486	mg/L	0.0050	97	90	110				
Barium		0.0474	mg/L	0.10	95	90	110				
Beryllium		0.0245	mg/L	0.0010	98	90	110				
Cadmium		0.0248	mg/L	0.0010	99	90	110				
Chromium		0.0480	mg/L	0.010	96	90	110				
Copper		0.0504	mg/L	0.010	101	90	110				
Lead		0.0471	mg/L	0.010	94	90	110				
Manganese		0.242	mg/L	0.010	97	90	110				
Nickel		0.0494	mg/L	0.010	99	90	110				
Selenium		0.0502	mg/L	0.0050	100	90	110				
Strontium		0.0475	mg/L	0.10	95	90	110				
Thallium		0.0476	mg/L	0.10	95	90	110				
Uranium		0.0186	mg/L	0.0010	93	90	110				
Zinc		0.0515	mg/L	0.010	103	90	110				

<b>Method: E200.8</b>								Batch: R197823			
<b>Sample ID: LFB</b>	16	Laboratory Fortified Blank						Run: ICPMS202-B_130107A		01/07/13 11:22	
Aluminum		0.0439	mg/L	0.10	88	85	115				
Antimony		0.0430	mg/L	0.050	86	85	115				
Arsenic		0.0453	mg/L	0.0050	91	85	115				
Barium		0.0444	mg/L	0.10	89	85	115				
Beryllium		0.0435	mg/L	0.0010	87	85	115				
Cadmium		0.0437	mg/L	0.0010	87	85	115				
Chromium		0.0448	mg/L	0.010	90	85	115				
Copper		0.0443	mg/L	0.010	89	85	115				
Lead		0.0447	mg/L	0.010	89	85	115				
Manganese		0.0444	mg/L	0.010	89	85	115				
Nickel		0.0443	mg/L	0.010	89	85	115				
Selenium		0.0460	mg/L	0.0050	92	85	115				
Strontium		0.0463	mg/L	0.10	93	85	115				
Thallium		0.0457	mg/L	0.10	91	85	115				
Uranium		0.0466	mg/L	0.0010	93	85	115				
Zinc		0.0435	mg/L	0.010	87	85	115				

<b>Sample ID: LRB</b>	16	Method Blank						Run: ICPMS202-B_130107A		01/07/13 11:49	
Aluminum		ND	mg/L	0.0002							
Antimony		3E-05	mg/L	8E-06							
Arsenic		ND	mg/L	9E-05							
Barium		ND	mg/L	3E-05							
Beryllium		9E-06	mg/L	4E-06							
Cadmium		ND	mg/L	6E-06							
Chromium		7E-05	mg/L	3E-05							

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 01/17/13

**Project:** 3767 WK:0

**Work Order:** B13010272

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R197823										
<b>Sample ID: LRB</b>	16	Method Blank								
Run: ICPMS202-B_130107A										
01/07/13 11:49										
Copper		ND	mg/L	6E-05						
Lead		ND	mg/L	9E-06						
Manganese		ND	mg/L	6E-06						
Nickel		ND	mg/L	4E-05						
Selenium		ND	mg/L	0.0004						
Strontium		ND	mg/L	6E-06						
Thallium		2E-05	mg/L	1.0E-05						
Uranium		ND	mg/L	2E-06						
Zinc		ND	mg/L	9E-05						
<b>Sample ID: B13010152-001AMS</b>	16	Sample Matrix Spike								
Run: ICPMS202-B_130107A										
01/07/13 14:21										
Aluminum		0.0482	mg/L	0.030	93	70	130			
Antimony		0.0474	mg/L	0.0010	95	70	130			
Arsenic		0.0517	mg/L	0.0010	102	70	130			
Barium		0.0796	mg/L	0.050	96	70	130			
Beryllium		0.0516	mg/L	0.0010	103	70	130			
Cadmium		0.0486	mg/L	0.0010	97	70	130			
Chromium		0.0499	mg/L	0.0050	95	70	130			
Copper		0.0720	mg/L	0.0050	96	70	130			
Lead		0.0476	mg/L	0.0010	95	70	130			
Manganese		0.0487	mg/L	0.0010	97	70	130			
Nickel		0.0481	mg/L	0.010	94	70	130			
Selenium		0.0551	mg/L	0.0010	110	70	130			
Strontium		0.127	mg/L	0.010	91	70	130			
Thallium		0.0468	mg/L	0.00050	94	70	130			
Uranium		0.0493	mg/L	0.00030	97	70	130			
Zinc		0.0556	mg/L	0.010	96	70	130			
<b>Sample ID: B13010152-001AMSD</b>	16	Sample Matrix Spike Duplicate								
Run: ICPMS202-B_130107A										
01/07/13 14:24										
Aluminum		0.0466	mg/L	0.030	90	70	130	3.2	20	
Antimony		0.0478	mg/L	0.0010	96	70	130	0.9	20	
Arsenic		0.0508	mg/L	0.0010	101	70	130	1.6	20	
Barium		0.0804	mg/L	0.050	98	70	130	1.0	20	
Beryllium		0.0512	mg/L	0.0010	102	70	130	0.8	20	
Cadmium		0.0490	mg/L	0.0010	98	70	130	0.8	20	
Chromium		0.0488	mg/L	0.0050	93	70	130	2.2	20	
Copper		0.0699	mg/L	0.0050	91	70	130	3.1	20	
Lead		0.0474	mg/L	0.0010	94	70	130	0.5	20	
Manganese		0.0476	mg/L	0.0010	94	70	130	2.2	20	
Nickel		0.0476	mg/L	0.010	93	70	130	1.1	20	
Selenium		0.0547	mg/L	0.0010	109	70	130	0.7	20	
Strontium		0.126	mg/L	0.010	89	70	130	0.9	20	
Thallium		0.0466	mg/L	0.00050	93	70	130	0.3	20	
Uranium		0.0499	mg/L	0.00030	98	70	130	1.2	20	
Zinc		0.0551	mg/L	0.010	95	70	130	0.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:0

**Report Date:** 01/17/13  
**Work Order:** B13010272

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float:right">Batch: R197823</span>										
<b>Sample ID: B13010152-001AMSD</b>	16	Sample Matrix Spike Duplicate					Run: ICPMS202-B_130107A			01/07/13 14:24
<b>Method: E200.8</b> <span style="float:right">Analytical Run: ICPMS206-B_130108A</span>										
<b>Sample ID: ICV</b>	2	Initial Calibration Verification Standard								01/08/13 10:55
Copper		0.0503	mg/L	0.010	101	90	110			
Silver		0.0242	mg/L	0.0050	97	90	110			
<b>Method: E200.8</b> <span style="float:right">Batch: R197880</span>										
<b>Sample ID: LRB</b>	2	Method Blank					Run: ICPMS206-B_130108A			01/08/13 11:42
Copper		4E-05	mg/L	3E-05						
Silver		5E-05	mg/L	1E-05						
<b>Method: E200.8</b> <span style="float:right">Batch: R197880</span>										
<b>Sample ID: LFB</b>	2	Laboratory Fortified Blank					Run: ICPMS206-B_130108A			01/08/13 11:49
Copper		0.0483	mg/L	0.010	96	85	115			
Silver		0.0187	mg/L	0.0050	93	85	115			
<b>Method: E200.8</b> <span style="float:right">Batch: R197880</span>										
<b>Sample ID: B13010272-001BMS</b>	2	Sample Matrix Spike					Run: ICPMS206-B_130108A			01/08/13 14:30
Copper		0.0476	mg/L	0.0050	95	70	130			
Silver		0.0160	mg/L	0.0010	80	70	130			
<b>Method: E200.8</b> <span style="float:right">Batch: R197880</span>										
<b>Sample ID: B13010272-001BMSD</b>	2	Sample Matrix Spike Duplicate					Run: ICPMS206-B_130108A			01/08/13 14:36
Copper		0.0478	mg/L	0.0050	95	70	130	0.5	20	
Silver		0.0164	mg/L	0.0010	82	70	130	2.8	20	
<b>Method: E200.8</b> <span style="float:right">Analytical Run: ICPMS206-B_130109A</span>										
<b>Sample ID: ICV</b>		Initial Calibration Verification Standard								01/09/13 10:18
Silver		0.0247	mg/L	0.0050	99	90	110			
<b>Method: E200.8</b> <span style="float:right">Batch: R197972</span>										
<b>Sample ID: LRB</b>		Method Blank					Run: ICPMS206-B_130109A			01/09/13 11:06
Silver		4E-05	mg/L	1E-05						
<b>Method: E200.8</b> <span style="float:right">Batch: R197972</span>										
<b>Sample ID: LFB</b>		Laboratory Fortified Blank					Run: ICPMS206-B_130109A			01/09/13 11:12
Silver		0.0187	mg/L	0.0050	93	85	115			
<b>Method: E200.8</b> <span style="float:right">Batch: R197972</span>										
<b>Sample ID: B13010272-002BMS</b>		Sample Matrix Spike					Run: ICPMS206-B_130109A			01/09/13 14:53
Silver		0.0200	mg/L	0.0010	100	70	130			
<b>Method: E200.8</b> <span style="float:right">Batch: R197972</span>										
<b>Sample ID: B13010272-002BMSD</b>		Sample Matrix Spike Duplicate					Run: ICPMS206-B_130109A			01/09/13 15:20
Silver		0.0171	mg/L	0.0010	85	70	130	15	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:0

**Report Date:** 01/17/13  
**Work Order:** B13010272

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E245.1</b>								Analytical Run: HGCV202-B_130111A		
<b>Sample ID: QCS</b>	Initial Calibration Verification Standard									01/11/13 14:03
Mercury		0.000211	mg/L	1.0E-05	106	90	110			
<b>Method: E245.1</b>								Batch: 68337		
<b>Sample ID: MB-68337</b>	Method Blank									01/11/13 14:13
Mercury		4E-06	mg/L	1E-06						
<b>Sample ID: LCS-68337</b>	Laboratory Control Sample									01/11/13 14:15
Mercury		0.000207	mg/L	1.0E-05	102	85	115			
<b>Sample ID: B13010272-001BMS</b>	Sample Matrix Spike									01/11/13 14:29
Mercury		0.000183	mg/L	1.0E-05	90	70	130			
<b>Sample ID: B13010272-001BMSD</b>	Sample Matrix Spike Duplicate									01/11/13 14:31
Mercury		0.000181	mg/L	1.0E-05	89	70	130	1.1	30	
<b>Method: E245.1</b>								Analytical Run: HGCV202-B_130115A		
<b>Sample ID: QCS</b>	Initial Calibration Verification Standard									01/15/13 14:09
Mercury		0.000204	mg/L	1.0E-05	102	90	110			
<b>Method: E245.1</b>								Batch: 68423		
<b>Sample ID: MB-68423</b>	Method Blank									01/15/13 14:19
Mercury		ND	mg/L	1E-06						
<b>Sample ID: LCS-68423</b>	Laboratory Control Sample									01/15/13 14:21
Mercury		0.000199	mg/L	1.0E-05	100	85	115			
<b>Sample ID: B13010867-003BMS</b>	Sample Matrix Spike									01/15/13 14:29
Mercury		0.000197	mg/L	1.0E-05	96	70	130			
<b>Sample ID: B13010867-003BMSD</b>	Sample Matrix Spike Duplicate									01/15/13 14:31
Mercury		0.000192	mg/L	1.0E-05	93	70	130	2.6	30	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 01/16/13

**Project:** 3767 WK:0

**Work Order:** B13010272

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>							Analytical Run: MAN-TECH_130107C		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								
Fluoride	0.910	mg/L	0.10	91	90	110			01/07/13 10:32
<b>Method: A4500-F C</b>							Batch: R197836		
<b>Sample ID: MB</b>	Method Blank								
Fluoride	ND	mg/L	0.02						Run: MAN-TECH_130107C 01/07/13 10:26
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								
Fluoride	0.990	mg/L	0.10	99	90	110			Run: MAN-TECH_130107C 01/07/13 10:38
<b>Sample ID: B13010265-001AMS</b>	Sample Matrix Spike								
Fluoride	14.8	mg/L	0.10	106	80	120			Run: MAN-TECH_130107C 01/07/13 10:44
<b>Sample ID: B13010265-001AMSD</b>	Sample Matrix Spike Duplicate								
Fluoride	14.9	mg/L	0.10	115	80	120	0.6	10	Run: MAN-TECH_130107C 01/07/13 10:47

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:0

**Report Date:** 01/16/13  
**Work Order:** B13010272

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>							Analytical Run: IC202-B_130107B		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								01/07/13 14:01
Sulfate	101	mg/L	1.0	101	90	110			
<b>Method: E300.0</b>							Batch: R197833		
<b>Sample ID: ICB</b>	Method Blank								01/07/13 14:16
Sulfate	ND	mg/L	0.08						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								01/07/13 14:32
Sulfate	98.4	mg/L	1.1	98	90	110			
<b>Sample ID: B13010150-001AMS</b>	Sample Matrix Spike								01/07/13 20:34
Sulfate	34800	mg/L	110	107	90	110			
<b>Sample ID: B13010150-001AMSD</b>	Sample Matrix Spike Duplicate								01/07/13 21:05
Sulfate	35200	mg/L	110	110	90	110	1.0	20	
<b>Method: E300.0</b>							Analytical Run: IC202-B_130109A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								01/09/13 13:18
Sulfate	101	mg/L	1.0	101	90	110			
<b>Method: E300.0</b>							Batch: R197980		
<b>Sample ID: ICB</b>	Method Blank								01/09/13 13:33
Sulfate	ND	mg/L	0.08						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								01/09/13 13:48
Sulfate	99.4	mg/L	1.1	99	90	110			
<b>Sample ID: B13010272-003AMS</b>	Sample Matrix Spike								01/09/13 14:20
Sulfate	1070	mg/L	5.3	105	90	110			
<b>Sample ID: B13010272-003AMSD</b>	Sample Matrix Spike Duplicate								01/09/13 14:35
Sulfate	1060	mg/L	5.3	104	90	110	0.5	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:0

**Report Date:** 01/16/13  
**Work Order:** B13010272

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>									
Analytical Run: FIA202-B_130108B									
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								01/08/13 16:21
Phosphorus, Total as P	0.236	mg/L	0.0050	94	90	110			
<b>Method: E365.1</b>									
Batch: 68205									
<b>Sample ID: MB-68205</b>	Method Blank								01/08/13 16:22
Phosphorus, Total as P	ND	mg/L	0.002						
<b>Sample ID: LCS-68205</b>	Laboratory Control Sample								01/08/13 16:23
Phosphorus, Total as P	0.191	mg/L	0.0050	96	90	110			
<b>Sample ID: B13010229-001AMS</b>	Sample Matrix Spike								01/08/13 16:30
Phosphorus, Total as P	0.706	mg/L	0.010	102	90	110			
<b>Sample ID: B13010229-001AMSD</b>	Sample Matrix Spike Duplicate								01/08/13 16:31
Phosphorus, Total as P	0.694	mg/L	0.010	99	90	110	1.7	10	
<b>Sample ID: B13010245-001AMS</b>	Sample Matrix Spike								01/08/13 16:44
Phosphorus, Total as P	6.80	mg/L	0.10	102	90	110			
<b>Sample ID: B13010245-001AMSD</b>	Sample Matrix Spike Duplicate								01/08/13 16:45
Phosphorus, Total as P	6.70	mg/L	0.10	100	90	110	1.5	10	
<b>Sample ID: B13010272-004CMS</b>	Sample Matrix Spike								01/08/13 16:55
Phosphorus, Total as P	0.201	mg/L	0.0050	100	90	110			
<b>Sample ID: B13010272-004CMSD</b>	Sample Matrix Spike Duplicate								01/08/13 16:57
Phosphorus, Total as P	0.202	mg/L	0.0050	101	90	110	0.5	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13010272

Login completed by: Jill M. Lippard

Date Received: 1/4/2013

Reviewed by: BL2000\jklrier

Received by: Ig

Reviewed Date: 1/4/2013

Carrier UPS  
name:

- |   |   |                             |  |
|---|---|-----------------------------|--|
| Shipping container/cooler in good condition?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/>                       |
| Custody seals intact on shipping container/cooler?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/>                       |
| Custody seals intact on sample bottles?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/>            |
| Chain of custody present?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Chain of custody signed when relinquished and received?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Chain of custody agrees with sample labels?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Samples in proper container/bottle?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Sample containers intact?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters<br>such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |  |
| Temp Blank received?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |
| Container/Temp Blank temperature:   | 1.3°C On Ice                            |                             |  |
| Water - VOA vials have zero headspace?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |

Contact and Corrective Action Comments:

None





# Chain of Custody and Analytical Request Record

PLEASE PRINT - Provide as much information as possible.

Company Name: McClelland Lab		Project Name, PWS, Permit, Etc. 3767 WK:0		Sample Origin State: NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Phone/Fax: 775-356-1300		Email: MLI@METTEST.COM	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko 604-628-1162		Purchase Order:		Quote/Bottle Order:	
Special Report/Formats - EII must be notified prior to sample submittal for the following: <input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input type="checkbox"/> State: _____ <input type="checkbox"/> Other: _____		Number of Containers Air Water Soils/Solids Vegetation Bioassay Other SEE ATTACHED		Normal Turnaround (TAT) SEE ATTACHED		Contact EII prior to RUSH sample submittal for charges and scheduling - See Instruction Page Comments: RUSH	
Shipped by: <u>UPS</u> Robert ADA Cooler ID(s):		Receipt Temp: <u>13</u> °C On Ice: <input checked="" type="radio"/> Yes <input type="radio"/> No		Custody Seal: <u>YN</u> Intact: <u>YN</u> Signature Match: <u>YN</u>		Please Copy results to: <u>MLI@METTEST.COM</u>	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date		Collection Time		MATRIX	
1 USZ 1 high Fe/USZ 2 low Fe Composite		01/03/13		09:00		Water	
2 Ynl 0							
3 Ynl 1/Ynl 2 Composite							
4 Ynl B 2012 Decline							
5							
6							
7							
8							
9							
10							
Relinquished by (print): Matt Medina		Date/Time: 01/03/13 9:00		Signature: Matt Medina		Received by (print): Matt Medina	
Relinquished by (print):		Date/Time:		Signature:		Received by (print):	
Sample Disposal:		Return to Client:		Lab Disposal:		Received by Laboratory:	
Signature:		Date/Time:		Signature:		Date/Time:	
Signature:		Date/Time:		Signature:		Date/Time:	

**Custody Record MUST be Signed**

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*



# ANALYTICAL SUMMARY REPORT

January 21, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B13010867      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:1

Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Alaska Exploration Inc on 1/11/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13010867-001	USZ 1 High Fe/USZ 2 Low Fe Composite	01/10/13 9:00	01/11/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13010867-002	Ynl 0	01/10/13 9:00	01/11/13	Aqueous	Same As Above
B13010867-003	Ynl 1/Ynl 2 Composite	01/10/13 9:00	01/11/13	Aqueous	Same As Above
B13010867-004	Ynl B 2012 Decline	01/10/13 9:00	01/11/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

Regional Department Manager

Digitally signed by  
Cindy Rohrer

Date: 2013.01.21 16:13:13 -07:00

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:1  
**Lab ID:** B13010867-001  
**Client Sample ID** USZ 1 High Fe/USZ 2 Low Fe Composite

**Report Date:** 01/21/13  
**Collection Date:** 01/10/13 09:00  
**DateReceived:** 01/11/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	1060	mg/L	D	10	E300.0		01/12/13 00:38 / jrs
Fluoride	0.3	mg/L		0.2	A4500-F C		01/14/13 10:22 / jll
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005	E365.1		01/14/13 17:00 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009	E200.8		01/14/13 17:38 / mas
Antimony	ND	mg/L		0.0005	E200.8		01/14/13 17:38 / mas
Arsenic	ND	mg/L		0.001	E200.8		01/14/13 17:38 / mas
Barium	0.023	mg/L		0.003	E200.8		01/14/13 17:38 / mas
Beryllium	ND	mg/L		0.0008	E200.8		01/14/13 17:38 / mas
Cadmium	0.00013	mg/L		0.00003	E200.8		01/14/13 17:38 / mas
Calcium	147	mg/L		1	E200.7		01/16/13 15:21 / rlh
Chromium	ND	mg/L		0.01	E200.8		01/14/13 17:38 / mas
Copper	0.004	mg/L		0.002	E200.8		01/14/13 17:38 / mas
Iron	ND	mg/L		0.02	E200.7		01/16/13 15:21 / rlh
Lead	ND	mg/L		0.0003	E200.8		01/14/13 17:38 / mas
Magnesium	238	mg/L		1	E200.7		01/16/13 15:21 / rlh
Manganese	0.912	mg/L		0.005	E200.8		01/14/13 17:38 / mas
Mercury	7.9E-06	mg/L		5E-06	E245.1		01/17/13 16:26 / ser
Nickel	0.033	mg/L		0.002	E200.8		01/14/13 17:38 / mas
Selenium	0.010	mg/L		0.001	E200.8		01/14/13 17:38 / mas
Silicon	0.59	mg/L		0.05	E200.7		01/16/13 15:21 / rlh
Silver	ND	mg/L		0.0002	E200.8		01/14/13 17:38 / mas
Strontium	1.06	mg/L		0.02	E200.8		01/14/13 17:38 / mas
Thallium	0.0020	mg/L		0.0002	E200.8		01/14/13 17:38 / mas
Uranium	ND	mg/L		0.0002	E200.8		01/14/13 17:38 / mas
Zinc	ND	mg/L		0.008	E200.8		01/14/13 17:38 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method us

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:1  
**Lab ID:** B13010867-002  
**Client Sample ID** Ynl 0

**Report Date:** 01/21/13  
**Collection Date:** 01/10/13 09:00  
**DateReceived:** 01/11/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	71	mg/L		1	E300.0		01/12/13 00:53 / jrs
Fluoride	0.7	mg/L		0.2	A4500-F C		01/14/13 10:25 / jll
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005	E365.1		01/14/13 17:01 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.054	mg/L		0.009	E200.8		01/14/13 17:45 / mas
Antimony	0.0009	mg/L		0.0005	E200.8		01/14/13 17:45 / mas
Arsenic	0.002	mg/L		0.001	E200.8		01/14/13 17:45 / mas
Barium	0.014	mg/L		0.003	E200.8		01/14/13 17:45 / mas
Beryllium	ND	mg/L		0.0008	E200.8		01/14/13 17:45 / mas
Cadmium	0.00004	mg/L		0.00003	E200.8		01/14/13 17:45 / mas
Calcium	17	mg/L		1	E200.7		01/15/13 13:53 / rlh
Chromium	ND	mg/L		0.01	E200.8		01/14/13 17:45 / mas
Copper	0.006	mg/L		0.002	E200.8		01/14/13 17:45 / mas
Iron	ND	mg/L		0.02	E200.7		01/15/13 13:53 / rlh
Lead	ND	mg/L		0.0003	E200.8		01/14/13 17:45 / mas
Magnesium	13	mg/L		1	E200.7		01/15/13 13:53 / rlh
Manganese	ND	mg/L		0.005	E200.8		01/14/13 17:45 / mas
Mercury	ND	mg/L		5E-06	E245.1		01/15/13 14:25 / ser
Nickel	0.002	mg/L		0.002	E200.8		01/14/13 17:45 / mas
Selenium	0.010	mg/L		0.001	E200.8		01/14/13 17:45 / mas
Silicon	1.09	mg/L		0.05	E200.7		01/15/13 13:53 / rlh
Silver	ND	mg/L		0.0002	E200.8		01/14/13 17:45 / mas
Strontium	0.04	mg/L		0.02	E200.8		01/14/13 17:45 / mas
Thallium	0.0010	mg/L		0.0002	E200.8		01/14/13 17:45 / mas
Uranium	0.0006	mg/L		0.0002	E200.8		01/14/13 17:45 / mas
Zinc	ND	mg/L		0.008	E200.8		01/14/13 17:45 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:1  
**Lab ID:** B13010867-003  
**Client Sample ID** Ynl 1/Ynl 2 Composite

**Report Date:** 01/21/13  
**Collection Date:** 01/10/13 09:00  
**DateReceived:** 01/11/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	557	mg/L	D	5	E300.0		01/14/13 13:38 / jrs
Fluoride	0.7	mg/L		0.2	A4500-F C		01/14/13 10:28 / jll
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.006	mg/L	L	0.005	E365.1		01/14/13 17:05 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.013	mg/L		0.009	E200.8		01/14/13 17:52 / mas
Antimony	0.0021	mg/L		0.0005	E200.8		01/14/13 17:52 / mas
Arsenic	ND	mg/L		0.001	E200.8		01/14/13 17:52 / mas
Barium	0.031	mg/L		0.003	E200.8		01/14/13 17:52 / mas
Beryllium	ND	mg/L		0.0008	E200.8		01/14/13 17:52 / mas
Cadmium	0.00008	mg/L		0.00003	E200.8		01/14/13 17:52 / mas
Calcium	101	mg/L		1	E200.7		01/15/13 13:57 / rlh
Chromium	ND	mg/L		0.01	E200.8		01/14/13 17:52 / mas
Copper	0.005	mg/L		0.002	E200.8		01/14/13 17:52 / mas
Iron	ND	mg/L		0.02	E200.7		01/15/13 13:57 / rlh
Lead	ND	mg/L		0.0003	E200.8		01/14/13 17:52 / mas
Magnesium	70	mg/L		1	E200.7		01/15/13 13:57 / rlh
Manganese	0.079	mg/L		0.005	E200.8		01/14/13 17:52 / mas
Mercury	7.0E-06	mg/L		5E-06	E245.1		01/17/13 16:34 / ser
Nickel	0.005	mg/L		0.002	E200.8		01/14/13 17:52 / mas
Selenium	0.009	mg/L		0.001	E200.8		01/14/13 17:52 / mas
Silicon	1.22	mg/L		0.05	E200.7		01/15/13 13:57 / rlh
Silver	ND	mg/L		0.0002	E200.8		01/14/13 17:52 / mas
Strontium	1.08	mg/L		0.02	E200.8		01/14/13 17:52 / mas
Thallium	0.0023	mg/L		0.0002	E200.8		01/14/13 17:52 / mas
Uranium	0.0010	mg/L		0.0002	E200.8		01/14/13 17:52 / mas
Zinc	ND	mg/L		0.008	E200.8		01/14/13 17:52 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.  
 L - Lowest available reporting limit for the analytical method us

## LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:1  
**Lab ID:** B13010867-004  
**Client Sample ID** Ynl B 2012 Decline

**Report Date:** 01/21/13  
**Collection Date:** 01/10/13 09:00  
**DateReceived:** 01/11/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	106	mg/L		1	E300.0		01/14/13 13:53 / jrs
Fluoride	1.1	mg/L		0.2	A4500-F C		01/14/13 10:46 / jll
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005	E365.1		01/14/13 17:08 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.047	mg/L		0.009	E200.8		01/14/13 17:58 / mas
Antimony	0.0053	mg/L		0.0005	E200.8		01/14/13 17:58 / mas
Arsenic	0.003	mg/L		0.001	E200.8		01/14/13 17:58 / mas
Barium	0.008	mg/L		0.003	E200.8		01/14/13 17:58 / mas
Beryllium	ND	mg/L		0.0008	E200.8		01/14/13 17:58 / mas
Cadmium	0.00004	mg/L		0.00003	E200.8		01/14/13 17:58 / mas
Calcium	19	mg/L		1	E200.7		01/15/13 14:01 / rlh
Chromium	ND	mg/L		0.01	E200.8		01/14/13 17:58 / mas
Copper	ND	mg/L		0.002	E200.8		01/14/13 17:58 / mas
Iron	ND	mg/L		0.02	E200.7		01/15/13 14:01 / rlh
Lead	ND	mg/L		0.0003	E200.8		01/14/13 17:58 / mas
Magnesium	17	mg/L		1	E200.7		01/15/13 14:01 / rlh
Manganese	ND	mg/L		0.005	E200.8		01/14/13 17:58 / mas
Mercury	ND	mg/L		5E-06	E245.1		01/15/13 14:33 / ser
Nickel	ND	mg/L		0.002	E200.8		01/14/13 17:58 / mas
Selenium	0.007	mg/L		0.001	E200.8		01/14/13 17:58 / mas
Silicon	1.70	mg/L		0.05	E200.7		01/15/13 14:01 / rlh
Silver	ND	mg/L		0.0002	E200.8		01/14/13 17:58 / mas
Strontium	0.15	mg/L		0.02	E200.8		01/14/13 17:58 / mas
Thallium	0.0002	mg/L		0.0002	E200.8		01/14/13 17:58 / mas
Uranium	0.0008	mg/L		0.0002	E200.8		01/14/13 17:58 / mas
Zinc	ND	mg/L		0.008	E200.8		01/14/13 17:58 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:1

**Report Date:** 01/21/13  
**Work Order:** B13010867

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_130115A			
<b>Sample ID: ICV</b>	4	Continuing Calibration Verification Standard									01/15/13 11:23
Calcium		25.5	mg/L	1.0	102	95	105				
Iron		2.55	mg/L	0.030	102	95	105				
Magnesium		25.2	mg/L	1.0	101	95	105				
Silicon		5.08	mg/L	0.10	102	95	105				
<b>Method: E200.7</b>								Batch: R198271			
<b>Sample ID: MB-6500DIS130115A</b>	4	Method Blank									01/15/13 10:59
Calcium		ND	mg/L	0.007							
Iron		0.007	mg/L	0.003							
Magnesium		ND	mg/L	0.002							
Silicon		ND	mg/L	0.01							
<b>Sample ID: LFB-6500DIS130115A</b>	4	Laboratory Fortified Blank									01/15/13 11:03
Calcium		52.3	mg/L	1.0	105	85	115				
Iron		5.21	mg/L	0.030	104	85	115				
Magnesium		52.4	mg/L	1.0	105	85	115				
Silicon		10.8	mg/L	0.10	108	85	115				
<b>Sample ID: B13010867-001BMS2</b>	4	Sample Matrix Spike									01/15/13 13:38
Calcium		1180	mg/L	1.0	105	70	130				
Iron		105	mg/L	0.056	105	70	130				
Magnesium		1260	mg/L	1.0	107	70	130				
Silicon		222	mg/L	0.31	111	70	130				
<b>Sample ID: B13010867-001BMSD</b>	4	Sample Matrix Spike Duplicate									01/15/13 13:41
Calcium		1190	mg/L	1.0	106	70	130	1.0	20		
Iron		107	mg/L	0.056	107	70	130	1.1	20		
Magnesium		1270	mg/L	1.0	109	70	130	1.2	20		
Silicon		224	mg/L	0.31	112	70	130	1.0	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:1

**Report Date:** 01/21/13  
**Work Order:** B13010867

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_130116A		
<b>Sample ID: ICV</b>	4	Continuing Calibration Verification Standard								01/16/13 14:46
Calcium		25.8	mg/L	1.0	103	95	105			
Iron		2.55	mg/L	0.030	102	95	105			
Magnesium		25.2	mg/L	1.0	101	95	105			
Silicon		5.03	mg/L	0.10	101	95	105			
<b>Method: E200.7</b>								Batch: R198361		
<b>Sample ID: MB-6500DIS130116A</b>	4	Method Blank						Run: ICP203-B_130116A		01/16/13 11:38
Calcium		ND	mg/L	0.007						
Iron		ND	mg/L	0.003						
Magnesium		ND	mg/L	0.002						
Silicon		ND	mg/L	0.01						
<b>Sample ID: LFB-6500DIS130116A</b>	4	Laboratory Fortified Blank						Run: ICP203-B_130116A		01/16/13 11:42
Calcium		50.9	mg/L	1.0	102	85	115			
Iron		5.08	mg/L	0.030	102	85	115			
Magnesium		50.9	mg/L	1.0	102	85	115			
Silicon		11.0	mg/L	0.10	110	85	115			
<b>Sample ID: B13010951-001BMS2</b>	4	Sample Matrix Spike						Run: ICP203-B_130116A		01/16/13 15:41
Calcium		120	mg/L	1.0	103	70	130			
Iron		10.2	mg/L	0.030	102	70	130			
Magnesium		113	mg/L	1.0	103	70	130			
Silicon		27.0	mg/L	0.10	107	70	130			
<b>Sample ID: B13010951-001BMSD</b>	4	Sample Matrix Spike Duplicate						Run: ICP203-B_130116A		01/16/13 15:45
Calcium		123	mg/L	1.0	106	70	130	2.7	20	
Iron		10.5	mg/L	0.030	105	70	130	2.9	20	
Magnesium		116	mg/L	1.0	106	70	130	2.7	20	
Silicon		27.9	mg/L	0.10	112	70	130	3.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:1

**Report Date:** 01/21/13  
**Work Order:** B13010867

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_130114A			
<b>Sample ID: ICV</b>	17	Initial Calibration Verification Standard									01/14/13 13:05
Aluminum		0.225	mg/L	0.10	90	90	110				
Antimony		0.0487	mg/L	0.050	97	90	110				
Arsenic		0.0475	mg/L	0.0050	95	90	110				
Barium		0.0494	mg/L	0.10	99	90	110				
Beryllium		0.0243	mg/L	0.0010	97	90	110				
Cadmium		0.0248	mg/L	0.0010	99	90	110				
Chromium		0.0482	mg/L	0.010	96	90	110				
Copper		0.0512	mg/L	0.010	102	90	110				
Lead		0.0486	mg/L	0.010	97	90	110				
Manganese		0.245	mg/L	0.010	98	90	110				
Nickel		0.0492	mg/L	0.010	98	90	110				
Selenium		0.0506	mg/L	0.0050	101	90	110				
Silver		0.0227	mg/L	0.0050	91	90	110				
Strontium		0.0546	mg/L	0.10	109	90	110				
Thallium		0.0485	mg/L	0.10	97	90	110				
Uranium		0.0192	mg/L	0.0010	96	90	110				
Zinc		0.0493	mg/L	0.010	99	90	110				

<b>Method: E200.8</b>								Batch: R198221			
<b>Sample ID: LRB</b>	17	Method Blank									01/14/13 13:52
Aluminum		0.0002	mg/L	5E-05							
Antimony		ND	mg/L	7E-06							
Arsenic		ND	mg/L	9E-05							
Barium		ND	mg/L	2E-05							
Beryllium		ND	mg/L	1E-05							
Cadmium		ND	mg/L	1E-05							
Chromium		ND	mg/L	3E-05							
Copper		ND	mg/L	3E-05							
Lead		ND	mg/L	8E-06							
Manganese		ND	mg/L	4E-05							
Nickel		ND	mg/L	4E-05							
Selenium		ND	mg/L	0.0002							
Silver		ND	mg/L	1E-05							
Strontium		ND	mg/L	1E-05							
Thallium		ND	mg/L	8E-06							
Uranium		ND	mg/L	5E-06							
Zinc		ND	mg/L	0.0002							

<b>Sample ID: LFB</b>	17	Laboratory Fortified Blank									01/14/13 13:59
Aluminum		0.0465	mg/L	0.10	93	85	115				
Antimony		0.0500	mg/L	0.050	100	85	115				
Arsenic		0.0499	mg/L	0.0050	100	85	115				
Barium		0.0499	mg/L	0.10	100	85	115				
Beryllium		0.0485	mg/L	0.0010	97	85	115				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:1

**Report Date:** 01/21/13  
**Work Order:** B13010867

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R198221										
<b>Sample ID: LFB</b>	17	Laboratory Fortified Blank					Run: ICPMS206-B_130114A			01/14/13 13:59
Cadmium		0.0491	mg/L	0.0010	98	85	115			
Chromium		0.0509	mg/L	0.010	102	85	115			
Copper		0.0498	mg/L	0.010	100	85	115			
Lead		0.0507	mg/L	0.010	101	85	115			
Manganese		0.0506	mg/L	0.010	101	85	115			
Nickel		0.0501	mg/L	0.010	100	85	115			
Selenium		0.0502	mg/L	0.0050	100	85	115			
Silver		0.0183	mg/L	0.0050	92	85	115			
Strontium		0.0485	mg/L	0.10	97	85	115			
Thallium		0.0504	mg/L	0.10	101	85	115			
Uranium		0.0521	mg/L	0.0010	104	85	115			
Zinc		0.0491	mg/L	0.010	98	85	115			
<b>Sample ID: B13010498-001BMS</b>	17	Sample Matrix Spike					Run: ICPMS206-B_130114A			01/14/13 16:51
Aluminum		0.0975	mg/L	0.030	96	70	130			
Antimony		0.107	mg/L	0.0010	107	70	130			
Arsenic		0.104	mg/L	0.0010	103	70	130			
Barium		0.562	mg/L	0.050		70	130			A
Beryllium		0.103	mg/L	0.0010	103	70	130			
Cadmium		0.103	mg/L	0.0010	103	70	130			
Chromium		0.105	mg/L	0.0050	105	70	130			
Copper		0.101	mg/L	0.0050	101	70	130			
Lead		0.105	mg/L	0.0010	105	70	130			
Manganese		0.113	mg/L	0.0010	105	70	130			
Nickel		0.107	mg/L	0.0050	100	70	130			
Selenium		0.107	mg/L	0.0010	107	70	130			
Silver		0.0425	mg/L	0.0010	106	70	130			
Strontium		0.201	mg/L	0.010	95	70	130			
Thallium		0.106	mg/L	0.00050	106	70	130			
Uranium		0.111	mg/L	0.00030	111	70	130			
Zinc		0.0997	mg/L	0.010	98	70	130			
<b>Sample ID: B13010498-001BMSD</b>	17	Sample Matrix Spike Duplicate					Run: ICPMS206-B_130114A			01/14/13 16:58
Aluminum		0.0919	mg/L	0.030	90	70	130	5.9	20	
Antimony		0.100	mg/L	0.0010	100	70	130	6.1	20	
Arsenic		0.0990	mg/L	0.0010	98	70	130	5.3	20	
Barium		0.562	mg/L	0.050		70	130	0.1	20	A
Beryllium		0.0975	mg/L	0.0010	97	70	130	5.9	20	
Cadmium		0.0977	mg/L	0.0010	98	70	130	5.3	20	
Chromium		0.101	mg/L	0.0050	101	70	130	4.5	20	
Copper		0.0971	mg/L	0.0050	97	70	130	4.2	20	
Lead		0.101	mg/L	0.0010	101	70	130	4.3	20	
Manganese		0.108	mg/L	0.0010	100	70	130	4.5	20	
Nickel		0.103	mg/L	0.0050	96	70	130	3.6	20	
Selenium		0.100	mg/L	0.0010	100	70	130	7.1	20	

**Qualifiers:**

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ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:1

**Report Date:** 01/21/13  
**Work Order:** B13010867

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										Batch: R198221
<b>Sample ID: B13010498-001BMSD</b> 17 Sample Matrix Spike Duplicate										Run: ICPMS206-B_130114A 01/14/13 16:58
Silver		0.0378	mg/L	0.0010	95	70	130	12	20	
Strontium		0.198	mg/L	0.010	93	70	130	1.4	20	
Thallium		0.0994	mg/L	0.00050	99	70	130	6.0	20	
Uranium		0.105	mg/L	0.00030	105	70	130	5.4	20	
Zinc		0.0981	mg/L	0.010	96	70	130	1.6	20	
<b>Sample ID: B13010910-001BMS</b> 17 Sample Matrix Spike										Run: ICPMS206-B_130114A 01/14/13 18:32
Aluminum		0.0746	mg/L	0.030	90	70	130			
Antimony		0.0523	mg/L	0.0010	104	70	130			
Arsenic		0.0560	mg/L	0.0010	112	70	130			
Barium		0.626	mg/L	0.050		70	130			A
Beryllium		0.0461	mg/L	0.0010	92	70	130			
Cadmium		0.0505	mg/L	0.0010	101	70	130			
Chromium		0.0536	mg/L	0.0050	107	70	130			
Copper		0.0527	mg/L	0.0050	102	70	130			
Lead		0.0522	mg/L	0.0010	104	70	130			
Manganese		0.0940	mg/L	0.0010	104	70	130			
Nickel		0.0627	mg/L	0.0050	102	70	130			
Selenium		0.0617	mg/L	0.0010	122	70	130			
Silver		0.0201	mg/L	0.0010	101	70	130			
Strontium		0.446	mg/L	0.010		70	130			A
Thallium		0.0529	mg/L	0.00050	106	70	130			
Uranium		0.0544	mg/L	0.00030	109	70	130			
Zinc		0.0527	mg/L	0.010	98	70	130			
<b>Sample ID: B13010910-001BMSD</b> 17 Sample Matrix Spike Duplicate										Run: ICPMS206-B_130114A 01/14/13 18:39
Aluminum		0.0751	mg/L	0.030	91	70	130	0.6	20	
Antimony		0.0519	mg/L	0.0010	103	70	130	0.9	20	
Arsenic		0.0535	mg/L	0.0010	107	70	130	4.6	20	
Barium		0.629	mg/L	0.050		70	130	0.5	20	A
Beryllium		0.0461	mg/L	0.0010	92	70	130	0.1	20	
Cadmium		0.0505	mg/L	0.0010	101	70	130	0.0	20	
Chromium		0.0516	mg/L	0.0050	103	70	130	3.8	20	
Copper		0.0510	mg/L	0.0050	99	70	130	3.2	20	
Lead		0.0511	mg/L	0.0010	102	70	130	2.1	20	
Manganese		0.0933	mg/L	0.0010	102	70	130	0.7	20	
Nickel		0.0609	mg/L	0.0050	98	70	130	3.0	20	
Selenium		0.0636	mg/L	0.0010	126	70	130	3.0	20	
Silver		0.0189	mg/L	0.0010	95	70	130	6.0	20	
Strontium		0.446	mg/L	0.010		70	130	0.0	20	A
Thallium		0.0512	mg/L	0.00050	102	70	130	3.3	20	
Uranium		0.0533	mg/L	0.00030	107	70	130	2.1	20	
Zinc		0.0527	mg/L	0.010	98	70	130	0.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:1

**Report Date:** 01/21/13  
**Work Order:** B13010867

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV202-B_130115A	
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								01/15/13 14:09	
Mercury		0.000204	mg/L	1.0E-05	102	90	110				
<b>Method:</b> E245.1										Analytical Run: HGCV202-B_130117A	
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								01/17/13 16:08	
Mercury		0.000188	mg/L	1.0E-05	94	90	110				
<b>Method:</b> E245.1										Batch: 68501	
<b>Sample ID:</b> LCS-68501		Laboratory Control Sample								Run: HGCV202-B_130117A	01/17/13 16:24
Mercury		0.000198	mg/L	1.0E-05	97	85	115				
<b>Sample ID:</b> B13010867-001BMS		Sample Matrix Spike								Run: HGCV202-B_130117A	01/17/13 16:30
Mercury		0.000198	mg/L	1.0E-05	95	70	130				
<b>Sample ID:</b> B13010867-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_130117A	01/17/13 16:32
Mercury		0.000200	mg/L	1.0E-05	96	70	130	1.0	30		
<b>Sample ID:</b> B13011017-003BMS		Sample Matrix Spike								Run: HGCV202-B_130117A	01/17/13 16:41
Mercury		0.000299	mg/L	1.0E-05	97	70	130				
<b>Sample ID:</b> B13011017-003BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_130117A	01/17/13 16:53
Mercury		0.000295	mg/L	1.0E-05	95	70	130	1.3	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 01/21/13

**Project:** 3767 WK:1

**Work Order:** B13010867

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>							Analytical Run: MAN-TECH_130114A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								01/14/13 09:52
Fluoride	0.950	mg/L	0.10	95	90	110			
<b>Method: A4500-F C</b>							Batch: R198167		
<b>Sample ID: MB</b>	Method Blank								01/14/13 09:46
Fluoride	ND	mg/L	0.02						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								01/14/13 09:49
Fluoride	0.950	mg/L	0.10	95	90	110			
<b>Sample ID: B13010850-001AMS</b>	Sample Matrix Spike								01/14/13 09:58
Fluoride	1.09	mg/L	0.10	89	80	120			
<b>Sample ID: B13010850-001AMSD</b>	Sample Matrix Spike Duplicate								01/14/13 10:01
Fluoride	1.13	mg/L	0.10	93	80	120	3.6	10	
<b>Sample ID: B13010867-004AMS</b>	Sample Matrix Spike								01/14/13 10:50
Fluoride	2.15	mg/L	0.10	102	80	120			
<b>Sample ID: B13010867-004AMSD</b>	Sample Matrix Spike Duplicate								01/14/13 10:53
Fluoride	1.97	mg/L	0.10	84	80	120	8.7	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:1

**Report Date:** 01/21/13  
**Work Order:** B13010867

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>							Analytical Run: IC202-B_130111A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								
Sulfate	101	mg/L	1.0	101	90	110			01/11/13 13:59
<b>Method: E300.0</b>							Batch: R198118		
<b>Sample ID: ICB</b>	Method Blank								
Sulfate	ND	mg/L	0.08						Run: IC202-B_130111A 01/11/13 14:32
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								
Sulfate	100	mg/L	1.1	100	90	110			Run: IC202-B_130111A 01/11/13 14:48
<b>Sample ID: B13010850-006AMS</b>	Sample Matrix Spike								
Sulfate	101	mg/L	1.1	101	90	110			Run: IC202-B_130111A 01/11/13 22:53
<b>Sample ID: B13010850-006AMSD</b>	Sample Matrix Spike Duplicate								
Sulfate	101	mg/L	1.1	101	90	110	0.3	20	Run: IC202-B_130111A 01/11/13 23:08
<b>Method: E300.0</b>							Analytical Run: IC202-B_130114A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								
Sulfate	101	mg/L	1.0	101	90	110			01/14/13 11:07
<b>Method: E300.0</b>							Batch: R198199		
<b>Sample ID: ICB</b>	Method Blank								
Sulfate	ND	mg/L	0.08						Run: IC202-B_130114A 01/14/13 11:22
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								
Sulfate	100	mg/L	1.1	100	90	110			Run: IC202-B_130114A 01/14/13 11:37
<b>Sample ID: B13010398-001AMS</b>	Sample Matrix Spike								
Sulfate	2250	mg/L	2.1		90	110			Run: IC202-B_130114A 01/14/13 12:23 A
<b>Sample ID: B13010398-001AMSD</b>	Sample Matrix Spike Duplicate								
Sulfate	2250	mg/L	2.1		90	110	0.1	20	Run: IC202-B_130114A 01/14/13 12:38 A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:1

**Report Date:** 01/21/13  
**Work Order:** B13010867

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>							Analytical Run: FIA202-B_130114B		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								01/14/13 16:19
Phosphorus, Total as P	0.242	mg/L	0.0050	97	90	110			
<b>Method: E365.1</b>							Batch: 68366		
<b>Sample ID: MB-68366</b>	Method Blank								01/14/13 16:47
Phosphorus, Total as P	0.00245	mg/L	0.0050						
<b>Sample ID: LCS-68366</b>	Laboratory Control Sample								01/14/13 16:48
Phosphorus, Total as P	0.203	mg/L	0.0050	100	90	110			
<b>Sample ID: B13010841-004BMS</b>	Sample Matrix Spike								01/14/13 16:55
Phosphorus, Total as P	2.55	mg/L	0.050	106	90	110			
<b>Sample ID: B13010841-004BMSD</b>	Sample Matrix Spike Duplicate								01/14/13 16:56
Phosphorus, Total as P	2.47	mg/L	0.050	102	90	110	3.2	10	
<b>Sample ID: B13010867-003CMS</b>	Sample Matrix Spike								01/14/13 17:06
Phosphorus, Total as P	0.198	mg/L	0.0050	99	90	110			
<b>Sample ID: B13010867-003CMSD</b>	Sample Matrix Spike Duplicate								01/14/13 17:07
Phosphorus, Total as P	0.202	mg/L	0.0050	101	90	110	2.0	10	
<b>Sample ID: B13010875-001AMS</b>	Sample Matrix Spike								01/14/13 17:11
Phosphorus, Total as P	8.16	mg/L	0.10	102	90	110			
<b>Sample ID: B13010875-001AMSD</b>	Sample Matrix Spike Duplicate								01/14/13 17:12
Phosphorus, Total as P	8.20	mg/L	0.10	103	90	110	0.5	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13010867

Login completed by: Jill M. Lippard

Date Received: 1/11/2013

Reviewed by: BL2000\jklrier

Received by: Ig

Reviewed Date: 1/11/2013

Carrier UPS  
name:

- |   |   |  |  |
|---|---|--|--|
| Shipping container/cooler in good condition?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on shipping container/cooler?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on sample bottles?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/>            |
| Chain of custody present?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody signed when relinquished and received?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody agrees with sample labels?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Samples in proper container/bottle?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sample containers intact?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters<br>such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Temp Blank received?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |
| Container/Temp Blank temperature:   | 3.6°C On Ice                            |  |  |
| Water - VOA vials have zero headspace?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Applicable <input type="checkbox"/>                    |

Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: McClelland Lab		Project Name, PWS, Permit, Etc. 3767 WK:1		Sample Origin State: NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Phone/Fax: 775-356-1300		Email: MLI@METTEST.COM	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko		604-628-1162		Purchase Order:	
Special Report/Formats - ELI must be notified prior to sample submittal for the following:  <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POT/WWTP <input type="checkbox"/> State: <input type="checkbox"/> Other: <input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) <b>Format:</b> <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		Number of Containers Sample Type: A W S V B O Air Water Soils/Solids Vegetation Brassay Other		SEE ATTACHED		SEE ATTACHED	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date	Collection Time	MATRIX	Normal Turnaround (TAT)	Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	Shipped by: Robert
1 USZ 1 high Fe/USZ 2 low Fe Composite		01/10/13	09:00	Water	SEE ATTACHED	Comments:	Receipt Temp 3.6 °C
2 Ynl 0							On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3 Ynl 1/Ynl 2 Composite							Custody Seal Intact <input checked="" type="checkbox"/> N
4 Ynl B 2012 Decline							Signature Match <input checked="" type="checkbox"/> N
5							Signature Match Y N
6							Signature Match Y N
7							Signature Match Y N
8							Signature Match Y N
9							Signature Match Y N
10							Signature Match Y N
Custody Record MUST be Signed		Relinquished by (print): Matt Medina	Date/Time: 01/10/13 9:00	Signature: Matt Medina	Received by (print):	Date/Time:	Signature:
		Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time:	Signature:
Sample Disposal: Return to Client:					Received by Laboratory: 1-11-13 9:00	Date/Time:	Signature: Matt Medina

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*

# ANALYTICAL SUMMARY REPORT

January 29, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B13011326      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:2


Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Alaska Exploration Inc on 1/18/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13011326-001	USZ 1 High Fe/USZ 2 Low Fe Composite	01/17/13 9:00	01/18/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13011326-002	Ynl 0	01/17/13 9:00	01/18/13	Aqueous	Same As Above
B13011326-003	Ynl 1/Ynl 2 Composite	01/17/13 9:00	01/18/13	Aqueous	Same As Above
B13011326-004	Ynl B 2012 Decline	01/17/13 9:00	01/18/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Cindy Rohrer  
Organic Dept. Project Manager

Digitally signed by  
Cindy Rohrer  
Date: 2013.01.29 10:01:44 -07:00

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:2  
**Lab ID:** B13011326-001  
**Client Sample ID** USZ 1 High Fe/USZ 2 Low Fe Composite

**Report Date:** 01/29/13  
**Collection Date:** 01/17/13 09:00  
**DateReceived:** 01/18/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	871	mg/L	D	10		E300.0	01/18/13 17:07 / jrs
Fluoride	0.2	mg/L		0.2		A4500-F C	01/21/13 09:14 / rjb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	01/21/13 17:09 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	01/21/13 12:33 / mas
Antimony	ND	mg/L		0.0005		E200.8	01/28/13 15:21 / jjw
Arsenic	0.002	mg/L		0.001		E200.8	01/21/13 12:33 / mas
Barium	0.014	mg/L		0.003		E200.7	01/21/13 12:55 / rjh
Beryllium	ND	mg/L		0.0008		E200.7	01/21/13 12:55 / rjh
Cadmium	0.00022	mg/L		0.00003		E200.8	01/21/13 12:33 / mas
Calcium	111	mg/L		1		E200.7	01/21/13 12:55 / rjh
Chromium	ND	mg/L		0.01		E200.7	01/21/13 12:55 / rjh
Copper	ND	mg/L		0.002		E200.8	01/21/13 12:33 / mas
Iron	ND	mg/L		0.02		E200.7	01/21/13 12:55 / rjh
Lead	0.0006	mg/L		0.0003		E200.8	01/21/13 12:33 / mas
Magnesium	166	mg/L		1		E200.7	01/21/13 12:55 / rjh
Manganese	1.01	mg/L		0.005		E200.8	01/21/13 12:33 / mas
Mercury	0.00002	mg/L		0.00001		E245.1	01/25/13 14:38 / ser
Nickel	0.030	mg/L		0.002		E200.8	01/21/13 12:33 / mas
Selenium	0.008	mg/L		0.001		E200.8	01/21/13 12:33 / mas
Silicon	0.74	mg/L		0.05		E200.7	01/21/13 12:55 / rjh
Silver	0.0005	mg/L		0.0002		E200.8	01/21/13 12:33 / mas
Strontium	0.79	mg/L		0.02		E200.8	01/21/13 12:33 / mas
Thallium	0.0019	mg/L		0.0002		E200.8	01/21/13 12:33 / mas
Uranium	ND	mg/L		0.0002		E200.8	01/21/13 12:33 / mas
Zinc	ND	mg/L		0.008		E200.8	01/21/13 12:33 / mas

**Report Definitions:**

RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method us

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:2  
**Lab ID:** B13011326-002  
**Client Sample ID** Ynl 0

**Report Date:** 01/29/13  
**Collection Date:** 01/17/13 09:00  
**DateReceived:** 01/18/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	59	mg/L		1		E300.0	01/21/13 19:41 / jrs
Fluoride	0.6	mg/L		0.2		A4500-F C	01/21/13 09:29 / rjb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	01/21/13 17:10 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.046	mg/L		0.009		E200.7	01/21/13 12:59 / rlh
Antimony	0.0010	mg/L		0.0005		E200.8	01/22/13 15:25 / mas
Arsenic	0.001	mg/L		0.001		E200.8	01/22/13 15:25 / mas
Barium	0.010	mg/L		0.003		E200.7	01/21/13 12:59 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	01/21/13 12:59 / rlh
Cadmium	ND	mg/L		0.00003		E200.8	01/21/13 12:36 / mas
Calcium	15	mg/L		1		E200.7	01/21/13 12:59 / rlh
Chromium	ND	mg/L		0.01		E200.7	01/21/13 12:59 / rlh
Copper	ND	mg/L		0.002		E200.8	01/22/13 15:25 / mas
Iron	ND	mg/L		0.02		E200.7	01/21/13 12:59 / rlh
Lead	ND	mg/L		0.0003		E200.8	01/21/13 12:36 / mas
Magnesium	13	mg/L		1		E200.7	01/21/13 12:59 / rlh
Manganese	0.006	mg/L		0.005		E200.7	01/21/13 12:59 / rlh
Mercury	ND	mg/L		0.00001		E245.1	01/24/13 16:01 / ser
Nickel	ND	mg/L		0.002		E200.8	01/23/13 19:01 / mas
Selenium	0.010	mg/L		0.001		E200.8	01/23/13 19:01 / mas
Silicon	0.97	mg/L		0.05		E200.7	01/21/13 12:59 / rlh
Silver	ND	mg/L		0.0002		E200.8	01/21/13 12:36 / mas
Strontium	0.04	mg/L		0.02		E200.7	01/21/13 12:59 / rlh
Thallium	0.0009	mg/L		0.0002		E200.8	01/21/13 12:36 / mas
Uranium	0.0008	mg/L		0.0002		E200.8	01/21/13 12:36 / mas
Zinc	ND	mg/L		0.008		E200.7	01/21/13 12:59 / rlh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:2  
**Lab ID:** B13011326-003  
**Client Sample ID** Ynl 1/Ynl 2 Composite

**Report Date:** 01/29/13  
**Collection Date:** 01/17/13 09:00  
**DateReceived:** 01/18/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	445	mg/L	D	5		E300.0	01/22/13 21:57 / jrs
Fluoride	0.6	mg/L		0.2		A4500-F C	01/21/13 09:31 / rjb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	01/21/13 17:11 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.010	mg/L		0.009		E200.8	01/21/13 12:39 / mas
Antimony	0.0012	mg/L		0.0005		E200.8	01/28/13 15:24 / jjw
Arsenic	ND	mg/L		0.001		E200.8	01/21/13 12:39 / mas
Barium	0.021	mg/L		0.003		E200.7	01/21/13 13:03 / rjh
Beryllium	ND	mg/L		0.0008		E200.7	01/21/13 13:03 / rjh
Cadmium	0.00005	mg/L		0.00003		E200.8	01/21/13 12:39 / mas
Calcium	94	mg/L		1		E200.7	01/21/13 13:03 / rjh
Chromium	ND	mg/L		0.01		E200.7	01/21/13 13:03 / rjh
Copper	ND	mg/L		0.002		E200.8	01/21/13 12:39 / mas
Iron	ND	mg/L		0.02		E200.7	01/21/13 13:03 / rjh
Lead	ND	mg/L		0.0003		E200.8	01/21/13 12:39 / mas
Magnesium	52	mg/L		1		E200.7	01/21/13 13:03 / rjh
Manganese	0.077	mg/L		0.005		E200.7	01/21/13 13:03 / rjh
Mercury	ND	mg/L		0.00001		E245.1	01/24/13 16:09 / ser
Nickel	0.004	mg/L		0.002		E200.8	01/21/13 12:39 / mas
Selenium	0.005	mg/L		0.001		E200.8	01/21/13 12:39 / mas
Silicon	1.17	mg/L		0.05		E200.7	01/21/13 13:03 / rjh
Silver	ND	mg/L		0.0002		E200.8	01/21/13 12:39 / mas
Strontium	0.98	mg/L		0.02		E200.7	01/21/13 13:03 / rjh
Thallium	0.0021	mg/L		0.0002		E200.8	01/21/13 12:39 / mas
Uranium	0.0012	mg/L		0.0002		E200.8	01/21/13 12:39 / mas
Zinc	ND	mg/L		0.008		E200.7	01/21/13 13:03 / rjh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.  
 L - Lowest available reporting limit for the analytical method us

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:2  
**Lab ID:** B13011326-004  
**Client Sample ID** Ynl B 2012 Decline

**Report Date:** 01/29/13  
**Collection Date:** 01/17/13 09:00  
**DateReceived:** 01/18/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	104	mg/L		1		E300.0	01/21/13 20:42 / jrs
Fluoride	1.0	mg/L		0.2		A4500-F C	01/21/13 09:34 / rjb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	01/21/13 17:13 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.026	mg/L		0.009		E200.7	01/21/13 13:06 / rlh
Antimony	0.0058	mg/L		0.0005		E200.8	01/28/13 15:27 / jjw
Arsenic	0.003	mg/L		0.001		E200.8	01/21/13 12:42 / mas
Barium	0.006	mg/L		0.003		E200.7	01/21/13 13:06 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	01/21/13 13:06 / rlh
Cadmium	ND	mg/L		0.00003		E200.8	01/21/13 12:42 / mas
Calcium	20	mg/L		1		E200.7	01/21/13 13:06 / rlh
Chromium	ND	mg/L		0.01		E200.7	01/21/13 13:06 / rlh
Copper	ND	mg/L		0.002		E200.8	01/21/13 12:42 / mas
Iron	ND	mg/L		0.02		E200.7	01/21/13 13:06 / rlh
Lead	ND	mg/L		0.0003		E200.8	01/21/13 12:42 / mas
Magnesium	17	mg/L		1		E200.7	01/21/13 13:06 / rlh
Manganese	ND	mg/L		0.005		E200.7	01/21/13 13:06 / rlh
Mercury	ND	mg/L		0.00001		E245.1	01/24/13 16:11 / ser
Nickel	ND	mg/L		0.002		E200.8	01/21/13 12:42 / mas
Selenium	0.007	mg/L		0.001		E200.8	01/21/13 12:42 / mas
Silicon	1.54	mg/L		0.05		E200.7	01/21/13 13:06 / rlh
Silver	ND	mg/L		0.0002		E200.8	01/21/13 12:42 / mas
Strontium	0.17	mg/L		0.02		E200.7	01/21/13 13:06 / rlh
Thallium	0.0002	mg/L		0.0002		E200.8	01/21/13 12:42 / mas
Uranium	0.0010	mg/L		0.0002		E200.8	01/21/13 12:42 / mas
Zinc	ND	mg/L		0.008		E200.7	01/21/13 13:06 / rlh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:2

**Report Date:** 01/29/13  
**Work Order:** B13011326

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_130121A			
<b>Sample ID: ICV</b>	11	Continuing Calibration Verification Standard							01/21/13 12:27		
Aluminum		2.47	mg/L	0.10	99	95	105				
Barium		2.45	mg/L	0.10	98	95	105				
Beryllium		1.26	mg/L	0.010	101	95	105				
Calcium		25.4	mg/L	1.0	101	95	105				
Chromium		2.38	mg/L	0.050	95	95	105				
Iron		2.54	mg/L	0.030	102	95	105				
Magnesium		25.2	mg/L	1.0	101	95	105				
Manganese		2.49	mg/L	0.010	100	95	105				
Strontium		2.55	mg/L	0.10	102	95	105				
Zinc		2.52	mg/L	0.010	101	95	105				
Silicon		5.12	mg/L	0.10	102	95	105				
<b>Method: E200.7</b>								Batch: R198596			
<b>Sample ID: MB-6500DIS130121A</b>	11	Method Blank							Run: ICP203-B_130121A		01/21/13 11:17
Aluminum		ND	mg/L	0.006							
Barium		ND	mg/L	0.0003							
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.007							
Chromium		ND	mg/L	0.001							
Iron		ND	mg/L	0.003							
Magnesium		ND	mg/L	0.002							
Manganese		ND	mg/L	0.0003							
Strontium		ND	mg/L	5E-05							
Zinc		ND	mg/L	0.001							
Silicon		ND	mg/L	0.01							
<b>Sample ID: LFB-6500DIS130121A</b>	11	Laboratory Fortified Blank							Run: ICP203-B_130121A		01/21/13 11:21
Aluminum		4.90	mg/L	0.10	98	85	115				
Barium		0.980	mg/L	0.10	98	85	115				
Beryllium		0.506	mg/L	0.010	101	85	115				
Calcium		50.4	mg/L	1.0	101	85	115				
Chromium		0.955	mg/L	0.050	95	85	115				
Iron		5.05	mg/L	0.030	101	85	115				
Magnesium		50.5	mg/L	1.0	101	85	115				
Manganese		4.99	mg/L	0.010	100	85	115				
Strontium		1.05	mg/L	0.10	105	85	115				
Zinc		0.995	mg/L	0.010	99	85	115				
Silicon		10.2	mg/L	0.10	102	85	115				
<b>Sample ID: B13011354-002BMS2</b>	11	Sample Matrix Spike							Run: ICP203-B_130121A		01/21/13 13:26
Aluminum		9.85	mg/L	0.030	98	70	130				
Barium		1.96	mg/L	0.050	96	70	130				
Beryllium		0.982	mg/L	0.0010	98	70	130				
Calcium		230	mg/L	1.0	97	70	130				
Chromium		1.83	mg/L	0.0050	92	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:2

**Report Date:** 01/29/13  
**Work Order:** B13011326

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										
Batch: R198596										
<b>Sample ID: B13011354-002BMS2</b>	11	Sample Matrix Spike					Run: ICP203-B_130121A			01/21/13 13:26
Iron		9.91	mg/L	0.030	99	70	130			
Magnesium		180	mg/L	1.0	102	70	130			
Manganese		10.2	mg/L	0.0010	98	70	130			
Silicon		30.2	mg/L	0.10	102	70	130			
Strontium		3.09	mg/L	0.010	102	70	130			
Zinc		1.96	mg/L	0.010	98	70	130			
<b>Sample ID: B13011354-002BMSD</b>	11	Sample Matrix Spike Duplicate					Run: ICP203-B_130121A			01/21/13 13:30
Aluminum		9.95	mg/L	0.030	99	70	130	1.0	20	
Barium		1.98	mg/L	0.050	97	70	130	1.0	20	
Beryllium		0.989	mg/L	0.0010	99	70	130	0.7	20	
Calcium		231	mg/L	1.0	98	70	130	0.3	20	
Chromium		1.83	mg/L	0.0050	92	70	130	0.0	20	
Iron		9.97	mg/L	0.030	100	70	130	0.6	20	
Magnesium		181	mg/L	1.0	103	70	130	0.5	20	
Manganese		10.3	mg/L	0.0010	98	70	130	0.7	20	
Silicon		30.2	mg/L	0.10	102	70	130	0.1	20	
Strontium		3.11	mg/L	0.010	103	70	130	0.6	20	
Zinc		1.97	mg/L	0.010	98	70	130	0.7	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:2

**Report Date:** 01/29/13  
**Work Order:** B13011326

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_130121A		
<b>Sample ID: QCS</b>	13	Initial Calibration Verification Standard								01/21/13 10:12
Aluminum		0.254	mg/L	0.10	102	90	110			
Arsenic		0.0507	mg/L	0.0050	101	90	110			
Cadmium		0.0259	mg/L	0.0010	104	90	110			
Copper		0.0534	mg/L	0.010	107	90	110			
Lead		0.0506	mg/L	0.010	101	90	110			
Manganese		0.252	mg/L	0.010	101	90	110			
Nickel		0.0519	mg/L	0.010	104	90	110			
Selenium		0.0507	mg/L	0.0050	101	90	110			
Silver		0.0253	mg/L	0.0050	101	90	110			
Strontium		0.0540	mg/L	0.10	108	90	110			
Thallium		0.0516	mg/L	0.10	103	90	110			
Uranium		0.0206	mg/L	0.0010	103	90	110			
Zinc		0.0519	mg/L	0.010	104	90	110			
<b>Method: E200.8</b>								Batch: R198597		
<b>Sample ID: LFB</b>	13	Laboratory Fortified Blank						Run: ICPMS202-B_130121A		01/21/13 09:56
Aluminum		0.0456	mg/L	0.10	91	85	115			
Arsenic		0.0430	mg/L	0.0050	86	85	115			
Cadmium		0.0434	mg/L	0.0010	87	85	115			
Copper		0.0475	mg/L	0.010	95	85	115			
Lead		0.0444	mg/L	0.010	89	85	115			
Manganese		0.0452	mg/L	0.010	90	85	115			
Nickel		0.0454	mg/L	0.010	91	85	115			
Selenium		0.0427	mg/L	0.0050	85	85	115			
Silver		0.0189	mg/L	0.0050	95	85	115			
Strontium		0.0435	mg/L	0.10	87	85	115			
Thallium		0.0447	mg/L	0.10	89	85	115			
Uranium		0.0428	mg/L	0.0010	86	85	115			
Zinc		0.0448	mg/L	0.010	90	85	115			
<b>Sample ID: LRB</b>	13	Method Blank						Run: ICPMS202-B_130121A		01/21/13 10:32
Aluminum		ND	mg/L	0.0002						
Arsenic		0.0003	mg/L	9E-05						
Cadmium		ND	mg/L	6E-06						
Copper		ND	mg/L	6E-05						
Lead		ND	mg/L	9E-06						
Manganese		ND	mg/L	6E-06						
Nickel		ND	mg/L	4E-05						
Selenium		0.0005	mg/L	0.0004						
Silver		ND	mg/L	2E-05						
Strontium		ND	mg/L	6E-06						
Thallium		ND	mg/L	1.0E-05						
Uranium		ND	mg/L	2E-06						
Zinc		ND	mg/L	9E-05						

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:2

**Report Date:** 01/29/13  
**Work Order:** B13011326

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>											
Batch: R198597											
<b>Sample ID: B13011327-001CMS</b>	13	Sample Matrix Spike			Run: ICPMS202-B_130121A			01/21/13 13:14			
Aluminum		0.0840	mg/L	0.030	102	70	130				
Arsenic		0.0510	mg/L	0.0010	101	70	130				
Cadmium		0.0507	mg/L	0.0010	101	70	130				
Copper		0.142	mg/L	0.0050	92	70	130				
Lead		0.0496	mg/L	0.0010	99	70	130				
Manganese		0.0587	mg/L	0.0010	106	70	130				
Nickel		0.0514	mg/L	0.010	103	70	130				
Selenium		0.0527	mg/L	0.0010	105	70	130				
Silver		0.0192	mg/L	0.0010	96	70	130				
Strontium		0.123	mg/L	0.010	87	70	130				
Thallium		0.0499	mg/L	0.00050	100	70	130				
Uranium		0.0472	mg/L	0.00030	94	70	130				
Zinc		0.0593	mg/L	0.010	109	70	130				
<b>Sample ID: B13011327-001CMSD</b>	13	Sample Matrix Spike Duplicate			Run: ICPMS202-B_130121A			01/21/13 13:16			
Aluminum		0.0797	mg/L	0.030	93	70	130	5.3	20		
Arsenic		0.0485	mg/L	0.0010	96	70	130	5.1	20		
Cadmium		0.0482	mg/L	0.0010	96	70	130	5.2	20		
Copper		0.136	mg/L	0.0050	81	70	130	3.9	20		
Lead		0.0475	mg/L	0.0010	94	70	130	4.4	20		
Manganese		0.0556	mg/L	0.0010	99	70	130	5.5	20		
Nickel		0.0496	mg/L	0.010	99	70	130	3.6	20		
Selenium		0.0500	mg/L	0.0010	100	70	130	5.2	20		
Silver		0.0185	mg/L	0.0010	92	70	130	3.5	20		
Strontium		0.119	mg/L	0.010	79	70	130	3.3	20		
Thallium		0.0481	mg/L	0.00050	96	70	130	3.6	20		
Uranium		0.0447	mg/L	0.00030	89	70	130	5.5	20		
Zinc		0.0571	mg/L	0.010	105	70	130	3.9	20		
<b>Method: E200.8</b>											
Analytical Run: ICPMS202-B_130128A											
<b>Sample ID: QCS</b>		Initial Calibration Verification Standard						01/28/13 12:57			
Antimony		0.0460	mg/L	0.050	92	90	110				
<b>Method: E200.8</b>											
Batch: R198932											
<b>Sample ID: LFB</b>		Laboratory Fortified Blank			Run: ICPMS202-B_130128A			01/28/13 10:52			
Antimony		0.0432	mg/L	0.050	86	85	115				
<b>Sample ID: LRB</b>		Method Blank			Run: ICPMS202-B_130128A			01/28/13 11:26			
Antimony		ND	mg/L	8E-06							
<b>Sample ID: B13011681-001BMS</b>		Sample Matrix Spike			Run: ICPMS202-B_130128A			01/28/13 17:37			
Antimony		0.0492	mg/L	0.0010	98	70	130				
<b>Sample ID: B13011681-001BMSD</b>		Sample Matrix Spike Duplicate			Run: ICPMS202-B_130128A			01/28/13 17:40			
Antimony		0.0469	mg/L	0.0010	94	70	130	4.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:2

**Report Date:** 01/29/13  
**Work Order:** B13011326

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS203-B_130121A			
<b>Sample ID: QCS</b>	3	Initial Calibration Verification Standard							01/22/13 13:08		
Antimony		0.0522	mg/L	0.050	104	90	110				
Arsenic		0.0496	mg/L	0.0050	99	90	110				
Copper		0.0516	mg/L	0.010	103	90	110				
<b>Method: E200.8</b>								Batch: R198617			
<b>Sample ID: LRB</b>	3	Method Blank							Run: ICPMS203-B_130121A 01/21/13 16:25		
Antimony		ND	mg/L	0.005							
Arsenic		ND	mg/L	0.0005							
Copper		ND	mg/L	0.001							
<b>Sample ID: LFB</b>	3	Laboratory Fortified Blank							Run: ICPMS203-B_130121A 01/21/13 17:02		
Antimony		0.0514	mg/L	0.050	103	85	115				
Arsenic		0.0464	mg/L	0.0050	93	85	115				
Copper		0.0454	mg/L	0.010	91	85	115				
<b>Sample ID: B13010737-001AMS</b>	3	Sample Matrix Spike							Run: ICPMS203-B_130121A 01/22/13 16:29		
Antimony		0.0907	mg/L	0.0010	90	70	130				
Arsenic		0.0865	mg/L	0.0010	86	70	130				
Copper		0.0836	mg/L	0.0050	84	70	130				
<b>Sample ID: B13010737-001AMSD</b>	3	Sample Matrix Spike Duplicate							Run: ICPMS203-B_130121A 01/22/13 16:34		
Antimony		0.0865	mg/L	0.0010	86	70	130	4.7	20		
Arsenic		0.0835	mg/L	0.0010	83	70	130	3.5	20		
Copper		0.0794	mg/L	0.0050	79	70	130	5.1	20		
<b>Method: E200.8</b>								Analytical Run: ICPMS203-B_130123A			
<b>Sample ID: QCS</b>	2	Initial Calibration Verification Standard							01/23/13 17:19		
Nickel		0.0479	mg/L	0.010	96	90	110				
Selenium		0.0496	mg/L	0.0050	99	90	110				
<b>Method: E200.8</b>								Batch: R198765			
<b>Sample ID: LFB</b>	2	Laboratory Fortified Blank							Run: ICPMS203-B_130123A 01/23/13 11:57		
Nickel		0.0463	mg/L	0.010	93	85	115				
Selenium		0.0455	mg/L	0.0050	91	85	115				
<b>Sample ID: LRB</b>	2	Method Blank							Run: ICPMS203-B_130123A 01/23/13 12:55		
Nickel		ND	mg/L	7E-05							
Selenium		ND	mg/L	0.0001							
<b>Sample ID: B13011326-002BMS</b>	2	Sample Matrix Spike							Run: ICPMS203-B_130123A 01/23/13 19:44		
Nickel		0.0433	mg/L	0.0050	87	70	130				
Selenium		0.0475	mg/L	0.0010	76	70	130				
<b>Sample ID: B13011326-002BMSD</b>	2	Sample Matrix Spike Duplicate							Run: ICPMS203-B_130123A 01/23/13 20:48		
Nickel		0.0452	mg/L	0.0050	90	70	130	4.3	20		
Selenium		0.0534	mg/L	0.0010	88	70	130	12	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:2

**Report Date:** 01/29/13  
**Work Order:** B13011326

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E245.1</b>								Analytical Run: HGCV202-B_130124A		
<b>Sample ID: QCS</b>	Initial Calibration Verification Standard									01/24/13 15:34
Mercury		0.000208	mg/L	1.0E-05	104	90	110			
<b>Method: E245.1</b>								Batch: 68658		
<b>Sample ID: MB-68658</b>	Method Blank									Run: HGCV202-B_130124A 01/24/13 15:43
Mercury		ND	mg/L	1E-06						
<b>Sample ID: LCS-68658</b>	Laboratory Control Sample									Run: HGCV202-B_130124A 01/24/13 15:45
Mercury		0.000195	mg/L	1.0E-05	98	85	115			
<b>Sample ID: B13011121-002DMS</b>	Sample Matrix Spike									Run: HGCV202-B_130124A 01/24/13 15:55
Mercury		0.000195	mg/L	1.0E-05	95	70	130			
<b>Sample ID: B13011121-002DMSD</b>	Sample Matrix Spike Duplicate									Run: HGCV202-B_130124A 01/24/13 15:57
Mercury		0.000192	mg/L	1.0E-05	94	70	130	1.6	30	
<b>Sample ID: B13011326-004BMS</b>	Sample Matrix Spike									Run: HGCV202-B_130124A 01/24/13 16:13
Mercury		0.000194	mg/L	1.0E-05	97	70	130			
<b>Sample ID: B13011326-004BMSD</b>	Sample Matrix Spike Duplicate									Run: HGCV202-B_130124A 01/24/13 16:15
Mercury		0.000197	mg/L	1.0E-05	98	70	130	1.5	30	
<b>Method: E245.1</b>								Analytical Run: HGCV202-B_130125A		
<b>Sample ID: QCS</b>	Initial Calibration Verification Standard									01/25/13 13:59
Mercury		0.000206	mg/L	1.0E-05	103	90	110			
<b>Method: E245.1</b>								Batch: 68690		
<b>Sample ID: MB-68690</b>	Method Blank									Run: HGCV202-B_130125A 01/25/13 14:34
Mercury		2E-06	mg/L	1E-06						
<b>Sample ID: LCS-68690</b>	Laboratory Control Sample									Run: HGCV202-B_130125A 01/25/13 14:36
Mercury		0.000182	mg/L	1.0E-05	90	85	115			
<b>Sample ID: B13011326-001BMS</b>	Sample Matrix Spike									Run: HGCV202-B_130125A 01/25/13 14:42
Mercury		0.000197	mg/L	1.0E-05	90	70	130			
<b>Sample ID: B13011326-001BMSD</b>	Sample Matrix Spike Duplicate									Run: HGCV202-B_130125A 01/25/13 14:44
Mercury		0.000195	mg/L	1.0E-05	89	70	130	1.0	30	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 01/25/13

**Project:** 3767 WK:2

**Work Order:** B13011326

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>							Analytical Run: MAN-TECH_130121A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								
Fluoride	0.980	mg/L	0.10	98	90	110			01/21/13 09:11
<b>Method: A4500-F C</b>							Batch: R198569		
<b>Sample ID: MB</b>	Method Blank								
Fluoride	0.02	mg/L	0.02						Run: MAN-TECH_130121A 01/21/13 09:06
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								
Fluoride	1.05	mg/L	0.10	103	90	110			Run: MAN-TECH_130121A 01/21/13 09:09
<b>Sample ID: B13011326-001AMS</b>	Sample Matrix Spike								
Fluoride	1.14	mg/L	0.10	89	80	120			Run: MAN-TECH_130121A 01/21/13 09:17
<b>Sample ID: B13011326-001AMSD</b>	Sample Matrix Spike Duplicate								
Fluoride	1.13	mg/L	0.10	88	80	120	0.9	10	Run: MAN-TECH_130121A 01/21/13 09:20

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:2

**Report Date:** 01/25/13  
**Work Order:** B13011326

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>							Analytical Run: IC202-B_130118A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								
Sulfate	101	mg/L	1.0	101	90	110			01/18/13 13:19
<b>Method: E300.0</b>							Batch: R198552		
<b>Sample ID: ICB</b>	Method Blank								
Sulfate	ND	mg/L	0.08						Run: IC202-B_130118A 01/18/13 13:50
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								
Sulfate	101	mg/L	1.1	101	90	110			Run: IC202-B_130118A 01/18/13 14:05
<b>Sample ID: B13011084-001AMS</b>	Sample Matrix Spike								
Sulfate	1090	mg/L	11	104	90	110			Run: IC202-B_130118A 01/18/13 14:35
<b>Sample ID: B13011084-001AMSD</b>	Sample Matrix Spike Duplicate								
Sulfate	1090	mg/L	11	104	90	110	0.1	20	Run: IC202-B_130118A 01/18/13 14:50
<b>Method: E300.0</b>							Analytical Run: IC202-B_130121A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								
Sulfate	101	mg/L	1.0	101	90	110			01/21/13 15:24
<b>Method: E300.0</b>							Batch: R198619		
<b>Sample ID: ICB</b>	Method Blank								
Sulfate	ND	mg/L	0.08						Run: IC202-B_130121A 01/21/13 15:39
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								
Sulfate	94.8	mg/L	1.0	95	90	110			Run: IC202-B_130121A 01/21/13 15:54
<b>Sample ID: B13011326-002AMS</b>	Sample Matrix Spike								
Sulfate	169	mg/L	1.1	110	90	110			Run: IC202-B_130121A 01/21/13 19:56
<b>Sample ID: B13011326-002AMSD</b>	Sample Matrix Spike Duplicate								
Sulfate	171	mg/L	1.1	112	90	110	1.5	20	Run: IC202-B_130121A 01/21/13 20:12 S

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:2

**Report Date:** 01/25/13  
**Work Order:** B13011326

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>							Analytical Run: IC202-B_130122A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								01/22/13 15:54
Sulfate	100.0	mg/L	1.0	100	90	110			
<b>Method: E300.0</b>							Batch: R198683		
<b>Sample ID: ICB</b>	Method Blank								01/22/13 16:09
Sulfate	ND	mg/L	0.08						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								01/22/13 16:24
Sulfate	98.4	mg/L	1.1	98	90	110			
<b>Sample ID: B13011158-006AMS</b>	Sample Matrix Spike								01/22/13 20:56
Sulfate	5010	mg/L	53	100	90	110			
<b>Sample ID: B13011158-006AMSD</b>	Sample Matrix Spike Duplicate								01/22/13 21:11
Sulfate	5050	mg/L	53	101	90	110	0.9	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:2

**Report Date:** 01/25/13  
**Work Order:** B13011326

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>									
Analytical Run: FIA202-B_130121B									
<b>Sample ID: ICV</b>									
Initial Calibration Verification Standard									
Phosphorus, Total as P	0.251	mg/L	0.0050	100	90	110			01/21/13 15:05
<b>Method: E365.1</b>									
Batch: 68543									
<b>Sample ID: MB-68543</b>									
Method Blank									
Phosphorus, Total as P	0.00176	mg/L	0.0050						Run: FIA202-B_130121B 01/21/13 16:43
<b>Sample ID: LCS-68543</b>									
Laboratory Control Sample									
Phosphorus, Total as P	0.196	mg/L	0.0050	97	90	110			Run: FIA202-B_130121B 01/21/13 16:44
<b>Sample ID: B13011155-005CMS</b>									
Sample Matrix Spike									
Phosphorus, Total as P	5.84	mg/L	0.10	105	90	110			Run: FIA202-B_130121B 01/21/13 16:57
<b>Sample ID: B13011155-005CMSD</b>									
Sample Matrix Spike Duplicate									
Phosphorus, Total as P	5.80	mg/L	0.10	104	90	110	0.7	10	Run: FIA202-B_130121B 01/21/13 16:58
<b>Sample ID: B13011310-002BMS</b>									
Sample Matrix Spike									
Phosphorus, Total as P	7.78	mg/L	0.10	106	90	110			Run: FIA202-B_130121B 01/21/13 17:07
<b>Sample ID: B13011310-002BMSD</b>									
Sample Matrix Spike Duplicate									
Phosphorus, Total as P	7.92	mg/L	0.10	109	90	110	1.8	10	Run: FIA202-B_130121B 01/21/13 17:08
<b>Sample ID: B13011339-001CMS</b>									
Sample Matrix Spike									
Phosphorus, Total as P	0.209	mg/L	0.0050	99	90	110			Run: FIA202-B_130121B 01/21/13 17:15
<b>Sample ID: B13011339-001CMSD</b>									
Sample Matrix Spike Duplicate									
Phosphorus, Total as P	0.210	mg/L	0.0050	99	90	110	0.5	10	Run: FIA202-B_130121B 01/21/13 17:16

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13011326

Login completed by: Gina McCartney

Date Received: 1/18/2013

Reviewed by: BL2000\jklrier

Received by: Ig

Reviewed Date: 1/18/2013

Carrier UPS  
name:

- |   |   |  |  |
|---|---|--|--|
| Shipping container/cooler in good condition?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on shipping container/cooler?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on sample bottles?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/>            |
| Chain of custody present?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody signed when relinquished and received?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody agrees with sample labels?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Samples in proper container/bottle?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sample containers intact?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters<br>such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Temp Blank received?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |
| Container/Temp Blank temperature:   | 8.0°C No Ice                            |  |  |
| Water - VOA vials have zero headspace?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Applicable <input type="checkbox"/>                    |

Contact and Corrective Action Comments:

None



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*

# ANALYTICAL SUMMARY REPORT

February 12, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B13020022      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:4

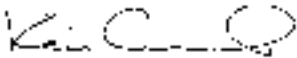
Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Alaska Exploration Inc on 2/1/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13020022-001	USZ 1 High Fe/USZ 2 Low Fe Composite	01/31/13 9:00	02/01/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13020022-002	Ynl 0	01/31/13 9:00	02/01/13	Aqueous	Same As Above
B13020022-003	Ynl 1/Ynl 2 Composite	01/31/13 9:00	02/01/13	Aqueous	Same As Above
B13020022-004	Ynl B 2012 Decline	01/31/13 9:00	02/01/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2013.02.12 16:01:17 -07:00

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:4  
**Lab ID:** B13020022-001  
**Client Sample ID** USZ 1 High Fe/USZ 2 Low Fe Composite

**Report Date:** 02/12/13  
**Collection Date:** 01/31/13 09:00  
**DateReceived:** 02/01/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	751	mg/L	D	2		E300.0	02/02/13 09:56 / jrs
Fluoride	0.2	mg/L		0.1		E300.0	02/11/13 16:07 / jrs
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	02/04/13 13:53 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	02/05/13 06:36 / jjw
Antimony	ND	mg/L		0.0005		E200.8	02/05/13 06:36 / jjw
Arsenic	ND	mg/L		0.001		E200.8	02/05/13 06:36 / jjw
Barium	0.011	mg/L		0.003		E200.8	02/05/13 06:36 / jjw
Beryllium	ND	mg/L		0.0008		E200.7	02/04/13 16:39 / rlh
Cadmium	0.00011	mg/L		0.00003		E200.8	02/05/13 06:36 / jjw
Calcium	95	mg/L		1		E200.7	02/04/13 16:39 / rlh
Chromium	ND	mg/L		0.01		E200.8	02/05/13 06:36 / jjw
Copper	ND	mg/L		0.002		E200.8	02/05/13 06:36 / jjw
Iron	ND	mg/L		0.02		E200.7	02/04/13 16:39 / rlh
Lead	ND	mg/L		0.0003		E200.8	02/05/13 06:36 / jjw
Magnesium	141	mg/L		1		E200.7	02/04/13 16:39 / rlh
Manganese	0.793	mg/L		0.005		E200.7	02/04/13 16:39 / rlh
Mercury	ND	mg/L		0.00001		E245.1	02/01/13 16:54 / ser
Nickel	0.014	mg/L		0.002		E200.8	02/05/13 06:36 / jjw
Selenium	0.006	mg/L		0.001		E200.8	02/05/13 06:36 / jjw
Silicon	0.44	mg/L		0.05		E200.7	02/04/13 16:39 / rlh
Silver	ND	mg/L		0.0002		E200.8	02/05/13 06:36 / jjw
Strontium	0.55	mg/L		0.02		E200.7	02/04/13 16:39 / rlh
Thallium	0.0013	mg/L		0.0002		E200.8	02/05/13 06:36 / jjw
Uranium	ND	mg/L		0.0002		E200.8	02/05/13 06:36 / jjw
Zinc	ND	mg/L		0.008		E200.7	02/04/13 16:39 / rlh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.  
 L - Lowest available reporting limit for the analytical method us

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:4  
**Lab ID:** B13020022-002  
**Client Sample ID** Ynl 0

**Report Date:** 02/12/13  
**Collection Date:** 01/31/13 09:00  
**Date Received:** 02/01/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	25	mg/L		1		E300.0	02/11/13 16:22 / jrs
Fluoride	0.4	mg/L		0.1		E300.0	02/02/13 10:41 / jrs
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	02/04/13 13:54 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.041	mg/L		0.009		E200.8	02/05/13 06:42 / jjw
Antimony	0.0011	mg/L		0.0005		E200.8	02/05/13 06:42 / jjw
Arsenic	0.002	mg/L		0.001		E200.8	02/05/13 06:42 / jjw
Barium	0.006	mg/L		0.003		E200.8	02/05/13 06:42 / jjw
Beryllium	ND	mg/L		0.0008		E200.7	02/04/13 16:43 / rlh
Cadmium	ND	mg/L		0.00003		E200.8	02/05/13 06:42 / jjw
Calcium	8	mg/L		1		E200.7	02/04/13 16:43 / rlh
Chromium	ND	mg/L		0.01		E200.8	02/05/13 06:42 / jjw
Copper	0.003	mg/L		0.002		E200.8	02/05/13 06:42 / jjw
Iron	ND	mg/L		0.02		E200.7	02/04/13 16:43 / rlh
Lead	ND	mg/L		0.0003		E200.8	02/05/13 06:42 / jjw
Magnesium	7	mg/L		1		E200.7	02/04/13 16:43 / rlh
Manganese	ND	mg/L		0.005		E200.7	02/04/13 16:43 / rlh
Mercury	ND	mg/L		0.00001		E245.1	02/01/13 16:57 / ser
Nickel	ND	mg/L		0.002		E200.8	02/05/13 06:42 / jjw
Selenium	0.007	mg/L		0.001		E200.8	02/05/13 06:42 / jjw
Silicon	0.71	mg/L		0.05		E200.7	02/04/13 16:43 / rlh
Silver	ND	mg/L		0.0002		E200.8	02/05/13 06:42 / jjw
Strontium	0.02	mg/L		0.02		E200.7	02/04/13 16:43 / rlh
Thallium	0.0003	mg/L		0.0002		E200.8	02/05/13 06:42 / jjw
Uranium	0.0004	mg/L		0.0002		E200.8	02/05/13 06:42 / jjw
Zinc	ND	mg/L		0.008		E200.7	02/04/13 16:43 / rlh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:4  
**Lab ID:** B13020022-003  
**Client Sample ID** Ynl 1/Ynl 2 Composite

**Report Date:** 02/12/13  
**Collection Date:** 01/31/13 09:00  
**Date Received:** 02/01/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	230	mg/L		1		E300.0	02/11/13 16:37 / jrs
Fluoride	0.5	mg/L		0.1		E300.0	02/02/13 11:27 / jrs
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.006	mg/L	L	0.005		E365.1	02/04/13 13:55 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.014	mg/L		0.009		E200.8	02/05/13 06:47 / jjw
Antimony	0.0007	mg/L		0.0005		E200.8	02/05/13 06:47 / jjw
Arsenic	ND	mg/L		0.001		E200.8	02/05/13 06:47 / jjw
Barium	0.016	mg/L		0.003		E200.8	02/05/13 06:47 / jjw
Beryllium	ND	mg/L		0.0008		E200.7	02/04/13 17:02 / rlh
Cadmium	0.00004	mg/L		0.00003		E200.8	02/05/13 06:47 / jjw
Calcium	50	mg/L		1		E200.7	02/04/13 17:02 / rlh
Chromium	ND	mg/L		0.01		E200.8	02/05/13 06:47 / jjw
Copper	0.003	mg/L		0.002		E200.8	02/05/13 06:47 / jjw
Iron	ND	mg/L		0.02		E200.7	02/04/13 17:02 / rlh
Lead	ND	mg/L		0.0003		E200.8	02/05/13 06:47 / jjw
Magnesium	27	mg/L		1		E200.7	02/04/13 17:02 / rlh
Manganese	0.037	mg/L		0.005		E200.7	02/04/13 17:02 / rlh
Mercury	ND	mg/L		0.00001		E245.1	02/01/13 16:59 / ser
Nickel	ND	mg/L		0.002		E200.8	02/05/13 06:47 / jjw
Selenium	0.003	mg/L		0.001		E200.8	02/05/13 06:47 / jjw
Silicon	0.92	mg/L		0.05		E200.7	02/04/13 17:02 / rlh
Silver	ND	mg/L		0.0002		E200.8	02/05/13 06:47 / jjw
Strontium	0.49	mg/L		0.02		E200.7	02/04/13 17:02 / rlh
Thallium	0.0011	mg/L		0.0002		E200.8	02/05/13 06:47 / jjw
Uranium	0.0006	mg/L		0.0002		E200.8	02/05/13 06:47 / jjw
Zinc	ND	mg/L		0.008		E200.7	02/04/13 17:02 / rlh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:4  
**Lab ID:** B13020022-004  
**Client Sample ID** Ynl B 2012 Decline

**Report Date:** 02/12/13  
**Collection Date:** 01/31/13 09:00  
**DateReceived:** 02/01/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	50	mg/L		1		E300.0	02/02/13 11:42 / jrs
Fluoride	0.6	mg/L		0.1		E300.0	02/02/13 11:42 / jrs
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	02/04/13 13:56 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.043	mg/L		0.009		E200.8	02/05/13 06:53 / jjw
Antimony	0.0043	mg/L		0.0005		E200.8	02/05/13 06:53 / jjw
Arsenic	0.002	mg/L		0.001		E200.8	02/05/13 06:53 / jjw
Barium	0.004	mg/L		0.003		E200.8	02/05/13 06:53 / jjw
Beryllium	ND	mg/L		0.0008		E200.7	02/04/13 17:06 / rlh
Cadmium	ND	mg/L		0.00003		E200.8	02/05/13 06:53 / jjw
Calcium	13	mg/L		1		E200.7	02/04/13 17:06 / rlh
Chromium	ND	mg/L		0.01		E200.8	02/05/13 06:53 / jjw
Copper	ND	mg/L		0.002		E200.8	02/05/13 06:53 / jjw
Iron	ND	mg/L		0.02		E200.7	02/04/13 17:06 / rlh
Lead	ND	mg/L		0.0003		E200.8	02/05/13 06:53 / jjw
Magnesium	11	mg/L		1		E200.7	02/04/13 17:06 / rlh
Manganese	ND	mg/L		0.005		E200.7	02/04/13 17:06 / rlh
Mercury	ND	mg/L		0.00001		E245.1	02/01/13 17:01 / ser
Nickel	ND	mg/L		0.002		E200.8	02/05/13 06:53 / jjw
Selenium	0.006	mg/L		0.001		E200.8	02/05/13 06:53 / jjw
Silicon	1.29	mg/L		0.05		E200.7	02/04/13 17:06 / rlh
Silver	ND	mg/L		0.0002		E200.8	02/05/13 06:53 / jjw
Strontium	0.11	mg/L		0.02		E200.7	02/04/13 17:06 / rlh
Thallium	ND	mg/L		0.0002		E200.8	02/05/13 06:53 / jjw
Uranium	0.0006	mg/L		0.0002		E200.8	02/05/13 06:53 / jjw
Zinc	ND	mg/L		0.008		E200.7	02/04/13 17:06 / rlh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:4

**Report Date:** 02/08/13  
**Work Order:** B13020022

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_130204A			
<b>Sample ID: ICV</b>	8	Continuing Calibration Verification Standard							02/04/13 11:52		
Beryllium		1.26	mg/L	0.010	100	95	105				
Calcium		25.5	mg/L	1.0	102	95	105				
Iron		2.53	mg/L	0.030	101	95	105				
Magnesium		25.1	mg/L	1.0	100	95	105				
Manganese		2.47	mg/L	0.010	99	95	105				
Strontium		2.55	mg/L	0.10	102	95	105				
Zinc		2.48	mg/L	0.010	99	95	105				
Silicon		5.03	mg/L	0.10	101	95	105				
<b>Method: E200.7</b>								Batch: R199315			
<b>Sample ID: MB-6500DIS130204A</b>	8	Method Blank							Run: ICP203-B_130204A		02/04/13 12:15
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.007							
Iron		ND	mg/L	0.003							
Magnesium		ND	mg/L	0.002							
Manganese		ND	mg/L	0.0003							
Strontium		ND	mg/L	5E-05							
Zinc		ND	mg/L	0.001							
Silicon		0.02	mg/L	0.01							
<b>Sample ID: LFB-6500DIS130204A</b>	8	Laboratory Fortified Blank							Run: ICP203-B_130204A		02/04/13 12:19
Beryllium		0.512	mg/L	0.010	102	85	115				
Calcium		51.1	mg/L	1.0	102	85	115				
Iron		5.07	mg/L	0.030	101	85	115				
Magnesium		50.8	mg/L	1.0	102	85	115				
Manganese		4.97	mg/L	0.010	99	85	115				
Strontium		1.07	mg/L	0.10	107	85	115				
Zinc		0.975	mg/L	0.010	97	85	115				
Silicon		10.4	mg/L	0.10	104	85	115				
<b>Sample ID: B13020022-002BMS2</b>	8	Sample Matrix Spike							Run: ICP203-B_130204A		02/04/13 16:47
Beryllium		0.510	mg/L	0.0010	102	70	130				
Calcium		59.8	mg/L	1.0	103	70	130				
Iron		5.00	mg/L	0.030	100	70	130				
Magnesium		58.7	mg/L	1.0	104	70	130				
Manganese		5.04	mg/L	0.0010	101	70	130				
Silicon		11.4	mg/L	0.10	107	70	130				
Strontium		1.09	mg/L	0.010	107	70	130				
Zinc		1.01	mg/L	0.010	100	70	130				
<b>Sample ID: B13020022-002BMSD</b>	8	Sample Matrix Spike Duplicate							Run: ICP203-B_130204A		02/04/13 16:51
Beryllium		0.518	mg/L	0.0010	104	70	130	1.5	20		
Calcium		60.6	mg/L	1.0	105	70	130	1.4	20		
Iron		5.12	mg/L	0.030	102	70	130	2.3	20		
Magnesium		59.8	mg/L	1.0	106	70	130	1.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 02/08/13

**Project:** 3767 WK:4

**Work Order:** B13020022

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Batch: R199315			
<b>Sample ID: B13020022-002BMSD</b>		8 Sample Matrix Spike Duplicate			Run: ICP203-B_130204A				02/04/13 16:51		
Manganese		5.12	mg/L	0.0010	102	70	130	1.7	20		
Silicon		11.5	mg/L	0.10	108	70	130	0.7	20		
Strontium		1.10	mg/L	0.010	108	70	130	1.5	20		
Zinc		1.02	mg/L	0.010	101	70	130	1.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:4

**Report Date:** 02/08/13  
**Work Order:** B13020022

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS203-B_130204A		
<b>Sample ID: QCS</b>	13	Initial Calibration Verification Standard								02/05/13 05:48
Aluminum		0.227	mg/L	0.10	91	90	110			
Antimony		0.0475	mg/L	0.050	95	90	110			
Arsenic		0.0475	mg/L	0.0050	95	90	110			
Barium		0.0480	mg/L	0.10	96	90	110			
Cadmium		0.0246	mg/L	0.0010	98	90	110			
Chromium		0.0487	mg/L	0.010	97	90	110			
Copper		0.0498	mg/L	0.010	100	90	110			
Lead		0.0473	mg/L	0.010	95	90	110			
Nickel		0.0491	mg/L	0.010	98	90	110			
Selenium		0.0475	mg/L	0.0050	95	90	110			
Silver		0.0238	mg/L	0.0050	95	90	110			
Thallium		0.0472	mg/L	0.10	94	90	110			
Uranium		0.0194	mg/L	0.0010	97	90	110			
<b>Method: E200.8</b>								Batch: R199354		
<b>Sample ID: LFB</b>	13	Laboratory Fortified Blank						Run: ICPMS203-B_130204A		02/04/13 11:58
Aluminum		0.0493	mg/L	0.10	99	85	115			
Antimony		0.0437	mg/L	0.050	87	85	115			
Arsenic		0.0448	mg/L	0.0050	90	85	115			
Barium		0.0483	mg/L	0.10	97	85	115			
Cadmium		0.0456	mg/L	0.0010	91	85	115			
Chromium		0.0470	mg/L	0.010	94	85	115			
Copper		0.0459	mg/L	0.010	92	85	115			
Lead		0.0484	mg/L	0.010	97	85	115			
Nickel		0.0453	mg/L	0.010	91	85	115			
Selenium		0.0449	mg/L	0.0050	90	85	115			
Silver		0.0173	mg/L	0.0050	87	85	115			
Thallium		0.0489	mg/L	0.10	98	85	115			
Uranium		0.0488	mg/L	0.0010	98	85	115			
<b>Sample ID: LRB</b>	13	Method Blank						Run: ICPMS203-B_130204A		02/04/13 13:02
Aluminum		ND	mg/L	9E-05						
Antimony		ND	mg/L	9E-06						
Arsenic		7E-05	mg/L	7E-05						
Barium		ND	mg/L	1E-05						
Cadmium		ND	mg/L	5E-06						
Chromium		0.0002	mg/L	4E-05						
Copper		ND	mg/L	4E-05						
Lead		ND	mg/L	6E-06						
Nickel		ND	mg/L	7E-05						
Selenium		0.0003	mg/L	0.0001						
Silver		ND	mg/L	2E-05						
Thallium		4E-05	mg/L	3E-06						
Uranium		ND	mg/L	3E-06						

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:4

**Report Date:** 02/08/13  
**Work Order:** B13020022

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R199354										
<b>Sample ID: B13012089-004BMS</b>	13	Sample Matrix Spike					Run: ICPMS203-B_130204A			02/05/13 13:05
Aluminum		0.0493	mg/L	0.030	88	70	130			
Antimony		0.0461	mg/L	0.0010	92	70	130			
Arsenic		0.0514	mg/L	0.0010	103	70	130			
Barium		0.0509	mg/L	0.050	97	70	130			
Cadmium		0.0485	mg/L	0.0010	97	70	130			
Chromium		0.0500	mg/L	0.0050	100	70	130			
Copper		0.0485	mg/L	0.0050	97	70	130			
Lead		0.0491	mg/L	0.0010	98	70	130			
Nickel		0.0491	mg/L	0.0050	98	70	130			
Selenium		0.0472	mg/L	0.0010	94	70	130			
Silver		0.0171	mg/L	0.0010	85	70	130			
Thallium		0.0486	mg/L	0.00050	97	70	130			
Uranium		0.0477	mg/L	0.00030	95	70	130			
<b>Sample ID: B13012089-004BMSD</b>	13	Sample Matrix Spike Duplicate					Run: ICPMS203-B_130204A			02/05/13 13:10
Aluminum		0.0546	mg/L	0.030	98	70	130	10	20	
Antimony		0.0468	mg/L	0.0010	94	70	130	1.7	20	
Arsenic		0.0517	mg/L	0.0010	103	70	130	0.6	20	
Barium		0.0502	mg/L	0.050	95	70	130	1.3	20	
Cadmium		0.0491	mg/L	0.0010	98	70	130	1.3	20	
Chromium		0.0504	mg/L	0.0050	101	70	130	0.7	20	
Copper		0.0482	mg/L	0.0050	96	70	130	0.6	20	
Lead		0.0500	mg/L	0.0010	100	70	130	1.9	20	
Nickel		0.0493	mg/L	0.0050	98	70	130	0.5	20	
Selenium		0.0466	mg/L	0.0010	93	70	130	1.1	20	
Silver		0.0180	mg/L	0.0010	90	70	130	5.4	20	
Thallium		0.0497	mg/L	0.00050	99	70	130	2.2	20	
Uranium		0.0484	mg/L	0.00030	97	70	130	1.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:4

**Report Date:** 02/08/13  
**Work Order:** B13020022

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1										Analytical Run: HGCV202-B_130201A
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								02/01/13 15:27
Mercury		0.000193	mg/L	1.0E-05	97	90	110			
<b>Method:</b> E245.1										Batch: 68839
<b>Sample ID:</b> MB-68839		Method Blank								02/01/13 15:53
Mercury		ND	mg/L	3E-06						Run: HGCV202-B_130201A
<b>Sample ID:</b> LCS-68839		Laboratory Control Sample								02/01/13 15:56
Mercury		0.000194	mg/L	1.0E-05	97	85	115			Run: HGCV202-B_130201A
<b>Sample ID:</b> B13012058-002BMS		Sample Matrix Spike								02/01/13 16:28
Mercury		0.000201	mg/L	1.0E-05	97	70	130			Run: HGCV202-B_130201A
<b>Sample ID:</b> B13012058-002BMSD		Sample Matrix Spike Duplicate								02/01/13 16:30
Mercury		0.000201	mg/L	1.0E-05	97	70	130	0.0	30	Run: HGCV202-B_130201A
<b>Sample ID:</b> B13012139-001CMS		Sample Matrix Spike								02/01/13 16:36
Mercury		0.000351	mg/L	1.0E-05	97	70	130			Run: HGCV202-B_130201A
<b>Sample ID:</b> B13012139-001CMSD		Sample Matrix Spike Duplicate								02/01/13 16:38
Mercury		0.000350	mg/L	1.0E-05	96	70	130	0.3	30	Run: HGCV202-B_130201A
<b>Sample ID:</b> B13020022-004BMS		Sample Matrix Spike								02/01/13 17:03
Mercury		0.000208	mg/L	1.0E-05	102	70	130			Run: HGCV202-B_130201A
<b>Sample ID:</b> B13020022-004BMSD		Sample Matrix Spike Duplicate								02/01/13 17:05
Mercury		0.000208	mg/L	1.0E-05	102	70	130	0.0	30	Run: HGCV202-B_130201A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:4

**Report Date:** 02/12/13  
**Work Order:** B13020022

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>								Analytical Run: IC202-B_130211A		
<b>Sample ID: ICV</b>	2	Initial Calibration Verification Standard								02/11/13 14:03
Sulfate		97.4	mg/L	1.0	97	90	110			
Fluoride		12.2	mg/L	0.12	98	90	110			
<b>Method: E300.0</b>								Batch: R199692		
<b>Sample ID: ICB</b>	2	Method Blank								02/11/13 14:18
Sulfate		ND	mg/L	0.08						
Fluoride		ND	mg/L	0.006						
<b>Sample ID: LFB</b>	2	Laboratory Fortified Blank								02/11/13 14:33
Sulfate		98.5	mg/L	1.1	99	90	110			
Fluoride		12.3	mg/L	0.13	99	90	110			
<b>Sample ID: B13020681-001AMS</b>	2	Sample Matrix Spike								02/11/13 15:21
Sulfate		19800	mg/L	210	99	90	110			
Fluoride		2490	mg/L	26	99	90	110			
<b>Sample ID: B13020681-001AMSD</b>	2	Sample Matrix Spike Duplicate								02/11/13 15:37
Sulfate		20000	mg/L	210	100	90	110	1.0	20	
Fluoride		2540	mg/L	26	101	90	110	2.0	20	
<b>Method: E300.0</b>								Analytical Run: IC203-B_130201A		
<b>Sample ID: ICV</b>	2	Initial Calibration Verification Standard								02/01/13 16:48
Sulfate		96.5	mg/L	1.0	97	90	110			
Fluoride		12.3	mg/L	0.12	98	90	110			
<b>Method: E300.0</b>								Batch: R199275		
<b>Sample ID: ICB</b>	2	Method Blank								02/01/13 17:03
Sulfate		ND	mg/L	0.06						
Fluoride		ND	mg/L	0.02						
<b>Sample ID: LFB</b>	2	Laboratory Fortified Blank								02/01/13 17:18
Sulfate		97.2	mg/L	1.1	97	90	110			
Fluoride		12.1	mg/L	0.13	97	90	110			
<b>Sample ID: B13020022-002AMS</b>	2	Sample Matrix Spike								02/02/13 10:56
Sulfate		120	mg/L	1.1	96	90	110			
Fluoride		12.4	mg/L	0.13	96	90	110			
<b>Sample ID: B13020022-002AMSD</b>	2	Sample Matrix Spike Duplicate								02/02/13 11:11
Sulfate		120	mg/L	1.1	96	90	110	0.2	20	
Fluoride		12.4	mg/L	0.13	96	90	110	0.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:4

**Report Date:** 02/12/13  
**Work Order:** B13020022

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_130204A		
<b>Sample ID: ICV</b> Initial Calibration Verification Standard 02/04/13 13:49										
Phosphorus, Total as P		0.268	mg/L	0.0050	107	90	110			
<b>Method: E365.1</b>								Batch: 68853		
<b>Sample ID: MB-68853</b> Method Blank Run: FIA202-B_130204A 02/04/13 13:50										
Phosphorus, Total as P		0.002	mg/L	0.002						
<b>Sample ID: LCS-68853</b> Laboratory Control Sample Run: FIA202-B_130204A 02/04/13 13:51										
Phosphorus, Total as P		0.216	mg/L	0.0050	107	90	110			
<b>Sample ID: B13020037-001BMS</b> Sample Matrix Spike Run: FIA202-B_130204A 02/04/13 14:01										
Phosphorus, Total as P		0.340	mg/L	0.0050	113	90	110			S
<b>Sample ID: B13020037-001BMSD</b> Sample Matrix Spike Duplicate Run: FIA202-B_130204A 02/04/13 14:02										
Phosphorus, Total as P		0.334	mg/L	0.0050	109	90	110	1.8	10	

**Qualifiers:**

RL - Analyte reporting limit.

S - Spike recovery outside of advisory limits.

ND - Not detected at the reporting limit.

# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13020022

Login completed by: Jill M. Lippard

Date Received: 2/1/2013

Reviewed by: BL2000\jklrier

Received by: jll

Reviewed Date: 2/1/2013

Carrier UPS  
name:

- |   |   |  |  |
|---|---|--|--|
| Shipping container/cooler in good condition?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on shipping container/cooler?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on sample bottles?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/>            |
| Chain of custody present?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody signed when relinquished and received?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody agrees with sample labels?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Samples in proper container/bottle?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sample containers intact?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters<br>such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Temp Blank received?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |
| Container/Temp Blank temperature:   | 9.2°C Melted Ice                        |  |  |
| Water - VOA vials have zero headspace?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Applicable <input type="checkbox"/>                    |

Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab		<b>Project Name, PWS, Permit, Etc.:</b> 3767 WK:4		<b>Sample Origin State:</b> NV		<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Report Mail Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Contact Name:</b> Mike Medina		<b>Phone/Fax:</b> 775-356-1300		<b>Email:</b> MLI@METTEST.COM	
<b>Invoice Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko		<b>604-628-1162</b>		<b>Purchase Order:</b>	
<b>Special Report/Formats - ELI must be notified prior to sample submittal for the following:</b> <input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> GSA <input type="checkbox"/> EDD/EDT(Electronic Data) <input type="checkbox"/> POT/WWTP <b>Format:</b> _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC		<b>Number of Containers</b> Air Water Solids Vegetation Blossay Other		<b>SEE ATTACHED</b>		<b>SEE ATTACHED</b>	
<b>SAMPLE IDENTIFICATION</b> (Name, Location, Interval, etc.)		<b>Collection Date</b>		<b>Collection Time</b>		<b>MATRIX</b>	
1 USZ 1 high Fe/USZ 2 low Fe Composite		01/31/13		09:00		Water	
2 Ynl 0		↓		↓		↓	
3 Ynl 1/Ynl 2 Composite		↓		↓		↓	
4 Ynl B 2012 Decline		↓		↓		↓	
5							
6							
7							
8							
9							
10							
<b>Relinquished by (print):</b> Matt Medina		<b>Date/Time:</b> 01/31/13 9:00		<b>Signature:</b> Matt Medina		<b>Received by (print):</b>	
<b>Relinquished by (print):</b>		<b>Date/Time:</b>		<b>Signature:</b>		<b>Received by (print):</b>	
<b>Sample Disposal:</b>		<b>Return to Client:</b>		<b>Lab Disposal:</b>		<b>Received by Laboratory:</b> 2/1/13 09:00	
<b>Custody Record MUST be Signed</b>		<b>Signature:</b>		<b>Date/Time:</b>		<b>Signature:</b>	

**Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page**  
**Comments:**  
**RUSH**  
 Please Copy results to: MLI@METTEST.COM  
 Date/Time: 01/30 2:00 22-001  
 Date/Time: -002  
 Date/Time: -003  
 Date/Time: -004  
 hold remaining preserved samples (frozen) until further notice.

**Shipped by:** Robert UPS NDA  
**Cooler ID(s):**  
**Receipt Temp:** 9.2 °C  
**On Ice:** Yes  No   
**Custody Seal Intact:** Y  N   
**Signature Match:** C  Y  N

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms and links

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*

# ANALYTICAL SUMMARY REPORT

March 12, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B13030044      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:8

Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Alaska Exploration Inc on 3/1/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13030044-001	USZ 1 High Fe/USZ 2 Low Fe Composite	02/28/13 9:00	03/01/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13030044-002	Ynl 0	02/28/13 9:00	03/01/13	Aqueous	Same As Above
B13030044-003	Ynl 1/Ynl 2 Composite	02/28/13 9:00	03/01/13	Aqueous	Same As Above
B13030044-004	Ynl B 2012 Decline	02/28/13 9:00	03/01/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2013.03.12 15:34:23 -06:00

B13030044



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:8  
**Lab ID:** B13030044-001  
**Client Sample ID** USZ 1 High Fe/USZ 2 Low Fe Composite

**Report Date:** 03/12/13  
**Collection Date:** 02/28/13 09:00  
**Date Received:** 03/01/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	687	mg/L	D	10		E300.0	03/11/13 15:27 / klc
Fluoride	0.2	mg/L		0.2		A4500-F C	03/04/13 12:13 / pdg
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	03/04/13 15:57 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	03/05/13 01:39 / jjw
Antimony	ND	mg/L		0.0005		E200.8	03/05/13 01:39 / jjw
Arsenic	ND	mg/L		0.001		E200.8	03/05/13 01:39 / jjw
Barium	0.009	mg/L		0.003		E200.8	03/05/13 01:39 / jjw
Beryllium	ND	mg/L		0.0008		E200.8	03/05/13 01:39 / jjw
Cadmium	0.00008	mg/L		0.00003		E200.8	03/05/13 01:39 / jjw
Calcium	109	mg/L		1		E200.7	03/04/13 23:13 / rlh
Chromium	ND	mg/L		0.01		E200.8	03/05/13 01:39 / jjw
Copper	ND	mg/L		0.002		E200.8	03/05/13 01:39 / jjw
Iron	ND	mg/L		0.02		E200.7	03/04/13 23:13 / rlh
Lead	ND	mg/L		0.0003		E200.8	03/05/13 01:39 / jjw
Magnesium	108	mg/L		1		E200.7	03/04/13 23:13 / rlh
Manganese	0.749	mg/L		0.005		E200.8	03/05/13 01:39 / jjw
Mercury	ND	mg/L		0.00001		E245.1	03/04/13 14:51 / ser
Nickel	0.009	mg/L		0.002		E200.8	03/05/13 01:39 / jjw
Selenium	0.003	mg/L		0.001		E200.8	03/05/13 01:39 / jjw
Silicon	0.38	mg/L		0.05		E200.7	03/04/13 23:13 / rlh
Silver	ND	mg/L		0.0002		E200.8	03/05/13 01:39 / jjw
Strontium	0.41	mg/L		0.02		E200.8	03/05/13 01:39 / jjw
Thallium	0.0012	mg/L		0.0002		E200.8	03/05/13 01:39 / jjw
Uranium	ND	mg/L		0.0002		E200.8	03/05/13 01:39 / jjw
Zinc	ND	mg/L		0.008		E200.8	03/05/13 01:39 / jjw

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method us



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:8  
**Lab ID:** B13030044-002  
**Client Sample ID** Ynl 0

**Report Date:** 03/12/13  
**Collection Date:** 02/28/13 09:00  
**Date Received:** 03/01/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	17	mg/L		1		E300.0	03/06/13 05:26 / car
Fluoride	0.3	mg/L		0.2		A4500-F C	03/04/13 12:16 / pdg
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.007	mg/L	L	0.005		E365.1	03/04/13 15:58 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.038	mg/L		0.009		E200.8	03/05/13 01:41 / jjw
Antimony	0.0008	mg/L		0.0005		E200.8	03/05/13 01:41 / jjw
Arsenic	0.001	mg/L		0.001		E200.8	03/05/13 01:41 / jjw
Barium	0.012	mg/L		0.003		E200.8	03/05/13 01:41 / jjw
Beryllium	ND	mg/L		0.0008		E200.8	03/05/13 01:41 / jjw
Cadmium	ND	mg/L		0.00003		E200.8	03/05/13 01:41 / jjw
Calcium	8	mg/L		1		E200.7	03/04/13 23:28 / rlh
Chromium	ND	mg/L		0.01		E200.8	03/05/13 01:41 / jjw
Copper	0.004	mg/L		0.002		E200.8	03/05/13 01:41 / jjw
Iron	ND	mg/L		0.02		E200.7	03/04/13 23:28 / rlh
Lead	ND	mg/L		0.0003		E200.8	03/05/13 01:41 / jjw
Magnesium	5	mg/L		1		E200.7	03/04/13 23:28 / rlh
Manganese	ND	mg/L		0.005		E200.8	03/05/13 01:41 / jjw
Mercury	ND	mg/L		0.00001		E245.1	03/04/13 14:53 / ser
Nickel	ND	mg/L		0.002		E200.8	03/05/13 01:41 / jjw
Selenium	0.003	mg/L		0.001		E200.8	03/05/13 01:41 / jjw
Silicon	0.69	mg/L		0.05		E200.7	03/04/13 23:28 / rlh
Silver	ND	mg/L		0.0002		E200.8	03/05/13 01:41 / jjw
Strontium	ND	mg/L		0.02		E200.8	03/05/13 01:41 / jjw
Thallium	0.0003	mg/L		0.0002		E200.8	03/05/13 01:41 / jjw
Uranium	0.0005	mg/L		0.0002		E200.8	03/05/13 01:41 / jjw
Zinc	ND	mg/L		0.008		E200.8	03/05/13 01:41 / jjw

**Report Definitions:**

RL - Analyte reporting limit.

QCL - Quality control limit.

L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:8  
**Lab ID:** B13030044-003  
**Client Sample ID** Ynl 1/Ynl 2 Composite

**Report Date:** 03/12/13  
**Collection Date:** 02/28/13 09:00  
**Date Received:** 03/01/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	174	mg/L		1		E300.0	03/08/13 19:11 / rjb
Fluoride	0.5	mg/L		0.2		A4500-F C	03/04/13 12:19 / pdg
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.007	mg/L	L	0.005		E365.1	03/04/13 15:59 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.012	mg/L		0.009		E200.8	03/05/13 01:56 / jjw
Antimony	0.0009	mg/L		0.0005		E200.8	03/05/13 01:56 / jjw
Arsenic	ND	mg/L		0.001		E200.8	03/05/13 01:56 / jjw
Barium	0.014	mg/L		0.003		E200.8	03/05/13 01:56 / jjw
Beryllium	ND	mg/L		0.0008		E200.8	03/05/13 01:56 / jjw
Cadmium	ND	mg/L		0.00003		E200.8	03/05/13 01:56 / jjw
Calcium	38	mg/L		1		E200.7	03/04/13 23:32 / rth
Chromium	ND	mg/L		0.01		E200.8	03/05/13 01:56 / jjw
Copper	ND	mg/L		0.002		E200.8	03/05/13 01:56 / jjw
Iron	ND	mg/L		0.02		E200.7	03/04/13 23:32 / rth
Lead	ND	mg/L		0.0003		E200.8	03/05/13 01:56 / jjw
Magnesium	19	mg/L		1		E200.7	03/04/13 23:32 / rth
Manganese	0.032	mg/L		0.005		E200.8	03/05/13 01:56 / jjw
Mercury	ND	mg/L		0.00001		E245.1	03/04/13 14:56 / ser
Nickel	ND	mg/L		0.002		E200.8	03/05/13 01:56 / jjw
Selenium	ND	mg/L		0.001		E200.8	03/05/13 01:56 / jjw
Silicon	0.88	mg/L		0.05		E200.7	03/04/13 23:32 / rth
Silver	ND	mg/L		0.0002		E200.8	03/05/13 01:56 / jjw
Strontium	0.34	mg/L		0.02		E200.8	03/05/13 01:56 / jjw
Thallium	0.0009	mg/L		0.0002		E200.8	03/05/13 01:56 / jjw
Uranium	0.0006	mg/L		0.0002		E200.8	03/05/13 01:56 / jjw
Zinc	ND	mg/L		0.008		E200.8	03/05/13 01:56 / jjw

**Report Definitions:** RL - Analyte reporting limit. MCL - Maximum contaminant level.  
QCL - Quality control limit. ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:8  
**Lab ID:** B13030044-004  
**Client Sample ID** Ynl B 2012 Decline

**Report Date:** 03/12/13  
**Collection Date:** 02/28/13 09:00  
**Date Received:** 03/01/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	42	mg/L		1		E300.0	03/08/13 19:26 / rjb
Fluoride	0.6	mg/L		0.2		A4500-F C	03/04/13 12:21 / pdg
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	03/04/13 16:01 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.037	mg/L		0.009		E200.8	03/05/13 01:59 / jjw
Antimony	0.0044	mg/L		0.0005		E200.8	03/05/13 01:59 / jjw
Arsenic	ND	mg/L		0.001		E200.8	03/05/13 01:59 / jjw
Barium	0.007	mg/L		0.003		E200.8	03/05/13 01:59 / jjw
Beryllium	ND	mg/L		0.0008		E200.8	03/05/13 01:59 / jjw
Cadmium	ND	mg/L		0.00003		E200.8	03/05/13 01:59 / jjw
Calcium	12	mg/L		1		E200.7	03/04/13 23:36 / rth
Chromium	ND	mg/L		0.01		E200.8	03/05/13 01:59 / jjw
Copper	ND	mg/L		0.002		E200.8	03/05/13 01:59 / jjw
Iron	ND	mg/L		0.02		E200.7	03/04/13 23:36 / rth
Lead	ND	mg/L		0.0003		E200.8	03/05/13 01:59 / jjw
Magnesium	9	mg/L		1		E200.7	03/04/13 23:36 / rth
Manganese	ND	mg/L		0.005		E200.8	03/05/13 01:59 / jjw
Mercury	ND	mg/L		0.00001		E245.1	03/04/13 15:03 / ser
Nickel	ND	mg/L		0.002		E200.8	03/05/13 01:59 / jjw
Selenium	0.001	mg/L		0.001		E200.8	03/05/13 01:59 / jjw
Silicon	1.29	mg/L		0.05		E200.7	03/04/13 23:36 / rth
Silver	ND	mg/L		0.0002		E200.8	03/05/13 01:59 / jjw
Strontium	0.10	mg/L		0.02		E200.8	03/05/13 01:59 / jjw
Thallium	ND	mg/L		0.0002		E200.8	03/05/13 01:59 / jjw
Uranium	0.0008	mg/L		0.0002		E200.8	03/05/13 01:59 / jjw
Zinc	ND	mg/L		0.008		E200.8	03/05/13 01:59 / jjw

**Report Definitions:** RL - Analyte reporting limit. MCL - Maximum contaminant level.  
QCL - Quality control limit. ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 03/12/13

**Project:** 3767 WK:8

**Work Order:** B13030044

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>							Analytical Run: MAN-TECH_130304A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								
Fluoride	1.08	mg/L	0.10	108	90	110			03/04/13 10:48
<b>Method: A4500-F C</b>							Batch: R200792		
<b>Sample ID: MB</b>	Method Blank								
Fluoride	0.02	mg/L	0.02						Run: MAN-TECH_130304A 03/04/13 10:43
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								
Fluoride	1.02	mg/L	0.10	100	90	110			Run: MAN-TECH_130304A 03/04/13 10:45
<b>Sample ID: B13021901-001A MS</b>	Sample Matrix Spike								
Fluoride	1.13	mg/L	0.10	102	80	120			Run: MAN-TECH_130304A 03/04/13 11:53
<b>Sample ID: B13021901-001A MSD</b>	Sample Matrix Spike Duplicate								
Fluoride	1.15	mg/L	0.10	104	80	120	1.8	10	Run: MAN-TECH_130304A 03/04/13 11:56

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 03/12/13

**Project:** 3767 WK:8

**Work Order:** B13030044

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>							Analytical Run: IC202-B_130304A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								
Sulfate	97.4	mg/L	1.0	97	90	110			03/06/13 12:44
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								
Sulfate	99.8	mg/L	1.0	100	90	110			03/06/13 16:40
<b>Method: E300.0</b>							Batch: R200921		
<b>Sample ID: B13030017-025AMS</b>	Sample Matrix Spike				Run: IC202-B_130304A		03/06/13 02:54		
Sulfate	179	mg/L	1.1	109	90	110			
<b>Sample ID: B13030017-025AMSD</b>	Sample Matrix Spike Duplicate				Run: IC202-B_130304A		03/06/13 03:10		
Sulfate	180	mg/L	1.1	110	90	110	0.8		20
<b>Sample ID: ICB</b>	Method Blank				Run: IC202-B_130304A		03/06/13 16:55		
Sulfate	ND	mg/L	1.0						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank				Run: IC202-B_130304A		03/06/13 17:11		
Sulfate	95.5	mg/L	1.0	95	90	110			
<b>Method: E300.0</b>							Analytical Run: IC202-B_130308A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								
Sulfate	101	mg/L	1.0	101	90	110			03/08/13 16:39
<b>Method: E300.0</b>							Batch: R201104		
<b>Sample ID: ICB</b>	Method Blank				Run: IC202-B_130308A		03/08/13 16:55		
Sulfate	ND	mg/L	0.08						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank				Run: IC202-B_130308A		03/08/13 17:10		
Sulfate	100	mg/L	1.0	100	90	110			
<b>Sample ID: B13030598-001AMS</b>	Sample Matrix Spike				Run: IC202-B_130308A		03/08/13 17:55		
Sulfate	115	mg/L	1.1	106	90	110			
<b>Sample ID: B13030598-001AMSD</b>	Sample Matrix Spike Duplicate				Run: IC202-B_130308A		03/08/13 18:10		
Sulfate	116	mg/L	1.1	107	90	110	1.1		20

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Alaska Exploration Inc

Report Date: 03/12/13

Project: 3767 WK:8

Work Order: B13030044

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E300.0</b>							Analytical Run: IC202-B_130311A			
<b>Sample ID: ICV031113-11</b>	Initial Calibration Verification Standard								03/11/13 14:27	
Sulfate	99.7	mg/L	1.0	100	90	110				
<b>Method: E300.0</b>							Batch: R201153			
<b>Sample ID: ICB031113-12</b>	Method Blank								03/11/13 14:42	
Sulfate	ND	mg/L	0.08							
<b>Sample ID: LFB031113-13</b>	Laboratory Fortified Blank								03/11/13 14:57	
Sulfate	104	mg/L	1.1	104	90	110				
<b>Sample ID: B13030044-001AMS</b>	Sample Matrix Spike								03/11/13 15:42	
Sulfate	1800	mg/L	11	111	90	110			S	
<b>Sample ID: B13030044-001AMSD</b>	Sample Matrix Spike Duplicate								03/11/13 15:58	
Sulfate	1810	mg/L	11	113	90	110	0.9	20	S	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 03/12/13

**Project:** 3767 WK:8

**Work Order:** B13030044

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>							Analytical Run: FIA202-B_130304B		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								
Phosphorus, Total as P	0.228	mg/L	0.0050	91	90	110			03/04/13 15:48
<b>Method: E365.1</b>							Batch: 69487		
<b>Sample ID: MB-69487</b>	Method Blank								
Phosphorus, Total as P	ND	mg/L	0.0050						Run: FIA202-B_130304B 03/04/13 15:49
<b>Sample ID: LCS-69487</b>	Laboratory Control Sample								
Phosphorus, Total as P	0.184	mg/L	0.0050	92	90	110			Run: FIA202-B_130304B 03/04/13 15:50
<b>Sample ID: B13030035-001CMS</b>	Sample Matrix Spike								
Phosphorus, Total as P	0.724	mg/L	0.0050	105	90	110			Run: FIA202-B_130304B 03/04/13 15:53
<b>Sample ID: B13030064-001FMS</b>	Sample Matrix Spike								
Phosphorus, Total as P	0.187	mg/L	0.0050	94	90	110			Run: FIA202-B_130304B 03/04/13 16:03
<b>Sample ID: B13030064-001FMSD</b>	Sample Matrix Spike Duplicate								
Phosphorus, Total as P	0.185	mg/L	0.0050	93	90	110	1.1	10	Run: FIA202-B_130304B 03/04/13 16:04
<b>Sample ID: B13030133-015AMS</b>	Sample Matrix Spike								
Phosphorus, Total as P	1.00	mg/L	0.010	110	90	110			Run: FIA202-B_130304B 03/04/13 16:15
<b>Sample ID: B13030133-015AMSD</b>	Sample Matrix Spike Duplicate								
Phosphorus, Total as P	0.986	mg/L	0.010	106	90	110	1.6	10	Run: FIA202-B_130304B 03/04/13 16:16

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 03/12/13

**Project:** 3767 WK:8

**Work Order:** B13030044

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>							Analytical Run: ICP203-B_130304A			
<b>Sample ID: ICV</b>	Continuing Calibration Verification Standard								03/04/13 11:06	
Calcium	25.2	mg/L	1.0	101	95	105				
Iron	2.56	mg/L	0.030	102	95	105				
Magnesium	25.4	mg/L	1.0	102	95	105				
Silicon	5.11	mg/L	0.10	102	95	105				
<b>Method: E200.7</b>							Batch: R200777			
<b>Sample ID: MB-6500DIS130304A</b>	Method Blank								03/04/13 11:30	
Calcium	ND	mg/L	0.007							
Iron	0.005	mg/L	0.003							
Magnesium	0.004	mg/L	0.002							
Silicon	ND	mg/L	0.01							
<b>Sample ID: LFB-6500DIS130304A</b>	Laboratory Fortified Blank								03/04/13 11:34	
Calcium	51.2	mg/L	1.0	102	85	115				
Iron	5.24	mg/L	0.030	105	85	115				
Magnesium	52.8	mg/L	1.0	106	85	115				
Silicon	10.7	mg/L	0.10	107	85	115				
<b>Sample ID: B13030044-001BMS2</b>	Sample Matrix Spike								03/04/13 23:20	
Calcium	200	mg/L	1.0	91	70	130				
Iron	9.52	mg/L	0.030	95	70	130				
Magnesium	202	mg/L	1.0	94	70	130				
Silicon	19.8	mg/L	0.10	97	70	130				
<b>Sample ID: B13030044-001BMSD2</b>	Sample Matrix Spike Duplicate								03/04/13 23:24	
Calcium	200	mg/L	1.0	91	70	130	0.1	20		
Iron	9.43	mg/L	0.030	94	70	130	0.9	20		
Magnesium	201	mg/L	1.0	93	70	130	0.3	20		
Silicon	19.5	mg/L	0.10	96	70	130	1.4	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Alaska Exploration Inc

Report Date: 03/12/13

Project: 3767 WK:8

Work Order: B13030044

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Analytical Run: ICPMS202-B_130304A		
<b>Sample ID: QCS</b>	Initial Calibration Verification Standard						03/04/13 20:22		
Aluminum	0.248	mg/L	0.10	99	90	110			
Antimony	0.0498	mg/L	0.050	100	90	110			
Arsenic	0.0541	mg/L	0.0050	108	90	110			
Barium	0.0513	mg/L	0.10	103	90	110			
Beryllium	0.0254	mg/L	0.0010	102	90	110			
Cadmium	0.0265	mg/L	0.0010	106	90	110			
Chromium	0.0518	mg/L	0.010	104	90	110			
Copper	0.0530	mg/L	0.010	106	90	110			
Lead	0.0498	mg/L	0.010	100	90	110			
Manganese	0.259	mg/L	0.010	104	90	110			
Nickel	0.0522	mg/L	0.010	104	90	110			
Selenium	0.0533	mg/L	0.0050	107	90	110			
Silver	0.0250	mg/L	0.0050	100	90	110			
Strontium	0.0530	mg/L	0.10	106	90	110			
Thallium	0.0513	mg/L	0.10	103	90	110			
Uranium	0.0202	mg/L	0.0010	101	90	110			
Zinc	0.0507	mg/L	0.010	101	90	110			

<b>Method: E200.8</b>							Batch: R200758		
<b>Sample ID: LFB</b>	Laboratory Fortified Blank						Run: ICPMS202-B_130304A		03/04/13 11:33
Aluminum	0.0501	mg/L	0.10	100	85	115			
Antimony	0.0461	mg/L	0.050	92	85	115			
Arsenic	0.0481	mg/L	0.0050	96	85	115			
Barium	0.0486	mg/L	0.10	97	85	115			
Beryllium	0.0482	mg/L	0.0010	96	85	115			
Cadmium	0.0476	mg/L	0.0010	95	85	115			
Chromium	0.0481	mg/L	0.010	96	85	115			
Copper	0.0491	mg/L	0.010	98	85	115			
Lead	0.0474	mg/L	0.010	95	85	115			
Manganese	0.0474	mg/L	0.010	95	85	115			
Nickel	0.0472	mg/L	0.010	94	85	115			
Selenium	0.0477	mg/L	0.0050	95	85	115			
Silver	0.0200	mg/L	0.0050	100	85	115			
Strontium	0.0488	mg/L	0.10	98	85	115			
Thallium	0.0479	mg/L	0.10	96	85	115			
Uranium	0.0487	mg/L	0.0010	97	85	115			
Zinc	0.0495	mg/L	0.010	99	85	115			

<b>Sample ID: LRB</b>	Method Blank						Run: ICPMS202-B_130304A		03/04/13 12:01
Aluminum	ND	mg/L	7E-05						
Antimony	ND	mg/L	2E-05						
Arsenic	ND	mg/L	0.0002						
Barium	ND	mg/L	4E-05						

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 03/12/13

**Project:** 3767 WK:8

**Work Order:** B13030044

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R200758</span>									
<b>Sample ID: LRB</b>	Method Blank			Run: ICPMS202-B_130304A			03/04/13 12:01		
Beryllium	ND	mg/L	2E-05						
Cadmium	ND	mg/L	8E-06						
Chromium	ND	mg/L	3E-05						
Copper	ND	mg/L	3E-05						
Lead	ND	mg/L	2E-05						
Manganese	ND	mg/L	2E-05						
Nickel	ND	mg/L	3E-05						
Selenium	ND	mg/L	0.0006						
Silver	ND	mg/L	1E-05						
Strontium	ND	mg/L	1E-05						
Thallium	ND	mg/L	8E-06						
Uranium	ND	mg/L	6E-06						
Zinc	ND	mg/L	0.0001						
<b>Sample ID: B13021954-002AMS</b> <span style="float: right;">Run: ICPMS202-B_130304A 03/05/13 02:13</span>									
Sample Matrix Spike									
Aluminum	0.0527	mg/L	0.030	98	70	130			
Antimony	0.0500	mg/L	0.0010	100	70	130			
Arsenic	0.0485	mg/L	0.0010	96	70	130			
Barium	0.0700	mg/L	0.050	98	70	130			
Beryllium	0.0509	mg/L	0.0010	102	70	130			
Cadmium	0.0507	mg/L	0.0010	101	70	130			
Chromium	0.0505	mg/L	0.0050	101	70	130			
Copper	0.0623	mg/L	0.0050	96	70	130			
Lead	0.0529	mg/L	0.0010	101	70	130			
Manganese	0.0512	mg/L	0.0010	102	70	130			
Nickel	0.0505	mg/L	0.010	100	70	130			
Selenium	0.0476	mg/L	0.0010	95	70	130			
Silver	0.0171	mg/L	0.0010	85	70	130			
Strontium	0.143	mg/L	0.010	94	70	130			
Thallium	0.0522	mg/L	0.00050	104	70	130			
Uranium	0.0530	mg/L	0.00030	101	70	130			
Zinc	0.140	mg/L	0.010	88	70	130			
<b>Sample ID: B13021954-002AMSD</b> <span style="float: right;">Run: ICPMS202-B_130304A 03/05/13 02:16</span>									
Sample Matrix Spike Duplicate									
Aluminum	0.0530	mg/L	0.030	98	70	130	0.7	20	
Antimony	0.0499	mg/L	0.0010	100	70	130	0.2	20	
Arsenic	0.0488	mg/L	0.0010	96	70	130	0.5	20	
Barium	0.0727	mg/L	0.050	103	70	130	3.7	20	
Beryllium	0.0512	mg/L	0.0010	102	70	130	0.7	20	
Cadmium	0.0504	mg/L	0.0010	101	70	130	0.6	20	
Chromium	0.0504	mg/L	0.0050	101	70	130	0.1	20	
Copper	0.0619	mg/L	0.0050	95	70	130	0.7	20	
Lead	0.0533	mg/L	0.0010	102	70	130	0.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Alaska Exploration Inc

Report Date: 03/12/13

Project: 3767 WK:8

Work Order: B13030044

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Batch: R200758		
<b>Sample ID: B13021954-002AMSD</b>	Sample Matrix Spike Duplicate			Run: ICPMS202-B_130304A			03/05/13 02:16		
Manganese	0.0511	mg/L	0.0010	102	70	130	0.2	20	
Nickel	0.0504	mg/L	0.010	100	70	130	0.3	20	
Selenium	0.0472	mg/L	0.0010	94	70	130	0.9	20	
Silver	0.0181	mg/L	0.0010	90	70	130	5.5	20	
Strontium	0.142	mg/L	0.010	91	70	130	0.8	20	
Thallium	0.0521	mg/L	0.00050	104	70	130	0.2	20	
Uranium	0.0532	mg/L	0.00030	101	70	130	0.3	20	
Zinc	0.141	mg/L	0.010	90	70	130	0.9	20	
<b>Sample ID: B13030044-001BMS</b>	Sample Matrix Spike			Run: ICPMS202-B_130304A			03/05/13 02:19		
Aluminum	0.0517	mg/L	0.030	94	70	130			
Antimony	0.0490	mg/L	0.0010	98	70	130			
Arsenic	0.0483	mg/L	0.0010	96	70	130			
Barium	0.0588	mg/L	0.050	100	70	130			
Beryllium	0.0491	mg/L	0.0010	98	70	130			
Cadmium	0.0501	mg/L	0.0010	100	70	130			
Chromium	0.0486	mg/L	0.0050	97	70	130			
Copper	0.0528	mg/L	0.0050	105	70	130			
Lead	0.0509	mg/L	0.0010	102	70	130			
Manganese	0.769	mg/L	0.0010		70	130			A
Nickel	0.0610	mg/L	0.0050	104	70	130			
Selenium	0.0506	mg/L	0.0010	95	70	130			
Silver	0.00831	mg/L	0.0010	42	70	130			S
Strontium	0.439	mg/L	0.010		70	130			A
Thallium	0.0540	mg/L	0.00050	106	70	130			
Uranium	0.0504	mg/L	0.00030	101	70	130			
Zinc	0.0535	mg/L	0.010	97	70	130			
<b>Sample ID: B13030044-001BMSD</b>	Sample Matrix Spike Duplicate			Run: ICPMS202-B_130304A			03/05/13 02:22		
Aluminum	0.0514	mg/L	0.030	93	70	130	0.5	20	
Antimony	0.0498	mg/L	0.0010	99	70	130	1.7	20	
Arsenic	0.0495	mg/L	0.0010	98	70	130	2.4	20	
Barium	0.0597	mg/L	0.050	101	70	130	1.4	20	
Beryllium	0.0474	mg/L	0.0010	95	70	130	3.5	20	
Cadmium	0.0509	mg/L	0.0010	102	70	130	1.6	20	
Chromium	0.0499	mg/L	0.0050	100	70	130	2.7	20	
Copper	0.0538	mg/L	0.0050	107	70	130	1.9	20	
Lead	0.0513	mg/L	0.0010	102	70	130	0.8	20	
Manganese	0.780	mg/L	0.0010		70	130	1.4	20	A
Nickel	0.0624	mg/L	0.0050	107	70	130	2.3	20	
Selenium	0.0515	mg/L	0.0010	97	70	130	1.8	20	
Silver	0.00993	mg/L	0.0010	50	70	130	18	20	S
Strontium	0.448	mg/L	0.010		70	130	1.9	20	A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 03/12/13

**Project:** 3767 WK:8

**Work Order:** B13030044

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Batch: R200758		
<b>Sample ID: B13030044-001BMSD</b>	Sample Matrix Spike Duplicate			Run: ICPMS202-B_130304A			03/05/13 02:22		
Thallium	0.0539	mg/L	0.00050	105	70	130	0.3	20	
Uranium	0.0508	mg/L	0.00030	102	70	130	0.9	20	
Zinc	0.0542	mg/L	0.010	98	70	130	1.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Alaska Exploration Inc

Report Date: 03/12/13

Project: 3767 WK:8

Work Order: B13030044

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E245.1</b>							Analytical Run: HGCV202-B_130304A			
<b>Sample ID: QCS</b>	Initial Calibration Verification Standard									
Mercury	0.000200	mg/L	1.0E-05	100	90	110			03/04/13 13:58	
<b>Method: E245.1</b>							Batch: 69504			
<b>Sample ID: MB-69504</b>	Method Blank									
Mercury	ND	mg/L	3E-06						Run: HGCV202-B_130304A 03/04/13 14:13	
<b>Sample ID: LCS-69504</b>	Laboratory Control Sample									
Mercury	0.000169	mg/L	1.0E-05	85	85	115			Run: HGCV202-B_130304A 03/04/13 14:16	
<b>Sample ID: B13021922-001BMS</b>	Sample Matrix Spike									
Mercury	0.000170	mg/L	1.0E-05	83	70	130			Run: HGCV202-B_130304A 03/04/13 14:26	
<b>Sample ID: B13021922-001BMSD</b>	Sample Matrix Spike Duplicate									
Mercury	0.000168	mg/L	1.0E-05	82	70	130	1.2	30	Run: HGCV202-B_130304A 03/04/13 14:29	
<b>Sample ID: B13030044-003BMS</b>	Sample Matrix Spike									
Mercury	0.000172	mg/L	1.0E-05	83	70	130			Run: HGCV202-B_130304A 03/04/13 14:58	
<b>Sample ID: B13030044-003BMSD</b>	Sample Matrix Spike Duplicate									
Mercury	0.000173	mg/L	1.0E-05	83	70	130	0.6	30	Run: HGCV202-B_130304A 03/04/13 15:01	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13030044

Login completed by: Randa Nees

Date Received: 3/1/2013

Reviewed by: BL2000\jklrier

Received by: Ig

Reviewed Date: 3/1/2013

Carrier UPS NDA  
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	6.2°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Contact and Corrective Action Comments:

None



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*



# Chain of Custody and Analytical Request Record

PLEASE PRINT - Provide as much information as possible.

Company Name: McClelland Lab  
 Project Name, PWS, Permit, Etc. 3767 WK:8  
 EPA/State Compliance: Yes  No

Report Mail Address: Tintina Resources  
 200 Granville St. Suite 2560  
 Vancouver, BC V6C 1S4 Canada  
 Contact Name: Mike Medina  
 Phone/Fax: 775-356-1300  
 Email: MLI@METTEST.COM  
 Sampler: (Please Print) Robert Johnson

Invoice Address: Tintina Resources  
 200 Granville St. Suite 2560  
 Vancouver, BC V6C 1S4 Canada  
 Invoice Contact & Phone: Mr Bob Jacko 604-628-1162  
 Purchase Order: Quote/Bottle Order:

Special Report/Formats - ELL must be notified prior to sample submittal for the following:  
 DW  A2LA  
 GSA  EDD/EDT (Electronic Data)  
 POTW/WWTP  Format: LEVEL IV  
 State:  LEVEL IV  
 Other:  NELAC

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Number of Containers		SEE ATTACHED	SEE ATTACHED	Normal Turnaround (TAT)	RUSH	Comments:	Shipped by: Robert	Cooler ID(s):	Receipt Temp °C	On Ice: Yes No	Custody Seal Intact Y N	Signature Match Y N
				Air	Water											
1 USZ 1 high Fe/USZ 2 low Fe Composite	02/28/13	09:00	Water	X			X	X		Please Copy results to: MLI@METTEST.COM						
2 Ynl 0																
3 Ynl 1/Ynl 2 Composite																
4 Ynl B 2012 Decline										hold remaining preserved samples (frozen) until further notice.						
5																
7																
8																
9																
10																

Relinquished by (print): Matt Medina Date/Time: 2/28/13 9:00am Signature: *Matt Medina*  
 Relinquished by (print): Date/Time: Signature:  
 Received by (print): Date/Time: Signature:  
 Received by Laboratory: Date/Time: Signature:

Custody Record MUST be Signed  
 Sample Disposal: Return to Client: Lab Disposal:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.





# Chain of Custody and Analytical Request Record

PLEASE PRINT - Provide as much information as possible.

Company Name: **McClelland Lab**

Report Mail Address: **Tintina Resources  
200 Granville St. Suite 2560  
Vancouver, BC V6C 1S4 Canada**

Project Name, PWS, Permit, Etc.: **3767 WK-8**

Contact Name: **Mike Medina**

Invoice Contact & Phone: **Mr Bob Jacko 604-628-1162**

Sample Origin: **NV**

State: **NV**

EPA/State Compliance: **Yes  No**

Invoice Address: **Tintina Resources  
200 Granville St. Suite 2560  
Vancouver, BC V6C 1S4 Canada**

Phone/Fax: **775-356-1300**

Invoice Contact & Phone: **604-628-1162**

Email: **MLI@METTEST.COM**

Purchase Order: **MLI@METTEST.COM**

Quote/Bottle Order: **Robert Johnson**

**Special Report/Formats - ELL must be notified prior to sample submittal for the following:**

- DW  A2LA
- GSA  EDD/EDT (Electronic Data)
- POTW/WWTP **Format:** \_\_\_\_\_
- State: \_\_\_\_\_  LEVEL IV
- Other: \_\_\_\_\_  NELAC

**Number of Containers**  
Sample Type:  A  W  S  V  B  O  
 Air  Water  Soils/Solids  Vegetation  Bioassay  Other

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	SEE ATTACHED	ANALYSIS REQUESTED	SEE ATTACHED	Normal Turnaround (TAT)	RUSH	Comments:	Shipped By: Robert Cooler/ID(s):	Receipt Temp _____ °C	On Ice: Yes No	Custody Seal Intact Signature Match	Y N Y N Y N Y N
1 USZ 4 High Fe/USZ 2 low Fe Composite	02/28/13	09:00	Water	X		X	X		Please Copy results to: MLI@METTEST.COM	Robert		Yes		N
2 Ynl 0														N
3 Ynl 1/Ynl 2 Composite														N
4 Ynl B 2012 Decline	↓	↓	↓	↓					hold remaining preserved samples (frozen) until further notice.					N
5														
6														
7														
8														
9														
10														

LABORATORY USE ONLY

Relinquished by (print): **Matt Medina** Date/Time: **2/28/13 9:00AM** Signature: *Matt Medina*

Received by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_

Relinquished by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_

Received by Laboratory: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_

Sample Disposal: **Return to Client** Lab Disposal: \_\_\_\_\_

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*

# ANALYTICAL SUMMARY REPORT

B13032186

April 11, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B13032186                      Quote ID: B2868 - Tintina Project

Project Name: 3767 WK:12

Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Alaska Exploration Inc on 3/29/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13032186-001	USZ 1 High Fe/USZ 2 Low Fe Composite	03/28/13 9:00	03/29/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13032186-002	Ynl 0	03/28/13 9:00	03/29/13	Aqueous	Same As Above
B13032186-003	Ynl 1/Ynl 2 Composite	03/28/13 9:00	03/29/13	Aqueous	Same As Above
B13032186-004	Ynl B 2012 Decline	03/28/13 9:00	03/29/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2013.04.11 12:27:55 -06:00

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:12  
**Lab ID:** B13032186-001  
**Client Sample ID** USZ 1 High Fe/USZ 2 Low Fe Composite

**Report Date:** 04/11/13  
**Collection Date:** 03/28/13 09:00  
**Date Received:** 03/29/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	522	mg/L	D	10		E300.0	04/03/13 16:14 / jrs
Fluoride	ND	mg/L		0.2		A4500-F C	04/01/13 12:34 / sam
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	04/02/13 14:59 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	04/02/13 03:23 / mas
Antimony	ND	mg/L		0.0005		E200.8	04/02/13 03:23 / mas
Arsenic	ND	mg/L		0.001		E200.8	04/02/13 15:45 / mas
Barium	0.007	mg/L		0.003		E200.7	04/01/13 16:15 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	04/01/13 16:15 / rlh
Cadmium	0.00008	mg/L		0.00003		E200.8	04/02/13 03:23 / mas
Calcium	100	mg/L		1		E200.7	04/01/13 16:15 / rlh
Chromium	ND	mg/L		0.01		E200.7	04/01/13 16:15 / rlh
Copper	ND	mg/L		0.002		E200.8	04/02/13 15:45 / mas
Iron	ND	mg/L		0.02		E200.7	04/01/13 16:15 / rlh
Lead	ND	mg/L		0.0003		E200.8	04/02/13 03:23 / mas
Magnesium	76	mg/L		1		E200.7	04/01/13 16:15 / rlh
Manganese	0.616	mg/L		0.005		E200.7	04/01/13 16:15 / rlh
Mercury	ND	mg/L		0.00001		E245.1	04/02/13 15:12 / ser
Nickel	0.010	mg/L		0.002		E200.8	04/02/13 15:45 / mas
Selenium	0.003	mg/L		0.001		E200.8	04/02/13 03:23 / mas
Silicon	0.36	mg/L		0.05		E200.7	04/01/13 16:15 / rlh
Silver	ND	mg/L		0.0002		E200.8	04/02/13 03:23 / mas
Strontium	0.33	mg/L		0.02		E200.7	04/01/13 16:15 / rlh
Thallium	0.0013	mg/L		0.0002		E200.8	04/02/13 03:23 / mas
Uranium	ND	mg/L		0.0002		E200.8	04/02/13 03:23 / mas
Zinc	ND	mg/L		0.008		E200.7	04/01/13 16:15 / rlh

**Report Definitions:**

RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method us



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:12  
**Lab ID:** B13032186-002  
**Client Sample ID** Ynl 0

**Report Date:** 04/11/13  
**Collection Date:** 03/28/13 09:00  
**Date Received:** 03/29/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	12	mg/L		1		E300.0	04/02/13 16:21 / jrs
Fluoride	0.2	mg/L		0.2		A4500-F C	04/01/13 12:32 / sam
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	04/02/13 15:00 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.028	mg/L		0.009		E200.8	04/02/13 03:49 / mas
Antimony	0.0007	mg/L		0.0005		E200.8	04/02/13 03:49 / mas
Arsenic	ND	mg/L		0.001		E200.8	04/02/13 15:52 / mas
Barium	0.009	mg/L		0.003		E200.7	04/01/13 16:18 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	04/01/13 16:18 / rlh
Cadmium	ND	mg/L		0.00003		E200.8	04/02/13 03:49 / mas
Calcium	6	mg/L		1		E200.7	04/01/13 16:18 / rlh
Chromium	ND	mg/L		0.01		E200.7	04/01/13 16:18 / rlh
Copper	0.002	mg/L		0.002		E200.8	04/02/13 15:52 / mas
Iron	ND	mg/L		0.02		E200.7	04/01/13 16:18 / rlh
Lead	ND	mg/L		0.0003		E200.8	04/02/13 03:49 / mas
Magnesium	4	mg/L		1		E200.7	04/01/13 16:18 / rlh
Manganese	ND	mg/L		0.005		E200.7	04/01/13 16:18 / rlh
Mercury	ND	mg/L		0.00001		E245.1	04/02/13 15:14 / ser
Nickel	ND	mg/L		0.002		E200.8	04/02/13 15:52 / mas
Selenium	0.002	mg/L		0.001		E200.8	04/02/13 03:49 / mas
Silicon	0.50	mg/L		0.05		E200.7	04/01/13 16:18 / rlh
Silver	ND	mg/L		0.0002		E200.8	04/02/13 03:49 / mas
Strontium	ND	mg/L		0.02		E200.7	04/01/13 16:18 / rlh
Thallium	0.0002	mg/L		0.0002		E200.8	04/02/13 03:49 / mas
Uranium	0.0003	mg/L		0.0002		E200.8	04/02/13 03:49 / mas
Zinc	ND	mg/L		0.008		E200.7	04/01/13 16:18 / rlh

**Report Definitions:**

RL - Analyte reporting limit.

QCL - Quality control limit.

L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:12  
**Lab ID:** B13032186-003  
**Client Sample ID** Ynl 1/Ynl 2 Composite

**Report Date:** 04/11/13  
**Collection Date:** 03/28/13 09:00  
**Date Received:** 03/29/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	115	mg/L		1		E300.0	04/02/13 16:36 / jrs
Fluoride	0.5	mg/L		0.2		A4500-F C	04/01/13 12:29 / sam
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.007	mg/L	L	0.005		E365.1	04/02/13 15:01 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.010	mg/L		0.009		E200.8	04/02/13 03:54 / mas
Antimony	0.0008	mg/L		0.0005		E200.8	04/02/13 03:54 / mas
Arsenic	ND	mg/L		0.001		E200.8	04/02/13 15:58 / mas
Barium	0.009	mg/L		0.003		E200.7	04/01/13 16:22 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	04/01/13 16:22 / rlh
Cadmium	ND	mg/L		0.00003		E200.8	04/02/13 03:54 / mas
Calcium	28	mg/L		1		E200.7	04/01/13 16:22 / rlh
Chromium	ND	mg/L		0.01		E200.7	04/01/13 16:22 / rlh
Copper	ND	mg/L		0.002		E200.8	04/02/13 03:54 / mas
Iron	ND	mg/L		0.02		E200.7	04/01/13 16:22 / rlh
Lead	ND	mg/L		0.0003		E200.8	04/02/13 03:54 / mas
Magnesium	14	mg/L		1		E200.7	04/01/13 16:22 / rlh
Manganese	0.021	mg/L		0.005		E200.7	04/01/13 16:22 / rlh
Mercury	ND	mg/L		0.00001		E245.1	04/02/13 15:17 / ser
Nickel	ND	mg/L		0.002		E200.8	04/02/13 15:58 / mas
Selenium	0.001	mg/L		0.001		E200.8	04/02/13 03:54 / mas
Silicon	0.73	mg/L		0.05		E200.7	04/01/13 16:22 / rlh
Silver	ND	mg/L		0.0002		E200.8	04/02/13 03:54 / mas
Strontium	0.22	mg/L		0.02		E200.7	04/01/13 16:22 / rlh
Thallium	0.0006	mg/L		0.0002		E200.8	04/02/13 03:54 / mas
Uranium	0.0004	mg/L		0.0002		E200.8	04/02/13 03:54 / mas
Zinc	ND	mg/L		0.008		E200.7	04/01/13 16:22 / rlh

**Report Definitions:**

RL - Analyte reporting limit.

QCL - Quality control limit.

L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:12  
**Lab ID:** B13032186-004  
**Client Sample ID** Ynl B 2012 Decline

**Report Date:** 04/11/13  
**Collection Date:** 03/28/13 09:00  
**Date Received:** 03/29/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	197	mg/L		1		E300.0	04/02/13 16:51 / jrs
Fluoride	0.5	mg/L		0.2		A4500-F C	04/01/13 12:26 / sam
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	04/02/13 14:35 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.016	mg/L		0.009		E200.8	04/02/13 03:59 / mas
Antimony	0.0029	mg/L		0.0005		E200.8	04/02/13 03:59 / mas
Arsenic	ND	mg/L		0.001		E200.8	04/02/13 16:05 / mas
Barium	0.014	mg/L		0.003		E200.7	04/01/13 16:26 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	04/01/13 16:26 / rlh
Cadmium	0.00005	mg/L		0.00003		E200.8	04/02/13 03:59 / mas
Calcium	43	mg/L		1		E200.7	04/01/13 16:26 / rlh
Chromium	ND	mg/L		0.01		E200.7	04/01/13 16:26 / rlh
Copper	ND	mg/L		0.002		E200.8	04/02/13 16:05 / mas
Iron	ND	mg/L		0.02		E200.7	04/01/13 16:26 / rlh
Lead	ND	mg/L		0.0003		E200.8	04/02/13 03:59 / mas
Magnesium	25	mg/L		1		E200.7	04/01/13 16:26 / rlh
Manganese	0.010	mg/L		0.005		E200.7	04/01/13 16:26 / rlh
Mercury	ND	mg/L		0.00001		E245.1	04/02/13 15:19 / ser
Nickel	ND	mg/L		0.002		E200.8	04/02/13 16:05 / mas
Selenium	0.002	mg/L		0.001		E200.8	04/02/13 03:59 / mas
Silicon	1.20	mg/L		0.05		E200.7	04/01/13 16:26 / rlh
Silver	ND	mg/L		0.0002		E200.8	04/02/13 03:59 / mas
Strontium	0.26	mg/L		0.02		E200.7	04/01/13 16:26 / rlh
Thallium	ND	mg/L		0.0002		E200.8	04/02/13 03:59 / mas
Uranium	0.0021	mg/L		0.0002		E200.8	04/02/13 03:59 / mas
Zinc	ND	mg/L		0.008		E200.7	04/01/13 16:26 / rlh

**Report Definitions:** RL - Analyte reporting limit. MCL - Maximum contaminant level.  
QCL - Quality control limit. ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:12

**Report Date:** 04/11/13  
**Work Order:** B13032186

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>		Analytical Run: ICP203-B_130401A								
<b>Sample ID: ICV</b>	10	Continuing Calibration Verification Standard							04/01/13 11:47	
Barium		2.49	mg/L	0.10	99	95	105			
Beryllium		1.23	mg/L	0.010	98	95	105			
Calcium		24.9	mg/L	1.0	99	95	105			
Chromium		2.46	mg/L	0.050	98	95	105			
Iron		2.49	mg/L	0.030	100	95	105			
Magnesium		24.4	mg/L	1.0	98	95	105			
Manganese		2.42	mg/L	0.010	97	95	105			
Strontium		2.46	mg/L	0.10	98	95	105			
Zinc		2.41	mg/L	0.010	97	95	105			
Silicon		4.96	mg/L	0.10	99	95	105			
<b>Method: E200.7</b>		Batch: R202255								
<b>Sample ID: MB-6500DIS130401A</b>	10	Method Blank							Run: ICP203-B_130401A 04/01/13 12:11	
Barium		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0001						
Calcium		0.01	mg/L	0.007						
Chromium		ND	mg/L	0.001						
Iron		0.004	mg/L	0.003						
Magnesium		0.006	mg/L	0.002						
Manganese		0.0004	mg/L	0.0003						
Strontium		ND	mg/L	5E-05						
Zinc		ND	mg/L	0.001						
Silicon		ND	mg/L	0.01						
<b>Sample ID: LFB-6500DIS130401A</b>	10	Laboratory Fortified Blank							Run: ICP203-B_130401A 04/01/13 12:15	
Barium		0.997	mg/L	0.10	100	85	115			
Beryllium		0.491	mg/L	0.010	98	85	115			
Calcium		49.3	mg/L	1.0	99	85	115			
Chromium		0.982	mg/L	0.050	98	85	115			
Iron		4.93	mg/L	0.030	99	85	115			
Magnesium		48.9	mg/L	1.0	98	85	115			
Manganese		4.81	mg/L	0.010	96	85	115			
Strontium		1.03	mg/L	0.10	103	85	115			
Zinc		0.965	mg/L	0.010	96	85	115			
Silicon		10.0	mg/L	0.10	100	85	115			
<b>Sample ID: B13032180-001BMS2</b>	10	Sample Matrix Spike							Run: ICP203-B_130401A 04/01/13 15:29	
Barium		2.05	mg/L	0.050	101	70	130			
Beryllium		0.973	mg/L	0.0010	97	70	130			
Calcium		113	mg/L	1.0	97	70	130			
Chromium		1.95	mg/L	0.0050	97	70	130			
Iron		9.87	mg/L	0.030	98	70	130			
Magnesium		99.8	mg/L	1.0	96	70	130			
Manganese		9.56	mg/L	0.0010	96	70	130			
Silicon		36.7	mg/L	0.10	99	70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 04/11/13

**Project:** 3767 WK:12

**Work Order:** B13032186

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										
Batch: R202255										
<b>Sample ID: B13032180-001BMS2</b>	10	Sample Matrix Spike								
Run: ICP203-B_130401A										
Strontium		2.20	mg/L	0.010	104	70	130			04/01/13 15:29
Zinc		1.91	mg/L	0.010	96	70	130			
<b>Sample ID: B13032180-001BMSD</b>	10	Sample Matrix Spike Duplicate								
Run: ICP203-B_130401A										
Barium		2.05	mg/L	0.050	101	70	130	0.1	20	04/01/13 15:33
Beryllium		0.984	mg/L	0.0010	98	70	130	1.2	20	
Calcium		114	mg/L	1.0	98	70	130	1.2	20	
Chromium		2.00	mg/L	0.0050	100	70	130	2.4	20	
Iron		10.0	mg/L	0.030	100	70	130	1.7	20	
Magnesium		101	mg/L	1.0	98	70	130	1.2	20	
Manganese		9.68	mg/L	0.0010	97	70	130	1.2	20	
Silicon		36.4	mg/L	0.10	98	70	130	0.8	20	
Strontium		2.20	mg/L	0.010	104	70	130	0.3	20	
Zinc		1.96	mg/L	0.010	98	70	130	2.3	20	
<b>Sample ID: B13040022-001BMS2</b>	10	Sample Matrix Spike								
Run: ICP203-B_130401A										
Barium		61.5	mg/L	0.050	98	70	130			04/01/13 17:01
Beryllium		23.4	mg/L	0.0056	94	70	130			
Calcium		2430	mg/L	1.0	97	70	130			
Chromium		47.8	mg/L	0.077	96	70	130			
Iron		233	mg/L	0.14	93	70	130			
Magnesium		2390	mg/L	1.2	95	70	130			
Manganese		231	mg/L	0.018	92	70	130			
Silicon		500	mg/L	0.77	97	70	130			
Strontium		54.8	mg/L	0.010	98	70	130			
Zinc		47.7	mg/L	0.054	95	70	130			
<b>Sample ID: B13040022-001BMSD</b>	10	Sample Matrix Spike Duplicate								
Run: ICP203-B_130401A										
Barium		60.4	mg/L	0.050	96	70	130	1.9	20	04/01/13 17:05
Beryllium		23.5	mg/L	0.0056	94	70	130	0.5	20	
Calcium		2430	mg/L	1.0	96	70	130	0.1	20	
Chromium		47.3	mg/L	0.077	95	70	130	1.2	20	
Iron		235	mg/L	0.14	94	70	130	0.5	20	
Magnesium		2400	mg/L	1.2	96	70	130	0.4	20	
Manganese		232	mg/L	0.018	93	70	130	0.5	20	
Silicon		503	mg/L	0.77	97	70	130	0.6	20	
Strontium		54.6	mg/L	0.010	97	70	130	0.5	20	
Zinc		46.9	mg/L	0.054	93	70	130	1.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Alaska Exploration Inc

Report Date: 04/11/13

Project: 3767 WK:12

Work Order: B13032186

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>		Analytical Run: ICPMS203-B_130401A								
<b>Sample ID: QCS</b>	9	Initial Calibration Verification Standard							04/02/13 01:55	
Aluminum		0.238	mg/L	0.10	95	90	110			
Antimony		0.0527	mg/L	0.050	105	90	110			
Cadmium		0.0262	mg/L	0.0010	105	90	110			
Copper		0.0533	mg/L	0.010	107	90	110			
Lead		0.0508	mg/L	0.010	102	90	110			
Selenium		0.0471	mg/L	0.0050	94	90	110			
Silver		0.0264	mg/L	0.0050	106	90	110			
Thallium		0.0511	mg/L	0.10	102	90	110			
Uranium		0.0198	mg/L	0.0010	99	90	110			
<b>Method: E200.8</b>		Batch: R202242								
<b>Sample ID: LRB</b>	9	Method Blank							Run: ICPMS203-B_130401A 04/01/13 12:11	
Aluminum		ND	mg/L	0.0001						
Antimony		ND	mg/L	3E-05						
Cadmium		ND	mg/L	8E-06						
Copper		ND	mg/L	5E-05						
Lead		ND	mg/L	1E-05						
Selenium		ND	mg/L	0.0002						
Silver		ND	mg/L	2E-05						
Thallium		ND	mg/L	1E-05						
Uranium		ND	mg/L	5E-06						
<b>Sample ID: LFB</b>	9	Laboratory Fortified Blank							Run: ICPMS203-B_130401A 04/01/13 17:14	
Aluminum		0.0511	mg/L	0.10	102	85	115			
Antimony		0.0509	mg/L	0.050	102	85	115			
Cadmium		0.0506	mg/L	0.0010	101	85	115			
Copper		0.0485	mg/L	0.010	97	85	115			
Lead		0.0511	mg/L	0.010	102	85	115			
Selenium		0.0500	mg/L	0.0050	100	85	115			
Silver		0.0198	mg/L	0.0050	99	85	115			
Thallium		0.0516	mg/L	0.10	103	85	115			
Uranium		0.0510	mg/L	0.0010	102	85	115			
<b>Sample ID: B13032180-001BMS</b>	9	Sample Matrix Spike							Run: ICPMS203-B_130401A 04/02/13 03:08	
Aluminum		0.162	mg/L	0.030	82	70	130			
Antimony		0.0507	mg/L	0.0010	101	70	130			
Cadmium		0.0497	mg/L	0.0010	99	70	130			
Copper		0.0466	mg/L	0.0050	92	70	130			
Lead		0.0490	mg/L	0.0010	98	70	130			
Selenium		0.0551	mg/L	0.0010	96	70	130			
Silver		0.0178	mg/L	0.0010	89	70	130			
Thallium		0.0490	mg/L	0.00050	98	70	130			
Uranium		0.0499	mg/L	0.00030	95	70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 04/11/13

**Project:** 3767 WK:12

**Work Order:** B13032186

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R202242										
<b>Sample ID: B13032180-001BMSD</b>	9	Sample Matrix Spike Duplicate					Run: ICPMS203-B_130401A			04/02/13 03:13
Aluminum		0.162	mg/L	0.030	82	70	130	0.2	20	
Antimony		0.0518	mg/L	0.0010	103	70	130	2.2	20	
Cadmium		0.0500	mg/L	0.0010	100	70	130	0.4	20	
Copper		0.0486	mg/L	0.0050	96	70	130	4.3	20	
Lead		0.0509	mg/L	0.0010	101	70	130	3.9	20	
Selenium		0.0530	mg/L	0.0010	92	70	130	3.8	20	
Silver		0.0195	mg/L	0.0010	97	70	130	9.0	20	
Thallium		0.0508	mg/L	0.00050	102	70	130	3.6	20	
Uranium		0.0519	mg/L	0.00030	99	70	130	4.0	20	
<b>Sample ID: B13040023-001BMS</b>	9	Sample Matrix Spike					Run: ICPMS203-B_130401A			04/02/13 04:25
Aluminum		1.20	mg/L	0.030	80	70	130			
Antimony		1.32	mg/L	0.0010	105	70	130			
Cadmium		1.22	mg/L	0.0010	97	70	130			
Copper		1.15	mg/L	0.0050	91	70	130			
Lead		1.31	mg/L	0.0010	105	70	130			
Selenium		1.19	mg/L	0.0038	93	70	130			
Silver		0.373	mg/L	0.0010	75	70	130			
Thallium		1.31	mg/L	0.00050	105	70	130			
Uranium		1.30	mg/L	0.00030	104	70	130			
<b>Sample ID: B13040023-001BMSD</b>	9	Sample Matrix Spike Duplicate					Run: ICPMS203-B_130401A			04/02/13 04:30
Aluminum		1.17	mg/L	0.030	78	70	130	2.6	20	
Antimony		1.33	mg/L	0.0010	106	70	130	0.7	20	
Cadmium		1.23	mg/L	0.0010	99	70	130	1.2	20	
Copper		1.16	mg/L	0.0050	93	70	130	1.5	20	
Lead		1.30	mg/L	0.0010	104	70	130	0.5	20	
Selenium		1.20	mg/L	0.0038	94	70	130	1.2	20	
Silver		0.340	mg/L	0.0010	68	70	130	9.3	20	S
Thallium		1.30	mg/L	0.00050	104	70	130	0.7	20	
Uranium		1.28	mg/L	0.00030	103	70	130	1.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

## QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Alaska Exploration Inc

Report Date: 04/11/13

Project: 3767 WK:12

Work Order: B13032186

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_130402A	
<b>Sample ID: ICV</b>	3	Initial Calibration Verification Standard							04/02/13 15:18		
Arsenic		0.0500	mg/L	0.0050	100	90	110				
Copper		0.0510	mg/L	0.010	102	90	110				
Nickel		0.0498	mg/L	0.010	100	90	110				
<b>Method: E200.8</b>										Batch: R202342	
<b>Sample ID: LRB</b>	3	Method Blank							Run: ICPMS206-B_130402A 04/02/13 12:21		
Arsenic		ND	mg/L	8E-05							
Copper		ND	mg/L	3E-05							
Nickel		ND	mg/L	6E-05							
<b>Sample ID: LFB</b>	3	Laboratory Fortified Blank							Run: ICPMS206-B_130402A 04/02/13 12:28		
Arsenic		0.0488	mg/L	0.0050	98	85	115				
Copper		0.0467	mg/L	0.010	93	85	115				
Nickel		0.0467	mg/L	0.010	93	85	115				
<b>Sample ID: B13040023-001BMS</b>	3	Sample Matrix Spike							Run: ICPMS206-B_130402A 04/02/13 16:32		
Arsenic		1.22	mg/L	0.0023	98	70	130				
Copper		1.17	mg/L	0.0050	93	70	130				
Nickel		1.18	mg/L	0.0050	94	70	130				
<b>Sample ID: B13040023-001BMSD</b>	3	Sample Matrix Spike Duplicate							Run: ICPMS206-B_130402A 04/02/13 16:39		
Arsenic		1.24	mg/L	0.0023	99	70	130	1.1	20		
Copper		1.16	mg/L	0.0050	93	70	130	0.6	20		
Nickel		1.16	mg/L	0.0050	93	70	130	1.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 04/11/13

**Project:** 3767 WK:12

**Work Order:** B13032186

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E365.1</b>								Analytical Run: FIA202-B_130402C			
<b>Sample ID: ICV</b>		Initial Calibration Verification Standard							04/02/13 14:30		
Phosphorus, Total as P		0.247	mg/L	0.0050	99	90	110				
<b>Method: E365.1</b>								Batch: 70128			
<b>Sample ID: MB-70128</b>		Method Blank							Run: FIA202-B_130402C		04/02/13 14:31
Phosphorus, Total as P		ND	mg/L	0.004							
<b>Sample ID: LCS-70128</b>		Laboratory Control Sample							Run: FIA202-B_130402C		04/02/13 14:33
Phosphorus, Total as P		0.196	mg/L	0.0050	98	90	110				
<b>Sample ID: B13032136-003DMS</b>		Sample Matrix Spike							Run: FIA202-B_130402C		04/02/13 14:45
Phosphorus, Total as P		0.222	mg/L	0.0050	102	90	110				
<b>Sample ID: B13032136-003DMSD</b>		Sample Matrix Spike Duplicate							Run: FIA202-B_130402C		04/02/13 14:46
Phosphorus, Total as P		0.224	mg/L	0.0050	103	90	110	0.9	10		
<b>Sample ID: B13032135-003CMS</b>		Sample Matrix Spike							Run: FIA202-B_130402C		04/02/13 15:04
Phosphorus, Total as P		0.241	mg/L	0.0050	99	90	110				
<b>Sample ID: B13032135-003CMSD</b>		Sample Matrix Spike Duplicate							Run: FIA202-B_130402C		04/02/13 15:05
Phosphorus, Total as P		0.246	mg/L	0.0050	102	90	110	2.1	10		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 04/05/13

**Project:** 3767 WK:12

**Work Order:** B13032186

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>							Analytical Run: MAN-TECH_130401B		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								04/01/13 12:09
Fluoride	1.01	mg/L	0.10	101	90	110			
<b>Method: A4500-F C</b>							Batch: R202276		
<b>Sample ID: MBLK</b>	Method Blank								04/01/13 12:04
Fluoride	ND	mg/L	0.02						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								04/01/13 12:07
Fluoride	1.09	mg/L	0.10	109	90	110			
<b>Sample ID: B13032045-018AMS</b>	Sample Matrix Spike								04/01/13 12:15
Fluoride	1.07	mg/L	0.10	100	80	120			
<b>Sample ID: B13032045-018AMSD</b>	Sample Matrix Spike Duplicate								04/01/13 12:18
Fluoride	1.09	mg/L	0.10	102	80	120	1.9	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Alaska Exploration Inc

Report Date: 04/05/13

Project: 3767 WK:12

Work Order: B13032186

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E300.0</b>							Analytical Run: IC203-B_130401A			
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								04/02/13 09:04	
Sulfate	99.1	mg/L	1.0	99	90	110				
<b>Method: E300.0</b>							Batch: R202271			
<b>Sample ID: ICB</b>	Method Blank								Run: IC203-B_130401A	04/01/13 12:50
Sulfate	ND	mg/L	0.06							
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								Run: IC203-B_130401A	04/01/13 13:05
Sulfate	97.2	mg/L	1.1	97	90	110				
<b>Sample ID: B13032140-021AMS</b>	Sample Matrix Spike								Run: IC203-B_130401A	04/02/13 14:33
Sulfate	9180	mg/L	2.1		90	110			A	
<b>Sample ID: B13032140-021AMSD</b>	Sample Matrix Spike Duplicate								Run: IC203-B_130401A	04/02/13 14:48
Sulfate	9140	mg/L	2.1		90	110	0.5	20	A	
<b>Sample ID: B13032187-002AMS</b>	Sample Matrix Spike								Run: IC203-B_130401A	04/02/13 18:07
Sulfate	2220	mg/L	11	107	90	110				
<b>Sample ID: B13032187-002AMSD</b>	Sample Matrix Spike Duplicate								Run: IC203-B_130401A	04/02/13 18:22
Sulfate	2200	mg/L	11	105	90	110	0.7	20		
<b>Method: E300.0</b>							Analytical Run: IC203-B_130403A			
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								04/03/13 13:58	
Sulfate	98.4	mg/L	1.0	98	90	110				
<b>Method: E300.0</b>							Batch: R202429			
<b>Sample ID: ICB</b>	Method Blank								Run: IC203-B_130403A	04/03/13 14:13
Sulfate	ND	mg/L	0.06							
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								Run: IC203-B_130403A	04/03/13 14:28
Sulfate	98.4	mg/L	1.1	98	90	110				
<b>Sample ID: B13032189-002AMS</b>	Sample Matrix Spike								Run: IC203-B_130403A	04/03/13 15:13
Sulfate	149	mg/L	1.1	107	90	110				
<b>Sample ID: B13032189-002AMSD</b>	Sample Matrix Spike Duplicate								Run: IC203-B_130403A	04/03/13 15:28
Sulfate	150	mg/L	1.1	108	90	110	0.9	20		

**Qualifiers:**

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:12

**Report Date:** 04/05/13  
**Work Order:** B13032186

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E245.1 Analytical Run: HGCV202-B_130402A										
Sample ID: QCS Initial Calibration Verification Standard 04/02/13 14:24										
Mercury		0.000197	mg/L	1.0E-05	98	90	110			
Method: E245.1 Batch: 70137										
Sample ID: MB-70137 Method Blank Run: HGCV202-B_130402A 04/02/13 14:48										
Mercury		ND	mg/L	3E-06						
Sample ID: B13032029-004BMS Sample Matrix Spike Run: HGCV202-B_130402A 04/02/13 14:59										
Mercury		0.000163	mg/L	1.0E-05	82	70	130			
Sample ID: B13032029-004BMSD Sample Matrix Spike Duplicate Run: HGCV202-B_130402A 04/02/13 15:01										
Mercury		0.000166	mg/L	1.0E-05	83	70	130	1.8	30	
Sample ID: B13032058-001CMS Sample Matrix Spike Run: HGCV202-B_130402A 04/02/13 15:07										
Mercury		0.000167	mg/L	1.0E-05	84	70	130			
Sample ID: B13032058-001CMSD Sample Matrix Spike Duplicate Run: HGCV202-B_130402A 04/02/13 15:09										
Mercury		0.000171	mg/L	1.0E-05	86	70	130	2.4	30	
Sample ID: LCS-70137 Laboratory Control Sample Run: HGCV202-B_130402A 04/02/13 15:29										
Mercury		0.000170	mg/L	1.0E-05	85	85	115			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13032186

Login completed by: Randa Nees

Date Received: 3/29/2013

Reviewed by: BL2000\jlippard

Received by: adr

Reviewed Date: 3/29/2013

Carrier UPS NDA  
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	13.4°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Contact and Corrective Action Comments:

None





# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: McClelland Lab		Project Name, PWS, Permit, Etc. 3767 WK:12		Sample Origin State: NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Phone/Fax: 775-356-1300		Email: MLI@METTEST.COM	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko		Phone: 604-628-1162		Purchase Order:	
<input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POT/WWTP State: _____ <input type="checkbox"/> Other: _____		<input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) Format: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		ANALYSIS REQUESTED <input checked="" type="checkbox"/> SEE ATTACHED		Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page <b>R U S H</b> Comments:	
Special Report/Formats - ELI must be notified prior to sample submittal for the following:		Number of Containers Air Water Soils/Solids Vegetation Bioassay Other		MATRIX Water		Shipped by: Robert <i>U P S N D A</i> Cooler ID(s):	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date		Collection Time		Receipt Temp 13.4 °C On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Custody Seal Intact <input checked="" type="checkbox"/> N Signature Match <input checked="" type="checkbox"/> N	
1	USZ 1 high Fe/USZ 2 low Fe Composite	03/28/13	09:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Please Copy results to: MLI@METTEST.COM	6/13/13 2:18 - 2:01
2	Ynl 0			<input type="checkbox"/>	<input type="checkbox"/>		202
3	Ynl 1/Ynl 2 Composite			<input type="checkbox"/>	<input type="checkbox"/>		203
4	Ynl B 2012 Decline			<input type="checkbox"/>	<input type="checkbox"/>	hold remaining preserved samples (frozen) until further notice.	204
5				<input type="checkbox"/>	<input type="checkbox"/>		
6				<input type="checkbox"/>	<input type="checkbox"/>		
7				<input type="checkbox"/>	<input type="checkbox"/>		
8				<input type="checkbox"/>	<input type="checkbox"/>		
9				<input type="checkbox"/>	<input type="checkbox"/>		
10				<input type="checkbox"/>	<input type="checkbox"/>		
Relinquished by (print): <b>Matt Medina</b>		Date/Time: 3/28/13 9:00		Signature: <i>Matt Medina</i>		Received by (print): _____	
Relinquished by (print): _____		Date/Time: _____		Signature: _____		Received by (print): _____	
Sample Disposal: _____		Return to Client: _____		Lab Disposal: _____		Received by Laboratory: <b>Ashton Lewis</b>	
Date/Time: _____		Date/Time: 3-24-13 09:00		Signature: <b>Ashton Lewis</b>		Date/Time: _____	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*



# Chain of Custody and Analytical Request Record

PLEASE PRINT - Provide as much information as possible.

Company Name: McClelland Lab  
 Report Mail Address: Tirtina Resources  
 200 Granville St. Suite 2560  
 Vancouver, BC V6C 1S4 Canada

Project Name: PWS, Pernil, Etc.  
 3767 WK:12

Sample Origin: NV  
 State: NV  
 EPA/State Compliance: Yes  No

Contact Name: Mike Medina  
 Phone/Fax: 775-356-1300

Contact Name: Mike Medina  
 Phone/Fax: 775-356-1300

Email: MLI@METTEST.COM  
 Sampler: (Please Print) Robert Johnson

Invoice Address: Tirtina Resources  
 200 Granville St. Suite 2560  
 Vancouver, BC V6C 1S4 Canada

Invoice Contact & Phone: Mr. Bob Jacko  
 604-628-1162

Purchase Order: \_\_\_\_\_  
 Quote/Bottle Order: \_\_\_\_\_

Special Report/Formats - ELI must be notified prior to sample submittal for the following:

- DW
- GSA
- POTW/WWTP
- State: \_\_\_\_\_
- Other: \_\_\_\_\_
- A2LA
- EDD/EDT (Electronic Data)
- Format: \_\_\_\_\_
- LEVEL IV
- NELAC

Number of Containers  
 Sample Type: A W S V B O  
 Air Water Soils/Solids  
 Vegetation Bioassay Other

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	SEE ATTACHED	SEE ATTACHED	Normal Turnaround (TAT)	RUSH	Comments:	Receipt Temp	
									On Ice: Yes No	_____ °C
1 USZ 1 high Fe/USZ 2 low Fe Composite	03/28/13	09:00	Water	X	X	X		Please Copy results to: MLI@METTEST.COM	Y	N
2 Ynl 0									Y	N
3 Ynl 1/Ynl 2 Composite									Y	N
4 Ynl B 2012 Decline								hold remaining preserved samples (frozen) until further notice.	Y	N
5									Y	N
6									Y	N
7									Y	N
8									Y	N
9									Y	N
10									Y	N

Relinquished by (print): Matt Medina Date/Time: 3/28/13 9:00 Signature: Matt Medina

Relinquished by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_

Received by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_

Received by Laboratory: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_

Sample Disposal: Return to Client: \_\_\_\_\_ Lab Disposal: \_\_\_\_\_

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

# ANALYTICAL SUMMARY REPORT

May 07, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B13041965      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:16

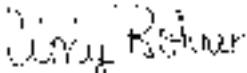
Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Alaska Exploration Inc on 4/26/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13041965-001	USZ 1 High Fe/USZ 2 Low Fe Composite	04/25/13 9:00	04/26/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13041965-002	Ynl 0	04/25/13 9:00	04/26/13	Aqueous	Same As Above
B13041965-003	Ynl 1/Ynl 2 Composite	04/25/13 9:00	04/26/13	Aqueous	Same As Above
B13041965-004	Ynl B 2012 Decline	04/25/13 9:00	04/26/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Laboratory Co-Manager

Digitally signed by  
Cindy Rohrer  
Date: 2013.05.07 17:14:07 -06:00

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:16  
**Lab ID:** B13041965-001  
**Client Sample ID** USZ 1 High Fe/USZ 2 Low Fe Composite

**Report Date:** 05/07/13  
**Collection Date:** 04/25/13 09:00  
**DateReceived:** 04/26/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	523	mg/L	D	5		E300.0	04/30/13 18:51 / jrs
Fluoride	ND	mg/L		0.2		A4500-F C	04/29/13 10:42 / pdg
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	05/01/13 10:16 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	05/02/13 09:04 / mas
Antimony	ND	mg/L		0.0005		E200.8	04/30/13 13:30 / mas
Arsenic	ND	mg/L		0.001		E200.8	04/30/13 13:30 / mas
Barium	0.006	mg/L		0.003		E200.7	04/29/13 17:21 / rih
Beryllium	ND	mg/L		0.0008		E200.7	04/29/13 17:21 / rih
Cadmium	0.00008	mg/L		0.00003		E200.8	04/30/13 13:30 / mas
Calcium	122	mg/L		1		E200.7	04/29/13 17:21 / rih
Chromium	ND	mg/L		0.01		E200.7	04/29/13 17:21 / rih
Copper	ND	mg/L		0.002		E200.8	04/30/13 13:30 / mas
Iron	ND	mg/L		0.02		E200.7	04/29/13 17:21 / rih
Lead	ND	mg/L		0.0003		E200.8	04/30/13 13:30 / mas
Magnesium	64	mg/L		1		E200.7	04/29/13 17:21 / rih
Manganese	0.483	mg/L		0.005		E200.7	04/29/13 17:21 / rih
Mercury	ND	mg/L		0.00001		E245.1	04/29/13 14:57 / ser
Nickel	0.010	mg/L		0.002		E200.8	04/30/13 13:30 / mas
Selenium	0.001	mg/L		0.001		E200.8	04/30/13 13:30 / mas
Silicon	0.34	mg/L		0.05		E200.7	04/29/13 17:21 / rih
Silver	ND	mg/L		0.0002		E200.8	04/30/13 13:30 / mas
Strontium	0.32	mg/L		0.02		E200.7	04/29/13 17:21 / rih
Thallium	0.0014	mg/L		0.0002		E200.8	04/30/13 13:30 / mas
Uranium	ND	mg/L		0.0002		E200.8	04/30/13 13:30 / mas
Zinc	ND	mg/L		0.008		E200.8	04/30/13 13:30 / mas

**Report Definitions:**

RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method us





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:16  
**Lab ID:** B13041965-002  
**Client Sample ID** Ynl 0

**Report Date:** 05/07/13  
**Collection Date:** 04/25/13 09:00  
**DateReceived:** 04/26/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	15	mg/L		1		E300.0	04/29/13 22:36 / jrs
Fluoride	ND	mg/L		0.2		A4500-F C	04/29/13 10:53 / pdg
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	05/01/13 10:17 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.026	mg/L		0.009		E200.8	05/02/13 09:07 / mas
Antimony	0.0006	mg/L		0.0005		E200.8	04/30/13 13:36 / mas
Arsenic	ND	mg/L		0.001		E200.8	04/30/13 13:36 / mas
Barium	0.009	mg/L		0.003		E200.7	04/29/13 17:25 / rjh
Beryllium	ND	mg/L		0.0008		E200.7	04/29/13 17:25 / rjh
Cadmium	ND	mg/L		0.00003		E200.8	04/30/13 13:36 / mas
Calcium	8	mg/L		1		E200.7	04/29/13 17:25 / rjh
Chromium	ND	mg/L		0.01		E200.7	04/29/13 17:25 / rjh
Copper	ND	mg/L		0.002		E200.8	04/30/13 13:36 / mas
Iron	ND	mg/L		0.02		E200.7	04/29/13 17:25 / rjh
Lead	ND	mg/L		0.0003		E200.8	04/30/13 13:36 / mas
Magnesium	4	mg/L		1		E200.7	04/29/13 17:25 / rjh
Manganese	ND	mg/L		0.005		E200.7	04/29/13 17:25 / rjh
Mercury	ND	mg/L		0.00001		E245.1	04/29/13 14:59 / ser
Nickel	ND	mg/L		0.002		E200.8	04/30/13 13:36 / mas
Selenium	0.003	mg/L		0.001		E200.8	04/30/13 13:36 / mas
Silicon	0.48	mg/L		0.05		E200.7	04/29/13 17:25 / rjh
Silver	ND	mg/L		0.0002		E200.8	04/30/13 13:36 / mas
Strontium	ND	mg/L		0.02		E200.7	04/29/13 17:25 / rjh
Thallium	0.0002	mg/L		0.0002		E200.8	04/30/13 13:36 / mas
Uranium	0.0004	mg/L		0.0002		E200.8	04/30/13 13:36 / mas
Zinc	ND	mg/L		0.008		E200.8	04/30/13 13:36 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:16  
**Lab ID:** B13041965-003  
**Client Sample ID** Ynl 1/Ynl 2 Composite

**Report Date:** 05/07/13  
**Collection Date:** 04/25/13 09:00  
**DateReceived:** 04/26/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	108	mg/L		1		E300.0	04/29/13 22:51 / jrs
Fluoride	0.4	mg/L		0.2		A4500-F C	04/29/13 10:56 / pdg
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	05/01/13 10:18 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.013	mg/L		0.009		E200.8	05/02/13 09:10 / mas
Antimony	0.0007	mg/L		0.0005		E200.8	04/30/13 13:43 / mas
Arsenic	ND	mg/L		0.001		E200.8	04/30/13 13:43 / mas
Barium	0.009	mg/L		0.003		E200.7	04/29/13 17:29 / rjh
Beryllium	ND	mg/L		0.0008		E200.7	04/29/13 17:29 / rjh
Cadmium	ND	mg/L		0.00003		E200.8	04/30/13 13:43 / mas
Calcium	30	mg/L		1		E200.7	04/29/13 17:29 / rjh
Chromium	ND	mg/L		0.01		E200.7	04/29/13 17:29 / rjh
Copper	ND	mg/L		0.002		E200.8	04/30/13 13:43 / mas
Iron	ND	mg/L		0.02		E200.7	04/29/13 17:29 / rjh
Lead	ND	mg/L		0.0003		E200.8	04/30/13 13:43 / mas
Magnesium	15	mg/L		1		E200.7	04/29/13 17:29 / rjh
Manganese	0.025	mg/L		0.005		E200.7	04/29/13 17:29 / rjh
Mercury	ND	mg/L		0.00001		E245.1	04/29/13 15:01 / ser
Nickel	ND	mg/L		0.002		E200.8	04/30/13 13:43 / mas
Selenium	ND	mg/L		0.001		E200.8	04/30/13 13:43 / mas
Silicon	0.79	mg/L		0.05		E200.7	04/29/13 17:29 / rjh
Silver	ND	mg/L		0.0002		E200.8	04/30/13 13:43 / mas
Strontium	0.21	mg/L		0.02		E200.7	04/29/13 17:29 / rjh
Thallium	0.0005	mg/L		0.0002		E200.8	04/30/13 13:43 / mas
Uranium	0.0005	mg/L		0.0002		E200.8	04/30/13 13:43 / mas
Zinc	ND	mg/L		0.008		E200.8	04/30/13 13:43 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:16  
**Lab ID:** B13041965-004  
**Client Sample ID** Ynl B 2012 Decline

**Report Date:** 05/07/13  
**Collection Date:** 04/25/13 09:00  
**DateReceived:** 04/26/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	297	mg/L		1		E300.0	04/29/13 23:07 / jrs
Fluoride	0.3	mg/L		0.2		A4500-F C	04/29/13 10:58 / pdg
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	05/01/13 10:19 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	05/02/13 09:12 / mas
Antimony	0.0023	mg/L		0.0005		E200.8	04/30/13 14:03 / mas
Arsenic	ND	mg/L		0.001		E200.8	04/30/13 14:03 / mas
Barium	0.014	mg/L		0.003		E200.7	04/29/13 17:32 / rih
Beryllium	ND	mg/L		0.0008		E200.7	04/29/13 17:32 / rih
Cadmium	0.00020	mg/L		0.00003		E200.8	04/30/13 14:03 / mas
Calcium	75	mg/L		1		E200.7	04/29/13 17:32 / rih
Chromium	ND	mg/L		0.01		E200.7	04/29/13 17:32 / rih
Copper	ND	mg/L		0.002		E200.8	04/30/13 14:03 / mas
Iron	ND	mg/L		0.02		E200.7	04/29/13 17:32 / rih
Lead	ND	mg/L		0.0003		E200.8	04/30/13 14:03 / mas
Magnesium	39	mg/L		1		E200.7	04/29/13 17:32 / rih
Manganese	0.028	mg/L		0.005		E200.7	04/29/13 17:32 / rih
Mercury	ND	mg/L		0.00001		E245.1	04/29/13 15:04 / ser
Nickel	ND	mg/L		0.002		E200.8	04/30/13 14:03 / mas
Selenium	0.002	mg/L		0.001		E200.8	04/30/13 14:03 / mas
Silicon	1.17	mg/L		0.05		E200.7	04/29/13 17:32 / rih
Silver	ND	mg/L		0.0002		E200.8	04/30/13 14:03 / mas
Strontium	0.32	mg/L		0.02		E200.7	04/29/13 17:32 / rih
Thallium	0.0002	mg/L		0.0002		E200.8	04/30/13 14:03 / mas
Uranium	0.0027	mg/L		0.0002		E200.8	04/30/13 14:03 / mas
Zinc	0.020	mg/L		0.008		E200.8	04/30/13 14:03 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.





## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 05/07/13

**Project:** 3767 WK:16

**Work Order:** B13041965

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>								Analytical Run: MAN-TECH_130429A		
<b>Sample ID: ICV</b> Initial Calibration Verification Standard 04/29/13 10:16										
Fluoride		1.04	mg/L	0.10	104	90	110			
<b>Method: A4500-F C</b>								Batch: R203712		
<b>Sample ID: MBLK</b> Method Blank Run: MAN-TECH_130429A 04/29/13 10:10										
Fluoride		0.02	mg/L	0.02						
<b>Sample ID: LFB</b> Laboratory Fortified Blank Run: MAN-TECH_130429A 04/29/13 10:13										
Fluoride		1.01	mg/L	0.10	99	90	110			
<b>Sample ID: B13041965-001AMS</b> Sample Matrix Spike Run: MAN-TECH_130429A 04/29/13 10:46										
Fluoride		1.02	mg/L	0.10	89	80	120			
<b>Sample ID: B13041965-001AMSD</b> Sample Matrix Spike Duplicate Run: MAN-TECH_130429A 04/29/13 10:50										
Fluoride		0.960	mg/L	0.10	83	80	120	6.1	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:16

**Report Date:** 05/07/13  
**Work Order:** B13041965

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_130429A			
<b>Sample ID: ICV</b>	9	Continuing Calibration Verification Standard							04/29/13 13:44		
Barium		2.42	mg/L	0.10	97	95	105				
Beryllium		1.23	mg/L	0.010	98	95	105				
Calcium		24.8	mg/L	1.0	99	95	105				
Chromium		2.39	mg/L	0.050	95	95	105				
Iron		2.46	mg/L	0.030	99	95	105				
Magnesium		24.4	mg/L	1.0	98	95	105				
Manganese		2.42	mg/L	0.010	97	95	105				
Strontium		2.47	mg/L	0.10	99	95	105				
Silicon		4.91	mg/L	0.10	98	95	105				
<b>Method: E200.7</b>								Batch: R203766			
<b>Sample ID: MB-6500DIS130429A</b>	9	Method Blank							Run: ICP203-B_130429A		04/29/13 14:07
Barium		ND	mg/L	0.0003							
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.007							
Chromium		ND	mg/L	0.003							
Iron		ND	mg/L	0.003							
Magnesium		ND	mg/L	0.002							
Manganese		ND	mg/L	0.0003							
Strontium		ND	mg/L	5E-05							
Silicon		ND	mg/L	0.01							
<b>Sample ID: LFB-6500DIS130429A</b>	9	Laboratory Fortified Blank							Run: ICP203-B_130429A		04/29/13 14:11
Barium		0.987	mg/L	0.10	99	85	115				
Beryllium		0.504	mg/L	0.010	101	85	115				
Calcium		50.7	mg/L	1.0	101	85	115				
Chromium		0.966	mg/L	0.050	97	85	115				
Iron		5.03	mg/L	0.030	101	85	115				
Magnesium		50.8	mg/L	1.0	102	85	115				
Manganese		4.92	mg/L	0.010	98	85	115				
Strontium		1.03	mg/L	0.10	103	85	115				
Silicon		9.80	mg/L	0.10	98	85	115				
<b>Sample ID: B13041942-003BMS2</b>	9	Sample Matrix Spike							Run: ICP203-B_130429A		04/29/13 17:14
Barium		1.06	mg/L	0.050	102	70	130				
Beryllium		0.505	mg/L	0.0010	101	70	130				
Calcium		89.4	mg/L	1.0	102	70	130				
Chromium		0.997	mg/L	0.0050	100	70	130				
Iron		5.11	mg/L	0.030	102	70	130				
Magnesium		64.3	mg/L	1.0	105	70	130				
Manganese		5.00	mg/L	0.0010	100	70	130				
Silicon		16.7	mg/L	0.10	100	70	130				
Strontium		1.25	mg/L	0.010	103	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:16

**Report Date:** 05/07/13  
**Work Order:** B13041965

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										Batch: R203766
<b>Sample ID: B13041942-003BMSD</b>										9 Sample Matrix Spike Duplicate
										Run: ICP203-B_130429A
										04/29/13 17:17
Barium		1.04	mg/L	0.050	100	70	130	2.0	20	
Beryllium		0.497	mg/L	0.0010	99	70	130	1.6	20	
Calcium		88.8	mg/L	1.0	101	70	130	0.7	20	
Chromium		0.977	mg/L	0.0050	98	70	130	2.0	20	
Iron		5.03	mg/L	0.030	101	70	130	1.5	20	
Magnesium		63.5	mg/L	1.0	104	70	130	1.4	20	
Manganese		4.92	mg/L	0.0010	98	70	130	1.7	20	
Silicon		16.7	mg/L	0.10	99	70	130	0.4	20	
Strontium		1.24	mg/L	0.010	102	70	130	1.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 05/07/13

**Project:** 3767 WK:16

**Work Order:** B13041965

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_130501A		
<b>Sample ID: QCS</b>	Initial Calibration Verification Standard									05/02/13 04:30
Aluminum		0.242	mg/L	0.10	97	90	110			
<b>Method: E200.8</b>								Batch: R203885		
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									Run: ICPMS202-B_130501A 05/01/13 15:25
Aluminum		0.0508	mg/L	0.10	101	85	115			
<b>Sample ID: LRB</b>	Method Blank									Run: ICPMS202-B_130501A 05/01/13 16:14
Aluminum		ND	mg/L	0.0090						
<b>Sample ID: B13041965-001BMS</b>	Sample Matrix Spike									Run: ICPMS202-B_130501A 05/02/13 10:22
Aluminum		0.0527	mg/L	0.030	101	70	130			
<b>Sample ID: B13041965-001BMSD</b>	Sample Matrix Spike Duplicate									Run: ICPMS202-B_130501A 05/02/13 10:25
Aluminum		0.0498	mg/L	0.030	95	70	130	5.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:16

**Report Date:** 05/07/13  
**Work Order:** B13041965

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_130430A			
<b>Sample ID: ICV</b>	11	Initial Calibration Verification Standard									04/30/13 10:37
Antimony		0.0525	mg/L	0.050	105	90	110				
Arsenic		0.0531	mg/L	0.0050	106	90	110				
Cadmium		0.0275	mg/L	0.0010	110	90	110				
Copper		0.0540	mg/L	0.010	108	90	110				
Lead		0.0525	mg/L	0.010	105	90	110				
Nickel		0.0538	mg/L	0.010	108	90	110				
Selenium		0.0542	mg/L	0.0050	108	90	110				
Silver		0.0267	mg/L	0.0050	107	90	110				
Thallium		0.0520	mg/L	0.10	104	90	110				
Uranium		0.0210	mg/L	0.0010	105	90	110				
Zinc		0.0533	mg/L	0.010	107	90	110				
<b>Method: E200.8</b>								Batch: R203850			
<b>Sample ID: LRB</b>	11	Method Blank									04/30/13 11:42
Antimony		ND	mg/L	2E-05							
Arsenic		ND	mg/L	0.00010							
Cadmium		ND	mg/L	1E-05							
Copper		ND	mg/L	3E-05							
Lead		ND	mg/L	2E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0003							
Silver		ND	mg/L	4E-05							
Thallium		ND	mg/L	8E-06							
Uranium		ND	mg/L	8E-06							
Zinc		ND	mg/L	0.0001							
<b>Sample ID: LFB</b>	11	Laboratory Fortified Blank									04/30/13 11:49
Antimony		0.0492	mg/L	0.050	98	85	115				
Arsenic		0.0499	mg/L	0.0050	100	85	115				
Cadmium		0.0503	mg/L	0.0010	101	85	115				
Copper		0.0494	mg/L	0.010	99	85	115				
Lead		0.0508	mg/L	0.010	102	85	115				
Nickel		0.0507	mg/L	0.010	101	85	115				
Selenium		0.0490	mg/L	0.0050	98	85	115				
Silver		0.0192	mg/L	0.0050	96	85	115				
Thallium		0.0504	mg/L	0.10	101	85	115				
Uranium		0.0501	mg/L	0.0010	100	85	115				
Zinc		0.0482	mg/L	0.010	96	85	115				
<b>Sample ID: B13041965-003BMS</b>	11	Sample Matrix Spike									04/30/13 13:50
Antimony		0.0514	mg/L	0.0010	101	70	130				
Arsenic		0.0522	mg/L	0.0010	104	70	130				
Cadmium		0.0509	mg/L	0.0010	102	70	130				
Copper		0.0522	mg/L	0.0050	102	70	130				
Lead		0.0527	mg/L	0.0010	105	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 05/07/13

**Project:** 3767 WK:16

**Work Order:** B13041965

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R203850										
<b>Sample ID: B13041965-003BMS</b>	11	Sample Matrix Spike					Run: ICPMS206-B_130430A			04/30/13 13:50
Nickel		0.0522	mg/L	0.0050	103	70	130			
Selenium		0.0510	mg/L	0.0010	100	70	130			
Silver		0.0219	mg/L	0.0010	110	70	130			
Thallium		0.0533	mg/L	0.00050	105	70	130			
Uranium		0.0506	mg/L	0.00030	100	70	130			
Zinc		0.0530	mg/L	0.010	104	70	130			
<b>Sample ID: B13041965-003BMSD</b>	11	Sample Matrix Spike Duplicate					Run: ICPMS206-B_130430A			04/30/13 13:57
Antimony		0.0500	mg/L	0.0010	99	70	130	2.8	20	
Arsenic		0.0533	mg/L	0.0010	106	70	130	2.1	20	
Cadmium		0.0494	mg/L	0.0010	99	70	130	2.9	20	
Copper		0.0519	mg/L	0.0050	101	70	130	0.6	20	
Lead		0.0513	mg/L	0.0010	102	70	130	2.6	20	
Nickel		0.0528	mg/L	0.0050	105	70	130	1.1	20	
Selenium		0.0557	mg/L	0.0010	110	70	130	8.9	20	
Silver		0.0200	mg/L	0.0010	100	70	130	9.1	20	
Thallium		0.0522	mg/L	0.00050	103	70	130	2.0	20	
Uranium		0.0487	mg/L	0.00030	96	70	130	3.7	20	
Zinc		0.0525	mg/L	0.010	103	70	130	0.9	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:16

**Report Date:** 05/07/13  
**Work Order:** B13041965

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV202-B_130429A	
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								04/29/13 14:46	
Mercury		0.000212	mg/L	1.0E-05	106	90	110				
<b>Method:</b> E245.1										Batch: 70831	
<b>Sample ID:</b> MB-70831		Method Blank								Run: HGCV202-B_130429A	04/29/13 14:52
Mercury		ND	mg/L	1.0E-05							
<b>Sample ID:</b> LCS-70831		Laboratory Control Sample								Run: HGCV202-B_130429A	04/29/13 14:55
Mercury		0.000203	mg/L	1.0E-05	102	85	115				
<b>Sample ID:</b> B13041965-004BMS		Sample Matrix Spike								Run: HGCV202-B_130429A	04/29/13 15:06
Mercury		0.000206	mg/L	1.0E-05	103	70	130				
<b>Sample ID:</b> B13041965-004BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_130429A	04/29/13 15:08
Mercury		0.000203	mg/L	1.0E-05	102	70	130	1.5	30		
<b>Sample ID:</b> B13041983-002AMS		Sample Matrix Spike								Run: HGCV202-B_130429A	04/29/13 15:25
Mercury		0.000216	mg/L	1.0E-05	91	70	130				
<b>Sample ID:</b> B13041983-002AMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_130429A	04/29/13 15:27
Mercury		0.000209	mg/L	1.0E-05	88	70	130	3.3	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:16

**Report Date:** 05/07/13  
**Work Order:** B13041965

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b> Analytical Run: IC202-B_130429A										
<b>Sample ID: ICV</b> Initial Calibration Verification Standard 04/30/13 09:41										
Sulfate		101	mg/L	1.0	101	90	110			
<b>Method: E300.0</b> Batch: R203767										
<b>Sample ID: B13041965-001AMS</b> Sample Matrix Spike Run: IC202-B_130429A 04/29/13 22:06										
Sulfate		538	mg/L	1.1		90	110			A
<b>Sample ID: B13041965-001AMSD</b> Sample Matrix Spike Duplicate Run: IC202-B_130429A 04/29/13 22:21										
Sulfate		541	mg/L	1.1		90	110	0.6	20	A
<b>Sample ID: ICB</b> Method Blank Run: IC202-B_130429A 04/30/13 09:56										
Sulfate		ND	mg/L	1.0						
<b>Sample ID: LFB</b> Laboratory Fortified Blank Run: IC202-B_130429A 04/30/13 10:11										
Sulfate		98.4	mg/L	1.1	98	90	110			
<b>Method: E300.0</b> Analytical Run: IC203-B_130429A										
<b>Sample ID: ICV</b> Initial Calibration Verification Standard 04/29/13 14:01										
Sulfate		98.9	mg/L	1.0	99	90	110			
<b>Method: E300.0</b> Batch: R203774										
<b>Sample ID: ICB</b> Method Blank Run: IC203-B_130429A 04/29/13 14:17										
Sulfate		ND	mg/L	0.06						
<b>Sample ID: LFB</b> Laboratory Fortified Blank Run: IC203-B_130429A 04/29/13 14:32										
Sulfate		97.0	mg/L	1.1	97	90	110			
<b>Sample ID: B13041899-003AMS</b> Sample Matrix Spike Run: IC203-B_130429A 04/30/13 16:07										
Sulfate		125	mg/L	1.1	105	90	110			
<b>Sample ID: B13041899-003AMSD</b> Sample Matrix Spike Duplicate Run: IC203-B_130429A 04/30/13 16:22										
Sulfate		125	mg/L	1.1	106	90	110	0.5	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:16

**Report Date:** 05/07/13  
**Work Order:** B13041965

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E365.1</b>								Analytical Run: FIA202-B_130501A			
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									05/01/13 10:08	
Phosphorus, Total as P		0.237	mg/L	0.0050	95	90	110				
<b>Method: E365.1</b>								Batch: 70816			
<b>Sample ID: MB-70816</b>	Method Blank									Run: FIA202-B_130501A	05/01/13 10:09
Phosphorus, Total as P		ND	mg/L	0.0050							
<b>Sample ID: LCS-70816</b>	Laboratory Control Sample									Run: FIA202-B_130501A	05/01/13 10:10
Phosphorus, Total as P		0.183	mg/L	0.0050	91	90	110				
<b>Sample ID: B13041971-002CMS</b>	Sample Matrix Spike									Run: FIA202-B_130501A	05/01/13 10:23
Phosphorus, Total as P		10.1	mg/L	0.25	101	90	110				
<b>Sample ID: B13041971-002CMSD</b>	Sample Matrix Spike Duplicate									Run: FIA202-B_130501A	05/01/13 10:24
Phosphorus, Total as P		10.0	mg/L	0.25	101	90	110	0.5	10		
<b>Sample ID: B13041978-004CMS</b>	Sample Matrix Spike									Run: FIA202-B_130501A	05/01/13 10:41
Phosphorus, Total as P		0.261	mg/L	0.0050	101	90	110				
<b>Sample ID: B13041978-004CMSD</b>	Sample Matrix Spike Duplicate									Run: FIA202-B_130501A	05/01/13 10:42
Phosphorus, Total as P		0.260	mg/L	0.0050	101	90	110	0.4	10		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13041965

Login completed by: Jill M. Lippard

Date Received: 4/26/2013

Reviewed by: BL2000\gmccartney

Received by: jll

Reviewed Date: 4/29/2013

Carrier UPS  
name:

- |   |   |  |  |
|---|---|--|--|
| Shipping container/cooler in good condition?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on shipping container/cooler?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on sample bottles?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/>            |
| Chain of custody present?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody signed when relinquished and received?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody agrees with sample labels?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Samples in proper container/bottle?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sample containers intact?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters<br>such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Temp Blank received?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |
| Container/Temp Blank temperature:   | 8.6°C Melted Ice                        |  |  |
| Water - VOA vials have zero headspace?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Applicable <input type="checkbox"/>                    |

Contact and Corrective Action Comments:

None



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ, revised 10/2012

# ANALYTICAL SUMMARY REPORT

June 07, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B13052064      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:20

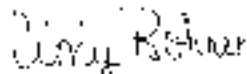
Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Alaska Exploration Inc on 5/24/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13052064-001	USZ 1 High Fe/USZ 2 Low Fe Composite	05/23/13 9:00	05/24/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13052064-002	Ynl 0	05/23/13 9:00	05/24/13	Aqueous	Same As Above
B13052064-003	Ynl 1/Ynl 2 Composite	05/23/13 9:00	05/24/13	Aqueous	Same As Above
B13052064-004	Ynl B 2012 Decline	05/23/13 9:00	05/24/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Laboratory Co-Manager

Digitally signed by  
Cindy Rohrer  
Date: 2013.06.07 10:42:25 -06:00

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:20  
**Lab ID:** B13052064-001  
**Client Sample ID** USZ 1 High Fe/USZ 2 Low Fe Composite

**Report Date:** 06/07/13  
**Collection Date:** 05/23/13 09:00  
**Date Received:** 05/24/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	483	mg/L	D	10	E300.0		05/29/13 17:54 / jrs
Fluoride	ND	mg/L		0.2	A4500-F C		05/29/13 16:28 / hmb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005	E365.1		05/28/13 17:26 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009	E200.8		05/29/13 23:24 / mas
Antimony	ND	mg/L		0.0005	E200.8		05/29/13 00:24 / mas
Arsenic	ND	mg/L		0.001	E200.8		05/29/13 00:24 / mas
Barium	0.006	mg/L		0.003	E200.8		05/29/13 00:24 / mas
Beryllium	ND	mg/L		0.0008	E200.8		05/29/13 00:24 / mas
Cadmium	0.00004	mg/L		0.00003	E200.8		05/29/13 00:24 / mas
Calcium	114	mg/L		1	E200.8		05/29/13 00:24 / mas
Chromium	ND	mg/L		0.01	E200.8		05/29/13 00:24 / mas
Copper	ND	mg/L		0.002	E200.8		05/29/13 00:24 / mas
Iron	ND	mg/L		0.02	E200.8		05/29/13 00:24 / mas
Lead	ND	mg/L		0.0003	E200.8		05/29/13 00:24 / mas
Magnesium	58	mg/L		1	E200.8		05/29/13 00:24 / mas
Manganese	0.245	mg/L		0.005	E200.8		05/29/13 00:24 / mas
Mercury	ND	mg/L		0.00001	E245.1		05/28/13 14:15 / ser
Nickel	0.009	mg/L		0.002	E200.8		05/29/13 00:24 / mas
Selenium	ND	mg/L		0.001	E200.8		05/29/13 00:24 / mas
Silicon	0.29	mg/L		0.05	E200.7		06/06/13 16:13 / rih
Silver	ND	mg/L		0.0002	E200.8		05/31/13 16:08 / mas
Strontium	0.25	mg/L		0.02	E200.8		05/29/13 00:24 / mas
Thallium	0.0011	mg/L		0.0002	E200.8		05/29/13 00:24 / mas
Uranium	ND	mg/L		0.0002	E200.8		05/29/13 00:24 / mas
Zinc	ND	mg/L		0.008	E200.8		05/29/13 00:24 / mas

**Report Definitions:**

RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method us



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:20  
**Lab ID:** B13052064-002  
**Client Sample ID** Ynl 0

**Report Date:** 06/07/13  
**Collection Date:** 05/23/13 09:00  
**DateReceived:** 05/24/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	14	mg/L		1		E300.0	05/28/13 18:40 / jrs
Fluoride	ND	mg/L		0.2		A4500-F C	05/29/13 16:31 / hmb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	05/28/13 17:30 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.023	mg/L		0.009		E200.8	05/29/13 23:31 / mas
Antimony	0.0005	mg/L		0.0005		E200.8	05/29/13 00:30 / mas
Arsenic	ND	mg/L		0.001		E200.8	05/29/13 00:30 / mas
Barium	0.008	mg/L		0.003		E200.8	05/29/13 00:30 / mas
Beryllium	ND	mg/L		0.0008		E200.8	05/29/13 00:30 / mas
Cadmium	ND	mg/L		0.00003		E200.8	05/29/13 00:30 / mas
Calcium	7	mg/L		1		E200.8	05/29/13 00:30 / mas
Chromium	ND	mg/L		0.01		E200.8	05/29/13 00:30 / mas
Copper	ND	mg/L		0.002		E200.8	05/29/13 00:30 / mas
Iron	ND	mg/L		0.02		E200.8	05/29/13 00:30 / mas
Lead	ND	mg/L		0.0003		E200.8	05/29/13 00:30 / mas
Magnesium	4	mg/L		1		E200.8	05/29/13 00:30 / mas
Manganese	ND	mg/L		0.005		E200.8	05/29/13 00:30 / mas
Mercury	ND	mg/L		0.00001		E245.1	05/28/13 14:18 / ser
Nickel	ND	mg/L		0.002		E200.8	05/29/13 00:30 / mas
Selenium	0.002	mg/L		0.001		E200.8	05/29/13 00:30 / mas
Silicon	0.44	mg/L		0.05		E200.7	06/06/13 16:36 / rih
Silver	ND	mg/L		0.0002		E200.8	05/31/13 16:15 / mas
Strontium	ND	mg/L		0.02		E200.8	05/29/13 00:30 / mas
Thallium	ND	mg/L		0.0002		E200.8	05/29/13 00:30 / mas
Uranium	0.0004	mg/L		0.0002		E200.8	05/29/13 00:30 / mas
Zinc	ND	mg/L		0.008		E200.8	05/29/13 00:30 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:20  
**Lab ID:** B13052064-003  
**Client Sample ID** Ynl 1/Ynl 2 Composite

**Report Date:** 06/07/13  
**Collection Date:** 05/23/13 09:00  
**DateReceived:** 05/24/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	106	mg/L		1		E300.0	05/28/13 19:25 / jrs
Fluoride	0.3	mg/L		0.2		A4500-F C	05/29/13 16:34 / hmb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	05/28/13 17:31 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	05/30/13 00:12 / mas
Antimony	ND	mg/L		0.0005		E200.8	05/29/13 00:37 / mas
Arsenic	ND	mg/L		0.001		E200.8	05/29/13 00:37 / mas
Barium	0.008	mg/L		0.003		E200.8	05/29/13 00:37 / mas
Beryllium	ND	mg/L		0.0008		E200.8	05/29/13 00:37 / mas
Cadmium	ND	mg/L		0.00003		E200.8	05/29/13 00:37 / mas
Calcium	25	mg/L		1		E200.8	05/29/13 00:37 / mas
Chromium	ND	mg/L		0.01		E200.8	05/29/13 00:37 / mas
Copper	ND	mg/L		0.002		E200.8	05/29/13 00:37 / mas
Iron	ND	mg/L		0.02		E200.8	05/29/13 00:37 / mas
Lead	ND	mg/L		0.0003		E200.8	05/29/13 00:37 / mas
Magnesium	12	mg/L		1		E200.8	05/29/13 00:37 / mas
Manganese	0.015	mg/L		0.005		E200.8	05/29/13 00:37 / mas
Mercury	ND	mg/L		0.00001		E245.1	05/28/13 14:20 / ser
Nickel	ND	mg/L		0.002		E200.8	05/29/13 00:37 / mas
Selenium	ND	mg/L		0.001		E200.8	05/29/13 00:37 / mas
Silicon	0.57	mg/L		0.05		E200.7	06/06/13 16:40 / rih
Silver	ND	mg/L		0.0002		E200.8	05/30/13 00:12 / mas
Strontium	0.15	mg/L		0.02		E200.8	05/29/13 00:37 / mas
Thallium	0.0004	mg/L		0.0002		E200.8	05/29/13 00:37 / mas
Uranium	0.0003	mg/L		0.0002		E200.8	05/29/13 00:37 / mas
Zinc	ND	mg/L		0.008		E200.8	05/29/13 00:37 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:20  
**Lab ID:** B13052064-004  
**Client Sample ID** Ynl B 2012 Decline

**Report Date:** 06/07/13  
**Collection Date:** 05/23/13 09:00  
**DateReceived:** 05/24/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	309	mg/L		1		E300.0	05/28/13 20:10 / jrs
Fluoride	0.2	mg/L		0.2		A4500-F C	05/29/13 16:37 / hmb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	05/28/13 17:32 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.014	mg/L		0.009		E200.8	05/29/13 14:02 / mas
Antimony	0.0011	mg/L		0.0005		E200.8	05/29/13 14:02 / mas
Arsenic	ND	mg/L		0.001		E200.8	05/29/13 14:02 / mas
Barium	0.009	mg/L		0.003		E200.8	05/29/13 14:02 / mas
Beryllium	ND	mg/L		0.0008		E200.8	05/29/13 14:02 / mas
Cadmium	0.00006	mg/L		0.00003		E200.8	05/29/13 14:02 / mas
Calcium	71	mg/L		1		E200.8	05/29/13 14:02 / mas
Chromium	ND	mg/L		0.01		E200.8	05/29/13 14:02 / mas
Copper	ND	mg/L		0.002		E200.8	05/29/13 14:02 / mas
Iron	ND	mg/L		0.02		E200.8	05/29/13 14:02 / mas
Lead	ND	mg/L		0.0003		E200.8	05/29/13 14:02 / mas
Magnesium	34	mg/L		1		E200.8	05/29/13 14:02 / mas
Manganese	0.012	mg/L		0.005		E200.8	05/29/13 14:02 / mas
Mercury	ND	mg/L		0.00001		E245.1	05/28/13 14:24 / ser
Nickel	ND	mg/L		0.002		E200.8	05/29/13 14:02 / mas
Selenium	0.001	mg/L		0.001		E200.8	05/29/13 14:02 / mas
Silicon	0.79	mg/L		0.05		E200.7	05/30/13 11:37 / rih
Silver	ND	mg/L		0.0002		E200.8	05/29/13 14:02 / mas
Strontium	0.23	mg/L		0.02		E200.8	05/29/13 14:02 / mas
Thallium	ND	mg/L		0.0002		E200.8	05/29/13 14:02 / mas
Uranium	0.0015	mg/L		0.0002		E200.8	05/29/13 14:02 / mas
Zinc	0.012	mg/L		0.008		E200.8	05/29/13 14:02 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:20

**Report Date:** 06/07/13  
**Work Order:** B13052064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> Analytical Run: ICP203-B_130530A										
<b>Sample ID: ICV</b> Continuing Calibration Verification Standard 05/30/13 11:05										
Silicon		4.91	mg/L	0.10	98	95	105			
<b>Method: E200.7</b> Batch: R205517										
<b>Sample ID: MB-6500DIS130530A</b> Method Blank Run: ICP203-B_130530A 05/30/13 11:29										
Silicon		ND	mg/L	0.01						
<b>Sample ID: LFB-6500DIS130530A</b> Laboratory Fortified Blank Run: ICP203-B_130530A 05/30/13 11:33										
Silicon		9.98	mg/L	0.10	100	85	115			
<b>Sample ID: B13052064-004BMS2</b> Sample Matrix Spike Run: ICP203-B_130530A 05/30/13 11:44										
Silicon		10.9	mg/L	0.10	102	70	130			
<b>Sample ID: B13052064-004BMSD2</b> Sample Matrix Spike Duplicate Run: ICP203-B_130530A 05/30/13 11:48										
Silicon		11.2	mg/L	0.10	104	70	130	2.2	20	
<b>Method: E200.7</b> Analytical Run: ICP203-B_130606A										
<b>Sample ID: CCV</b> Continuing Calibration Verification Standard 06/06/13 14:48										
Silicon		5.07	mg/L	0.10	101	95	105			
<b>Method: E200.7</b> Batch: R205930										
<b>Sample ID: MB-6500DIS130606A</b> Method Blank Run: ICP203-B_130606A 06/06/13 15:12										
Silicon		ND	mg/L	0.01						
<b>Sample ID: LFB-6500DIS130606A</b> Laboratory Fortified Blank Run: ICP203-B_130606A 06/06/13 15:15										
Silicon		10.0	mg/L	0.10	100	85	115			
<b>Sample ID: B13052064-001BMS2</b> Sample Matrix Spike Run: ICP203-B_130606A 06/06/13 16:28										
Silicon		10.3	mg/L	0.10	100	70	130			
<b>Sample ID: B13052064-001BMSD2</b> Sample Matrix Spike Duplicate Run: ICP203-B_130606A 06/06/13 16:32										
Silicon		9.97	mg/L	0.10	97	70	130	3.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 06/07/13

**Project:** 3767 WK:20

**Work Order:** B13052064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>		Analytical Run: ICPMS206-B_130527A								
<b>Sample ID: QCS</b>	18	Initial Calibration Verification Standard							05/28/13 17:03	
Antimony		0.0497	mg/L	0.050	99	90	110			
Arsenic		0.0468	mg/L	0.0050	94	90	110			
Barium		0.0487	mg/L	0.10	97	90	110			
Beryllium		0.0244	mg/L	0.0010	97	90	110			
Cadmium		0.0257	mg/L	0.0010	103	90	110			
Calcium		2.65	mg/L	0.50	106	90	110			
Chromium		0.0482	mg/L	0.010	96	90	110			
Copper		0.0493	mg/L	0.010	99	90	110			
Iron		0.241	mg/L	0.030	96	90	110			
Lead		0.0491	mg/L	0.010	98	90	110			
Magnesium		2.49	mg/L	0.50	100	90	110			
Manganese		0.244	mg/L	0.010	98	90	110			
Nickel		0.0499	mg/L	0.010	100	90	110			
Selenium		0.0493	mg/L	0.0050	99	90	110			
Strontium		0.0508	mg/L	0.10	102	90	110			
Thallium		0.0483	mg/L	0.10	97	90	110			
Uranium		0.0204	mg/L	0.0010	102	90	110			
Zinc		0.0475	mg/L	0.010	95	90	110			

<b>Method: E200.8</b>		Batch: R205312								
<b>Sample ID: LFB</b>	18	Laboratory Fortified Blank							Run: ICPMS206-B_130527A 05/27/13 14:01	
Antimony		0.0485	mg/L	0.050	97	85	115			
Arsenic		0.0498	mg/L	0.0050	100	85	115			
Barium		0.0514	mg/L	0.10	103	85	115			
Beryllium		0.0444	mg/L	0.0010	89	85	115			
Cadmium		0.0498	mg/L	0.0010	100	85	115			
Calcium		45.6	mg/L	0.50	91	85	115			
Chromium		0.0489	mg/L	0.010	98	85	115			
Copper		0.0491	mg/L	0.010	98	85	115			
Iron		4.65	mg/L	0.030	93	85	115			
Lead		0.0503	mg/L	0.010	101	85	115			
Magnesium		44.7	mg/L	0.50	89	85	115			
Manganese		0.0500	mg/L	0.010	100	85	115			
Nickel		0.0472	mg/L	0.010	94	85	115			
Selenium		0.0489	mg/L	0.0050	98	85	115			
Strontium		0.0510	mg/L	0.10	102	85	115			
Thallium		0.0496	mg/L	0.10	99	85	115			
Uranium		0.0504	mg/L	0.0010	101	85	115			
Zinc		0.0480	mg/L	0.010	96	85	115			

<b>Sample ID: LRB</b>	18	Method Blank							Run: ICPMS206-B_130527A 05/27/13 14:29	
Antimony		ND	mg/L	2E-05						
Arsenic		ND	mg/L	0.00010						
Barium		5E-05	mg/L	4E-05						

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 06/07/13

**Project:** 3767 WK:20

**Work Order:** B13052064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R205312										
<b>Sample ID: LRB</b>	18	Method Blank								
Run: ICPMS206-B_130527A										
05/27/13 14:29										
Beryllium		ND	mg/L	1E-05						
Cadmium		ND	mg/L	1E-05						
Calcium		ND	mg/L	0.01						
Chromium		ND	mg/L	2E-05						
Copper		ND	mg/L	3E-05						
Iron		ND	mg/L	0.0001						
Lead		ND	mg/L	2E-05						
Magnesium		0.0005	mg/L	0.0002						
Manganese		ND	mg/L	1E-05						
Nickel		ND	mg/L	6E-05						
Selenium		ND	mg/L	0.0003						
Strontium		ND	mg/L	2E-05						
Thallium		ND	mg/L	8E-06						
Uranium		ND	mg/L	8E-06						
Zinc		ND	mg/L	0.0001						
<b>Sample ID: B13052064-003BMS</b>	18	Sample Matrix Spike								
Run: ICPMS206-B_130527A										
05/29/13 00:44										
Antimony		0.0471	mg/L	0.0010	93	70	130			
Arsenic		0.0504	mg/L	0.0010	100	70	130			
Barium		0.0559	mg/L	0.050	96	70	130			
Beryllium		0.0493	mg/L	0.0010	99	70	130			
Cadmium		0.0485	mg/L	0.0010	97	70	130			
Calcium		73.3	mg/L	1.0	97	70	130			
Chromium		0.0508	mg/L	0.0050	102	70	130			
Copper		0.0484	mg/L	0.0050	97	70	130			
Iron		4.96	mg/L	0.030	99	70	130			
Lead		0.0500	mg/L	0.0010	100	70	130			
Magnesium		61.4	mg/L	1.0	99	70	130			
Manganese		0.0651	mg/L	0.0010	101	70	130			
Nickel		0.0497	mg/L	0.0050	98	70	130			
Selenium		0.0466	mg/L	0.0010	92	70	130			
Strontium		0.195	mg/L	0.010	94	70	130			
Thallium		0.0502	mg/L	0.00050	100	70	130			
Uranium		0.0497	mg/L	0.00030	99	70	130			
Zinc		0.0495	mg/L	0.010	99	70	130			
<b>Sample ID: B13052064-003BMSD</b>	18	Sample Matrix Spike Duplicate								
Run: ICPMS206-B_130527A										
05/29/13 00:51										
Antimony		0.0464	mg/L	0.0010	92	70	130	1.4	20	
Arsenic		0.0481	mg/L	0.0010	96	70	130	4.8	20	
Barium		0.0550	mg/L	0.050	95	70	130	1.6	20	
Beryllium		0.0487	mg/L	0.0010	97	70	130	1.3	20	
Cadmium		0.0474	mg/L	0.0010	95	70	130	2.4	20	
Calcium		73.2	mg/L	1.0	97	70	130	0.1	20	
Chromium		0.0496	mg/L	0.0050	99	70	130	2.5	20	
Copper		0.0474	mg/L	0.0050	95	70	130	2.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 06/07/13

**Project:** 3767 WK:20

**Work Order:** B13052064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R205312
<b>Sample ID:</b> B13052064-003BMSD	18	Sample Matrix Spike Duplicate					Run: ICPMS206-B_130527A			05/29/13 00:51
Iron		4.89	mg/L	0.030	98	70	130	1.3	20	
Lead		0.0480	mg/L	0.0010	96	70	130	4.1	20	
Magnesium		60.7	mg/L	1.0	98	70	130	1.2	20	
Manganese		0.0649	mg/L	0.0010	101	70	130	0.4	20	
Nickel		0.0485	mg/L	0.0050	96	70	130	2.4	20	
Selenium		0.0472	mg/L	0.0010	93	70	130	1.4	20	
Strontium		0.192	mg/L	0.010	88	70	130	1.4	20	
Thallium		0.0490	mg/L	0.00050	97	70	130	2.6	20	
Uranium		0.0487	mg/L	0.00030	97	70	130	2.1	20	
Zinc		0.0477	mg/L	0.010	95	70	130	3.7	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 06/07/13

**Project:** 3767 WK:20

**Work Order:** B13052064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>		Analytical Run: ICPMS206-B_130529A								
<b>Sample ID: QCS</b>	20	Initial Calibration Verification Standard							05/29/13 13:08	
Aluminum		0.250	mg/L	0.10	100	90	110			
Antimony		0.0527	mg/L	0.050	105	90	110			
Arsenic		0.0496	mg/L	0.0050	99	90	110			
Barium		0.0521	mg/L	0.10	104	90	110			
Beryllium		0.0252	mg/L	0.0010	101	90	110			
Cadmium		0.0264	mg/L	0.0010	105	90	110			
Calcium		2.69	mg/L	0.50	108	90	110			
Chromium		0.0507	mg/L	0.010	101	90	110			
Copper		0.0518	mg/L	0.010	104	90	110			
Iron		0.257	mg/L	0.030	103	90	110			
Lead		0.0503	mg/L	0.010	101	90	110			
Magnesium		2.60	mg/L	0.50	104	90	110			
Manganese		0.252	mg/L	0.010	101	90	110			
Nickel		0.0512	mg/L	0.010	102	90	110			
Selenium		0.0480	mg/L	0.0050	96	90	110			
Silver		0.0256	mg/L	0.0050	102	90	110			
Strontium		0.0513	mg/L	0.10	103	90	110			
Thallium		0.0497	mg/L	0.10	99	90	110			
Uranium		0.0205	mg/L	0.0010	102	90	110			
Zinc		0.0522	mg/L	0.010	104	90	110			

<b>Method: E200.8</b>		Batch: R205446								
<b>Sample ID: LFB</b>	20	Laboratory Fortified Blank							Run: ICPMS206-B_130529A 05/29/13 13:22	
Aluminum		0.0463	mg/L	0.10	93	85	115			
Antimony		0.0503	mg/L	0.050	101	85	115			
Arsenic		0.0482	mg/L	0.0050	96	85	115			
Barium		0.0492	mg/L	0.10	98	85	115			
Beryllium		0.0473	mg/L	0.0010	95	85	115			
Cadmium		0.0473	mg/L	0.0010	95	85	115			
Calcium		47.6	mg/L	0.50	95	85	115			
Chromium		0.0476	mg/L	0.010	95	85	115			
Copper		0.0472	mg/L	0.010	94	85	115			
Iron		4.92	mg/L	0.030	98	85	115			
Lead		0.0473	mg/L	0.010	95	85	115			
Magnesium		48.4	mg/L	0.50	97	85	115			
Manganese		0.0476	mg/L	0.010	95	85	115			
Nickel		0.0463	mg/L	0.010	93	85	115			
Selenium		0.0480	mg/L	0.0050	96	85	115			
Silver		0.0183	mg/L	0.0050	92	85	115			
Strontium		0.0487	mg/L	0.10	97	85	115			
Thallium		0.0479	mg/L	0.10	96	85	115			
Uranium		0.0475	mg/L	0.0010	95	85	115			
Zinc		0.0474	mg/L	0.010	95	85	115			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 06/07/13

**Project:** 3767 WK:20

**Work Order:** B13052064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R205446										
<b>Sample ID: LRB</b>	20	Method Blank								
						Run: ICPMS206-B_130529A				05/29/13 13:49
Aluminum		ND	mg/L	0.0001						
Antimony		ND	mg/L	2E-05						
Arsenic		ND	mg/L	0.00010						
Barium		ND	mg/L	4E-05						
Beryllium		ND	mg/L	1E-05						
Cadmium		ND	mg/L	1E-05						
Calcium		0.03	mg/L	0.01						
Chromium		ND	mg/L	2E-05						
Copper		7E-05	mg/L	3E-05						
Iron		ND	mg/L	0.0001						
Lead		ND	mg/L	2E-05						
Magnesium		ND	mg/L	0.0002						
Manganese		6E-05	mg/L	1E-05						
Nickel		ND	mg/L	6E-05						
Selenium		ND	mg/L	0.0003						
Silver		ND	mg/L	4E-05						
Strontium		ND	mg/L	2E-05						
Thallium		ND	mg/L	8E-06						
Uranium		ND	mg/L	8E-06						
Zinc		0.0001	mg/L	0.0001						
<b>Sample ID: B13052064-002BMS</b>	20	Sample Matrix Spike								
						Run: ICPMS206-B_130529A				05/29/13 23:59
Aluminum		0.0725	mg/L	0.030	98	70	130			
Antimony		0.0522	mg/L	0.0010	103	70	130			
Arsenic		0.0538	mg/L	0.0010	106	70	130			
Barium		0.0597	mg/L	0.050	102	70	130			
Beryllium		0.0449	mg/L	0.0010	90	70	130			
Cadmium		0.0506	mg/L	0.0010	101	70	130			
Calcium		56.4	mg/L	1.0	99	70	130			
Chromium		0.0523	mg/L	0.0050	105	70	130			
Copper		0.0517	mg/L	0.0050	100	70	130			
Iron		5.19	mg/L	0.030	104	70	130			
Lead		0.0507	mg/L	0.0010	101	70	130			
Magnesium		52.6	mg/L	1.0	98	70	130			
Manganese		0.0537	mg/L	0.0010	102	70	130			
Nickel		0.0530	mg/L	0.0050	104	70	130			
Selenium		0.0523	mg/L	0.0010	102	70	130			
Silver		0.0206	mg/L	0.0010	103	70	130			
Strontium		0.0637	mg/L	0.010	100	70	130			
Thallium		0.0514	mg/L	0.00050	103	70	130			
Uranium		0.0502	mg/L	0.00030	100	70	130			
Zinc		0.0507	mg/L	0.010	99	70	130			
<b>Sample ID: B13052064-002BMSD</b>	20	Sample Matrix Spike Duplicate								
						Run: ICPMS206-B_130529A				05/30/13 00:05
Aluminum		0.0698	mg/L	0.030	93	70	130	3.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:20

**Report Date:** 06/07/13  
**Work Order:** B13052064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R205446										
<b>Sample ID:</b>	<b>B13052064-002BMSD</b>	20	Sample Matrix Spike Duplicate							
										Run: ICPMS206-B_130529A 05/30/13 00:05
Antimony		0.0495	mg/L	0.0010	98	70	130	5.3	20	
Arsenic		0.0508	mg/L	0.0010	100	70	130	5.7	20	
Barium		0.0562	mg/L	0.050	95	70	130	6.0	20	
Beryllium		0.0424	mg/L	0.0010	85	70	130	5.6	20	
Cadmium		0.0471	mg/L	0.0010	94	70	130	7.2	20	
Calcium		55.0	mg/L	1.0	97	70	130	2.5	20	
Chromium		0.0493	mg/L	0.0050	99	70	130	5.9	20	
Copper		0.0490	mg/L	0.0050	94	70	130	5.2	20	
Iron		5.05	mg/L	0.030	101	70	130	2.6	20	
Lead		0.0477	mg/L	0.0010	95	70	130	6.2	20	
Magnesium		51.8	mg/L	1.0	96	70	130	1.5	20	
Manganese		0.0514	mg/L	0.0010	98	70	130	4.5	20	
Nickel		0.0499	mg/L	0.0050	98	70	130	6.0	20	
Selenium		0.0495	mg/L	0.0010	96	70	130	5.6	20	
Silver		0.0178	mg/L	0.0010	89	70	130	15	20	
Strontium		0.0612	mg/L	0.010	95	70	130	4.0	20	
Thallium		0.0483	mg/L	0.00050	96	70	130	6.3	20	
Uranium		0.0465	mg/L	0.00030	92	70	130	7.7	20	
Zinc		0.0479	mg/L	0.010	94	70	130	5.7	20	
<b>Method: E200.8</b>										
Analytical Run: ICPMS206-B_130601A										
<b>Sample ID:</b>	<b>QCS</b>		Initial Calibration Verification Standard							05/31/13 15:41
Silver		0.0249	mg/L	0.0050	99	90	110			
<b>Method: E200.8</b>										
Batch: R205639										
<b>Sample ID:</b>	<b>LFB</b>		Laboratory Fortified Blank							Run: ICPMS206-B_130601A 05/31/13 10:20
Silver		0.0201	mg/L	0.0050	100	85	115			
<b>Sample ID:</b>	<b>LRB</b>		Method Blank							Run: ICPMS206-B_130601A 05/31/13 11:23
Silver		0.0001	mg/L	4E-05						
<b>Sample ID:</b>	<b>B13052222-008BMS</b>		Sample Matrix Spike							Run: ICPMS206-B_130601A 05/31/13 16:56
Silver		0.0358	mg/L	0.0010	89	70	130			
<b>Sample ID:</b>	<b>B13052222-008BMSD</b>		Sample Matrix Spike Duplicate							Run: ICPMS206-B_130601A 05/31/13 17:03
Silver		0.0352	mg/L	0.0010	88	70	130	1.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 06/07/13

**Project:** 3767 WK:20

**Work Order:** B13052064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV202-B_130528A	
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								05/28/13 13:55	
Mercury		0.000204	mg/L	1.0E-05	102	90	110				
<b>Method:</b> E245.1										Batch: 71576	
<b>Sample ID:</b> MB-71576		Method Blank								Run: HGCV202-B_130528A	05/28/13 14:03
Mercury		ND	mg/L	3E-06							
<b>Sample ID:</b> LCS-71576		Laboratory Control Sample								Run: HGCV202-B_130528A	05/28/13 14:05
Mercury		0.000200	mg/L	1.0E-05	100	85	115				
<b>Sample ID:</b> B13052029-001BMS		Sample Matrix Spike								Run: HGCV202-B_130528A	05/28/13 14:10
Mercury		0.000290	mg/L	1.0E-05	102	70	130				
<b>Sample ID:</b> B13052029-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_130528A	05/28/13 14:13
Mercury		0.000281	mg/L	1.0E-05	98	70	130	3.2	30		
<b>Sample ID:</b> B13052064-004BMS		Sample Matrix Spike								Run: HGCV202-B_130528A	05/28/13 14:27
Mercury		0.000201	mg/L	1.0E-05	101	70	130				
<b>Sample ID:</b> B13052064-004BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_130528A	05/28/13 14:29
Mercury		0.000204	mg/L	1.0E-05	102	70	130	1.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 06/07/13

**Project:** 3767 WK:20

**Work Order:** B13052064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>								Analytical Run: MAN-TECH_130529B		
<b>Sample ID: ICV</b> Initial Calibration Verification Standard 05/29/13 16:05										
Fluoride		1.03	mg/L	0.10	103	90	110			
<b>Method: A4500-F C</b>								Batch: R205454		
<b>Sample ID: MBLK</b> Method Blank Run: MAN-TECH_130529B 05/29/13 15:59										
Fluoride		0.03	mg/L	0.02						
<b>Sample ID: LFB</b> Laboratory Fortified Blank Run: MAN-TECH_130529B 05/29/13 16:02										
Fluoride		0.990	mg/L	0.10	96	90	110			
<b>Sample ID: B13052030-001AMS</b> Sample Matrix Spike Run: MAN-TECH_130529B 05/29/13 16:10										
Fluoride		1.77	mg/L	0.10	99	80	120			
<b>Sample ID: B13052030-001AMSD</b> Sample Matrix Spike Duplicate Run: MAN-TECH_130529B 05/29/13 16:13										
Fluoride		1.77	mg/L	0.10	99	80	120	0.0	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 06/07/13

**Project:** 3767 WK:20

**Work Order:** B13052064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>								Analytical Run: IC202-B_130524A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		102	mg/L	1.0	102	90	110			05/28/13 14:00
<b>Method: E300.0</b>								Batch: R205283		
<b>Sample ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.06						05/24/13 16:50
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		109	mg/L	1.1	109	90	110			05/24/13 17:06
<b>Sample ID: B13052064-003AMS</b>	Sample Matrix Spike									
Sulfate		214	mg/L	1.1	108	90	110			05/28/13 19:40
<b>Sample ID: B13052064-003AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		216	mg/L	1.1	110	90	110	0.8	20	05/28/13 19:55
<b>Method: E300.0</b>								Analytical Run: IC203-B_130529A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		98.6	mg/L	1.0	99	90	110			05/29/13 14:20
<b>Method: E300.0</b>								Batch: R205428		
<b>Sample ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.06						05/29/13 14:35
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		98.0	mg/L	1.1	98	90	110			05/29/13 14:50
<b>Sample ID: B13052222-006AMS</b>	Sample Matrix Spike									
Sulfate		3010	mg/L	11	108	90	110			05/29/13 19:24
<b>Sample ID: B13052222-006AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		2980	mg/L	11	104	90	110	1.1	20	05/29/13 19:39

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 06/07/13

**Project:** 3767 WK:20

**Work Order:** B13052064

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E365.1										Analytical Run: FIA202-B_130528C	
<b>Sample ID:</b> ICV		Initial Calibration Verification Standard								05/28/13 16:34	
Phosphorus, Total as P		0.252	mg/L	0.0050	101	90	110				
<b>Method:</b> E365.1										Batch: 71566	
<b>Sample ID:</b> MB-71566		Method Blank								Run: FIA202-B_130528C	05/28/13 17:09
Phosphorus, Total as P		ND	mg/L	0.004							
<b>Sample ID:</b> LCS-71566		Laboratory Control Sample								Run: FIA202-B_130528C	05/28/13 17:10
Phosphorus, Total as P		0.196	mg/L	0.0050	98	90	110				
<b>Sample ID:</b> B13052015-001BMS		Sample Matrix Spike								Run: FIA202-B_130528C	05/28/13 17:15
Phosphorus, Total as P		2.76	mg/L	0.050	100	90	110				
<b>Sample ID:</b> B13052015-001BMSD		Sample Matrix Spike Duplicate								Run: FIA202-B_130528C	05/28/13 17:16
Phosphorus, Total as P		2.72	mg/L	0.050	98	90	110	1.5	10		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13052064

Login completed by: Jill M. Lippard

Date Received: 5/24/2013

Reviewed by: BL2000\jklrier

Received by: jll

Reviewed Date: 5/29/2013

Carrier UPS  
name:

- |   |   |  |  |
|---|---|--|--|
| Shipping container/cooler in good condition?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on shipping container(s)/cooler(s)?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on all sample bottles?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/>            |
| Chain of custody present?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody signed when relinquished and received?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody agrees with sample labels?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Samples in proper container/bottle?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sample containers intact?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters<br>such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Temp Blank received in all shipping container(s)/cooler(s)?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |
| Container/Temp Blank temperature:   | 10.6°C Melted Ice                       |  |  |
| Water - VOA vials have zero headspace?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Applicable <input type="checkbox"/>                    |

Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: McClelland Lab		Project Name, PWS, Permit, Etc. 3767 WK:20		Sample Origin State: NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Phone/Fax: 775-356-1300		Email: MLI@METTEST.COM	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko		Phone: 604-628-1162		Purchase Order:	
Special Report/Formats - ELI must be notified prior to sample submittal for the following:  <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POT/WWTP <input type="checkbox"/> State: <input type="checkbox"/> Other: <input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) Format: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		Number of Containers Sample Type: A W S V B D Air Water Soils/Solids Vegetation Bioassay Other		SEE ATTACHED		Normal Turnaround (TAT)	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date	Collection Time	MATRIX		Comments:	
1 USZ 1 high Fe/USZ 2 low Fe Composite	05/23/13	09:00	Water	X	X	X	Shipped by: Robert UPS MDA Cooler ID(s):
2 Ynl 0							Receipt Temp 10.6 °C On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3 Ynl 1/Ynl 2 Composite							Custody Seal Intact <input checked="" type="checkbox"/> N Signature Match <input checked="" type="checkbox"/> N
4 Ynl B 2012 Decline							Please Copy results to: B13652041-01
5							MLI@METTEST.COM
6							hold remaining preserved
7							samples (frozen) until further notice.
8							
9							
10							

Relinquished by (print): Mark Poore Date/Time: 5-23-13/0900 Signature: Mark Poore

Relinquished by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_

Received by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_

Received by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_

Received by Laboratory: 5/24/13 Date/Time: 09:15 Signature: [Signature]

Sample Disposal: \_\_\_\_\_ Return to Client: \_\_\_\_\_ Lab Disposal: \_\_\_\_\_

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly noted on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*

# ANALYTICAL SUMMARY REPORT

B13061999

July 08, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B13061999      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:24

Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Alaska Exploration Inc on 6/21/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13061999-001	USZ 1 High Fe/USZ 2 Low Fe Composite	06/20/13 9:00	06/21/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13061999-002	Ynl 0	06/20/13 9:00	06/21/13	Aqueous	Same As Above
B13061999-003	Ynl 1/Ynl 2 Composite	06/20/13 9:00	06/21/13	Aqueous	Same As Above
B13061999-004	Ynl B 2012 Decline	06/20/13 9:00	06/21/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2013.07.08 10:28:57 -06:00





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:24  
**Lab ID:** B13061999-001  
**Client Sample ID** USZ 1 High Fe/USZ 2 Low Fe Composite

**Report Date:** 07/08/13  
**Collection Date:** 06/20/13 09:00  
**Date Received:** 06/21/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	498	mg/L	D	10		E300.0	06/27/13 23:53 / jrs
Fluoride	ND	mg/L		0.2		A4500-F C	06/27/13 17:17 / hmb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	07/01/13 13:01 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	06/25/13 00:29 / mas
Antimony	ND	mg/L		0.0005		E200.8	06/25/13 00:29 / mas
Arsenic	ND	mg/L		0.001		E200.8	06/25/13 00:29 / mas
Barium	0.005	mg/L		0.003		E200.7	06/24/13 23:45 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	06/24/13 23:45 / rlh
Cadmium	ND	mg/L		0.00003		E200.8	06/25/13 00:29 / mas
Calcium	112	mg/L		1		E200.7	06/24/13 23:45 / rlh
Chromium	ND	mg/L		0.01		E200.7	06/24/13 23:45 / rlh
Copper	ND	mg/L		0.002		E200.8	06/25/13 00:29 / mas
Iron	ND	mg/L		0.02		E200.7	06/24/13 23:45 / rlh
Lead	ND	mg/L		0.0003		E200.8	06/25/13 00:29 / mas
Magnesium	54	mg/L		1		E200.7	06/24/13 23:45 / rlh
Manganese	0.098	mg/L		0.005		E200.7	06/24/13 23:45 / rlh
Mercury	ND	mg/L		0.00001		E245.1	06/24/13 15:05 / ser
Nickel	0.004	mg/L		0.002		E200.8	06/26/13 00:46 / mas
Selenium	ND	mg/L		0.001		E200.8	06/25/13 00:29 / mas
Silicon	0.22	mg/L		0.05		E200.7	06/24/13 23:45 / rlh
Silver	ND	mg/L		0.0002		E200.8	06/25/13 00:29 / mas
Strontium	0.23	mg/L		0.02		E200.7	06/24/13 23:45 / rlh
Thallium	0.0011	mg/L		0.0002		E200.8	06/25/13 00:29 / mas
Uranium	ND	mg/L		0.0002		E200.8	06/25/13 00:29 / mas
Zinc	ND	mg/L		0.008		E200.7	06/24/13 23:45 / rlh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 D - RL increased due to sample matrix.  
 MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.  
 L - Lowest available reporting limit for the analytical method us



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:24  
**Lab ID:** B13061999-002  
**Client Sample ID** Ynl 0

**Report Date:** 07/08/13  
**Collection Date:** 06/20/13 09:00  
**Date Received:** 06/21/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	12	mg/L		1		E300.0	06/26/13 19:43 / jrs
Fluoride	ND	mg/L		0.2		A4500-F C	06/27/13 17:20 / hmb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	07/01/13 13:02 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	0.021	mg/L		0.009		E200.8	06/25/13 00:32 / mas
Antimony	0.0005	mg/L		0.0005		E200.8	06/25/13 00:32 / mas
Arsenic	ND	mg/L		0.001		E200.8	06/25/13 00:32 / mas
Barium	0.012	mg/L		0.003		E200.7	06/24/13 23:49 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	06/24/13 23:49 / rlh
Cadmium	ND	mg/L		0.00003		E200.8	06/25/13 00:32 / mas
Calcium	7	mg/L		1		E200.7	06/24/13 23:49 / rlh
Chromium	ND	mg/L		0.01		E200.7	06/24/13 23:49 / rlh
Copper	ND	mg/L		0.002		E200.8	06/25/13 00:32 / mas
Iron	ND	mg/L		0.02		E200.7	06/24/13 23:49 / rlh
Lead	ND	mg/L		0.0003		E200.8	06/25/13 00:32 / mas
Magnesium	3	mg/L		1		E200.7	06/24/13 23:49 / rlh
Manganese	ND	mg/L		0.005		E200.7	06/24/13 23:49 / rlh
Mercury	ND	mg/L		0.00001		E245.1	06/24/13 15:07 / ser
Nickel	ND	mg/L		0.002		E200.8	06/25/13 00:32 / mas
Selenium	0.001	mg/L		0.001		E200.8	06/25/13 00:32 / mas
Silicon	0.41	mg/L		0.05		E200.7	06/24/13 23:49 / rlh
Silver	ND	mg/L		0.0002		E200.8	06/25/13 00:32 / mas
Strontium	ND	mg/L		0.02		E200.7	06/24/13 23:49 / rlh
Thallium	ND	mg/L		0.0002		E200.8	06/25/13 00:32 / mas
Uranium	0.0004	mg/L		0.0002		E200.8	06/25/13 00:32 / mas
Zinc	ND	mg/L		0.008		E200.7	06/24/13 23:49 / rlh

**Report Definitions:**

RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:24  
**Lab ID:** B13061999-003  
**Client Sample ID** Ynl 1/Ynl 2 Composite

**Report Date:** 07/08/13  
**Collection Date:** 06/20/13 09:00  
**Date Received:** 06/21/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	261	mg/L		1		E300.0	06/26/13 20:28 / jrs
Fluoride	0.2	mg/L		0.2		A4500-F C	06/27/13 17:23 / hmb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	07/01/13 13:03 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	06/25/13 00:35 / mas
Antimony	ND	mg/L		0.0005		E200.8	06/25/13 00:35 / mas
Arsenic	ND	mg/L		0.001		E200.8	06/25/13 00:35 / mas
Barium	0.007	mg/L		0.003		E200.8	06/25/13 00:35 / mas
Beryllium	ND	mg/L		0.0008		E200.7	06/25/13 19:51 / rh
Cadmium	ND	mg/L		0.00003		E200.8	06/25/13 00:35 / mas
Calcium	61	mg/L		1		E200.7	06/25/13 19:51 / rh
Chromium	ND	mg/L		0.01		E200.8	06/25/13 00:35 / mas
Copper	ND	mg/L		0.002		E200.8	06/25/13 00:35 / mas
Iron	ND	mg/L		0.02		E200.7	06/25/13 19:51 / rh
Lead	ND	mg/L		0.0003		E200.8	06/25/13 00:35 / mas
Magnesium	28	mg/L		1		E200.7	06/25/13 19:51 / rh
Manganese	0.025	mg/L		0.005		E200.8	06/25/13 00:35 / mas
Mercury	ND	mg/L		0.00001		E245.1	06/24/13 15:10 / ser
Nickel	ND	mg/L		0.002		E200.8	06/25/13 00:35 / mas
Selenium	ND	mg/L		0.001		E200.8	06/25/13 00:35 / mas
Silicon	0.74	mg/L		0.05		E200.7	06/25/13 19:51 / rh
Silver	ND	mg/L		0.0002		E200.8	06/25/13 00:35 / mas
Strontium	0.27	mg/L		0.02		E200.8	06/25/13 00:35 / mas
Thallium	0.0007	mg/L		0.0002		E200.8	06/25/13 00:35 / mas
Uranium	0.0007	mg/L		0.0002		E200.8	06/25/13 00:35 / mas
Zinc	ND	mg/L		0.008		E200.7	06/25/13 19:51 / rh

**Report Definitions:**

RL - Analyte reporting limit.

QCL - Quality control limit.

L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:24  
**Lab ID:** B13061999-004  
**Client Sample ID** Ynl B 2012 Decline

**Report Date:** 07/08/13  
**Collection Date:** 06/20/13 09:00  
**Date Received:** 06/21/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	262	mg/L		1		E300.0	06/26/13 21:14 / jrs
Fluoride	0.2	mg/L		0.2		A4500-F C	06/27/13 17:26 / hmb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	07/01/13 13:05 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	0.012	mg/L		0.009		E200.8	06/25/13 00:49 / mas
Antimony	0.0009	mg/L		0.0005		E200.8	06/25/13 00:49 / mas
Arsenic	ND	mg/L		0.001		E200.8	06/25/13 00:49 / mas
Barium	0.008	mg/L		0.003		E200.8	06/25/13 00:49 / mas
Beryllium	ND	mg/L		0.0008		E200.8	06/25/13 00:49 / mas
Cadmium	0.00011	mg/L		0.00003		E200.8	06/27/13 00:24 / mas
Calcium	64	mg/L		1		E200.7	06/25/13 20:02 / rlh
Chromium	ND	mg/L		0.01		E200.8	06/25/13 00:49 / mas
Copper	ND	mg/L		0.002		E200.8	06/25/13 00:49 / mas
Iron	ND	mg/L		0.02		E200.7	06/25/13 20:02 / rlh
Lead	ND	mg/L		0.0003		E200.8	06/25/13 00:49 / mas
Magnesium	29	mg/L		1		E200.7	06/25/13 20:02 / rlh
Manganese	0.011	mg/L		0.005		E200.8	06/25/13 00:49 / mas
Mercury	ND	mg/L		0.00001		E245.1	06/24/13 15:13 / ser
Nickel	ND	mg/L		0.002		E200.8	06/25/13 00:49 / mas
Selenium	0.001	mg/L		0.001		E200.8	06/25/13 00:49 / mas
Silicon	0.78	mg/L		0.05		E200.7	06/25/13 20:02 / rlh
Silver	ND	mg/L		0.0002		E200.8	06/27/13 00:24 / mas
Strontium	0.14	mg/L		0.02		E200.8	06/25/13 00:49 / mas
Thallium	ND	mg/L		0.0002		E200.8	06/25/13 00:49 / mas
Uranium	0.0015	mg/L		0.0002		E200.8	06/25/13 00:49 / mas
Zinc	0.011	mg/L		0.008		E200.8	06/27/13 00:24 / mas

**Report Definitions:**

RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/08/13

**Project:** 3767 WK:24

**Work Order:** B13061999

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>								Analytical Run: MAN-TECH_130627B		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Fluoride		1.06	mg/L	0.10	106	90	110			06/27/13 15:47
<b>Method: A4500-F C</b>								Batch: R207284		
<b>Sample ID: MBLK</b>	Method Blank									
Fluoride		ND	mg/L	0.02						Run: MAN-TECH_130627B 06/27/13 15:42
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									
Fluoride		0.950	mg/L	0.10	95	90	110			Run: MAN-TECH_130627B 06/27/13 15:44
<b>Sample ID: B13061616-001AMS</b>	Sample Matrix Spike									
Fluoride		2.23	mg/L	0.10	107	80	120			Run: MAN-TECH_130627B 06/27/13 17:06
<b>Sample ID: B13061616-001AMSD</b>	Sample Matrix Spike Duplicate									
Fluoride		2.34	mg/L	0.10	118	80	120	4.8	10	Run: MAN-TECH_130627B 06/27/13 17:09

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Alaska Exploration Inc

Report Date: 07/08/13

Project: 3767 WK:24

Work Order: B13061999

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>										Analytical Run: ICP203-B_130624A	
<b>Sample ID: QCS</b>	10	Initial Calibration Verification Standard							06/24/13 12:06		
Barium		0.784	mg/L	0.10	98	95	105				
Beryllium		0.404	mg/L	0.010	101	95	105				
Calcium		40.5	mg/L	1.0	101	95	105				
Chromium		0.763	mg/L	0.050	95	95	105				
Iron		3.97	mg/L	0.030	99	95	105				
Magnesium		40.0	mg/L	1.0	100	95	105				
Manganese		3.93	mg/L	0.010	98	95	105				
Strontium		0.831	mg/L	0.10	104	95	105				
Zinc		0.772	mg/L	0.010	96	95	105				
Silicon		7.78	mg/L	0.10	97	95	105				
<b>Method: E200.7</b>										Batch: R206970	
<b>Sample ID: MB-6500DIS130624A</b>	10	Method Blank							Run: ICP203-B_130624A 06/24/13 12:33		
Barium		ND	mg/L	0.0003							
Beryllium		ND	mg/L	0.0001							
Calcium		0.01	mg/L	0.007							
Chromium		ND	mg/L	0.003							
Iron		ND	mg/L	0.003							
Magnesium		ND	mg/L	0.002							
Manganese		ND	mg/L	0.0003							
Strontium		ND	mg/L	5E-05							
Zinc		ND	mg/L	0.001							
Silicon		ND	mg/L	0.01							
<b>Sample ID: LFB-6500DIS130624A</b>	10	Laboratory Fortified Blank							Run: ICP203-B_130624A 06/24/13 12:37		
Barium		0.976	mg/L	0.10	98	85	115				
Beryllium		0.512	mg/L	0.010	102	85	115				
Calcium		51.1	mg/L	1.0	102	85	115				
Chromium		0.988	mg/L	0.050	99	85	115				
Iron		5.13	mg/L	0.030	103	85	115				
Magnesium		51.8	mg/L	1.0	104	85	115				
Manganese		5.00	mg/L	0.010	100	85	115				
Strontium		1.05	mg/L	0.10	105	85	115				
Zinc		0.993	mg/L	0.010	99	85	115				
Silicon		10.6	mg/L	0.10	106	85	115				
<b>Sample ID: B13061946-008BMS2</b>	10	Sample Matrix Spike							Run: ICP203-B_130624A 06/24/13 22:59		
Barium		0.910	mg/L	0.050	91	70	130				
Beryllium		0.465	mg/L	0.0010	93	70	130				
Calcium		47.7	mg/L	1.0	95	70	130				
Chromium		0.921	mg/L	0.0050	92	70	130				
Iron		4.66	mg/L	0.030	93	70	130				
Magnesium		48.0	mg/L	1.0	96	70	130				
Manganese		4.60	mg/L	0.0010	92	70	130				
Silicon		9.10	mg/L	0.10	91	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





## QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Alaska Exploration Inc

Report Date: 07/08/13

Project: 3767 WK:24

Work Order: B13061999

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										
Batch: R206970										
<b>Sample ID: B13061946-008BMS2</b>	10	Sample Matrix Spike					Run: ICP203-B_130624A			06/24/13 22:59
Strontium		0.942	mg/L	0.010	94	70	130			
Zinc		0.904	mg/L	0.010	90	70	130			
<b>Sample ID: B13061946-008BMSD2</b>	10	Sample Matrix Spike Duplicate					Run: ICP203-B_130624A			06/24/13 23:03
Barium		0.960	mg/L	0.050	96	70	130	5.3	20	
Beryllium		0.484	mg/L	0.0010	97	70	130	4.1	20	
Calcium		49.4	mg/L	1.0	99	70	130	3.6	20	
Chromium		0.940	mg/L	0.0050	94	70	130	2.0	20	
Iron		4.82	mg/L	0.030	96	70	130	3.3	20	
Magnesium		49.2	mg/L	1.0	98	70	130	2.4	20	
Manganese		4.77	mg/L	0.0010	95	70	130	3.6	20	
Silicon		9.18	mg/L	0.10	92	70	130	0.9	20	
Strontium		0.991	mg/L	0.010	99	70	130	5.0	20	
Zinc		0.910	mg/L	0.010	91	70	130	0.7	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Alaska Exploration Inc

Report Date: 07/08/13

Project: 3767 WK:24

Work Order: B13061999

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>		Analytical Run: ICP203-B_130625A									
<b>Sample ID: QCS</b>	6	Initial Calibration Verification Standard								06/25/13 13:15	
Beryllium		0.401	mg/L	0.010	100	95	105				
Calcium		39.9	mg/L	1.0	100	95	105				
Iron		3.97	mg/L	0.030	99	95	105				
Magnesium		39.9	mg/L	1.0	100	95	105				
Zinc		0.770	mg/L	0.010	96	95	105				
Silicon		7.84	mg/L	0.10	98	95	105				
<b>Method: E200.7</b>		Batch: R207065									
<b>Sample ID: MB-6500DIS130625A</b>	6	Method Blank								Run: ICP203-B_130625A	06/25/13 13:42
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.007							
Iron		ND	mg/L	0.003							
Magnesium		ND	mg/L	0.002							
Zinc		0.003	mg/L	0.001							
Silicon		ND	mg/L	0.01							
<b>Sample ID: LFB-6500DIS130625A</b>	6	Laboratory Fortified Blank								Run: ICP203-B_130625A	06/25/13 13:46
Beryllium		0.483	mg/L	0.010	97	85	115				
Calcium		48.0	mg/L	1.0	96	85	115				
Iron		4.78	mg/L	0.030	96	85	115				
Magnesium		48.1	mg/L	1.0	96	85	115				
Zinc		0.940	mg/L	0.010	94	85	115				
Silicon		9.34	mg/L	0.10	93	85	115				
<b>Sample ID: B13061958-001BMS2</b>	6	Sample Matrix Spike								Run: ICP203-B_130625A	06/25/13 20:18
Beryllium		2.53	mg/L	0.0010	101	70	130				
Calcium		255	mg/L	1.0	100	70	130				
Iron		25.0	mg/L	0.030	100	70	130				
Magnesium		248	mg/L	1.0	99	70	130				
Silicon		58.4	mg/L	0.10	93	70	130				
Zinc		4.76	mg/L	0.010	95	70	130				
<b>Sample ID: B13061958-001BMSD2</b>	6	Sample Matrix Spike Duplicate								Run: ICP203-B_130625A	06/25/13 20:21
Beryllium		2.52	mg/L	0.0010	101	70	130	0.1	20		
Calcium		254	mg/L	1.0	100	70	130	0.3	20		
Iron		24.8	mg/L	0.030	99	70	130	1.0	20		
Magnesium		245	mg/L	1.0	98	70	130	1.0	20		
Silicon		61.7	mg/L	0.10	99	70	130	5.6	20		
Zinc		4.66	mg/L	0.010	93	70	130	2.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/08/13

**Project:** 3767 WK:24

**Work Order:** B13061999

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8		Analytical Run: ICPMS202-B_130624A								
<b>Sample ID:</b> QCS	16 Initial Calibration Verification Standard									06/24/13 17:15
Aluminum		0.232	mg/L	0.10	93	90	110			
Antimony		0.0519	mg/L	0.050	104	90	110			
Arsenic		0.0516	mg/L	0.0050	103	90	110			
Barium		0.0518	mg/L	0.10	104	90	110			
Beryllium		0.0264	mg/L	0.0010	106	90	110			
Cadmium		0.0274	mg/L	0.0010	110	90	110			
Chromium		0.0546	mg/L	0.010	109	90	110			
Copper		0.0529	mg/L	0.010	106	90	110			
Lead		0.0481	mg/L	0.010	96	90	110			
Manganese		0.261	mg/L	0.010	105	90	110			
Nickel		0.0525	mg/L	0.010	105	90	110			
Selenium		0.0512	mg/L	0.0050	102	90	110			
Silver		0.0275	mg/L	0.0050	110	90	110			
Strontium		0.0519	mg/L	0.10	104	90	110			
Thallium		0.0495	mg/L	0.10	99	90	110			
Uranium		0.0211	mg/L	0.0010	105	90	110			

<b>Method:</b> E200.8		Batch: R207020									
<b>Sample ID:</b> LFB	16 Laboratory Fortified Blank									Run: ICPMS202-B_130624A	06/24/13 14:34
Aluminum		0.0466	mg/L	0.10	93	85	115				
Antimony		0.0525	mg/L	0.050	105	85	115				
Arsenic		0.0502	mg/L	0.0050	100	85	115				
Barium		0.0523	mg/L	0.10	105	85	115				
Beryllium		0.0549	mg/L	0.0010	110	85	115				
Cadmium		0.0546	mg/L	0.0010	109	85	115				
Chromium		0.0541	mg/L	0.010	108	85	115				
Copper		0.0560	mg/L	0.010	112	85	115				
Lead		0.0508	mg/L	0.010	102	85	115				
Manganese		0.0534	mg/L	0.010	107	85	115				
Nickel		0.0528	mg/L	0.010	106	85	115				
Selenium		0.0525	mg/L	0.0050	105	85	115				
Silver		0.0226	mg/L	0.0050	113	85	115				
Strontium		0.0497	mg/L	0.10	99	85	115				
Thallium		0.0508	mg/L	0.10	102	85	115				
Uranium		0.0512	mg/L	0.0010	102	85	115				

<b>Sample ID:</b> LRB	16 Method Blank									Run: ICPMS202-B_130624A	06/24/13 15:19
Aluminum		0.0002	mg/L	7E-05							
Antimony		ND	mg/L	2E-05							
Arsenic		ND	mg/L	0.0002							
Barium		ND	mg/L	4E-05							
Beryllium		ND	mg/L	2E-05							
Cadmium		1E-05	mg/L	8E-06							
Chromium		4E-05	mg/L	3E-05							

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Alaska Exploration Inc

Report Date: 07/08/13

Project: 3767 WK:24

Work Order: B13061999

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R207020										
<b>Sample ID: LRB</b>	16	Method Blank								
Run: ICPMS202-B_130624A 06/24/13 15:19										
Copper		0.0003	mg/L	3E-05						
Lead		ND	mg/L	2E-05						
Manganese		ND	mg/L	2E-05						
Nickel		ND	mg/L	3E-05						
Selenium		ND	mg/L	0.0006						
Silver		ND	mg/L	1E-05						
Strontium		1E-05	mg/L	1E-05						
Thallium		ND	mg/L	8E-06						
Uranium		ND	mg/L	6E-06						
<b>Sample ID: B13061940-002AMS</b>										
Run: ICPMS202-B_130624A 06/25/13 02:09										
Aluminum	16	0.0619	mg/L	0.030	74	70	130			
Antimony		0.0440	mg/L	0.0010	88	70	130			
Arsenic		0.0440	mg/L	0.0010	88	70	130			
Barium		0.0542	mg/L	0.050	87	70	130			
Beryllium		0.0501	mg/L	0.0010	100	70	130			
Cadmium		0.0454	mg/L	0.0010	91	70	130			
Chromium		0.0493	mg/L	0.0050	98	70	130			
Copper		0.0571	mg/L	0.0050	94	70	130			
Lead		0.0441	mg/L	0.0010	88	70	130			
Manganese		0.820	mg/L	0.0010		70	130			A
Nickel		0.0682	mg/L	0.0050	97	70	130			
Selenium		0.0468	mg/L	0.0010	92	70	130			
Silver		0.0114	mg/L	0.0010	57	70	130			S
Strontium		0.128	mg/L	0.010	88	70	130			
Thallium		0.0449	mg/L	0.00050	90	70	130			
Uranium		0.0461	mg/L	0.00030	92	70	130			
<b>Sample ID: B13061940-002AMSD</b>										
Run: ICPMS202-B_130624A 06/25/13 02:12										
Aluminum	16	0.0586	mg/L	0.030	67	70	130	5.4	20	S
Antimony		0.0467	mg/L	0.0010	93	70	130	6.0	20	
Arsenic		0.0450	mg/L	0.0010	90	70	130	2.2	20	
Barium		0.0561	mg/L	0.050	91	70	130	3.6	20	
Beryllium		0.0454	mg/L	0.0010	91	70	130	10.0	20	
Cadmium		0.0473	mg/L	0.0010	95	70	130	4.3	20	
Chromium		0.0469	mg/L	0.0050	93	70	130	5.0	20	
Copper		0.0565	mg/L	0.0050	93	70	130	1.1	20	
Lead		0.0439	mg/L	0.0010	88	70	130	0.4	20	
Manganese		0.804	mg/L	0.0010		70	130	2.0	20	A
Nickel		0.0661	mg/L	0.0050	93	70	130	3.2	20	
Selenium		0.0474	mg/L	0.0010	93	70	130	1.2	20	
Silver		0.0149	mg/L	0.0010	74	70	130	26	20	R
Strontium		0.123	mg/L	0.010	78	70	130	4.3	20	
Thallium		0.0434	mg/L	0.00050	87	70	130	3.3	20	
Uranium		0.0452	mg/L	0.00030	90	70	130	2.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

R - RPD exceeds advisory limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Alaska Exploration Inc

Report Date: 07/08/13

Project: 3767 WK:24

Work Order: B13061999

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R207020										
<b>Sample ID: B13061940-002AMSD</b> 16 Sample Matrix Spike Duplicate										
Run: ICPMS202-B_130624A 06/25/13 02:12										
<b>Sample ID: B13061999-003BMS</b> 16 Sample Matrix Spike										
Run: ICPMS202-B_130624A 06/26/13 05:49										
Aluminum		0.0658	mg/L	0.030	122	70	130			
Antimony		0.0444	mg/L	0.0010	88	70	130			
Arsenic		0.0502	mg/L	0.0010	100	70	130			
Barium		0.0534	mg/L	0.050	93	70	130			
Beryllium		0.0493	mg/L	0.0010	99	70	130			
Cadmium		0.0479	mg/L	0.0010	96	70	130			
Chromium		0.0497	mg/L	0.0050	99	70	130			
Copper		0.0525	mg/L	0.0050	105	70	130			
Lead		0.0463	mg/L	0.0010	93	70	130			
Manganese		0.0752	mg/L	0.0010	99	70	130			
Nickel		0.0502	mg/L	0.0050	99	70	130			
Selenium		0.0511	mg/L	0.0010	100	70	130			
Silver		0.0128	mg/L	0.0010	64	70	130			S
Strontium		0.300	mg/L	0.010	233	70	130			S
Thallium		0.0474	mg/L	0.00050	94	70	130			
Uranium		0.0491	mg/L	0.00030	97	70	130			
<b>Sample ID: B13061999-003BMSD</b> 16 Sample Matrix Spike Duplicate										
Run: ICPMS202-B_130624A 06/26/13 05:52										
Aluminum		0.0479	mg/L	0.030	81	70	130	31	20	R
Antimony		0.0480	mg/L	0.0010	95	70	130	7.9	20	
Arsenic		0.0480	mg/L	0.0010	96	70	130	4.7	20	
Barium		0.0596	mg/L	0.050	106	70	130	11	20	
Beryllium		0.0500	mg/L	0.0010	100	70	130	1.4	20	
Cadmium		0.0513	mg/L	0.0010	103	70	130	6.8	20	
Chromium		0.0518	mg/L	0.0050	104	70	130	4.1	20	
Copper		0.0540	mg/L	0.0050	107	70	130	2.8	20	
Lead		0.0468	mg/L	0.0010	94	70	130	1.0	20	
Manganese		0.0720	mg/L	0.0010	94	70	130	4.3	20	
Nickel		0.0517	mg/L	0.0050	101	70	130	3.0	20	
Selenium		0.0524	mg/L	0.0010	104	70	130	2.7	20	
Silver		0.0171	mg/L	0.0010	86	70	130	29	20	R
Strontium		0.294	mg/L	0.010		70	130	2.0	20	A
Thallium		0.0484	mg/L	0.00050	95	70	130	2.0	20	
Uranium		0.0492	mg/L	0.00030	97	70	130	0.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

R - RPD exceeds advisory limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Alaska Exploration Inc

Report Date: 07/08/13

Project: 3767 WK:24

Work Order: B13061999

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS202-B_130626A	
<b>Sample ID: QCS</b>	3	Initial Calibration Verification Standard							06/26/13 13:07		
Cadmium		0.0235	mg/L	0.0010	94	90	110				
Silver		0.0239	mg/L	0.0050	95	90	110				
Zinc		0.0479	mg/L	0.010	96	90	110				
<b>Method: E200.8</b>										Batch: R207201	
<b>Sample ID: LFB</b>	3	Laboratory Fortified Blank							Run: ICPMS202-B_130626A 06/26/13 15:00		
Cadmium		0.0473	mg/L	0.0010	95	85	115				
Silver		0.0191	mg/L	0.0050	96	85	115				
Zinc		0.0485	mg/L	0.010	97	85	115				
<b>Sample ID: LRB</b>	3	Method Blank							Run: ICPMS202-B_130626A 06/26/13 15:23		
Cadmium		ND	mg/L	8E-06							
Silver		ND	mg/L	1E-05							
Zinc		ND	mg/L	0.0001							
<b>Sample ID: B13061946-016BMS</b>	3	Sample Matrix Spike							Run: ICPMS202-B_130626A 06/27/13 03:03		
Cadmium		0.0929	mg/L	0.0010	93	70	130				
Silver		0.0395	mg/L	0.0010	99	70	130				
Zinc		0.101	mg/L	0.010	87	70	130				
<b>Sample ID: B13061946-016BMSD</b>	3	Sample Matrix Spike Duplicate							Run: ICPMS202-B_130626A 06/27/13 03:05		
Cadmium		0.0907	mg/L	0.0010	91	70	130	2.3	20		
Silver		0.0402	mg/L	0.0010	101	70	130	1.8	20		
Zinc		0.102	mg/L	0.010	88	70	130	1.1	20		
<b>Sample ID: MB-72352</b>	3	Method Blank							Run: ICPMS202-B_130626A 06/28/13 01:56		
Cadmium		7E-05	mg/L	8E-06							
Silver		8E-05	mg/L	1E-05							
Zinc		0.003	mg/L	0.0001							

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:24

**Report Date:** 07/08/13  
**Work Order:** B13061999

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1								Analytical Run: HGCV202-B_130624A			
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard							06/24/13 12:39		
Mercury		0.000200	mg/L	1.0E-05	100	90	110				
<b>Method:</b> E245.1								Batch: 72286			
<b>Sample ID:</b> MB-72286		Method Blank							Run: HGCV202-B_130624A		06/24/13 14:36
Mercury		ND	mg/L	3E-06							
<b>Sample ID:</b> LCS-72286		Laboratory Control Sample							Run: HGCV202-B_130624A		06/24/13 14:39
Mercury		0.000192	mg/L	1.0E-05	96	85	115				
<b>Sample ID:</b> B13061870-002AMS		Sample Matrix Spike							Run: HGCV202-B_130624A		06/24/13 14:55
Mercury		0.000210	mg/L	1.0E-05	105	70	130				
<b>Sample ID:</b> B13061870-002AMSD		Sample Matrix Spike Duplicate							Run: HGCV202-B_130624A		06/24/13 14:58
Mercury		0.000208	mg/L	1.0E-05	104	70	130	1.0	30		
<b>Sample ID:</b> B13061999-004BMS		Sample Matrix Spike							Run: HGCV202-B_130624A		06/24/13 15:15
Mercury		0.000195	mg/L	1.0E-05	98	70	130				
<b>Sample ID:</b> B13061999-004BMSD		Sample Matrix Spike Duplicate							Run: HGCV202-B_130624A		06/24/13 15:18
Mercury		0.000204	mg/L	1.0E-05	102	70	130	4.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/08/13

**Project:** 3767 WK:24

**Work Order:** B13061999

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b> Analytical Run: IC203-B_130624A										
<b>Sample ID: ICV</b> Initial Calibration Verification Standard 06/25/13 10:07										
Sulfate		102	mg/L	1.0	102	90	110			
<b>Method: E300.0</b> Batch: R207035										
<b>Sample ID: ICB</b> Method Blank Run: IC203-B_130624A 06/24/13 10:11										
Sulfate		ND	mg/L	0.09						
<b>Sample ID: LFB</b> Laboratory Fortified Blank Run: IC203-B_130624A 06/24/13 10:26										
Sulfate		102	mg/L	1.1	102	90	110			
<b>Sample ID: B13061999-003AMS</b> Sample Matrix Spike Run: IC203-B_130624A 06/26/13 20:44										
Sulfate		374	mg/L	1.1	113	90	110			S
<b>Sample ID: B13061999-003AMSD</b> Sample Matrix Spike Duplicate Run: IC203-B_130624A 06/26/13 20:59										
Sulfate		375	mg/L	1.1	114	90	110	0.3	20	S
<b>Method: E300.0</b> Analytical Run: IC203-B_130627A										
<b>Sample ID: ICV</b> Initial Calibration Verification Standard 06/27/13 17:07										
Sulfate		97.7	mg/L	1.0	98	90	110			
<b>Method: E300.0</b> Batch: R207307										
<b>Sample ID: ICB</b> Method Blank Run: IC203-B_130627A 06/27/13 17:22										
Sulfate		ND	mg/L	0.09						
<b>Sample ID: LFB</b> Laboratory Fortified Blank Run: IC203-B_130627A 06/27/13 17:37										
Sulfate		97.4	mg/L	1.1	97	90	110			
<b>Sample ID: B13061828-010AMS</b> Sample Matrix Spike Run: IC203-B_130627A 06/27/13 18:21										
Sulfate		201	mg/L	1.1	106	90	110			
<b>Sample ID: B13061828-010AMSD</b> Sample Matrix Spike Duplicate Run: IC203-B_130627A 06/27/13 18:36										
Sulfate		202	mg/L	1.1	107	90	110	0.5	20	
<b>Sample ID: B13062164-003AMS</b> Sample Matrix Spike Run: IC203-B_130627A 06/28/13 01:24										
Sulfate		1650	mg/L	2.1		90	110			A
<b>Sample ID: B13062164-003AMSD</b> Sample Matrix Spike Duplicate Run: IC203-B_130627A 06/28/13 01:39										
Sulfate		1650	mg/L	2.1		90	110	0.3	20	A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/08/13

**Project:** 3767 WK:24

**Work Order:** B13061999

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>										
Analytical Run: FIA202-B_130701B										
<b>Sample ID: ICV</b>		Initial Calibration Verification Standard								07/01/13 11:32
Phosphorus, Total as P		0.265	mg/L	0.0050	106	90	110			
<b>Method: E365.1</b>										
Batch: 72324										
<b>Sample ID: MB-72324</b>		Method Blank								07/01/13 12:58
Phosphorus, Total as P		ND	mg/L	0.004						
<b>Sample ID: LCS-72324</b>		Laboratory Control Sample								07/01/13 12:59
Phosphorus, Total as P		0.217	mg/L	0.0050	108	90	110			
<b>Sample ID: B13062111-004BMS</b>		Sample Matrix Spike								07/01/13 13:10
Phosphorus, Total as P		0.290	mg/L	0.0050	106	90	110			
<b>Sample ID: B13062111-004BMSD</b>		Sample Matrix Spike Duplicate								07/01/13 13:11
Phosphorus, Total as P		0.291	mg/L	0.0050	106	90	110	0.3	10	
<b>Sample ID: B13062111-009BMS</b>		Sample Matrix Spike								07/01/13 13:23
Phosphorus, Total as P		0.211	mg/L	0.0050	105	90	110			
<b>Sample ID: B13062111-009BMSD</b>		Sample Matrix Spike Duplicate								07/01/13 13:24
Phosphorus, Total as P		0.216	mg/L	0.0050	108	90	110	2.3	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13061999

Login completed by: Tony Valero

Date Received: 6/21/2013

Reviewed by: BL2000\gmccartney

Received by: tv

Reviewed Date: 6/24/2013

Carrier UPS  
name:

- |   |   |  |  |
|---|---|--|--|
| Shipping container/cooler in good condition?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on shipping container(s)/cooler(s)?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on all sample bottles?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/>            |
| Chain of custody present?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody signed when relinquished and received?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody agrees with sample labels?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Samples in proper container/bottle?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sample containers intact?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters<br>such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Temp Blank received in all shipping container(s)/cooler(s)?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |
| Container/Temp Blank temperature:   | 5.8°C On Ice                            |  |  |
| Water - VOA vials have zero headspace?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Applicable <input type="checkbox"/>                    |

Contact and Corrective Action Comments:

None





**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT/DEQ7 revised 10/2012*

# ANALYTICAL SUMMARY REPORT

July 26, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B13071759      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:28

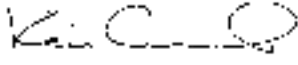
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Alaska Exploration Inc on 7/19/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13071759-001	Ynl 1/Ynl 2 Composite	07/18/13 9:00	07/19/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13071759-002	Ynl B 2012 Decline	07/18/13 9:00	07/19/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2013.07.26 10:47:55 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:28  
**Lab ID:** B13071759-001  
**Client Sample ID** Ynl 1/Ynl 2 Composite

**Report Date:** 07/26/13  
**Collection Date:** 07/18/13 09:00  
**DateReceived:** 07/19/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	427	mg/L	D	10		E300.0	07/24/13 20:19 / jrs
Fluoride	ND	mg/L		0.2		A4500-F C	07/23/13 10:44 / hmb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	07/23/13 16:00 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	07/23/13 11:39 / mas
Antimony	ND	mg/L		0.0005		E200.8	07/22/13 18:34 / jjw
Arsenic	ND	mg/L		0.001		E200.8	07/22/13 18:34 / jjw
Barium	0.007	mg/L		0.003		E200.7	07/22/13 13:32 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	07/22/13 13:32 / rlh
Cadmium	0.00007	mg/L		0.00003		E200.8	07/22/13 18:34 / jjw
Calcium	107	mg/L		1		E200.7	07/22/13 13:32 / rlh
Chromium	ND	mg/L		0.01		E200.8	07/22/13 18:34 / jjw
Copper	ND	mg/L		0.002		E200.8	07/22/13 18:34 / jjw
Iron	ND	mg/L		0.02		E200.7	07/22/13 13:32 / rlh
Lead	ND	mg/L		0.0003		E200.8	07/22/13 18:34 / jjw
Magnesium	53	mg/L		1		E200.7	07/22/13 13:32 / rlh
Manganese	0.022	mg/L		0.005		E200.7	07/22/13 13:32 / rlh
Mercury	ND	mg/L		0.00001		E245.1	07/22/13 13:47 / ser
Nickel	0.004	mg/L		0.002		E200.8	07/22/13 18:34 / jjw
Selenium	ND	mg/L		0.001		E200.8	07/22/13 18:34 / jjw
Silicon	0.66	mg/L		0.05		E200.7	07/22/13 13:32 / rlh
Silver	ND	mg/L		0.0002		E200.8	07/22/13 18:34 / jjw
Strontium	0.41	mg/L		0.02		E200.7	07/22/13 13:32 / rlh
Thallium	0.0006	mg/L		0.0002		E200.8	07/22/13 18:34 / jjw
Uranium	0.0008	mg/L		0.0002		E200.8	07/22/13 18:34 / jjw
Zinc	ND	mg/L		0.008		E200.7	07/22/13 13:32 / rlh

**Report Definitions:**

RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method us

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:28  
**Lab ID:** B13071759-002  
**Client Sample ID** Ynl B 2012 Decline

**Report Date:** 07/26/13  
**Collection Date:** 07/18/13 09:00  
**DateReceived:** 07/19/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	229	mg/L		1		E300.0	07/23/13 18:00 / jrs
Fluoride	0.2	mg/L		0.2		A4500-F C	07/23/13 10:47 / hmb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.005	mg/L	L	0.005		E365.1	07/23/13 16:09 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.011	mg/L		0.009		E200.8	07/23/13 11:42 / mas
Antimony	0.0009	mg/L		0.0005		E200.8	07/22/13 18:37 / jjw
Arsenic	ND	mg/L		0.001		E200.8	07/22/13 18:37 / jjw
Barium	0.007	mg/L		0.003		E200.7	07/22/13 13:36 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	07/22/13 13:36 / rlh
Cadmium	0.00009	mg/L		0.00003		E200.8	07/22/13 18:37 / jjw
Calcium	58	mg/L		1		E200.7	07/22/13 13:36 / rlh
Chromium	ND	mg/L		0.01		E200.8	07/22/13 18:37 / jjw
Copper	ND	mg/L		0.002		E200.8	07/22/13 18:37 / jjw
Iron	ND	mg/L		0.02		E200.7	07/22/13 13:36 / rlh
Lead	ND	mg/L		0.0003		E200.8	07/22/13 18:37 / jjw
Magnesium	29	mg/L		1		E200.7	07/22/13 13:36 / rlh
Manganese	0.014	mg/L		0.005		E200.7	07/22/13 13:36 / rlh
Mercury	ND	mg/L		0.00001		E245.1	07/22/13 13:49 / ser
Nickel	ND	mg/L		0.002		E200.8	07/22/13 18:37 / jjw
Selenium	0.001	mg/L		0.001		E200.8	07/22/13 18:37 / jjw
Silicon	0.77	mg/L		0.05		E200.7	07/22/13 13:36 / rlh
Silver	ND	mg/L		0.0002		E200.8	07/22/13 18:37 / jjw
Strontium	0.15	mg/L		0.02		E200.7	07/22/13 13:36 / rlh
Thallium	ND	mg/L		0.0002		E200.8	07/22/13 18:37 / jjw
Uranium	0.0014	mg/L		0.0002		E200.8	07/22/13 18:37 / jjw
Zinc	0.013	mg/L		0.008		E200.7	07/22/13 13:36 / rlh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/26/13

**Project:** 3767 WK:28

**Work Order:** B13071759

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>								Analytical Run: MAN-TECH_130723A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Fluoride		0.970	mg/L	0.10	97	90	110			07/23/13 10:26
<b>Method: A4500-F C</b>								Batch: R208668		
<b>Sample ID: MBLK</b>	Method Blank									
Fluoride		ND	mg/L	0.02						Run: MAN-TECH_130723A 07/23/13 10:21
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									
Fluoride		0.980	mg/L	0.10	98	90	110			Run: MAN-TECH_130723A 07/23/13 10:23
<b>Sample ID: B13071159-011AMS</b>	Sample Matrix Spike									
Fluoride		2.01	mg/L	0.10	99	80	120			Run: MAN-TECH_130723A 07/23/13 10:32
<b>Sample ID: B13071159-011AMSD</b>	Sample Matrix Spike Duplicate									
Fluoride		2.02	mg/L	0.10	100	80	120	0.5	10	Run: MAN-TECH_130723A 07/23/13 10:42

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:28

**Report Date:** 07/26/13  
**Work Order:** B13071759

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>		Analytical Run: ICP203-B_130722A									
<b>Sample ID: ICV</b>	9	Continuing Calibration Verification Standard							07/22/13 11:09		
Barium		2.47	mg/L	0.10	99	95	105				
Beryllium		1.22	mg/L	0.010	98	95	105				
Calcium		25.1	mg/L	1.0	100	95	105				
Iron		2.52	mg/L	0.030	101	95	105				
Magnesium		25.0	mg/L	1.0	100	95	105				
Manganese		2.42	mg/L	0.010	97	95	105				
Strontium		2.51	mg/L	0.10	100	95	105				
Zinc		2.45	mg/L	0.010	98	95	105				
Silicon		4.82	mg/L	0.10	96	95	105				
<b>Method: E200.7</b>		Batch: R208618									
<b>Sample ID: MB-6500DIS130722A</b>	9	Method Blank							Run: ICP203-B_130722A 07/22/13 11:32		
Barium		ND	mg/L	0.0003							
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.007							
Iron		ND	mg/L	0.003							
Magnesium		0.006	mg/L	0.002							
Manganese		ND	mg/L	0.0003							
Strontium		ND	mg/L	5E-05							
Zinc		0.001	mg/L	0.001							
Silicon		ND	mg/L	0.01							
<b>Sample ID: LFB-6500DIS130722A</b>	9	Laboratory Fortified Blank							Run: ICP203-B_130722A 07/22/13 11:36		
Barium		0.994	mg/L	0.10	99	85	115				
Beryllium		0.485	mg/L	0.010	97	85	115				
Calcium		50.1	mg/L	1.0	100	85	115				
Iron		4.94	mg/L	0.030	99	85	115				
Magnesium		49.5	mg/L	1.0	99	85	115				
Manganese		4.77	mg/L	0.010	95	85	115				
Strontium		1.03	mg/L	0.10	103	85	115				
Zinc		0.968	mg/L	0.010	97	85	115				
Silicon		9.43	mg/L	0.10	94	85	115				
<b>Sample ID: B13071759-002BMS2</b>	9	Sample Matrix Spike							Run: ICP203-B_130722A 07/22/13 13:40		
Barium		1.07	mg/L	0.050	106	70	130				
Beryllium		0.493	mg/L	0.0010	99	70	130				
Calcium		109	mg/L	1.0	101	70	130				
Iron		4.99	mg/L	0.030	100	70	130				
Magnesium		79.8	mg/L	1.0	101	70	130				
Manganese		4.97	mg/L	0.0010	99	70	130				
Silicon		9.83	mg/L	0.10	91	70	130				
Strontium		1.26	mg/L	0.010	111	70	130				
Zinc		1.04	mg/L	0.010	103	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/26/13

**Project:** 3767 WK:28

**Work Order:** B13071759

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.7										Batch: R208618
<b>Sample ID:</b> B13071759-002BMSD2	9	Sample Matrix Spike Duplicate								Run: ICP203-B_130722A
										07/22/13 13:44
Barium		1.07	mg/L	0.050	106	70	130	0.1	20	
Beryllium		0.498	mg/L	0.0010	100	70	130	0.9	20	
Calcium		109	mg/L	1.0	101	70	130	0.1	20	
Iron		5.06	mg/L	0.030	101	70	130	1.2	20	
Magnesium		80.8	mg/L	1.0	103	70	130	1.2	20	
Manganese		5.01	mg/L	0.0010	100	70	130	1.0	20	
Silicon		9.70	mg/L	0.10	89	70	130	1.3	20	
Strontium		1.28	mg/L	0.010	113	70	130	1.2	20	
Zinc		1.04	mg/L	0.010	103	70	130	0.3	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:28

**Report Date:** 07/26/13  
**Work Order:** B13071759

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS202-B_130722A	
<b>Sample ID: QCS</b>	11	Initial Calibration Verification Standard							07/22/13 16:22		
Antimony		0.0476	mg/L	0.050	95	90	110				
Arsenic		0.0490	mg/L	0.0050	98	90	110				
Cadmium		0.0252	mg/L	0.0010	101	90	110				
Chromium		0.0490	mg/L	0.010	98	90	110				
Copper		0.0508	mg/L	0.010	102	90	110				
Lead		0.0486	mg/L	0.010	97	90	110				
Nickel		0.0506	mg/L	0.010	101	90	110				
Selenium		0.0502	mg/L	0.0050	100	90	110				
Silver		0.0264	mg/L	0.0050	106	90	110				
Thallium		0.0496	mg/L	0.10	99	90	110				
Uranium		0.0199	mg/L	0.0010	99	90	110				
<b>Method: E200.8</b>										Batch: R208649	
<b>Sample ID: LFB</b>	11	Laboratory Fortified Blank							Run: ICPMS202-B_130722A		07/22/13 11:22
Antimony		0.0457	mg/L	0.050	91	85	115				
Arsenic		0.0457	mg/L	0.0050	91	85	115				
Cadmium		0.0459	mg/L	0.0010	92	85	115				
Chromium		0.0471	mg/L	0.010	94	85	115				
Copper		0.0460	mg/L	0.010	92	85	115				
Lead		0.0478	mg/L	0.010	96	85	115				
Nickel		0.0457	mg/L	0.010	91	85	115				
Selenium		0.0451	mg/L	0.0050	90	85	115				
Silver		0.0182	mg/L	0.0050	91	85	115				
Thallium		0.0476	mg/L	0.10	95	85	115				
Uranium		0.0499	mg/L	0.0010	100	85	115				
<b>Sample ID: LRB</b>	11	Method Blank							Run: ICPMS202-B_130722A		07/22/13 12:00
Antimony		ND	mg/L	2E-05							
Arsenic		ND	mg/L	0.0002							
Cadmium		ND	mg/L	8E-06							
Chromium		5E-05	mg/L	3E-05							
Copper		ND	mg/L	3E-05							
Lead		ND	mg/L	2E-05							
Nickel		ND	mg/L	3E-05							
Selenium		ND	mg/L	0.0006							
Silver		ND	mg/L	1E-05							
Thallium		ND	mg/L	8E-06							
Uranium		ND	mg/L	6E-06							
<b>Sample ID: B13071422-001BMS</b>	11	Sample Matrix Spike							Run: ICPMS202-B_130722A		07/22/13 18:46
Antimony		0.0430	mg/L	0.0010	86	70	130				
Arsenic		0.0526	mg/L	0.0010	101	70	130				
Cadmium		0.0360	mg/L	0.0010	72	70	130				
Chromium		0.0510	mg/L	0.0050	69	70	130			S	
Copper		0.0487	mg/L	0.0050	72	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/26/13

**Project:** 3767 WK:28

**Work Order:** B13071759

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R208649										
<b>Sample ID: B13071422-001BMS</b>	11	Sample Matrix Spike					Run: ICPMS202-B_130722A		07/22/13 18:46	
Lead		0.0444	mg/L	0.0010	88	70	130			
Nickel		0.0379	mg/L	0.010	73	70	130			
Selenium		0.0587	mg/L	0.0010	108	70	130			
Silver		0.0124	mg/L	0.0010	62	70	130			S
Thallium		0.0432	mg/L	0.00050	87	70	130			
Uranium		0.0495	mg/L	0.00030	99	70	130			
<b>Sample ID: B13071422-001BMSD</b>	11	Sample Matrix Spike Duplicate					Run: ICPMS202-B_130722A		07/22/13 18:49	
Antimony		0.0416	mg/L	0.0010	83	70	130	3.3	20	
Arsenic		0.0509	mg/L	0.0010	98	70	130	3.2	20	
Cadmium		0.0350	mg/L	0.0010	70	70	130	2.6	20	
Chromium		0.0500	mg/L	0.0050	67	70	130	2.0	20	S
Copper		0.0469	mg/L	0.0050	68	70	130	3.8	20	S
Lead		0.0433	mg/L	0.0010	86	70	130	2.6	20	
Nickel		0.0367	mg/L	0.010	71	70	130	3.1	20	
Selenium		0.0581	mg/L	0.0010	107	70	130	1.0	20	
Silver		0.0120	mg/L	0.0010	60	70	130	3.4	20	S
Thallium		0.0431	mg/L	0.00050	86	70	130	0.3	20	
Uranium		0.0481	mg/L	0.00030	96	70	130	2.8	20	
<b>Sample ID: B13071481-005AMS</b>	11	Sample Matrix Spike					Run: ICPMS202-B_130722A		07/22/13 19:03	
Antimony		0.0476	mg/L	0.0010	95	70	130			
Arsenic		0.0582	mg/L	0.0010	110	70	130			
Cadmium		0.0472	mg/L	0.0010	94	70	130			
Chromium		0.0532	mg/L	0.0050	94	70	130			
Copper		0.365	mg/L	0.0050		70	130			A
Lead		0.0501	mg/L	0.0010	94	70	130			
Nickel		0.0492	mg/L	0.010	95	70	130			
Selenium		0.0599	mg/L	0.0010	120	70	130			
Silver		0.0168	mg/L	0.0010	84	70	130			
Thallium		0.0478	mg/L	0.00050	96	70	130			
Uranium		0.0486	mg/L	0.00030	95	70	130			
<b>Sample ID: B13071481-005AMSD</b>	11	Sample Matrix Spike Duplicate					Run: ICPMS202-B_130722A		07/22/13 19:06	
Antimony		0.0481	mg/L	0.0010	96	70	130	1.2	20	
Arsenic		0.0585	mg/L	0.0010	110	70	130	0.6	20	
Cadmium		0.0479	mg/L	0.0010	96	70	130	1.3	20	
Chromium		0.0535	mg/L	0.0050	95	70	130	0.6	20	
Copper		0.373	mg/L	0.0050		70	130	2.1	20	A
Lead		0.0501	mg/L	0.0010	94	70	130	0.1	20	
Nickel		0.0492	mg/L	0.010	95	70	130	0.1	20	
Selenium		0.0606	mg/L	0.0010	121	70	130	1.1	20	
Silver		0.0175	mg/L	0.0010	88	70	130	4.3	20	
Thallium		0.0478	mg/L	0.00050	96	70	130	0.0	20	
Uranium		0.0487	mg/L	0.00030	95	70	130	0.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/26/13

**Project:** 3767 WK:28

**Work Order:** B13071759

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R208649
<b>Sample ID:</b> B13071481-005AMSD	11	Sample Matrix Spike Duplicate								Run: ICPMS202-B_130722A 07/22/13 19:06
<b>Method:</b> E200.8										Analytical Run: ICPMS202-B_130723A
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								07/23/13 08:55
Aluminum		0.234	mg/L	0.10	93	90	110			
<b>Method:</b> E200.8										Batch: R208733
<b>Sample ID:</b> LFB		Laboratory Fortified Blank								Run: ICPMS202-B_130723A 07/23/13 08:58
Aluminum		0.0446	mg/L	0.10	89	85	115			
<b>Sample ID:</b> LRB		Method Blank								Run: ICPMS202-B_130723A 07/23/13 09:59
Aluminum		ND	mg/L	7E-05						
<b>Sample ID:</b> B13071759-001BMS		Sample Matrix Spike								Run: ICPMS202-B_130723A 07/23/13 12:25
Aluminum		0.0520	mg/L	0.030	96	70	130			
<b>Sample ID:</b> B13071759-001BMSD		Sample Matrix Spike Duplicate								Run: ICPMS202-B_130723A 07/23/13 12:28
Aluminum		0.0464	mg/L	0.030	85	70	130	12	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/26/13

**Project:** 3767 WK:28

**Work Order:** B13071759

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV202-B_130722A	
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								07/22/13 13:24	
Mercury		0.000211	mg/L	1.0E-05	106	90	110				
<b>Method:</b> E245.1										Batch: 72968	
<b>Sample ID:</b> MB-72968		Method Blank								Run: HGCV202-B_130722A	07/22/13 13:37
Mercury		ND	mg/L	3E-06							
<b>Sample ID:</b> LCS-72968		Laboratory Control Sample								Run: HGCV202-B_130722A	07/22/13 13:40
Mercury		0.000194	mg/L	1.0E-05	97	85	115				
<b>Sample ID:</b> B13071759-002BMS		Sample Matrix Spike								Run: HGCV202-B_130722A	07/22/13 13:52
Mercury		0.000205	mg/L	1.0E-05	100	70	130				
<b>Sample ID:</b> B13071759-002BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_130722A	07/22/13 13:54
Mercury		0.000199	mg/L	1.0E-05	97	70	130	3.0	30		
<b>Sample ID:</b> B13071778-001AMS		Sample Matrix Spike								Run: HGCV202-B_130722A	07/22/13 13:59
Mercury		0.000197	mg/L	1.0E-05	96	70	130				
<b>Sample ID:</b> B13071778-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_130722A	07/22/13 14:03
Mercury		0.000203	mg/L	1.0E-05	99	70	130	3.0	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/26/13

**Project:** 3767 WK:28

**Work Order:** B13071759

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>								Analytical Run: IC203-B_130722A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		98.5	mg/L	1.0	99	90	110			07/22/13 14:10
<b>Method: E300.0</b>								Batch: R208633		
<b>Sample ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.09						Run: IC203-B_130722A 07/22/13 14:30
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		99.0	mg/L	1.1	99	90	110			Run: IC203-B_130722A 07/22/13 14:45
<b>Sample ID: B13071601-001AMS</b>	Sample Matrix Spike									
Sulfate		1050	mg/L	11	99	90	110			Run: IC203-B_130722A 07/24/13 19:04
<b>Sample ID: B13071601-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		1050	mg/L	11	98	90	110	0.9	20	Run: IC203-B_130722A 07/24/13 19:19

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/26/13

**Project:** 3767 WK:28

**Work Order:** B13071759

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_130723B		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									07/23/13 15:07
Phosphorus, Total as P		0.250	mg/L	0.0050	100	90	110			
<b>Method: E365.1</b>								Batch: 73009		
<b>Sample ID: MB-73009</b>	Method Blank									Run: FIA202-B_130723B 07/23/13 15:48
Phosphorus, Total as P		ND	mg/L	0.0050						
<b>Sample ID: LCS-73009</b>	Laboratory Control Sample									Run: FIA202-B_130723B 07/23/13 15:49
Phosphorus, Total as P		0.192	mg/L	0.0050	96	90	110			
<b>Sample ID: B13071759-001CMS</b>	Sample Matrix Spike									Run: FIA202-B_130723B 07/23/13 16:01
Phosphorus, Total as P		0.187	mg/L	0.0050	94	90	110			
<b>Sample ID: B13071759-001CMSD</b>	Sample Matrix Spike Duplicate									Run: FIA202-B_130723B 07/23/13 16:02
Phosphorus, Total as P		0.188	mg/L	0.0050	94	90	110	0.5	10	
<b>Sample ID: B13071789-002DMS</b>	Sample Matrix Spike									Run: FIA202-B_130723B 07/23/13 16:20
Phosphorus, Total as P		0.226	mg/L	0.0050	107	90	110			
<b>Sample ID: B13071789-002DMSD</b>	Sample Matrix Spike Duplicate									Run: FIA202-B_130723B 07/23/13 16:21
Phosphorus, Total as P		0.196	mg/L	0.0050	93	90	110	14	10	R

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.

# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13071759

Login completed by: Jill M. Lippard

Date Received: 7/19/2013

Reviewed by: BL2000\jklrier

Received by: jrj

Reviewed Date: 7/19/2013

Carrier UPS  
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	16.2°C Melted Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Contact and Corrective Action Comments:

Chain of Custody indicates to see attachment for required analysis but no attachment was included in the cooler with the samples. Mike Medina was contacted and he emailed the attachment to the lab.



# Chain of Custody and Analytical Request Record

PLEASE PRINT - Provide as much information as possible.

Company Name:  
McClelland Lab

Report Mail Address: Tintina Resources  
200 Granville St, Suite 2560  
Vancouver, BC V6C 1S4 Canada

Invoice Address: Tintina Resources  
200 Granville St, Suite 2560  
Vancouver, BC V6C 1S4 Canada

Special Report/Formats - ELI must be notified prior to sample submittal for the following:

- DW
- GSA
- POT/WWTP
- State: \_\_\_\_\_
- Other: \_\_\_\_\_
- A2LA
- EDD/EDT (Electronic Data)
- Format: \_\_\_\_\_
- LEVEL IV
- NELAC

Project Name, PWS, Permit, Etc.  
3767 WK:28

Contact Name: Mike Medina  
Phone/Fax: 775-356-1300

Invoice Contact & Phone: Mr Bob Jacko  
604-628-1162

Number of Containers  
Sample Type: A W S V B D  
Air Water Soils/Solids  
Vegetation Bioassay Other

ANALYSIS REQUESTED

SEE ATTACHED

SEE ATTACHED

Normal Turnaround (TAT)

Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page

Comments:

Shipped by: UPS  
Cooler ID(s):  
Receipt Temp:  
On Ice: Yes No  
Custody Seal Intact Signature Match

Please Copy results to: MLI@METTEST.COM

LABORATORY USE ONLY  
3071759-001  
002

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Received by (print):		Received by Laboratory:	
				Signature:	Date/Time:	Signature:	Date/Time:
1 Ynl 1/Ynl 2 Composite	07/18/13	09:00	Water	Matt Poore	7/18/13 0900	Matt Poore	7/19/13 0900
2 Ynl B 2012 Decline							
3							
4							
5							
6							
7							
8							
9							
10							

Custody Record MUST be Signed

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analytical request. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.enerlab.com for additional information. (Invertible for electronic use only)



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012

**ANALYTICAL SUMMARY REPORT**

August 28, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4Workorder No.: B13081474      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:32

Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Alaska Exploration Inc on 8/16/2013 for analysis.

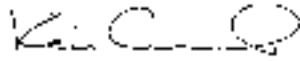
Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13081474-001	Ynl 1/Ynl 2 Composite	08/15/13 9:00	08/16/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13081474-002	Ynl B 2012 Decline	08/15/13 9:00	08/16/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Supervisor, Wet ChemistryDigitally signed by  
Keri Conter

Date: 2013.08.29 12:27:50 -06:00

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:32  
**Lab ID:** B13081474-001  
**Client Sample ID** Ynl 1/Ynl 2 Composite

**Report Date:** 08/28/13  
**Collection Date:** 08/15/13 09:00  
**DateReceived:** 08/16/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	510	mg/L	D	10		E300.0	08/20/13 03:39 / jrs
Fluoride	ND	mg/L		0.2		A4500-F C	08/16/13 15:40 / jrs
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.006	mg/L	L	0.005		E365.1	08/22/13 10:31 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	08/23/13 11:42 / mas
Antimony	ND	mg/L		0.0005		E200.8	08/23/13 11:42 / mas
Arsenic	ND	mg/L		0.001		E200.8	08/23/13 11:42 / mas
Barium	0.005	mg/L		0.003		E200.8	08/23/13 11:42 / mas
Beryllium	ND	mg/L		0.0008		E200.7	08/27/13 14:35 / rjh
Cadmium	0.00012	mg/L		0.00003		E200.8	08/23/13 11:42 / mas
Calcium	110	mg/L		1		E200.7	08/23/13 13:48 / mas
Chromium	ND	mg/L		0.01		E200.8	08/23/13 11:42 / mas
Copper	ND	mg/L		0.002		E200.8	08/23/13 11:42 / mas
Iron	ND	mg/L		0.02		E200.7	08/23/13 13:48 / mas
Lead	ND	mg/L		0.0003		E200.8	08/23/13 11:42 / mas
Magnesium	56	mg/L		1		E200.7	08/23/13 13:48 / mas
Manganese	0.033	mg/L		0.005		E200.8	08/23/13 11:42 / mas
Mercury	ND	mg/L		0.00001		E245.1	08/23/13 14:39 / ser
Nickel	0.004	mg/L		0.002		E200.8	08/23/13 11:42 / mas
Selenium	ND	mg/L		0.001		E200.8	08/23/13 11:42 / mas
Silicon	0.72	mg/L		0.05		E200.8	08/23/13 11:42 / mas
Silver	ND	mg/L		0.0002		E200.8	08/23/13 11:42 / mas
Strontium	0.31	mg/L		0.02		E200.8	08/23/13 11:42 / mas
Thallium	0.0006	mg/L		0.0002		E200.8	08/23/13 11:42 / mas
Uranium	0.0011	mg/L		0.0002		E200.8	08/23/13 11:42 / mas
Zinc	ND	mg/L		0.008		E200.8	08/23/13 11:42 / mas

**Report Definitions:**

RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method us

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:32  
**Lab ID:** B13081474-002  
**Client Sample ID** Ynl B 2012 Decline

**Report Date:** 08/28/13  
**Collection Date:** 08/15/13 09:00  
**DateReceived:** 08/16/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	213	mg/L		1		E300.0	08/18/13 03:21 / jrs
Fluoride	ND	mg/L		0.2		A4500-F C	08/16/13 15:43 / jrs
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	08/22/13 10:32 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	0.011	mg/L		0.009		E200.8	08/23/13 12:08 / mas
Antimony	0.0007	mg/L		0.0005		E200.8	08/23/13 12:08 / mas
Arsenic	ND	mg/L		0.001		E200.8	08/23/13 12:08 / mas
Barium	0.006	mg/L		0.003		E200.8	08/23/13 12:08 / mas
Beryllium	ND	mg/L		0.0008		E200.7	08/27/13 00:46 / rih
Cadmium	0.00008	mg/L		0.00003		E200.8	08/23/13 12:08 / mas
Calcium	50	mg/L		1		E200.7	08/23/13 13:51 / mas
Chromium	ND	mg/L		0.01		E200.8	08/23/13 12:08 / mas
Copper	ND	mg/L		0.002		E200.8	08/23/13 12:08 / mas
Iron	ND	mg/L		0.02		E200.7	08/23/13 13:51 / mas
Lead	ND	mg/L		0.0003		E200.8	08/23/13 12:08 / mas
Magnesium	25	mg/L		1		E200.7	08/23/13 13:51 / mas
Manganese	0.009	mg/L		0.005		E200.8	08/23/13 12:08 / mas
Mercury	ND	mg/L		0.00001		E245.1	08/23/13 14:42 / ser
Nickel	ND	mg/L		0.002		E200.8	08/23/13 12:08 / mas
Selenium	ND	mg/L		0.001		E200.8	08/23/13 12:08 / mas
Silicon	0.69	mg/L		0.05		E200.8	08/23/13 12:08 / mas
Silver	ND	mg/L		0.0002		E200.8	08/23/13 12:08 / mas
Strontium	0.10	mg/L		0.02		E200.8	08/23/13 12:08 / mas
Thallium	ND	mg/L		0.0002		E200.8	08/23/13 12:08 / mas
Uranium	0.0012	mg/L		0.0002		E200.8	08/23/13 12:08 / mas
Zinc	0.014	mg/L		0.008		E200.8	08/23/13 12:08 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/28/13

**Project:** 3767 WK:32

**Work Order:** B13081474

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>								Analytical Run: MAN-TECH_130816A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									08/16/13 15:18
Fluoride		0.990	mg/L	0.10	99	90	110			
<b>Method: A4500-F C</b>								Batch: R210180		
<b>Sample ID: MBLK</b>	Method Blank									08/16/13 15:12
Fluoride		ND	mg/L	0.02						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									08/16/13 15:15
Fluoride		1.01	mg/L	0.10	101	90	110			
<b>Sample ID: B13081335-004BMS</b>	Sample Matrix Spike									08/16/13 15:23
Fluoride		1.60	mg/L	0.10	102	80	120			
<b>Sample ID: B13081335-004BMSD</b>	Sample Matrix Spike Duplicate									08/16/13 15:26
Fluoride		1.66	mg/L	0.10	108	80	120	3.7	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:32

**Report Date:** 08/28/13  
**Work Order:** B13081474

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>		Analytical Run: ICP201-B_130823A								
<b>Sample ID: ICV</b>	3	Continuing Calibration Verification Standard								08/23/13 12:05
Calcium		25.4	mg/L	1.0	101	95	105			
Iron		2.51	mg/L	0.030	100	95	105			
Magnesium		25.5	mg/L	1.0	102	95	105			
<b>Method: E200.7</b>		Batch: R210577								
<b>Sample ID: MB-IRISDIS130823A</b>	3	Method Blank								Run: ICP201-B_130823A 08/23/13 12:28
Calcium		ND	mg/L	0.02						
Iron		0.006	mg/L	0.006						
Magnesium		ND	mg/L	0.01						
<b>Sample ID: LFB-IRISDIS130823A</b>	3	Laboratory Fortified Blank								Run: ICP201-B_130823A 08/23/13 12:32
Calcium		48.4	mg/L	1.0	97	85	115			
Iron		4.78	mg/L	0.030	95	85	115			
Magnesium		48.9	mg/L	1.0	98	85	115			
<b>Sample ID: B13081872-001BMS2</b>	3	Sample Matrix Spike								Run: ICP201-B_130823A 08/23/13 14:15
Calcium		183	mg/L	1.0	96	70	130			
Iron		10.00	mg/L	0.030	100	70	130			
Magnesium		138	mg/L	1.0	97	70	130			
<b>Sample ID: B13081872-001BMSD2</b>	3	Sample Matrix Spike Duplicate								Run: ICP201-B_130823A 08/23/13 14:18
Calcium		187	mg/L	1.0	100	70	130	2.0	20	
Iron		10.2	mg/L	0.030	102	70	130	2.1	20	
Magnesium		140	mg/L	1.0	98	70	130	1.0	20	
<b>Method: E200.7</b>		Analytical Run: ICP203-B_130826A								
<b>Sample ID: ICV</b>		Continuing Calibration Verification Standard								08/26/13 13:34
Beryllium		1.29	mg/L	0.010	103	95	105			
<b>Method: E200.7</b>		Batch: R210652								
<b>Sample ID: MB-6500DIS130826A</b>		Method Blank								Run: ICP203-B_130826A 08/26/13 13:58
Beryllium		ND	mg/L	0.0001						
<b>Sample ID: LFB-6500DIS130826A</b>		Laboratory Fortified Blank								Run: ICP203-B_130826A 08/26/13 14:02
Beryllium		0.518	mg/L	0.010	104	85	115			
<b>Sample ID: B13082075-001BMS2</b>		Sample Matrix Spike								Run: ICP203-B_130826A 08/27/13 00:16
Beryllium		0.533	mg/L	0.0010	107	70	130			
<b>Sample ID: B13082075-001BMSD2</b>		Sample Matrix Spike Duplicate								Run: ICP203-B_130826A 08/27/13 00:19
Beryllium		0.540	mg/L	0.0010	108	70	130	1.4	20	
<b>Sample ID: B13081474-001BMS2</b>		Sample Matrix Spike								Run: ICP203-B_130826A 08/27/13 00:38
Beryllium		0.495	mg/L	0.0010	99	70	130			
<b>Sample ID: B13081474-001BMSD2</b>		Sample Matrix Spike Duplicate								Run: ICP203-B_130826A 08/27/13 00:42
Beryllium		0.478	mg/L	0.0010	96	70	130	3.5	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/28/13

**Project:** 3767 WK:32

**Work Order:** B13081474

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_130827A			
<b>Sample ID: ICV</b>	Continuing Calibration Verification Standard									08/27/13 13:10	
Beryllium		1.27	mg/L	0.010	101	95	105				
<b>Method: E200.7</b>								Batch: R210715			
<b>Sample ID: MB-6500DIS130827A</b>	Method Blank									Run: ICP203-B_130827A	08/27/13 13:33
Beryllium		0.0001	mg/L	0.0001							
<b>Sample ID: LFB-6500DIS130827A</b>	Laboratory Fortified Blank									Run: ICP203-B_130827A	08/27/13 13:37
Beryllium		0.501	mg/L	0.010	100	85	115				
<b>Sample ID: B13082184-001AMS2</b>	Sample Matrix Spike									Run: ICP203-B_130827A	08/27/13 14:28
Beryllium		0.489	mg/L	0.0010	98	70	130				
<b>Sample ID: B13082184-001AMSD2</b>	Sample Matrix Spike Duplicate									Run: ICP203-B_130827A	08/27/13 14:31
Beryllium		0.489	mg/L	0.0010	98	70	130	0.0	20		
<b>Sample ID: B13081474-001BMS2</b>	Sample Matrix Spike									Run: ICP203-B_130827A	08/27/13 14:50
Beryllium		0.456	mg/L	0.0010	91	70	130				
<b>Sample ID: B13081474-001BMSD2</b>	Sample Matrix Spike Duplicate									Run: ICP203-B_130827A	08/27/13 14:54
Beryllium		0.467	mg/L	0.0010	93	70	130	2.6	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/28/13

**Project:** 3767 WK:32

**Work Order:** B13081474

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS203-B_130825A	
<b>Sample ID: QCS</b>	17	Initial Calibration Verification Standard							08/23/13 09:49		
Aluminum		0.247	mg/L	0.10	99	90	110				
Antimony		0.0468	mg/L	0.050	94	90	110				
Arsenic		0.0500	mg/L	0.0050	100	90	110				
Barium		0.0476	mg/L	0.10	95	90	110				
Cadmium		0.0250	mg/L	0.0010	100	90	110				
Chromium		0.0501	mg/L	0.010	100	90	110				
Copper		0.0514	mg/L	0.010	103	90	110				
Lead		0.0471	mg/L	0.010	94	90	110				
Manganese		0.236	mg/L	0.010	94	90	110				
Nickel		0.0509	mg/L	0.010	102	90	110				
Selenium		0.0489	mg/L	0.0050	98	90	110				
Silicon		0.484	mg/L	0.10	97	90	110				
Silver		0.0264	mg/L	0.0050	105	90	110				
Strontium		0.0492	mg/L	0.10	98	90	110				
Thallium		0.0477	mg/L	0.10	95	90	110				
Uranium		0.0194	mg/L	0.0010	97	90	110				
Zinc		0.0519	mg/L	0.010	104	90	110				

<b>Method: E200.8</b>										Batch: R210623	
<b>Sample ID: LRB</b>	17	Method Blank							Run: ICPMS203-B_130825A		08/23/13 10:45
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	3E-05							
Arsenic		ND	mg/L	4E-05							
Barium		ND	mg/L	3E-05							
Cadmium		ND	mg/L	8E-06							
Chromium		ND	mg/L	4E-05							
Copper		ND	mg/L	5E-05							
Lead		ND	mg/L	1E-05							
Manganese		ND	mg/L	2E-05							
Nickel		ND	mg/L	7E-05							
Selenium		ND	mg/L	0.0002							
Silicon		ND	mg/L	0.002							
Silver		ND	mg/L	2E-05							
Strontium		ND	mg/L	1E-05							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	5E-06							
Zinc		ND	mg/L	0.0003							

<b>Sample ID: LFB</b>	17	Laboratory Fortified Blank							Run: ICPMS203-B_130825A		08/23/13 10:50
Aluminum		0.0531	mg/L	0.10	106	85	115				
Antimony		0.0508	mg/L	0.050	102	85	115				
Arsenic		0.0481	mg/L	0.0050	96	85	115				
Barium		0.0525	mg/L	0.10	105	85	115				
Cadmium		0.0513	mg/L	0.0010	103	85	115				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:32

**Report Date:** 08/28/13  
**Work Order:** B13081474

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R210623										
<b>Sample ID: LFB</b>	17	Laboratory Fortified Blank					Run: ICPMS203-B_130825A		08/23/13 10:50	
Chromium		0.0519	mg/L	0.010	104	85	115			
Copper		0.0499	mg/L	0.010	100	85	115			
Lead		0.0527	mg/L	0.010	105	85	115			
Manganese		0.0541	mg/L	0.010	108	85	115			
Nickel		0.0508	mg/L	0.010	102	85	115			
Selenium		0.0450	mg/L	0.0050	90	85	115			
Silicon		0.205	mg/L	0.10	102	85	115			
Silver		0.0200	mg/L	0.0050	100	85	115			
Strontium		0.0549	mg/L	0.10	110	85	115			
Thallium		0.0536	mg/L	0.10	107	85	115			
Uranium		0.0538	mg/L	0.0010	108	85	115			
Zinc		0.0486	mg/L	0.010	97	85	115			
<b>Sample ID: B13081474-001BMS</b>	17	Sample Matrix Spike					Run: ICPMS203-B_130825A		08/23/13 11:47	
Aluminum		0.0503	mg/L	0.030	94	70	130			
Antimony		0.0480	mg/L	0.0010	95	70	130			
Arsenic		0.0477	mg/L	0.0010	95	70	130			
Barium		0.0535	mg/L	0.050	98	70	130			
Cadmium		0.0467	mg/L	0.0010	93	70	130			
Chromium		0.0499	mg/L	0.0050	100	70	130			
Copper		0.0473	mg/L	0.0050	94	70	130			
Lead		0.0484	mg/L	0.0010	96	70	130			
Manganese		0.0836	mg/L	0.0010	102	70	130			
Nickel		0.0511	mg/L	0.0050	94	70	130			
Selenium		0.0472	mg/L	0.0010	93	70	130			
Silicon		0.958	mg/L	0.10	117	70	130			
Silver		0.0186	mg/L	0.0010	93	70	130			
Strontium		0.387	mg/L	0.010		70	130			A
Thallium		0.0496	mg/L	0.00050	98	70	130			
Uranium		0.0512	mg/L	0.00030	100	70	130			
Zinc		0.0500	mg/L	0.010	85	70	130			
<b>Sample ID: B13081474-001BMSD</b>	17	Sample Matrix Spike Duplicate					Run: ICPMS203-B_130825A		08/23/13 11:52	
Aluminum		0.0527	mg/L	0.030	99	70	130	4.7	20	
Antimony		0.0505	mg/L	0.0010	100	70	130	5.0	20	
Arsenic		0.0495	mg/L	0.0010	99	70	130	3.8	20	
Barium		0.0558	mg/L	0.050	102	70	130	4.2	20	
Cadmium		0.0486	mg/L	0.0010	97	70	130	3.9	20	
Chromium		0.0520	mg/L	0.0050	104	70	130	4.1	20	
Copper		0.0490	mg/L	0.0050	97	70	130	3.4	20	
Lead		0.0509	mg/L	0.0010	101	70	130	5.1	20	
Manganese		0.0855	mg/L	0.0010	106	70	130	2.3	20	
Nickel		0.0533	mg/L	0.0050	98	70	130	4.3	20	
Selenium		0.0467	mg/L	0.0010	92	70	130	1.0	20	
Silicon		0.931	mg/L	0.10	103	70	130	2.9	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/28/13

**Project:** 3767 WK:32

**Work Order:** B13081474

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R210623
<b>Sample ID:</b> B13081474-001BMSD	17	Sample Matrix Spike Duplicate					Run: ICPMS203-B_130825A			08/23/13 11:52
Silver		0.0189	mg/L	0.0010	95	70	130	2.0	20	
Strontium		0.392	mg/L	0.010		70	130	1.3	20	A
Thallium		0.0524	mg/L	0.00050	104	70	130	5.4	20	
Uranium		0.0544	mg/L	0.00030	107	70	130	5.9	20	
Zinc		0.0518	mg/L	0.010	88	70	130	3.5	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/28/13

**Project:** 3767 WK:32

**Work Order:** B13081474

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV202-B_130823A	
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								08/23/13 14:23	
Mercury		0.000187	mg/L	1.0E-05	94	90	110				
<b>Method:</b> E245.1										Batch: 73881	
<b>Sample ID:</b> MB-73881		Method Blank								Run: HGCV202-B_130823A	08/23/13 14:34
Mercury		ND	mg/L	3E-06							
<b>Sample ID:</b> LCS-73881		Laboratory Control Sample								Run: HGCV202-B_130823A	08/23/13 14:37
Mercury		0.000187	mg/L	1.0E-05	94	85	115				
<b>Sample ID:</b> B13081474-002BMS		Sample Matrix Spike								Run: HGCV202-B_130823A	08/23/13 14:45
Mercury		0.000194	mg/L	1.0E-05	97	70	130				
<b>Sample ID:</b> B13081474-002BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_130823A	08/23/13 14:47
Mercury		0.000191	mg/L	1.0E-05	96	70	130	1.6	30		
<b>Sample ID:</b> B13081688-003CMS		Sample Matrix Spike								Run: HGCV202-B_130823A	08/23/13 14:53
Mercury		0.000205	mg/L	1.0E-05	95	70	130				
<b>Sample ID:</b> B13081688-003CMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_130823A	08/23/13 14:55
Mercury		0.000205	mg/L	1.0E-05	95	70	130	0.0	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/28/13

**Project:** 3767 WK:32

**Work Order:** B13081474

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>								Analytical Run: IC203-B_130817A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		99.9	mg/L	1.0	100	90	110			08/17/13 13:45
<b>Method: E300.0</b>								Batch: R210204		
<b>Sample ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.09						Run: IC203-B_130817A 08/17/13 14:00
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		100.0	mg/L	1.1	100	90	110			Run: IC203-B_130817A 08/17/13 14:16
<b>Sample ID: B13081405-001AMS</b>	Sample Matrix Spike									
Sulfate		126	mg/L	1.1	111	90	110			Run: IC203-B_130817A 08/18/13 01:20 S
<b>Sample ID: B13081405-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		127	mg/L	1.1	112	90	110	0.7	20	Run: IC203-B_130817A 08/18/13 01:36 S
<b>Sample ID: B13081474-001AMS</b>	Sample Matrix Spike									
Sulfate		1630	mg/L	11	112	90	110			Run: IC203-B_130817A 08/20/13 03:54 S
<b>Sample ID: B13081474-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		1620	mg/L	11	111	90	110	0.8	20	Run: IC203-B_130817A 08/20/13 04:09 S

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:32

**Report Date:** 08/28/13  
**Work Order:** B13081474

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_130822A		
<b>Sample ID: ICV</b> Initial Calibration Verification Standard 08/22/13 09:17										
Phosphorus, Total as P		0.258	mg/L	0.0050	103	90	110			
<b>Method: E365.1</b>								Batch: 73768		
<b>Sample ID: MB-73768</b> Method Blank Run: FIA202-B_130822A 08/22/13 10:05										
Phosphorus, Total as P		ND	mg/L	0.0050						
<b>Sample ID: LCS-73768</b> Laboratory Control Sample Run: FIA202-B_130822A 08/22/13 10:06										
Phosphorus, Total as P		0.203	mg/L	0.0050	101	90	110			
<b>Sample ID: B13081457-001EMS</b> Sample Matrix Spike Run: FIA202-B_130822A 08/22/13 10:09										
Phosphorus, Total as P		0.403	mg/L	0.0050	100	90	110			
<b>Sample ID: B13081457-001EMSD</b> Sample Matrix Spike Duplicate Run: FIA202-B_130822A 08/22/13 10:11										
Phosphorus, Total as P		0.403	mg/L	0.0050	100	90	110	0.0	10	
<b>Sample ID: B13081481-004AMS</b> Sample Matrix Spike Run: FIA202-B_130822A 08/22/13 10:39										
Phosphorus, Total as P		0.202	mg/L	0.0050	96	90	110			
<b>Sample ID: B13081481-004AMSD</b> Sample Matrix Spike Duplicate Run: FIA202-B_130822A 08/22/13 10:40										
Phosphorus, Total as P		0.204	mg/L	0.0050	96	90	110	1.0	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13081474

Login completed by: Tony Valero

Date Received: 8/16/2013

Reviewed by: BL2000\lcardreau

Received by: jrj

Reviewed Date: 8/16/2013

Carrier NDA  
name:

- |   |   |  |  |
|---|---|--|--|
| Shipping container/cooler in good condition?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on all shipping container(s)/cooler(s)?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on all sample bottles?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/>            |
| Chain of custody present?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody signed when relinquished and received?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody agrees with sample labels?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Samples in proper container/bottle?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sample containers intact?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters<br>such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Temp Blank received in all shipping container(s)/cooler(s)?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |
| Container/Temp Blank temperature:   | 14.8°C Melted Ice                       |  |  |
| Water - VOA vials have zero headspace?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |

Contact and Corrective Action Comments:

Sample YNL1/YNL2 for Metals was received at pH ~4. 2 mL of nitric acid was added in the laboratory to preserve to pH<2. In accordance with the Clean Water Act, this Metals sample must be held for 24 hour prior to analysis.



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*



# ANALYTICAL SUMMARY REPORT

October 02, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B13091213      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:36

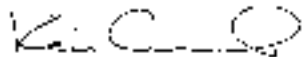
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Alaska Exploration Inc on 9/13/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13091213-001	Ynl 1/Ynl 2 Composite	09/12/13 9:00	09/13/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13091213-002	Ynl B 2012 Decline	09/12/13 9:00	09/13/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2013.10.02 16:07:37 -06:00



**CLIENT:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:36  
**Sample Delivery Group:** B13091213

**Revised Date:** 10/02/13

**Report Date:** 09/27/13

## CASE NARRATIVE

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Per request from Katie Seipel on 10/1/13, add Silicon to both samples.

The report has been revised and replaces any previously issued report in its entirety.

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:36  
**Lab ID:** B13091213-001  
**Client Sample ID** Ynl 1/Ynl 2 Composite

**Revised Date:** 10/02/13  
**Report Date:** 09/27/13  
**Collection Date:** 09/12/13 09:00  
**DateReceived:** 09/13/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	402	mg/L	D	20		E300.0	09/19/13 00:12 / klc
Fluoride	ND	mg/L		0.2		A4500-F C	09/19/13 12:13 / hmb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	09/27/13 12:15 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	09/16/13 17:19 / jjw
Antimony	ND	mg/L		0.0005		E200.8	09/16/13 17:19 / jjw
Arsenic	ND	mg/L		0.001		E200.8	09/16/13 17:19 / jjw
Barium	0.006	mg/L		0.003		E200.7	09/16/13 15:54 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	09/16/13 15:54 / rlh
Cadmium	0.00008	mg/L		0.00003		E200.8	09/16/13 17:19 / jjw
Calcium	94	mg/L		1		E200.7	09/16/13 15:54 / rlh
Chromium	ND	mg/L		0.01		E200.8	09/16/13 17:19 / jjw
Copper	ND	mg/L		0.002		E200.8	09/16/13 17:19 / jjw
Iron	ND	mg/L		0.02		E200.7	09/16/13 15:54 / rlh
Lead	ND	mg/L		0.0003		E200.8	09/16/13 17:19 / jjw
Magnesium	49	mg/L		1		E200.7	09/16/13 15:54 / rlh
Manganese	0.018	mg/L		0.005		E200.7	09/16/13 15:54 / rlh
Mercury	ND	mg/L		0.00001		E245.1	09/18/13 15:00 / ser
Nickel	0.004	mg/L		0.002		E200.8	09/16/13 17:19 / jjw
Selenium	ND	mg/L		0.001		E200.8	09/16/13 17:19 / jjw
Silicon	0.55	mg/L	D	0.07		E200.7	09/16/13 15:54 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/16/13 17:19 / jjw
Strontium	0.24	mg/L		0.02		E200.7	09/16/13 15:54 / rlh
Thallium	0.0005	mg/L		0.0002		E200.8	09/16/13 17:19 / jjw
Uranium	0.0009	mg/L		0.0002		E200.8	09/16/13 17:19 / jjw
Zinc	ND	mg/L		0.008		E200.7	09/16/13 15:54 / rlh

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:36  
**Lab ID:** B13091213-002  
**Client Sample ID** Ynl B 2012 Decline

**Revised Date:** 10/02/13  
**Report Date:** 09/27/13  
**Collection Date:** 09/12/13 09:00  
**DateReceived:** 09/13/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	167	mg/L		1		E300.0	09/18/13 04:21 / klc
Fluoride	ND	mg/L		0.2		A4500-F C	09/19/13 12:16 / hmb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	09/23/13 13:06 / jlw
<b>METALS, DISSOLVED</b>							
Aluminum	0.012	mg/L		0.009		E200.8	09/16/13 17:22 / jjw
Antimony	0.0006	mg/L		0.0005		E200.8	09/16/13 17:22 / jjw
Arsenic	ND	mg/L		0.001		E200.8	09/16/13 17:22 / jjw
Barium	0.005	mg/L		0.003		E200.7	09/16/13 15:57 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	09/16/13 15:57 / rlh
Cadmium	0.00007	mg/L		0.00003		E200.8	09/16/13 17:22 / jjw
Calcium	43	mg/L		1		E200.7	09/16/13 15:57 / rlh
Chromium	ND	mg/L		0.01		E200.8	09/16/13 17:22 / jjw
Copper	ND	mg/L		0.002		E200.8	09/16/13 17:22 / jjw
Iron	ND	mg/L		0.02		E200.7	09/16/13 15:57 / rlh
Lead	ND	mg/L		0.0003		E200.8	09/16/13 17:22 / jjw
Magnesium	21	mg/L		1		E200.7	09/16/13 15:57 / rlh
Manganese	0.008	mg/L		0.005		E200.8	09/16/13 17:22 / jjw
Mercury	ND	mg/L		0.00001		E245.1	09/18/13 15:03 / ser
Nickel	ND	mg/L		0.002		E200.8	09/16/13 17:22 / jjw
Selenium	ND	mg/L		0.001		E200.8	09/16/13 17:22 / jjw
Silicon	0.56	mg/L	D	0.07		E200.7	09/16/13 15:57 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/16/13 17:22 / jjw
Strontium	0.09	mg/L		0.02		E200.7	09/16/13 15:57 / rlh
Thallium	ND	mg/L		0.0002		E200.8	09/16/13 17:22 / jjw
Uranium	0.0010	mg/L		0.0002		E200.8	09/16/13 17:22 / jjw
Zinc	0.010	mg/L		0.008		E200.8	09/16/13 17:22 / jjw

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:36

**Report Date:** 09/27/13  
**Work Order:** B13091213

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>							Analytical Run: FIA202-B_130923A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								09/23/13 10:33
Phosphorus, Total as P	0.249	mg/L	0.0050	100	90	110			
<b>Method: E365.1</b>							Batch: 74592		
<b>Sample ID: MB-74592</b>	Method Blank								09/23/13 12:46
Phosphorus, Total as P	ND	mg/L	0.004						
<b>Sample ID: LCS-74592</b>	Laboratory Control Sample								09/23/13 12:47
Phosphorus, Total as P	0.207	mg/L	0.0050	103	90	110			
<b>Sample ID: B13091197-001EMS</b>	Sample Matrix Spike								09/23/13 13:00
Phosphorus, Total as P	0.209	mg/L	0.0050	102	90	110			
<b>Sample ID: B13091197-001EMSD</b>	Sample Matrix Spike Duplicate								09/23/13 13:01
Phosphorus, Total as P	0.210	mg/L	0.0050	103	90	110	0.5	10	
<b>Method: E365.1</b>							Analytical Run: FIA202-B_130927A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								09/27/13 09:31
Phosphorus, Total as P	0.248	mg/L	0.0050	99	90	110			
<b>Method: E365.1</b>							Batch: 74741		
<b>Sample ID: MB-74741</b>	Method Blank								09/27/13 10:55
Phosphorus, Total as P	ND	mg/L	0.0050						
<b>Sample ID: LCS-74741</b>	Laboratory Control Sample								09/27/13 10:56
Phosphorus, Total as P	0.200	mg/L	0.0050	100	90	110			
<b>Sample ID: B13091613-002CMS</b>	Sample Matrix Spike								09/27/13 11:24
Phosphorus, Total as P	0.206	mg/L	0.0050	101	90	110			
<b>Sample ID: B13091613-002CMSD</b>	Sample Matrix Spike Duplicate								09/27/13 11:25
Phosphorus, Total as P	0.206	mg/L	0.0050	101	90	110	0.0	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 09/27/13

**Project:** 3767 WK:36

**Work Order:** B13091213

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>								Analytical Run: MAN-TECH_130919A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									09/19/13 11:37
Fluoride		0.980	mg/L	0.10	98	90	110			
<b>Method: A4500-F C</b>								Batch: R211928		
<b>Sample ID: MBLK</b>	Method Blank									09/19/13 11:32
Fluoride		0.03	mg/L	0.02						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									09/19/13 11:35
Fluoride		0.990	mg/L	0.10	96	90	110			
<b>Sample ID: B13091205-002AMS</b>	Sample Matrix Spike									09/19/13 11:53
Fluoride		1.85	mg/L	0.10	100	80	120			
<b>Sample ID: B13091205-002AMSD</b>	Sample Matrix Spike Duplicate									09/19/13 11:56
Fluoride		1.88	mg/L	0.10	103	80	120	1.6	10	
<b>Sample ID: B13091296-002AMS</b>	Sample Matrix Spike									09/19/13 12:33
Fluoride		1.27	mg/L	0.10	102	80	120			
<b>Sample ID: B13091296-002AMSD</b>	Sample Matrix Spike Duplicate									09/19/13 12:36
Fluoride		1.30	mg/L	0.10	105	80	120	2.3	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 09/27/13

**Project:** 3767 WK:36

**Work Order:** B13091213

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS202-B_130916A	
<b>Sample ID: QCS</b>	14	Initial Calibration Verification Standard							09/16/13 09:28		
Aluminum		0.242	mg/L	0.10	97	90	110				
Antimony		0.0498	mg/L	0.050	100	90	110				
Arsenic		0.0502	mg/L	0.0050	100	90	110				
Cadmium		0.0259	mg/L	0.0010	104	90	110				
Chromium		0.0506	mg/L	0.010	101	90	110				
Copper		0.0517	mg/L	0.010	103	90	110				
Lead		0.0506	mg/L	0.010	101	90	110				
Manganese		0.229	mg/L	0.010	91	90	110				
Nickel		0.0501	mg/L	0.010	100	90	110				
Selenium		0.0510	mg/L	0.0050	102	90	110				
Silver		0.0268	mg/L	0.0050	107	90	110				
Thallium		0.0499	mg/L	0.10	100	90	110				
Uranium		0.0211	mg/L	0.0010	106	90	110				
Zinc		0.0512	mg/L	0.010	102	90	110				
<b>Method: E200.8</b>										Batch: R211705	
<b>Sample ID: LFB</b>	14	Laboratory Fortified Blank							Run: ICPMS202-B_130916A		09/16/13 09:31
Aluminum		0.0497	mg/L	0.10	99	85	115				
Antimony		0.0469	mg/L	0.050	94	85	115				
Arsenic		0.0480	mg/L	0.0050	96	85	115				
Cadmium		0.0483	mg/L	0.0010	97	85	115				
Chromium		0.0513	mg/L	0.010	103	85	115				
Copper		0.0502	mg/L	0.010	100	85	115				
Lead		0.0517	mg/L	0.010	103	85	115				
Manganese		0.0480	mg/L	0.010	96	85	115				
Nickel		0.0492	mg/L	0.010	98	85	115				
Selenium		0.0444	mg/L	0.0050	89	85	115				
Silver		0.0214	mg/L	0.0050	107	85	115				
Thallium		0.0507	mg/L	0.10	101	85	115				
Uranium		0.0519	mg/L	0.0010	104	85	115				
Zinc		0.0468	mg/L	0.010	94	85	115				
<b>Sample ID: LRB</b>	14	Method Blank							Run: ICPMS202-B_130916A		09/16/13 11:05
Aluminum		ND	mg/L	7E-05							
Antimony		ND	mg/L	2E-05							
Arsenic		ND	mg/L	0.0002							
Cadmium		ND	mg/L	8E-06							
Chromium		ND	mg/L	3E-05							
Copper		ND	mg/L	3E-05							
Lead		ND	mg/L	2E-05							
Manganese		ND	mg/L	2E-05							
Nickel		ND	mg/L	3E-05							
Selenium		ND	mg/L	0.0006							
Silver		ND	mg/L	1E-05							

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 09/27/13

**Project:** 3767 WK:36

**Work Order:** B13091213

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R211705										
<b>Sample ID: LRB</b>	14	Method Blank					Run: ICPMS202-B_130916A		09/16/13 11:05	
Thallium		ND	mg/L	8E-06						
Uranium		ND	mg/L	6E-06						
Zinc		ND	mg/L	0.0001						
<b>Sample ID: B13090786-001AMS</b>	14	Sample Matrix Spike					Run: ICPMS202-B_130916A		09/16/13 17:31	
Aluminum		0.0647	mg/L	0.030	95	70	130			
Antimony		0.0473	mg/L	0.0010	94	70	130			
Arsenic		0.0515	mg/L	0.0010	102	70	130			
Cadmium		0.0468	mg/L	0.0010	94	70	130			
Chromium		0.0549	mg/L	0.0050	101	70	130			
Copper		0.0856	mg/L	0.0050	93	70	130			
Lead		0.0554	mg/L	0.0010	104	70	130			
Manganese		0.343	mg/L	0.0010		70	130			A
Nickel		0.350	mg/L	0.010		70	130			A
Selenium		0.0514	mg/L	0.0010	100	70	130			
Silver		0.0194	mg/L	0.0010	97	70	130			
Thallium		0.0513	mg/L	0.00050	101	70	130			
Uranium		0.0645	mg/L	0.00030	103	70	130			
Zinc		0.0750	mg/L	0.010	84	70	130			
<b>Sample ID: B13090786-001AMSD</b>	14	Sample Matrix Spike Duplicate					Run: ICPMS202-B_130916A		09/16/13 17:34	
Aluminum		0.0655	mg/L	0.030	97	70	130	1.3	20	
Antimony		0.0466	mg/L	0.0010	93	70	130	1.7	20	
Arsenic		0.0514	mg/L	0.0010	101	70	130	0.2	20	
Cadmium		0.0460	mg/L	0.0010	92	70	130	1.6	20	
Chromium		0.0557	mg/L	0.0050	102	70	130	1.5	20	
Copper		0.0841	mg/L	0.0050	90	70	130	1.8	20	
Lead		0.0546	mg/L	0.0010	102	70	130	1.5	20	
Manganese		0.339	mg/L	0.0010		70	130	1.3	20	A
Nickel		0.351	mg/L	0.010		70	130	0.1	20	A
Selenium		0.0525	mg/L	0.0010	103	70	130	2.1	20	
Silver		0.0195	mg/L	0.0010	97	70	130	0.5	20	
Thallium		0.0514	mg/L	0.00050	101	70	130	0.2	20	
Uranium		0.0640	mg/L	0.00030	102	70	130	0.8	20	
Zinc		0.0734	mg/L	0.010	81	70	130	2.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.





## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 09/27/13

**Project:** 3767 WK:36

**Work Order:** B13091213

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV202-B_130918A	
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								09/18/13 14:21	
Mercury		0.000200	mg/L	1.0E-05	100	90	110				
<b>Method:</b> E245.1										Batch: 74504	
<b>Sample ID:</b> MB-74504		Method Blank								Run: HGCV202-B_130918A	09/18/13 14:37
Mercury		ND	mg/L	3E-06							
<b>Sample ID:</b> LCS-74504		Laboratory Control Sample								Run: HGCV202-B_130918A	09/18/13 14:40
Mercury		0.000201	mg/L	1.0E-05	101	85	115				
<b>Sample ID:</b> B13091092-001AMS		Sample Matrix Spike								Run: HGCV202-B_130918A	09/18/13 14:52
Mercury		0.000205	mg/L	1.0E-05	99	70	130				
<b>Sample ID:</b> B13091092-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_130918A	09/18/13 14:54
Mercury		0.000203	mg/L	1.0E-05	98	70	130	1.0	30		
<b>Sample ID:</b> B13091213-002BMS		Sample Matrix Spike								Run: HGCV202-B_130918A	09/18/13 15:07
Mercury		0.000209	mg/L	1.0E-05	105	70	130				
<b>Sample ID:</b> B13091213-002BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_130918A	09/18/13 15:10
Mercury		0.000207	mg/L	1.0E-05	104	70	130	1.0	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 09/27/13

**Project:** 3767 WK:36

**Work Order:** B13091213

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>								Analytical Run: IC203-B_130916A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		99.6	mg/L	1.0	100	90	110			09/17/13 14:15
<b>Method: E300.0</b>								Batch: R211734		
<b>Sample ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.09						Run: IC203-B_130916A 09/17/13 14:30
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		104	mg/L	1.1	104	90	110			Run: IC203-B_130916A 09/17/13 14:45
<b>Sample ID: B13091213-002AMS</b>	Sample Matrix Spike									
Sulfate		273	mg/L	1.1	106	90	110			Run: IC203-B_130916A 09/18/13 04:36
<b>Sample ID: B13091213-002AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		273	mg/L	1.1	106	90	110	0.0	20	Run: IC203-B_130916A 09/18/13 04:51
<b>Method: E300.0</b>								Analytical Run: IC203-B_130918A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		100	mg/L	1.0	100	90	110			09/18/13 15:51
<b>Method: E300.0</b>								Batch: R211910		
<b>Sample ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.09						Run: IC203-B_130918A 09/18/13 16:07
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		102	mg/L	1.1	102	90	110			Run: IC203-B_130918A 09/18/13 16:22
<b>Sample ID: B13091213-001AMS</b>	Sample Matrix Spike									
Sulfate		2410	mg/L	21	100	90	110			Run: IC203-B_130918A 09/19/13 00:27
<b>Sample ID: B13091213-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		2460	mg/L	21	103	90	110	1.9	20	Run: IC203-B_130918A 09/19/13 00:42

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Revised Date: 10/02/13

Client: Tintina Alaska Exploration Inc

Report Date: 09/27/13

Project: 3767 WK:36

Work Order: B13091213

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_130916A			
<b>Sample ID: ICV</b>	9	Continuing Calibration Verification Standard							09/16/13 12:29		
Barium		2.48	mg/L	0.10	99	95	105				
Beryllium		1.28	mg/L	0.010	103	95	105				
Calcium		25.0	mg/L	1.0	100	95	105				
Iron		2.50	mg/L	0.030	100	95	105				
Magnesium		25.0	mg/L	1.0	100	95	105				
Manganese		2.43	mg/L	0.010	97	95	105				
Strontium		2.55	mg/L	0.10	102	95	105				
Zinc		2.49	mg/L	0.010	100	95	105				
Silicon		4.95	mg/L	0.10	99	95	105				
<b>Method: E200.7</b>								Batch: R211723			
<b>Sample ID: MB-6500DIS130916A</b>	9	Method Blank							Run: ICP203-B_130916A		09/16/13 10:30
Barium		ND	mg/L	0.0003							
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.007							
Iron		ND	mg/L	0.003							
Magnesium		ND	mg/L	0.002							
Manganese		ND	mg/L	0.0003							
Strontium		7E-05	mg/L	5E-05							
Zinc		ND	mg/L	0.001							
Silicon		ND	mg/L	0.01							
<b>Sample ID: LFB-6500DIS130916A</b>	9	Laboratory Fortified Blank							Run: ICP203-B_130916A		09/16/13 10:34
Barium		1.02	mg/L	0.10	102	85	115				
Beryllium		0.496	mg/L	0.010	99	85	115				
Calcium		48.4	mg/L	1.0	97	85	115				
Iron		5.01	mg/L	0.030	100	85	115				
Magnesium		48.9	mg/L	1.0	98	85	115				
Manganese		4.91	mg/L	0.010	98	85	115				
Strontium		1.02	mg/L	0.10	102	85	115				
Zinc		0.975	mg/L	0.010	97	85	115				
Silicon		9.64	mg/L	0.10	96	85	115				
<b>Sample ID: B13091205-004BMS2</b>	9	Sample Matrix Spike							Run: ICP203-B_130916A		09/16/13 15:27
Barium		0.972	mg/L	0.050	97	70	130				
Beryllium		0.500	mg/L	0.0010	100	70	130				
Calcium		49.4	mg/L	1.0	99	70	130				
Iron		4.92	mg/L	0.030	98	70	130				
Magnesium		50.0	mg/L	1.0	100	70	130				
Manganese		4.77	mg/L	0.0010	95	70	130				
Silicon		9.58	mg/L	0.10	96	70	130				
Strontium		1.02	mg/L	0.010	102	70	130				
Zinc		0.985	mg/L	0.010	99	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Revised Date: 10/02/13

Client: Tintina Alaska Exploration Inc

Report Date: 09/27/13

Project: 3767 WK:36

Work Order: B13091213

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: R211723
Sample ID: B13091205-004BMSD	9	Sample Matrix Spike Duplicate					Run: ICP203-B_130916A			09/16/13 15:38
Barium		1.00	mg/L	0.050	100	70	130	3.3	20	
Beryllium		0.506	mg/L	0.0010	101	70	130	1.0	20	
Calcium		50.7	mg/L	1.0	101	70	130	2.4	20	
Iron		4.98	mg/L	0.030	100	70	130	1.4	20	
Magnesium		50.6	mg/L	1.0	101	70	130	1.2	20	
Manganese		4.85	mg/L	0.0010	97	70	130	1.6	20	
Silicon		9.73	mg/L	0.10	97	70	130	1.5	20	
Strontium		1.04	mg/L	0.010	104	70	130	1.5	20	
Zinc		0.986	mg/L	0.010	99	70	130	0.1	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13091213

Login completed by: Tony Valero

Date Received: 9/13/2013

Reviewed by: BL2000\lcaureau

Received by: Ig

Reviewed Date: 9/16/2013

Carrier UPS  
name:

- |   |   |  |  |
|---|---|--|--|
| Shipping container/cooler in good condition?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on all shipping container(s)/cooler(s)?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on all sample bottles?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/>            |
| Chain of custody present?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody signed when relinquished and received?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody agrees with sample labels?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Samples in proper container/bottle?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sample containers intact?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters<br>such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Temp Blank received in all shipping container(s)/cooler(s)?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |
| Container/Temp Blank temperature:   | 2.4°C On Ice                            |  |  |
| Water - VOA vials have zero headspace?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Applicable <input type="checkbox"/>                    |

Contact and Corrective Action Comments:

None



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*

# ANALYTICAL SUMMARY REPORT

October 24, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B13101177      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:40

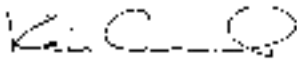
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Alaska Exploration Inc on 10/11/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13101177-001	Ynl 1/Ynl 2 Composite	10/10/13 9:00	10/11/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13101177-002	Ynl B 2012 Decline	10/10/13 9:00	10/11/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2013.10.24 14:32:18 -06:00



## LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:40  
**Lab ID:** B13101177-001  
**Client Sample ID** Ynl 1/Ynl 2 Composite

**Report Date:** 10/24/13  
**Collection Date:** 10/10/13 09:00  
**Date Received:** 10/11/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	381	mg/L	D	10		E300.0	10/16/13 09:55 / jrs
Fluoride	ND	mg/L		0.2		A4500-F C	10/15/13 11:13 / hmb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	10/21/13 15:29 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	10/14/13 13:56 / mas
Antimony	ND	mg/L		0.0005		E200.8	10/14/13 13:56 / mas
Arsenic	ND	mg/L		0.001		E200.8	10/14/13 13:56 / mas
Barium	0.004	mg/L		0.003		E200.7	10/14/13 20:25 / r/h
Beryllium	ND	mg/L		0.0008		E200.8	10/14/13 13:56 / mas
Cadmium	0.00004	mg/L		0.00003		E200.8	10/15/13 14:00 / mas
Calcium	98	mg/L		1		E200.7	10/14/13 20:25 / r/h
Chromium	ND	mg/L		0.01		E200.7	10/14/13 20:25 / r/h
Copper	ND	mg/L		0.002		E200.8	10/14/13 13:56 / mas
Iron	ND	mg/L		0.02		E200.7	10/14/13 20:25 / r/h
Lead	ND	mg/L		0.0003		E200.8	10/14/13 13:56 / mas
Magnesium	51	mg/L		1		E200.7	10/14/13 20:25 / r/h
Manganese	0.010	mg/L		0.005		E200.7	10/14/13 20:25 / r/h
Mercury	ND	mg/L		0.00001		E245.1	10/15/13 14:34 / ser
Nickel	0.002	mg/L		0.002		E200.8	10/14/13 13:56 / mas
Selenium	ND	mg/L		0.001		E200.8	10/14/13 13:56 / mas
Silicon	0.45	mg/L		0.05		E200.8	10/15/13 14:00 / mas
Silver	ND	mg/L		0.0002		E200.8	10/14/13 13:56 / mas
Strontium	0.21	mg/L		0.02		E200.7	10/14/13 20:25 / r/h
Thallium	0.0007	mg/L		0.0002		E200.8	10/14/13 13:56 / mas
Uranium	0.0004	mg/L		0.0002		E200.8	10/14/13 13:56 / mas
Zinc	ND	mg/L		0.008		E200.7	10/14/13 20:25 / r/h

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.  
 L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:40  
**Lab ID:** B13101177-002  
**Client Sample ID** Ynl B 2012 Decline

**Report Date:** 10/24/13  
**Collection Date:** 10/10/13 09:00  
**DateReceived:** 10/11/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	194	mg/L		1		E300.0	10/14/13 23:34 / jrs
Fluoride	ND	mg/L		0.2		A4500-F C	10/15/13 11:16 / hmb
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	10/21/13 15:30 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	0.015	mg/L		0.009		E200.8	10/14/13 13:59 / mas
Antimony	ND	mg/L		0.0005		E200.8	10/14/13 13:59 / mas
Arsenic	ND	mg/L		0.001		E200.8	10/14/13 13:59 / mas
Barium	0.006	mg/L		0.003		E200.7	10/14/13 20:29 / rjh
Beryllium	ND	mg/L		0.0008		E200.8	10/14/13 13:59 / mas
Cadmium	0.00005	mg/L		0.00003		E200.8	10/15/13 14:05 / mas
Calcium	53	mg/L		1		E200.7	10/14/13 20:29 / rjh
Chromium	ND	mg/L		0.01		E200.7	10/14/13 20:29 / rjh
Copper	ND	mg/L		0.002		E200.8	10/14/13 13:59 / mas
Iron	ND	mg/L		0.02		E200.7	10/14/13 20:29 / rjh
Lead	ND	mg/L		0.0003		E200.8	10/14/13 13:59 / mas
Magnesium	26	mg/L		1		E200.7	10/14/13 20:29 / rjh
Manganese	0.005	mg/L		0.005		E200.7	10/14/13 20:29 / rjh
Mercury	ND	mg/L		0.00001		E245.1	10/15/13 14:37 / ser
Nickel	ND	mg/L		0.002		E200.8	10/14/13 13:59 / mas
Selenium	ND	mg/L		0.001		E200.8	10/14/13 13:59 / mas
Silicon	0.49	mg/L		0.05		E200.8	10/15/13 14:05 / mas
Silver	ND	mg/L		0.0002		E200.8	10/14/13 13:59 / mas
Strontium	0.10	mg/L		0.02		E200.7	10/14/13 20:29 / rjh
Thallium	ND	mg/L		0.0002		E200.8	10/14/13 13:59 / mas
Uranium	0.0007	mg/L		0.0002		E200.8	10/14/13 13:59 / mas
Zinc	0.010	mg/L		0.008		E200.7	10/14/13 20:29 / rjh

**Report Definitions:**

RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 10/16/13

**Project:** 3767 WK:40

**Work Order:** B13101177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>		Analytical Run: ICP203-B_131014A									
<b>Sample ID: ICV</b>	8	Continuing Calibration Verification Standard							10/14/13 11:33		
Barium		2.49	mg/L	0.10	100	95	105				
Calcium		25.3	mg/L	1.0	101	95	105				
Chromium		2.47	mg/L	0.050	99	95	105				
Iron		2.52	mg/L	0.030	101	95	105				
Magnesium		25.2	mg/L	1.0	101	95	105				
Manganese		2.50	mg/L	0.010	100	95	105				
Strontium		2.53	mg/L	0.10	101	95	105				
Zinc		2.48	mg/L	0.010	99	95	105				
<b>Method: E200.7</b>		Batch: R213277									
<b>Sample ID: MB-6500DIS131014A</b>	8	Method Blank							Run: ICP203-B_131014A 10/14/13 11:57		
Barium		ND	mg/L	0.0003							
Calcium		ND	mg/L	0.007							
Chromium		ND	mg/L	0.003							
Iron		ND	mg/L	0.003							
Magnesium		0.007	mg/L	0.002							
Manganese		ND	mg/L	0.0003							
Strontium		0.0002	mg/L	5E-05							
Zinc		ND	mg/L	0.001							
<b>Sample ID: LFB-6500DIS131014A</b>	8	Laboratory Fortified Blank							Run: ICP203-B_131014A 10/14/13 12:01		
Barium		0.969	mg/L	0.10	97	85	115				
Calcium		48.5	mg/L	1.0	97	85	115				
Chromium		0.955	mg/L	0.050	95	85	115				
Iron		4.83	mg/L	0.030	97	85	115				
Magnesium		48.7	mg/L	1.0	97	85	115				
Manganese		4.84	mg/L	0.010	97	85	115				
Strontium		1.01	mg/L	0.10	101	85	115				
Zinc		0.982	mg/L	0.010	98	85	115				
<b>Sample ID: B13101180-007BMS2</b>	8	Sample Matrix Spike							Run: ICP203-B_131014A 10/14/13 21:08		
Barium		4.93	mg/L	0.050	98	70	130				
Calcium		647	mg/L	1.0	97	70	130				
Chromium		4.79	mg/L	0.013	96	70	130				
Iron		61.7	mg/L	0.030	96	70	130				
Magnesium		542	mg/L	1.0	99	70	130				
Manganese		26.2	mg/L	0.0018	101	70	130				
Strontium		15.4	mg/L	0.010	103	70	130				
Zinc		5.00	mg/L	0.010	100	70	130				
<b>Sample ID: B13101180-007BMSD2</b>	8	Sample Matrix Spike Duplicate							Run: ICP203-B_131014A 10/14/13 21:12		
Barium		4.86	mg/L	0.050	96	70	130	1.6	20		
Calcium		642	mg/L	1.0	95	70	130	0.7	20		
Chromium		4.69	mg/L	0.013	94	70	130	2.1	20		
Iron		61.6	mg/L	0.030	95	70	130	0.3	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 10/16/13

**Project:** 3767 WK:40

**Work Order:** B13101177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.7										Batch: R213277
<b>Sample ID:</b> B13101180-007BMSD2	8	Sample Matrix Spike Duplicate					Run: ICP203-B_131014A			10/14/13 21:12
Magnesium		540	mg/L	1.0	98	70	130	0.4	20	
Manganese		25.8	mg/L	0.0018	99	70	130	1.6	20	
Strontium		15.3	mg/L	0.010	100	70	130	0.9	20	
Zinc		4.83	mg/L	0.010	96	70	130	3.3	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:40

**Report Date:** 10/16/13  
**Work Order:** B13101177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_131014A			
<b>Sample ID: QCS</b>	11	Initial Calibration Verification Standard						10/14/13 10:52			
Aluminum		0.237	mg/L	0.10	95	90	110				
Antimony		0.0501	mg/L	0.050	100	90	110				
Arsenic		0.0504	mg/L	0.0050	101	90	110				
Beryllium		0.0246	mg/L	0.0010	98	90	110				
Copper		0.0521	mg/L	0.010	104	90	110				
Lead		0.0511	mg/L	0.010	102	90	110				
Nickel		0.0519	mg/L	0.010	104	90	110				
Selenium		0.0517	mg/L	0.0050	103	90	110				
Silver		0.0254	mg/L	0.0050	102	90	110				
Thallium		0.0499	mg/L	0.10	100	90	110				
Uranium		0.0209	mg/L	0.0010	104	90	110				
<b>Method: E200.8</b>								Batch: R213314			
<b>Sample ID: LFB</b>	11	Laboratory Fortified Blank						Run: ICPMS202-B_131014A 10/14/13 10:55			
Aluminum		0.0507	mg/L	0.10	101	85	115				
Antimony		0.0473	mg/L	0.050	95	85	115				
Arsenic		0.0489	mg/L	0.0050	98	85	115				
Beryllium		0.0483	mg/L	0.0010	97	85	115				
Copper		0.0499	mg/L	0.010	100	85	115				
Lead		0.0524	mg/L	0.010	105	85	115				
Nickel		0.0500	mg/L	0.010	100	85	115				
Selenium		0.0485	mg/L	0.0050	97	85	115				
Silver		0.0196	mg/L	0.0050	98	85	115				
Thallium		0.0523	mg/L	0.10	105	85	115				
Uranium		0.0531	mg/L	0.0010	106	85	115				
<b>Sample ID: LRB</b>	11	Method Blank						Run: ICPMS202-B_131014A 10/14/13 11:57			
Aluminum		0.002	mg/L	7E-05							
Antimony		ND	mg/L	2E-05							
Arsenic		ND	mg/L	0.0002							
Beryllium		ND	mg/L	2E-05							
Copper		ND	mg/L	3E-05							
Lead		ND	mg/L	2E-05							
Nickel		ND	mg/L	3E-05							
Selenium		ND	mg/L	0.0006							
Silver		ND	mg/L	1E-05							
Thallium		ND	mg/L	8E-06							
Uranium		ND	mg/L	6E-06							
<b>Sample ID: B13101177-002BMS</b>	11	Sample Matrix Spike						Run: ICPMS202-B_131014A 10/14/13 14:03			
Aluminum		0.0658	mg/L	0.030	103	70	130				
Antimony		0.0496	mg/L	0.0010	98	70	130				
Arsenic		0.0517	mg/L	0.0010	103	70	130				
Beryllium		0.0499	mg/L	0.0010	100	70	130				
Copper		0.0539	mg/L	0.0050	106	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:40

**Report Date:** 10/16/13  
**Work Order:** B13101177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R213314</span>										
<b>Sample ID: B13101177-002BMS</b>	11	Sample Matrix Spike					Run: ICPMS202-B_131014A			10/14/13 14:03
Lead		0.0526	mg/L	0.0010	105	70	130			
Nickel		0.0525	mg/L	0.0050	104	70	130			
Selenium		0.0560	mg/L	0.0010	110	70	130			
Silver		0.0188	mg/L	0.0010	94	70	130			
Thallium		0.0521	mg/L	0.00050	104	70	130			
Uranium		0.0501	mg/L	0.00030	99	70	130			
<b>Sample ID: B13101177-002BMSD</b>	11	Sample Matrix Spike Duplicate					Run: ICPMS202-B_131014A			10/14/13 14:15
Aluminum		0.0634	mg/L	0.030	98	70	130	3.7	20	
Antimony		0.0488	mg/L	0.0010	97	70	130	1.8	20	
Arsenic		0.0514	mg/L	0.0010	102	70	130	0.4	20	
Beryllium		0.0494	mg/L	0.0010	99	70	130	1.0	20	
Copper		0.0532	mg/L	0.0050	104	70	130	1.4	20	
Lead		0.0520	mg/L	0.0010	104	70	130	1.1	20	
Nickel		0.0523	mg/L	0.0050	103	70	130	0.5	20	
Selenium		0.0566	mg/L	0.0010	111	70	130	1.2	20	
Silver		0.0190	mg/L	0.0010	95	70	130	1.0	20	
Thallium		0.0513	mg/L	0.00050	102	70	130	1.7	20	
Uranium		0.0489	mg/L	0.00030	96	70	130	2.5	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS203-B_131014A</span>										
<b>Sample ID: QCS</b>	2	Initial Calibration Verification Standard								10/15/13 10:45
Cadmium		0.0248	mg/L	0.0010	99	90	110			
Silicon		0.494	mg/L	0.10	99	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R213303</span>										
<b>Sample ID: LFB</b>	2	Laboratory Fortified Blank					Run: ICPMS203-B_131014A			10/14/13 14:27
Cadmium		0.0488	mg/L	0.0010	98	85	115			
Silicon		0.198	mg/L	0.10	99	85	115			
<b>Sample ID: LRB</b>	2	Method Blank					Run: ICPMS203-B_131014A			10/14/13 15:11
Cadmium		ND	mg/L	8E-06						
Silicon		ND	mg/L	0.002						
<b>Sample ID: B13101177-001BMS</b>	2	Sample Matrix Spike					Run: ICPMS203-B_131014A			10/15/13 16:09
Cadmium		0.0468	mg/L	0.0010	94	70	130			
Silicon		0.653	mg/L	0.10	102	70	130			
<b>Sample ID: B13101177-001BMSD</b>	2	Sample Matrix Spike Duplicate					Run: ICPMS203-B_131014A			10/15/13 16:14
Cadmium		0.0489	mg/L	0.0010	98	70	130	4.2	20	
Silicon		0.698	mg/L	0.10	125	70	130	6.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 10/16/13

**Project:** 3767 WK:40

**Work Order:** B13101177

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV202-B_131015A	
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								10/15/13 14:08	
Mercury		0.000195	mg/L	1.0E-05	98	90	110				
<b>Method:</b> E245.1										Batch: 75216	
<b>Sample ID:</b> MB-75216		Method Blank								Run: HGCV202-B_131015A	10/15/13 14:17
Mercury		ND	mg/L	3E-06							
<b>Sample ID:</b> LCS-75216		Laboratory Control Sample								Run: HGCV202-B_131015A	10/15/13 14:20
Mercury		0.000194	mg/L	1.0E-05	97	85	115				
<b>Sample ID:</b> B13100764-001AMS		Sample Matrix Spike								Run: HGCV202-B_131015A	10/15/13 14:29
Mercury		0.000214	mg/L	1.0E-05	100	70	130				
<b>Sample ID:</b> B13100764-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_131015A	10/15/13 14:31
Mercury		0.000215	mg/L	1.0E-05	101	70	130	0.5	30		
<b>Sample ID:</b> B13101177-002BMS		Sample Matrix Spike								Run: HGCV202-B_131015A	10/15/13 14:40
Mercury		0.000199	mg/L	1.0E-05	98	70	130				
<b>Sample ID:</b> B13101177-002BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_131015A	10/15/13 14:43
Mercury		0.000207	mg/L	1.0E-05	102	70	130	3.9	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:40

**Report Date:** 10/24/13  
**Work Order:** B13101177

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>							Analytical Run: MAN-TECH_131015A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								10/15/13 10:47
Fluoride	0.990	mg/L	0.10	99	90	110			
<b>Method: A4500-F C</b>							Batch: R213337		
<b>Sample ID: MBLK</b>	Method Blank								10/15/13 10:42
Fluoride	0.04	mg/L	0.02						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								10/15/13 10:44
Fluoride	0.950	mg/L	0.10	91	90	110			
<b>Sample ID: B13100971-001AMS</b>	Sample Matrix Spike								10/15/13 10:53
Fluoride	1.58	mg/L	0.10	97	80	120			
<b>Sample ID: B13100971-001AMSD</b>	Sample Matrix Spike Duplicate								10/15/13 10:56
Fluoride	1.58	mg/L	0.10	97	80	120	0.0	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:40

**Report Date:** 10/24/13  
**Work Order:** B13101177

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV202-B_131015A
<b>Sample ID:</b> QCS	Initial Calibration Verification Standard								
Mercury	0.000195	mg/L	1.0E-05	98	90	110			10/15/13 14:08
<b>Method:</b> E245.1									Batch: 75216
<b>Sample ID:</b> MB-75216	Method Blank								
Mercury	ND	mg/L	3E-06						Run: HGCV202-B_131015A 10/15/13 14:17
<b>Sample ID:</b> LCS-75216	Laboratory Control Sample								
Mercury	0.000194	mg/L	1.0E-05	97	85	115			Run: HGCV202-B_131015A 10/15/13 14:20
<b>Sample ID:</b> B13101177-002BMS	Sample Matrix Spike								
Mercury	0.000199	mg/L	1.0E-05	98	70	130			Run: HGCV202-B_131015A 10/15/13 14:40
<b>Sample ID:</b> B13101177-002BMSD	Sample Matrix Spike Duplicate								
Mercury	0.000207	mg/L	1.0E-05	102	70	130	3.9	30	Run: HGCV202-B_131015A 10/15/13 14:43

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:40

**Report Date:** 10/24/13  
**Work Order:** B13101177

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>							Analytical Run: IC202-B_131014A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								10/14/13 11:44
Sulfate	98.7	mg/L	1.0	99	90	110			
<b>Method: E300.0</b>							Batch: R213324		
<b>Sample ID: ICB</b>	Method Blank								10/14/13 11:59
Sulfate	ND	mg/L	0.06						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								10/14/13 12:14
Sulfate	99.4	mg/L	1.1	99	90	110			
<b>Sample ID: B13101176-002AMS</b>	Sample Matrix Spike								10/16/13 09:09
Sulfate	2200	mg/L	2.1		90	110			A
<b>Sample ID: B13101176-002AMSD</b>	Sample Matrix Spike Duplicate								10/16/13 09:24
Sulfate	2190	mg/L	2.1		90	110	0.3	20	A
<b>Method: E300.0</b>							Analytical Run: IC203-B_131014A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								10/14/13 11:44
Sulfate	96.0	mg/L	1.0	96	90	110			
<b>Method: E300.0</b>							Batch: R213316		
<b>Sample ID: ICB</b>	Method Blank								10/14/13 11:59
Sulfate	ND	mg/L	0.09						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								10/14/13 12:14
Sulfate	95.9	mg/L	1.1	96	90	110			
<b>Sample ID: B13101180-001AMS</b>	Sample Matrix Spike								10/15/13 00:35
Sulfate	138	mg/L	1.1	102	90	110			
<b>Sample ID: B13101180-001AMSD</b>	Sample Matrix Spike Duplicate								10/15/13 00:50
Sulfate	138	mg/L	1.1	102	90	110	0.2	20	
<b>Sample ID: MB-75249</b>	Method Blank								10/16/13 21:47
Sulfate	ND	mg/kg	0.09						

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:40

**Report Date:** 10/24/13  
**Work Order:** B13101177

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b> <span style="float: right;">Batch: 75214</span>									
<b>Sample ID: B13101230-003BMS</b> Phosphorus, Total as P	Sample Matrix Spike 0.239	mg/L	0.0050	110	90	110			10/18/13 15:05
<b>Sample ID: B13101230-003BMSD</b> Phosphorus, Total as P	Sample Matrix Spike Duplicate 0.238	mg/L	0.0050	109	90	110	0.4	10	10/18/13 15:06
<b>Method: E365.1</b> <span style="float: right;">Analytical Run: FIA202-B_131021B</span>									
<b>Sample ID: ICV</b> Phosphorus, Total as P	Initial Calibration Verification Standard 0.249	mg/L	0.0050	100	90	110			10/21/13 13:32
<b>Method: E365.1</b> <span style="float: right;">Batch: 75214</span>									
<b>Sample ID: MB-75214</b> Phosphorus, Total as P	Method Blank ND	mg/L	0.0050						10/21/13 15:22
<b>Sample ID: LCS-75214</b> Phosphorus, Total as P	Laboratory Control Sample 0.210	mg/L	0.0050	105	90	110			10/21/13 15:23

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13101177

Login completed by: Jill M. Lippard

Date Received: 10/11/2013

Reviewed by: BL2000\lcardreau

Received by: Ig

Reviewed Date: 10/14/2013

Carrier UPS  
name:

- |   |   |  |  |
|---|---|--|--|
| Shipping container/cooler in good condition?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on all shipping container(s)/cooler(s)?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on all sample bottles?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/>            |
| Chain of custody present?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody signed when relinquished and received?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody agrees with sample labels?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Samples in proper container/bottle?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sample containers intact?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters<br>such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Temp Blank received in all shipping container(s)/cooler(s)?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |
| Container/Temp Blank temperature:   | 1.8°C On Ice                            |  |  |
| Water - VOA vials have zero headspace?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Applicable <input type="checkbox"/>                    |

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab		<b>Project Name, PWS, Permit, Etc.</b> 3767 WK:40		<b>Sample Origin</b> State: NV		<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Report Mail Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Contact Name:</b> Mike Medina		<b>Phone/Fax:</b> 775-356-1300		<b>Email:</b> MLI@METTEST.COM	
<b>Invoice Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko 604-628-1162		<b>Purchase Order:</b>		<b>Quote/Bottle Order:</b>	
<b>Special Report/Formats - ELI must be notified prior to sample submittal for the following:</b> <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POT/WWTP State: _____ <input type="checkbox"/> Other: _____ <input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) Format: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC							
<b>Number of Containers</b> Air Water Soils/Solids Vegetation Bioassay Other		<b>MATRIX</b> Water		<b>ANALYSIS REQUESTED</b> SEE ATTACHED		<b>Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page</b> Comments: RUSH	
<b>SAMPLE IDENTIFICATION</b> (Name, Location, Interval, etc.) 1 Ynl 1/Ynl 2 Composite 2 Ynl B 2012 Decline 3 4 5 6 7 8 9 10		<b>Collection Date</b> 10/10/13 ↓		<b>Collection Time</b> 09:00 ↓		<b>Please Copy results to:</b> MLI@METTEST.COM -002	
<b>Shipped by:</b> Robert ADA <b>Cooler/ID#:</b>		<b>Receipt Temp</b> 11.8 °C <b>On Ice:</b> <input checked="" type="radio"/> Yes <input type="radio"/> No		<b>Custody Seal Intact</b> <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <b>Signature Match</b> <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		<b>LABORATORY USE ONLY</b>	
<b>Relinquished by (print):</b> Matt Poore		<b>Date/Time:</b> 10/10 - 9:00		<b>Received by (print):</b> Matt Poore		<b>Date/Time:</b>	
<b>Relinquished by (print):</b>		<b>Date/Time:</b>		<b>Received by (print):</b>		<b>Date/Time:</b>	
<b>Signature:</b>		<b>Signature:</b>		<b>Signature:</b>		<b>Signature:</b>	
<b>Sample Disposal:</b> Return to Client		<b>Lab Disposal:</b>		<b>Received by Laboratory:</b> 10-11-13 9:00		<b>Signature:</b>	
<b>Custody Record MUST be Signed</b>		<b>LABORATORY USE ONLY</b>					

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*



# ANALYTICAL SUMMARY REPORT

November 13, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B13110762      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:44

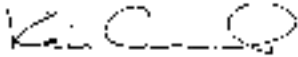
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Alaska Exploration Inc on 11/8/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13110762-001	Ynl 1/Ynl 2 Composite	11/07/13 9:00	11/08/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13110762-002	Ynl B 2012 Decline	11/07/13 9:00	11/08/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2013.11.13 08:57:54 -07:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:44  
**Lab ID:** B13110762-001  
**Client Sample ID:** Ynl 1/Ynl 2 Composite

**Report Date:** 11/13/13  
**Collection Date:** 11/07/13 09:00  
**DateReceived:** 11/08/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	338	mg/L		1		E300.0	11/12/13 00:24 / jpv
Fluoride	0.2	mg/L		0.2		A4500-F C	11/11/13 14:23 / jlw
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	11/12/13 12:00 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	11/11/13 16:58 / jjw
Antimony	ND	mg/L		0.0005		E200.8	11/11/13 16:58 / jjw
Arsenic	ND	mg/L		0.001		E200.8	11/11/13 16:58 / jjw
Barium	0.004	mg/L		0.003		E200.7	11/11/13 16:29 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	11/11/13 16:29 / rlh
Cadmium	0.00006	mg/L		0.00003		E200.8	11/11/13 16:58 / jjw
Calcium	77	mg/L		1		E200.7	11/11/13 16:29 / rlh
Chromium	ND	mg/L		0.01		E200.7	11/11/13 16:29 / rlh
Copper	ND	mg/L		0.002		E200.8	11/11/13 16:58 / jjw
Iron	ND	mg/L		0.02		E200.7	11/11/13 16:29 / rlh
Lead	ND	mg/L		0.0003		E200.8	11/11/13 16:58 / jjw
Magnesium	40	mg/L		1		E200.7	11/11/13 16:29 / rlh
Manganese	0.010	mg/L		0.005		E200.7	11/11/13 16:29 / rlh
Mercury	ND	mg/L		0.00001		E245.1	11/11/13 17:12 / ser
Nickel	0.002	mg/L		0.002		E200.8	11/11/13 16:58 / jjw
Selenium	ND	mg/L		0.001		E200.8	11/11/13 16:58 / jjw
Silicon	0.43	mg/L		0.05		E200.7	11/11/13 16:29 / rlh
Silver	ND	mg/L		0.0002		E200.8	11/11/13 16:58 / jjw
Strontium	0.15	mg/L		0.02		E200.7	11/11/13 16:29 / rlh
Thallium	0.0004	mg/L		0.0002		E200.8	11/11/13 16:58 / jjw
Uranium	0.0007	mg/L		0.0002		E200.8	11/11/13 16:58 / jjw
Zinc	ND	mg/L		0.008		E200.7	11/11/13 16:29 / rlh

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:44  
**Lab ID:** B13110762-002  
**Client Sample ID:** Ynl B 2012 Decline

**Report Date:** 11/13/13  
**Collection Date:** 11/07/13 09:00  
**DateReceived:** 11/08/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	154	mg/L		1		E300.0	11/12/13 00:39 / jpv
Fluoride	ND	mg/L		0.2		A4500-F C	11/11/13 14:26 / jlw
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	11/12/13 12:01 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	0.010	mg/L		0.009		E200.8	11/11/13 17:01 / jjw
Antimony	0.0005	mg/L		0.0005		E200.8	11/11/13 17:01 / jjw
Arsenic	ND	mg/L		0.001		E200.8	11/11/13 17:01 / jjw
Barium	0.004	mg/L		0.003		E200.7	11/11/13 16:33 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	11/11/13 16:33 / rlh
Cadmium	0.00007	mg/L		0.00003		E200.8	11/11/13 17:01 / jjw
Calcium	42	mg/L		1		E200.7	11/11/13 16:33 / rlh
Chromium	ND	mg/L		0.01		E200.7	11/11/13 16:33 / rlh
Copper	ND	mg/L		0.002		E200.8	11/11/13 17:01 / jjw
Iron	ND	mg/L		0.02		E200.7	11/11/13 16:33 / rlh
Lead	ND	mg/L		0.0003		E200.8	11/11/13 17:01 / jjw
Magnesium	21	mg/L		1		E200.7	11/11/13 16:33 / rlh
Manganese	0.006	mg/L		0.005		E200.7	11/11/13 16:33 / rlh
Mercury	ND	mg/L		0.00001		E245.1	11/11/13 17:20 / ser
Nickel	ND	mg/L		0.002		E200.8	11/11/13 17:01 / jjw
Selenium	0.001	mg/L		0.001		E200.8	11/11/13 17:01 / jjw
Silicon	0.54	mg/L		0.05		E200.7	11/11/13 16:33 / rlh
Silver	ND	mg/L		0.0002		E200.8	11/11/13 17:01 / jjw
Strontium	0.08	mg/L		0.02		E200.7	11/11/13 16:33 / rlh
Thallium	ND	mg/L		0.0002		E200.8	11/11/13 17:01 / jjw
Uranium	0.0009	mg/L		0.0002		E200.8	11/11/13 17:01 / jjw
Zinc	0.009	mg/L		0.008		E200.7	11/11/13 16:33 / rlh

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 11/13/13

**Project:** 3767 WK:44

**Work Order:** B13110762

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>								Analytical Run: MAN-TECH_131111A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Fluoride		0.980	mg/L	0.10	98	90	110			11/11/13 13:53
<b>Method: A4500-F C</b>								Batch: R214856		
<b>Sample ID: MBLK</b>	Method Blank									
Fluoride		ND	mg/L	0.02						Run: MAN-TECH_131111A 11/11/13 13:48
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									
Fluoride		0.970	mg/L	0.10	97	90	110			Run: MAN-TECH_131111A 11/11/13 13:51
<b>Sample ID: B13110651-001AMS</b>	Sample Matrix Spike									
Fluoride		1.13	mg/L	0.10	100	80	120			Run: MAN-TECH_131111A 11/11/13 13:59
<b>Sample ID: B13110651-001AMSD</b>	Sample Matrix Spike Duplicate									
Fluoride		1.13	mg/L	0.10	100	80	120	0.0	10	Run: MAN-TECH_131111A 11/11/13 14:01

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 11/13/13

**Project:** 3767 WK:44

**Work Order:** B13110762

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>		Analytical Run: ICP203-B_131111A									
<b>Sample ID: ICV</b>	10	Continuing Calibration Verification Standard							11/11/13 12:57		
Barium		2.49	mg/L	0.10	100	95	105				
Beryllium		1.28	mg/L	0.010	102	95	105				
Calcium		26.2	mg/L	1.0	105	95	105				
Chromium		2.47	mg/L	0.050	99	95	105				
Iron		2.60	mg/L	0.030	104	95	105				
Magnesium		25.6	mg/L	1.0	102	95	105				
Manganese		2.51	mg/L	0.010	100	95	105				
Strontium		2.57	mg/L	0.10	103	95	105				
Zinc		2.48	mg/L	0.010	99	95	105				
Silicon		5.13	mg/L	0.10	103	95	105				
<b>Method: E200.7</b>		Batch: R214849									
<b>Sample ID: MB-6500DIS131111A</b>	10	Method Blank							Run: ICP203-B_131111A		11/11/13 13:21
Barium		ND	mg/L	0.0003							
Beryllium		0.0001	mg/L	0.0001							
Calcium		ND	mg/L	0.007							
Chromium		ND	mg/L	0.003							
Iron		ND	mg/L	0.003							
Magnesium		0.007	mg/L	0.002							
Manganese		0.0004	mg/L	0.0003							
Strontium		ND	mg/L	5E-05							
Zinc		ND	mg/L	0.001							
Silicon		ND	mg/L	0.01							
<b>Sample ID: LFB-6500DIS131111A</b>	10	Laboratory Fortified Blank							Run: ICP203-B_131111A		11/11/13 13:24
Barium		0.985	mg/L	0.10	98	85	115				
Beryllium		0.512	mg/L	0.010	102	85	115				
Calcium		52.4	mg/L	1.0	105	85	115				
Chromium		0.986	mg/L	0.050	99	85	115				
Iron		5.21	mg/L	0.030	104	85	115				
Magnesium		51.9	mg/L	1.0	104	85	115				
Manganese		5.01	mg/L	0.010	100	85	115				
Strontium		1.05	mg/L	0.10	105	85	115				
Zinc		0.989	mg/L	0.010	99	85	115				
Silicon		10.0	mg/L	0.10	100	85	115				
<b>Sample ID: B13110709-001BMS2</b>	10	Sample Matrix Spike							Run: ICP203-B_131111A		11/11/13 15:51
Barium		0.965	mg/L	0.050	95	70	130				
Beryllium		0.494	mg/L	0.0010	99	70	130				
Calcium		106	mg/L	1.0	101	70	130				
Chromium		0.977	mg/L	0.0050	98	70	130				
Iron		5.14	mg/L	0.030	102	70	130				
Magnesium		66.3	mg/L	1.0	102	70	130				
Manganese		4.89	mg/L	0.0010	98	70	130				
Silicon		15.5	mg/L	0.10	100	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 11/13/13

**Project:** 3767 WK:44

**Work Order:** B13110762

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										
Batch: R214849										
<b>Sample ID: B13110709-001BMS2</b>	10	Sample Matrix Spike					Run: ICP203-B_131111A			11/11/13 15:51
Strontium		1.63	mg/L	0.010	101	70	130			
Zinc		0.984	mg/L	0.010	98	70	130			
<b>Sample ID: B13110709-001BMSD2</b>	10	Sample Matrix Spike Duplicate					Run: ICP203-B_131111A			11/11/13 15:54
Barium		0.967	mg/L	0.050	95	70	130	0.2	20	
Beryllium		0.491	mg/L	0.0010	98	70	130	0.7	20	
Calcium		105	mg/L	1.0	100	70	130	0.8	20	
Chromium		0.969	mg/L	0.0050	97	70	130	0.8	20	
Iron		5.11	mg/L	0.030	102	70	130	0.6	20	
Magnesium		66.0	mg/L	1.0	101	70	130	0.5	20	
Manganese		4.87	mg/L	0.0010	97	70	130	0.4	20	
Silicon		15.3	mg/L	0.10	97	70	130	1.4	20	
Strontium		1.63	mg/L	0.010	100	70	130	0.3	20	
Zinc		0.980	mg/L	0.010	98	70	130	0.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:44

**Report Date:** 11/13/13  
**Work Order:** B13110762

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS202-B_131111A	
<b>Sample ID: QCS</b>	11	Initial Calibration Verification Standard							11/11/13 09:59		
Aluminum		0.251	mg/L	0.10	101	90	110				
Antimony		0.0488	mg/L	0.050	98	90	110				
Arsenic		0.0488	mg/L	0.0050	98	90	110				
Cadmium		0.0254	mg/L	0.0010	102	90	110				
Copper		0.0500	mg/L	0.010	100	90	110				
Lead		0.0503	mg/L	0.010	101	90	110				
Nickel		0.0501	mg/L	0.010	100	90	110				
Selenium		0.0491	mg/L	0.0050	98	90	110				
Silver		0.0253	mg/L	0.0050	101	90	110				
Thallium		0.0491	mg/L	0.10	98	90	110				
Uranium		0.0212	mg/L	0.0010	106	90	110				
<b>Method: E200.8</b>										Batch: R214863	
<b>Sample ID: LFB</b>	11	Laboratory Fortified Blank							Run: ICPMS202-B_131111A 11/11/13 10:02		
Aluminum		0.0489	mg/L	0.10	98	85	115				
Antimony		0.0472	mg/L	0.050	94	85	115				
Arsenic		0.0483	mg/L	0.0050	97	85	115				
Cadmium		0.0483	mg/L	0.0010	97	85	115				
Copper		0.0479	mg/L	0.010	96	85	115				
Lead		0.0512	mg/L	0.010	102	85	115				
Nickel		0.0483	mg/L	0.010	97	85	115				
Selenium		0.0467	mg/L	0.0050	93	85	115				
Silver		0.0200	mg/L	0.0050	100	85	115				
Thallium		0.0505	mg/L	0.10	101	85	115				
Uranium		0.0507	mg/L	0.0010	101	85	115				
<b>Sample ID: LRB</b>	11	Method Blank							Run: ICPMS202-B_131111A 11/11/13 11:56		
Aluminum		ND	mg/L	7E-05							
Antimony		ND	mg/L	2E-05							
Arsenic		ND	mg/L	0.0002							
Cadmium		ND	mg/L	8E-06							
Copper		ND	mg/L	3E-05							
Lead		ND	mg/L	2E-05							
Nickel		ND	mg/L	3E-05							
Selenium		ND	mg/L	0.0006							
Silver		ND	mg/L	1E-05							
Thallium		ND	mg/L	8E-06							
Uranium		ND	mg/L	6E-06							
<b>Sample ID: B13110799-001AMS</b>	11	Sample Matrix Spike							Run: ICPMS202-B_131111A 11/11/13 17:10		
Aluminum		0.0511	mg/L	0.030	102	70	130				
Antimony		0.0482	mg/L	0.0010	96	70	130				
Arsenic		0.0513	mg/L	0.0010	101	70	130				
Cadmium		0.0495	mg/L	0.0010	99	70	130				
Copper		0.200	mg/L	0.0050	83	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 11/13/13

**Project:** 3767 WK:44

**Work Order:** B13110762

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										Batch: R214863
<b>Sample ID: B13110799-001AMS</b>	11	Sample Matrix Spike			Run: ICPMS202-B_131111A			11/11/13 17:10		
Lead		0.0513	mg/L	0.0010	102	70	130			
Nickel		0.0490	mg/L	0.0050	97	70	130			
Selenium		0.0512	mg/L	0.0010	102	70	130			
Silver		0.0167	mg/L	0.0010	84	70	130			
Thallium		0.0510	mg/L	0.00050	102	70	130			
Uranium		0.0498	mg/L	0.00030	99	70	130			
<b>Sample ID: B13110799-001AMSD</b>	11	Sample Matrix Spike Duplicate			Run: ICPMS202-B_131111A			11/11/13 17:13		
Aluminum		0.0519	mg/L	0.030	104	70	130	1.6	20	
Antimony		0.0489	mg/L	0.0010	98	70	130	1.4	20	
Arsenic		0.0506	mg/L	0.0010	100	70	130	1.3	20	
Cadmium		0.0493	mg/L	0.0010	99	70	130	0.3	20	
Copper		0.200	mg/L	0.0050	83	70	130	0.1	20	
Lead		0.0515	mg/L	0.0010	103	70	130	0.5	20	
Nickel		0.0480	mg/L	0.0050	95	70	130	2.0	20	
Selenium		0.0506	mg/L	0.0010	101	70	130	1.2	20	
Silver		0.0168	mg/L	0.0010	84	70	130	0.3	20	
Thallium		0.0519	mg/L	0.00050	104	70	130	1.8	20	
Uranium		0.0514	mg/L	0.00030	102	70	130	3.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 11/13/13

**Project:** 3767 WK:44

**Work Order:** B13110762

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1								Analytical Run: HGCV202-B_131111A			
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								11/11/13 16:48	
Mercury		0.000187	mg/L	1.0E-05	94	90	110				
<b>Method:</b> E245.1										Batch: 75881	
<b>Sample ID:</b> MB-75881		Method Blank								Run: HGCV202-B_131111A	11/11/13 17:00
Mercury		ND	mg/L	3E-06							
<b>Sample ID:</b> LCS-75881		Laboratory Control Sample								Run: HGCV202-B_131111A	11/11/13 17:03
Mercury		0.000190	mg/L	1.0E-05	95	85	115				
<b>Sample ID:</b> B13110762-001BMS		Sample Matrix Spike								Run: HGCV202-B_131111A	11/11/13 17:14
Mercury		0.000199	mg/L	1.0E-05	100	70	130				
<b>Sample ID:</b> B13110762-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_131111A	11/11/13 17:17
Mercury		0.000195	mg/L	1.0E-05	98	70	130	2.0	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 11/13/13

**Project:** 3767 WK:44

**Work Order:** B13110762

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>								Analytical Run: IC202-B_131111A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		100	mg/L	1.0	100	90	110			11/11/13 16:36
<b>Method: E300.0</b>								Batch: R214880		
<b>Sample ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.06						Run: IC202-B_131111A 11/11/13 16:51
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		96.0	mg/L	1.0	96	90	110			Run: IC202-B_131111A 11/11/13 17:06
<b>Sample ID: B13110767-001AMS</b>	Sample Matrix Spike									
Sulfate		146000	mg/L	53		90	110			Run: IC202-B_131111A 11/12/13 01:25 A
<b>Sample ID: B13110767-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		146000	mg/L	53		90	110	0.3	20	Run: IC202-B_131111A 11/12/13 01:40 A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 11/13/13

**Project:** 3767 WK:44

**Work Order:** B13110762

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E365.1</b>								Analytical Run: FIA202-B_131112A			
<b>Sample ID: ICV</b>		Initial Calibration Verification Standard						11/12/13 10:36			
Phosphorus, Total as P		0.256	mg/L	0.0050	102	90	110				
<b>Method: E365.1</b>								Batch: 75879			
<b>Sample ID: MB-75879</b>		Method Blank						Run: FIA202-B_131112A 11/12/13 11:36			
Phosphorus, Total as P		ND	mg/L	0.004							
<b>Sample ID: LCS-75879</b>		Laboratory Control Sample						Run: FIA202-B_131112A 11/12/13 11:37			
Phosphorus, Total as P		0.205	mg/L	0.0050	102	90	110				
<b>Sample ID: B13110762-002CMS</b>		Sample Matrix Spike						Run: FIA202-B_131112A 11/12/13 12:02			
Phosphorus, Total Dissolved as P		0.202	mg/L	0.0050	101	90	110				
<b>Sample ID: B13110762-002CMSD</b>		Sample Matrix Spike Duplicate						Run: FIA202-B_131112A 11/12/13 12:04			
Phosphorus, Total Dissolved as P		0.218	mg/L	0.0050	109	90	110				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13110762

Login completed by: Randa Nees

Date Received: 11/8/2013

Reviewed by: BL2000\lcardreau

Received by: mlk

Reviewed Date: 11/8/2013

Carrier UPS NDA  
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	5.4°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

Samples for Dissolved Total Phosphorus were received at pH ~ 5. 2 mL of sulfuric was added in the laboratory to each sample to preserve to pH<2.



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*

## ANALYTICAL SUMMARY REPORT

December 12, 2013

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B13120511                      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:48

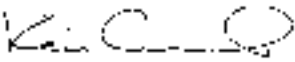
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Alaska Exploration Inc on 12/6/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13120511-001	Ynl 1/Ynl 2 Composite	12/05/13 9:00	12/06/13	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B13120511-002	Ynl B 2012 Decline	12/05/13 9:00	12/06/13	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2013.12.12 14:28:02 -07:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:48  
**Lab ID:** B13120511-001  
**Client Sample ID:** Ynl 1/Ynl 2 Composite

**Report Date:** 12/12/13  
**Collection Date:** 12/05/13 09:00  
**Date Received:** 12/06/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	358	mg/L		1		E300.0	12/10/13 07:03 / jpv
Fluoride	ND	mg/L		0.2		A4500-F C	12/06/13 17:18 / jlw
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	12/12/13 10:59 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	12/09/13 12:39 / AMM
Antimony	ND	mg/L		0.0005		E200.8	12/09/13 12:39 / AMM
Arsenic	ND	mg/L		0.001		E200.8	12/09/13 12:39 / AMM
Barium	0.004	mg/L		0.003		E200.8	12/09/13 12:39 / AMM
Beryllium	ND	mg/L		0.0008		E200.7	12/10/13 17:24 / rlh
Cadmium	0.00006	mg/L		0.00003		E200.8	12/09/13 12:39 / AMM
Calcium	87	mg/L		1		E200.7	12/10/13 17:24 / rlh
Chromium	ND	mg/L		0.01		E200.7	12/10/13 17:24 / rlh
Copper	0.003	mg/L		0.002		E200.8	12/09/13 12:39 / AMM
Iron	ND	mg/L		0.02		E200.7	12/10/13 17:24 / rlh
Lead	ND	mg/L		0.0003		E200.8	12/09/13 12:39 / AMM
Magnesium	46	mg/L		1		E200.7	12/10/13 17:24 / rlh
Manganese	0.011	mg/L		0.005		E200.8	12/09/13 12:39 / AMM
Mercury	ND	mg/L		0.00001		E245.1	12/09/13 16:36 / ser
Nickel	ND	mg/L		0.002		E200.8	12/09/13 12:39 / AMM
Selenium	ND	mg/L		0.001		E200.8	12/09/13 12:39 / AMM
Silicon	0.39	mg/L		0.05		E200.7	12/11/13 12:39 / rlh
Silver	ND	mg/L		0.0002		E200.8	12/09/13 12:39 / AMM
Strontium	0.16	mg/L		0.02		E200.8	12/09/13 12:39 / AMM
Thallium	0.0003	mg/L		0.0002		E200.8	12/09/13 12:39 / AMM
Uranium	0.0005	mg/L		0.0002		E200.8	12/09/13 12:39 / AMM
Zinc	0.009	mg/L		0.008		E200.8	12/09/13 12:39 / AMM

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:48  
**Lab ID:** B13120511-002  
**Client Sample ID:** Ynl B 2012 Decline

**Report Date:** 12/12/13  
**Collection Date:** 12/05/13 09:00  
**Date Received:** 12/06/13  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	166	mg/L		1		E300.0	12/10/13 07:18 / jpv
Fluoride	ND	mg/L		0.2		A4500-F C	12/06/13 17:21 / jlw
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.009	mg/L	L	0.005		E365.1	12/12/13 11:00 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	0.011	mg/L		0.009		E200.8	12/09/13 12:42 / AMM
Antimony	ND	mg/L		0.0005		E200.8	12/09/13 12:42 / AMM
Arsenic	ND	mg/L		0.001		E200.8	12/09/13 12:42 / AMM
Barium	0.004	mg/L		0.003		E200.8	12/09/13 12:42 / AMM
Beryllium	ND	mg/L		0.0008		E200.7	12/10/13 17:39 / rlh
Cadmium	0.00008	mg/L		0.00003		E200.8	12/09/13 12:42 / AMM
Calcium	43	mg/L		1		E200.7	12/10/13 17:39 / rlh
Chromium	ND	mg/L		0.01		E200.7	12/10/13 17:39 / rlh
Copper	ND	mg/L		0.002		E200.8	12/09/13 12:42 / AMM
Iron	ND	mg/L		0.02		E200.7	12/10/13 17:39 / rlh
Lead	ND	mg/L		0.0003		E200.8	12/09/13 12:42 / AMM
Magnesium	22	mg/L		1		E200.7	12/10/13 17:39 / rlh
Manganese	0.006	mg/L		0.005		E200.8	12/09/13 12:42 / AMM
Mercury	ND	mg/L		0.00001		E245.1	12/09/13 16:39 / ser
Nickel	ND	mg/L		0.002		E200.8	12/09/13 12:42 / AMM
Selenium	ND	mg/L		0.001		E200.8	12/09/13 12:42 / AMM
Silicon	0.41	mg/L		0.05		E200.7	12/11/13 12:43 / rlh
Silver	ND	mg/L		0.0002		E200.8	12/09/13 12:42 / AMM
Strontium	0.08	mg/L		0.02		E200.8	12/09/13 12:42 / AMM
Thallium	ND	mg/L		0.0002		E200.8	12/09/13 12:42 / AMM
Uranium	0.0007	mg/L		0.0002		E200.8	12/09/13 12:42 / AMM
Zinc	0.012	mg/L		0.008		E200.8	12/09/13 12:42 / AMM

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 12/12/13

**Project:** 3767 WK:48

**Work Order:** B13120511

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>								Analytical Run: MAN-TECH_131206A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Fluoride		1.00	mg/L	0.10	100	90	110			12/06/13 17:05
<b>Method: A4500-F C</b>								Batch: R216146		
<b>Sample ID: MBLK</b>	Method Blank									
Fluoride		ND	mg/L	0.02						Run: MAN-TECH_131206A 12/06/13 17:00
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									
Fluoride		1.02	mg/L	0.10	102	90	110			Run: MAN-TECH_131206A 12/06/13 17:02
<b>Sample ID: B13120492-001AMS</b>	Sample Matrix Spike									
Fluoride		1.46	mg/L	0.10	99	80	120			Run: MAN-TECH_131206A 12/06/13 17:10
<b>Sample ID: B13120492-001AMSD</b>	Sample Matrix Spike Duplicate									
Fluoride		1.46	mg/L	0.10	99	80	120	0.0	10	Run: MAN-TECH_131206A 12/06/13 17:13

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 12/12/13

**Project:** 3767 WK:48

**Work Order:** B13120511

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>		Analytical Run: ICP203-B_131210A									
<b>Sample ID: ICV</b>	5	Continuing Calibration Verification Standard								12/10/13 11:18	
Beryllium		1.25	mg/L	0.010	100	95	105				
Calcium		25.8	mg/L	1.0	103	95	105				
Chromium		2.43	mg/L	0.050	97	95	105				
Iron		2.58	mg/L	0.030	103	95	105				
Magnesium		25.4	mg/L	1.0	102	95	105				
<b>Method: E200.7</b>		Batch: R216293									
<b>Sample ID: MB-6500DIS131210A</b>	5	Method Blank								Run: ICP203-B_131210A	12/10/13 11:41
Beryllium		ND	mg/L	0.0001							
Calcium		0.01	mg/L	0.007							
Chromium		0.007	mg/L	0.003							
Iron		0.004	mg/L	0.003							
Magnesium		ND	mg/L	0.002							
<b>Sample ID: LFB-6500DIS131210A</b>	5	Laboratory Fortified Blank								Run: ICP203-B_131210A	12/10/13 11:45
Beryllium		0.501	mg/L	0.010	100	85	115				
Calcium		50.3	mg/L	1.0	101	85	115				
Chromium		0.959	mg/L	0.050	95	85	115				
Iron		5.02	mg/L	0.030	100	85	115				
Magnesium		50.2	mg/L	1.0	100	85	115				
<b>Sample ID: B13120511-001BMS2</b>	5	Sample Matrix Spike								Run: ICP203-B_131210A	12/10/13 17:32
Beryllium		0.506	mg/L	0.0010	101	70	130				
Calcium		137	mg/L	1.0	99	70	130				
Chromium		0.993	mg/L	0.0050	99	70	130				
Iron		5.20	mg/L	0.030	104	70	130				
Magnesium		98.2	mg/L	1.0	104	70	130				
<b>Sample ID: B13120511-001BMSD2</b>	5	Sample Matrix Spike Duplicate								Run: ICP203-B_131210A	12/10/13 17:35
Beryllium		0.484	mg/L	0.0010	97	70	130	4.5	20		
Calcium		132	mg/L	1.0	90	70	130	3.6	20		
Chromium		0.952	mg/L	0.0050	95	70	130	4.2	20		
Iron		4.98	mg/L	0.030	100	70	130	4.4	20		
Magnesium		94.3	mg/L	1.0	96	70	130	4.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 12/12/13

**Project:** 3767 WK:48

**Work Order:** B13120511

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_131211A		
<b>Sample ID: ICV</b>	Continuing Calibration Verification Standard									
Silicon		5.07	mg/L	0.10	101	95	105			12/11/13 11:42
<b>Method: E200.7</b>								Batch: R216396		
<b>Sample ID: MB-6500DIS131211A</b>	Method Blank									
Silicon		ND	mg/L	0.01						Run: ICP203-B_131211A 12/11/13 12:05
<b>Sample ID: LFB-6500DIS131211A</b>	Laboratory Fortified Blank									
Silicon		9.86	mg/L	0.10	99	85	115			Run: ICP203-B_131211A 12/11/13 12:09
<b>Sample ID: B13120508-002BMS2</b>	Sample Matrix Spike									
Silicon		40.5	mg/L	0.10	94	70	130			Run: ICP203-B_131211A 12/11/13 12:24
<b>Sample ID: B13120508-002BMSD2</b>	Sample Matrix Spike Duplicate									
Silicon		40.2	mg/L	0.10	93	70	130	0.8	20	Run: ICP203-B_131211A 12/11/13 12:35

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 12/12/13

**Project:** 3767 WK:48

**Work Order:** B13120511

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS202-B_131209A	
<b>Sample ID: QCS</b>	15	Initial Calibration Verification Standard							12/09/13 09:33		
Aluminum		0.235	mg/L	0.10	94	90	110				
Antimony		0.0505	mg/L	0.050	101	90	110				
Arsenic		0.0498	mg/L	0.0050	100	90	110				
Barium		0.0507	mg/L	0.10	101	90	110				
Cadmium		0.0260	mg/L	0.0010	104	90	110				
Copper		0.0509	mg/L	0.010	102	90	110				
Lead		0.0484	mg/L	0.010	97	90	110				
Manganese		0.242	mg/L	0.010	97	90	110				
Nickel		0.0502	mg/L	0.010	100	90	110				
Selenium		0.0517	mg/L	0.0050	103	90	110				
Silver		0.0268	mg/L	0.0050	107	90	110				
Strontium		0.0513	mg/L	0.10	103	90	110				
Thallium		0.0499	mg/L	0.10	100	90	110				
Uranium		0.0201	mg/L	0.0010	101	90	110				
Zinc		0.0522	mg/L	0.010	104	90	110				

<b>Method: E200.8</b>										Batch: R216243	
<b>Sample ID: LFB</b>	15	Laboratory Fortified Blank							Run: ICPMS202-B_131209A		12/09/13 09:36
Aluminum		0.0480	mg/L	0.10	96	85	115				
Antimony		0.0470	mg/L	0.050	94	85	115				
Arsenic		0.0487	mg/L	0.0050	97	85	115				
Barium		0.0484	mg/L	0.10	97	85	115				
Cadmium		0.0477	mg/L	0.0010	95	85	115				
Copper		0.0488	mg/L	0.010	98	85	115				
Lead		0.0482	mg/L	0.010	96	85	115				
Manganese		0.0499	mg/L	0.010	100	85	115				
Nickel		0.0499	mg/L	0.010	100	85	115				
Selenium		0.0479	mg/L	0.0050	96	85	115				
Silver		0.0200	mg/L	0.0050	100	85	115				
Strontium		0.0507	mg/L	0.10	101	85	115				
Thallium		0.0491	mg/L	0.10	98	85	115				
Uranium		0.0505	mg/L	0.0010	101	85	115				
Zinc		0.0475	mg/L	0.010	95	85	115				

<b>Sample ID: LRB</b>	15	Method Blank							Run: ICPMS202-B_131209A		12/09/13 10:03
Aluminum		ND	mg/L	7E-05							
Antimony		ND	mg/L	2E-05							
Arsenic		ND	mg/L	0.0002							
Barium		ND	mg/L	4E-05							
Cadmium		ND	mg/L	8E-06							
Copper		ND	mg/L	3E-05							
Lead		ND	mg/L	2E-05							
Manganese		ND	mg/L	2E-05							
Nickel		ND	mg/L	3E-05							

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 12/12/13

**Project:** 3767 WK:48

**Work Order:** B13120511

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R216243										
<b>Sample ID: LRB</b>	15	Method Blank								
Run: ICPMS202-B_131209A										
12/09/13 10:03										
Selenium		ND	mg/L	0.0006						
Silver		ND	mg/L	1E-05						
Strontium		ND	mg/L	1E-05						
Thallium		ND	mg/L	8E-06						
Uranium		ND	mg/L	6E-06						
Zinc		ND	mg/L	0.0001						
<b>Sample ID: B13120498-001AMS</b>	15	Sample Matrix Spike								
Run: ICPMS202-B_131209A										
12/09/13 13:18										
Aluminum		0.0661	mg/L	0.030	99	70	130			
Antimony		0.0455	mg/L	0.0010	91	70	130			
Arsenic		0.0488	mg/L	0.0010	97	70	130			
Barium		0.0570	mg/L	0.050	91	70	130			
Cadmium		0.0476	mg/L	0.0010	95	70	130			
Copper		0.0669	mg/L	0.0050	101	70	130			
Lead		0.0472	mg/L	0.0010	94	70	130			
Manganese		0.683	mg/L	0.0010		70	130			A
Nickel		0.0713	mg/L	0.0050	104	70	130			
Selenium		0.0524	mg/L	0.0010	103	70	130			
Silver		0.0198	mg/L	0.0010	99	70	130			
Strontium		0.154	mg/L	0.010	91	70	130			
Thallium		0.0485	mg/L	0.00050	97	70	130			
Uranium		0.0475	mg/L	0.00030	95	70	130			
Zinc		0.0474	mg/L	0.010	91	70	130			
<b>Sample ID: B13120498-001AMSD</b>	15	Sample Matrix Spike Duplicate								
Run: ICPMS202-B_131209A										
12/09/13 13:21										
Aluminum		0.0681	mg/L	0.030	103	70	130	3.1	20	
Antimony		0.0462	mg/L	0.0010	92	70	130	1.5	20	
Arsenic		0.0498	mg/L	0.0010	99	70	130	1.9	20	
Barium		0.0575	mg/L	0.050	92	70	130	0.9	20	
Cadmium		0.0483	mg/L	0.0010	97	70	130	1.5	20	
Copper		0.0684	mg/L	0.0050	104	70	130	2.3	20	
Lead		0.0474	mg/L	0.0010	95	70	130	0.4	20	
Manganese		0.702	mg/L	0.0010		70	130	2.8	20	A
Nickel		0.0727	mg/L	0.0050	106	70	130	1.9	20	
Selenium		0.0532	mg/L	0.0010	105	70	130	1.6	20	
Silver		0.0203	mg/L	0.0010	102	70	130	2.4	20	
Strontium		0.157	mg/L	0.010	98	70	130	2.2	20	
Thallium		0.0486	mg/L	0.00050	97	70	130	0.1	20	
Uranium		0.0478	mg/L	0.00030	96	70	130	0.6	20	
Zinc		0.0481	mg/L	0.010	93	70	130	1.5	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 12/12/13

**Project:** 3767 WK:48

**Work Order:** B13120511

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1								Analytical Run: HGCV202-B_131209A			
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								12/09/13 16:04	
Mercury		0.000191	mg/L	1.0E-05	96	90	110				
<b>Method:</b> E245.1										Batch: 76422	
<b>Sample ID:</b> MB-76422		Method Blank								Run: HGCV202-B_131209A	12/09/13 16:14
Mercury		ND	mg/L	3E-06							
<b>Sample ID:</b> LCS-76422		Laboratory Control Sample								Run: HGCV202-B_131209A	12/09/13 16:16
Mercury		0.000190	mg/L	1.0E-05	95	85	115				
<b>Sample ID:</b> B13120511-002BMS		Sample Matrix Spike								Run: HGCV202-B_131209A	12/09/13 16:43
Mercury		0.000199	mg/L	1.0E-05	100	70	130				
<b>Sample ID:</b> B13120511-002BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_131209A	12/09/13 16:46
Mercury		0.000202	mg/L	1.0E-05	101	70	130	1.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 12/12/13

**Project:** 3767 WK:48

**Work Order:** B13120511

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>								Analytical Run: IC202-B_131209A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate	101	mg/L	1.0	101	90	110				12/09/13 14:09
<b>Method: E300.0</b>								Batch: R216280		
<b>Sample ID: ICB</b>	Method Blank									
Sulfate	ND	mg/L	0.06				Run: IC202-B_131209A			12/09/13 14:24
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									
Sulfate	103	mg/L	1.1	103	90	110	Run: IC202-B_131209A			12/09/13 14:40
<b>Sample ID: B13120489-001AMS</b>	Sample Matrix Spike									
Sulfate	1240	mg/L	5.3	93	90	110	Run: IC202-B_131209A			12/10/13 06:02
<b>Sample ID: B13120489-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate	1230	mg/L	5.3	91	90	110	0.8	20		12/10/13 06:17

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 12/12/13

**Project:** 3767 WK:48

**Work Order:** B13120511

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E365.1										Analytical Run: FIA202-B_131212A	
<b>Sample ID:</b> ICV		Initial Calibration Verification Standard								12/12/13 09:56	
Phosphorus, Total as P		0.258	mg/L	0.0050	103	90	110				
<b>Method:</b> E365.1										Batch: 76442	
<b>Sample ID:</b> MB-76442		Method Blank								Run: FIA202-B_131212A	12/12/13 10:37
Phosphorus, Total as P		0.004	mg/L	0.004							
<b>Sample ID:</b> LCS-76442		Laboratory Control Sample								Run: FIA202-B_131212A	12/12/13 10:38
Phosphorus, Total as P		0.202	mg/L	0.0050	99	90	110				
<b>Sample ID:</b> B13120490-001AMS		Sample Matrix Spike								Run: FIA202-B_131212A	12/12/13 10:51
Phosphorus, Total as P		6.37	mg/L	0.050	90	90	110				
<b>Sample ID:</b> B13120490-001AMSD		Sample Matrix Spike Duplicate								Run: FIA202-B_131212A	12/12/13 10:52
Phosphorus, Total as P		6.36	mg/L	0.050	90	90	110	0.2	10		
<b>Sample ID:</b> B13120511-002CMS		Sample Matrix Spike								Run: FIA202-B_131212A	12/12/13 11:02
Phosphorus, Total Dissolved as P		0.195	mg/L	0.0050	93	90	110				
<b>Sample ID:</b> B13120511-002CMSD		Sample Matrix Spike Duplicate								Run: FIA202-B_131212A	12/12/13 11:03
Phosphorus, Total Dissolved as P		0.201	mg/L	0.0050	96	90	110				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B13120511

Login completed by: Randa Nees

Date Received: 12/6/2013

Reviewed by: BL2000\lcardreau

Received by: Ig

Reviewed Date: 12/7/2013

Carrier UPS NDA  
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	2.3°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None





**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

January 09, 2014

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B14010135      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:52


Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Alaska Exploration Inc on 1/3/2014 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B14010135-001	Ynl 1/Ynl 2 Composite	01/02/14 9:00	01/03/14	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B14010135-002	Ynl B 2012 Decline	01/02/14 9:00	01/03/14	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2014.01.09 16:00:31 -07:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:52  
**Lab ID:** B14010135-001  
**Client Sample ID:** Ynl 1/Ynl 2 Composite

**Report Date:** 01/09/14  
**Collection Date:** 01/02/14 09:00  
**DateReceived:** 01/03/14  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	316	mg/L		1		E300.0	01/07/14 03:19 / jpv
Fluoride	ND	mg/L		0.2		A4500-F C	01/06/14 12:24 / jlw
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.008	mg/L	L	0.005		E365.1	01/09/14 11:46 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	01/06/14 15:33 / amm
Antimony	ND	mg/L		0.0005		E200.8	01/06/14 15:33 / amm
Arsenic	ND	mg/L		0.001		E200.8	01/06/14 15:33 / amm
Barium	0.004	mg/L		0.003		E200.8	01/06/14 15:33 / amm
Beryllium	ND	mg/L		0.0008		E200.8	01/06/14 15:33 / amm
Cadmium	0.00005	mg/L		0.00003		E200.8	01/07/14 10:42 / mas
Calcium	68	mg/L		1		E200.7	01/07/14 11:04 / rlh
Chromium	ND	mg/L		0.01		E200.8	01/06/14 15:33 / amm
Copper	ND	mg/L		0.002		E200.8	01/06/14 15:33 / amm
Iron	ND	mg/L		0.02		E200.7	01/07/14 11:04 / rlh
Lead	ND	mg/L		0.0003		E200.8	01/06/14 15:33 / amm
Magnesium	37	mg/L		1		E200.7	01/07/14 11:04 / rlh
Manganese	0.010	mg/L		0.005		E200.8	01/06/14 15:33 / amm
Mercury	ND	mg/L		0.00001		E245.1	01/06/14 15:09 / ser
Nickel	0.003	mg/L		0.002		E200.8	01/06/14 15:33 / amm
Selenium	0.001	mg/L		0.001		E200.8	01/06/14 15:33 / amm
Silicon	1.30	mg/L		0.05		E200.7	01/07/14 11:04 / rlh
Silver	ND	mg/L		0.0002		E200.8	01/06/14 15:33 / amm
Strontium	0.14	mg/L		0.02		E200.8	01/06/14 15:33 / amm
Thallium	0.0003	mg/L		0.0002		E200.8	01/06/14 15:33 / amm
Uranium	0.0004	mg/L		0.0002		E200.8	01/06/14 15:33 / amm
Zinc	ND	mg/L		0.008		E200.8	01/06/14 15:33 / amm

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:52  
**Lab ID:** B14010135-002  
**Client Sample ID:** Ynl B 2012 Decline

**Report Date:** 01/09/14  
**Collection Date:** 01/02/14 09:00  
**DateReceived:** 01/03/14  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	152	mg/L		1		E300.0	01/07/14 03:34 / jpv
Fluoride	ND	mg/L		0.2		A4500-F C	01/06/14 12:32 / jlw
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.006	mg/L	L	0.005		E365.1	01/09/14 11:47 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	01/06/14 15:36 / amm
Antimony	ND	mg/L		0.0005		E200.8	01/06/14 15:36 / amm
Arsenic	ND	mg/L		0.001		E200.8	01/06/14 15:36 / amm
Barium	0.004	mg/L		0.003		E200.8	01/06/14 15:36 / amm
Beryllium	ND	mg/L		0.0008		E200.8	01/06/14 15:36 / amm
Cadmium	0.00008	mg/L		0.00003		E200.8	01/07/14 10:45 / mas
Calcium	42	mg/L		1		E200.7	01/08/14 11:51 / rlh
Chromium	ND	mg/L		0.01		E200.8	01/06/14 15:36 / amm
Copper	ND	mg/L		0.002		E200.8	01/06/14 15:36 / amm
Iron	ND	mg/L		0.02		E200.7	01/08/14 11:51 / rlh
Lead	ND	mg/L		0.0003		E200.8	01/06/14 15:36 / amm
Magnesium	21	mg/L		1		E200.7	01/08/14 11:51 / rlh
Manganese	0.006	mg/L		0.005		E200.8	01/06/14 15:36 / amm
Mercury	ND	mg/L		0.00001		E245.1	01/06/14 15:11 / ser
Nickel	ND	mg/L		0.002		E200.8	01/06/14 15:36 / amm
Selenium	ND	mg/L		0.001		E200.8	01/06/14 15:36 / amm
Silicon	1.95	mg/L		0.05		E200.7	01/08/14 11:51 / rlh
Silver	ND	mg/L		0.0002		E200.8	01/06/14 15:36 / amm
Strontium	0.07	mg/L		0.02		E200.8	01/06/14 15:36 / amm
Thallium	ND	mg/L		0.0002		E200.8	01/06/14 15:36 / amm
Uranium	0.0006	mg/L		0.0002		E200.8	01/06/14 15:36 / amm
Zinc	0.010	mg/L		0.008		E200.8	01/06/14 15:36 / amm

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 01/09/14

**Project:** 3767 WK:52

**Work Order:** B14010135

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>								Analytical Run: MAN-TECH_140106A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									01/06/14 12:21
Fluoride		0.990	mg/L	0.10	99	90	110			
<b>Method: A4500-F C</b>								Batch: R217390		
<b>Sample ID: MBLK</b>	Method Blank									01/06/14 12:16
Fluoride		ND	mg/L	0.02						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									01/06/14 12:19
Fluoride		0.960	mg/L	0.10	96	90	110			
<b>Sample ID: B14010135-001AMS</b>	Sample Matrix Spike									01/06/14 12:27
Fluoride		1.12	mg/L	0.10	102	80	120			
<b>Sample ID: B14010135-001AMSD</b>	Sample Matrix Spike Duplicate									01/06/14 12:29
Fluoride		1.11	mg/L	0.10	101	80	120	0.9	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 01/09/14

**Project:** 3767 WK:52

**Work Order:** B14010135

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>								Analytical Run: IC203-B_140106A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		98.5	mg/L	1.0	99	90	110			01/06/14 15:29
<b>Method: E300.0</b>								Batch: R217514		
<b>Sample ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.09						Run: IC203-B_140106A 01/06/14 15:44
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		104	mg/L	1.1	104	90	110			Run: IC203-B_140106A 01/06/14 15:59
<b>Sample ID: B13121852-001BMS</b>	Sample Matrix Spike									
Sulfate		120	mg/L	1.1	100	90	110			Run: IC203-B_140106A 01/07/14 02:04
<b>Sample ID: B13121852-001BMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		120	mg/L	1.1	99	90	110	0.6	20	Run: IC203-B_140106A 01/07/14 02:19

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 01/09/14

**Project:** 3767 WK:52

**Work Order:** B14010135

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_140109A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.239	mg/L	0.0050	96	90	110			01/09/14 10:28
<b>Method: E365.1</b>								Batch: 76963		
<b>Sample ID: MB-76963</b>	Method Blank									
Phosphorus, Total as P		ND	mg/L	0.0050						01/09/14 11:40
<b>Sample ID: LCS-76963</b>	Laboratory Control Sample									
Phosphorus, Total as P		0.189	mg/L	0.0050	95	90	110			01/09/14 11:41
<b>Sample ID: B14010242-001CMS</b>	Sample Matrix Spike									
Phosphorus, Total as P		7.89	mg/L	0.050	104	90	110			01/09/14 11:54
<b>Sample ID: B14010242-001CMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total as P		7.90	mg/L	0.050	104	90	110	0.1	10	01/09/14 11:55
<b>Sample ID: B14010352-002BMS</b>	Sample Matrix Spike									
Phosphorus, Total as P		6.58	mg/L	0.050	104	90	110			01/09/14 12:09
<b>Sample ID: B14010352-002BMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total as P		6.53	mg/L	0.050	101	90	110	0.8	10	01/09/14 12:10

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 01/09/14

**Project:** 3767 WK:52

**Work Order:** B14010135

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>		Analytical Run: ICP203-B_140107A									
<b>Sample ID: ICV</b>	4	Continuing Calibration Verification Standard								01/07/14 09:47	
Calcium		24.4	mg/L	1.0	98	95	105				
Iron		2.44	mg/L	0.030	98	95	105				
Magnesium		23.9	mg/L	1.0	95	95	105				
Silicon		5.03	mg/L	0.10	101	95	105				
<b>Method: E200.7</b>		Batch: R217456									
<b>Sample ID: MB-6500DIS140107A</b>	4	Method Blank								Run: ICP203-B_140107A	01/07/14 10:10
Calcium		0.010	mg/L	0.007							
Iron		ND	mg/L	0.003							
Magnesium		0.003	mg/L	0.002							
Silicon		ND	mg/L	0.01							
<b>Sample ID: LFB-6500DIS140107A</b>	4	Laboratory Fortified Blank								Run: ICP203-B_140107A	01/07/14 10:14
Calcium		49.1	mg/L	1.0	98	85	115				
Iron		4.95	mg/L	0.030	99	85	115				
Magnesium		48.8	mg/L	1.0	98	85	115				
Silicon		10.7	mg/L	0.10	107	85	115				
<b>Sample ID: B14010135-001BMS2</b>	4	Sample Matrix Spike								Run: ICP203-B_140107A	01/07/14 11:12
Calcium		108	mg/L	1.0	80	70	130				
Iron		4.44	mg/L	0.030	89	70	130				
Magnesium		79.6	mg/L	1.0	86	70	130				
Silicon		11.0	mg/L	0.10	97	70	130				
<b>Sample ID: B14010135-001BMSD2</b>	4	Sample Matrix Spike Duplicate								Run: ICP203-B_140107A	01/07/14 11:15
Calcium		111	mg/L	1.0	85	70	130	2.4	20		
Iron		4.58	mg/L	0.030	92	70	130	3.0	20		
Magnesium		81.6	mg/L	1.0	90	70	130	2.5	20		
Silicon		11.2	mg/L	0.10	99	70	130	1.9	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 01/09/14

**Project:** 3767 WK:52

**Work Order:** B14010135

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>		Analytical Run: ICP203-B_140108A									
<b>Sample ID: ICV</b>	4	Continuing Calibration Verification Standard								01/08/14 10:38	
Calcium		25.5	mg/L	1.0	102	95	105				
Iron		2.53	mg/L	0.030	101	95	105				
Magnesium		25.1	mg/L	1.0	100	95	105				
Silicon		5.04	mg/L	0.10	101	95	105				
<b>Method: E200.7</b>		Batch: R217513									
<b>Sample ID: MB-6500DIS140108A</b>	4	Method Blank								Run: ICP203-B_140108A	01/08/14 11:02
Calcium		ND	mg/L	0.007							
Iron		ND	mg/L	0.003							
Magnesium		ND	mg/L	0.002							
Silicon		ND	mg/L	0.01							
<b>Sample ID: LFB-6500DIS140108A</b>	4	Laboratory Fortified Blank								Run: ICP203-B_140108A	01/08/14 11:06
Calcium		52.7	mg/L	1.0	105	85	115				
Iron		5.24	mg/L	0.030	105	85	115				
Magnesium		52.7	mg/L	1.0	105	85	115				
Silicon		10.2	mg/L	0.10	102	85	115				
<b>Sample ID: B14010237-001BMS2</b>	4	Sample Matrix Spike								Run: ICP203-B_140108A	01/08/14 11:40
Calcium		80.3	mg/L	1.0	105	70	130				
Iron		5.28	mg/L	0.030	105	70	130				
Magnesium		61.7	mg/L	1.0	106	70	130				
Silicon		19.0	mg/L	0.10	101	70	130				
<b>Sample ID: B14010237-001BMSD2</b>	4	Sample Matrix Spike Duplicate								Run: ICP203-B_140108A	01/08/14 11:44
Calcium		70.3	mg/L	1.0	85	70	130	13	20		
Iron		4.30	mg/L	0.030	86	70	130	20	20	R	
Magnesium		51.7	mg/L	1.0	86	70	130	18	20		
Silicon		17.9	mg/L	0.10	91	70	130	5.5	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:52

**Report Date:** 01/09/14  
**Work Order:** B14010135

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS202-B_140106A	
<b>Sample ID: QCS</b>	16	Initial Calibration Verification Standard							01/06/14 12:54		
Aluminum		0.243	mg/L	0.10	97	90	110				
Antimony		0.0502	mg/L	0.050	100	90	110				
Arsenic		0.0499	mg/L	0.0050	100	90	110				
Barium		0.0502	mg/L	0.10	100	90	110				
Beryllium		0.0248	mg/L	0.0010	99	90	110				
Chromium		0.0507	mg/L	0.010	101	90	110				
Copper		0.0511	mg/L	0.010	102	90	110				
Lead		0.0495	mg/L	0.010	99	90	110				
Manganese		0.246	mg/L	0.010	98	90	110				
Nickel		0.0499	mg/L	0.010	100	90	110				
Selenium		0.0509	mg/L	0.0050	102	90	110				
Silver		0.0249	mg/L	0.0050	100	90	110				
Strontium		0.0510	mg/L	0.10	102	90	110				
Thallium		0.0498	mg/L	0.10	100	90	110				
Uranium		0.0202	mg/L	0.0010	101	90	110				
Zinc		0.0522	mg/L	0.010	104	90	110				

<b>Method: E200.8</b>										Batch: R217399	
<b>Sample ID: LFB</b>	16	Laboratory Fortified Blank							Run: ICPMS202-B_140106A		01/06/14 10:15
Aluminum		0.0468	mg/L	0.10	94	80	120				
Antimony		0.0464	mg/L	0.050	93	80	120				
Arsenic		0.0472	mg/L	0.0050	94	80	120				
Barium		0.0495	mg/L	0.10	99	80	120				
Beryllium		0.0462	mg/L	0.0010	92	80	120				
Chromium		0.0482	mg/L	0.010	96	80	120				
Copper		0.0477	mg/L	0.010	95	80	120				
Lead		0.0492	mg/L	0.010	98	80	120				
Manganese		0.0480	mg/L	0.010	96	80	120				
Nickel		0.0479	mg/L	0.010	96	80	120				
Selenium		0.0461	mg/L	0.0050	92	80	120				
Silver		0.0186	mg/L	0.0050	93	80	120				
Strontium		0.0502	mg/L	0.10	100	80	120				
Thallium		0.0502	mg/L	0.10	100	80	120				
Uranium		0.0505	mg/L	0.0010	101	80	120				
Zinc		0.0472	mg/L	0.010	94	80	120				

<b>Sample ID: LRB</b>	16	Method Blank							Run: ICPMS202-B_140106A		01/06/14 10:52
Aluminum		0.002	mg/L	7E-05							
Antimony		ND	mg/L	2E-05							
Arsenic		ND	mg/L	0.0002							
Barium		ND	mg/L	4E-05							
Beryllium		ND	mg/L	2E-05							
Chromium		ND	mg/L	3E-05							
Copper		ND	mg/L	3E-05							

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 01/09/14

**Project:** 3767 WK:52

**Work Order:** B14010135

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R217399										
<b>Sample ID: LRB</b>	16	Method Blank								
Run: ICPMS202-B_140106A										
01/06/14 10:52										
Lead		ND	mg/L	2E-05						
Manganese		ND	mg/L	2E-05						
Nickel		ND	mg/L	3E-05						
Selenium		ND	mg/L	0.0006						
Silver		ND	mg/L	1E-05						
Strontium		ND	mg/L	1E-05						
Thallium		ND	mg/L	8E-06						
Uranium		ND	mg/L	6E-06						
Zinc		ND	mg/L	0.0001						
<b>Sample ID: B14010030-001BMS</b>	16	Sample Matrix Spike								
Run: ICPMS202-B_140106A										
01/06/14 16:25										
Aluminum		0.230	mg/L	0.030	89	70	130			
Antimony		0.224	mg/L	0.0010	90	70	130			
Arsenic		0.237	mg/L	0.0010	94	70	130			
Barium		0.245	mg/L	0.050	91	70	130			
Beryllium		0.223	mg/L	0.0010	89	70	130			
Chromium		0.254	mg/L	0.0050	99	70	130			
Copper		0.240	mg/L	0.0050	93	70	130			
Lead		0.239	mg/L	0.0010	96	70	130			
Manganese		1.22	mg/L	0.0010		70	130			A
Nickel		0.308	mg/L	0.0050	92	70	130			
Selenium		0.246	mg/L	0.0031	95	70	130			
Silver		0.0968	mg/L	0.0010	97	70	130			
Strontium		9.76	mg/L	0.010		70	130			A
Thallium		0.241	mg/L	0.00050	96	70	130			
Uranium		0.279	mg/L	0.00030	99	70	130			
Zinc		0.230	mg/L	0.010	86	70	130			
<b>Sample ID: B14010030-001BMSD</b>	16	Sample Matrix Spike Duplicate								
Run: ICPMS202-B_140106A										
01/06/14 16:28										
Aluminum		0.275	mg/L	0.030	107	70	130	18	20	
Antimony		0.273	mg/L	0.0010	109	70	130	20	20	
Arsenic		0.278	mg/L	0.0010	111	70	130	16	20	
Barium		0.301	mg/L	0.050	114	70	130	21	20	R
Beryllium		0.266	mg/L	0.0010	106	70	130	17	20	
Chromium		0.300	mg/L	0.0050	117	70	130	16	20	
Copper		0.285	mg/L	0.0050	111	70	130	17	20	
Lead		0.288	mg/L	0.0010	115	70	130	18	20	
Manganese		1.45	mg/L	0.0010		70	130	17	20	A
Nickel		0.358	mg/L	0.0050	112	70	130	15	20	
Selenium		0.288	mg/L	0.0031	112	70	130	16	20	
Silver		0.112	mg/L	0.0010	112	70	130	15	20	
Strontium		11.7	mg/L	0.010		70	130	18	20	A
Thallium		0.288	mg/L	0.00050	115	70	130	18	20	
Uranium		0.335	mg/L	0.00030	122	70	130	18	20	
Zinc		0.272	mg/L	0.010	103	70	130	17	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

R - RPD exceeds advisory limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 01/09/14

**Project:** 3767 WK:52

**Work Order:** B14010135

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R217399
<b>Sample ID:</b> B14010030-001BMSD	16	Sample Matrix Spike Duplicate								Run: ICPMS202-B_140106A 01/06/14 16:28
<b>Method:</b> E200.8										Analytical Run: ICPMS202-B_140107A
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								01/07/14 09:14
Cadmium		0.0268	mg/L	0.0010	107	90	110			
<b>Method:</b> E200.8										Batch: R217496
<b>Sample ID:</b> LFB		Laboratory Fortified Blank								Run: ICPMS202-B_140107A 01/07/14 09:22
Cadmium		0.0486	mg/L	0.0010	97	80	120			
<b>Sample ID:</b> LRB		Method Blank								Run: ICPMS202-B_140107A 01/07/14 09:40
Cadmium		ND	mg/L	8E-06						
<b>Sample ID:</b> B14010135-001BMS		Sample Matrix Spike								Run: ICPMS202-B_140107A 01/07/14 10:57
Cadmium		0.0558	mg/L	0.0010	111	70	130			
<b>Sample ID:</b> B14010135-001BMSD		Sample Matrix Spike Duplicate								Run: ICPMS202-B_140107A 01/07/14 11:00
Cadmium		0.0546	mg/L	0.0010	109	70	130	2.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 01/09/14

**Project:** 3767 WK:52

**Work Order:** B14010135

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV202-B_140106A	
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								01/06/14 14:30	
Mercury		0.000200	mg/L	1.0E-05	100	90	110				
<b>Method:</b> E245.1										Batch: 76902	
<b>Sample ID:</b> MB-76902		Method Blank								Run: HGCV202-B_140106A	01/06/14 14:41
Mercury		ND	mg/L	3E-06							
<b>Sample ID:</b> LCS-76902		Laboratory Control Sample								Run: HGCV202-B_140106A	01/06/14 14:43
Mercury		0.000209	mg/L	1.0E-05	105	85	115				
<b>Sample ID:</b> B14010113-002AMS		Sample Matrix Spike								Run: HGCV202-B_140106A	01/06/14 15:02
Mercury		0.000203	mg/L	1.0E-05	100	70	130				
<b>Sample ID:</b> B14010113-002AMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_140106A	01/06/14 15:04
Mercury		0.000206	mg/L	1.0E-05	101	70	130	1.5	30		
<b>Sample ID:</b> B14010135-002BMS		Sample Matrix Spike								Run: HGCV202-B_140106A	01/06/14 15:14
Mercury		0.000207	mg/L	1.0E-05	104	70	130				
<b>Sample ID:</b> B14010135-002BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_140106A	01/06/14 15:16
Mercury		0.000206	mg/L	1.0E-05	103	70	130	0.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B14010135

Login completed by: Randa Nees

Date Received: 1/3/2014

Reviewed by: BL2000\tedwards

Received by: jrjz

Reviewed Date: 1/6/2014

Carrier UPS NDA  
name:

- |  |   |  |  |
|--|---|--|--|
| Shipping container/cooler in good condition?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on all shipping container(s)/cooler(s)?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on all sample bottles?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/>            |
| Chain of custody present?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody signed when relinquished and received?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody agrees with sample labels?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Samples in proper container/bottle?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sample containers intact?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sufficient sample volume for indicated test?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Temp Blank received in all shipping container(s)/cooler(s)?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |
| Container/Temp Blank temperature:  | 11.2°C Melted Ice                       |  |  |
| Water - VOA vials have zero headspace?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

Samples Ynl 1/Ynl 2 Composite and Ynl B 2012 Decline for Dissolved Phosphorus was received at pH ~ 6. 2 mL of sulfuric acid was added in the laboratory to preserve to pH<2.



# Chain of Custody and Analytical Request Record

**Company Name:** McClelland Lab  
**Project Name:** WK:52  
**Sample Origin State:** NV  
**EPA/State Compliance:** Yes  No

**Report Mail Address:** Tintina Resources, 200 Granville St. Suite 2560, Vancouver, BC V6C 1S4 Canada  
**Contact Name:** Mike Medina  
**Phone/Fax:** 775-356-1300  
**Email:** MLI@METTEST.COM  
**Sampler:** (Please Print) Robert Johnson

**Invoice Address:** Tintina Resources, 200 Granville St. Suite 2560, Vancouver, BC V6C 1S4 Canada  
**Invoice Contact & Phone:** Mr Bob Jacko, 604-628-1162  
**Purchase Order:**

**Special Report/Formats - ELI must be notified prior to sample submittal for the following:**

DW  A2LA  
 GSA  EDD/EDT (Electronic Data)  
 POT/WWTP **Format:** \_\_\_\_\_  
 State: \_\_\_\_\_  LEVEL IV  
 Other: \_\_\_\_\_  NELAC

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Number of Containers Sample Type: A W S V B O Vegetation Bioassay Other	SEE ATTACHED	ANALYSIS REQUESTED		Normal Turnaround (TAT)	Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	Comments:	Shipped by: Cooler ID(s):
						SEE ATTACHED	RUSH				
1 Ynl 1/Ynl 2 Composite	1/2/14	09:00	Water	X	X	X	X	X			Shipped by: <b>Robert NDA</b> Cooler ID(s):
2 Ynl B 2012 Decline	↓	↓	↓	↓	↓						Receipt Temp: <b>11.2 °C</b> On Ice: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Custody Seal Intact <input checked="" type="checkbox"/> N Signature Match <input checked="" type="checkbox"/> N
3											
4											
5											
6											
7											
8											
9											
10											

**Please Copy results to:** MLI@METTEST.COM

**LABORATORY USE ONLY**

**Received by (print):** Matt Par  
**Signature:** Matt Par  
**Date/Time:** 1/2/14 09:00

**Received by (print):** [Signature]  
**Signature:** [Signature]  
**Date/Time:** 1/3/14 09:45

**Relinquished by (print):** Matt Par  
**Signature:** Matt Par  
**Date/Time:** 1/2/14 09:00

**Relinquished by (print):** [Signature]  
**Signature:** [Signature]  
**Date/Time:** [Signature]

**Sample Disposal:** [Signature] **Return to Client:** [Signature] **Lab Disposal:** [Signature]

**Custody Record MUST be Signed**

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly noted on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

February 07, 2014

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B14012000      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:56


Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Alaska Exploration Inc on 1/31/2014 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B14012000-001	YnL 1/YnL 2 Composite	01/30/14 9:00	01/31/14	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B14012000-002	YnL B 2012 Decline	01/30/14 9:00	01/31/14	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2014.02.07 15:53:49 -07:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:56  
**Lab ID:** B14012000-001  
**Client Sample ID:** YnL 1/YnL 2 Composite

**Report Date:** 02/07/14  
**Collection Date:** 01/30/14 09:00  
**Date Received:** 01/31/14  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	325	mg/L		1		E300.0	02/04/14 11:02 / jpv
Fluoride	ND	mg/L		0.2		A4500-F C	02/03/14 14:12 / jlw
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	02/06/14 10:24 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	02/03/14 15:22 / mas
Antimony	ND	mg/L		0.0005		E200.8	02/03/14 15:22 / mas
Arsenic	ND	mg/L		0.001		E200.8	02/03/14 15:22 / mas
Barium	0.004	mg/L		0.003		E200.8	02/03/14 15:22 / mas
Beryllium	ND	mg/L		0.0008		E200.8	02/03/14 15:22 / mas
Cadmium	0.00005	mg/L		0.00003		E200.8	02/03/14 15:22 / mas
Calcium	77	mg/L		1		E200.7	02/04/14 12:21 / mas
Chromium	ND	mg/L		0.01		E200.8	02/03/14 15:22 / mas
Copper	ND	mg/L		0.002		E200.8	02/03/14 15:22 / mas
Iron	0.03	mg/L		0.02		E200.8	02/03/14 15:22 / mas
Lead	ND	mg/L		0.0003		E200.8	02/03/14 15:22 / mas
Magnesium	42	mg/L		1		E200.8	02/03/14 15:22 / mas
Manganese	0.010	mg/L		0.005		E200.8	02/03/14 15:22 / mas
Mercury	ND	mg/L		0.00001		E245.1	02/03/14 14:43 / ser
Nickel	0.003	mg/L		0.002		E200.8	02/03/14 15:22 / mas
Selenium	0.001	mg/L		0.001		E200.8	02/03/14 15:22 / mas
Silicon	0.66	mg/L		0.05		E200.8	02/03/14 15:22 / mas
Silver	ND	mg/L		0.0002		E200.8	02/03/14 15:22 / mas
Strontium	0.12	mg/L		0.02		E200.8	02/03/14 15:22 / mas
Thallium	0.0004	mg/L		0.0002		E200.8	02/03/14 15:22 / mas
Uranium	0.0005	mg/L		0.0002		E200.8	02/03/14 15:22 / mas
Zinc	0.008	mg/L		0.008		E200.8	02/03/14 15:22 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:56  
**Lab ID:** B14012000-002  
**Client Sample ID:** YnL B 2012 Decline

**Report Date:** 02/07/14  
**Collection Date:** 01/30/14 09:00  
**Date Received:** 01/31/14  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	163	mg/L		1		E300.0	02/04/14 11:17 / jpv
Fluoride	ND	mg/L		0.2		A4500-F C	02/03/14 14:15 / jlw
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	02/06/14 10:28 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	02/03/14 15:27 / mas
Antimony	ND	mg/L		0.0005		E200.8	02/03/14 15:27 / mas
Arsenic	ND	mg/L		0.001		E200.8	02/03/14 15:27 / mas
Barium	0.004	mg/L		0.003		E200.8	02/03/14 15:27 / mas
Beryllium	ND	mg/L		0.0008		E200.8	02/03/14 15:27 / mas
Cadmium	0.00008	mg/L		0.00003		E200.8	02/03/14 15:27 / mas
Calcium	43	mg/L		1		E200.7	02/04/14 12:41 / mas
Chromium	ND	mg/L		0.01		E200.8	02/03/14 15:27 / mas
Copper	ND	mg/L		0.002		E200.8	02/03/14 15:27 / mas
Iron	ND	mg/L		0.02		E200.8	02/03/14 15:27 / mas
Lead	ND	mg/L		0.0003		E200.8	02/03/14 15:27 / mas
Magnesium	21	mg/L		1		E200.8	02/03/14 15:27 / mas
Manganese	0.007	mg/L		0.005		E200.8	02/03/14 15:27 / mas
Mercury	ND	mg/L		0.00001		E245.1	02/03/14 14:52 / ser
Nickel	ND	mg/L		0.002		E200.8	02/03/14 15:27 / mas
Selenium	ND	mg/L		0.001		E200.8	02/03/14 15:27 / mas
Silicon	0.73	mg/L		0.05		E200.8	02/03/14 15:27 / mas
Silver	ND	mg/L		0.0002		E200.8	02/03/14 15:27 / mas
Strontium	0.07	mg/L		0.02		E200.8	02/03/14 15:27 / mas
Thallium	ND	mg/L		0.0002		E200.8	02/03/14 15:27 / mas
Uranium	0.0007	mg/L		0.0002		E200.8	02/03/14 15:27 / mas
Zinc	0.014	mg/L		0.008		E200.8	02/03/14 15:27 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 02/07/14

**Project:** 3767 WK:56

**Work Order:** B14012000

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>								Analytical Run: MAN-TECH_140203A		
<b>Sample ID: ICV</b> Initial Calibration Verification Standard 02/03/14 14:10										
Fluoride		1.00	mg/L	0.10	100	90	110			
<b>Method: A4500-F C</b>								Batch: R218814		
<b>Sample ID: MBLK</b> Method Blank Run: MAN-TECH_140203A 02/03/14 14:04										
Fluoride		ND	mg/L	0.02						
<b>Sample ID: LFB</b> Laboratory Fortified Blank Run: MAN-TECH_140203A 02/03/14 14:07										
Fluoride		1.00	mg/L	0.10	100	90	110			
<b>Sample ID: B14020055-001AMS</b> Sample Matrix Spike Run: MAN-TECH_140203A 02/03/14 14:21										
Fluoride		1.41	mg/L	0.10	106	80	120			
<b>Sample ID: B14020055-001AMSD</b> Sample Matrix Spike Duplicate Run: MAN-TECH_140203A 02/03/14 14:23										
Fluoride		1.41	mg/L	0.10	106	80	120	0.0	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 02/07/14

**Project:** 3767 WK:56

**Work Order:** B14012000

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.7		Analytical Run: ICP201-B_140204A								
<b>Sample ID:</b> ICV	Continuing Calibration Verification Standard									
Calcium		25.9	mg/L	1.0	103	95	105			02/04/14 11:38
<b>Method:</b> E200.7		Batch: R218868								
<b>Sample ID:</b> MB-IRISDIS140204A	Method Blank									
Calcium		ND	mg/L	0.02						Run: ICP201-B_140204A 02/04/14 12:01
<b>Sample ID:</b> LFB-IRISDIS140204A	Laboratory Fortified Blank									
Calcium		51.5	mg/L	1.0	103	85	115			Run: ICP201-B_140204A 02/04/14 12:04
<b>Sample ID:</b> B14012000-001BMS2	Sample Matrix Spike									
Calcium		176	mg/L	1.0	100	70	130			Run: ICP201-B_140204A 02/04/14 12:28
<b>Sample ID:</b> B14012000-001BMSD2	Sample Matrix Spike Duplicate									
Calcium		175	mg/L	1.0	98	70	130	1.0	20	Run: ICP201-B_140204A 02/04/14 12:31

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 02/07/14

**Project:** 3767 WK:56

**Work Order:** B14012000

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS203-B_140203A	
<b>Sample ID: QCS</b>	20	Initial Calibration Verification Standard							02/03/14 14:40		
Aluminum		0.236	mg/L	0.10	94	90	110				
Antimony		0.0493	mg/L	0.050	99	90	110				
Arsenic		0.0484	mg/L	0.0050	97	90	110				
Barium		0.0484	mg/L	0.10	97	90	110				
Beryllium		0.0239	mg/L	0.0010	96	90	110				
Cadmium		0.0249	mg/L	0.0010	100	90	110				
Chromium		0.0492	mg/L	0.010	98	90	110				
Copper		0.0504	mg/L	0.010	101	90	110				
Iron		0.269	mg/L	0.030	108	90	110				
Lead		0.0486	mg/L	0.010	97	90	110				
Magnesium		2.55	mg/L	0.50	102	90	110				
Manganese		0.240	mg/L	0.010	96	90	110				
Nickel		0.0503	mg/L	0.010	101	90	110				
Selenium		0.0492	mg/L	0.0050	98	90	110				
Silicon		0.506	mg/L	0.10	101	90	110				
Silver		0.0239	mg/L	0.0050	96	90	110				
Strontium		0.0503	mg/L	0.10	101	90	110				
Thallium		0.0496	mg/L	0.10	99	90	110				
Uranium		0.0202	mg/L	0.0010	101	90	110				
Zinc		0.0506	mg/L	0.010	101	90	110				

<b>Method: E200.8</b>										Batch: R218833
<b>Sample ID: LFB</b>	19	Laboratory Fortified Blank							Run: ICPMS203-B_140203A	02/03/14 10:58
Aluminum		0.0490	mg/L	0.10	98	80	120			
Antimony		0.0457	mg/L	0.050	91	80	120			
Arsenic		0.0474	mg/L	0.0050	95	80	120			
Barium		0.0483	mg/L	0.10	97	80	120			
Beryllium		0.0472	mg/L	0.0010	94	80	120			
Cadmium		0.0484	mg/L	0.0010	97	80	120			
Chromium		0.0472	mg/L	0.010	94	80	120			
Copper		0.0466	mg/L	0.010	93	80	120			
Iron		4.86	mg/L	0.030	97	80	120			
Lead		0.0502	mg/L	0.010	100	80	120			
Magnesium		48.4	mg/L	0.50	97	80	120			
Manganese		0.0498	mg/L	0.010	100	80	120			
Nickel		0.0467	mg/L	0.010	93	80	120			
Selenium		0.0486	mg/L	0.0050	97	80	120			
Silver		0.0191	mg/L	0.0050	95	80	120			
Strontium		0.0515	mg/L	0.10	103	80	120			
Thallium		0.0497	mg/L	0.10	99	80	120			
Uranium		0.0499	mg/L	0.0010	100	80	120			
Zinc		0.0468	mg/L	0.010	94	80	120			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:56

**Report Date:** 02/07/14  
**Work Order:** B14012000

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R218833										
<b>Sample ID: LRB</b>	20	Laboratory Reagent Blank					Run: ICPMS203-B_140203A			02/03/14 11:36
Aluminum		ND	mg/L	0.10		0	0			
Antimony		ND	mg/L	0.050		0	0			
Arsenic		ND	mg/L	0.0050		0	0			
Barium		ND	mg/L	0.10		0	0			
Beryllium		ND	mg/L	0.0010		0	0			
Cadmium		ND	mg/L	0.0010		0	0			
Chromium		ND	mg/L	0.010		0	0			
Copper		ND	mg/L	0.010		0	0			
Iron		ND	mg/L	0.030		0	0			
Lead		ND	mg/L	0.010		0	0			
Magnesium		ND	mg/L	0.50		0	0			
Manganese		ND	mg/L	0.010		0	0			
Nickel		ND	mg/L	0.010		0	0			
Selenium		ND	mg/L	0.0050		0	0			
Silicon		ND	mg/L	0.10		0	0			
Silver		ND	mg/L	0.0050		0	0			
Strontium		ND	mg/L	0.10		0	0			
Thallium		ND	mg/L	0.10		0	0			
Uranium		ND	mg/L	0.0010		0	0			
Zinc		ND	mg/L	0.010		0	0			
<b>Sample ID: B14011960-008BMS</b>	20	Sample Matrix Spike					Run: ICPMS203-B_140203A			02/03/14 16:40
Aluminum		0.0543	mg/L	0.030	105	70	130			
Antimony		0.0490	mg/L	0.0010	98	70	130			
Arsenic		0.0512	mg/L	0.0010	102	70	130			
Barium		0.0546	mg/L	0.050	103	70	130			
Beryllium		0.0505	mg/L	0.0010	101	70	130			
Cadmium		0.0500	mg/L	0.0010	100	70	130			
Chromium		0.0506	mg/L	0.0050	101	70	130			
Copper		0.0532	mg/L	0.0050	106	70	130			
Iron		5.44	mg/L	0.030	109	70	130			
Lead		0.0481	mg/L	0.0010	96	70	130			
Magnesium		52.2	mg/L	1.0	104	70	130			
Manganese		0.0523	mg/L	0.0010	103	70	130			
Nickel		0.0506	mg/L	0.0050	101	70	130			
Selenium		0.0513	mg/L	0.0010	103	70	130			
Silicon		0.453	mg/L	0.10	100	70	130			
Silver		0.0150	mg/L	0.0010	75	70	130			
Strontium		0.0549	mg/L	0.010	105	70	130			
Thallium		0.0484	mg/L	0.00050	97	70	130			
Uranium		0.0482	mg/L	0.00030	96	70	130			
Zinc		0.0501	mg/L	0.010	99	70	130			
<b>Sample ID: B14011960-008BMSD</b>	20	Sample Matrix Spike Duplicate					Run: ICPMS203-B_140203A			02/03/14 16:45
Aluminum		0.0548	mg/L	0.030	106	70	130	0.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 02/07/14

**Project:** 3767 WK:56

**Work Order:** B14012000

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R218833
<b>Sample ID:</b> B14011960-008BMSD	20	Sample Matrix Spike Duplicate					Run: ICPMS203-B_140203A			02/03/14 16:45
Antimony		0.0495	mg/L	0.0010	99	70	130	1.0	20	
Arsenic		0.0518	mg/L	0.0010	104	70	130	1.1	20	
Barium		0.0552	mg/L	0.050	104	70	130	1.1	20	
Beryllium		0.0501	mg/L	0.0010	100	70	130	0.7	20	
Cadmium		0.0506	mg/L	0.0010	101	70	130	1.3	20	
Chromium		0.0509	mg/L	0.0050	102	70	130	0.7	20	
Copper		0.0519	mg/L	0.0050	103	70	130	2.6	20	
Iron		5.03	mg/L	0.030	101	70	130	7.9	20	
Lead		0.0519	mg/L	0.0010	104	70	130	7.5	20	
Magnesium		51.9	mg/L	1.0	104	70	130	0.5	20	
Manganese		0.0533	mg/L	0.0010	105	70	130	1.9	20	
Nickel		0.0512	mg/L	0.0050	102	70	130	1.3	20	
Selenium		0.0474	mg/L	0.0010	95	70	130	7.9	20	
Silicon		0.429	mg/L	0.10	87	70	130	5.6	20	
Silver		0.0180	mg/L	0.0010	90	70	130	18	20	
Strontium		0.0550	mg/L	0.010	105	70	130	0.3	20	
Thallium		0.0524	mg/L	0.00050	105	70	130	8.0	20	
Uranium		0.0522	mg/L	0.00030	104	70	130	8.0	20	
Zinc		0.0496	mg/L	0.010	98	70	130	1.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:56

**Report Date:** 02/07/14  
**Work Order:** B14012000

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV202-B_140203A	
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								02/03/14 14:13	
Mercury		0.000192	mg/L	1.0E-05	96	90	110				
<b>Method:</b> E245.1										Batch: 77530	
<b>Sample ID:</b> MB-77530		Method Blank								Run: HGCV202-B_140203A	02/03/14 14:22
Mercury		ND	mg/L	2E-06							
<b>Sample ID:</b> LCS-77530		Laboratory Control Sample								Run: HGCV202-B_140203A	02/03/14 14:24
Mercury		0.000209	mg/L	1.0E-05	105	85	115				
<b>Sample ID:</b> B14011850-002AMS		Sample Matrix Spike								Run: HGCV202-B_140203A	02/03/14 14:32
Mercury		0.000208	mg/L	1.0E-05	104	70	130				
<b>Sample ID:</b> B14011850-002AMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_140203A	02/03/14 14:35
Mercury		0.000206	mg/L	1.0E-05	103	70	130	1.0	30		
<b>Sample ID:</b> B14012000-001BMS		Sample Matrix Spike								Run: HGCV202-B_140203A	02/03/14 14:45
Mercury		0.000206	mg/L	1.0E-05	103	70	130				
<b>Sample ID:</b> B14012000-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_140203A	02/03/14 14:50
Mercury		0.000212	mg/L	1.0E-05	106	70	130	2.9	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 02/07/14

**Project:** 3767 WK:56

**Work Order:** B14012000

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>								Analytical Run: IC203-B_140203A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		97.7	mg/L	1.0	98	90	110			02/04/14 00:12
<b>Method: E300.0</b>								Batch: R218847		
<b>Sample ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.09						Run: IC203-B_140203A 02/04/14 00:27
<b>Sample ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		103	mg/L	1.1	103	90	110			Run: IC203-B_140203A 02/04/14 00:42
<b>Sample ID: B14011945-003AMS</b>	Sample Matrix Spike									
Sulfate		107	mg/L	1.1	107	90	110			Run: IC203-B_140203A 02/04/14 09:31
<b>Sample ID: B14011945-003AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		106	mg/L	1.1	106	90	110	0.7	20	Run: IC203-B_140203A 02/04/14 09:46

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 02/07/14

**Project:** 3767 WK:56

**Work Order:** B14012000

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_140206A		
<b>Sample ID: ICV</b> Initial Calibration Verification Standard 02/06/14 09:32										
Phosphorus, Total as P		0.242	mg/L	0.0050	97	90	110			
<b>Method: E365.1</b>								Batch: 77540		
<b>Sample ID: MB-77540</b> Method Blank Run: FIA202-B_140206A 02/06/14 10:15										
Phosphorus, Total as P		ND	mg/L	0.0050						
<b>Sample ID: LCS-77540</b> Laboratory Control Sample Run: FIA202-B_140206A 02/06/14 10:16										
Phosphorus, Total as P		0.192	mg/L	0.0050	96	90	110			
<b>Sample ID: B14012000-001CMS</b> Sample Matrix Spike Run: FIA202-B_140206A 02/06/14 10:26										
Phosphorus, Total Dissolved as P		0.197	mg/L	0.0050	99	90	110			
<b>Sample ID: B14012000-001CMSD</b> Sample Matrix Spike Duplicate Run: FIA202-B_140206A 02/06/14 10:27										
Phosphorus, Total Dissolved as P		0.186	mg/L	0.0050	93	90	110			
<b>Sample ID: B14020006-002CMS</b> Sample Matrix Spike Run: FIA202-B_140206A 02/06/14 10:31										
Phosphorus, Total as P		0.289	mg/L	0.0050	101	90	110			
<b>Sample ID: B14020006-002CMSD</b> Sample Matrix Spike Duplicate Run: FIA202-B_140206A 02/06/14 10:32										
Phosphorus, Total as P		0.306	mg/L	0.0050	109	90	110	5.7	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B14012000

Login completed by: Tony Valero

Date Received: 1/31/2014

Reviewed by: BL2000\jklier

Received by: Ig

Reviewed Date: 1/31/2014

Carrier UPS  
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	7.0°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab		<b>Project Name, PWS, Permit, Etc.</b> 3767 WK:56		<b>Sample Origin</b> State: NV		<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Report Mail Address:</b> Tintina Resources 200 Granville St, Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Contact Name:</b> Mike Medina		<b>Phone/Fax:</b> 775-356-1300		<b>Email:</b> MLI@METTEST.COM	
<b>Invoice Address:</b> Tintina Resources 200 Granville St, Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko 604-628-1162		<b>Purchase Order:</b>		<b>Quote/Bottle Order:</b>	
<b>Special Report/Formats - ELI must be notified prior to sample submittal for the following:</b> <input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> GSA <input type="checkbox"/> Format: _____ <input type="checkbox"/> POTV/MWTP <input type="checkbox"/> LEVEL IV <input type="checkbox"/> State: _____ <input type="checkbox"/> NELAC <input type="checkbox"/> Other: _____							
<b>Number of Containers</b> Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other		<input checked="" type="checkbox"/> SEE ATTACHED		<b>ANALYSIS REQUESTED</b>		<b>Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page</b>	
<b>MATRIX</b> Water		<input checked="" type="checkbox"/> SEE ATTACHED		<b>Normal Turnaround (TAT)</b> SEE ATTACHED		<b>Comments:</b> R U S H	
<b>1 Ynl 1/Ynl 2 Composite</b>		<b>Collection Date</b> 1/30/14		<b>Collection Time</b> 09:00		<b>Shipped by</b> Robert MDA	
<b>2 Ynl B 2012 Decline</b>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<b>Cooler ID(s):</b> 	
<b>3</b>		<input type="checkbox"/>		<input type="checkbox"/>		<b>Receipt Temp</b> 7.0 °C	
<b>4</b>		<input type="checkbox"/>		<input type="checkbox"/>		<b>On Ice:</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
<b>5</b>		<input type="checkbox"/>		<input type="checkbox"/>		<b>Custody Seal Intact</b> Y N Signature Match Y N	
<b>6</b>		<input type="checkbox"/>		<input type="checkbox"/>		<b>Signature Match</b> Y N B1012000 -001	
<b>7</b>		<input type="checkbox"/>		<input type="checkbox"/>		<b>Signature Match</b> Y N -002-	
<b>8</b>		<input type="checkbox"/>		<input type="checkbox"/>			
<b>9</b>		<input type="checkbox"/>		<input type="checkbox"/>			
<b>10</b>		<input type="checkbox"/>		<input type="checkbox"/>			
<b>Relinquished by (print):</b> Matt Poore		<b>Signature:</b> Matt Poore		<b>Date/Time:</b> 1-30-14/1400		<b>Signature:</b>	
<b>Relinquished by (print):</b>		<b>Signature:</b>		<b>Date/Time:</b>		<b>Signature:</b>	
<b>Sample Disposal:</b>		<b>Return to Client:</b>		<b>Received by (print):</b> Matt Pan		<b>Date/Time:</b> 1-31-14 9:45	
<b>Signature:</b>		<b>Signature:</b>		<b>Received by (print):</b>		<b>Date/Time:</b>	
<b>Signature:</b>		<b>Signature:</b>		<b>Received by Laboratory:</b>		<b>Date/Time:</b>	
<b>Signature:</b>		<b>Signature:</b>		<b>Received by Laboratory:</b>		<b>Date/Time:</b>	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Visit our web site at [www.enrnlab.com](http://www.enrnlab.com) for additional information, downloadable fee schedule forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*



# ANALYTICAL SUMMARY REPORT

March 05, 2014

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Workorder No.: B14021785      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:60

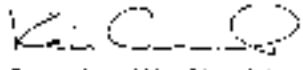
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Alaska Exploration Inc on 2/28/2014 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B14021785-001	Ynl 1/Ynl 2 Composite	02/27/14 9:00	02/28/14	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B14021785-002	Ynl B 2012 Decline	02/27/14 9:00	02/28/14	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2014.03.06 16:09:11 -07:00





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:60  
**Lab ID:** B14021785-001  
**Client Sample ID:** Ynl 1/Ynl 2 Composite

**Report Date:** 03/05/14  
**Collection Date:** 02/27/14 09:00  
**Date Received:** 02/28/14  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	247	mg/L		1		E300.0	02/28/14 21:13 / jpv
Fluoride	ND	mg/L		0.2		A4500-F C	02/28/14 13:18 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	03/04/14 15:48 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	0.010	mg/L		0.009		E200.8	03/03/14 11:28 / amn
Antimony	ND	mg/L		0.0005		E200.8	03/03/14 11:28 / amn
Arsenic	ND	mg/L		0.001		E200.8	03/03/14 11:28 / amn
Barium	0.005	mg/L		0.003		E200.8	03/03/14 11:28 / amn
Beryllium	ND	mg/L		0.0008		E200.7	03/03/14 12:50 / rlh
Cadmium	ND	mg/L		0.00003		E200.8	03/03/14 11:28 / amn
Calcium	60	mg/L		1		E200.7	03/03/14 12:50 / rlh
Chromium	ND	mg/L		0.01		E200.7	03/03/14 12:50 / rlh
Copper	ND	mg/L		0.002		E200.8	03/03/14 11:28 / amn
Iron	ND	mg/L		0.02		E200.7	03/03/14 12:50 / rlh
Lead	ND	mg/L		0.0003		E200.8	03/03/14 11:28 / amn
Magnesium	29	mg/L		1		E200.7	03/03/14 12:50 / rlh
Manganese	0.023	mg/L		0.005		E200.7	03/03/14 12:50 / rlh
Mercury	ND	mg/L		0.00001		E245.1	03/03/14 15:54 / ser
Nickel	ND	mg/L		0.002		E200.8	03/03/14 11:28 / amn
Selenium	0.001	mg/L		0.001		E200.8	03/03/14 11:28 / amn
Silicon	0.44	mg/L		0.05		E200.7	03/03/14 12:50 / rlh
Silver	ND	mg/L		0.0002		E200.8	03/04/14 12:13 / amn
Strontium	0.11	mg/L		0.02		E200.7	03/03/14 12:50 / rlh
Thallium	0.0002	mg/L		0.0002		E200.8	03/04/14 12:13 / amn
Uranium	ND	mg/L		0.0002		E200.8	03/03/14 11:28 / amn
Zinc	ND	mg/L		0.008		E200.7	03/03/14 12:50 / rlh

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:60  
**Lab ID:** B14021785-002  
**Client Sample ID:** Ynl B 2012 Decline

**Report Date:** 03/05/14  
**Collection Date:** 02/27/14 09:00  
**Date Received:** 02/28/14  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	105	mg/L		1		E300.0	02/28/14 21:58 / jpv
Fluoride	ND	mg/L		0.2		A4500-F C	02/28/14 13:20 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	03/04/14 15:49 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	0.020	mg/L		0.009		E200.8	03/03/14 11:31 / amm
Antimony	ND	mg/L		0.0005		E200.8	03/03/14 11:31 / amm
Arsenic	ND	mg/L		0.001		E200.8	03/03/14 11:31 / amm
Barium	0.003	mg/L		0.003		E200.8	03/03/14 11:31 / amm
Beryllium	ND	mg/L		0.0008		E200.7	03/03/14 13:01 / rlh
Cadmium	ND	mg/L		0.00003		E200.8	03/03/14 11:31 / amm
Calcium	30	mg/L		1		E200.7	03/03/14 13:01 / rlh
Chromium	ND	mg/L		0.01		E200.7	03/03/14 13:01 / rlh
Copper	0.003	mg/L		0.002		E200.8	03/03/14 11:31 / amm
Iron	ND	mg/L		0.02		E200.7	03/03/14 13:01 / rlh
Lead	ND	mg/L		0.0003		E200.8	03/03/14 11:31 / amm
Magnesium	15	mg/L		1		E200.7	03/03/14 13:01 / rlh
Manganese	0.008	mg/L		0.005		E200.8	03/03/14 11:31 / amm
Mercury	ND	mg/L		0.00001		E245.1	03/03/14 15:57 / ser
Nickel	ND	mg/L		0.002		E200.8	03/04/14 12:16 / amm
Selenium	ND	mg/L		0.001		E200.8	03/03/14 11:31 / amm
Silicon	0.60	mg/L		0.05		E200.7	03/03/14 13:01 / rlh
Silver	ND	mg/L		0.0002		E200.8	03/04/14 12:16 / amm
Strontium	0.05	mg/L		0.02		E200.7	03/03/14 13:01 / rlh
Thallium	ND	mg/L		0.0002		E200.8	03/03/14 11:31 / amm
Uranium	ND	mg/L		0.0002		E200.8	03/03/14 11:31 / amm
Zinc	0.011	mg/L		0.008		E200.7	03/03/14 13:01 / rlh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:60

**Report Date:** 03/05/14  
**Work Order:** B14021785

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>							Analytical Run: MAN-TECH_140228A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								02/28/14 12:58
Fluoride	1.01	mg/L	0.10	101	90	110			
<b>Method: A4500-F C</b>							Batch: R220079		
<b>Sample ID: MBLK</b>	Method Blank								02/28/14 12:53
Fluoride	ND	mg/L	0.02						
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								02/28/14 12:55
Fluoride	0.940	mg/L	0.10	94	90	110			
<b>Sample ID: B14021776-001BMS</b>	Sample Matrix Spike								02/28/14 13:03
Fluoride	1.54	mg/L	0.10	92	80	120			
<b>Sample ID: B14021776-001BMSD</b>	Sample Matrix Spike Duplicate								02/28/14 13:06
Fluoride	1.56	mg/L	0.10	94	80	120	1.3	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:60

**Report Date:** 03/05/14  
**Work Order:** B14021785

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>							Analytical Run: IC203-B_140228A		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								02/28/14 16:56
Sulfate	96.7	mg/L	1.0	97	90	110			
<b>Method: E300.0</b>							Batch: R220097		
<b>Sample ID: ICB</b>	Method Blank								02/28/14 17:11
Sulfate	ND	mg/L	0.09						Run: IC203-B_140228A
<b>Sample ID: LFB</b>	Laboratory Fortified Blank								02/28/14 17:26
Sulfate	104	mg/L	1.1	104	90	110			Run: IC203-B_140228A
<b>Sample ID: B14021785-002AMS</b>	Sample Matrix Spike								02/28/14 22:13
Sulfate	210	mg/L	1.1	105	90	110			Run: IC203-B_140228A
<b>Sample ID: B14021785-002AMSD</b>	Sample Matrix Spike Duplicate								02/28/14 22:28
Sulfate	210	mg/L	1.1	105	90	110	0.2	20	Run: IC203-B_140228A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:60

**Report Date:** 03/05/14  
**Work Order:** B14021785

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>							Analytical Run: FIA202-B_140304C		
<b>Sample ID: ICV</b>	Initial Calibration Verification Standard								03/04/14 14:53
Phosphorus, Total as P	0.256	mg/L	0.0050	102	90	110			
<b>Method: E365.1</b>							Batch: 78036		
<b>Sample ID: MB-78036</b>	Method Blank								03/04/14 15:42
Phosphorus, Total as P	ND	mg/L	0.0050						Run: FIA202-B_140304C
<b>Sample ID: LCS-78036</b>	Laboratory Control Sample								03/04/14 15:43
Phosphorus, Total as P	0.209	mg/L	0.0050	104	90	110			Run: FIA202-B_140304C
<b>Sample ID: B14021796-005EMS</b>	Sample Matrix Spike								03/04/14 16:01
Phosphorus, Dissolved as P	22.3	mg/L	0.10	101	90	110			Run: FIA202-B_140304C
<b>Sample ID: B14021796-005EMSD</b>	Sample Matrix Spike Duplicate								03/04/14 16:03
Phosphorus, Dissolved as P	22.4	mg/L	0.10	104	90	110			Run: FIA202-B_140304C
<b>Sample ID: B14021796-009DMS</b>	Sample Matrix Spike								03/04/14 16:12
Phosphorus, Total as P	57.5	mg/L	0.50	94	90	110			Run: FIA202-B_140304C
<b>Sample ID: B14021796-009DMSD</b>	Sample Matrix Spike Duplicate								03/04/14 16:13
Phosphorus, Total as P	57.7	mg/L	0.50	95	90	110	0.3	10	Run: FIA202-B_140304C

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 03/05/14

**Project:** 3767 WK:60

**Work Order:** B14021785

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_140303A			
<b>Sample ID: ICV</b>	9	Continuing Calibration Verification Standard									03/03/14 11:22
Beryllium		1.20	mg/L	0.010	96	95	105				
Calcium		24.6	mg/L	1.0	98	95	105				
Chromium		2.41	mg/L	0.050	96	95	105				
Iron		2.41	mg/L	0.030	97	95	105				
Magnesium		24.8	mg/L	1.0	99	95	105				
Manganese		2.38	mg/L	0.010	95	95	105				
Strontium		2.54	mg/L	0.10	102	95	105				
Zinc		2.43	mg/L	0.010	97	95	105				
Silicon		4.97	mg/L	0.10	99	95	105				
<b>Method: E200.7</b>								Batch: R220117			
<b>Sample ID: MB-6500DIS140303A</b>	9	Method Blank									03/03/14 11:45
Run: ICP203-B_140303A											
Beryllium		ND	mg/L	0.0002							
Calcium		ND	mg/L	0.01							
Chromium		ND	mg/L	0.005							
Iron		ND	mg/L	0.004							
Magnesium		ND	mg/L	0.003							
Manganese		ND	mg/L	0.0005							
Strontium		ND	mg/L	0.0002							
Zinc		ND	mg/L	0.001							
Silicon		0.03	mg/L	0.03							
<b>Sample ID: LFB-6500DIS140303A</b>	9	Laboratory Fortified Blank									03/03/14 11:49
Run: ICP203-B_140303A											
Beryllium		0.486	mg/L	0.010	97	85	115				
Calcium		49.2	mg/L	1.0	98	85	115				
Chromium		0.962	mg/L	0.050	96	85	115				
Iron		4.82	mg/L	0.030	96	85	115				
Magnesium		50.7	mg/L	1.0	101	85	115				
Manganese		4.77	mg/L	0.010	95	85	115				
Strontium		1.07	mg/L	0.10	107	85	115				
Zinc		0.977	mg/L	0.010	98	85	115				
Silicon		9.95	mg/L	0.10	99	85	115				
<b>Sample ID: B14021640-001BMS2</b>	9	Sample Matrix Spike									03/03/14 12:16
Run: ICP203-B_140303A											
Beryllium		2.48	mg/L	0.0010	99	70	130				
Calcium		290	mg/L	1.0	100	70	130				
Chromium		4.92	mg/L	0.024	98	70	130				
Iron		24.7	mg/L	0.030	98	70	130				
Magnesium		282	mg/L	1.0	101	70	130				
Manganese		24.3	mg/L	0.0026	97	70	130				
Silicon		56.5	mg/L	0.15	100	70	130				
Strontium		6.18	mg/L	0.010	108	70	130				
Zinc		4.84	mg/L	0.010	97	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 03/05/14

**Project:** 3767 WK:60

**Work Order:** B14021785

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.7										Batch: R220117
<b>Sample ID:</b> B14021640-001BMSD2	9	Sample Matrix Spike Duplicate					Run: ICP203-B_140303A			03/03/14 12:20
Beryllium		2.38	mg/L	0.0010	95	70	130	4.0	20	
Calcium		280	mg/L	1.0	96	70	130	3.4	20	
Chromium		4.75	mg/L	0.024	95	70	130	3.6	20	
Iron		23.8	mg/L	0.030	94	70	130	3.4	20	
Magnesium		272	mg/L	1.0	97	70	130	3.7	20	
Manganese		23.4	mg/L	0.0026	94	70	130	3.5	20	
Silicon		54.7	mg/L	0.15	96	70	130	3.2	20	
Strontium		6.01	mg/L	0.010	105	70	130	2.8	20	
Zinc		4.86	mg/L	0.010	97	70	130	0.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 03/05/14

**Project:** 3767 WK:60

**Work Order:** B14021785

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS202-B_140303A	
<b>Sample ID: QCS</b>	12	Initial Calibration Verification Standard							03/03/14 10:00		
Aluminum		0.249	mg/L	0.10	99	90	110				
Antimony		0.0492	mg/L	0.050	98	90	110				
Arsenic		0.0499	mg/L	0.0050	100	90	110				
Barium		0.0493	mg/L	0.10	99	90	110				
Cadmium		0.0259	mg/L	0.0010	104	90	110				
Copper		0.0507	mg/L	0.010	101	90	110				
Lead		0.0490	mg/L	0.010	98	90	110				
Manganese		0.239	mg/L	0.010	96	90	110				
Nickel		0.0508	mg/L	0.010	102	90	110				
Selenium		0.0510	mg/L	0.0050	102	90	110				
Thallium		0.0498	mg/L	0.10	100	90	110				
Uranium		0.0203	mg/L	0.0010	102	90	110				
<b>Method: E200.8</b>										Batch: R220118	
<b>Sample ID: LFB</b>	12	Laboratory Fortified Blank							Run: ICPMS202-B_140303A 03/03/14 10:05		
Aluminum		0.0515	mg/L	0.10	103	85	115				
Antimony		0.0497	mg/L	0.050	99	85	115				
Arsenic		0.0510	mg/L	0.0050	102	85	115				
Barium		0.0513	mg/L	0.10	103	85	115				
Cadmium		0.0496	mg/L	0.0010	99	85	115				
Copper		0.0508	mg/L	0.010	102	85	115				
Lead		0.0525	mg/L	0.010	105	85	115				
Manganese		0.0514	mg/L	0.010	103	85	115				
Nickel		0.0520	mg/L	0.010	104	85	115				
Selenium		0.0507	mg/L	0.0050	101	85	115				
Thallium		0.0523	mg/L	0.10	105	85	115				
Uranium		0.0536	mg/L	0.0010	107	85	115				
<b>Sample ID: LRB</b>	12	Method Blank							Run: ICPMS202-B_140303A 03/03/14 10:21		
Aluminum		ND	mg/L	5E-05							
Antimony		ND	mg/L	1E-05							
Arsenic		ND	mg/L	6E-05							
Barium		ND	mg/L	4E-05							
Cadmium		ND	mg/L	1E-05							
Copper		ND	mg/L	5E-05							
Lead		ND	mg/L	1E-05							
Manganese		ND	mg/L	2E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0003							
Thallium		1E-05	mg/L	1E-05							
Uranium		ND	mg/L	5E-06							
<b>Sample ID: B14021785-002BMS</b>	12	Sample Matrix Spike							Run: ICPMS202-B_140303A 03/03/14 11:55		
Aluminum		0.0659	mg/L	0.030	91	70	130				
Antimony		0.0500	mg/L	0.0010	99	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 03/05/14

**Project:** 3767 WK:60

**Work Order:** B14021785

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R220118										
<b>Sample ID: B14021785-002BMS</b>	12	Sample Matrix Spike					Run: ICPMS202-B_140303A			03/03/14 11:55
Arsenic		0.0519	mg/L	0.0010	104	70	130			
Barium		0.0536	mg/L	0.050	101	70	130			
Cadmium		0.0488	mg/L	0.0010	97	70	130			
Copper		0.0514	mg/L	0.0050	96	70	130			
Lead		0.0504	mg/L	0.0010	101	70	130			
Manganese		0.0569	mg/L	0.0010	97	70	130			
Nickel		0.0512	mg/L	0.0050	97	70	130			
Selenium		0.0534	mg/L	0.0010	105	70	130			
Thallium		0.0500	mg/L	0.00050	100	70	130			
Uranium		0.0519	mg/L	0.00030	103	70	130			
<b>Sample ID: B14021785-002BMSD</b>	12	Sample Matrix Spike Duplicate					Run: ICPMS202-B_140303A			03/03/14 11:58
Aluminum		0.0649	mg/L	0.030	89	70	130	1.6	20	
Antimony		0.0493	mg/L	0.0010	98	70	130	1.5	20	
Arsenic		0.0521	mg/L	0.0010	104	70	130	0.3	20	
Barium		0.0527	mg/L	0.050	99	70	130	1.7	20	
Cadmium		0.0486	mg/L	0.0010	97	70	130	0.2	20	
Copper		0.0513	mg/L	0.0050	96	70	130	0.3	20	
Lead		0.0496	mg/L	0.0010	99	70	130	1.5	20	
Manganese		0.0576	mg/L	0.0010	98	70	130	1.3	20	
Nickel		0.0514	mg/L	0.0050	98	70	130	0.4	20	
Selenium		0.0537	mg/L	0.0010	106	70	130	0.7	20	
Thallium		0.0500	mg/L	0.00050	100	70	130	0.1	20	
Uranium		0.0504	mg/L	0.00030	101	70	130	2.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 03/05/14

**Project:** 3767 WK:60

**Work Order:** B14021785

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_140304A			
<b>Sample ID: QCS</b>	3	Initial Calibration Verification Standard						03/04/14 09:17			
Nickel		0.0516	mg/L	0.010	103	90	110				
Silver		0.0266	mg/L	0.0050	106	90	110				
Thallium		0.0496	mg/L	0.10	99	90	110				
<b>Method: E200.8</b>								Batch: R220155			
<b>Sample ID: LFB</b>	3	Laboratory Fortified Blank						Run: ICPMS202-B_140304A 03/04/14 09:35			
Nickel		0.0489	mg/L	0.010	98	85	115				
Silver		0.0179	mg/L	0.0050	89	85	115				
Thallium		0.0486	mg/L	0.10	97	85	115				
<b>Sample ID: LRB</b>	3	Method Blank						Run: ICPMS202-B_140304A 03/04/14 09:55			
Nickel		ND	mg/L	6E-05							
Silver		ND	mg/L	3E-05							
Thallium		ND	mg/L	1E-05							
<b>Sample ID: B14021785-001BMS</b>	3	Sample Matrix Spike						Run: ICPMS202-B_140304A 03/04/14 12:32			
Nickel		0.0498	mg/L	0.0050	96	70	130				
Silver		0.0164	mg/L	0.0010	82	70	130				
Thallium		0.0492	mg/L	0.00050	98	70	130				
<b>Sample ID: B14021785-001BMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICPMS202-B_140304A 03/04/14 12:43			
Nickel		0.0484	mg/L	0.0050	94	70	130	2.6	20		
Silver		0.0167	mg/L	0.0010	84	70	130	1.8	20		
Thallium		0.0479	mg/L	0.00050	95	70	130	2.6	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 03/05/14

**Project:** 3767 WK:60

**Work Order:** B14021785

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV202-B_140303A	
<b>Sample ID:</b> QCS		Initial Calibration Verification Standard								03/03/14 14:28	
Mercury		0.000186	mg/L	1.0E-05	93	90	110				
<b>Method:</b> E245.1										Batch: 78015	
<b>Sample ID:</b> MB-78015		Method Blank								Run: HGCV202-B_140303A	03/03/14 14:46
Mercury		ND	mg/L	2E-06							
<b>Sample ID:</b> LCS-78015		Laboratory Control Sample								Run: HGCV202-B_140303A	03/03/14 14:49
Mercury		0.000207	mg/L	1.0E-05	104	85	115				
<b>Sample ID:</b> B14021686-001DMS		Sample Matrix Spike								Run: HGCV202-B_140303A	03/03/14 14:54
Mercury		0.000198	mg/L	1.0E-05	98	70	130				
<b>Sample ID:</b> B14021686-001DMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_140303A	03/03/14 14:56
Mercury		0.000206	mg/L	1.0E-05	102	70	130	4.0	30		
<b>Sample ID:</b> B14021776-001DMS		Sample Matrix Spike								Run: HGCV202-B_140303A	03/03/14 15:21
Mercury		0.000202	mg/L	1.0E-05	100	70	130				
<b>Sample ID:</b> B14021776-001DMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_140303A	03/03/14 15:24
Mercury		0.000207	mg/L	1.0E-05	102	70	130	2.4	30		
<b>Sample ID:</b> B14021785-002BMS		Sample Matrix Spike								Run: HGCV202-B_140303A	03/03/14 16:00
Mercury		0.000197	mg/L	1.0E-05	98	70	130				
<b>Sample ID:</b> B14021785-002BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_140303A	03/03/14 16:02
Mercury		0.000200	mg/L	1.0E-05	100	70	130	1.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B14021785

Login completed by: Randa Nees

Date Received: 2/28/2014

Reviewed by: BL2000\jlippard

Received by: dlf

Reviewed Date: 2/28/2014

Carrier UPS NDA  
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	9.0°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

April 09, 2014

Tintina Alaska Exploration Inc  
PO Box 49073  
Vancouver, BC V7X1G4

Work Order: B14032166      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:64

Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Alaska Exploration Inc on 3/28/2014 for analysis.

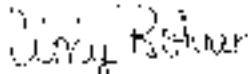
Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B14032166-001	Ynl 1/Ynl 2 Composite	03/27/14 9:00	03/28/14	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Laboratory Co-Manager

Digitally signed by  
Cindy Rohrer  
Date: 2014.04.10 07:08:21 -06:00

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:64  
**Lab ID:** B14032166-001  
**Client Sample ID:** Ynl 1/Ynl 2 Composite

**Report Date:** 04/09/14  
**Collection Date:** 03/27/14 09:00  
**Date Received:** 03/28/14  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	313	mg/L		1		E300.0	03/30/14 08:26 / klc
Fluoride	ND	mg/L		0.2		A4500-F C	03/29/14 15:48 / jwc
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	04/07/14 13:20 / pdg
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	04/02/14 14:33 / amm
Antimony	ND	mg/L		0.0005		E200.8	04/01/14 16:41 / amm
Arsenic	ND	mg/L		0.001		E200.8	03/31/14 12:49 / amm
Barium	0.003	mg/L		0.003		E200.7	03/31/14 13:06 / mas
Beryllium	ND	mg/L		0.0008		E200.7	03/31/14 13:06 / mas
Cadmium	0.00003	mg/L		0.00003		E200.8	04/01/14 16:41 / amm
Calcium	73	mg/L		1		E200.7	03/31/14 13:06 / mas
Chromium	ND	mg/L		0.01		E200.7	03/31/14 13:06 / mas
Copper	ND	mg/L		0.002		E200.8	03/31/14 12:49 / amm
Iron	ND	mg/L		0.02		E200.7	03/31/14 13:06 / mas
Lead	ND	mg/L		0.0003		E200.8	04/01/14 16:41 / amm
Magnesium	39	mg/L		1		E200.7	03/31/14 13:06 / mas
Manganese	ND	mg/L		0.005		E200.7	03/31/14 13:06 / mas
Mercury	ND	mg/L		0.00001		E245.1	04/04/14 12:51 / ser
Nickel	ND	mg/L		0.002		E200.8	03/31/14 12:49 / amm
Selenium	ND	mg/L		0.001		E200.8	03/31/14 12:49 / amm
Silicon	0.43	mg/L	D	0.06		E200.7	03/31/14 13:06 / mas
Silver	ND	mg/L		0.0002		E200.8	04/01/14 16:41 / amm
Strontium	0.11	mg/L		0.02		E200.8	04/01/14 16:41 / amm
Thallium	0.0004	mg/L		0.0002		E200.8	04/01/14 16:41 / amm
Uranium	0.0002	mg/L		0.0002		E200.8	04/01/14 16:41 / amm
Zinc	ND	mg/L		0.008		E200.7	03/31/14 13:06 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:64

**Report Date:** 04/09/14  
**Work Order:** B14032166

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_140331A			
<b>Lab ID: ICV</b>	9	Continuing Calibration Verification Standard							03/31/14 11:41		
Barium		2.45	mg/L	0.10	98	95	105				
Beryllium		1.22	mg/L	0.010	98	95	105				
Calcium		25.0	mg/L	1.0	100	95	105				
Chromium		2.40	mg/L	0.050	96	95	105				
Iron		2.47	mg/L	0.020	99	95	105				
Magnesium		25.1	mg/L	1.0	100	95	105				
Manganese		2.41	mg/L	0.010	96	95	105				
Zinc		2.40	mg/L	0.010	96	95	105				
Silicon		5.07	mg/L	0.10	101	95	105				
<b>Method: E200.7</b>								Batch: R221470			
<b>Lab ID: MB-6500DIS140331A</b>	9	Method Blank							Run: ICP203-B_140331A		03/31/14 12:05
Barium		ND	mg/L	0.0005							
Beryllium		ND	mg/L	0.0002							
Calcium		ND	mg/L	0.01							
Chromium		ND	mg/L	0.005							
Iron		ND	mg/L	0.004							
Magnesium		0.004	mg/L	0.003							
Manganese		ND	mg/L	0.0005							
Zinc		ND	mg/L	0.001							
Silicon		0.03	mg/L	0.03							
<b>Lab ID: LFB-6500DIS140331A</b>	9	Laboratory Fortified Blank							Run: ICP203-B_140331A		03/31/14 12:09
Barium		1.04	mg/L	0.10	104	85	115				
Beryllium		0.539	mg/L	0.010	108	85	115				
Calcium		53.3	mg/L	1.0	107	85	115				
Chromium		1.02	mg/L	0.050	102	85	115				
Iron		5.24	mg/L	0.020	105	85	115				
Magnesium		51.5	mg/L	1.0	103	85	115				
Manganese		5.21	mg/L	0.010	104	85	115				
Zinc		1.00	mg/L	0.010	100	85	115				
Silicon		10.5	mg/L	0.10	105	85	115				
<b>Lab ID: B14032140-001BMS2</b>	9	Sample Matrix Spike							Run: ICP203-B_140331A		03/31/14 12:47
Barium		1.15	mg/L	0.050	108	70	130				
Beryllium		0.558	mg/L	0.0010	112	70	130				
Calcium		100	mg/L	1.0	109	70	130				
Chromium		1.05	mg/L	0.0050	105	70	130				
Iron		5.35	mg/L	0.020	107	70	130				
Magnesium		66.0	mg/L	1.0	108	70	130				
Manganese		5.38	mg/L	0.0010	108	70	130				
Silicon		15.1	mg/L	0.10	108	70	130				
Zinc		1.03	mg/L	0.010	102	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:64

**Report Date:** 04/09/14  
**Work Order:** B14032166

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.7										Batch: R221470
<b>Lab ID:</b> B14032140-001BMSD	9	Sample Matrix Spike Duplicate			Run: ICP203-B_140331A				03/31/14 12:51	
Barium		1.12	mg/L	0.050	106	70	130	2.5	20	
Beryllium		0.547	mg/L	0.0010	109	70	130	2.0	20	
Calcium		98.2	mg/L	1.0	105	70	130	2.1	20	
Chromium		1.04	mg/L	0.0050	104	70	130	1.2	20	
Iron		5.27	mg/L	0.020	105	70	130	1.6	20	
Magnesium		64.8	mg/L	1.0	106	70	130	1.8	20	
Manganese		5.27	mg/L	0.0010	105	70	130	2.1	20	
Silicon		14.6	mg/L	0.10	103	70	130	3.2	20	
Zinc		1.03	mg/L	0.010	102	70	130	0.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:64

**Report Date:** 04/09/14  
**Work Order:** B14032166

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS202-B_140331A	
<b>Lab ID: QCS</b>	4	Initial Calibration Verification Standard							03/31/14 10:35		
Arsenic		0.0493	mg/L	0.0050	99	90	110				
Copper		0.0494	mg/L	0.010	99	90	110				
Nickel		0.0486	mg/L	0.010	97	90	110				
Selenium		0.0490	mg/L	0.0050	98	90	110				
<b>Method: E200.8</b>										Batch: R221453	
<b>Lab ID: LFB</b>	4	Laboratory Fortified Blank							Run: ICPMS202-B_140331A 03/31/14 11:03		
Arsenic		0.0512	mg/L	0.0050	102	85	115				
Copper		0.0526	mg/L	0.010	105	85	115				
Nickel		0.0509	mg/L	0.010	102	85	115				
Selenium		0.0543	mg/L	0.0050	109	85	115				
<b>Lab ID: LRB</b>	4	Method Blank							Run: ICPMS202-B_140331A 03/31/14 11:26		
Arsenic		ND	mg/L	6E-05							
Copper		ND	mg/L	5E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0003							
<b>Lab ID: B14032074-001BMS</b>	4	Sample Matrix Spike							Run: ICPMS202-B_140331A 03/31/14 14:23		
Arsenic		0.0675	mg/L	0.0010	132	70	130			S	
Copper		0.0615	mg/L	0.0050	121	70	130				
Nickel		0.0695	mg/L	0.0050	123	70	130				
Selenium		0.0735	mg/L	0.0010	135	70	130			S	
<b>Lab ID: B14032074-001BMSD</b>	4	Sample Matrix Spike Duplicate							Run: ICPMS202-B_140331A 03/31/14 14:26		
Arsenic		0.0639	mg/L	0.0010	125	70	130	5.5	20		
Copper		0.0572	mg/L	0.0050	113	70	130	7.1	20		
Nickel		0.0652	mg/L	0.0050	114	70	130	6.4	20		
Selenium		0.0698	mg/L	0.0010	128	70	130	5.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:64

**Report Date:** 04/09/14  
**Work Order:** B14032166

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>		Analytical Run: ICPMS202-B_140401A									
<b>Lab ID: QCS</b>	7	Initial Calibration Verification Standard							04/01/14 14:35		
Antimony		0.0475	mg/L	0.050	95	90	110				
Cadmium		0.0246	mg/L	0.0010	98	90	110				
Lead		0.0458	mg/L	0.010	92	90	110				
Silver		0.0226	mg/L	0.0050	91	90	110				
Strontium		0.0479	mg/L	0.10	96	90	110				
Thallium		0.0472	mg/L	0.10	94	90	110				
Uranium		0.0191	mg/L	0.0010	96	90	110				
<b>Method: E200.8</b>		Batch: R221505									
<b>Lab ID: LFB</b>	7	Laboratory Fortified Blank							Run: ICPMS202-B_140401A 04/01/14 12:08		
Antimony		0.0487	mg/L	0.050	97	85	115				
Cadmium		0.0516	mg/L	0.0010	103	85	115				
Lead		0.0500	mg/L	0.010	100	85	115				
Silver		0.0218	mg/L	0.0050	109	85	115				
Strontium		0.0498	mg/L	0.10	100	85	115				
Thallium		0.0489	mg/L	0.10	98	85	115				
Uranium		0.0487	mg/L	0.0010	97	85	115				
<b>Lab ID: LRB</b>	7	Method Blank							Run: ICPMS202-B_140401A 04/01/14 15:59		
Antimony		ND	mg/L	1E-05							
Cadmium		ND	mg/L	1E-05							
Lead		ND	mg/L	1E-05							
Silver		ND	mg/L	3E-05							
Strontium		ND	mg/L	1E-05							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	5E-06							
<b>Lab ID: B14032269-001AMS</b>	7	Sample Matrix Spike							Run: ICPMS202-B_140401A 04/01/14 16:56		
Antimony		0.0473	mg/L	0.0010	95	70	130				
Cadmium		0.0480	mg/L	0.0010	96	70	130				
Lead		0.0513	mg/L	0.0010	102	70	130				
Silver		0.0185	mg/L	0.0010	93	70	130				
Strontium		1.02	mg/L	0.010		70	130			A	
Thallium		0.0513	mg/L	0.00050	103	70	130				
Uranium		0.0578	mg/L	0.00030	108	70	130				
<b>Lab ID: B14032269-001AMSD</b>	7	Sample Matrix Spike Duplicate							Run: ICPMS202-B_140401A 04/01/14 16:59		
Antimony		0.0453	mg/L	0.0010	91	70	130	4.2	20		
Cadmium		0.0444	mg/L	0.0010	89	70	130	7.8	20		
Lead		0.0475	mg/L	0.0010	95	70	130	7.5	20		
Silver		0.0158	mg/L	0.0010	79	70	130	16	20		
Strontium		0.914	mg/L	0.010		70	130	10	20	A	
Thallium		0.0472	mg/L	0.00050	94	70	130	8.4	20		
Uranium		0.0532	mg/L	0.00030	98	70	130	8.5	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 04/09/14

**Project:** 3767 WK:64

**Work Order:** B14032166

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Analytical Run: ICPMS202-B_140402A
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								04/02/14 13:09
Aluminum		0.239	mg/L	0.10	96	90	110			
<b>Method:</b> E200.8										Batch: R221589
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								04/02/14 09:56
Aluminum		0.0509	mg/L	0.10	102	85	115			Run: ICPMS202-B_140402A
<b>Lab ID:</b> LRB		Method Blank								04/02/14 10:16
Aluminum		ND	mg/L	5E-05						Run: ICPMS202-B_140402A
<b>Lab ID:</b> B14032166-001BMS		Sample Matrix Spike								04/02/14 15:15
Aluminum		0.0574	mg/L	0.030	104	70	130			Run: ICPMS202-B_140402A
<b>Lab ID:</b> B14032166-001BMSD		Sample Matrix Spike Duplicate								04/02/14 15:18
Aluminum		0.0527	mg/L	0.030	95	70	130	8.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 04/09/14

**Project:** 3767 WK:64

**Work Order:** B14032166

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV202-B_140404A	
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								04/04/14 12:26	
Mercury		0.000201	mg/L	1.0E-05	101	90	110				
<b>Method:</b> E245.1										Batch: 78714	
<b>Lab ID:</b> MB-78714		Method Blank								Run: HGCV202-B_140404A	04/04/14 12:38
Mercury		ND	mg/L	2E-06							
<b>Lab ID:</b> LCS-78714		Laboratory Control Sample								Run: HGCV202-B_140404A	04/04/14 12:40
Mercury		0.000195	mg/L	1.0E-05	98	85	115				
<b>Lab ID:</b> B14032140-005BMS		Sample Matrix Spike								Run: HGCV202-B_140404A	04/04/14 12:46
Mercury		0.000202	mg/L	1.0E-05	101	70	130				
<b>Lab ID:</b> B14032140-005BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_140404A	04/04/14 12:48
Mercury		0.000211	mg/L	1.0E-05	106	70	130	4.4	30		
<b>Lab ID:</b> B14032166-001BMS		Sample Matrix Spike								Run: HGCV202-B_140404A	04/04/14 12:54
Mercury		0.000201	mg/L	1.0E-05	101	70	130				
<b>Lab ID:</b> B14032166-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV202-B_140404A	04/04/14 12:57
Mercury		0.000195	mg/L	1.0E-05	98	70	130	3.0	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 04/09/14

**Project:** 3767 WK:64

**Work Order:** B14032166

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_140329A		
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								03/29/14 15:03
Fluoride		1.04	mg/L	0.10	104	90	110			
<b>Method:</b> A4500-F C										Batch: R221414
<b>Lab ID:</b> MBLK		Method Blank								03/29/14 14:57
Fluoride		ND	mg/L	0.02				Run: MAN-TECH_140329A		
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								03/29/14 15:00
Fluoride		1.00	mg/L	0.10	100	90	110	Run: MAN-TECH_140329A		
<b>Lab ID:</b> B14032130-001AMS		Sample Matrix Spike								03/29/14 15:35
Fluoride		3.32	mg/L	0.10	98	80	120	Run: MAN-TECH_140329A		
<b>Lab ID:</b> B14032130-001AMSD		Sample Matrix Spike Duplicate								03/29/14 15:37
Fluoride		3.32	mg/L	0.10	98	80	120	0.0	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 04/09/14

**Project:** 3767 WK:64

**Work Order:** B14032166

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E300.0										Analytical Run: IC202-B_140327A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								03/27/14 14:28	
Sulfate		101	mg/L	1.0	101	90	110				
<b>Method:</b> E300.0										Batch: R221377	
<b>Lab ID:</b> ICB		Method Blank								Run: IC202-B_140327A	03/27/14 14:43
Sulfate		ND	mg/L	0.06							
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: IC202-B_140327A	03/27/14 14:58
Sulfate		94.8	mg/L	1.0	95	90	110				
<b>Lab ID:</b> B14032163-008AMS		Sample Matrix Spike								Run: IC202-B_140327A	03/30/14 07:41
Sulfate		1430	mg/L	5.3	112	90	110			S	
<b>Lab ID:</b> B14032163-008AMSD		Sample Matrix Spike Duplicate								Run: IC202-B_140327A	03/30/14 07:56
Sulfate		1390	mg/L	5.3	105	90	110	2.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 04/09/14

**Project:** 3767 WK:64

**Work Order:** B14032166

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_140407A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.245	mg/L	0.0050	98	90	110			04/07/14 12:42
<b>Method: E365.1</b>								Batch: 78727		
<b>Lab ID: MB-78727</b>	Method Blank									
Phosphorus, Total as P		ND	mg/L	0.004						Run: FIA202-B_140407A 04/07/14 13:17
<b>Lab ID: LCS-78727</b>	Laboratory Control Sample									
Phosphorus, Total as P		0.197	mg/L	0.0050	99	90	110			Run: FIA202-B_140407A 04/07/14 13:18
<b>Lab ID: B14040205-001AMS</b>	Sample Matrix Spike									
Phosphorus, Total as P		0.227	mg/L	0.0050	100	90	110			Run: FIA202-B_140407A 04/07/14 13:31
<b>Lab ID: B14040205-001AMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total as P		0.220	mg/L	0.0050	97	90	110	3.1	10	Run: FIA202-B_140407A 04/07/14 13:32
<b>Lab ID: B14040296-003BMS</b>	Sample Matrix Spike									
Phosphorus, Total as P		2.26	mg/L	0.025	89	90	110			Run: FIA202-B_140407A 04/07/14 13:47 S
<b>Lab ID: B14040296-003BMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total as P		2.30	mg/L	0.025	93	90	110	1.5	10	Run: FIA202-B_140407A 04/07/14 13:48

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

# Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B14032166

Login completed by: Judy Klier

Date Received: 3/28/2014

Reviewed by: BL2000\lcardreau

Received by: mlk

Reviewed Date: 4/1/2014

Carrier UPS  
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	1.6°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab		<b>Project Name, PWS, Permit, Etc.</b> 3767 WK:64		<b>Sample Origin</b> State: NV		<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Report Mail Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Contact Name:</b> Mike Medina		<b>Phone/Fax:</b> 775-356-1300		<b>Email:</b> MLI@METTEST.COM	
<b>Invoice Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko		<b>Phone:</b> 604-628-1162		<b>Purchase Order:</b>	
<b>Special Report/Formats - ELI must be notified prior to sample submittal for the following:</b> <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POT/WWTP State: _____ <input type="checkbox"/> Other: _____		<input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) Format: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		<b>ANALYSIS REQUESTED</b>		<b>Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page</b>	
<b>Number of Containers</b> Air Water Soils/Solids Vegetation Blossay Other		<b>MATRIX</b> Water		<b>SEE ATTACHED</b>		<b>Comments:</b>	
<b>SAMPLE IDENTIFICATION</b> (Name, Location, Interval, etc.)		<b>Collection Date</b>		<b>Collection Time</b>		<b>Shipped by:</b> Robert (UPSNDA) Cooler ID(s):	
1 Ynl 1/Ynl 2 Composite		3/27/14		09:00		Receipt Temp: 1.6 °C	
2						On Ice: <input checked="" type="radio"/> Yes <input type="radio"/> No	
3						Custody Seal Intact Signature Match: <input checked="" type="radio"/> Y <input type="radio"/> N	
4						Please Copy results to: B14032166-001	
5						MLI@METTEST.COM	
6						hold remaining preserved samples (frozen) until further notice.	
7							
8							
9							
10							
<b>Custody Record MUST be Signed</b>		<b>Relinquished by (print):</b> Matt Poore		<b>Date/Time:</b> 3/27/14 .900		<b>Signature:</b> Matt Poore	
		<b>Relinquished by (print):</b>		<b>Date/Time:</b>		<b>Signature:</b>	
<b>Sample Disposal:</b>		<b>Return to Client:</b>		<b>Lab Disposal:</b>		<b>Received by Laboratory:</b> Michelle Kuchanauer 3/28/14 9:15	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly noted on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

May 02, 2014

Tintina Alaska Exploration Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B14042300      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:68

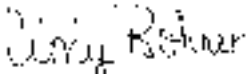
Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Alaska Exploration Inc on 4/25/2014 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B14042300-001	Ynl 1/Ynl 2 Composite	04/24/14 9:00	04/25/14	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Laboratory Co-Manager

Digitally signed by  
Cindy Rohrer  
Date: 2014.05.02 16:28:03 -06:00

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:68  
**Lab ID:** B14042300-001  
**Client Sample ID:** Ynl 1/Ynl 2 Composite

**Report Date:** 05/02/14  
**Collection Date:** 04/24/14 09:00  
**Date Received:** 04/25/14  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	324	mg/L		1		E300.0	05/01/14 20:51 / jpv
Fluoride	ND	mg/L		0.2		A4500-F C	04/28/14 13:01 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	05/01/14 13:32 / jwc
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	04/28/14 16:04 / amm
Antimony	ND	mg/L		0.0005		E200.8	04/28/14 16:04 / amm
Arsenic	ND	mg/L		0.001		E200.8	04/28/14 16:04 / amm
Barium	0.004	mg/L		0.003		E200.7	04/28/14 19:40 / mas
Beryllium	ND	mg/L		0.0008		E200.7	04/28/14 19:40 / mas
Cadmium	0.00003	mg/L		0.00003		E200.8	04/28/14 16:04 / amm
Calcium	64	mg/L		1		E200.7	04/28/14 19:40 / mas
Chromium	ND	mg/L		0.01		E200.7	04/28/14 19:40 / mas
Copper	ND	mg/L		0.002		E200.8	04/28/14 16:04 / amm
Iron	ND	mg/L		0.02		E200.7	04/28/14 19:40 / mas
Lead	ND	mg/L		0.0003		E200.8	04/28/14 16:04 / amm
Magnesium	35	mg/L		1		E200.7	04/28/14 19:40 / mas
Manganese	ND	mg/L		0.005		E200.7	04/28/14 19:40 / mas
Mercury	ND	mg/L		0.00001		E245.1	04/28/14 15:14 / ser
Nickel	ND	mg/L		0.002		E200.8	04/28/14 16:04 / amm
Selenium	0.001	mg/L		0.001		E200.8	04/28/14 16:04 / amm
Silicon	0.31	mg/L		0.05		E200.7	04/28/14 19:40 / mas
Silver	ND	mg/L		0.0002		E200.8	04/28/14 16:04 / amm
Strontium	0.09	mg/L		0.02		E200.7	04/28/14 19:40 / mas
Thallium	ND	mg/L		0.0002		E200.8	04/28/14 16:04 / amm
Uranium	ND	mg/L		0.0002		E200.8	04/28/14 16:04 / amm
Zinc	ND	mg/L		0.008		E200.7	04/28/14 19:40 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:68

**Report Date:** 05/02/14  
**Work Order:** B14042300

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_140428A			
<b>Lab ID: ICV</b>	10 Continuing Calibration Verification Standard							04/28/14 10:47			
Barium		2.55	mg/L	0.10	102	95	105				
Beryllium		1.27	mg/L	0.010	101	95	105				
Calcium		25.1	mg/L	1.0	100	95	105				
Chromium		2.55	mg/L	0.050	102	95	105				
Iron		2.53	mg/L	0.020	101	95	105				
Magnesium		25.8	mg/L	1.0	103	95	105				
Manganese		2.49	mg/L	0.010	99	95	105				
Strontium		2.55	mg/L	0.10	102	95	105				
Zinc		2.44	mg/L	0.010	98	95	105				
Silicon		5.13	mg/L	0.10	103	95	105				
<b>Method: E200.7</b>								Batch: R222858			
<b>Lab ID: MB-6500DIS140428A</b>	10 Method Blank							Run: ICP203-B_140428A		04/28/14 11:14	
Barium		ND	mg/L	0.0005							
Beryllium		ND	mg/L	0.0002							
Calcium		ND	mg/L	0.01							
Chromium		ND	mg/L	0.005							
Iron		ND	mg/L	0.004							
Magnesium		ND	mg/L	0.003							
Manganese		ND	mg/L	0.0005							
Strontium		ND	mg/L	0.0002							
Zinc		ND	mg/L	0.001							
Silicon		ND	mg/L	0.03							
<b>Lab ID: LFB-6500DIS140428A</b>	10 Laboratory Fortified Blank							Run: ICP203-B_140428A		04/28/14 11:18	
Barium		1.00	mg/L	0.10	100	85	115				
Beryllium		0.515	mg/L	0.010	103	85	115				
Calcium		49.7	mg/L	1.0	99	85	115				
Chromium		1.03	mg/L	0.050	103	85	115				
Iron		5.10	mg/L	0.020	102	85	115				
Magnesium		52.6	mg/L	1.0	105	85	115				
Manganese		5.02	mg/L	0.010	100	85	115				
Strontium		1.06	mg/L	0.10	106	85	115				
Zinc		0.967	mg/L	0.010	97	85	115				
Silicon		10.1	mg/L	0.10	101	85	115				
<b>Lab ID: B14042319-001BMS2</b>	10 Sample Matrix Spike							Run: ICP203-B_140428A		04/28/14 19:51	
Barium		1.82	mg/L	0.050	90	70	130				
Beryllium		0.911	mg/L	0.0010	91	70	130				
Calcium		210	mg/L	1.0	89	70	130				
Chromium		1.83	mg/L	0.0095	92	70	130				
Iron		9.54	mg/L	0.020	95	70	130				
Magnesium		134	mg/L	1.0	95	70	130				
Manganese		8.97	mg/L	0.0010	90	70	130				
Silicon		25.6	mg/L	0.10	90	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 05/02/14

**Project:** 3767 WK:68

**Work Order:** B14042300

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										
Batch: R222858										
<b>Lab ID:</b>	<b>B14042319-001BMS2</b>	10	Sample Matrix Spike							
						Run: ICP203-B_140428A		04/28/14 19:51		
Strontium		2.46	mg/L	0.010	90	70	130			
Zinc		1.80	mg/L	0.010	90	70	130			
<b>Lab ID:</b>	<b>B14042319-001BMSD</b>	10	Sample Matrix Spike Duplicate							
						Run: ICP203-B_140428A		04/28/14 19:55		
Barium		1.85	mg/L	0.050	91	70	130	1.3	20	
Beryllium		0.927	mg/L	0.0010	93	70	130	1.7	20	
Calcium		214	mg/L	1.0	94	70	130	2.0	20	
Chromium		1.85	mg/L	0.0095	93	70	130	0.9	20	
Iron		9.66	mg/L	0.020	97	70	130	1.2	20	
Magnesium		137	mg/L	1.0	98	70	130	1.9	20	
Manganese		9.09	mg/L	0.0010	91	70	130	1.3	20	
Silicon		26.0	mg/L	0.10	92	70	130	1.5	20	
Strontium		2.50	mg/L	0.010	91	70	130	1.3	20	
Zinc		1.87	mg/L	0.010	94	70	130	3.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:68

**Report Date:** 05/02/14  
**Work Order:** B14042300

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_140428A		
<b>Lab ID: QCS</b>	11	Initial Calibration Verification Standard								04/28/14 09:01
Aluminum		0.245	mg/L	0.10	98	90	110			
Antimony		0.0488	mg/L	0.050	98	90	110			
Arsenic		0.0511	mg/L	0.0050	102	90	110			
Cadmium		0.0259	mg/L	0.0010	104	90	110			
Copper		0.0507	mg/L	0.010	101	90	110			
Lead		0.0495	mg/L	0.010	99	90	110			
Nickel		0.0494	mg/L	0.010	99	90	110			
Selenium		0.0501	mg/L	0.0050	100	90	110			
Silver		0.0248	mg/L	0.0050	99	90	110			
Thallium		0.0491	mg/L	0.10	98	90	110			
Uranium		0.0197	mg/L	0.0010	98	90	110			
<hr/>										
<b>Method: E200.8</b>								Batch: R222860		
<b>Lab ID: LFB</b>	11	Laboratory Fortified Blank						Run: ICPMS202-B_140428A		04/28/14 09:32
Aluminum		0.0488	mg/L	0.10	98	85	115			
Antimony		0.0467	mg/L	0.050	93	85	115			
Arsenic		0.0499	mg/L	0.0050	100	85	115			
Cadmium		0.0493	mg/L	0.0010	99	85	115			
Copper		0.0507	mg/L	0.010	101	85	115			
Lead		0.0484	mg/L	0.010	97	85	115			
Nickel		0.0480	mg/L	0.010	96	85	115			
Selenium		0.0514	mg/L	0.0050	103	85	115			
Silver		0.0198	mg/L	0.0050	99	85	115			
Thallium		0.0462	mg/L	0.10	92	85	115			
Uranium		0.0459	mg/L	0.0010	92	85	115			
<hr/>										
<b>Lab ID: LRB</b>	11	Method Blank						Run: ICPMS202-B_140428A		04/28/14 09:57
Aluminum		ND	mg/L	5E-05						
Antimony		ND	mg/L	1E-05						
Arsenic		ND	mg/L	6E-05						
Cadmium		ND	mg/L	1E-05						
Copper		ND	mg/L	5E-05						
Lead		ND	mg/L	1E-05						
Nickel		ND	mg/L	6E-05						
Selenium		ND	mg/L	0.0003						
Silver		ND	mg/L	3E-05						
Thallium		ND	mg/L	1E-05						
Uranium		ND	mg/L	5E-06						
<hr/>										
<b>Lab ID: B14042286-001AMS</b>	11	Sample Matrix Spike						Run: ICPMS202-B_140428A		04/28/14 17:21
Aluminum		0.0477	mg/L	0.030	94	70	130			
Antimony		0.0509	mg/L	0.0010	102	70	130			
Arsenic		0.0566	mg/L	0.0010	99	70	130			
Cadmium		0.0492	mg/L	0.0010	98	70	130			
Copper		0.0923	mg/L	0.0050	88	70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 05/02/14

**Project:** 3767 WK:68

**Work Order:** B14042300

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R222860										
<b>Lab ID:</b>	<b>B14042286-001AMS</b>	11	Sample Matrix Spike							
										Run: ICPMS202-B_140428A 04/28/14 17:21
Lead		0.0498	mg/L	0.0010	98	70	130			
Nickel		0.104	mg/L	0.010	88	70	130			
Selenium		0.0546	mg/L	0.0010	101	70	130			
Silver		0.0162	mg/L	0.0010	81	70	130			
Thallium		0.0477	mg/L	0.00050	95	70	130			
Uranium		0.0512	mg/L	0.00030	94	70	130			
<b>Lab ID:</b>	<b>B14042286-001AMSD</b>	11	Sample Matrix Spike Duplicate							
										Run: ICPMS202-B_140428A 04/28/14 17:24
Aluminum		0.0464	mg/L	0.030	91	70	130	2.8	20	
Antimony		0.0482	mg/L	0.0010	96	70	130	5.3	20	
Arsenic		0.0571	mg/L	0.0010	100	70	130	0.9	20	
Cadmium		0.0473	mg/L	0.0010	95	70	130	4.0	20	
Copper		0.0907	mg/L	0.0050	85	70	130	1.7	20	
Lead		0.0485	mg/L	0.0010	95	70	130	2.5	20	
Nickel		0.101	mg/L	0.010	82	70	130	2.5	20	
Selenium		0.0547	mg/L	0.0010	101	70	130	0.1	20	
Silver		0.0163	mg/L	0.0010	81	70	130	0.4	20	
Thallium		0.0469	mg/L	0.00050	94	70	130	1.8	20	
Uranium		0.0498	mg/L	0.00030	91	70	130	2.7	20	
<b>Lab ID:</b>	<b>B14042278-002BMS3</b>	11	Sample Matrix Spike							
										Run: ICPMS202-B_140428A 04/29/14 11:46
Aluminum		2.37	mg/L	0.030	93	70	130			
Antimony		0.509	mg/L	0.0010	102	70	130			
Arsenic		0.492	mg/L	0.0010	98	70	130			
Cadmium		0.259	mg/L	0.0010	103	70	130			
Copper		0.507	mg/L	0.0050	101	70	130			
Lead		0.486	mg/L	0.0010	97	70	130			
Nickel		0.650	mg/L	0.0050	101	70	130			
Selenium		0.496	mg/L	0.0015	99	70	130			
Silver		0.0491	mg/L	0.0010	98	70	130			
Thallium		0.473	mg/L	0.00050	95	70	130			
Uranium		0.473	mg/L	0.00030	95	70	130			
<b>Lab ID:</b>	<b>B14042278-002BMSD</b>	11	Sample Matrix Spike Duplicate							
										Run: ICPMS202-B_140428A 04/29/14 11:53
Aluminum		2.28	mg/L	0.030	89	70	130	3.7	20	
Antimony		0.496	mg/L	0.0010	99	70	130	2.5	20	
Arsenic		0.482	mg/L	0.0010	96	70	130	2.1	20	
Cadmium		0.249	mg/L	0.0010	99	70	130	4.0	20	
Copper		0.479	mg/L	0.0050	96	70	130	5.7	20	
Lead		0.471	mg/L	0.0010	94	70	130	3.0	20	
Nickel		0.617	mg/L	0.0050	95	70	130	5.1	20	
Selenium		0.485	mg/L	0.0015	97	70	130	2.2	20	
Silver		0.0475	mg/L	0.0010	95	70	130	3.3	20	
Thallium		0.466	mg/L	0.00050	93	70	130	1.6	20	
Uranium		0.468	mg/L	0.00030	94	70	130	1.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:68

**Report Date:** 05/02/14  
**Work Order:** B14042300

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_140428A	
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								04/28/14 14:08	
Mercury		0.000183	mg/L	1.0E-05	92	90	110				
<b>Method:</b> E245.1										Batch: 79294	
<b>Lab ID:</b> MB-79294		Method Blank								Run: HGCV203-B_140428A	04/28/14 14:45
Mercury		ND	mg/L	2E-06							
<b>Lab ID:</b> LCS-79294		Laboratory Control Sample								Run: HGCV203-B_140428A	04/28/14 14:48
Mercury		0.000188	mg/L	1.0E-05	94	85	115				
<b>Lab ID:</b> B14042300-001BMS		Sample Matrix Spike								Run: HGCV203-B_140428A	04/28/14 15:16
Mercury		0.000177	mg/L	1.0E-05	89	70	130				
<b>Lab ID:</b> B14042300-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_140428A	04/28/14 15:18
Mercury		0.000195	mg/L	1.0E-05	98	70	130	9.7	30		
<b>Lab ID:</b> B14042318-002AMS		Sample Matrix Spike								Run: HGCV203-B_140428A	04/28/14 15:42
Mercury		0.000198	mg/L	1.0E-05	95	70	130				
<b>Lab ID:</b> B14042318-002AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_140428A	04/28/14 15:44
Mercury		0.000196	mg/L	1.0E-05	94	70	130	1.0	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 05/02/14

**Project:** 3767 WK:68

**Work Order:** B14042300

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_140428A		
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								04/28/14 11:37
Fluoride		1.06	mg/L	0.10	106	90	110			
<b>Method:</b> A4500-F C										Batch: R222853
<b>Lab ID:</b> MBLK		Method Blank								04/28/14 11:31
Fluoride		0.05	mg/L	0.05				Run: MAN-TECH_140428A		
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								04/28/14 11:34
Fluoride		0.990	mg/L	0.10	94	90	110	Run: MAN-TECH_140428A		
<b>Lab ID:</b> B14042319-001AMS		Sample Matrix Spike								04/28/14 13:17
Fluoride		1.39	mg/L	0.10	101	80	120	Run: MAN-TECH_140428A		
<b>Lab ID:</b> B14042319-001AMSD		Sample Matrix Spike Duplicate								04/28/14 13:20
Fluoride		1.40	mg/L	0.10	102	80	120	0.7	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 05/02/14

**Project:** 3767 WK:68

**Work Order:** B14042300

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E300.0										Analytical Run: IC202-B_140430A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								04/30/14 17:31	
Sulfate		104	mg/L	1.0	104	90	110				
<b>Method:</b> E300.0										Batch: R223024	
<b>Lab ID:</b> ICB		Method Blank								Run: IC202-B_140430A	04/30/14 17:47
Sulfate		ND	mg/L	0.2							
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: IC202-B_140430A	04/30/14 18:02
Sulfate		99.4	mg/L	1.0	99	90	110				
<b>Lab ID:</b> B14042275-005AMS		Sample Matrix Spike								Run: IC202-B_140430A	05/01/14 18:20
Sulfate		279	mg/L	1.1	116	90	110			S	
<b>Lab ID:</b> B14042275-005AMSD		Sample Matrix Spike Duplicate								Run: IC202-B_140430A	05/01/14 18:35
Sulfate		280	mg/L	1.1	117	90	110	0.3	20	S	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:68

**Report Date:** 05/02/14  
**Work Order:** B14042300

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_140501B		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.244	mg/L	0.0050	98	90	110			05/01/14 12:49
<b>Method: E365.1</b>								Batch: 79302		
<b>Lab ID: MB-79302</b>	Method Blank									
Phosphorus, Total as P		ND	mg/L	0.0050						05/01/14 12:50
<b>Lab ID: LCS-79302</b>	Laboratory Control Sample									
Phosphorus, Total as P		0.203	mg/L	0.0050	101	90	110			05/01/14 12:51
<b>Lab ID: B14042161-001AMS</b>	Sample Matrix Spike									
Phosphorus, Total as P		0.588	mg/L	0.0050	95	90	110			05/01/14 12:53
<b>Lab ID: B14042161-001AMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total as P		0.603	mg/L	0.0050	103	90	110	2.5	10	05/01/14 12:54
<b>Lab ID: B14042249-001BPDS</b>	Post Digestion/Distillation Spike									
Phosphorus, Total as P		6.14	mg/L	0.10	97	90	110			05/01/14 12:59
<b>Lab ID: B14042249-001BPDS</b>	Post Digestion Spike Duplicate									
Phosphorus, Total as P		6.06	mg/L	0.10	95	90	110			05/01/14 13:00

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B14042300

Login completed by: Randa Nees

Date Received: 4/25/2014

Reviewed by: BL2000\gmccartney

Received by: jrjz

Reviewed Date: 4/28/2014

Carrier UPS NDA  
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	5.6°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: *McClelland Lab		Project Name, PWS, Permit, Etc. 3767 WK:68		Sample Origin State: NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Phone/Fax: 775-356-1300		Email: MLI@METTEST.COM	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko		Purchase Order: 604-628-1162		Quote/Bottle Order:	
<input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP State: _____ <input type="checkbox"/> Other: _____		<input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) Format: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		Special Report/Formats - ELI must be notified prior to sample submittal for the following:		Shipped by: <u>WPS</u> Robert <u>NDA</u> Cooler ID(s): _____ Receipt Temp: <u>5.6</u> °C On Ice: <input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> C Custody Seal Intact: <input checked="" type="radio"/> Y <input type="radio"/> N Signature Match: <input checked="" type="radio"/> Y <input type="radio"/> N	
Number of Containers: A W S V B O Sample Type: Air Water Soils/Solids Vegetation Brossay Other		MATRIX Water		ANALYSIS REQUESTED SEE ATTACHED		Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page Comments: <b>R U S H</b>	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) 1 Ynl 1/Ynl 2 Composite 2 3 4 5 6 7 8 9 10		Collection Date 4/24/14		Collection Time 09:00		Please Copy results to: <u>MLI@METTEST.COM</u> hold remaining preserved samples (frozen) until further notice.	
Relinquished by (print): <u>Matt Poore</u> Date/Time: <u>4-24-14 1900</u>		Signature: <u>Matt Poore</u>		Received by (print): _____ Date/Time: _____		Signature: _____	
Relinquished by (print): _____ Date/Time: _____		Signature: _____		Received by (print): _____ Date/Time: _____		Signature: _____	
Sample Disposal: _____ Return to Client: _____ Lab Disposal: _____		Relinquished by Laboratory: _____ Date/Time: <u>4/25/14 0915</u>		Received by Laboratory: <u>ROBERT NDA</u>		Signature: _____	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

LABORATORY USE ONLY

4/25/14 0915



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*



# ANALYTICAL SUMMARY REPORT

June 02, 2014

Tintina Alaska Exploration Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B14052147      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:72

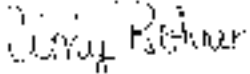
Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Alaska Exploration Inc on 5/23/2014 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B14052147-001	Ynl 1/Ynl 2 Composite	05/22/14 9:00	05/23/14	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Laboratory Co-Manager

Digitally signed by  
Cindy Rohrer  
Date: 2014.06.02 09:50:47 -06:00

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:72  
**Lab ID:** B14052147-001  
**Client Sample ID:** Ynl 1/Ynl 2 Composite

**Report Date:** 06/02/14  
**Collection Date:** 05/22/14 09:00  
**Date Received:** 05/23/14  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	264	mg/L		1		E300.0	05/28/14 06:47 / rbf
Fluoride	ND	mg/L		0.2		A4500-F C	05/28/14 10:43 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	05/28/14 13:20 / jll
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	05/27/14 22:23 / amm
Antimony	ND	mg/L		0.0005		E200.8	05/27/14 22:23 / amm
Arsenic	ND	mg/L		0.001		E200.8	05/27/14 22:23 / amm
Barium	0.005	mg/L		0.003		E200.7	05/27/14 16:12 / mas
Beryllium	ND	mg/L		0.0008		E200.7	05/27/14 16:12 / mas
Cadmium	0.00004	mg/L		0.00003		E200.8	05/27/14 22:23 / amm
Calcium	62	mg/L		1		E200.7	05/27/14 16:12 / mas
Chromium	ND	mg/L		0.01		E200.7	05/27/14 16:12 / mas
Copper	ND	mg/L		0.002		E200.8	05/27/14 22:23 / amm
Iron	ND	mg/L		0.02		E200.7	05/27/14 16:12 / mas
Lead	ND	mg/L		0.0003		E200.8	05/27/14 22:23 / amm
Magnesium	34	mg/L		1		E200.7	05/27/14 16:12 / mas
Manganese	0.007	mg/L		0.005		E200.7	05/27/14 16:12 / mas
Mercury	ND	mg/L		5E-06		E245.1	05/28/14 17:19 / ser
Nickel	ND	mg/L		0.002		E200.8	05/27/14 22:23 / amm
Selenium	ND	mg/L		0.001		E200.8	05/27/14 22:23 / amm
Silicon	0.38	mg/L		0.05		E200.7	05/27/14 16:12 / mas
Silver	ND	mg/L		0.0002		E200.8	05/27/14 22:23 / amm
Strontium	0.10	mg/L		0.02		E200.7	05/27/14 16:12 / mas
Thallium	0.0003	mg/L		0.0002		E200.8	05/27/14 22:23 / amm
Uranium	ND	mg/L		0.0002		E200.8	05/29/14 11:27 / jjw
Zinc	ND	mg/L		0.008		E200.7	05/27/14 16:12 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 06/02/14

**Project:** 3767 WK:72

**Work Order:** B14052147

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_140528A		
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								05/28/14 09:38
Fluoride		1.06	mg/L	0.10	106	90	110			
<b>Method:</b> A4500-F C										Batch: R224479
<b>Lab ID:</b> MBLK		Method Blank								05/28/14 09:32
Fluoride		0.05	mg/L	0.05				Run: MAN-TECH_140528A		
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								05/28/14 09:35
Fluoride		0.980	mg/L	0.10	93	90	110	Run: MAN-TECH_140528A		
<b>Lab ID:</b> B14052078-002AMS		Sample Matrix Spike								05/28/14 10:30
Fluoride		1.27	mg/L	0.10	91	80	120	Run: MAN-TECH_140528A		
<b>Lab ID:</b> B14052078-002AMSD		Sample Matrix Spike Duplicate								05/28/14 10:33
Fluoride		1.30	mg/L	0.10	94	80	120	2.3	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:72

**Report Date:** 06/02/14  
**Work Order:** B14052147

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_140527A		
<b>Lab ID: CCV</b>	10 Continuing Calibration Verification Standard									05/27/14 11:30
Barium		2.47	mg/L	0.10	99	95	105			
Beryllium		1.24	mg/L	0.010	99	95	105			
Calcium		25.0	mg/L	1.0	100	95	105			
Chromium		2.46	mg/L	0.050	98	95	105			
Iron		2.50	mg/L	0.020	100	95	105			
Magnesium		25.1	mg/L	1.0	100	95	105			
Manganese		2.44	mg/L	0.010	97	95	105			
Silicon		4.96	mg/L	0.10	99	95	105			
Strontium		2.49	mg/L	0.10	100	95	105			
Zinc		2.44	mg/L	0.010	98	95	105			
<b>Method: E200.7</b>								Batch: R224415		
<b>Lab ID: MB-6500DIS140527A</b>	10 Method Blank									Run: ICP203-B_140527A 05/27/14 11:54
Barium		ND	mg/L	0.0005						
Beryllium		ND	mg/L	0.0002						
Calcium		ND	mg/L	0.01						
Chromium		ND	mg/L	0.005						
Iron		ND	mg/L	0.004						
Magnesium		0.005	mg/L	0.003						
Manganese		ND	mg/L	0.0005						
Silicon		ND	mg/L	0.03						
Strontium		ND	mg/L	0.0002						
Zinc		ND	mg/L	0.001						
<b>Lab ID: LFB-6500DIS140527A</b>	10 Laboratory Fortified Blank									Run: ICP203-B_140527A 05/27/14 13:59
Barium		1.05	mg/L	0.10	105	85	115			
Beryllium		0.535	mg/L	0.010	107	85	115			
Calcium		52.7	mg/L	1.0	105	85	115			
Chromium		1.03	mg/L	0.050	103	85	115			
Iron		5.26	mg/L	0.020	105	85	115			
Magnesium		52.8	mg/L	1.0	106	85	115			
Manganese		5.18	mg/L	0.010	104	85	115			
Silicon		11.2	mg/L	0.10	112	85	115			
Strontium		1.09	mg/L	0.10	109	85	115			
Zinc		1.03	mg/L	0.010	103	85	115			
<b>Lab ID: B14052153-001BMS2</b>	10 Sample Matrix Spike									Run: ICP203-B_140527A 05/27/14 16:39
Barium		1.15	mg/L	0.050	112	70	130			
Beryllium		0.573	mg/L	0.0010	115	70	130			
Calcium		100	mg/L	1.0	113	70	130			
Chromium		1.11	mg/L	0.0050	111	70	130			
Iron		5.59	mg/L	0.020	111	70	130			
Magnesium		72.6	mg/L	1.0	115	70	130			
Manganese		5.62	mg/L	0.0010	112	70	130			
Silicon		15.2	mg/L	0.10	111	70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 06/02/14

**Project:** 3767 WK:72

**Work Order:** B14052147

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										Batch: R224415
<b>Lab ID: B14052153-001BMS2</b>	10	Sample Matrix Spike								
										Run: ICP203-B_140527A
Strontium		1.67	mg/L	0.010	117	70	130			05/27/14 16:39
Zinc		1.12	mg/L	0.010	112	70	130			
<b>Lab ID: B14052153-001BMSD</b>										05/27/14 16:42
	10	Sample Matrix Spike Duplicate								Run: ICP203-B_140527A
Barium		1.14	mg/L	0.050	111	70	130	1.1	20	
Beryllium		0.569	mg/L	0.0010	114	70	130	0.7	20	
Calcium		99.6	mg/L	1.0	112	70	130	0.6	20	
Chromium		1.09	mg/L	0.0050	109	70	130	1.3	20	
Iron		5.57	mg/L	0.020	110	70	130	0.3	20	
Magnesium		72.1	mg/L	1.0	114	70	130	0.6	20	
Manganese		5.59	mg/L	0.0010	112	70	130	0.6	20	
Silicon		14.9	mg/L	0.10	108	70	130	1.9	20	
Strontium		1.65	mg/L	0.010	115	70	130	1.0	20	
Zinc		1.13	mg/L	0.010	113	70	130	0.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:72

**Report Date:** 06/02/14  
**Work Order:** B14052147

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_140527A		
<b>Lab ID: QCS</b>	10	Initial Calibration Verification Standard								05/27/14 14:13
Aluminum		0.246	mg/L	0.10	98	90	110			
Antimony		0.0507	mg/L	0.050	101	90	110			
Arsenic		0.0514	mg/L	0.0050	103	90	110			
Cadmium		0.0266	mg/L	0.0010	106	90	110			
Copper		0.0529	mg/L	0.010	106	90	110			
Lead		0.0504	mg/L	0.010	101	90	110			
Nickel		0.0521	mg/L	0.010	104	90	110			
Selenium		0.0522	mg/L	0.0050	104	90	110			
Silver		0.0255	mg/L	0.0050	102	90	110			
Thallium		0.0508	mg/L	0.10	102	90	110			
<b>Method: E200.8</b>								Batch: R224401		
<b>Lab ID: LFB</b>	10	Laboratory Fortified Blank						Run: ICPMS202-B_140527A		05/27/14 09:51
Aluminum		0.0504	mg/L	0.10	101	85	115			
Antimony		0.0470	mg/L	0.050	94	85	115			
Arsenic		0.0508	mg/L	0.0050	101	85	115			
Cadmium		0.0504	mg/L	0.0010	101	85	115			
Copper		0.0506	mg/L	0.010	101	85	115			
Lead		0.0527	mg/L	0.010	105	85	115			
Nickel		0.0509	mg/L	0.010	102	85	115			
Selenium		0.0486	mg/L	0.0050	97	85	115			
Silver		0.0205	mg/L	0.0050	103	85	115			
Thallium		0.0522	mg/L	0.10	104	85	115			
<b>Lab ID: LRB</b>	10	Method Blank						Run: ICPMS202-B_140527A		05/27/14 10:01
Aluminum		ND	mg/L	5E-05						
Antimony		ND	mg/L	1E-05						
Arsenic		ND	mg/L	6E-05						
Cadmium		ND	mg/L	1E-05						
Copper		ND	mg/L	5E-05						
Lead		ND	mg/L	1E-05						
Nickel		ND	mg/L	6E-05						
Selenium		ND	mg/L	0.0003						
Silver		ND	mg/L	3E-05						
Thallium		ND	mg/L	1E-05						
<b>Lab ID: B14052099-005DMS</b>	10	Sample Matrix Spike						Run: ICPMS202-B_140527A		05/27/14 22:00
Aluminum		0.0660	mg/L	0.030	89	70	130			
Antimony		0.0491	mg/L	0.0010	96	70	130			
Arsenic		0.0536	mg/L	0.0010	94	70	130			
Cadmium		0.0471	mg/L	0.0010	94	70	130			
Copper		0.0521	mg/L	0.0050	93	70	130			
Lead		0.0517	mg/L	0.0010	103	70	130			
Nickel		0.0735	mg/L	0.0050	93	70	130			
Selenium		0.0490	mg/L	0.0010	87	70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 06/02/14

**Project:** 3767 WK:72

**Work Order:** B14052147

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R224401</span>										
<b>Lab ID: B14052099-005DMS</b>	10	Sample Matrix Spike					Run: ICPMS202-B_140527A		05/27/14 22:00	
Silver		0.00546	mg/L	0.0010	27	70	130			S
Thallium		0.0520	mg/L	0.00050	104	70	130			
<b>Lab ID: B14052099-005DMSD</b> 10 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICPMS202-B_140527A 05/27/14 22:02</span>										
Aluminum		0.0663	mg/L	0.030	90	70	130	0.6	20	
Antimony		0.0508	mg/L	0.0010	99	70	130	3.5	20	
Arsenic		0.0546	mg/L	0.0010	96	70	130	1.8	20	
Cadmium		0.0478	mg/L	0.0010	96	70	130	1.6	20	
Copper		0.0527	mg/L	0.0050	94	70	130	1.2	20	
Lead		0.0538	mg/L	0.0010	107	70	130	4.1	20	
Nickel		0.0737	mg/L	0.0050	93	70	130	0.3	20	
Selenium		0.0494	mg/L	0.0010	88	70	130	0.9	20	
Silver		0.00563	mg/L	0.0010	28	70	130	3.0	20	S
Thallium		0.0537	mg/L	0.00050	107	70	130	3.3	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS202-B_140529A</span>										
<b>Lab ID: QCS</b>		Initial Calibration Verification Standard							05/29/14 09:12	
Uranium		0.0194	mg/L	0.0010	97	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R224559</span>										
<b>Lab ID: LFB</b>		Laboratory Fortified Blank					Run: ICPMS202-B_140529A		05/29/14 09:20	
Uranium		0.0479	mg/L	0.0010	96	85	115			
<b>Lab ID: LRB</b>		Method Blank					Run: ICPMS202-B_140529A		05/29/14 09:46	
Uranium		ND	mg/L	5E-06						
<b>Lab ID: B14051709-019BMS</b>		Sample Matrix Spike					Run: ICPMS202-B_140529A		05/29/14 11:15	
Uranium		0.0494	mg/L	0.00030	99	70	130			
<b>Lab ID: B14051709-019BMSD</b>		Sample Matrix Spike Duplicate					Run: ICPMS202-B_140529A		05/29/14 11:17	
Uranium		0.0490	mg/L	0.00030	98	70	130	0.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:72

**Report Date:** 06/02/14  
**Work Order:** B14052147

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_140528A
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								05/28/14 15:10
Mercury		0.000182	mg/L	1.0E-05	91	90	110			
<b>Method:</b> E245.1										Batch: 80119
<b>Lab ID:</b> MB-80119		Method Blank								05/28/14 17:05
Mercury		ND	mg/L	2E-06						Run: HGCV203-B_140528A
<b>Lab ID:</b> LCS-80119		Laboratory Control Sample								05/28/14 17:07
Mercury		0.000177	mg/L	1.0E-05	89	85	115			Run: HGCV203-B_140528A
<b>Lab ID:</b> B14052089-001BMS		Sample Matrix Spike								05/28/14 17:12
Mercury		0.000183	mg/L	1.0E-05	90	70	130			Run: HGCV203-B_140528A
<b>Lab ID:</b> B14052089-001BMSD		Sample Matrix Spike Duplicate								05/28/14 17:14
Mercury		0.000180	mg/L	1.0E-05	88	70	130	1.7	30	Run: HGCV203-B_140528A
<b>Lab ID:</b> B14052147-001BMS		Sample Matrix Spike								05/28/14 17:21
Mercury		0.000175	mg/L	1.0E-05	87	70	130			Run: HGCV203-B_140528A
<b>Lab ID:</b> B14052147-001BMSD		Sample Matrix Spike Duplicate								05/28/14 17:23
Mercury		0.000161	mg/L	1.0E-05	80	70	130	8.3	30	Run: HGCV203-B_140528A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 06/02/14

**Project:** 3767 WK:72

**Work Order:** B14052147

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E300.0										Analytical Run: IC203-B_140527A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								05/27/14 11:54	
Sulfate		100	mg/L	1.0	100	90	110				
<b>Method:</b> E300.0										Batch: R224464	
<b>Lab ID:</b> ICB		Method Blank								Run: IC203-B_140527A	05/27/14 12:10
Sulfate		ND	mg/L	0.07							
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: IC203-B_140527A	05/27/14 12:25
Sulfate		98.4	mg/L	1.1	98	90	110				
<b>Lab ID:</b> B14051104-003AMS		Sample Matrix Spike								Run: IC203-B_140527A	05/28/14 05:47
Sulfate		123	mg/L	1.1	99	90	110				
<b>Lab ID:</b> B14051104-003AMSD		Sample Matrix Spike Duplicate								Run: IC203-B_140527A	05/28/14 06:02
Sulfate		125	mg/L	1.1	102	90	110	1.8	20		
<b>Lab ID:</b> B14052188-001AMS		Sample Matrix Spike								Run: IC203-B_140527A	05/28/14 07:48
Sulfate		129	mg/L	1.1	99	90	110				
<b>Lab ID:</b> B14052188-001AMSD		Sample Matrix Spike Duplicate								Run: IC203-B_140527A	05/28/14 08:03
Sulfate		129	mg/L	1.1	100	90	110	0.0	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 06/02/14

**Project:** 3767 WK:72

**Work Order:** B14052147

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E365.1</b>								Analytical Run: FIA202-B_140528A			
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard										
Phosphorus, Total as P		0.241	mg/L	0.0050	96	90	110			05/28/14 12:53	
<b>Method: E365.1</b>								Batch: 80036			
<b>Lab ID: MB-80036</b>	Method Blank										
Phosphorus, Total as P		ND	mg/L	0.0050						Run: FIA202-B_140528A 05/28/14 12:57	
<b>Lab ID: LCS-80036</b>	Laboratory Control Sample										
Phosphorus, Total as P		0.181	mg/L	0.0050	90	90	110			Run: FIA202-B_140528A 05/28/14 12:58	
<b>Lab ID: B14052169-001CMS</b>	Sample Matrix Spike										
Phosphorus, Total as P		0.274	mg/L	0.0050	97	90	110			Run: FIA202-B_140528A 05/28/14 13:26	
<b>Lab ID: B14052169-001CMSD</b>	Sample Matrix Spike Duplicate										
Phosphorus, Total as P		0.266	mg/L	0.0050	93	90	110	3.0	10	Run: FIA202-B_140528A 05/28/14 13:27	
<b>Lab ID: B14052170-001CMS</b>	Sample Matrix Spike										
Phosphorus, Total as P		0.190	mg/L	0.0050	89	90	110			Run: FIA202-B_140528A 05/28/14 13:28 S	
<b>Lab ID: B14052170-001CMSD</b>	Sample Matrix Spike Duplicate										
Phosphorus, Total as P		0.191	mg/L	0.0050	90	90	110	0.5	10	Run: FIA202-B_140528A 05/28/14 13:29	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

# Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B14052147

Login completed by: Sean P. Harris

Date Received: 5/23/2014

Reviewed by: BL2000\jklier

Received by: kl

Reviewed Date: 5/24/2014

Carrier UPS NDA  
name:

- |   |   |  |  |
|---|---|--|--|
| Shipping container/cooler in good condition?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on all shipping container(s)/cooler(s)?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on all sample bottles?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/>            |
| Chain of custody present?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody signed when relinquished and received?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody agrees with sample labels?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Samples in proper container/bottle?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sample containers intact?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters<br>such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Temp Blank received in all shipping container(s)/cooler(s)?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |
| Container/Temp Blank temperature:   | 17.2°C Melted Ice                       |  |  |
| Water - VOA vials have zero headspace?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Applicable <input type="checkbox"/>                    |

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

July 11, 2014

Tintina Alaska Exploration Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B14061973      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:76

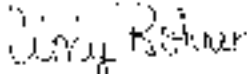
Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Alaska Exploration Inc on 6/20/2014 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B14061973-001	Ynl 1/Ynl 2 Composite	06/19/14 9:00	06/20/14	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Laboratory Co-Manager

Digitally signed by  
Cindy Rohrer  
Date: 2014.07.11 07:16:25 -06:00

## LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:76  
**Lab ID:** B14061973-001  
**Client Sample ID:** Ynl 1/Ynl 2 Composite

**Report Date:** 07/11/14  
**Collection Date:** 06/19/14 09:00  
**Date Received:** 06/20/14  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	281	mg/L		1		E300.0	06/23/14 22:22 / rbf
Fluoride	ND	mg/L		0.2		A4500-F C	06/24/14 10:41 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	06/30/14 15:38 / jll
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	06/23/14 21:21 / amm
Antimony	ND	mg/L		0.0005		E200.8	06/23/14 21:21 / amm
Arsenic	ND	mg/L		0.001		E200.8	06/23/14 21:21 / amm
Barium	0.005	mg/L		0.003		E200.7	06/23/14 18:08 / mas
Beryllium	ND	mg/L		0.0008		E200.7	06/23/14 18:08 / mas
Cadmium	ND	mg/L		0.00003		E200.8	06/23/14 21:21 / amm
Calcium	66	mg/L		1		E200.7	06/23/14 18:08 / mas
Chromium	ND	mg/L		0.01		E200.7	06/23/14 18:08 / mas
Copper	ND	mg/L		0.002		E200.8	06/23/14 21:21 / amm
Iron	ND	mg/L		0.02		E200.7	07/01/14 14:32 / mas
Lead	ND	mg/L		0.0003		E200.8	06/23/14 21:21 / amm
Magnesium	35	mg/L		1		E200.7	06/23/14 18:08 / mas
Manganese	0.007	mg/L		0.005		E200.7	06/23/14 18:08 / mas
Mercury	ND	mg/L		0.00001		E245.1	07/09/14 16:10 / ser
Nickel	ND	mg/L		0.002		E200.8	06/24/14 18:00 / amm
Selenium	ND	mg/L		0.001		E200.8	06/23/14 21:21 / amm
Silicon	0.42	mg/L		0.05		E200.7	06/23/14 18:08 / mas
Silver	ND	mg/L		0.0002		E200.8	06/26/14 13:55 / amm
Strontium	0.11	mg/L		0.02		E200.7	06/23/14 18:08 / mas
Thallium	0.0003	mg/L		0.0002		E200.8	06/23/14 21:21 / amm
Uranium	0.0002	mg/L		0.0002		E200.8	06/23/14 21:21 / amm
Zinc	ND	mg/L		0.008		E200.7	06/23/14 18:08 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/11/14

**Project:** 3767 WK:76

**Work Order:** B14061973

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.7										Analytical Run: ICP201-B_140701A	
<b>Lab ID:</b> ICV		Continuing Calibration Verification Standard								07/01/14 13:30	
Iron		2.46	mg/L	0.020	98	95	105				
<b>Method:</b> E200.7										Batch: R226419	
<b>Lab ID:</b> MB-IRISDIS140701A		Method Blank								Run: ICP201-B_140701A	07/01/14 13:53
Iron		0.004	mg/L	0.002							
<b>Lab ID:</b> LFB-IRISDIS140701A		Laboratory Fortified Blank								Run: ICP201-B_140701A	07/01/14 13:56
Iron		5.30	mg/L	0.020	106	85	115				
<b>Lab ID:</b> B14062258-001AMS2		Sample Matrix Spike								Run: ICP201-B_140701A	07/01/14 14:43
Iron		11.5	mg/L	0.020	114	70	130				
<b>Lab ID:</b> B14062258-001AMSD		Sample Matrix Spike Duplicate								Run: ICP201-B_140701A	07/01/14 14:46
Iron		11.8	mg/L	0.020	117	70	130	2.5	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:76

**Report Date:** 07/11/14  
**Work Order:** B14061973

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_140623A			
<b>Lab ID: ICV</b>	9	Continuing Calibration Verification Standard									06/23/14 12:10
Barium		2.48	mg/L	0.10	99	95	105				
Beryllium		1.28	mg/L	0.010	102	95	105				
Calcium		24.7	mg/L	1.0	99	95	105				
Chromium		2.48	mg/L	0.050	99	95	105				
Magnesium		24.9	mg/L	1.0	99	95	105				
Manganese		2.50	mg/L	0.010	100	95	105				
Silicon		5.13	mg/L	0.10	103	95	105				
Strontium		2.55	mg/L	0.10	102	95	105				
Zinc		2.51	mg/L	0.010	100	95	105				
<b>Method: E200.7</b>								Batch: R225932			
<b>Lab ID: MB-6500DIS140623A</b>	9	Method Blank							Run: ICP203-B_140623A		06/23/14 12:37
Barium		ND	mg/L	0.0005							
Beryllium		ND	mg/L	0.0002							
Calcium		ND	mg/L	0.01							
Chromium		ND	mg/L	0.005							
Magnesium		ND	mg/L	0.003							
Manganese		ND	mg/L	0.0005							
Silicon		ND	mg/L	0.03							
Strontium		ND	mg/L	0.0002							
Zinc		ND	mg/L	0.001							
<b>Lab ID: LFB-6500DIS140623A</b>	9	Laboratory Fortified Blank							Run: ICP203-B_140623A		06/23/14 12:41
Barium		1.04	mg/L	0.10	104	85	115				
Beryllium		0.548	mg/L	0.010	110	85	115				
Calcium		51.0	mg/L	1.0	102	85	115				
Chromium		1.03	mg/L	0.050	103	85	115				
Magnesium		52.0	mg/L	1.0	104	85	115				
Manganese		5.27	mg/L	0.010	105	85	115				
Silicon		10.6	mg/L	0.10	106	85	115				
Strontium		1.11	mg/L	0.10	111	85	115				
Zinc		1.05	mg/L	0.010	105	85	115				
<b>Lab ID: B14061861-002AMS2</b>	9	Sample Matrix Spike							Run: ICP203-B_140623A		06/23/14 18:35
Barium		4.63	mg/L	0.050	93	70	130				
Beryllium		2.39	mg/L	0.0010	96	70	130				
Calcium		230	mg/L	1.0	92	70	130				
Chromium		4.58	mg/L	0.024	92	70	130				
Magnesium		230	mg/L	1.0	92	70	130				
Manganese		23.0	mg/L	0.0026	92	70	130				
Silicon		50.5	mg/L	0.15	101	70	130				
Strontium		4.99	mg/L	0.010	100	70	130				
Zinc		5.54	mg/L	0.010	111	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:76

**Report Date:** 07/11/14  
**Work Order:** B14061973

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.7										Batch: R225932
<b>Lab ID:</b> B14061861-002AMSD	9	Sample Matrix Spike Duplicate			Run: ICP203-B_140623A				06/23/14 18:39	
Barium		4.90	mg/L	0.050	98	70	130	5.6	20	
Beryllium		2.54	mg/L	0.0010	102	70	130	6.1	20	
Calcium		244	mg/L	1.0	97	70	130	5.7	20	
Chromium		4.85	mg/L	0.024	97	70	130	5.7	20	
Magnesium		244	mg/L	1.0	98	70	130	5.8	20	
Manganese		24.4	mg/L	0.0026	98	70	130	5.9	20	
Silicon		52.9	mg/L	0.15	106	70	130	4.5	20	
Strontium		5.30	mg/L	0.010	106	70	130	5.9	20	
Zinc		5.28	mg/L	0.010	105	70	130	4.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:76

**Report Date:** 07/11/14  
**Work Order:** B14061973

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_140623A		
<b>Lab ID: QCS</b>	9	Initial Calibration Verification Standard								06/23/14 18:33
Aluminum		0.244	mg/L	0.10	98	90	110			
Antimony		0.0501	mg/L	0.050	100	90	110			
Arsenic		0.0504	mg/L	0.0050	101	90	110			
Cadmium		0.0263	mg/L	0.0010	105	90	110			
Copper		0.0515	mg/L	0.010	103	90	110			
Lead		0.0491	mg/L	0.010	98	90	110			
Selenium		0.0512	mg/L	0.0050	102	90	110			
Thallium		0.0490	mg/L	0.10	98	90	110			
Uranium		0.0204	mg/L	0.0010	102	90	110			
<b>Method: E200.8</b>								Batch: R225957		
<b>Lab ID: LRB</b>	9	Method Blank						Run: ICPMS202-B_140623A		06/23/14 11:52
Aluminum		0.0001	mg/L	5E-05						
Antimony		ND	mg/L	1E-05						
Arsenic		ND	mg/L	6E-05						
Cadmium		ND	mg/L	1E-05						
Copper		ND	mg/L	5E-05						
Lead		ND	mg/L	1E-05						
Selenium		ND	mg/L	0.0003						
Thallium		ND	mg/L	1E-05						
Uranium		ND	mg/L	5E-06						
<b>Lab ID: LFB</b>	9	Laboratory Fortified Blank						Run: ICPMS202-B_140623A		06/23/14 14:44
Aluminum		0.0491	mg/L	0.10	98	85	115			
Antimony		0.0429	mg/L	0.050	86	85	115			
Arsenic		0.0484	mg/L	0.0050	97	85	115			
Cadmium		0.0483	mg/L	0.0010	97	85	115			
Copper		0.0521	mg/L	0.010	104	85	115			
Lead		0.0464	mg/L	0.010	93	85	115			
Selenium		0.0513	mg/L	0.0050	103	85	115			
Thallium		0.0455	mg/L	0.10	91	85	115			
Uranium		0.0453	mg/L	0.0010	91	85	115			
<b>Lab ID: B14061943-004AMS</b>	9	Sample Matrix Spike						Run: ICPMS202-B_140623A		06/23/14 20:54
Aluminum		0.101	mg/L	0.030	203	70	130			S
Antimony		0.0432	mg/L	0.0010	86	70	130			
Arsenic		0.0520	mg/L	0.0010	104	70	130			
Cadmium		0.0464	mg/L	0.0010	93	70	130			
Copper		0.0566	mg/L	0.0050	113	70	130			
Lead		0.0468	mg/L	0.0010	94	70	130			
Selenium		0.0485	mg/L	0.0010	97	70	130			
Thallium		0.0477	mg/L	0.00050	95	70	130			
Uranium		0.0523	mg/L	0.00030	105	70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:76

**Report Date:** 07/11/14  
**Work Order:** B14061973

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R225957</span>										
<b>Lab ID: B14061943-004AMSD</b>	9	Sample Matrix Spike Duplicate					Run: ICPMS202-B_140623A			06/23/14 20:57
Aluminum		0.0854	mg/L	0.030	171	70	130	0.0	20	S
Antimony		0.0434	mg/L	0.0010	87	70	130	0.0	20	
Arsenic		0.0508	mg/L	0.0010	102	70	130	0.0	20	
Cadmium		0.0461	mg/L	0.0010	92	70	130	0.0	20	
Copper		0.0543	mg/L	0.0050	109	70	130	0.0	20	
Lead		0.0465	mg/L	0.0010	93	70	130	0.0	20	
Selenium		0.0478	mg/L	0.0010	96	70	130	0.0	20	
Thallium		0.0472	mg/L	0.00050	94	70	130	0.0	20	
Uranium		0.0516	mg/L	0.00030	103	70	130	0.0	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS202-B_140624A</span>										
<b>Lab ID: QCS</b>		Initial Calibration Verification Standard								06/24/14 09:50
Nickel		0.0511	mg/L	0.010	102	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R226006</span>										
<b>Lab ID: LFB</b>		Laboratory Fortified Blank					Run: ICPMS202-B_140624A			06/24/14 10:32
Nickel		0.0510	mg/L	0.010	102	85	115			
<b>Lab ID: LRB</b>		Method Blank					Run: ICPMS202-B_140624A			06/24/14 10:52
Nickel		ND	mg/L	6E-05						
<b>Lab ID: B14062077-002BMS</b>		Sample Matrix Spike					Run: ICPMS202-B_140624A			06/24/14 18:05
Nickel		0.133	mg/L	0.0050	96	70	130			
<b>Lab ID: B14062077-002BMSD</b>		Sample Matrix Spike Duplicate					Run: ICPMS202-B_140624A			06/24/14 18:08
Nickel		0.134	mg/L	0.0050	98	70	130	0.9	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS202-B_140626B</span>										
<b>Lab ID: QCS</b>		Initial Calibration Verification Standard								06/26/14 12:10
Silver		0.0251	mg/L	0.0050	100	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R226175</span>										
<b>Lab ID: LFB</b>		Laboratory Fortified Blank					Run: ICPMS202-B_140626B			06/26/14 12:16
Silver		0.0195	mg/L	0.0050	98	85	115			
<b>Lab ID: LRB</b>		Method Blank					Run: ICPMS202-B_140626B			06/26/14 12:40
Silver		ND	mg/L	3E-05						
<b>Lab ID: B14061973-001BMS</b>		Sample Matrix Spike					Run: ICPMS202-B_140626B			06/26/14 13:57
Silver		0.00885	mg/L	0.0010	44	70	130			S
<b>Lab ID: B14061973-001BMSD</b>		Sample Matrix Spike Duplicate					Run: ICPMS202-B_140626B			06/26/14 14:00
Silver		0.0101	mg/L	0.0010	51	70	130	13	20	S

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/11/14

**Project:** 3767 WK:76

**Work Order:** B14061973

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_140709A	
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								07/09/14 15:41	
Mercury		0.000199	mg/L	1.0E-05	100	90	110				
<b>Method:</b> E245.1										Batch: 81119	
<b>Lab ID:</b> MB-81119		Method Blank								Run: HGCV203-B_140709A	07/09/14 15:52
Mercury		ND	mg/L	2E-06							
<b>Lab ID:</b> LCS-81119		Laboratory Control Sample								Run: HGCV203-B_140709A	07/09/14 16:08
Mercury		0.000180	mg/L	2.5E-05	90	85	115				
<b>Lab ID:</b> B14061973-001BMS		Sample Matrix Spike								Run: HGCV203-B_140709A	07/09/14 16:15
Mercury		0.000211	mg/L	1.0E-05	102	70	130				
<b>Lab ID:</b> B14061973-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_140709A	07/09/14 16:17
Mercury		0.000212	mg/L	1.0E-05	103	70	130	0.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:76

**Report Date:** 07/01/14  
**Work Order:** B14061973

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C							Analytical Run: MAN-TECH_140624A			
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Fluoride	1.06	mg/L	0.10	106	90	110			06/24/14 10:19	
<b>Method:</b> A4500-F C							Batch: R226030			
<b>Lab ID:</b> MBLK	Method Blank									
Fluoride	ND	mg/L	0.05						Run: MAN-TECH_140624A 06/24/14 10:14	
<b>Lab ID:</b> LFB	Laboratory Fortified Blank									
Fluoride	0.990	mg/L	0.10	99	90	110			Run: MAN-TECH_140624A 06/24/14 10:17	
<b>Lab ID:</b> B14061875-001AMS	Sample Matrix Spike									
Fluoride	1.61	mg/L	0.10	99	80	120			Run: MAN-TECH_140624A 06/24/14 10:25	
<b>Lab ID:</b> B14061875-001AMSD	Sample Matrix Spike Duplicate									
Fluoride	1.61	mg/L	0.10	99	80	120	0.0	10	Run: MAN-TECH_140624A 06/24/14 10:27	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:76

**Report Date:** 07/01/14  
**Work Order:** B14061973

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E300.0								Analytical Run: IC203-B_140623A		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Sulfate	102	mg/L	1.0	102	90	110			06/23/14 17:50	
<b>Method:</b> E300.0								Batch: R225982		
<b>Lab ID:</b> ICB	Method Blank									
Sulfate	ND	mg/L	0.07						Run: IC203-B_140623A 06/23/14 18:05	
<b>Lab ID:</b> LFB	Laboratory Fortified Blank									
Sulfate	103	mg/L	1.1	103	90	110			Run: IC203-B_140623A 06/23/14 18:21	
<b>Lab ID:</b> B14061973-001AMS	Sample Matrix Spike									
Sulfate	386	mg/L	1.1	105	90	110			Run: IC203-B_140623A 06/23/14 22:37	
<b>Lab ID:</b> B14061973-001AMSD	Sample Matrix Spike Duplicate									
Sulfate	387	mg/L	1.1	106	90	110	0.3	20	Run: IC203-B_140623A 06/23/14 22:52	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:76

**Report Date:** 07/01/14  
**Work Order:** B14061973

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E365.1	Analytical Run: FIA202-B_140630C								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Phosphorus, Total as P	0.252	mg/L	0.0050	101	90	110			06/30/14 15:34
<b>Method:</b> E365.1	Batch: 80920								
<b>Lab ID:</b> MB-80920	Method Blank								
Phosphorus, Total as P	ND	mg/L	0.0050						Run: FIA202-B_140630C 06/30/14 15:35
<b>Lab ID:</b> LCS-80920	Laboratory Control Sample								
Phosphorus, Total as P	0.209	mg/L	0.0050	104	90	110			Run: FIA202-B_140630C 06/30/14 15:36
<b>Lab ID:</b> B14062533-002AMS	Sample Matrix Spike								
Phosphorus, Total as P	0.219	mg/L	0.0050	98	90	110			Run: FIA202-B_140630C 06/30/14 15:49
<b>Lab ID:</b> B14062533-002AMSD	Sample Matrix Spike Duplicate								
Phosphorus, Total as P	0.216	mg/L	0.0050	96	90	110	1.4	10	Run: FIA202-B_140630C 06/30/14 15:50
<b>Lab ID:</b> B14062533-006BMS	Sample Matrix Spike								
Phosphorus, Total as P	0.320	mg/L	0.0050	97	90	110			Run: FIA202-B_140630C 06/30/14 16:05
<b>Lab ID:</b> B14062533-006BMSD	Sample Matrix Spike Duplicate								
Phosphorus, Total as P	0.325	mg/L	0.0050	100	90	110	1.6	10	Run: FIA202-B_140630C 06/30/14 16:06

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B14061973

Login completed by: Randa Nees

Date Received: 6/20/2014

Reviewed by: BL2000\tedwards

Received by: mlk

Reviewed Date: 6/23/2014

Carrier UPS NDA  
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	7.8°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name:  
McClelland Lab

Report Mail Address:  
Timina Resources  
200 Granville St, Suite 2560  
Vancouver, BC V6C 1S4 Canada

Invoice Address:  
Timina Resources  
200 Granville St, Suite 2560  
Vancouver, BC V6C 1S4 Canada

Special Report/Formats - ELI must be notified prior to sample submittal for the following:

- DW
- GSA
- POTW/WWTP
- State: \_\_\_\_\_
- Other: \_\_\_\_\_
- A2LA
- EDD/EDT (Electronic Data)
- Format: \_\_\_\_\_
- LEVEL IV
- NELAC

Project Name, PWS, Permit, Etc.  
3767 WK:76

Contact Name:  
Mike Medina

Invoice Contact & Phone:  
Mr Bob Jacko 604-628-1162

ANALYSIS REQUESTED

SEE ATTACHED

SEE ATTACHED

SEE ATTACHED

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Sample Origin  
State: NV

Email:  
MLI@METTEST.COM

Purchase Order:

Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page

Comments:

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EPA/State Compliance:  
Yes  No

Sampler: (Please Print)  
Robert Johnson

Quote/Bottle Order:

Shipped by:  
Robert Johnson  
Cooler ID(s):

Receipt Temp  
7.8 °C

On Ice  
Yes  No

Custody Seal  
Intact    
Signature Match

Please Copy results to:  
MLI@METTEST.COM

LABORATORY USE ONLY  
21461973-001

Custody Record MUST be Signed

Reinquisitioned by (print):  
JOE CHANEY  
Date/Time: 6/19/14 9:00am

Signature: [Signature]

Received by (print):  
Date/Time:

Signature:

Sample Disposal: Return to Client:

Lab Disposal:

Received by Laboratory: [Signature]  
Date/Time: 6/20/14 9:30

Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at www.energylab.com for additional information, downloadable fee schedule forms and links

3767

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	<del>0.000005</del> 0.00001
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012

**ANALYTICAL SUMMARY REPORT**

July 29, 2014

Tintina Alaska Exploration Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4Work Order: B14071768      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:80

Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Alaska Exploration Inc on 7/18/2014 for analysis.

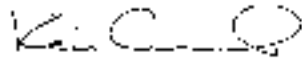
Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B14071768-001	Ynl 1/Ynl 2 Composite	07/17/14 9:00	07/18/14	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Supervisor, Wet ChemistryDigitally signed by  
Keri Center

Date: 2014.07.29 13:07:54 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:80  
**Lab ID:** B14071768-001  
**Client Sample ID:** Ynl 1/Ynl 2 Composite

**Report Date:** 07/29/14  
**Collection Date:** 07/17/14 09:00  
**Date Received:** 07/18/14  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	229	mg/L		1		E300.0	07/22/14 20:39 / rbf
Fluoride	ND	mg/L		0.2		A4500-F C	07/21/14 16:45 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	07/22/14 10:21 / jll
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.7	07/21/14 18:50 / mas
Antimony	ND	mg/L		0.0005		E200.8	07/24/14 20:18 / amm
Arsenic	ND	mg/L		0.001		E200.8	07/24/14 20:18 / amm
Barium	0.005	mg/L		0.003		E200.8	07/24/14 20:18 / amm
Beryllium	ND	mg/L		0.0008		E200.7	07/21/14 18:50 / mas
Cadmium	0.00023	mg/L		0.00003		E200.8	07/26/14 08:51 / mas
Calcium	55	mg/L		1		E200.7	07/21/14 18:50 / mas
Chromium	ND	mg/L		0.01		E200.7	07/21/14 18:50 / mas
Copper	ND	mg/L		0.002		E200.8	07/24/14 20:18 / amm
Iron	0.04	mg/L		0.02		E200.7	07/21/14 18:50 / mas
Lead	0.0004	mg/L		0.0003		E200.8	07/24/14 20:18 / amm
Magnesium	29	mg/L		1		E200.7	07/21/14 18:50 / mas
Manganese	0.056	mg/L		0.005		E200.7	07/21/14 18:50 / mas
Mercury	ND	mg/L		0.00001		E245.1	07/22/14 14:26 / ser
Nickel	ND	mg/L		0.002		E200.8	07/24/14 20:18 / amm
Selenium	ND	mg/L		0.001		E200.8	07/24/14 20:18 / amm
Silicon	0.46	mg/L		0.05		E200.7	07/21/14 18:50 / mas
Silver	ND	mg/L		0.0002		E200.8	07/24/14 20:18 / amm
Strontium	0.09	mg/L		0.02		E200.7	07/21/14 18:50 / mas
Thallium	0.0004	mg/L		0.0002		E200.8	07/24/14 20:18 / amm
Uranium	ND	mg/L		0.0002		E200.8	07/26/14 08:51 / mas
Zinc	ND	mg/L		0.008		E200.7	07/21/14 18:50 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/29/14

**Project:** 3767 WK:80

**Work Order:** B14071768

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_140721B			
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								07/21/14 16:28	
Fluoride		0.950	mg/L	0.10	95	90	110				
<b>Method:</b> A4500-F C										Batch: R227472	
<b>Lab ID:</b> MBLK		Method Blank								Run: MAN-TECH_140721B	07/21/14 16:23
Fluoride		ND	mg/L	0.05							
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: MAN-TECH_140721B	07/21/14 16:25
Fluoride		0.910	mg/L	0.10	91	90	110				
<b>Lab ID:</b> B14071485-001AMS		Sample Matrix Spike								Run: MAN-TECH_140721B	07/21/14 16:33
Fluoride		2.27	mg/L	0.10	91	80	120				
<b>Lab ID:</b> B14071485-001AMSD		Sample Matrix Spike Duplicate								Run: MAN-TECH_140721B	07/21/14 16:36
Fluoride		2.28	mg/L	0.10	92	80	120	0.4	10		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:80

**Report Date:** 07/29/14  
**Work Order:** B14071768

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_140721A		
<b>Lab ID: ICV</b>	10 Continuing Calibration Verification Standard									07/21/14 11:00
Aluminum		2.51	mg/L	0.10	100	95	105			
Beryllium		1.23	mg/L	0.010	98	95	105			
Calcium		25.0	mg/L	1.0	100	95	105			
Chromium		2.46	mg/L	0.050	99	95	105			
Iron		2.47	mg/L	0.020	99	95	105			
Magnesium		24.9	mg/L	1.0	100	95	105			
Manganese		2.42	mg/L	0.010	97	95	105			
Silicon		4.98	mg/L	0.10	100	95	105			
Strontium		2.45	mg/L	0.10	98	95	105			
Zinc		2.43	mg/L	0.010	97	95	105			
<b>Method: E200.7</b>								Batch: R227418		
<b>Lab ID: MB-6500DIS140721A</b>	10 Method Blank									Run: ICP203-B_140721A 07/21/14 11:24
Aluminum		ND	mg/L	0.007						
Beryllium		ND	mg/L	0.0002						
Calcium		ND	mg/L	0.01						
Chromium		ND	mg/L	0.005						
Iron		ND	mg/L	0.004						
Magnesium		ND	mg/L	0.003						
Manganese		ND	mg/L	0.0005						
Silicon		ND	mg/L	0.03						
Strontium		ND	mg/L	0.0002						
Zinc		ND	mg/L	0.001						
<b>Lab ID: LFB-6500DIS140721A</b>	10 Laboratory Fortified Blank									Run: ICP203-B_140721A 07/21/14 11:27
Aluminum		5.42	mg/L	0.10	108	85	115			
Beryllium		0.544	mg/L	0.010	109	85	115			
Calcium		53.2	mg/L	1.0	106	85	115			
Chromium		1.05	mg/L	0.050	105	85	115			
Iron		5.18	mg/L	0.020	104	85	115			
Magnesium		53.9	mg/L	1.0	108	85	115			
Manganese		5.19	mg/L	0.010	104	85	115			
Silicon		10.6	mg/L	0.10	106	85	115			
Strontium		1.10	mg/L	0.10	110	85	115			
Zinc		1.04	mg/L	0.010	104	85	115			
<b>Lab ID: B14071791-002BMS2</b>	10 Sample Matrix Spike									Run: ICP203-B_140721A 07/21/14 19:00
Aluminum		10.5	mg/L	0.030	105	70	130			
Beryllium		1.06	mg/L	0.0010	106	70	130			
Calcium		204	mg/L	1.0	100	70	130			
Chromium		2.06	mg/L	0.0095	103	70	130			
Iron		10.2	mg/L	0.020	101	70	130			
Magnesium		145	mg/L	1.0	104	70	130			
Manganese		10.3	mg/L	0.0010	103	70	130			
Silicon		25.3	mg/L	0.10	105	70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/29/14

**Project:** 3767 WK:80

**Work Order:** B14071768

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										Batch: R227418
<b>Lab ID: B14071791-002BMS2</b>	10	Sample Matrix Spike								07/21/14 19:00
Strontium		3.25	mg/L	0.010	106	70	130			
Zinc		2.08	mg/L	0.010	104	70	130			
<b>Lab ID: B14071791-002BMSD</b>	10	Sample Matrix Spike Duplicate								07/21/14 19:03
Aluminum		10.6	mg/L	0.030	106	70	130	0.4	20	
Beryllium		1.07	mg/L	0.0010	107	70	130	1.1	20	
Calcium		206	mg/L	1.0	101	70	130	0.8	20	
Chromium		2.06	mg/L	0.0095	103	70	130	0.0	20	
Iron		10.3	mg/L	0.020	102	70	130	1.0	20	
Magnesium		147	mg/L	1.0	106	70	130	1.2	20	
Manganese		10.4	mg/L	0.0010	104	70	130	0.9	20	
Silicon		25.6	mg/L	0.10	107	70	130	1.3	20	
Strontium		3.28	mg/L	0.010	108	70	130	1.0	20	
Zinc		2.08	mg/L	0.010	104	70	130	0.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:80

**Report Date:** 07/29/14  
**Work Order:** B14071768

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_140725B			
<b>Lab ID: QCS</b>	2	Initial Calibration Verification Standard									07/25/14 23:55
Cadmium		0.0254	mg/L	0.0010	101	90	110				
Uranium		0.0194	mg/L	0.0010	97	90	110				
<b>Method: E200.8</b>								Batch: R227763			
<b>Lab ID: LFB</b>	2	Laboratory Fortified Blank						Run: ICPMS202-B_140725B			07/25/14 15:00
Cadmium		0.0488	mg/L	0.0010	98	85	115				
Uranium		0.0479	mg/L	0.0010	96	85	115				
<b>Lab ID: LRB</b>	2	Method Blank						Run: ICPMS202-B_140725B			07/25/14 15:22
Cadmium		ND	mg/L	1E-05							
Uranium		ND	mg/L	5E-06							
<b>Lab ID: B14072119-001BMS</b>	2	Sample Matrix Spike						Run: ICPMS202-B_140725B			07/26/14 09:09
Cadmium		0.226	mg/L	0.0010	91	70	130				
Uranium		0.264	mg/L	0.00030	100	70	130				
<b>Lab ID: B14072119-001BMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICPMS202-B_140725B			07/26/14 09:12
Cadmium		0.228	mg/L	0.0010	91	70	130	0.9	20		
Uranium		0.263	mg/L	0.00030	100	70	130	0.4	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:80

**Report Date:** 07/29/14  
**Work Order:** B14071768

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS203-B_140724A			
<b>Lab ID: QCS</b>	9	Initial Calibration Verification Standard						07/24/14 18:06			
Antimony		0.0500	mg/L	0.050	100	90	110				
Arsenic		0.0498	mg/L	0.0050	100	90	110				
Barium		0.0496	mg/L	0.10	99	90	110				
Copper		0.0510	mg/L	0.010	102	90	110				
Lead		0.0486	mg/L	0.010	97	90	110				
Nickel		0.0505	mg/L	0.010	101	90	110				
Selenium		0.0499	mg/L	0.0050	100	90	110				
Silver		0.0250	mg/L	0.0050	100	90	110				
Thallium		0.0492	mg/L	0.10	98	90	110				
<b>Method: E200.8</b>								Batch: R227637			
<b>Lab ID: LFB</b>	9	Laboratory Fortified Blank						Run: ICPMS203-B_140724A 07/23/14 11:19			
Antimony		0.0472	mg/L	0.050	94	85	115				
Arsenic		0.0482	mg/L	0.0050	96	85	115				
Barium		0.0501	mg/L	0.10	100	85	115				
Copper		0.0476	mg/L	0.010	95	85	115				
Lead		0.0483	mg/L	0.010	97	85	115				
Nickel		0.0472	mg/L	0.010	94	85	115				
Selenium		0.0472	mg/L	0.0050	94	85	115				
Silver		0.0200	mg/L	0.0050	100	85	115				
Thallium		0.0485	mg/L	0.10	97	85	115				
<b>Lab ID: LRB</b>	9	Method Blank						Run: ICPMS203-B_140724A 07/23/14 11:41			
Antimony		0.00010	mg/L	4E-05							
Arsenic		ND	mg/L	6E-05							
Barium		ND	mg/L	4E-05							
Copper		ND	mg/L	3E-05							
Lead		ND	mg/L	1.0E-05							
Nickel		ND	mg/L	4E-05							
Selenium		ND	mg/L	5E-05							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	1E-05							
<b>Lab ID: B14072004-001BMS</b>	9	Sample Matrix Spike						Run: ICPMS203-B_140724A 07/24/14 21:19			
Antimony		0.0496	mg/L	0.0010	99	70	130				
Arsenic		0.0523	mg/L	0.0010	105	70	130				
Barium		0.0706	mg/L	0.050	101	70	130				
Copper		0.0510	mg/L	0.0050	101	70	130				
Lead		0.0507	mg/L	0.0010	101	70	130				
Nickel		0.0496	mg/L	0.0050	99	70	130				
Selenium		0.0489	mg/L	0.0010	98	70	130				
Silver		0.0185	mg/L	0.0010	92	70	130				
Thallium		0.0520	mg/L	0.00050	104	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:80

**Report Date:** 07/29/14  
**Work Order:** B14071768

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R227637
<b>Lab ID:</b> B14072004-001BMSD	9	Sample Matrix Spike Duplicate								Run: ICPMS203-B_140724A
										07/24/14 21:24
Antimony		0.0497	mg/L	0.0010	99	70	130	0.1	20	
Arsenic		0.0494	mg/L	0.0010	99	70	130	5.7	20	
Barium		0.0708	mg/L	0.050	101	70	130	0.3	20	
Copper		0.0482	mg/L	0.0050	95	70	130	5.6	20	
Lead		0.0505	mg/L	0.0010	101	70	130	0.5	20	
Nickel		0.0474	mg/L	0.0050	94	70	130	4.7	20	
Selenium		0.0458	mg/L	0.0010	91	70	130	6.6	20	
Silver		0.0186	mg/L	0.0010	93	70	130	0.5	20	
Thallium		0.0514	mg/L	0.00050	103	70	130	1.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/29/14

**Project:** 3767 WK:80

**Work Order:** B14071768

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_140722A	
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								07/22/14 13:23	
Mercury		0.000204	mg/L	1.0E-05	102	90	110				
<b>Method:</b> E245.1										Batch: 81513	
<b>Lab ID:</b> MB-81513		Method Blank								Run: HGCV203-B_140722A	07/22/14 13:32
Mercury		ND	mg/L	2E-06							
<b>Lab ID:</b> LCS-81513		Laboratory Control Sample								Run: HGCV203-B_140722A	07/22/14 13:34
Mercury		0.000183	mg/L	1.0E-05	92	85	115				
<b>Lab ID:</b> B14071646-008BMS		Sample Matrix Spike								Run: HGCV203-B_140722A	07/22/14 14:17
Mercury		0.000206	mg/L	1.0E-05	103	70	130				
<b>Lab ID:</b> B14071646-008BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_140722A	07/22/14 14:19
Mercury		0.000205	mg/L	1.0E-05	103	70	130	0.5	30		
<b>Lab ID:</b> B14071768-001BMS		Sample Matrix Spike								Run: HGCV203-B_140722A	07/22/14 14:28
Mercury		0.000205	mg/L	1.0E-05	103	70	130				
<b>Lab ID:</b> B14071768-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_140722A	07/22/14 14:30
Mercury		0.000222	mg/L	1.0E-05	111	70	130	8.0	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 07/29/14

**Project:** 3767 WK:80

**Work Order:** B14071768

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E300.0										Analytical Run: IC203-B_140721A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								07/21/14 12:55	
Sulfate		101	mg/L	1.0	101	90	110				
<b>Method:</b> E300.0										Batch: R227477	
<b>Lab ID:</b> ICB		Method Blank								Run: IC203-B_140721A	07/21/14 13:10
Sulfate		ND	mg/L	0.07							
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: IC203-B_140721A	07/21/14 13:25
Sulfate		95.9	mg/L	1.0	96	90	110				
<b>Lab ID:</b> B14071646-009AMS		Sample Matrix Spike								Run: IC203-B_140721A	07/22/14 19:24
Sulfate		184	mg/L	1.0	91	90	110				
<b>Lab ID:</b> B14071646-009AMSD		Sample Matrix Spike Duplicate								Run: IC203-B_140721A	07/22/14 19:39
Sulfate		184	mg/L	1.0	92	90	110	0.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:80

**Report Date:** 07/29/14  
**Work Order:** B14071768

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_140722A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.242	mg/L	0.0050	97	90	110			07/22/14 09:20
<b>Method: E365.1</b>								Batch: 81527		
<b>Lab ID: MB-81527</b>	Method Blank									
Phosphorus, Total as P		ND	mg/L	0.0050				Run: FIA202-B_140722A		07/22/14 09:36
<b>Lab ID: LCS-81527</b>	Laboratory Control Sample									
Phosphorus, Total as P		0.184	mg/L	0.0050	92	90	110	Run: FIA202-B_140722A		07/22/14 10:18
<b>Lab ID: B14071784-011CPDS</b>	Post Digestion/Distillation Spike									
Phosphorus, Total as P		0.196	mg/L	0.0050	94	90	110	Run: FIA202-B_140722A		07/22/14 12:35
<b>Lab ID: B14071784-011CPDS</b>	Post Digestion Spike Duplicate									
Phosphorus, Total as P		0.199	mg/L	0.0050	95	90	110	Run: FIA202-B_140722A		07/22/14 12:37
<b>Lab ID: B14071789-002CPDS</b>	Post Digestion/Distillation Spike									
Phosphorus, Total as P		0.193	mg/L	0.0050	93	90	110	Run: FIA202-B_140722A		07/22/14 12:38
<b>Lab ID: B14071789-002CPDS</b>	Post Digestion Spike Duplicate									
Phosphorus, Total as P		0.199	mg/L	0.0050	96	90	110	Run: FIA202-B_140722A		07/22/14 12:39

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B14071768

Login completed by: Randa Nees

Date Received: 7/18/2014

Reviewed by: BL2000\tedwards

Received by: kl

Reviewed Date: 7/21/2014

Carrier UPS NDA  
name:

- |   |   |  |  |
|---|---|--|--|
| Shipping container/cooler in good condition?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on all shipping container(s)/cooler(s)?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Present <input type="checkbox"/>                       |
| Custody seals intact on all sample bottles?   | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | Not Present <input checked="" type="checkbox"/>            |
| Chain of custody present?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody signed when relinquished and received?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Chain of custody agrees with sample labels?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Samples in proper container/bottle?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sample containers intact?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Sufficient sample volume for indicated test?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| All samples received within holding time?<br>(Exclude analyses that are considered field parameters<br>such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |  |
| Temp Blank received in all shipping container(s)/cooler(s)?   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Not Applicable <input type="checkbox"/>                    |
| Container/Temp Blank temperature:   | 20.8°C Melted Ice                       |  |  |
| Water - VOA vials have zero headspace?  | Yes <input type="checkbox"/>            | No <input type="checkbox"/>            | No VOA vials submitted <input checked="" type="checkbox"/> |
| Water - pH acceptable upon receipt?   | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Not Applicable <input type="checkbox"/>                    |

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None





# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: McClelland Lab		Project Name, PWS, Permit, Etc. 3767 WK:80		Sample Origin State: NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Email: MLI@METTEST.COM		Sampler: (Please Print) Robert Johnson	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko 604-628-1162		Purchase Order:		Quote/Bottle Order:	
Special Report/Formats – ELI must be notified prior to sample submittal for the following: <input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> GSA <input type="checkbox"/> EDD/EDT(Electronic Data) <input type="checkbox"/> POTW/WWTP      Format: _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC		Number of Containers Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other		ANALYSIS REQUESTED SEE ATTACHED		Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page Comments: <b>R U S H</b>	
Shipped by: Robert UPS NDA Cooler ID(s):		Receipt Temp 20.8 °C On Ice: MELTED Yes (NO)		Custody Seal Intact <input checked="" type="checkbox"/> N C Signature Match <input checked="" type="checkbox"/> N N		Shipped by: Robert UPS NDA Cooler ID(s):	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date		Collection Time		MATRIX	
1 Ynl 1Ynl 2 Composite		7/17/14		09:00		Water	
2							
3							
4							
5							
6							
7							
8							
9							
10							
Relinquished by (print): Matt Poor		Date/Time: 7-17-14/900		Signature: Matt Poor		Received by (print): Date/Time: Signature:	
Relinquished by (print):		Date/Time:		Signature:		Received by (print): Date/Time: Signature:	
Sample Disposal:		Return to Client:		Lab Disposal:		Received by Laboratory: Date/Time: Signature:	
<b>Custody Record MUST be Signed</b>						Received by Laboratory: Date/Time: 18 JUL 2014 9:15 am Signature:	

LABORATORY USE ONLY

Please Copy results to: MLI@METTEST.COM

hold remaining preserved samples (frozen) until further notice.

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energovlab.com](http://www.energovlab.com) for additional information. downloadable fee schedule forms and links

3767

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	<del>0.000005</del> 0.00001
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012

# ANALYTICAL SUMMARY REPORT

September 11, 2014

Tintina Alaska Exploration Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B14081625      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:84

Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Alaska Exploration Inc on 8/15/2014 for analysis.

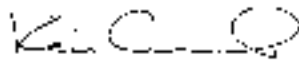
Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B14081625-001	Ynl 1/Ynl 2 Composite	08/14/14 9:00	08/15/14	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter

Date: 2014.09.11 17:14:40 -06:00



**CLIENT:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:84  
**Work Order:** B14081625

**Revised Date:** 09/11/14

**Report Date:** 08/26/14

## CASE NARRATIVE

Per request from Katie Seipel on 9/9/14, re-analyze sample Ynl 1/Ynl 2 Composite (B14081625-001) for Thallium to achieve 0.0002 mg/L reporting limit.

The report has been revised and replaces any previously issued report in its entirety.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:84  
**Lab ID:** B14081625-001  
**Client Sample ID:** Ynl 1/Ynl 2 Composite

**Revised Date:** 09/11/14  
**Report Date:** 08/26/14  
**Collection Date:** 08/14/14 09:00  
**DateReceived:** 08/15/14  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	198	mg/L		1		E300.0	08/20/14 18:04 / rbf
Fluoride	ND	mg/L		0.2		A4500-F C	08/18/14 11:24 / jwc
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	08/22/14 09:53 / jll
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	08/20/14 01:49 / mas
Antimony	ND	mg/L		0.0005		E200.8	08/19/14 07:42 / mas
Arsenic	ND	mg/L		0.001		E200.8	08/20/14 01:49 / mas
Barium	0.006	mg/L		0.003		E200.8	08/19/14 07:42 / mas
Beryllium	ND	mg/L		0.0008		E200.7	08/19/14 14:56 / mas
Cadmium	ND	mg/L		0.00003		E200.8	08/19/14 07:42 / mas
Calcium	50	mg/L		1		E200.7	08/19/14 14:56 / mas
Chromium	ND	mg/L		0.01		E200.7	08/19/14 14:56 / mas
Copper	ND	mg/L		0.002		E200.8	08/20/14 01:49 / mas
Iron	ND	mg/L		0.02		E200.7	08/19/14 14:56 / mas
Lead	ND	mg/L		0.0003		E200.8	08/19/14 07:42 / mas
Magnesium	25	mg/L		1		E200.7	08/19/14 14:56 / mas
Manganese	ND	mg/L		0.005		E200.7	08/19/14 14:56 / mas
Mercury	ND	mg/L		0.00001		E245.1	08/19/14 14:43 / ser
Nickel	ND	mg/L		0.002		E200.8	08/20/14 01:49 / mas
Selenium	0.001	mg/L		0.001		E200.8	08/20/14 01:49 / mas
Silicon	0.36	mg/L		0.05		E200.7	08/19/14 14:56 / mas
Silver	ND	mg/L		0.0002		E200.8	08/20/14 01:49 / mas
Strontium	0.08	mg/L		0.02		E200.7	08/19/14 14:56 / mas
Thallium	0.0003	mg/L		0.0002		E200.8	09/11/14 05:12 / amm
Uranium	0.0003	mg/L		0.0002		E200.8	08/20/14 01:49 / mas
Zinc	ND	mg/L		0.008		E200.7	08/19/14 14:56 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

Revised Date: 09/11/14

Client: Tintina Alaska Exploration Inc

Report Date: 08/26/14

Project: 3767 WK:84

Work Order: B14081625

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_140819A			
<b>Lab ID: ICV</b>	9	Continuing Calibration Verification Standard						08/19/14 09:33			
Beryllium		1.29	mg/L	0.010	103	95	105				
Calcium		26.2	mg/L	1.0	105	95	105				
Chromium		2.54	mg/L	0.050	102	95	105				
Iron		2.57	mg/L	0.020	103	95	105				
Magnesium		25.9	mg/L	1.0	103	95	105				
Manganese		2.51	mg/L	0.010	101	95	105				
Silicon		5.24	mg/L	0.10	105	95	105				
Strontium		2.59	mg/L	0.10	104	95	105				
Zinc		2.49	mg/L	0.010	100	95	105				
<b>Method: E200.7</b>								Batch: R229115			
<b>Lab ID: MB-6500DIS140819A</b>	9	Method Blank						Run: ICP203-B_140819A 08/19/14 09:57			
Beryllium		0.0002	mg/L	0.0002							
Calcium		ND	mg/L	0.01							
Chromium		ND	mg/L	0.005							
Iron		ND	mg/L	0.004							
Magnesium		0.005	mg/L	0.003							
Manganese		ND	mg/L	0.0005							
Silicon		ND	mg/L	0.03							
Strontium		ND	mg/L	0.0002							
Zinc		0.001	mg/L	0.001							
<b>Lab ID: LFB-6500DIS140819A</b>	9	Laboratory Fortified Blank						Run: ICP203-B_140819A 08/19/14 10:00			
Beryllium		0.523	mg/L	0.010	105	85	115				
Calcium		53.8	mg/L	1.0	108	85	115				
Chromium		1.03	mg/L	0.050	103	85	115				
Iron		5.29	mg/L	0.020	106	85	115				
Magnesium		53.1	mg/L	1.0	106	85	115				
Manganese		5.17	mg/L	0.010	103	85	115				
Silicon		10.5	mg/L	0.10	105	85	115				
Strontium		1.06	mg/L	0.10	106	85	115				
Zinc		1.05	mg/L	0.010	105	85	115				
<b>Lab ID: B14081429-016AMS2</b>	9	Sample Matrix Spike						Run: ICP203-B_140819A 08/19/14 14:49			
Beryllium		1.04	mg/L	0.0010	104	70	130				
Calcium		203	mg/L	1.0	105	70	130				
Chromium		2.01	mg/L	0.0095	100	70	130				
Iron		12.1	mg/L	0.020	103	70	130				
Magnesium		134	mg/L	1.0	103	70	130				
Manganese		10.2	mg/L	0.0010	101	70	130				
Silicon		25.9	mg/L	0.10	102	70	130				
Strontium		4.29	mg/L	0.010	104	70	130				
Zinc		2.04	mg/L	0.010	102	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Revised Date: 09/11/14

Client: Tintina Alaska Exploration Inc

Report Date: 08/26/14

Project: 3767 WK:84

Work Order: B14081625

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										Batch: R229115
<b>Lab ID: B14081429-016AMSD</b>										9 Sample Matrix Spike Duplicate
										Run: ICP203-B_140819A
Beryllium		1.03	mg/L	0.0010	103	70	130	1.1	20	
Calcium		201	mg/L	1.0	104	70	130	0.6	20	
Chromium		1.98	mg/L	0.0095	99	70	130	1.2	20	
Iron		11.9	mg/L	0.020	102	70	130	1.1	20	
Magnesium		133	mg/L	1.0	101	70	130	1.1	20	
Manganese		10.1	mg/L	0.0010	100	70	130	1.2	20	
Silicon		26.1	mg/L	0.10	103	70	130	0.7	20	
Strontium		4.26	mg/L	0.010	103	70	130	0.6	20	
Zinc		2.03	mg/L	0.010	101	70	130	0.5	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

Revised Date: 09/11/14

Client: Tintina Alaska Exploration Inc

Report Date: 08/26/14

Project: 3767 WK:84

Work Order: B14081625

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8								Analytical Run: ICPMS206-B_140909A			
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								09/10/14 19:47	
Thallium		0.0516	mg/L	0.10	103	90	110				
<b>Method:</b> E200.8										Batch: R230217	
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: ICPMS206-B_140909A	09/09/14 12:22
Thallium		0.0520	mg/L	0.10	104	85	115				
<b>Lab ID:</b> LRB		Method Blank								Run: ICPMS206-B_140909A	09/09/14 13:55
Thallium		1E-05	mg/L	8E-06							
<b>Lab ID:</b> B14081625-001BMS		Sample Matrix Spike								Run: ICPMS206-B_140909A	09/11/14 05:16
Thallium		0.0481	mg/L	0.00050	96	70	130				
<b>Lab ID:</b> B14081625-001BMSD		Sample Matrix Spike Duplicate								Run: ICPMS206-B_140909A	09/11/14 05:21
Thallium		0.0486	mg/L	0.00050	97	70	130	0.9	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/26/14

**Project:** 3767 WK:84

**Work Order:** B14081625

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_140818A		
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								08/18/14 10:50
Fluoride		1.02	mg/L	0.10	102	90	110			
<b>Method:</b> A4500-F C										Batch: R229074
<b>Lab ID:</b> MBLK		Method Blank								08/18/14 10:45
Fluoride		0.01	mg/L					Run: MAN-TECH_140818A		
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								08/18/14 10:48
Fluoride		0.950	mg/L	0.10	94	90	110	Run: MAN-TECH_140818A		
<b>Lab ID:</b> B14081625-001AMS		Sample Matrix Spike								08/18/14 11:48
Fluoride		1.08	mg/L	0.10	94	80	120	Run: MAN-TECH_140818A		
<b>Lab ID:</b> B14081625-001AMSD		Sample Matrix Spike Duplicate								08/18/14 11:51
Fluoride		1.11	mg/L	0.10	97	80	120	2.7	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:84

**Report Date:** 08/26/14  
**Work Order:** B14081625

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_140818A			
<b>Lab ID: QCS</b>	11	Initial Calibration Verification Standard						08/18/14 20:14			
Aluminum		0.264	mg/L	0.10	105	90	110				
Antimony		0.0503	mg/L	0.050	101	90	110				
Arsenic		0.0514	mg/L	0.0050	103	90	110				
Barium		0.0495	mg/L	0.10	99	90	110				
Cadmium		0.0260	mg/L	0.0010	104	90	110				
Copper		0.0529	mg/L	0.010	106	90	110				
Lead		0.0491	mg/L	0.010	98	90	110				
Nickel		0.0523	mg/L	0.010	105	90	110				
Selenium		0.0518	mg/L	0.0050	104	90	110				
Silver		0.0252	mg/L	0.0050	101	90	110				
Uranium		0.0208	mg/L	0.0010	104	90	110				
<b>Method: E200.8</b>								Batch: R229095			
<b>Lab ID: LFB</b>	11	Laboratory Fortified Blank						Run: ICPMS202-B_140818A 08/18/14 15:20			
Aluminum		0.0483	mg/L	0.10	97	85	115				
Antimony		0.0426	mg/L	0.050	85	85	115				
Arsenic		0.0477	mg/L	0.0050	95	85	115				
Barium		0.0461	mg/L	0.10	92	85	115				
Cadmium		0.0471	mg/L	0.0010	94	85	115				
Copper		0.0508	mg/L	0.010	102	85	115				
Lead		0.0469	mg/L	0.010	94	85	115				
Nickel		0.0503	mg/L	0.010	101	85	115				
Selenium		0.0490	mg/L	0.0050	98	85	115				
Silver		0.0189	mg/L	0.0050	95	85	115				
Uranium		0.0461	mg/L	0.0010	92	85	115				
<b>Lab ID: LRB</b>	11	Method Blank						Run: ICPMS202-B_140818A 08/18/14 15:36			
Aluminum		ND	mg/L	5E-05							
Antimony		ND	mg/L	1E-05							
Arsenic		ND	mg/L	6E-05							
Barium		ND	mg/L	4E-05							
Cadmium		ND	mg/L	1E-05							
Copper		ND	mg/L	5E-05							
Lead		ND	mg/L	1E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0003							
Silver		ND	mg/L	3E-05							
Uranium		ND	mg/L	5E-06							
<b>Lab ID: B14081608-005BMS</b>	11	Sample Matrix Spike						Run: ICPMS202-B_140818A 08/19/14 07:14			
Aluminum		0.0549	mg/L	0.030	100	70	130				
Antimony		0.0484	mg/L	0.0010	97	70	130				
Arsenic		0.0520	mg/L	0.0010	101	70	130				
Barium		0.135	mg/L	0.050	87	70	130				
Cadmium		0.0503	mg/L	0.0010	101	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:84

**Report Date:** 08/26/14  
**Work Order:** B14081625

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R229095										
<b>Lab ID:</b>	<b>B14081608-005BMS</b>	11	Sample Matrix Spike							
										Run: ICPMS202-B_140818A 08/19/14 07:14
Copper		0.0504	mg/L	0.0050	100	70	130			
Lead		0.0495	mg/L	0.0010	99	70	130			
Nickel		0.0514	mg/L	0.0050	103	70	130			
Selenium		0.0510	mg/L	0.0010	101	70	130			
Silver		0.0198	mg/L	0.0010	99	70	130			
Uranium		0.0500	mg/L	0.00030	98	70	130			
<b>Lab ID:</b>	<b>B14081608-005BMSD</b>	11	Sample Matrix Spike Duplicate							
										Run: ICPMS202-B_140818A 08/19/14 07:16
Aluminum		0.0566	mg/L	0.030	103	70	130	3.0	20	
Antimony		0.0491	mg/L	0.0010	98	70	130	1.4	20	
Arsenic		0.0533	mg/L	0.0010	103	70	130	2.4	20	
Barium		0.134	mg/L	0.050	86	70	130	0.1	20	
Cadmium		0.0511	mg/L	0.0010	102	70	130	1.5	20	
Copper		0.0525	mg/L	0.0050	104	70	130	4.1	20	
Lead		0.0503	mg/L	0.0010	101	70	130	1.6	20	
Nickel		0.0531	mg/L	0.0050	106	70	130	3.2	20	
Selenium		0.0525	mg/L	0.0010	104	70	130	2.9	20	
Silver		0.0203	mg/L	0.0010	102	70	130	2.4	20	
Uranium		0.0500	mg/L	0.00030	98	70	130	0.1	20	
<b>Lab ID:</b>	<b>B14081668-002BMS</b>	11	Sample Matrix Spike							
										Run: ICPMS202-B_140818A 08/20/14 01:54
Aluminum		0.0653	mg/L	0.030	93	70	130			
Antimony		0.0477	mg/L	0.0010	95	70	130			
Arsenic		0.0748	mg/L	0.0010	99	70	130			
Barium		0.111	mg/L	0.050	95	70	130			
Cadmium		0.0494	mg/L	0.0010	99	70	130			
Copper		0.0509	mg/L	0.0050	97	70	130			
Lead		0.0489	mg/L	0.0010	98	70	130			
Nickel		0.0493	mg/L	0.0050	96	70	130			
Selenium		0.0520	mg/L	0.0010	102	70	130			
Silver		0.00890	mg/L	0.0010	45	70	130			S
Uranium		0.0523	mg/L	0.00030	98	70	130			
<b>Lab ID:</b>	<b>B14081668-002BMSD</b>	11	Sample Matrix Spike Duplicate							
										Run: ICPMS202-B_140818A 08/20/14 01:57
Aluminum		0.0665	mg/L	0.030	96	70	130	1.7	20	
Antimony		0.0498	mg/L	0.0010	99	70	130	4.4	20	
Arsenic		0.0758	mg/L	0.0010	101	70	130	1.4	20	
Barium		0.114	mg/L	0.050	100	70	130	2.5	20	
Cadmium		0.0507	mg/L	0.0010	101	70	130	2.5	20	
Copper		0.0500	mg/L	0.0050	96	70	130	1.8	20	
Lead		0.0501	mg/L	0.0010	100	70	130	2.4	20	
Nickel		0.0499	mg/L	0.0050	97	70	130	1.2	20	
Selenium		0.0535	mg/L	0.0010	105	70	130	2.8	20	
Silver		0.0102	mg/L	0.0010	51	70	130	14	20	S
Uranium		0.0541	mg/L	0.00030	102	70	130	3.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/26/14

**Project:** 3767 WK:84

**Work Order:** B14081625

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1								Analytical Run: HGCV203-B_140819A			
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								08/19/14 14:31	
Mercury		0.000198	mg/L	1.0E-05	99	90	110				
<b>Method:</b> E245.1										Batch: 82294	
<b>Lab ID:</b> MB-82294		Method Blank								Run: HGCV203-B_140819A	08/19/14 14:39
Mercury		ND	mg/L	2E-06							
<b>Lab ID:</b> LCS-82294		Laboratory Control Sample								Run: HGCV203-B_140819A	08/19/14 14:41
Mercury		0.000196	mg/L	1.0E-05	98	85	115				
<b>Lab ID:</b> B14081625-001BMS		Sample Matrix Spike								Run: HGCV203-B_140819A	08/19/14 14:46
Mercury		0.000195	mg/L	1.0E-05	98	70	130				
<b>Lab ID:</b> B14081625-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_140819A	08/19/14 14:48
Mercury		0.000192	mg/L	1.0E-05	96	70	130	1.6	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 08/26/14

**Project:** 3767 WK:84

**Work Order:** B14081625

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0										Analytical Run: IC203-B_140818A
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								08/18/14 09:16
Sulfate		97.7	mg/L	1.0	98	90	110			
<b>Method:</b> E300.0										Batch: R229142
<b>Lab ID:</b> ICB		Method Blank								08/18/14 09:31
Sulfate		ND	mg/L	0.07						Run: IC203-B_140818A
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								08/18/14 09:46
Sulfate		94.3	mg/L	1.0	94	90	110			Run: IC203-B_140818A
<b>Lab ID:</b> B14080936-001AMS		Sample Matrix Spike								08/20/14 19:20
Sulfate		2030	mg/L	2.0	96	90	110			Run: IC203-B_140818A
<b>Lab ID:</b> B14080936-001AMSD		Sample Matrix Spike Duplicate								08/20/14 19:35
Sulfate		2030	mg/L	2.0	96	90	110	0.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:84

**Report Date:** 08/26/14  
**Work Order:** B14081625

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>							Analytical Run: FIA202-B_140822A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard								
Phosphorus, Total as P	0.259	mg/L	0.0050	104	90	110			08/22/14 09:29
<b>Method: E365.1</b>							Batch: 82335		
<b>Lab ID: MB-82335</b>	Method Blank								
Phosphorus, Total as P	ND	mg/L	0.0050						Run: FIA202-B_140822A 08/22/14 09:36
<b>Lab ID: LCS-82335</b>	Laboratory Control Sample								
Phosphorus, Total as P	0.188	mg/L	0.0050	94	90	110			Run: FIA202-B_140822A 08/22/14 09:37
<b>Lab ID: B14081688-001DMS</b>	Sample Matrix Spike								
Phosphorus, Total as P	0.193	mg/L	0.0050	92	90	110			Run: FIA202-B_140822A 08/22/14 09:55
<b>Lab ID: B14081688-001DMSD</b>	Sample Matrix Spike Duplicate								
Phosphorus, Total as P	0.194	mg/L	0.0050	93	90	110	0.5	10	Run: FIA202-B_140822A 08/22/14 09:56
<b>Lab ID: B14081688-005CMS</b>	Sample Matrix Spike								
Phosphorus, Total as P	0.195	mg/L	0.0050	98	90	110			Run: FIA202-B_140822A 08/22/14 10:05
<b>Lab ID: B14081688-005CMSD</b>	Sample Matrix Spike Duplicate								
Phosphorus, Total as P	0.199	mg/L	0.0050	100	90	110	2.0	10	Run: FIA202-B_140822A 08/22/14 10:06

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B14081625

Login completed by: Randa Nees

Date Received: 8/15/2014

Reviewed by: BL2000\tedwards

Received by: dlf

Reviewed Date: 8/18/2014

Carrier name: UPS NDA

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	2.4°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab	<b>Project Name, PWS, Permit, Etc.</b> 3767 WK:84	<b>Sample Origin</b> State: NV	<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>Report Mail Address:</b> Tintina Resources 200 Granville St, Suite 2560 Vancouver, BC V6C 1S4 Canada	<b>Contact Name:</b> Mike Medina  <b>Phone/Fax:</b> 775-356-1300  <b>Email:</b> MLI@METTEST.COM	<b>Sampler: (Please Print)</b> Robert Johnson	
<b>Invoice Address:</b> Tintina Resources 200 Granville St, Suite 2560 Vancouver, BC V6C 1S4 Canada	<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko 604-628-1162	<b>Quote/Bottle Order:</b>	
<b>Special Report/Formats - ELI must be notified prior to sample submittal for the following:</b>			
<input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> GSA <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POT/WWTP <b>Format:</b> _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC			
<b>SAMPLE IDENTIFICATION</b> (Name, Location, Interval, etc.)	<b>Collection Date</b>	<b>Collection Time</b>	<b>MATRIX</b>
1 Ynl 1/Ynl 2 Composite	8/14/14	09:00	Water
2			
3			
4			
5			
6			
7			
8			
9			
10			
<b>Number of Containers</b> Sample Type: AWS/B Air Water Soils/Solids Vegetation Bioassay Other		<b>ANALYSIS REQUESTED</b> SEE ATTACHED	
<b>Normal Turnaround (TAT)</b> SEE ATTACHED		<b>Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page</b>  <b>Comments:</b> R U S H	
<b>Shipped by:</b> Robert Johnson <b>Cooler ID(s):</b> 		<b>Receipt Temp</b> 2.4 °C  <b>On Ice:</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> C  <b>Custody Seal</b> Intact <input checked="" type="checkbox"/> Y N Signature <input checked="" type="checkbox"/> Y N Match <input checked="" type="checkbox"/> Y N	
<b>Received by (print):</b> Matt Poore <b>Date/Time:</b> 8-14-14 / 9:00		<b>Received by (print):</b> Matt Poore <b>Date/Time:</b> 8-14-14 / 9:00	
<b>Relinquished by (print):</b> Matt Poore <b>Date/Time:</b> 		<b>Relinquished by (print):</b>  <b>Date/Time:</b> 	
<b>Signature:</b> Matt Poore		<b>Signature:</b> Matt Poore	
<b>Sample Disposal:</b> Return to Client:		<b>Received by Laboratory:</b>  <b>Date/Time:</b> 8/15/14 09:15 <b>Signature:</b>	
<b>Custody Record MUST be Signed</b>		<b>LABORATORY USE ONLY</b>	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly noted on your analytical report. Visit our web site at [www.energiab.com](http://www.energiab.com) for additional information, downloadable fee schedule, forms, and links.



3767

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	<del>0.000005</del> 0.00001
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

October 08, 2014

Tintina Alaska Exploration Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B14091238      Quote ID: B2868 - Tintina Project  
Project Name: 3767 WK:88

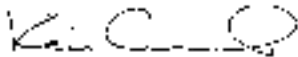
Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Alaska Exploration Inc on 9/12/2014 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B14091238-001	Ynl 1/Ynl 2 Composite	09/11/14 9:00	09/12/14	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2014.10.08 13:32:21 -06:00



**CLIENT:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:88  
**Work Order:** B14091238

**Report Date:** 10/08/14

## **CASE NARRATIVE**

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Tests associated with analyst identified as ELI-H were subcontracted to Energy Laboratories, 3161 East Lyndale Ave, Helena, MT, EPA Number MT00945.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:88  
**Lab ID:** B14091238-001  
**Client Sample ID:** Ynl 1/Ynl 2 Composite

**Report Date:** 10/08/14  
**Collection Date:** 09/11/14 09:00  
**Date Received:** 09/12/14  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	164	mg/L		1		E300.0	10/06/14 15:03 / eli-h
Fluoride	ND	mg/L		0.2		A4500-F C	09/15/14 11:28 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	09/16/14 14:15 / jll
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	09/23/14 05:13 / mas
Antimony	ND	mg/L		0.0005		E200.8	09/17/14 06:18 / amm
Arsenic	ND	mg/L		0.001		E200.8	09/17/14 06:18 / amm
Barium	0.006	mg/L		0.003		E200.7	09/16/14 13:59 / mas
Beryllium	ND	mg/L		0.0008		E200.7	09/16/14 13:59 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/17/14 06:18 / amm
Calcium	47	mg/L		1		E200.7	09/16/14 13:59 / mas
Chromium	ND	mg/L		0.01		E200.7	09/16/14 13:59 / mas
Copper	ND	mg/L		0.002		E200.8	09/19/14 02:37 / amm
Iron	ND	mg/L		0.02		E200.7	09/16/14 13:59 / mas
Lead	ND	mg/L		0.0003		E200.8	09/17/14 06:18 / amm
Magnesium	24	mg/L		1		E200.7	09/16/14 13:59 / mas
Manganese	0.006	mg/L		0.005		E200.7	09/16/14 13:59 / mas
Mercury	ND	mg/L		0.00001		E245.1	09/16/14 15:06 / ser
Nickel	ND	mg/L		0.002		E200.8	09/24/14 11:07 / amm
Selenium	ND	mg/L		0.001		E200.8	09/19/14 02:37 / amm
Silicon	0.41	mg/L		0.05		E200.7	09/16/14 13:59 / mas
Silver	ND	mg/L		0.0002		E200.8	09/17/14 06:18 / amm
Strontium	0.08	mg/L		0.02		E200.7	09/16/14 13:59 / mas
Thallium	0.0002	mg/L		0.0002		E200.8	09/19/14 02:37 / amm
Uranium	0.0002	mg/L		0.0002		E200.8	09/17/14 06:18 / amm
Zinc	ND	mg/L		0.008		E200.7	09/16/14 13:59 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:88

**Report Date:** 10/08/14  
**Work Order:** B14091238

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0									Analytical Run: SUB-H101206
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Sulfate	385	mg/L	1.0	96	90	110			10/06/14 10:37
<b>Lab ID:</b> CCV100614-2	Continuing Calibration Verification Standard								
Sulfate	394	mg/L	1.0	99	90	110			10/06/14 13:45
<b>Method:</b> E300.0									Batch: H_R101206
<b>Lab ID:</b> ICB	Method Blank								
Sulfate	ND	mg/L	0.08						Run: SUB-H101206 10/06/14 10:48
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								
Sulfate	189	mg/L	1.0	94	90	110			Run: SUB-H101206 10/06/14 10:59
<b>Lab ID:</b> H14100075-001AMS	Sample Matrix Spike								
Sulfate	202	mg/L	1.0	99	90	110			Run: SUB-H101206 10/06/14 14:19
<b>Lab ID:</b> H14100075-001AMSD	Sample Matrix Spike Duplicate								
Sulfate	200	mg/L	1.0	97	90	110	1.1	20	Run: SUB-H101206 10/06/14 14:30
<b>Lab ID:</b> H14100104-007AMS	Sample Matrix Spike								
Sulfate	229	mg/L	1.0	103	90	110			Run: SUB-H101206 10/07/14 08:27
<b>Lab ID:</b> H14100104-007AMSD	Sample Matrix Spike Duplicate								
Sulfate	231	mg/L	1.0	104	90	110	1.1	20	Run: SUB-H101206 10/07/14 08:39

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 10/07/14

**Project:** 3767 WK:88

**Work Order:** B14091238

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_140915A			
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/15/14 11:07	
Fluoride		1.06	mg/L	0.10	106	90	110				
<b>Method:</b> A4500-F C										Batch: R230542	
<b>Lab ID:</b> MBLK		Method Blank								Run: MAN-TECH_140915A	09/15/14 11:02
Fluoride		0.01	mg/L								
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: MAN-TECH_140915A	09/15/14 11:04
Fluoride		0.980	mg/L	0.10	97	90	110				
<b>Lab ID:</b> B14091113-001AMS		Sample Matrix Spike								Run: MAN-TECH_140915A	09/15/14 11:12
Fluoride		4.22	mg/L	0.10	88	80	120				
<b>Lab ID:</b> B14091113-001AMSD		Sample Matrix Spike Duplicate								Run: MAN-TECH_140915A	09/15/14 11:15
Fluoride		4.24	mg/L	0.10	90	80	120	0.5	10		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:88

**Report Date:** 10/07/14  
**Work Order:** B14091238

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_140916A		
<b>Lab ID: ICV</b>	10 Continuing Calibration Verification Standard									09/16/14 11:38
Barium		2.50	mg/L	0.10	100	95	105			
Beryllium		1.30	mg/L	0.010	104	95	105			
Calcium		25.8	mg/L	1.0	103	95	105			
Chromium		2.49	mg/L	0.050	100	95	105			
Iron		2.56	mg/L	0.020	103	95	105			
Magnesium		25.6	mg/L	1.0	103	95	105			
Manganese		2.57	mg/L	0.010	103	95	105			
Silicon		5.26	mg/L	0.10	105	95	105			
Strontium		2.57	mg/L	0.10	103	95	105			
Zinc		2.51	mg/L	0.010	101	95	105			
<b>Method: E200.7</b>								Batch: R230587		
<b>Lab ID: MB-6500DIS140916A</b>	10 Method Blank									Run: ICP203-B_140916A 09/16/14 12:02
Barium		0.0007	mg/L	0.0005						
Beryllium		ND	mg/L	0.0002						
Calcium		0.01	mg/L	0.01						
Chromium		ND	mg/L	0.005						
Iron		ND	mg/L	0.004						
Magnesium		0.004	mg/L	0.003						
Manganese		0.0005	mg/L	0.0005						
Silicon		ND	mg/L	0.03						
Strontium		ND	mg/L	0.0002						
Zinc		0.002	mg/L	0.001						
<b>Lab ID: LFB-6500DIS140916A</b>	10 Laboratory Fortified Blank									Run: ICP203-B_140916A 09/16/14 12:05
Barium		1.02	mg/L	0.10	102	85	115			
Beryllium		0.538	mg/L	0.010	108	85	115			
Calcium		52.6	mg/L	1.0	105	85	115			
Chromium		1.000	mg/L	0.050	100	85	115			
Iron		5.20	mg/L	0.020	104	85	115			
Magnesium		52.9	mg/L	1.0	106	85	115			
Manganese		5.15	mg/L	0.010	103	85	115			
Silicon		11.2	mg/L	0.10	112	85	115			
Strontium		1.06	mg/L	0.10	106	85	115			
Zinc		1.04	mg/L	0.010	104	85	115			
<b>Lab ID: B14091274-001BMS2</b>	10 Sample Matrix Spike									Run: ICP203-B_140916A 09/16/14 13:36
Barium		5.25	mg/L	0.050	103	70	130			
Beryllium		2.72	mg/L	0.0010	109	70	130			
Calcium		278	mg/L	1.0	106	70	130			
Chromium		5.06	mg/L	0.024	101	70	130			
Iron		29.4	mg/L	0.021	106	70	130			
Magnesium		270	mg/L	1.0	106	70	130			
Manganese		26.2	mg/L	0.0026	105	70	130			
Silicon		63.4	mg/L	0.15	114	70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc  
**Project:** 3767 WK:88

**Report Date:** 10/07/14  
**Work Order:** B14091238

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										
Batch: R230587										
<b>Lab ID:</b> B14091274-001BMS2	10	Sample Matrix Spike					Run: ICP203-B_140916A			09/16/14 13:36
Strontium		5.58	mg/L	0.010	108	70	130			
Zinc		5.28	mg/L	0.010	105	70	130			
<b>Lab ID:</b> B14091274-001BMSD	10	Sample Matrix Spike Duplicate					Run: ICP203-B_140916A			09/16/14 13:39
Barium		5.29	mg/L	0.050	104	70	130	0.7	20	
Beryllium		2.74	mg/L	0.0010	109	70	130	0.6	20	
Calcium		279	mg/L	1.0	106	70	130	0.2	20	
Chromium		5.13	mg/L	0.024	103	70	130	1.3	20	
Iron		29.5	mg/L	0.021	106	70	130	0.3	20	
Magnesium		270	mg/L	1.0	106	70	130	0.1	20	
Manganese		26.4	mg/L	0.0026	105	70	130	0.8	20	
Silicon		63.4	mg/L	0.15	114	70	130	0.1	20	
Strontium		5.62	mg/L	0.010	109	70	130	0.8	20	
Zinc		5.33	mg/L	0.010	106	70	130	1.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 10/07/14

**Project:** 3767 WK:88

**Work Order:** B14091238

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>		Analytical Run: ICPMS206-B_140917A									
<b>Lab ID: QCS</b>	6	Initial Calibration Verification Standard							09/16/14 22:11		
Antimony		0.0492	mg/L	0.050	98	90	110				
Arsenic		0.0453	mg/L	0.0050	91	90	110				
Cadmium		0.0254	mg/L	0.0010	101	90	110				
Lead		0.0504	mg/L	0.010	101	90	110				
Silver		0.0246	mg/L	0.0050	98	90	110				
Uranium		0.0196	mg/L	0.0010	98	90	110				
<b>Method: E200.8</b>		Batch: R230660									
<b>Lab ID: LFB</b>	6	Laboratory Fortified Blank							Run: ICPMS206-B_140917A 09/16/14 17:50		
Antimony		0.0469	mg/L	0.050	94	85	115				
Arsenic		0.0457	mg/L	0.0050	91	85	115				
Cadmium		0.0474	mg/L	0.0010	95	85	115				
Lead		0.0485	mg/L	0.010	97	85	115				
Silver		0.0191	mg/L	0.0050	95	85	115				
Uranium		0.0493	mg/L	0.0010	99	85	115				
<b>Lab ID: LRB</b>	6	Method Blank							Run: ICPMS206-B_140917A 09/16/14 18:40		
Antimony		ND	mg/L	2E-05							
Arsenic		ND	mg/L	0.00010							
Cadmium		ND	mg/L	1E-05							
Lead		ND	mg/L	2E-05							
Silver		ND	mg/L	4E-05							
Uranium		ND	mg/L	8E-06							
<b>Lab ID: B14091139-001BMS</b>	6	Sample Matrix Spike							Run: ICPMS206-B_140917A 09/17/14 05:51		
Antimony		2.64	mg/L	0.0010	105	70	130				
Arsenic		2.69	mg/L	0.0049	103	70	130				
Cadmium		2.61	mg/L	0.0010	104	70	130				
Lead		2.69	mg/L	0.0010	108	70	130				
Silver		1.02	mg/L	0.0020	101	70	130				
Uranium		2.64	mg/L	0.00041	106	70	130				
<b>Lab ID: B14091139-001BMSD</b>	6	Sample Matrix Spike Duplicate							Run: ICPMS206-B_140917A 09/17/14 05:55		
Antimony		2.61	mg/L	0.0010	104	70	130	1.0	20		
Arsenic		2.43	mg/L	0.0049	93	70	130	9.8	20		
Cadmium		2.59	mg/L	0.0010	104	70	130	0.7	20		
Lead		2.64	mg/L	0.0010	105	70	130	2.0	20		
Silver		1.02	mg/L	0.0020	102	70	130	0.8	20		
Uranium		2.59	mg/L	0.00041	103	70	130	2.0	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 10/07/14

**Project:** 3767 WK:88

**Work Order:** B14091238

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>		Analytical Run: ICPMS206-B_140918B									
<b>Lab ID: QCS</b>	3	Initial Calibration Verification Standard								09/18/14 19:04	
Copper		0.0512	mg/L	0.010	102	90	110				
Selenium		0.0491	mg/L	0.0050	98	90	110				
Thallium		0.0474	mg/L	0.10	95	90	110				
<b>Method: E200.8</b>		Batch: R230756									
<b>Lab ID: LFB</b>	3	Laboratory Fortified Blank								09/18/14 11:39	
		Run: ICPMS206-B_140918B									
Copper		0.0471	mg/L	0.010	94	85	115				
Selenium		0.0472	mg/L	0.0050	94	85	115				
Thallium		0.0479	mg/L	0.10	96	85	115				
<b>Lab ID: LRB</b>	3	Method Blank								09/18/14 12:15	
		Run: ICPMS206-B_140918B									
Copper		ND	mg/L	3E-05							
Selenium		ND	mg/L	0.0003							
Thallium		ND	mg/L	8E-06							
<b>Lab ID: B14091090-007CMS</b>	3	Sample Matrix Spike								09/19/14 01:29	
		Run: ICPMS206-B_140918B									
Copper		0.489	mg/L	0.0050	91	70	130				
Selenium		0.488	mg/L	0.0034	98	70	130				
Thallium		0.477	mg/L	0.00050	95	70	130				
<b>Lab ID: B14091090-007CMSD</b>	3	Sample Matrix Spike Duplicate								09/19/14 01:34	
		Run: ICPMS206-B_140918B									
Copper		0.502	mg/L	0.0050	94	70	130	2.6	20		
Selenium		0.480	mg/L	0.0034	96	70	130	1.5	20		
Thallium		0.490	mg/L	0.00050	98	70	130	2.8	20		
<b>Lab ID: B14090848-001AMS</b>	3	Sample Matrix Spike								09/19/14 02:46	
		Run: ICPMS206-B_140918B									
Copper		0.235	mg/L	0.0050	93	70	130				
Selenium		0.364	mg/L	0.0010	97	70	130				
Thallium		0.250	mg/L	0.00050	100	70	130				
<b>Lab ID: B14090848-001AMSD</b>	3	Sample Matrix Spike Duplicate								09/19/14 02:50	
		Run: ICPMS206-B_140918B									
Copper		0.251	mg/L	0.0050	99	70	130	6.5	20		
Selenium		0.362	mg/L	0.0010	97	70	130	0.4	20		
Thallium		0.246	mg/L	0.00050	98	70	130	1.6	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 10/07/14

**Project:** 3767 WK:88

**Work Order:** B14091238

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_140922A			
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard										
Aluminum		0.265	mg/L	0.10	106	90	110			09/23/14 00:07	
<b>Method: E200.8</b>								Batch: R230930			
<b>Lab ID: LFB</b>	Laboratory Fortified Blank										
Aluminum		0.0524	mg/L	0.10	105	85	115			Run: ICPMS206-B_140922A 09/22/14 13:10	
<b>Lab ID: LRB</b>	Method Blank										
Aluminum		ND	mg/L	0.0001						Run: ICPMS206-B_140922A 09/22/14 14:03	
<b>Lab ID: B14091131-001BMS</b>	Sample Matrix Spike										
Aluminum		0.122	mg/L	0.030	122	70	130			Run: ICPMS206-B_140922A 09/23/14 04:28	
<b>Lab ID: B14091366-006CMSD</b>	Sample Matrix Spike Duplicate										
Aluminum		0.0573	mg/L	0.030	115	70	130	2.3	20	Run: ICPMS206-B_140922A 09/23/14 06:38	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_140923A			
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard										
Nickel		0.0452	mg/L	0.010	90	90	110			09/24/14 09:36	
<b>Method: E200.8</b>								Batch: R230991			
<b>Lab ID: LFB</b>	Laboratory Fortified Blank										
Nickel		0.0470	mg/L	0.010	94	85	115			Run: ICPMS206-B_140923A 09/23/14 13:04	
<b>Lab ID: LRB</b>	Method Blank										
Nickel		ND	mg/L	6E-05						Run: ICPMS206-B_140923A 09/23/14 13:56	
<b>Lab ID: B14091391-002BMS</b>	Sample Matrix Spike										
Nickel		0.0700	mg/L	0.0050	118	70	130			Run: ICPMS206-B_140923A 09/24/14 13:25	
<b>Lab ID: B14091391-002BMSD</b>	Sample Matrix Spike Duplicate										
Nickel		0.0555	mg/L	0.0050	89	70	130	23	20	Run: ICPMS206-B_140923A 09/24/14 13:30 R	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 10/07/14

**Project:** 3767 WK:88

**Work Order:** B14091238

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_140916A	
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								09/16/14 14:54	
Mercury		0.000202	mg/L	1.0E-05	101	90	110				
<b>Method:</b> E245.1										Batch: 82987	
<b>Lab ID:</b> MB-82987		Method Blank								Run: HGCV203-B_140916A	09/16/14 15:01
Mercury		ND	mg/L	2E-06							
<b>Lab ID:</b> LCS-82987		Laboratory Control Sample								Run: HGCV203-B_140916A	09/16/14 15:04
Mercury		0.000203	mg/L	1.0E-05	102	85	115				
<b>Lab ID:</b> B14091238-001BMS		Sample Matrix Spike								Run: HGCV203-B_140916A	09/16/14 15:08
Mercury		0.000199	mg/L	1.0E-05	100	70	130				
<b>Lab ID:</b> B14091238-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_140916A	09/16/14 15:10
Mercury		0.000201	mg/L	1.0E-05	101	70	130	1.0	30		
<b>Lab ID:</b> B14091366-012CMS		Sample Matrix Spike								Run: HGCV203-B_140916A	09/16/14 15:45
Mercury		0.000223	mg/L	1.0E-05	110	70	130				
<b>Lab ID:</b> B14091366-012CMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_140916A	09/16/14 15:47
Mercury		0.000207	mg/L	1.0E-05	102	70	130	7.4	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Alaska Exploration Inc

**Report Date:** 10/07/14

**Project:** 3767 WK:88

**Work Order:** B14091238

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_140916A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.455	mg/L	0.0050	102	90	110			09/16/14 13:08
<b>Method: E365.1</b>								Batch: 82950		
<b>Lab ID: MB-82950</b>	Method Blank									
Phosphorus, Total as P		ND	mg/L	0.005						09/16/14 13:42
<b>Lab ID: LCS-82950</b>	Laboratory Control Sample									
Phosphorus, Total as P		0.179	mg/L	0.0050	90	90	110			09/16/14 13:43
<b>Lab ID: B14091185-015BMS</b>	Sample Matrix Spike									
Phosphorus, Total as P		0.186	mg/L	0.0050	93	90	110			09/16/14 14:04
<b>Lab ID: B14091185-015BMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total as P		0.191	mg/L	0.0050	96	90	110	2.7	10	09/16/14 14:05
<b>Lab ID: B14091276-001EMS</b>	Sample Matrix Spike									
Phosphorus, Total as P		0.448	mg/L	0.0050	98	90	110			09/16/14 14:18
<b>Lab ID: B14091276-001EMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total as P		0.444	mg/L	0.0050	96	90	110	0.9	10	09/16/14 14:19

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

# Workorder Receipt Checklist

Tintina Alaska Exploration Inc

B14091238

Login completed by: Randa Nees

Date Received: 9/12/2014

Reviewed by: BL2000\lcardreau

Received by: jrjz

Reviewed Date: 9/12/2014

Carrier name: UPS NDA

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	4.4°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

Sample Ynl 1/Ynl 2 Composite for Dissolved Phosphorus was received at pH ~ 6. 2 mL of sulfuric acid was added in the laboratory to preserve to pH<2. Sample was field filtered by the client.



3767

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	<del>0.000005</del> 0.00001
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



## **Appendix C:**

MCClelland's Interim report of 2015 HCTs (with Energy Lab Reports)



**McClelland Laboratories, Inc.**

1016 Greg Street, Sparks, Nevada 89431  
(775) 356-1300 \* FAX (775) 356-8917  
E-Mail: MLI@METTEST.COM

March 8, 2017

Ms. Lisa Kirk  
**Enviromin, Inc.**  
P.O. Box 1685  
Bozeman, MT 59717

Dear Lisa:

Enclosed is our report concerning results obtained from humidity cell (HC) kinetic acid rock drainage (ARD) potential tests conducted on composite and tailings samples from the Black Butte Copper project.

Our invoice for the completed work will be sent under separate cover.

Thank you for allowing us to serve you on the Black Butte project.

Sincerely,

Michael Medina  
Environmental Project Manager

MM/mh  
Enclosure



**Report  
on  
HC Kinetic ARD Potential Testing -  
Black Butte Copper Project  
MLI Job No. 3767-01  
March 8, 2017**

**for**

**Ms. Lisa Kirk  
Enviromin, Inc.  
P.O. Box 1685  
Bozeman, MT 59717**

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**McClelland Laboratories, Inc.**

1016 Greg Street, Sparks, Nevada 89431  
(775) 356-1300 \* FAX (775) 356-8917  
E-Mail: MLI@METTEST.COM

**Report  
on  
HC Kinetic ARD Potential Testing -  
Black Butte Copper Project  
MLI Job No. 3767-01  
March 8, 2017**

**for**

**Ms. Lisa Kirk  
Enviromin, Inc.  
P.O. Box 1685  
Bozeman, MT 59717**

**SUMMARY**

A tailings sample along with a total of 57 individual samples (to create four composites) were received for kinetic humidity cell testing. Kinetic humidity cell (D5744-13, Option A) tests were run on all samples and extracts were submitted to Energy Labs for detailed dissolved metals analysis. Modified ABA analysis was performed all humidity cell feed samples and on ended humidity cell tested residues. Size fraction screen analysis was performed on the Ynl B composite residue.

Sample designations

USZ Composite

Yc Composite

Non Saturated Tailings

Saturated Tailings

Ynl B Composite

LZFW Composite

## **SAMPLE PREPARATION AND FEED ANALYSIS**

### Composite Samples

A total of 57 individual samples were received to create four composites for testing. All samples were received at a -1/4" feed size. Appropriate samples were combined in entirety to create the samples for testing according to instructions provided by Enviromin, Inc. Sample make-up tables are included in Section 1 of the Appendix to this report. Samples for testing were individually blended and split (rotary splitter) to obtain 2.0 kg for humidity cell testing, 0.15 kg for mineralogy (Yc Composite and LZFW Composite samples only) and 0.30 kg for further crushing. Further crushing splits were pulverized to -150M and were blended and split (roll cloth) to obtain 0.20 kg for Mod ABA analysis. Splits for Mod ABA analysis were submitted to SVL Analytical. Mineralogy splits were shipped to the RJ Lee Group.

### Tailings Sample

The moist tailings sample was split to obtain 0.10 kg for moisture determination, two 1.75 kg (moist) splits for humidity cell testing and 0.15 kg for Mod ABA analysis. Splits for Mod ABA analysis were submitted to SVL Analytical.

Mod ABA static ARD potential tests were conducted on each sample to assess potential of the solids to generate or neutralize acid in a natural weathering and oxidizing environment.

### Samples with net neutralizing potential

Mod ABA results show that the Yc Composite, Ynl B Composite and LZFW Composite samples displayed a greater potential to neutralize than to generate acid in a natural environment. Results are summarized as follows:

- Paste pHs ranged from 7.7 to 8.0.
- Pyritic sulfide ranged from 0.15 to 1.75 wt. pct., and resulted in AGP values ranging from 4.7 to 54.7 tons CaCO<sub>3</sub> equivalents per 1,000 tons of solids.
- ANP values ranged from 36.7 to 180 CaCO<sub>3</sub>/1,000 tons.
- NNP values ranged from 5.6 to 160.0 CaCO<sub>3</sub>/1,000 tons.
- Ratios (ANP ÷ AGP) ranged from 1.10 to 9.00.

### Samples with net generating potential

Mod ABA results show that the USZ Composite and Tailings samples displayed a greater potential to generate than to neutralize acid in a natural environment. Results are summarized as follows:

- Paste pHs were 5.9 and 3.9 for the USZ Composite and Tailings samples, respectively.
- Pyritic sulfide contents were 22.80 and 17.70 wt. pct. and resulted in AGP values of 712.5 and 553.1 tons CaCO<sub>3</sub> equivalents per 1,000 tons of solids, respectively.
- ANP values were 128 and 19.8 CaCO<sub>3</sub>/1,000 tons, respectively.
- NNP values were -584.5 and -533.3 CaCO<sub>3</sub>/1,000 tons, respectively.
- Ratios (ANP ÷ AGP) were 0.18 and 0.04, respectively.

Mod ABA analysis results are provided in Table 1. The SVL report is provided in Section 2 of the Appendix to this report.

**Table 1. - Modified Acid/Base Accounting (Mod ABA) Static ARD Potential Test Results, Black Butte, Humidity Cell Feed Samples**

Sample I.D.	Paste pH	Sulfur, weight percent (as S)						Sulfur, wt. pct. (as S) - HCl Wash						
		Total	SO <sub>4</sub>	Pyritic S <sup>-</sup>	Non-Ext S	Non Sulfate S	AGP <sup>1)</sup>	ANP	NNP	Ratio	SO <sub>4</sub>	Pyritic S <sup>-</sup>	Non Sulfate S	
USZ Composite	5.9	29.2	6.00	22.80	0.46	23.2	712.5	128	-584.5	0.18	8.10	20.70	21.2	
Yc Composite	8.0	0.18	<0.01	0.15	0.02	0.17	4.7	36.7	32.0	7.81	<0.01	0.16	0.18	
Tailings	3.9	26.2	8.25	17.70	0.30	18.0	553.1	19.8	-533.3	0.04	6.60	19.30	19.6	
Ynl B Composite	7.8	0.76	0.08	0.64	0.04	0.68	20.0	180	160.0	9.00	0.13	0.59	0.63	
LZFW Composite	7.7	2.01	0.20	1.75	0.06	1.81	54.7	60.3	5.6	1.10	0.32	1.63	1.69	

1) AGP based on pyritic S<sup>-</sup> content (S<sup>-</sup>% x 31.25). AGP, ANP and NNP in units of tons CaCO<sub>3</sub> equivalents per 1000 tons of solids.  
 SVL Report # W6E0101

## HC KINETIC ARD POTENTIAL TEST PROCEDURE AND RESULTS

Modified HC kinetic ARD potential tests were conducted on 2.0017 kg, 2.0013 kg, 1.5369 kg, 2.0075 kg and 2.0154 kg splits of the USZ Composite, Yc Composite, Tailings (non saturated), Ynl B Composite and LZFW Composite samples (respectively) at the as received feed size (-1/4") to assess potential of the solids to generate or neutralize acid in an aggressive and accelerated weathering and oxidizing environment. The ASTM standard procedure (D5744-13, Option A) was employed the duration of the kinetic testing. A second tailings sample was evaluated using a modified procedure to simulate underwater storage of the tailings material. The modified saturated procedure is described below the standard humidity cell procedure. The testing duration (with week 0) was 75 weeks for the USZ Composite, 39 weeks for the Yc Composite, 48 weeks for the Tailings (non saturated and saturated) samples, 37 weeks for the Ynl B Composite and 56 weeks for the LZFW Composite.

### Standard Humidity Cell Procedure

The HC tests were conducted for 39+ weeks in seven day cycles. After initial saturation (week 0), dry, filtered compressed air was passed upwards through the solids charge the first three days of the cycle. Humidified air, generated by sparging filtered compressed air into deionized water (DI H<sub>2</sub>O, pH 5.5) contained in a temperature controlled (30° C) vessel, was passed upwards through the charge the next three days of the cycle. On the seventh day, the charge was saturated (flooded) with DI H<sub>2</sub>O and allowed to soak for one hour. For the tailings sample, 1.50 L was applied for week 0 and 0.75 L was applied for all subsequent weeks. For all other samples, 2.00 L was applied for week 0 and 1.00 L was applied for all subsequent weeks. After soaking, effluent was allowed to percolate through and drain freely from the solids charge. Effluent was collected in a sealed container and volume was measured by weighing. Unfiltered, unpreserved effluent samples were analyzed immediately for redox potential (Ag/AgCl reference), pH, EC, SO<sub>4</sub><sup>-</sup>, acidity and alkalinity. Separate effluent samples (50 mL) were filtered through a 0.45µm filter to produce extract. Those extracts were analyzed immediately for Fe<sub>T</sub>, Fe<sup>2+</sup> and Fe<sup>3+</sup> (by difference). Remaining weekly effluents were filtered (0.45µm), appropriately preserved and shipped to Energy Labs for the Montana suite of constituent analyses. Single-use,

disposable filters were used for all extracts. Weeks 0, 1, 2, 4, 8, 12, 16, 20 and every 4th week thereafter (including the final week of testing) extracts (not composites) were submitted for detailed metals analysis.

#### Saturated Humidity Cell Testing Procedures

The modified saturated HC test was conducted for 48 weeks in seven day cycles. After initial saturation (week 0), the sample charge was saturated (flooded) with DI H<sub>2</sub>O and allowed to soak for seven days. No air sparging cycles were used for this procedures. For the saturated tailings sample, 1.50 L was applied for week 0 and 0.75 L was applied for all subsequent weeks. After seven days, effluent was allowed to percolate through and drain freely from the solids charge. Effluent was collected in a sealed container and volume was measured by weighing. Unfiltered, unpreserved effluent samples were analyzed immediately for redox potential (Ag/AgCl reference), pH, EC, SO<sub>4</sub><sup>-</sup>, acidity and alkalinity. Separate effluent samples (50 mL) were filtered through a 0.45µm filter to produce extract. Those extracts were analyzed immediately for Fe<sub>t</sub>, Fe<sup>2+</sup> and Fe<sup>3+</sup> (by difference). Remaining weekly effluents were filtered (0.45µm), appropriately preserved and shipped to Energy Labs for the Montana suite of constituent analyses. Single-use, disposable filters were used for all extracts. Weeks 0, 1, 2, 4, 8, 12, 16, 20 and every 4th week thereafter extracts (not composites) were submitted for detailed metals analysis.

Weekly humidity cell test data are provided in Tables 2 through 7. The figures following each table depict graphically, on a weekly (a figure) and cumulative (b figure) mass basis, analytical data for pH, SO<sub>4</sub>, acidity and alkalinity. Constituent analysis results for selected weekly extracts are provided in Tables 8 through 13. Energy Labs report sheets for metals analyses on extracts are provided in the Section 3 of the Appendix to this report.



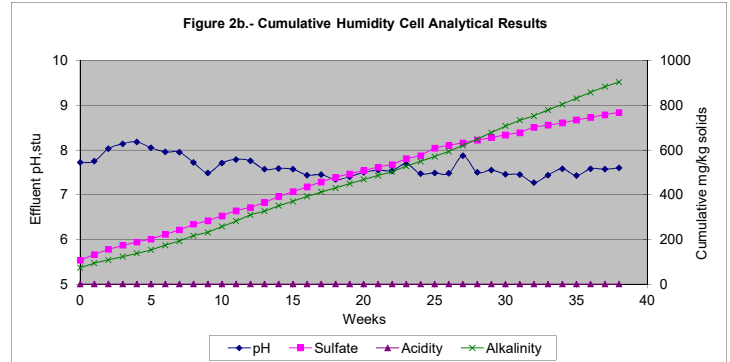
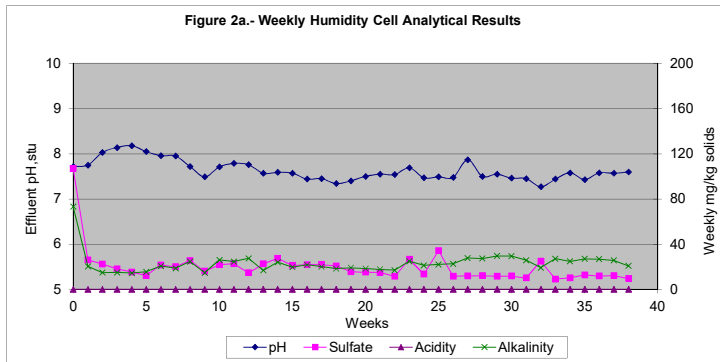
Table 2 - Humidity Cell Analytical Results, USZ Composite, (2,0017 kg)

Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	Total Fe					SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
					mg/l	mg/kg	Cum. mg/l	Fe <sup>2+</sup> mg/l	Fe <sup>3+</sup> mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.701	4.13	162	5360	1392.19	1183.052	1183.052	217.00	1175.19	5100	4333.87	4333.87	1417	1204.14	1204.14	<1	0.00	0.00
1	0.920	5.55	133	3540	37.49	17.231	1200.283	17.30	20.19	2700	1240.95	5574.82	50	22.98	1227.12	6	2.76	2.76
2	0.912	5.21	289	3100	0.15	0.068	1200.351	<0.10	<0.15	2500	1139.03	6713.85	10	4.56	1231.67	3	1.37	4.13
3	0.885	6.66	399	3150	<0.10	0.000	1200.351	<0.10	<0.10	2700	1193.74	7907.59	<1	0.00	1231.67	46	20.34	24.47
4	0.799	6.44	381	2920	<0.10	0.000	1200.351	<0.10	<0.10	3000	1197.48	9105.07	3	1.20	1232.87	11	4.39	28.86
5	0.805	6.37	428	2920	<0.10	0.000	1200.351	<0.10	<0.10	3000	1206.47	10311.54	5	2.01	1234.88	8	3.22	32.08
6	0.873	6.87	322	2730	<0.10	0.000	1200.351	<0.10	<0.10	2700	1177.55	11489.09	9	3.93	1238.80	11	4.80	36.88
7	0.842	6.69	421	2760	1.32	0.555	1200.906	<0.10	<1.32	2401	1009.96	12499.05	1	0.42	1239.23	20	8.41	45.29
8	0.827	6.38	428	2700	1.06	0.438	1201.344	<0.10	<1.06	2225	919.26	13418.31	13	5.37	1244.60	12	4.96	50.25
9	0.817	6.24	268	2800	1.40	0.571	1201.915	<0.10	<1.4	1886	769.78	14188.09	12	4.90	1249.49	8	3.27	53.52
10	0.852	6.17	414	2720	0.52	0.221	1202.136	<0.10	<0.52	2108	897.25	15085.34	13	5.53	1255.03	8	3.41	56.93
11	0.865	6.43	341	2730	1.43	0.618	1202.754	<0.10	<1.43	2070	894.51	15979.85	5	2.16	1257.19	6	2.59	59.52
12	0.816	6.13	399	2650	1.79	0.730	1203.484	<0.10	<1.79	2140	872.38	16852.23	7	2.85	1260.04	8	3.26	62.78
13	0.818	6.02	415	2640	1.89	0.772	1204.256	<0.10	<1.89	2290	935.81	17788.04	8	3.27	1263.31	7	2.86	65.64
14	0.893	6.15	417	2490	0.80	0.357	1204.613	<0.10	<0.8	2087	931.05	18719.09	13	5.80	1269.11	7	3.12	68.76
15	0.860	6.07	390	2540	1.93	0.829	1205.442	<0.10	<1.93	1929	828.77	19547.86	9	3.87	1272.98	7	3.01	71.77
16	0.826	6.10	250	2600	1.93	0.796	1206.238	<0.10	<1.93	1876	774.13	20321.99	10	4.13	1277.10	7	2.89	74.66
17	0.803	6.18	300	2600	1.90	0.762	1207.000	0.10	1.80	2204	884.15	21206.14	11	4.41	1281.52	9	3.61	78.27
18	0.796	5.95	235	2570	1.89	0.752	1207.752	0.11	1.78	2295	912.63	22118.77	11	4.37	1285.89	8	3.18	81.45
19	0.833	5.92	308	2510	1.51	0.628	1208.380	<0.10	<1.51	1801	749.48	22868.25	10	4.16	1290.05	7	2.91	84.36
20	0.843	6.26	306	2490	1.12	0.472	1208.852	<0.10	<1.12	1769	745.00	23613.25	9	3.79	1293.84	9	3.79	88.15
21	0.834	6.07	257	2480	1.06	0.442	1209.294	<0.10	<1.06	1650	687.47	24300.72	10	4.17	1298.01	6	2.50	90.65
22	0.864	6.01	309	2360	1.15	0.496	1209.790	<0.10	<1.15	1825	787.73	25088.45	8	3.45	1301.46	6	2.59	93.24
23	0.897	5.93	253	2500	3.16	1.416	1211.206	<0.10	<3.16	1673	749.70	25838.15	<1	0.00	1301.46	6	2.69	95.93
24	0.855	6.06	296	2350	4.84	2.067	1213.273	<0.10	<4.84	1700	726.13	26564.28	13	5.55	1307.01	6	2.56	98.49
25	0.843	6.03	318	2350	17.56	7.395	1220.668	<0.10	<17.56	2000	842.28	27406.56	18	7.58	1314.60	11	4.63	103.12
26	0.924	6.13	382	2420	14.71	6.790	1227.458	<0.10	<14.71	1600	738.57	28145.13	12	5.54	1320.13	6	2.77	105.89
27	0.954	6.53	417	2360	17.41	8.298	1235.756	<0.10	<17.41	1500	714.89	28860.02	29	13.82	1333.96	19	9.06	114.95
28	0.905	6.26	358	2190	1.72	0.778	1236.534	<0.10	<1.72	1500	678.17	29538.19	11	4.97	1338.93	7	3.16	118.11
29	0.924	6.31	380	2280	3.04	1.403	1237.937	<0.10	<3.04	1600	738.57	30276.76	6	2.77	1341.70	8	3.69	121.80
30	0.891	6.21	327	2340	3.67	1.634	1239.571	<0.10	<3.67	1500	667.68	30944.44	8	3.56	1345.26	7	3.12	124.92
31	0.823	6.06	270	2170	5.18	2.130	1241.701	<0.10	<5.18	1600	657.84	31602.28	10	4.11	1349.37	6	2.47	127.39
32	0.865	5.84	302	2120	11.15	4.818	1246.519	0.10	11.05	1700	734.63	32336.91	14	6.05	1355.42	6	2.59	129.98
33	0.903	5.95	361	2260	6.91	3.117	1249.636	<0.10	<6.91	1700	766.90	33103.81	19	8.57	1363.99	8	3.61	133.59
34	0.867	5.98	316	2130	4.57	1.979	1251.615	<0.10	<4.57	1500	649.70	33753.51	10	4.33	1368.32	8	3.47	137.06
35	0.863	5.83	298	2200	4.81	2.074	1253.689	0.18	4.63	1700	732.93	34486.44	8	3.45	1371.77	7	3.02	140.08
36	0.927	6.11	360	2300	4.17	1.931	1255.620	<0.10	<4.17	1700	787.28	35273.72	6	2.78	1374.55	10	4.63	144.71
37	0.900	6.07	368	2230	3.66	1.646	1257.266	0.10	3.56	1700	764.35	36038.07	9	4.05	1378.60	5	2.25	146.96
38	0.861	5.81	311	2170	4.16	1.789	1259.055	0.16	4.00	2000	860.27	36898.34	12	5.16	1383.76	3	1.29	148.25
39	0.947	6.51	384	2280	5.50	2.602	1261.657	<0.10	<5.5	1600	756.96	37655.30	10	4.73	1388.49	22	10.41	158.66
40	0.925	6.24	383	2400	2.33	1.077	1262.734	0.10	2.23	1700	785.58	38440.88	11	5.08	1393.57	12	5.55	164.21
41	0.925	6.37	411	2240	3.41	1.576	1264.310	<0.10	<3.41	1600	739.37	39180.25	9	4.16	1397.73	11	5.08	169.29
42	0.920	6.29	372	2390	4.69	2.156	1266.466	0.13	4.56	1700	781.34	39961.59	13	5.98	1403.71	8	3.68	172.97
43	0.895	6.33	312	2290	3.08	1.377	1267.843	0.14	2.94	1800	804.82	40766.41	28	12.52	1416.23	11	4.92	177.89
44	0.868	5.49	285	2280	1.86	0.807	1268.650	0.21	1.65	1800	780.54	41546.95	23	9.97	1426.20	4	1.73	179.62
45	0.936	6.52	408	2320	2.77	1.295	1269.945	<0.10	<2.77	1800	841.68	42388.63	6	2.81	1429.01	18	8.42	188.04
46	0.989	7.13	392	2310	1.91	0.944	1270.889	<0.10	<1.91	1800	889.34	43277.97	<1	0.00	1429.01	39	19.27	207.31
47	0.893	4.71	362	2260	1.21	0.540	1271.429	<0.10	<1.21	1800	803.02	44080.99	17	7.58	1436.59	1	0.45	207.76
48	0.856	4.67	349	2410	3.49	1.492	1272.921	<0.10	<3.49	2100	898.04	44979.03	23	9.84	1446.43	1	0.43	208.19
49	0.925	5.46	305	2240	2.24	1.035	1273.956	<0.10	<2.24	1800	831.79	45810.82	13	6.01	1452.43	3	1.39	209.58
50	0.853	4.46	353	2380	2.60	1.108	1275.064	<0.10	<2.6	2000	852.28	46663.10	23	9.80	1462.24	<1	0.00	209.58
51	0.971	6.80	341	2070	1.64	0.796	1275.860	<0.10	<1.64	1600	776.14	47439.24	2	0.97	1462.24	21	10.19	219.77
52	0.909	5.43	239	2380	0.88	0.400	1276.260	<0.10	<0.88	1800	817.41	48256.65	13	5.90	1469.11	3	1.36	221.13
53	0.986	6.76	285	2190	1.28	0.631	1276.891	<0.10	<1.28	1600	788.13	49044.78	14	6.90	1476.00	23	11.33	232.46
54	0.954	6.78	368	2230	1.51	0.720	1277.611	<0.10	<1.51	1400	667.23	49712.01	23	10.96	1486.97	11	5.24	237.70
55	0.961	6.94	279	2010	1.57	0.754	1278.365	<0.10	<1.57	1500	720.14	50432.15	16	7.68	1494.65	12	5.76	243.46
56	0.969	6.78	283	2010	1.66	0.804	1279.169	<0.10	<1.66	1500	726.13	51158.28	19	9.20	1503.85	25	12.10	255.56
57	0.993	6.91	293	2140	1.80	0.893	1280.062	<0.10	<1.8	1500	744.12	51902.40	14	6.95	1510.79	27	13.39	268.95
58	0.955	6.74	309	2220	1.52	0.725	1280.787	<0.10	<1.52	1600	763.35	52665.75	18	8.59	1519.38	19	9.06	278.01
59	0.973	6.86	328	2230	0.14	0.068	1280.855	<0.10	<0.14	1700	826.35	53492.10	7	3.40	1522.78	25	12.15	290.16
60	0.961	6.46	236	2270	0.31	0.149	1281.004	<0.10	<0.31	1700	816.16	54308.26	13	6.24	1529.02	14	6.72	296.88
61	0.928	5.55	218	2420	1.77	0.821	1281.825	0.25	1.52	1980	917.94	55226.20	48	22.25	1551.28	7	3.25	300.13
62	0.898	3.99	392	2650	4.54	2.037	1283.862	0.47	4.07	2120	951.07	56177.27	67	30.06	1581.33	<1	0.00	300.13</

**Table 3. - Humidity Cell Analytical Results, Black Butte, Yc Composite (2.0013 kg)**

Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity $\mu$ S/cm	Total Fe				SO <sub>4</sub> =			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents			
					mg/l	mg/kg	Cum. mg/kg	Fe <sup>2+</sup> mg/l	Fe <sup>3+</sup> mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.646	7.72	222	450	<0.10	0.000	0.000	<0.10	<0.10	130	106.92	106.92	<1	0.00	0.00	89	73.20	73.20
1	0.928	7.75	328	229	<0.10	0.000	0.000	<0.10	<0.10	56	25.97	132.89	<1	0.00	0.00	44	20.40	93.60
2	0.846	8.03	316	196	<0.10	0.000	0.000	<0.10	<0.10	53	22.40	155.29	<1	0.00	0.00	35	14.80	108.40
3	0.905	8.14	256	173	<0.10	0.000	0.000	<0.10	<0.10	40	18.09	173.38	<1	0.00	0.00	33	14.92	123.32
4	0.805	8.18	241	170	0.14	0.056	0.056	<0.10	<0.14	38	15.29	188.67	<1	0.00	0.00	36	14.48	137.80
5	0.839	8.05	280	175	<0.10	0.000	0.056	<0.10	<0.10	29	12.16	200.83	<1	0.00	0.00	37	15.51	153.31
6	0.895	7.96	345	209	<0.10	0.000	0.056	<0.10	<0.10	48	21.47	222.30	<1	0.00	0.00	46	20.57	173.88
7	0.829	7.95	309	210	1.61	0.667	0.723	<0.10	<1.61	48	19.88	242.18	<1	0.00	0.00	45	18.64	192.52
8	0.928	7.72	323	291	<0.10	0.000	0.723	<0.10	<0.10	55	25.50	267.68	<1	0.00	0.00	53	24.58	217.10
9	0.865	7.49	303	179	<0.10	0.000	0.723	<0.10	<0.10	37	15.99	283.67	<1	0.00	0.00	34	14.70	231.80
10	0.949	7.71	323	288	0.98	0.465	1.188	<0.10	<0.98	46	21.81	305.48	<1	0.00	0.00	55	26.08	257.88
11	0.876	7.79	396	276	<0.10	0.000	1.188	<0.10	<0.10	52	22.76	328.24	<1	0.00	0.00	56	24.51	282.39
12	1.001	7.76	311	280	<0.10	0.000	1.188	<0.10	<0.10	29	14.51	342.75	<1	0.00	0.00	55	27.51	309.90
13	0.864	7.57	386	253	<0.10	0.000	1.188	<0.10	<0.10	52	22.45	365.20	<1	0.00	0.00	39	16.84	326.74
14	0.946	7.59	363	229	<0.10	0.000	1.188	<0.10	<0.10	58	27.42	392.62	<1	0.00	0.00	51	24.11	350.85
15	0.982	7.57	268	180	<0.10	0.000	1.188	<0.10	<0.10	43	21.10	413.72	<1	0.00	0.00	40	19.63	370.48
16	0.944	7.44	255	218	<0.10	0.000	1.188	<0.10	<0.10	46	21.70	435.42	<1	0.00	0.00	46	21.70	392.18
17	0.876	7.45	311	216	<0.10	0.000	1.188	<0.10	<0.10	50	21.89	457.31	<1	0.00	0.00	46	20.13	412.31
18	0.858	7.34	272	201	<0.10	0.000	1.188	<0.10	<0.10	48	20.58	477.89	<1	0.00	0.00	43	18.44	430.75
19	0.887	7.40	280	189	<0.10	0.000	1.188	<0.10	<0.10	35	15.51	493.40	<1	0.00	0.00	43	19.06	449.81
20	0.914	7.50	318	173	<0.10	0.000	1.188	<0.10	<0.10	33	15.07	508.47	<1	0.00	0.00	40	18.27	468.08
21	0.907	7.55	282	168	<0.10	0.000	1.188	<0.10	<0.10	33	14.96	523.43	<1	0.00	0.00	39	17.68	485.76
22	0.916	7.54	295	158	<0.10	0.000	1.188	<0.10	<0.10	25	11.44	534.87	<1	0.00	0.00	37	16.93	502.69
23	0.831	7.69	350	294	<0.10	0.000	1.188	<0.10	<0.10	64	26.57	561.44	<1	0.00	0.00	60	24.91	527.60
24	1.031	7.47	281	147	<0.10	0.000	1.188	<0.10	<0.10	26	13.39	574.83	<1	0.00	0.00	41	21.12	548.72
25	0.900	7.49	302	228	<0.10	0.000	1.188	<0.10	<0.10	76	34.18	609.01	<1	0.00	0.00	49	22.04	570.76
26	1.002	7.48	343	149	<0.10	0.000	1.188	<0.10	<0.10	23	11.52	620.53	<1	0.00	0.00	45	22.53	593.29
27	0.954	7.87	301	171	<0.10	0.000	1.188	<0.10	<0.10	25	11.92	632.45	<1	0.00	0.00	58	27.65	620.94
28	0.958	7.50	337	180	<0.10	0.000	1.188	<0.10	<0.10	25	11.97	644.42	<1	0.00	0.00	57	27.29	648.23
29	0.896	7.55	340	194	<0.10	0.000	1.188	<0.10	<0.10	26	11.64	656.06	<1	0.00	0.00	66	29.55	677.78
30	1.017	7.46	333	172	<0.10	0.000	1.188	<0.10	<0.10	23	11.69	667.75	<1	0.00	0.00	58	29.47	707.25
31	0.957	7.45	287	153	<0.10	0.000	1.188	<0.10	<0.10	21	10.04	677.79	<1	0.00	0.00	54	25.82	733.07
32	0.939	7.27	359	285	0.18	0.084	1.272	<0.10	<0.18	53	24.87	702.66	<1	0.00	0.00	41	19.24	752.31
33	0.940	7.44	274	146	<0.10	0.000	1.272	<0.10	<0.10	19	8.92	711.58	<1	0.00	0.00	58	27.24	779.55
34	0.883	7.58	332	161	<0.10	0.000	1.272	<0.10	<0.10	23	10.15	721.73	<1	0.00	0.00	56	24.71	804.26
35	1.020	7.43	302	157	<0.10	0.000	1.272	<0.10	<0.10	25	12.74	734.47	<1	0.00	0.00	53	27.01	831.27
36	0.938	7.58	293	160	<0.10	0.000	1.272	<0.10	<0.10	25	11.72	746.19	<1	0.00	0.00	57	26.72	857.99
37	0.900	7.57	328	161	<0.10	0.000	1.272	<0.10	<0.10	27	12.14	758.33	<1	0.00	0.00	57	25.63	883.62
38	0.903	7.60	295	126	<0.10	0.000	1.272	<0.10	<0.10	21	9.48	767.81	<1	0.00	0.00	46	20.76	904.38

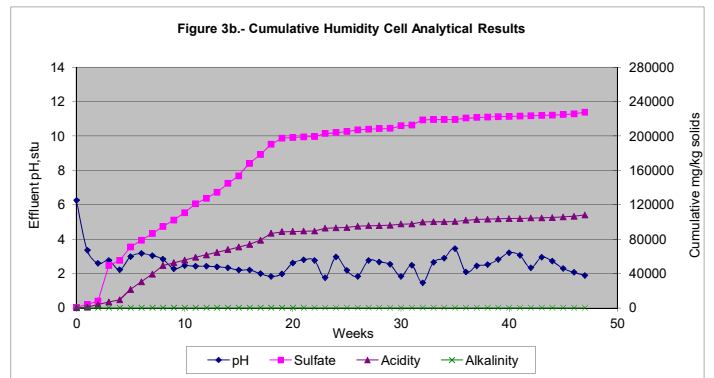
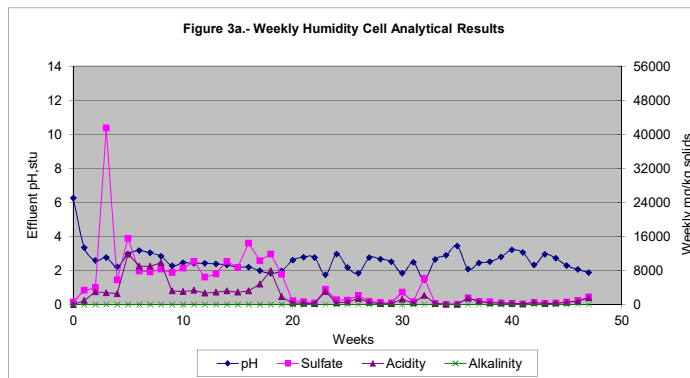
Testing terminated



**Table 4. - Humidity Cell Analytical Results, Black Butte, Non Saturated Tailings (1.5369 kg)**

Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity µS/cm	Total Fe					SO <sub>4</sub> =			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
					mg/l	mg/kg	Cum. mg/kg	Fe <sup>2+</sup> mg/l	Fe <sup>3+</sup> mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.423	6.26	254	1044	<0.10	0.000	0.000	<0.10	<0.10	700	648.12	648.12	11	10.19	10.19	10	9.26	9.26
1	0.609	3.35	347	8160	332.90	131.912	131.912	22.10	310.80	8500	3368.14	4016.26	2433	964.08	974.27	<1	0.00	9.26
2	0.641	2.59	401	10190	2896.00	1207.844	1339.756	182.00	2714.00	9500	3962.20	7978.46	7224	3012.94	3987.21	<1	0.00	9.26
3	0.569	2.76	420	27900	20812.33	7705.261	9045.017	1365.00	19447.33	112000	41465.29	49443.75	7640	2828.53	6815.73	<1	0.00	9.26
4	0.633	2.22	414	7160	7600.00	3130.197	12175.214	554.84	7045.16	14000	5766.15	55209.90	6201	2553.99	9369.72	<1	0.00	9.26
5	0.629	2.98	440	19800	15450.00	6323.150	18498.364	1215.00	14235.00	38000	15552.09	70761.99	29131	11922.31	21292.03	<1	0.00	9.26
6	0.676	3.17	412	7390	7017.77	3086.741	21585.105	740.00	6277.77	18000	7917.24	78679.23	20618	9068.75	30360.79	<1	0.00	9.26
7	0.623	3.04	430	6970	5945.00	2409.874	23994.979	795.00	5150.00	19030	7714.03	86393.26	22200	8999.02	39359.81	<1	0.00	9.26
8	0.605	2.84	448	7690	6234.00	2454.011	26448.990	820.00	5414.00	21160	8329.62	94722.88	25100	9880.60	49240.42	<1	0.00	9.26
9	0.615	2.28	426	7370	5977.18	2391.805	28840.795	755.00	5222.18	18890	7558.95	102281.83	8052	3222.06	52462.47	<1	0.00	9.26
10	0.589	2.46	428	8380	7568.98	2900.728	31741.523	820.00	6748.98	22320	8553.89	110835.72	8041	3081.63	55544.10	<1	0.00	9.26
11	0.651	2.43	427	8720	8269.00	3502.582	35244.105	795.00	7474.00	23950	10144.74	120980.46	7954	3369.16	58913.25	<1	0.00	9.26
12	0.591	2.43	433	7850	6265.00	2409.145	37653.250	930.00	5335.00	16780	6452.59	127433.05	7148	2748.69	61661.95	<1	0.00	9.26
13	0.597	2.39	433	7850	7580.00	2944.408	40597.658	885.00	6695.00	18590	7221.18	134654.23	7503	2914.50	64576.44	<1	0.00	9.26
14	0.650	2.34	437	7990	7731.20	3269.751	43867.409	830.00	6901.20	23980	10141.84	144796.07	7633	3228.22	67804.66	<1	0.00	9.26
15	0.618	2.20	439	7680	6852.86	2755.591	46623.000	725.00	6127.86	21770	8753.89	153549.96	7244	2912.87	70717.53	<1	0.00	9.26
16	0.574	2.21	436	9200	7990.00	2984.098	49607.098	865.00	7125.00	38710	14457.38	168007.34	8663	3235.45	73952.98	<1	0.00	9.26
17	0.579	1.99	438	12870	7609.00	2866.557	52473.655	710.00	6899.00	27450	10341.30	178348.64	12755	4805.22	78578.21	<1	0.00	9.26
18	0.587	1.84	441	20040	7874.22	3007.461	55481.116	920.00	6954.22	31130	11889.72	190238.36	20911	7986.70	86744.90	<1	0.00	9.26
19	0.590	1.98	429	10190	4547.60	1745.777	57226.893	700.00	3847.60	18630	7151.86	197390.22	4846	1860.33	88605.23	<1	0.00	9.26
20	0.711	2.61	370	3710	1306.00	604.181	57831.074	315.00	991.00	1965	909.05	198299.27	864	399.70	89004.94	<1	0.00	9.26
21	0.725	2.79	358	2440	359.11	169.403	58000.477	98.00	261.11	1443	680.70	198979.97	727	342.95	89347.88	<1	0.00	9.26
22	0.715	2.77	403	1943	321.31	149.481	58149.958	53.00	268.31	812	377.76	199357.73	546	254.01	89601.89	<1	0.00	9.26
23	0.654	1.75	434	12250	3197.75	1360.745	59510.703	247.00	2950.75	8453	3597.02	202954.75	7346	3125.96	92727.85	<1	0.00	9.26
24	0.740	2.97	280	2310	815.60	392.702	59903.405	179.00	636.60	2300	1107.42	204062.17	857	412.64	93140.49	<1	0.00	9.26
25	0.701	2.18	415	4230	557.97	254.497	60157.902	133.90	424.07	2300	1049.06	205111.23	1359	619.86	93760.35	<1	0.00	9.26
26	0.670	1.84	417	8180	2068.55	901.769	61059.671	313.30	1755.25	4900	2136.12	207247.35	3273	1426.84	95187.19	<1	0.00	9.26
27	0.722	2.76	398	2770	805.82	378.556	61438.227	228.80	577.02	1700	798.62	208045.97	1132	531.79	95718.97	<1	0.00	9.26
28	0.720	2.67	394	1988	290.10	135.905	61574.132	71.50	218.60	970	454.42	208500.39	461	215.97	95934.94	<1	0.00	9.26
29	0.716	2.53	416	2380	304.83	142.012	61716.144	84.50	220.33	900	419.29	208919.68	588	273.93	96208.87	<1	0.00	9.26
30	0.621	1.84	413	9220	2316.26	935.908	62652.052	283.40	2032.86	7300	2949.64	211869.32	3189	1288.55	97497.42	<1	0.00	9.26
31	0.709	2.48	380	2360	554.37	255.741	62907.793	131.30	423.07	1500	691.98	212561.30	765	352.91	97850.33	<1	0.00	9.26
32	0.633	1.46	393	2430	5854.00	2411.076	65318.869	287.30	5566.70	15000	6178.02	218739.32	5323	2192.37	100042.70	<1	0.00	9.26
33	0.710	2.65	393	1511	314.00	145.058	65463.927	133.90	180.10	640	295.66	219034.98	473	218.51	100261.21	<1	0.00	9.26
34	0.721	2.90	347	1286	201.00	94.294	65558.221	70.20	130.80	38	17.83	219052.81	395	185.31	100446.52	<1	0.00	9.26
35	0.772	3.45	312	549	77.71	39.034	65597.255	36.40	41.31	180	90.42	219143.23	149	74.84	100521.36	<1	0.00	9.26
36	0.695	2.09	442	7690	1639.00	741.171	66338.426	325.00	1314.00	3500	1582.73	220725.96	3361	1519.87	102041.24	<1	0.00	9.26
37	0.743	2.45	329	3160	877.00	423.977	66762.403	301.60	575.40	1600	773.51	221499.47	1576	761.90	102803.14	<1	0.00	9.26
38	0.729	2.52	327	2370	624.81	296.367	67058.770	214.50	410.31	1400	664.06	222163.53	832	394.64	103197.78	<1	0.00	9.26
39	0.734	2.81	294	1875	466.00	222.554	67281.324	204.10	261.90	790	377.29	222540.82	864	412.63	103610.42	<1	0.00	9.26
40	0.757	3.21	224	1387	379.00	186.676	67468.000	158.60	220.40	670	330.01	222870.83	705	347.25	103957.66	<1	0.00	9.26
41	0.752	3.06	295	1059	229.49	112.289	67580.289	97.50	131.99	400	195.72	223066.55	362	177.13	104134.79	<1	0.00	9.26
42	0.721	2.33	373	2870	429.12	201.311	67781.600	169.00	260.12	1100	516.04	223582.59	1112	521.67	104656.46	<1	0.00	9.26
43	0.754	2.95	299	1664	367.47	180.280	67961.880	228.80	138.67	710	348.32	223930.91	470	230.58	104887.04	<1	0.00	9.26
44	0.750	2.72	312	1818	378.36	184.638	68146.518	130.00	248.36	750	366.00	224296.91	752	366.97	105254.01	<1	0.00	9.26
45	0.750	2.29	374	3080	496.51	242.295	68388.813	132.60	363.91	1200	585.59	224882.50	1087	530.45	105784.46	<1	0.00	9.26
46	0.744	2.07	398	5040	735.61	356.102	68744.915	159.00	576.61	2000	968.18	225850.68	1564	757.12	106541.58	<1	0.00	9.26
47	0.719	1.89	441	7820	1047.96	490.262	69235.177	185.90	862.06	3900	1824.52	227675.20	3374	1578.44	108120.02	<1	0.00	9.26

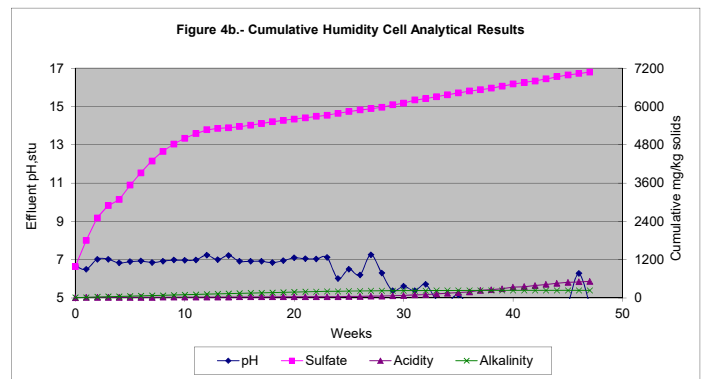
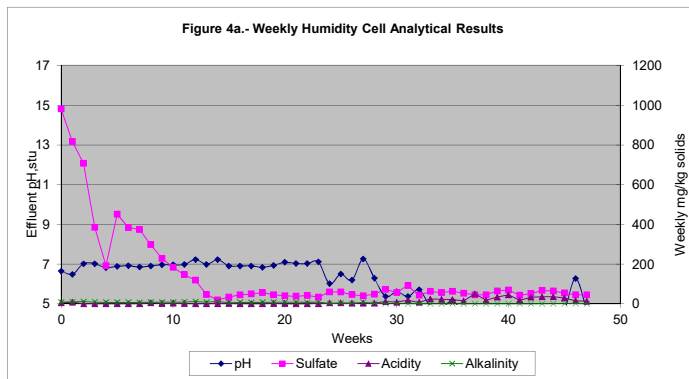
Testing terminated



**Table 5. - Humidity Cell Analytical Results, Black Butte, Saturated Tailings (1.5372 kg)**

Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity $\mu\text{S/cm}$	Total Fe					$\text{SO}_4^{2-}$			Acidity, $\text{CaCO}_3$ Equivalents			Alkalinity, $\text{CaCO}_3$ Equivalents		
					mg/l	mg/kg	Cum. mg/kg	$\text{Fe}^{2+}$ mg/l	$\text{Fe}^{3+}$ mg/l	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.370	6.65	250	1167	<0.10	0.000	0.000	<0.10	<0.10	1100	980.35	980.35	6	5.35	5.35	9	8.02	8.02
1	0.739	6.49	75	1992	<0.10	0.000	0.000	<0.10	<0.10	1700	817.27	1797.62	17	8.17	13.52	20	9.61	17.63
2	0.724	7.02	296	1984	<0.10	0.000	0.000	<0.10	<0.10	1500	706.48	2504.10	1	0.47	13.99	24	11.30	28.93
3	0.740	7.02	373	1130	<0.10	0.000	0.000	<0.10	<0.10	800	385.12	2889.22	<1	0.00	13.99	19	9.15	38.08
4	0.738	6.82	359	972	0.24	0.115	0.115	<0.10	<0.24	400	192.04	3081.26	<1	0.00	13.99	16	7.68	45.76
5	0.729	6.89	191	1343	<0.10	0.000	0.115	<0.10	<0.10	950	450.53	3531.79	2	0.95	14.94	16	7.59	53.35
6	0.738	6.92	180	1338	<0.10	0.000	0.115	<0.10	<0.10	800	384.07	3915.86	<1	0.00	14.94	16	7.68	61.03
7	0.733	6.85	238	1206	2.92	1.392	1.507	0.11	2.81	785	374.32	4290.18	1	0.48	15.42	15	7.15	68.18
8	0.730	6.91	292	1157	0.89	0.423	1.930	<0.10	<0.89	627	297.76	4587.94	10	4.75	20.17	17	8.07	76.25
9	0.731	6.97	252	1014	0.51	0.243	2.173	<0.10	<0.51	483	229.69	4817.63	5	2.38	22.54	18	8.56	84.81
10	0.729	6.96	386	832	0.49	0.232	2.405	<0.10	<0.49	387	183.53	5001.16	6	2.85	25.39	18	8.54	93.35
11	0.723	6.98	352	733	0.38	0.179	2.584	<0.10	<0.38	312	146.74	5147.90	4	1.88	27.27	20	9.41	102.76
12	0.725	7.23	348	552	0.69	0.325	2.909	<0.10	<0.69	253	119.32	5267.22	<1	0.00	27.27	26	12.26	115.02
13	0.726	6.99	207	465	0.77	0.364	3.273	<0.10	<0.77	100	47.23	5314.45	<1	0.00	27.27	19	8.97	123.99
14	0.731	7.22	372	286	0.22	0.105	3.378	<0.10	<0.22	42	19.97	5334.42	<1	0.00	27.27	26	12.36	136.35
15	0.723	6.91	318	192	2.44	1.148	4.526	<0.10	<2.44	72	33.86	5368.28	4	1.88	29.15	12	5.64	141.99
16	0.733	6.91	303	270	0.36	0.172	4.698	<0.10	<0.36	95	45.30	5413.58	1	0.48	29.63	16	7.63	149.62
17	0.721	6.91	351	267	<0.10	0.000	4.698	<0.10	<0.10	106	49.72	5463.30	<1	0.00	29.63	15	7.04	156.66
18	0.725	6.84	315	290	1.13	0.533	5.231	<0.10	<1.13	121	57.07	5520.37	1	0.47	30.10	16	7.55	164.21
19	0.718	6.94	300	293	<0.10	0.000	5.231	<0.10	<0.10	97	45.31	5565.68	4	1.87	31.97	18	8.41	172.62
20	0.726	7.09	312	276	<0.10	0.000	5.231	<0.10	<0.10	87	41.09	5606.77	3	1.42	33.38	19	8.97	181.59
21	0.728	7.04	326	266	<0.10	0.000	5.231	<0.10	<0.10	81	38.36	5645.13	<1	0.00	33.38	18	8.52	190.11
22	0.717	7.03	328	251	<0.10	0.000	5.231	<0.10	<0.10	91	42.45	5687.58	<1	0.00	33.38	16	7.46	197.57
23	0.694	7.11	360	252	<0.10	0.000	5.231	<0.10	<0.10	77	34.76	5722.34	<1	0.00	33.38	18	8.13	205.70
24	0.710	6.01	144	276	0.95	0.439	5.670	0.14	0.81	130	60.04	5782.38	10	4.62	38.00	5	2.31	208.01
25	0.712	6.50	330	257	0.13	0.060	5.730	<0.10	<0.13	130	60.21	5842.59	10	4.63	42.64	9	4.17	212.18
26	0.715	6.19	183	269	0.79	0.367	6.097	0.17	0.62	100	46.51	5889.10	9	4.19	46.82	4	1.86	214.04
27	0.686	7.25	350	224	<0.10	0.000	6.097	<0.10	<0.10	90	40.16	5929.26	8	3.57	50.39	17	7.59	221.63
28	0.630	6.29	391	257	<0.10	0.000	6.097	<0.10	<0.10	120	49.18	5978.44	9	3.69	54.08	5	2.05	223.68
29	0.661	5.37	226	343	9.09	3.909	10.006	1.01	8.08	170	73.10	6051.54	26	11.18	65.26	2	0.86	224.54
30	0.674	5.61	194	345	6.42	2.815	12.821	0.88	5.54	130	57.00	6108.54	19	8.33	73.59	3	1.32	225.86
31	0.707	5.37	168	318	15.42	7.092	19.913	1.56	13.86	200	91.99	6200.53	40	18.40	91.99	2	0.92	226.78
32	0.703	5.71	150	227	4.24	1.939	21.852	0.86	3.38	96	43.90	6244.43	17	7.78	99.76	4	1.83	228.61
33	0.684	4.91	226	354	15.86	7.057	28.909	2.07	13.79	140	62.30	6306.73	55	24.47	124.24	2	0.89	229.50
34	0.677	4.78	252	348	17.68	7.786	36.695	2.56	15.12	130	57.25	6363.98	52	22.90	147.14	2	0.88	230.38
35	0.689	5.16	224	322	15.30	6.858	43.553	2.55	12.75	140	62.75	6426.73	47	21.07	168.20	3	1.34	231.72
36	0.638	4.43	308	364	10.50	4.358	47.911	1.61	8.89	130	53.96	6480.69	36	14.94	183.14	<1	0.00	231.72
37	0.700	3.33	407	507	27.40	12.477	60.388	3.67	23.73	99	45.08	6525.77	111	50.55	233.69	<1	0.00	231.72
38	0.705	3.73	423	277	6.20	2.843	63.231	1.25	4.95	100	45.86	6571.63	41	18.80	252.49	<1	0.00	231.72
39	0.712	3.70	407	378	14.87	6.887	70.118	2.31	12.56	140	64.85	6636.48	73	33.81	286.31	<1	0.00	231.72
40	0.709	3.57	350	454	21.64	9.981	80.099	3.11	18.53	150	69.18	6705.66	99	45.66	331.97	<1	0.00	231.72
41	0.662	3.90	349	287	7.76	3.342	83.441	1.85	5.91	100	43.07	6748.73	44	18.95	350.92	<1	0.00	231.72
42	0.668	3.51	456	367	14.04	6.101	89.542	2.14	11.90	120	52.15	6800.88	77	33.46	384.38	<1	0.00	231.72
43	0.691	3.66	427	402	19.23	8.644	98.186	2.72	16.51	150	67.43	6868.31	80	35.96	420.34	<1	0.00	231.72
44	0.667	3.90	339	360	23.59	10.236	108.422	2.78	20.81	150	65.09	6933.40	84	36.45	456.79	<1	0.00	231.72
45	0.697	4.68	251	269	16.50	7.481	115.903	1.78	14.72	120	54.41	6987.81	64	29.02	485.81	<1	0.00	231.72
46	0.705	6.28	132	226	10.72	4.916	120.819	1.29	9.43	99	45.40	7033.21	34	15.59	501.40	5	2.29	234.01
47	0.730	4.66	291	232	6.17	2.930	123.749	0.58	5.59	96	45.59	7078.80	28	13.30	514.70	1	0.47	234.48

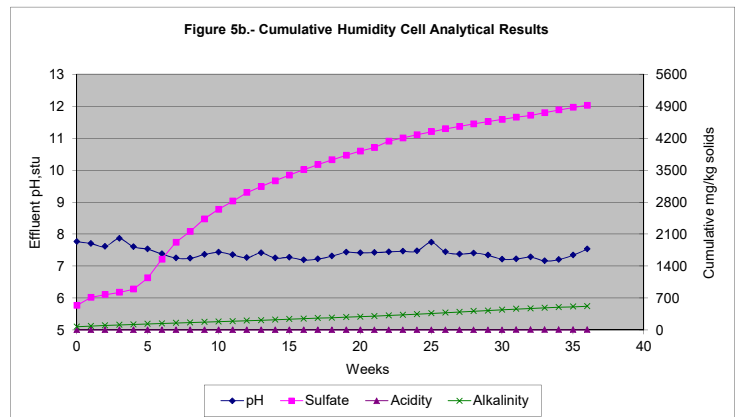
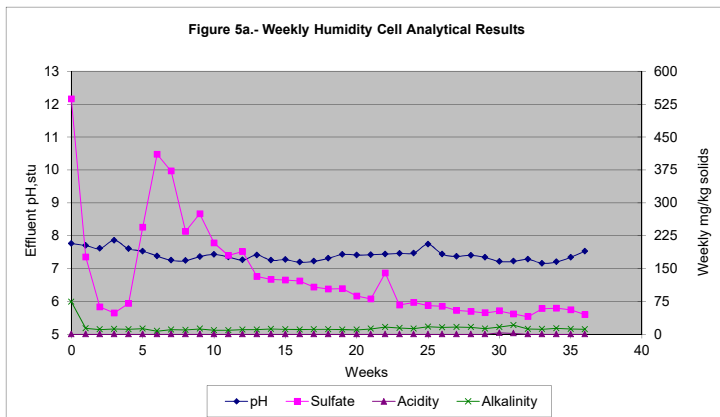
Testing terminated



**Table 6. - Humidity Cell Analytical Results, Black Butte, Ynl B Composite (2.0075 kg)**

Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity $\mu$ S/cm	Total Fe			Fe <sup>2+</sup> mg/l	Fe <sup>3+</sup> mg/l	SO <sub>4</sub> =			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
					mg/l	mg/kg	Cum. mg/kg			mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.658	7.76	277	1300	<0.10	0.000	0.000	<0.10	<0.10	650	536.84	536.84	<1	0.00	0.00	90	74.33	74.33
1	0.886	7.70	282	747	<0.10	0.000	0.000	<0.10	<0.10	400	176.54	713.38	<1	0.00	0.00	30	13.24	87.57
2	0.838	7.61	277	448	<0.10	0.000	0.000	<0.10	<0.10	150	62.62	776.00	<1	0.00	0.00	26	10.85	98.42
3	0.810	7.86	263	331	<0.10	0.000	0.000	<0.10	<0.10	120	48.42	824.42	<1	0.00	0.00	30	12.10	110.52
4	0.884	7.60	298	386	<0.10	0.000	0.000	<0.10	<0.10	160	70.46	894.88	<1	0.00	0.00	25	11.01	121.53
5	0.836	7.53	313	1431	<0.10	0.000	0.000	<0.10	<0.10	587	244.45	1139.33	<1	0.00	0.00	31	12.91	134.44
6	0.812	7.38	331	1722	<0.10	0.000	0.000	<0.10	<0.10	1016	410.95	1550.28	<1	0.00	0.00	18	7.28	141.72
7	0.840	7.25	232	1723	<0.10	0.000	0.000	<0.10	<0.10	890	372.40	1922.68	<1	0.00	0.00	25	10.46	152.18
8	0.872	7.24	361	1210	<0.10	0.000	0.000	<0.10	<0.10	540	234.56	2157.24	<1	0.00	0.00	22	9.56	161.74
9	0.856	7.36	334	1285	<0.10	0.000	0.000	<0.10	<0.10	645	275.03	2432.27	<1	0.00	0.00	29	12.37	174.11
10	0.818	7.43	339	1035	<0.10	0.000	0.000	<0.10	<0.10	512	208.63	2640.90	<1	0.00	0.00	23	9.37	183.48
11	0.815	7.35	341	936	<0.10	0.000	0.000	<0.10	<0.10	443	179.85	2820.75	<1	0.00	0.00	22	8.93	192.41
12	0.872	7.26	381	833	<0.10	0.000	0.000	<0.10	<0.10	435	188.95	3009.70	<1	0.00	0.00	24	10.42	202.83
13	0.861	7.41	277	798	<0.10	0.000	0.000	<0.10	<0.10	307	131.67	3141.37	<1	0.00	0.00	24	10.29	213.12
14	0.833	7.25	287	707	<0.10	0.000	0.000	<0.10	<0.10	302	125.31	3266.68	<1	0.00	0.00	29	12.03	225.15
15	0.824	7.27	336	693	<0.10	0.000	0.000	<0.10	<0.10	302	123.96	3390.64	<1	0.00	0.00	28	11.49	236.64
16	0.810	7.19	305	607	<0.10	0.000	0.000	<0.10	<0.10	301	121.45	3512.09	<1	0.00	0.00	26	10.49	247.13
17	0.849	7.22	307	573	<0.10	0.000	0.000	<0.10	<0.10	254	107.42	3619.51	<1	0.00	0.00	27	11.42	258.55
18	0.852	7.31	342	553	<0.10	0.000	0.000	<0.10	<0.10	244	103.56	3723.07	<1	0.00	0.00	26	11.03	269.58
19	0.846	7.43	314	521	0.17	0.072	0.072	<0.10	<0.17	247	104.09	3827.16	<1	0.00	0.00	25	10.54	280.12
20	0.848	7.41	309	486	<0.10	0.000	0.072	<0.10	<0.10	206	87.02	3914.18	<1	0.00	0.00	24	10.14	290.26
21	0.889	7.42	337	461	<0.10	0.000	0.072	<0.10	<0.10	182	80.60	3994.78	<1	0.00	0.00	28	12.40	302.66
22	0.936	7.44	173	482	<0.10	0.000	0.072	<0.10	<0.10	300	139.88	4134.66	<1	0.00	0.00	35	16.32	318.98
23	0.841	7.46	297	399	<0.10	0.000	0.072	<0.10	<0.10	160	67.03	4201.69	<1	0.00	0.00	34	14.24	333.22
24	0.856	7.47	220	435	<0.10	0.000	0.072	<0.10	<0.10	170	72.49	4274.18	<1	0.00	0.00	30	12.79	346.01
25	0.935	7.74	313	385	<0.10	0.000	0.072	<0.10	<0.10	140	65.21	4339.39	<1	0.00	0.00	37	17.23	363.24
26	0.914	7.44	333	385	<0.10	0.000	0.072	<0.10	<0.10	140	63.74	4403.13	<1	0.00	0.00	35	15.94	379.18
27	0.912	7.37	216	348	<0.10	0.000	0.072	<0.10	<0.10	120	54.52	4457.65	<1	0.00	0.00	36	16.35	395.53
28	0.868	7.40	230	354	<0.10	0.000	0.072	<0.10	<0.10	120	51.89	4509.54	<1	0.00	0.00	37	16.00	411.53
29	0.817	7.34	129	301	<0.10	0.000	0.072	<0.10	<0.10	120	48.84	4558.38	<1	0.00	0.00	31	12.62	424.15
30	0.823	7.21	231	339	<0.10	0.000	0.072	<0.10	<0.10	130	53.30	4611.68	8	3.28	3.28	40	16.40	440.55
31	0.843	7.22	107	329	0.17	0.071	0.143	<0.10	<0.17	110	46.19	4657.87	5	2.10	5.38	49	20.58	461.13
32	0.813	7.28	158	279	<0.10	0.000	0.143	<0.10	<0.10	99	40.09	4697.96	<1	0.00	5.38	29	11.74	472.87
33	0.838	7.16	175	339	<0.10	0.000	0.143	<0.10	<0.10	140	58.44	4756.40	<1	0.00	5.38	28	11.69	484.56
34	0.915	7.20	155	328	<0.10	0.000	0.143	<0.10	<0.10	130	59.25	4815.65	<1	0.00	5.38	29	13.22	497.78
35	0.863	7.34	382	328	<0.10	0.000	0.143	<0.10	<0.10	130	55.89	4871.54	<1	0.00	5.38	28	12.04	509.82
36	0.820	7.53	338	288	<0.10	0.000	0.143	<0.10	<0.10	110	44.93	4916.47	<1	0.00	5.38	27	11.03	520.85

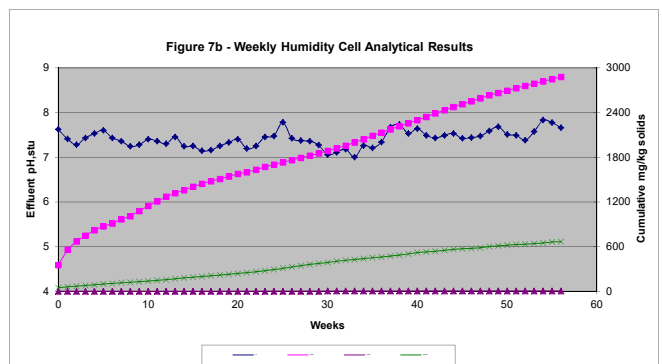
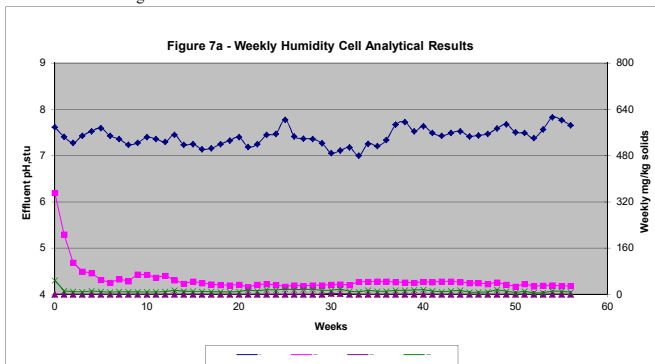
Testing terminated



**Table 7. - Humidity Cell Analytical Results, LZFW Composite, (2.0154 kg)**

Week	Vol. L	Effluent pH	Redox, mV (vs Ag/AgCl)	Conductivity $\mu$ S/cm	Total Fe			Fe <sup>2+</sup> mg/l	Fe <sup>3+</sup> mg/l	SO <sub>4</sub> <sup>=</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
					mg/l	mg/kg	Cum. mg/kg			mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg	mg/l	mg/kg	Cum. mg/kg
0	1.574	7.62	275	1094	<0.10	0.000	0.000	<0.10	<0.10	450	351.44	351.44	<1	0.00	0.00	61	47.64	47.64
1	0.872	7.41	337	933	<0.10	0.000	0.000	<0.10	<0.10	480	207.68	559.12	<1	0.00	0.00	26	11.25	58.89
2	0.853	7.28	324	591	<0.10	0.000	0.000	<0.10	<0.10	260	110.04	669.16	<1	0.00	0.00	21	8.89	67.78
3	0.839	7.43	310	443	<0.10	0.000	0.000	<0.10	<0.10	190	79.10	748.26	<1	0.00	0.00	20	8.33	76.11
4	0.923	7.53	340	369	<0.10	0.000	0.000	<0.10	<0.10	160	73.28	821.54	<1	0.00	0.00	25	11.45	87.56
5	0.872	7.60	332	267	<0.10	0.000	0.000	<0.10	<0.10	116	50.19	871.73	<1	0.00	0.00	21	9.09	96.65
6	0.818	7.43	342	292	<0.10	0.000	0.000	<0.10	<0.10	100	40.59	912.32	<1	0.00	0.00	18	7.31	103.96
7	0.886	7.36	263	336	<0.10	0.000	0.000	<0.10	<0.10	119	52.31	964.63	<1	0.00	0.00	22	9.67	113.63
8	0.857	7.24	385	295	<0.10	0.000	0.000	<0.10	<0.10	107	45.50	1010.13	<1	0.00	0.00	19	8.08	121.71
9	0.876	7.28	358	404	<0.10	0.000	0.000	<0.10	<0.10	159	69.11	1079.24	<1	0.00	0.00	18	7.82	129.53
10	0.843	7.40	356	404	<0.10	0.000	0.000	<0.10	<0.10	164	68.60	1147.84	<1	0.00	0.00	20	8.37	137.90
11	0.868	7.36	366	365	<0.10	0.000	0.000	<0.10	<0.10	135	58.14	1205.98	<1	0.00	0.00	19	8.18	146.08
12	0.859	7.30	393	343	<0.10	0.000	0.000	<0.10	<0.10	153	65.21	1271.19	<1	0.00	0.00	22	9.38	155.46
13	0.910	7.45	307	322	<0.10	0.000	0.000	<0.10	<0.10	110	49.67	1320.86	<1	0.00	0.00	30	13.55	169.01
14	0.865	7.24	315	276	<0.10	0.000	0.000	<0.10	<0.10	87	37.34	1358.20	<1	0.00	0.00	25	10.73	179.74
15	0.895	7.25	356	277	<0.10	0.000	0.000	<0.10	<0.10	100	44.41	1402.61	<1	0.00	0.00	24	10.66	190.40
16	0.819	7.14	334	265	<0.10	0.000	0.000	<0.10	<0.10	98	39.82	1442.43	<1	0.00	0.00	22	8.94	199.34
17	0.899	7.16	321	258	<0.10	0.000	0.000	<0.10	<0.10	77	34.35	1476.78	<1	0.00	0.00	21	9.37	208.71
18	0.862	7.25	358	254	<0.10	0.000	0.000	<0.10	<0.10	77	32.93	1509.71	<1	0.00	0.00	20	8.55	217.26
19	0.860	7.33	333	252	<0.10	0.000	0.000	<0.10	<0.10	73	31.15	1540.86	<1	0.00	0.00	20	8.53	225.79
20	0.858	7.40	333	247	<0.10	0.000	0.000	<0.10	<0.10	79	33.63	1574.49	<1	0.00	0.00	22	9.37	235.16
21	0.982	7.19	374	223	<0.10	0.000	0.000	<0.10	<0.10	52	25.34	1599.83	<1	0.00	0.00	30	14.62	249.78
22	0.845	7.25	253	235	<0.10	0.000	0.000	<0.10	<0.10	81	33.96	1633.79	<1	0.00	0.00	27	11.32	261.10
23	0.952	7.45	323	235	<0.10	0.000	0.000	<0.10	<0.10	76	35.90	1669.69	<1	0.00	0.00	33	15.59	276.69
24	0.932	7.47	309	229	<0.10	0.000	0.000	<0.10	<0.10	70	32.37	1702.06	<1	0.00	0.00	32	14.80	291.49
25	0.975	7.78	329	203	<0.10	0.000	0.000	<0.10	<0.10	56	27.09	1729.15	<1	0.00	0.00	37	17.90	309.39
26	0.945	7.42	354	236	<0.10	0.000	0.000	<0.10	<0.10	68	31.88	1761.03	<1	0.00	0.00	34	15.94	325.33
27	0.954	7.37	289	217	<0.10	0.000	0.000	<0.10	<0.10	62	29.35	1790.38	<1	0.00	0.00	37	17.51	342.84
28	0.944	7.36	306	231	<0.10	0.000	0.000	<0.10	<0.10	68	31.85	1822.23	<1	0.00	0.00	36	16.86	359.70
29	0.921	7.27	242	214	<0.10	0.000	0.000	<0.10	<0.10	68	31.07	1853.30	<1	0.00	0.00	30	13.71	373.41
30	0.906	7.06	301	226	<0.10	0.000	0.000	<0.10	<0.10	76	34.16	1887.46	8	3.60	3.60	30	13.49	386.90
31	0.915	7.11	197	241	0.13	0.059	0.059	<0.10	<0.13	76	34.50	1921.96	5	2.27	5.87	40	18.16	405.06
32	0.900	7.18	230	214	<0.10	0.000	0.059	<0.10	<0.10	72	32.15	1954.11	<1	0.00	5.87	24	10.72	415.78
33	0.885	7.00	228	266	<0.10	0.000	0.059	<0.10	<0.10	100	43.91	1998.02	<1	0.00	5.87	20	8.78	424.56
34	0.970	7.26	231	253	<0.10	0.000	0.059	<0.10	<0.10	91	43.80	2041.82	<1	0.00	5.87	28	13.48	438.04
35	0.901	7.21	388	270	<0.10	0.000	0.059	<0.10	<0.10	100	44.71	2086.53	<1	0.00	5.87	24	10.73	448.77
36	0.911	7.34	353	253	<0.10	0.000	0.059	<0.10	<0.10	99	44.75	2131.28	<1	0.00	5.87	23	10.40	459.17
37	0.936	7.67	267	255	<0.10	0.000	0.059	<0.10	<0.10	91	42.26	2173.54	<1	0.00	5.87	30	13.93	473.10
38	0.916	7.73	242	263	<0.10	0.000	0.059	<0.10	<0.10	92	41.81	2215.35	<1	0.00	5.87	31	14.09	487.19
39	0.947	7.53	322	241	<0.10	0.000	0.059	<0.10	<0.10	85	39.94	2255.29	<1	0.00	5.87	32	15.04	502.23
40	0.976	7.64	291	246	<0.10	0.000	0.059	<0.10	<0.10	90	43.58	2298.87	<1	0.00	5.87	34	16.47	518.70
41	0.869	7.49	350	267	0.13	0.056	0.115	<0.10	<0.13	100	43.12	2341.99	<1	0.00	5.87	27	11.64	530.34
42	0.824	7.43	311	274	<0.10	0.000	0.115	<0.10	<0.10	110	44.97	2386.96	<1	0.00	5.87	19	7.77	538.11
43	0.924	7.49	310	254	0.20	0.092	0.207	<0.10	<0.2	99	45.39	2432.35	<1	0.00	5.87	26	11.92	550.03
44	0.979	7.53	167	235	<0.10	0.000	0.207	<0.10	<0.10	87	42.26	2474.61	<1	0.00	5.87	28	13.60	563.63
45	0.836	7.42	190	239	<0.10	0.000	0.207	<0.10	<0.10	96	39.82	2514.43	<1	0.00	5.87	16	6.64	570.27
46	0.796	7.44	382	252	<0.10	0.000	0.207	<0.10	<0.10	100	39.50	2553.93	<1	0.00	5.87	17	6.71	576.98
47	0.848	7.47	385	224	<0.10	0.000	0.207	<0.10	<0.10	86	36.19	2590.12	<1	0.00	5.87	20	8.42	585.40
48	0.972	7.59	357	242	<0.10	0.000	0.207	<0.10	<0.10	86	41.48	2631.60	<1	0.00	5.87	34	16.40	601.80
49	0.934	7.68	312	201	<0.10	0.000	0.207	<0.10	<0.10	72	33.37	2664.97	<1	0.00	5.87	22	10.20	612.00
50	0.784	7.51	316	190	<0.10	0.000	0.207	<0.10	<0.10	71	27.62	2692.59	<1	0.00	5.87	15	5.84	617.84
51	0.964	7.49	268	213	<0.10	0.000	0.207	<0.10	<0.10	75	35.87	2728.46	<1	0.00	5.87	22	10.52	628.36
52	1.020	7.38	269	176	<0.10	0.000	0.207	<0.10	<0.10	56	28.34	2756.80	<1	0.00	5.87	9	4.55	632.91
53	0.891	7.57	231	206	<0.10	0.000	0.207	<0.10	<0.10	68	30.06	2786.86	<1	0.00	5.87	12	5.31	638.22
54	0.995	7.83	204	184	<0.10	0.000	0.207	<0.10	<0.10	63	31.10	2817.96	<1	0.00	5.87	23	11.36	649.58
55	0.977	7.77	240	187	<0.10	0.000	0.207	<0.10	<0.10	61	29.57	2847.53	<1	0.00	5.87	22	10.66	660.24
56	0.863	7.66	252	186	<0.10	0.000	0.207	<0.10	<0.10	68	29.12	2876.65	<1	0.00	5.87	17	7.28	667.52

Testing terminated



**Table 8. - Metals Analysis Results, HC Test Extracts,  
 Black Butte, USZ Composite**

Analysis, mg/L	Extract Week							
	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Aluminum	6.76	0.16	<0.009	<0.009	<0.009	0.012	0.010	0.012
Antimony	0.0044	0.0011	<0.0007	0.0012	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic	0.085	0.003	<0.001	0.002	0.003	0.001	0.002	0.001
Barium	0.018	0.015	0.014	0.012	0.015	0.014	0.014	0.012
Beryllium	0.0100	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	0.00634	0.00048	0.00023	0.00034	0.00029	0.00034	0.00044	0.0002
Calcium	499	538	452	436	459	423	457	479
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	8.01	0.053	0.016	0.070	0.150	0.472	0.902	1.03
Fluoride	0.4	0.3	0.3	0.2	<0.2	<0.2	<0.2	<0.2
Iron	1,510	32.6	0.21	0.05	<0.02	0.06	0.16	0.12
Lead	0.0158	0.0050	0.0019	0.0004	<0.0003	0.0072	0.0067	0.0044
Magnesium	234	349	428	540	324	269	267	233
Manganese	14.7	4.05	5.32	6.19	3.79	4.28	4.31	4.26
Mercury	<0.000005	0.0025	0.00208	0.0000799	0.0000220	0.0000195	0.0000155	0.0000071
Nickel	3.59	0.168	0.075	0.081	0.060	0.063	0.087	0.085
Phosphorus	0.074	0.006	<0.005	<0.005	0.011	0.009	0.008	<0.005
Selenium	0.005	0.003	0.003	0.006	0.002	0.002	0.002	0.001
Silicon	2.5	1.9	1.05	1.20	1.38	0.82	3.47	8.80
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	52.9	36.6	30.6	25.1	24.9	19.6	18.7	19.5
Sulfate	6,950	2,440	3,620	3,290	2,150	2,370	2,120	2,060
Thallium	0.401	0.153	0.131	0.0972	0.0658	0.0578	0.0589	0.0431
Uranium	0.0068	0.0003	0.0010	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Zinc	1.38	0.042	0.014	0.015	0.020	0.034	0.069	0.068
Energy Labs Report #	B15061624	B15062256	B15070131	B15071399	B15081032	B15090811	B15100767	B15110378

Analysis, mg/L	Extract Week							
	Week 24	Week 28	Week 32	Week 36	Week 40	Week 44	Week 48	Week 52
Aluminum	<0.009	<0.009	<0.009	<0.009	<0.009	0.036	0.104	0.037
Antimony	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic	<0.001	<0.001	0.002	0.001	<0.001	0.008	0.002	0.001
Barium	0.011	0.013	0.013	0.013	0.011	0.014	0.016	0.021
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	0.0021	<0.0008
Cadmium	0.00046	0.00036	0.00045	0.00037	0.00032	0.00089	0.00142	0.0004
Calcium	392	449	385	431	497	402	408	388
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	1.08	0.657	1.40	0.630	0.556	4.04	7.79	3.05
Fluoride	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Iron	0.12	0.06	0.06	0.05	0.02	0.33	0.82	0.28
Lead	0.0026	0.0037	0.0051	0.0024	0.0026	0.0199	0.0313	0.0166
Magnesium	184	146	167	172	138	207	223	158
Manganese	3.73	2.99	2.71	2.31	1.63	2.98	4.08	2.54
Mercury	0.0000064	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005
Nickel	0.090	0.067	0.090	0.073	0.057	0.128	0.203	0.092
Phosphorus	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	0.011	<0.005
Selenium	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon	3.15	2.71	10.6	2.61	1.79	3.23	4.32	1.97
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	18.3	20.2	18.0	18.9	21.1	18.3	16.8	17.0
Sulfate	1,910	1,560	1,630	1,720	1,700	1,910	2,040	1,680
Thallium	0.0317	0.0309	0.0349	0.0365	0.0349	0.0463	0.0505	0.0375
Uranium	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0006	0.0002
Zinc	0.069	0.058	0.097	0.068	0.057	0.213	0.373	0.143
Energy Labs Report #	B15120211	B15121982	B16011876	B16021748	B16031893	B16041643	B16051430	B16061332

**Table 8 Cont'd. - Metals Analysis Results, HC Test Extracts,  
 Black Butte, USZ Composite**

Analysis, mg/L	Extract Week				
	Week 56	Week 60	Week 64	Week 68	Week 72
Aluminum	<0.009	0.017	1.03	0.538	2.23
Antimony	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic	0.001	0.001	0.006	0.002	0.011
Barium	0.018	0.016	0.017	0.035	0.019
Beryllium	<0.0008	<0.0008	0.0085	0.0034	0.0086
Cadmium	0.00031	0.00051	0.00474	0.00445	0.00403
Calcium	398	399	392	409	430
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	0.359	2.50	53.2	18.8	41.1
Fluoride	<0.2	<0.2	<0.2	<0.2	<0.2
Iron	<0.02	0.32	26.0	18.9	128
Lead	0.0059	0.0121	0.211	0.0974	0.290
Magnesium	137	173	295	272	368
Manganese	1.49	2.41	11.0	6.93	9.35
Mercury	0.0000261	0.0000083	0.0000124	0.0000053	0.0000375
Nickel	0.047	0.079	0.516	0.324	0.494
Phosphorus	<0.005	<0.005	0.03	0.013	0.03
Selenium	0.002	<0.001	0.003	0.001	0.006
Silicon	1.3	1.77	6.64	4.43	7.3
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	15.3	15.2	13.8	15.2	12.7
Sulfate	1,500	1,780	2,560	2,250	3,010
Thallium	0.0251	0.0351	0.0916	0.0375	0.0790
Uranium	<0.0002	0.0002	0.0059	0.0024	0.0060
Zinc	0.059	0.220	1.38	0.716	1.19
Energy Labs Report #	B16070910	B16081032	B16090514	B16100376	B16110233

\*Testing terminated after week 73



**Table 9. - Metals Analysis Results, HC Test Extracts,  
 Black Butte, Yc Composite**

Analysis, mg/L	Extract Week							
	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Aluminum	0.348	0.317	0.491	0.280	0.197	0.058	0.105	0.118
Antimony	0.0038	0.0016	0.0010	0.0011	0.0024	0.0019	0.0014	0.0013
Arsenic	0.043	0.021	0.019	0.021	0.027	0.015	0.012	0.016
Barium	0.097	0.082	0.048	0.041	0.060	0.062	0.050	0.043
Beryllium	0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	0.00083	0.00054	0.00028	0.00026	0.00005	0.00011	<0.00003	<0.00008
Calcium	7	3	3	3	9	14	12	9
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Fluoride	3.9	1.8	1.6	1.6	1.8	0.8	0.6	0.5
Iron	0.04	0.03	0.05	0.17	0.04	0.02	<0.02	0.03
Lead	0.0020	0.0063	0.0008	<0.0003	<0.0003	0.0064	0.0017	0.0015
Magnesium	8	3	3	3	10	14	12	9
Manganese	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury	0.0000086	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005
Nickel	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Phosphorus	0.044	0.011	0.009	0.007	0.007	0.009	<0.005	<0.005
Selenium	0.024	0.006	<0.001	0.002	0.001	0.001	<0.001	<0.001
Silicon	3.03	2.57	2.63	4.31	4.21	3.66	3.48	4.88
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	0.13	0.08	0.08	0.07	0.25	0.33	0.24	0.21
Sulfate	100	52	47	38	59	68	49	36
Thallium	0.0008	0.0003	0.0002	<0.0002	0.0003	0.0002	0.0003	<0.0002
Uranium	0.0077	0.0032	0.0022	0.0035	0.0045	0.0072	0.0042	0.0024
Zinc	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Energy Labs Report #	B15061624	B15062256	B15070131	B15071399	B15081032	B15090811	B15100767	B15110378

Analysis, mg/L	Week 24	Week 28	Week 32	Week 36	Week 38*
Aluminum	0.098	0.057	0.047	0.029	0.086
Antimony	0.0008	0.0010	0.0008	0.0009	0.0007
Arsenic	0.014	0.013	0.015	0.021	0.018
Barium	0.057	0.084	0.061	0.097	0.078
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Calcium	8	12	6	11	8
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.002	<0.002	<0.002	<0.002	<0.002
Fluoride	<0.2	<0.2	<0.2	<0.2	<0.2
Iron	0.02	<0.02	<0.02	<0.02	<0.02
Lead	<0.0003	<0.0003	0.0004	0.0004	0.0007
Magnesium	8	10	6	10	7
Manganese	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005
Nickel	<0.002	<0.002	<0.002	<0.002	<0.002
Phosphorus	<0.005	0.016	0.014	<0.005	<0.005
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon	5.83	4.61	4.54	6.84	5.71
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	0.18	0.24	0.14	0.22	0.18
Sulfate	28	26	57	25	22
Thallium	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Uranium	0.0035	0.0040	0.0007	0.0036	0.0023
Zinc	<0.008	<0.008	<0.008	<0.008	<0.008
Energy Labs Report #	B15120211	B15121982	B16011876	B16021748	B16030817

\* Testing terminated after week 38.

**Table 10. - Metals Analysis Results, HC Test Extracts,  
 Black Butte, Non Saturated Tailings**

Analysis, mg/L	Extract Week							
	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Aluminum	<0.009	26.9	73.6	21.2	16.2	17.1	25.3	6.77
Antimony	0.0012	0.0050	0.0160	0.0162	0.0386	0.0777	0.174	0.0251
Arsenic	0.031	0.548	34.7	50.3	92.3	136	266	3.38
Barium	0.027	0.015	0.026	0.013	0.011	0.015	0.016	0.015
Beryllium	<0.0008	0.0354	0.0636	0.0318	0.0207	0.0067	0.0016	0.0013
Cadmium	0.00013	0.0266	0.0321	0.0098	0.00803	0.0048	0.00588	0.0016
Calcium	110	400	392	357	242	120	188	281
Chromium	<0.01	0.42	6.06	3.63	3.66	4.93	2.11	0.31
Copper	0.128	402	733	219	125	113	140	21.0
Fluoride	<0.2	<0.2	<0.2	<0.2	<0.2	2.4	<0.2	0.4
Iron	<0.02	381	2,950	5,060	7,680	5,940	7,250	1,290
Lead	0.0013	0.0194	0.0175	0.0126	0.0241	0.0431	0.0319	0.0082
Magnesium	82	994	553	79	75	14	6	<1
Manganese	3.04	81.0	82.4	54.8	31.0	9.81	1.86	0.561
Mercury	0.0000213	<0.000005	0.0000479	0.0000339	0.0000311	0.0000377	0.00002	<0.000005
Nickel	1.94	143	142	38.4	15.3	8.83	3.86	1.40
Phosphorus	0.091	0.292	7.4	5.4	14.0	19.2	37.6	0.93
Selenium	<0.001	0.006	0.007	0.008	0.007	0.006	0.013	<0.001
Silicon	1.01	26.9	40.9	33.0	32.0	19.0	40.1	51.2
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	0.29	2.90	1.44	0.72	0.64	0.39	0.63	0.69
Sulfate	610	8,160	12,300	11,200	12,500	12,800	14,400	3,120
Thallium	0.0326	0.326	0.0047	0.0006	0.0017	0.0095	0.0103	0.0194
Uranium	<0.0002	0.0890	0.272	0.103	0.0370	0.0164	0.0099	0.0011
Zinc	0.037	10.4	13.1	5.05	3.27	2.20	1.46	1.11
Energy Labs Report #	B15061624	B15062256	B15070131	B15071399	B15081032	B15090811	B15100767	B15110378

Analysis, mg/L	Week 24	Week 28	Week 32	Week 36	Week 40	Week 44	Week 47*
Aluminum	5.05	2.72	10.4	9.27	0.979	3.27	7.32
Antimony	0.0119	0.0087	0.0938	0.0799	0.0072	0.0053	0.0894
Arsenic	12.9	2.04	129	88.2	27.9	17.0	75.5
Barium	0.013	0.038	0.014	0.015	0.022	0.029	0.033
Beryllium	0.0009	0.0009	0.0013	0.0010	<0.0008	<0.0008	<0.0008
Cadmium	0.00073	0.00048	0.00204	0.00206	0.00023	0.00053	0.0020
Calcium	189	61	43	23	4	4	2
Chromium	0.06	0.11	0.73	0.55	0.01	0.11	0.76
Copper	1.80	6.67	50.4	72.7	0.045	0.420	109
Fluoride	0.6	1.4	0.4	0.5	0.5	0.8	<0.2
Iron	746	234	2,610	1,350	382	342	1,220
Lead	0.0017	0.0114	0.0589	0.172	0.0090	0.150	0.924
Magnesium	<1	<1	1	<1	<1	<1	<1
Manganese	0.261	0.147	0.909	0.554	0.161	0.184	0.546
Mercury	0.0000089	<0.000005	0.0000095	0.0000202	<0.000005	<0.000005	0.0000057
Nickel	0.702	0.313	1.56	1.19	0.286	0.306	0.89
Phosphorus	1.22	0.891	43.4	27.0	5.7	2.82	17.0
Selenium	<0.001	<0.001	0.005	0.003	<0.001	<0.001	0.004
Silicon	26.0	12.6	49.8	12.3	9.61	9.68	11.7
Silver	<0.0002	<0.0002	<0.0002	<0.0007	<0.0002	<0.0002	<0.0002
Strontium	0.61	0.40	0.73	1.04	0.25	0.36	0.32
Sulfate	2,070	706	8,600	3,780	705	771	3,710
Thallium	0.0381	0.0846	0.479	0.488	0.0886	0.270	0.677
Uranium	<0.0002	0.0003	0.0021	0.0025	<0.0002	<0.0002	0.0018
Zinc	0.498	0.301	0.670	1.04	0.223	0.205	0.94
Energy Labs Report #	B15120211	B15121982	B16011876	B16021748	B16031893	B16041643	B16051110

\* Testing terminated after week 47.

**Table 11. - Metals Analysis Results, HC Test Extracts,  
 Black Butte, Tailings (Saturated)**

Analysis, mg/L	Extract Week							
	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Aluminum	<0.009	0.011	<0.009	<0.009	<0.009	0.012	0.022	0.009
Antimony	0.0018	0.0016	0.0014	0.0006	<0.0005	0.0007	0.0010	0.0006
Arsenic	0.034	0.006	0.006	0.012	0.094	0.027	0.014	0.013
Barium	0.023	0.017	0.017	0.025	0.017	0.025	0.040	0.031
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	0.00013	0.00004	<0.00005	<0.00003	0.00006	0.00005	0.00006	0.00003
Calcium	158	233	268	156	252	96	34	31
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	0.070	0.003	0.003	0.017	0.006	0.018	0.029	0.069
Fluoride	<0.2	0.3	0.3	<0.2	0.3	0.4	0.3	0.2
Iron	<0.02	0.05	0.45	0.21	0.46	0.53	<0.02	<0.02
Lead	0.0022	0.0102	0.0007	<0.0003	<0.0003	0.0075	0.0014	0.0021
Magnesium	97	180	152	44	14	9	10	12
Manganese	2.89	4.36	4.80	2.50	2.49	1.12	0.690	0.516
Mercury	0.0000258	<0.000005	<0.000005	<0.000005	<0.000005	0.0000913	<0.000005	<0.000005
Nickel	1.60	1.60	1.44	0.753	0.657	0.274	0.274	0.173
Phosphorus	0.107	0.195	0.184	0.061	0.036	0.030	0.019	0.013
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon	1.09	3.14	3.64	2.58	4.95	5.20	4.66	6.73
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	0.37	0.45	0.53	0.36	0.54	0.48	0.39	0.46
Sulfate	771	1,380	1,370	578	656	265	112	114
Thallium	0.0444	0.0194	0.0170	0.0131	0.0094	0.0056	0.0070	0.0050
Uranium	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Zinc	0.026	0.018	0.017	0.013	0.024	0.015	0.026	0.017
Energy Labs Report #	B15061624	B15062256	B15070131	B15071399	B15081032	B15090811	B15100767	B15110378

Analysis, mg/L	Extract Week						
	Week 24	Week 28	Week 32	Week 36	Week 40	Week 44	Week 47*
Aluminum	<0.009	<0.009	0.013	0.063	0.143	0.105	0.028
Antimony	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	<0.0005
Arsenic	0.010	0.006	0.007	0.019	0.042	0.006	0.016
Barium	0.028	0.035	0.035	0.029	0.024	0.035	0.041
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	<0.00003	0.00003	<0.00003	0.00005	0.00006	0.00005	0.00005
Calcium	26	24	20	24	20	17	15
Chromium	<0.01	<0.01	<0.01	<0.01	0.01	0.01	<0.01
Copper	1.35	1.04	0.396	0.678	0.807	0.679	0.196
Fluoride	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Iron	0.97	0.04	4.31	13.8	23.1	23.1	7.59
Lead	<0.0003	0.0003	0.0006	0.0110	0.0181	0.0149	0.0017
Magnesium	12	11	8	10	9	8	7
Manganese	0.533	1.05	2.22	2.92	2.73	2.82	2.77
Mercury	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005
Nickel	0.253	0.272	0.567	0.780	0.746	0.882	0.880
Phosphorus	0.010	0.014	0.011	0.007	0.011	0.010	0.009
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silicon	7.60	8.35	8.99	12.7	9.10	9.38	9.36
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	0.44	0.52	0.54	0.72	0.70	0.63	0.67
Sulfate	124	107	103	147	167	146	94
Thallium	0.0042	0.0041	0.0039	0.0085	0.0088	0.0072	0.0053
Uranium	<0.0002	<0.0002	<0.0002	0.0003	0.0005	0.0004	<0.0002
Zinc	0.023	0.020	0.017	0.028	0.033	0.026	0.022
Energy Labs Report #	B15120211	B15121982	B16011876	B16021748	B16031893	B16041643	B16051110

**Table 12. - Metals Analysis Results, HC Test Extracts,  
 Black Butte, Ynl B Composite**

Analysis, mg/L	Extract Week							
	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Aluminum	0.055	0.072	0.068	0.076	0.026	0.024	0.020	0.015
Antimony	0.0040	0.0021	0.0020	0.0025	0.0008	0.0007	0.0007	0.0005
Arsenic	0.001	0.004	0.003	0.004	0.001	0.001	0.002	0.001
Barium	0.038	0.029	0.032	0.023	0.010	0.009	0.008	0.006
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	0.00011	0.00015	<0.00008	0.00012	<0.00003	<0.00003	<0.00003	<0.00003
Calcium	58	38	22	21	122	97	74	44
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.002	0.003	0.003	<0.002	<0.002	<0.002	0.002	<0.002
Fluoride	1.6	1.7	2.0	N/A	0.7	0.8	0.5	0.4
Iron	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	0.11
Lead	0.0011	0.0066	0.0005	0.0014	0.0057	0.0041	0.0017	0.0003
Magnesium	82	47	26	25	94	62	49	29
Manganese	0.054	0.011	0.007	<0.005	0.005	0.005	<0.005	<0.005
Mercury	<0.000005	0.0000114	<0.000005	<0.000005	0.0000061	<0.000005	<0.000005	<0.000005
Nickel	0.021	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	<0.002
Phosphorus	0.010	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium	0.019	0.015	0.007	0.003	0.002	0.002	0.001	<0.001
Silicon	1.48	1.74	1.55	1.84	1.73	1.51	18.3	7.30
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	3.38	2.14	1.26	1.01	2.39	1.13	0.58	0.43
Sulfate	604	341	185	N/A	694	482	295	232
Thallium	0.0023	0.0008	0.0009	0.0005	0.0007	0.0004	<0.0002	0.0007
Uranium	0.0036	0.0016	0.0005	0.0017	0.0021	0.0004	0.0012	0.0004
Zinc	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Energy Labs Report #	B15070127	B15070696	B15071408	B15072631	B15082343	B15092043	B15101741	B15111472
N/A = Not Analyzed								

Analysis, mg/L	Week 24	Week 28	Week 32	Week 36*
Aluminum	0.016	0.011	<0.009	0.021
Antimony	0.0005	<0.0005	0.0019	<0.0005
Arsenic	0.002	0.001	0.002	0.001
Barium	0.008	0.009	0.011	0.011
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	<0.00003	<0.00003	<0.00003	<0.00003
Calcium	43	31	29	26
Chromium	<0.01	<0.01	<0.01	<0.01
Copper	<0.002	<0.002	<0.002	<0.002
Fluoride	0.3	0.3	0.2	<0.2
Iron	<0.02	<0.02	<0.02	<0.02
Lead	0.0020	<0.0003	<0.0003	<0.0003
Magnesium	23	20	19	17
Manganese	<0.005	<0.005	<0.005	<0.005
Mercury	<0.000005	<0.000005	<0.000005	<0.000005
Nickel	<0.002	<0.002	<0.002	<0.002
Phosphorus	<0.01	<0.01	<0.005	<0.01
Selenium	<0.001	<0.001	<0.001	<0.001
Silicon	4.04	8.02	3.14	1.79
Silver	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	0.35	0.25	0.20	0.17
Sulfate	187	122	117	122
Thallium	<0.0002	<0.0002	<0.0002	<0.0002
Uranium	0.0004	0.0004	0.0003	0.0003
Zinc	<0.008	<0.008	<0.008	<0.008
Energy Labs Report #	B15121387	B16010836	B16020876	B16030820

\* Testing terminated after week 36

**Table 13. - Metals Analysis Results, HC Test Extracts,  
 Black Butte, LZFW Composite**

Analysis, mg/L	Extract Week							
	Week 0	Week 1	Week 2	Week 4	Week 8	Week 12	Week 16	Week 20
Aluminum	0.035	0.050	0.054	0.070	0.054	0.040	0.048	0.027
Antimony	0.0099	0.0095	0.0074	0.0079	0.0052	0.0048	0.0051	0.0033
Arsenic	0.074	0.128	0.137	0.136	0.125	0.118	0.173	0.145
Barium	0.073	0.035	0.027	0.018	0.017	0.015	0.018	0.019
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	0.00014	0.00019	<0.00008	0.00023	0.00012	0.00006	<0.00003	<0.00003
Calcium	34	47	31	19	19	26	24	19
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	0.003	<0.002
Fluoride	2.2	2.3	2.3	1.8	1.0	0.8	0.4	0.3
Iron	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02
Lead	0.0007	0.0044	<0.0003	0.0004	0.0058	0.0025	0.0033	<0.0003
Magnesium	58	71	46	28	21	24	22	15
Manganese	0.032	0.022	0.011	0.008	0.009	0.010	0.008	0.008
Mercury	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005
Nickel	0.126	0.025	0.009	0.005	0.003	0.004	0.004	0.004
Phosphorus	0.031	0.016	0.012	0.010	0.011	0.028	0.013	0.010
Selenium	0.017	0.022	0.013	0.010	0.004	0.004	0.004	0.002
Silicon	2.51	2.87	2.46	2.97	2.67	3.08	18.7	9.73
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	0.93	0.93	0.56	0.31	0.25	0.25	0.18	0.16
Sulfate	383	465	278	144	118	213	101	96
Thallium	0.0011	0.0008	0.0006	0.0004	0.0003	0.0002	<0.0002	<0.0002
Uranium	0.367	0.292	0.174	0.202	0.193	0.198	0.156	0.162
Zinc	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	0.009	<0.008
Energy Labs Report #	B15070127	B15070696	B15071408	B15072631	B15082343	B15092043	B15101741	B15111472

Analysis, mg/L	Extract Week								
	Week 24	Week 28	Week 32	Week 36	Week 40	Week 44	Week 48	Week 52	Week 56
Aluminum	0.033	0.019	0.009	0.018	0.011	0.018	0.017	0.019	0.012
Antimony	0.0029	0.0026	0.0019	0.0017	0.0019	0.0015	0.0014	0.0011	0.0011
Arsenic	0.126	0.101	0.118	0.068	0.051	0.035	0.025	0.028	0.029
Barium	0.023	0.026	0.018	0.018	0.022	0.021	0.014	0.010	0.012
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Cadmium	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Calcium	18	18	20	23	24	22	24	16	17
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Fluoride	0.2	<0.2	<0.2	<0.2	0.1	<0.2	<0.2	<0.2	<0.2
Iron	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	0.0009	0.0023	<0.0003	<0.0003	0.0005	0.0013	0.0017	<0.0003	0.0020
Magnesium	12	14	14	15	15	14	14	10	10
Manganese	0.009	0.013	0.010	0.007	0.006	<0.005	<0.005	<0.005	<0.005
Mercury	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005
Nickel	0.003	0.004	0.005	0.004	0.005	0.004	0.006	0.002	0.002
Phosphorus	0.007	0.02	<0.005	0.005	0.006	0.007	0.007	0.010	0.008
Selenium	0.002	0.001	0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001
Silicon	7.20	8.80	7.74	4.86	4.59	3.32	3.24	2.15	2.00
Silver	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Strontium	0.13	0.13	0.13	0.12	0.11	0.10	0.09	0.06	0.06
Sulfate	77	65	88	112	91	87	85	63	68
Thallium	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
Uranium	0.189	0.178	0.0844	0.0732	0.0976	0.0770	0.132	0.0301	0.0356
Zinc	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
Energy Labs Report #	B15121387	B16010836	B16020876	B16030820	B16040426	B16050324	B16060096	B16062414	B16072122

HC kinetic ARD potential test data demonstrate that the Yc Composite, Ynl B Composite and LZFW Composite samples would not generate acid in a natural weathering and oxidizing environment. Both saturated and non saturated tailings samples and the USZ Composite sample showed potential to generate acid. The nature of the tested samples is demonstrated by the data summary below.

**USZ Composite** (terminated after 73 weeks)

- Extract pH was fairly neutral and stable the majority of the test duration and steadily decreased after week 61. Extract pH ranged from pH 3.04 (week 73) to pH 6.94 (week 55).
- Redox potential was oxidizing and ranged from 133 (week 1) to 454 (week 70) mV.
- Conductivity values were moderate and fairly constant during the kinetic test, and ranged from 2010 (weeks 55 and 56) to 5360 (week 0)  $\mu\text{S}/\text{cm}$ .
- Iron mobility (dissolution) was moderate and fairly stable through week 68 then increased steadily through the end of testing.
- Sulfate mobility was moderate. Week 0 extract concentration was 5100  $\text{mgSO}_4/\text{L}$ . Sulfate concentration decreased after week 0 and was fairly stable through week 62 then increased steadily through the end of testing. Only 7.88 percent of the contained sulfate was mobilized during the kinetic test.
- Acidity was detected in most weekly extracts and concentrations ranged from <1 (weeks 3, 23 and 46) to 1417 (week 0)  $\text{mgCaCO}_3$  equivalents/L. Maximum available acidity in the USZ Composite was 712,500  $\text{mg}/\text{kg}$ , but only 2,777.42  $\text{mgCaCO}_3/\text{kg}$  was consumed (0.39 percent of total) during the HCT.
- Alkalinity was detected in all weekly extracts after week 0 and concentrations ranged from <1 (multiple weeks) to 46 (week 3)  $\text{mgCaCO}_3$  equivalents/L. Maximum available alkalinity in the USZ Composite was 128,000  $\text{mg}/\text{kg}$ , but only 303.02  $\text{mgCaCO}_3/\text{kg}$  was consumed (0.24 percent of total) during the HCT.

**Yc Composite** (terminated after 38 weeks)

- Extract pH was basic (alkaline) and was fairly stable the majority of the test duration. Extract pH ranged from pH 7.34 (week 18) to pH 8.18 (week 4).
- Redox potential was oxidizing and ranged from 222 (week 0) to 386 (week 13) mV. This range of oxidizing potential is typical of solid/solution systems exposed to air, but was never at the oxidizing level (> 450 mV) to indicate oxidation of sulfide minerals.
- Conductivity values were low and fairly constant during the kinetic test, and ranged from 126 (week 38) to 450 (week 0)  $\mu\text{S}/\text{cm}$ .
- Iron mobility (dissolution) was minimal and was <0.10  $\text{mg}/\text{L}$  for the majority of the testing weeks.
- Sulfate mobility was slight. Week 0 extract concentration was 130  $\text{mgSO}_4/\text{L}$ . Sulfate concentration decreased after week 0 and week 38 concentration was 21  $\text{mg}/\text{L}$ . Only 14.22% of the contained sulfate was mobilized during the kinetic test.
- Acidity was not detected in any weekly extract.
- Alkalinity was detected in all weekly extracts and concentrations ranged from 33 (week 3) to 89 (week 0)  $\text{mgCaCO}_3$  equivalents/L. Maximum available alkalinity in the Yc composite was 260,000  $\text{mg}/\text{kg}$ , but only 904.38  $\text{mgCaCO}_3/\text{kg}$  was consumed (2.46 percent of total) during the HCT.

**Tailings Sample** (terminated after 47 weeks)

- Extract pH was acidic and fairly stable the duration of the HCT. Extract pH ranged from pH 6.26 (week 0) to pH 1.46 (week 32).
- Redox potential was oxidizing and ranged from 224 (week 40) to 448 (week 8) mV.
- Conductivity values were elevated and varied during the kinetic test, and ranged from 549 (week 35) to 27,900 (week 3)  $\mu\text{S}/\text{cm}$ .
- Iron mobility (dissolution) was elevated and varied during the kinetic test.
- Sulfate mobility was elevated the duration of the test but did show a marked decrease after week 20. A total of 28.97 percent of the contained sulfate was mobilized during the kinetic test.
- Acidity was detected in all weekly extracts and concentrations ranged from 11 (week 0) to 29,131 (week 5)  $\text{mgCaCO}_3$  equivalents/L. Maximum available acidity in the Tailings sample was 553,100  $\text{mg}/\text{kg}$ , of which 108,120  $\text{mgCaCO}_3/\text{kg}$  was consumed (19.55 percent of total) during the HCT.
- Alkalinity was not detected in any weekly extract after week 0.

**Saturated Tailings Sample** (terminated after 47 weeks)

- Extract pH was acidic and fairly stable the duration of the HCT. Extract pH ranged from pH 6.26 (week 0) to pH 1.46 (week 32).
- Redox potential was oxidizing and ranged from 75 (week 1) to 456 (week 42) mV.
- Conductivity values were moderate and ranged from 1,992 (week 1) to 192 (week 15)  $\mu\text{S}/\text{cm}$ .
- Iron mobility (dissolution) was moderate and increased after week 28 as pH decreased.
- Sulfate mobility was moderate. Week 0 extract concentration was 1,100  $\text{mgSO}_4/\text{L}$  and concentrations decreased after week 2. Only 0.90 percent of the contained sulfate was mobilized during the kinetic test.
- Acidity was detected in most weekly extracts and concentrations ranged from  $<1$  (multiple weeks) to 111 (week 37)  $\text{mgCaCO}_3$  equivalents/L. Maximum available acidity in the Saturated Tailings sample was 553,100  $\text{mg}/\text{kg}$ , of which 514.70  $\text{mgCaCO}_3/\text{kg}$  was consumed (0.09 percent of total) during the HCT.
- Alkalinity was detected in most weekly extracts and concentrations ranged from  $<1$  (multiple weeks) to 26 (weeks 12 and 14)  $\text{mgCaCO}_3$  equivalents/L. Maximum available alkalinity in the Saturated Tailings sample was 19,800  $\text{mg}/\text{kg}$ , of which 234.48  $\text{mgCaCO}_3/\text{kg}$  was consumed (1.18 percent of total) during the HCT.

**Ynl B Composite** (terminated after 36 weeks)

- Extract pH was basic (alkaline) and was fairly stable the duration of the HCT. Extract pH ranged from pH 7.16 (week 33) to pH 7.86 (week 3).
- Redox potential was oxidizing and ranged from 107 (week 31) to 382 (week 35) mV. This range of oxidizing potential is typical of solid/solution systems exposed to air, but was never at the oxidizing level ( $> 450$  mV) to indicate oxidation of sulfide minerals.
- Conductivity values were low and fairly constant during the kinetic test, and ranged from 279 (week 32) to 1723 (week 7)  $\mu\text{S}/\text{cm}$ .
- Iron mobility (dissolution) was minimal and was  $<0.10$   $\text{mg}/\text{L}$  for the majority of the testing weeks.

- Sulfate mobility was moderate. Week 0 extract concentration was 650 mgSO<sub>4</sub>/L. Sulfate concentration gradually decreased after week 6 and week 36 concentration was 110 mg/L. A total of 21.56 percent of the contained sulfate was mobilized during the kinetic test.
- Acidity was only detected in 2 weekly extracts.
- Alkalinity was detected in all weekly extracts and concentrations ranged from 18 (week 6) to 90 (week 0) mgCaCO<sub>3</sub> equivalents/L. Maximum available alkalinity in the Ynl 0 sample was 180,000 mg/kg, but only 520.85 mgCaCO<sub>3</sub>/kg was consumed (0.29 percent of total) during the HCT.

**LZFW Composite** (terminated after 56 weeks)

- Extract pH was basic (alkaline) and was fairly stable the duration of the HCT. Extract pH ranged from pH 7.00 (week 33) to pH 7.83 (week 54).
- Redox potential was oxidizing and ranged from 197 (week 31) to 393 (week 12) mV. This range of oxidizing potential is typical of solid/solution systems exposed to air, but was never at the oxidizing level (> 450 mV) to indicate oxidation of sulfide minerals.
- Conductivity values were low and fairly constant during the kinetic test, and ranged from 184 (week 54) to 1,094 (week 0) μS/cm.
- Iron mobility (dissolution) was minimal and was <0.10 mg/L for the majority of the testing weeks.
- Sulfate mobility was low. Week 0 extract concentration was 450 mgSO<sub>4</sub>/L. Sulfate concentration gradually decreased after week 1 and week 56 concentration was 68 mg/L. Only 4.77 percent of the contained sulfate was mobilized during the kinetic test.
- Acidity was only detected in 2 weekly extracts.
- Alkalinity was detected in all weekly extracts and concentrations ranged from 9 (week 52) to 61 (week 0) mgCaCO<sub>3</sub> equivalents/L. Maximum available alkalinity in the LZFW Composite sample was 60,300 mg/kg, but only 667.52 mgCaCO<sub>3</sub>/kg was consumed (1.11 percent of total) during the HCT.

Table 14 provides maximum available acidity, sulfate and alkalinity, on a mass basis, and those component dissolutions (mass basis) during the HC kinetic ARD potential test. Maximum availability data obtained from Mod ABA static ARD potential testing data.

**Table 14. - Comparative Static and Kinetic Test Acidity, Sulfate and Alkalinity Generation Data, Black Butte Composites and Tailings Samples**

Sample I.D.	Acidity, mg/kg			Sulfate, mg/kg			Alkalinity, mg/kg		
	Max. from Solids <sup>1)</sup>	Generated		Max. from Solids <sup>2)</sup>	Generated		Max. from Solids <sup>3)</sup>	Generated	
		HC Test	Pct. of Total		HC Test	Pct. of Total		HC Test	Pct. of Total
USZ Composite	712,500	2,777.42	0.39	876,000	68,994.20	7.88	128,000	303.02	0.24
Yc Composite	4,700	0.00	0.00	5,400	767.81	14.22	36,700	904.38	2.46
Non Saturated Tailings	553,100	108,120.02	19.55	786,000	227,675.20	28.97	19,800	9.26	0.05
Saturated Tailings	553,100	514.70	0.09	786,000	7,078.80	0.90	19,800	234.48	1.18
Ynl B Composite	20,000	5.38	0.03	22,800	4,916.47	21.56	180,000	520.85	0.29
LZFW Composite	54,700	5.87	0.01	60,300	2,876.65	4.77	60,300	667.52	1.11

1) AGP (tons CaCO<sub>3</sub>/1,000 tons) x 1,000.  
 2) Total S as SO<sub>4</sub><sup>-2</sup> converted from weight percent to mg/kg.  
 3) ANP (tons CaCO<sub>3</sub>/1,000 tons) x 1,000.



Mass data demonstrate that, for all samples other than the Non Saturated Tailings sample and sulfate on the Yc Composite and Ynl B Composite samples, small percentages of acidity, sulfate and alkalinity contained in the feeds were generated during the HC tests.

Extract analysis results show that constituent (metals) mobility was minimal during the kinetic HCT for the USZ Composite, Yc Composite, Saturated Tailings, Ynl B Composite and LZFW Composite samples. Metals mobility was elevated for the Non Saturated Tailings sample.

## **RESIDUE ANALYSIS**

After testing all samples had splits taken from the humidity cell residue for Mod ABA analysis. The USZ, Ynl B and LZFW composite samples had splits taken for ICP metals and size fraction screen analysis (1.0 kg). Splits for Mod ABA analysis were submitted to SVL Analytical, Inc. Splits for ICP analysis were submitted to ALS.

Mod ABA results show that the Yc Composite and Ynl B Composite samples displayed a greater potential to neutralize than to generate acid in a natural environment. Results are summarized as follows:

- Paste pHs were 8.0 and 7.8 for the Yc Composite and Ynl B Composite samples, respectively.
- Pyritic sulfide contents were 0.13 and 0.45 wt. pct. and resulted in AGP values of 4.1 and 14.1 tons CaCO<sub>3</sub> equivalents per 1,000 tons of solids, respectively.
- ANP values were 13.0 and 147 CaCO<sub>3</sub>/1,000 tons, respectively.
- NNP values were 8.9 and 132.9 CaCO<sub>3</sub>/1,000 tons, respectively.
- Ratios (ANP ÷ AGP) were 3.17 and 10.43, respectively.

Mod ABA results show that the USZ Composite, Non Saturated Tailings, Saturated Tailings and LZFW Composite samples displayed a greater potential to generate than to neutralize acid in a natural environment. Results are summarized as follows:

- Paste pHs ranged from 2.2 to 7.7.
- Pyritic sulfide ranged from 1.42 to 19.70 wt. pct., and resulted in AGP values ranging from 44.4 to 615.6 tons CaCO<sub>3</sub> equivalents per 1,000 tons of solids.
- ANP values ranged from <0.3 to 40.5 CaCO<sub>3</sub>/1,000 tons.
- NNP values ranged from -4.4 to -595.9 CaCO<sub>3</sub>/1,000 tons.
- Ratios (ANP ÷ AGP) ranged from <0.01 to 0.90.

Mod ABA analysis results are provided in Table 15. ICP results are provided in Table 16. Size fraction screen analysis results are provided in Tables 17, 18 and 19. The SVL Analytical report for ABA analysis and the ALS report for ICP metals are provided in Section 2 of the Appendix to this report.

**Table 15. - Modified Acid/Base Accounting (Mod ABA) Static ARD  
 Potential Test Results, Black Butte, Humidity Cell Residues**

Sample I.D.	Paste pH	Sulfur, weight percent (as S)					AGP <sup>1)</sup>	ANP	NNP	Ratio	Sulfur, wt. pct. (as S) - HCl Wash		
		Total	SO <sub>4</sub>	Pyritic S <sup>=</sup>	Non-Ext S	Non Sulfate S					SO <sub>4</sub>	Pyritic S <sup>=</sup>	Non Sulfate S
USZ Composite	5.3	31.1	13.7	16.8	0.62	17.4	525	40.5	-484.5	0.1	13.5	16.9	17.6
Yc Composite	8.0	0.15	0.03	0.13	<0.01	0.13	4.1	13.0	8.9	3.17	0.06	0.10	0.10
Non Saturated Tailings	2.2	26.1	7.20	18.60	0.33	18.9	581.3	<0.3	-581.3	<0.01	11.00	14.80	15.2
Saturated Tailings	3.7	26.9	6.90	19.70	0.29	20.0	615.6	19.7	-595.9	0.03	5.55	21.00	21.3
Ynl B Composite	7.8	0.63	0.18	0.45	<0.01	0.45	14.1	147	132.9	10.43	0.23	0.40	0.40
LZFW Composite	7.7	1.86	0.42	1.42	0.02	1.44	44.4	40.0	-4.4	0.90	0.38	1.46	1.48

1) AGP based on Pyritic S= content (%S= x 31.25). AGP, ANP and NNP in units of tons CaCO<sub>3</sub> equivalents per 1,000 tons of solids.  
 SVL Report # W6D0130, W6F0042, W6I0161, W6L0308

**Table 16. - Multi Element ICP Metals Analyses Results,  
 Black Butte, Humidity Cell Residues**

Analysis, mg/kg	Composite		
	USZ Composite	Ynl B	LZFW
Ag	11.10	0.12	0.65
Al	16,800	59,600	33,500
As	418	12.0	79.6
Ba	20	1,380	260
Be	1.37	2.12	2.14
Bi	17.55	0.28	10.70
Ca	13,800	30,200	13,200
Cd	0.26	0.24	0.02
Ce	5.19	54.3	27.2
Co	217	12.4	43.6
Cr	52	60	172
Cs	3.26	6.87	5.62
Cu	3,150	59.1	439
Fe	243,000	39,700	30,100
Ga	7.55	15.55	13.60
Ge	0.09	0.15	0.10
Hf	0.9	2.4	1.3
Hg	2.31	0.054	0.081
In	0.593	0.122	0.102
K	12,500	31,600	13,300
La	1.8	29.1	13.5
Li	12.3	71.6	62.0
Mg	5,500	37,100	19,500
Mn	186	400	149
Mo	4.63	1.65	6.47
Na	200	400	300
Nb	2.9	8.4	4.5
Ni	52.5	30.0	49.7
P	260	300	3,570
Pb	1,000	10.7	50.7
Rb	39.7	115.0	53.4
Re	0.002	0.003	0.002
S (total)	>100,000	6,500	22,000
Sb	27.0	0.78	2.48
Sc	3.0	10.8	6.5
Se	1	1	2
Sn	0.7	2.0	1.2
Sr	3,530	71.3	58.0
Ta	0.20	0.59	0.31
Te	<0.05	<0.05	<0.05
Th	1.22	7.90	4.27
Ti	700	2,440	1,310
Tl	72.7	1.35	5.92
U	1.6	2.9	29.2
V	26	64	40
W	0.8	1.4	0.8
Y	6.5	17.9	14.2
Zn	93	160	24
Zr	32.6	83.0	46.8

ALS Minerals Report #

RE16215364

RE16149263

RE16149263

**Table 17. - Residue Screen Analysis, 100%-1/4" Feed Size,  
 Black Butte, USZ Composite**

Size Fraction (Tyler Mesh)	Weight	
	%	Cum. %
+6M	9.6	9.6
-6M+10M	22.1	31.7
-10M+28M	28.9	60.6
-28M+35M	5.5	66.1
-35M+48M	5.0	71.1
-48M+100M	7.7	78.8
-100M+200M	4.6	83.4
-200M+270M	1.7	85.1
-270M	14.9	100.0
Composite	100.0	

**Table 18. - Residue Screen Analysis, 100%-1/4" Feed Size,  
 Black Butte, Ynl B Composite**

Size Fraction (Tyler Mesh)	Weight	
	%	Cum. %
+6M	1.4	1.4
-6M+10M	28.4	29.8
-10M+28M	34.4	64.2
-28M+35M	6.1	70.3
-35M+48M	5.3	75.6
-48M+100M	7.8	83.4
-100M+200M	5.1	88.5
-200M+270M	1.7	90.2
-270M	9.8	100.0
Composite	100.0	

**Table 19. - Residue Screen Analysis, 100%-1/4" Feed Size,  
 Black Butte, LZFW Composite**

Size Fraction (Tyler Mesh)	Weight	
	%	Cum. %
+6M	0.9	0.9
-6M+10M	19.0	19.9
-10M+28M	35.0	54.9
-28M+35M	8.6	63.5
-35M+48M	7.1	70.6
-48M+100M	10.1	80.7
-100M+200M	6.7	87.4
-200M+270M	2.2	89.6
-270M	10.4	100.0
Composite	100.0	

## CONCLUSIONS

- The Yc Composite, Ynl B Composite and LZFW Composite samples would not produce acid in a natural weathering and oxidizing environment as predicted by the static ABA data.
- The USZ Composite, Non Saturated Tailings and Saturated Tailings samples showed potential to produce acid as predicted by the static ABA data. Metals mobility was considerably elevated for the Non Saturated Tailings sample.



Michael Medina  
Environmental Project Manager

MM/mh

## **APPENDIX**

**Section 1 - Comp Make-Up Tables**

**Section 2 - SVL Analytical and ALS Reports**

**Section 3 - Energy Lab Reports**

**Section 4 - Scanned Sample Receipts**

**APPENDIX**

**Section 1 - Comp Make-Up Tables**

### 3767-01 - USZ Composite Make-up Table

<b>Sample I.D.</b>	<b>weight to sample (kg)</b>
108427	0.210
108407	0.210
108406	0.210
108428	0.210
202114	0.210
202098	0.210
210789	0.210
210788	0.210
210785	0.210
210784	0.210
210786	0.210
205924	0.210
205947	0.210
205950	0.210
205951	0.210
	3.150

### 3767-01 - Yc Composite Make-up Table

<b>Sample I.D.</b>	<b>weight to sample (kg)</b>
220452	0.360
220453	0.360
220458	0.360
220439	0.360
220440	0.360
220446	0.360
212740	0.360
200746	0.360
200747	0.360
	3.240

### 3767-01 - Ynl B Composite Make-up Table

<b>Sample I.D.</b>	<b>weight to sample (kg)</b>
107733	0.200
107743	0.200
107754	0.200
107758	0.200
107778	0.200
107797	0.200
108241	0.200
108429	0.200
108441	0.200
108445	0.200
108453	0.200
108467	0.200
108479	0.200
108480	0.200
108500	0.200
108505	0.200
108506	0.200
108519	0.200
	3.600



**APPENDIX**

**Section 2 - SVL Analytical and ALS Reports**



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6D0130**  
Reported: 20-Apr-16 13:33

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
3767-01 HC-2	W6D0130-01	Soil	06-Apr-16 12:00	RJ	08-Apr-2016	
3767-01 HC-5	W6D0130-02	Soil	06-Apr-16 12:00	RJ	08-Apr-2016	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6D0130**  
Reported: 20-Apr-16 13:33

Client Sample ID: **3767-01 HC-2**

SVL Sample ID: **W6D0130-01 (Soil)**

Sample Report Page 1 of 1

Sampled: 06-Apr-16 12:00  
Received: 08-Apr-16  
Sampled By: RJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	<b>ABA</b>	9.0	TCaCO3/kT	0.3			N/A		04/14/16 12:37	
Modified Sobek	<b>AGP</b>	4.0	TCaCO3/kT	0.3			N/A		04/13/16 15:00	
Modified Sobek	<b>ANP</b>	13.0	TCaCO3/kT	0.3	0.0		W616024	AGF	04/14/16 12:37	A5
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.005		W616024	AGF	04/13/16 14:15	
Modified Sobek	<b>Non-Sulfate Sulfur</b>	0.13	%	0.01	0.005		W616024	AGF	04/13/16 15:00	
Modified Sobek	<b>Pyritic Sulfur</b>	0.13	%	0.01			N/A		04/13/16 15:00	
Modified Sobek	<b>Sulfate Sulfur</b>	0.03	%	0.01			N/A		04/13/16 15:00	
Modified Sobek	<b>Total Sulfur</b>	0.15	%	0.01	0.005		W616024	AGF	04/12/16 10:34	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	<b>ABA-HCl</b>	9.9	TCaCO3/kT	0.3			N/A		04/14/16 12:37	
Modified Sobek	<b>AGP-HCl</b>	3.1	TCaCO3/kT	0.3			N/A		04/13/16 15:38	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.005		W616024	AGF	04/13/16 14:15	
Modified Sobek	<b>Non-Sulfate Sulfur-HCl</b>	0.10	%	0.01	0.005		W616024	AGF	04/13/16 15:38	
Modified Sobek	<b>Pyritic Sulfur-HCl</b>	0.10	%	0.01			N/A		04/13/16 15:38	
Modified Sobek	<b>Sulfate Sulfur-HCl</b>	0.06	%	0.01			N/A		04/13/16 15:38	
Modified Sobek	<b>Total Sulfur</b>	0.15	%	0.01	0.005		W616024	AGF	04/12/16 10:34	
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	<b>Paste pH @19.2°C</b>	8.0	pH Units				W616201	AGF	04/19/16 09:45	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6D0130**  
Reported: 20-Apr-16 13:33

Client Sample ID: **3767-01 HC-5**

SVL Sample ID: **W6D0130-02 (Soil)**

Sample Report Page 1 of 1

Sampled: 06-Apr-16 12:00  
Received: 08-Apr-16  
Sampled By: RJ

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	<b>ABA</b>	133	TCaCO3/kT	0.3			N/A		04/14/16 12:37	
Modified Sobek	<b>AGP</b>	14.0	TCaCO3/kT	0.3			N/A		04/13/16 15:03	
Modified Sobek	<b>ANP</b>	147	TCaCO3/kT	0.3	0.0		W616024	AGF	04/14/16 12:37	A2
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.005		W616024	AGF	04/13/16 14:19	
Modified Sobek	<b>Non-Sulfate Sulfur</b>	0.45	%	0.01	0.005		W616024	AGF	04/13/16 15:03	
Modified Sobek	<b>Pyritic Sulfur</b>	0.45	%	0.01			N/A		04/13/16 15:03	
Modified Sobek	<b>Sulfate Sulfur</b>	0.18	%	0.01			N/A		04/13/16 15:03	
Modified Sobek	<b>Total Sulfur</b>	0.63	%	0.01	0.005		W616024	AGF	04/12/16 10:37	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	<b>ABA-HCl</b>	135	TCaCO3/kT	0.3			N/A		04/14/16 12:37	
Modified Sobek	<b>AGP-HCl</b>	12.6	TCaCO3/kT	0.3			N/A		04/13/16 15:43	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.005		W616024	AGF	04/13/16 14:19	
Modified Sobek	<b>Non-Sulfate Sulfur-HCl</b>	0.40	%	0.01	0.005		W616024	AGF	04/13/16 15:43	
Modified Sobek	<b>Pyritic Sulfur-HCl</b>	0.40	%	0.01			N/A		04/13/16 15:43	
Modified Sobek	<b>Sulfate Sulfur-HCl</b>	0.23	%	0.01			N/A		04/13/16 15:43	
Modified Sobek	<b>Total Sulfur</b>	0.63	%	0.01	0.005		W616024	AGF	04/12/16 10:37	
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	<b>Paste pH @19.0°C</b>	7.8	pH Units				W616201	AGF	04/19/16 09:45	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6D0130**  
Reported: 20-Apr-16 13:33

**Quality Control - BLANK Data**

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>								
Modified Sobek	ANP	TCaCO3/kT	<0.3	0.0	0.3	W616024	14-Apr-16	
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.005	0.01	W616024	13-Apr-16	
Modified Sobek	Non-Sulfate Sulfur	%	<0.01	0.005	0.01	W616024	13-Apr-16	
Modified Sobek	Total Sulfur	%	<0.01	0.005	0.01	W616024	12-Apr-16	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>								
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.005	0.01	W616024	13-Apr-16	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.01	0.005	0.01	W616024	13-Apr-16	
Modified Sobek	Total Sulfur	%	<0.01	0.005	0.01	W616024	12-Apr-16	

**Quality Control - LABORATORY CONTROL SAMPLE Data**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>									
Modified Sobek	ANP	TCaCO3/kT	217	212	103	80 - 120	W616024	14-Apr-16	
Modified Sobek	Total Sulfur	%	1.12	1.00	112	80 - 120	W616024	12-Apr-16	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>									
Modified Sobek	Total Sulfur	%	1.12	1.00	112	80 - 120	W616024	12-Apr-16	
<b>Classical Chemistry Parameters</b>									
EPA 600/2-78-054 mod	Paste pH	pH Units	7.4	7.40	99.7	93.7 - 106.3	W616201	19-Apr-16	

**Quality Control - DUPLICATE Data**

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>									
Modified Sobek	ANP	TCaCO3/kT	56.2	55.0	2.3	20	W616024	14-Apr-16	
Modified Sobek	Non-extractable Sulfur	%	0.01	0.01	9.9	20	W616024	13-Apr-16	
Modified Sobek	Non-Sulfate Sulfur	%	6.99	6.93	0.9	20	W616024	13-Apr-16	D2
Modified Sobek	Total Sulfur	%	13.1	13.1	0.0	20	W616024	12-Apr-16	D2
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>									
Modified Sobek	Non-extractable Sulfur	%	0.01	0.01	9.9	20	W616024	13-Apr-16	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	5.45	6.81	22.2	20	W616024	13-Apr-16	D2,R2B
Modified Sobek	Total Sulfur	%	13.1	13.1	0.0	20	W616024	12-Apr-16	D2
<b>Classical Chemistry Parameters</b>									
EPA 600/2-78-054 mod	Paste pH	pH Units	8.0	8.0	0.3	20	W616201	19-Apr-16	



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6D0130**  
Reported: 20-Apr-16 13:33

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### Notes and Definitions

- A2        2 g of sample used in ANP analysis
  - A5        5 g of sample used in ANP analysis
  - D2        Sample required dilution due to high concentration of target analyte.
  - R2B       RPD exceeded the laboratory acceptance limit.
  - LCS       Laboratory Control Sample (Blank Spike)
  - RPD       Relative Percent Difference
  - UDL       A result is less than the detection limit
  - R > 4S    % recovery not applicable, sample concentration more than four times greater than spike level
  - <RL       A result is less than the reporting limit
  - MRL       Method Reporting Limit
  - MDL       Method Detection Limit
  - N/A       Not Applicable
-



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6E0101**  
Reported: 18-May-16 15:23

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
USZ COMPOSITE	W6E0101-01	Soil	03-May-16 00:00	JH	05-May-2016	
YC COMPOSITE	W6E0101-02	Soil	03-May-16 00:00	JH	05-May-2016	
TAILINGS	W6E0101-03	Soil	03-May-16 00:00	JH	05-May-2016	
YNL B COMPOSITE	W6E0101-04	Soil	03-May-16 00:00	JH	05-May-2016	
LZFW COMPOSITE	W6E0101-05	Soil	03-May-16 00:00	JH	05-May-2016	
YNLB EX	W6E0101-06	Soil	03-May-16 00:00	JH	05-May-2016	
Y GD	W6E0101-07	Soil	03-May-16 00:00	JH	05-May-2016	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6E0101**  
Reported: 18-May-16 15:23

Client Sample ID: **USZ COMPOSITE**  
SVL Sample ID: **W6E0101-01 (Soil)**

Sampled: 03-May-16 00:00  
Received: 05-May-16  
Sampled By: JH

**Sample Report Page 1 of 1**

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	ABA	-584.0	TCaCO3/kT	4.5			N/A		05/17/16 12:53	
Modified Sobek	AGP	712	TCaCO3/kT	4.5			N/A		05/16/16 15:04	
Modified Sobek	ANP	128	TCaCO3/kT	0.3			W620064	AGF	05/17/16 12:53	A2
Modified Sobek	Non-extractable Sulfur	0.46	%	0.01	0.005		W620064	AGF	05/16/16 15:04	
Modified Sobek	Non-Sulfate Sulfur	23.2	%	0.15	0.08	15	W620064	AGF	05/16/16 13:31	D2
Modified Sobek	Pyritic Sulfur	22.80	%	0.15			N/A		05/16/16 15:04	
Modified Sobek	Sulfate Sulfur	6.00	%	0.15			N/A		05/16/16 13:31	
Modified Sobek	Total Sulfur	29.2	%	0.15	0.08	15	W620064	AGF	05/10/16 15:03	B7,D2
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	ABA-HCl	-518.0	TCaCO3/kT	4.5			N/A		05/17/16 12:53	
Modified Sobek	AGP-HCl	646	TCaCO3/kT	4.5			N/A		05/16/16 15:04	
Modified Sobek	Non-extractable Sulfur	0.46	%	0.01	0.005		W620064	AGF	05/16/16 15:04	
Modified Sobek	Non-Sulfate Sulfur-HCl	21.2	%	0.15	0.08	15	W620064	AGF	05/16/16 14:17	D2
Modified Sobek	Pyritic Sulfur-HCl	20.70	%	0.15			N/A		05/16/16 15:04	
Modified Sobek	Sulfate Sulfur-HCl	8.10	%	0.15			N/A		05/16/16 14:17	
Modified Sobek	Total Sulfur	29.2	%	0.15	0.08	15	W620064	AGF	05/10/16 15:03	D2
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	Paste pH @19.7°C	5.9	pH Units				W621060	AGF	05/17/16 11:30	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director





McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6E0101**  
Reported: 18-May-16 15:23

Client Sample ID: **YC COMPOSITE**  
SVL Sample ID: **W6E0101-02 (Soil)**

Sampled: 03-May-16 00:00  
Received: 05-May-16  
Sampled By: JH

**Sample Report Page 1 of 1**

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	ABA	32.0	TCaCO3/kT	0.3			N/A		05/17/16 12:53	
Modified Sobek	AGP	4.8	TCaCO3/kT	0.3			N/A		05/16/16 15:13	
Modified Sobek	ANP	36.7	TCaCO3/kT	0.3			W620064	AGF	05/17/16 12:53	A2
Modified Sobek	Non-extractable Sulfur	0.02	%	0.01	0.005		W620064	AGF	05/16/16 15:13	
Modified Sobek	Non-Sulfate Sulfur	0.17	%	0.01	0.005		W620064	AGF	05/16/16 13:34	
Modified Sobek	Pyritic Sulfur	0.15	%	0.01			N/A		05/16/16 15:13	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		05/16/16 13:34	
Modified Sobek	Total Sulfur	0.18	%	0.01	0.005		W620064	AGF	05/10/16 13:22	B7
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	ABA-HCl	31.8	TCaCO3/kT	0.3			N/A		05/17/16 12:53	
Modified Sobek	AGP-HCl	5.0	TCaCO3/kT	0.3			N/A		05/16/16 15:13	
Modified Sobek	Non-extractable Sulfur	0.02	%	0.01	0.005		W620064	AGF	05/16/16 15:13	
Modified Sobek	Non-Sulfate Sulfur-HCl	0.18	%	0.01	0.005		W620064	AGF	05/16/16 14:21	
Modified Sobek	Pyritic Sulfur-HCl	0.16	%	0.01			N/A		05/16/16 15:13	
Modified Sobek	Sulfate Sulfur-HCl	< 0.01	%	0.01			N/A		05/16/16 14:21	
Modified Sobek	Total Sulfur	0.18	%	0.01	0.005		W620064	AGF	05/10/16 13:22	
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	Paste pH @19.6°C	8.0	pH Units				W621060	AGF	05/17/16 11:30	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6E0101**  
Reported: 18-May-16 15:23

Client Sample ID: **TAILINGS**  
SVL Sample ID: **W6E0101-03 (Soil)**

Sampled: 03-May-16 00:00  
Received: 05-May-16  
Sampled By: JH

**Sample Report Page 1 of 1**

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	ABA	-533.0	TCaCO3/kT	4.5			N/A		05/17/16 12:53	
Modified Sobek	AGP	553	TCaCO3/kT	4.5			N/A		05/16/16 15:18	
Modified Sobek	ANP	19.8	TCaCO3/kT	0.3			W620064	AGF	05/17/16 12:53	A5
Modified Sobek	Non-extractable Sulfur	0.30	%	0.01	0.005		W620064	AGF	05/16/16 15:18	
Modified Sobek	Non-Sulfate Sulfur	18.0	%	0.15	0.08	15	W620064	AGF	05/16/16 13:37	D2
Modified Sobek	Pyritic Sulfur	17.70	%	0.15			N/A		05/16/16 15:18	
Modified Sobek	Sulfate Sulfur	8.25	%	0.15			N/A		05/16/16 13:37	
Modified Sobek	Total Sulfur	26.2	%	0.15	0.08	15	W620064	AGF	05/10/16 15:06	B7,D2
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	ABA-HCl	-585.0	TCaCO3/kT	4.5			N/A		05/17/16 12:53	
Modified Sobek	AGP-HCl	605	TCaCO3/kT	4.5			N/A		05/16/16 15:18	
Modified Sobek	Non-extractable Sulfur	0.30	%	0.01	0.005		W620064	AGF	05/16/16 15:18	
Modified Sobek	Non-Sulfate Sulfur-HCl	19.6	%	0.15	0.08	15	W620064	AGF	05/16/16 14:25	D2
Modified Sobek	Pyritic Sulfur-HCl	19.30	%	0.15			N/A		05/16/16 15:18	
Modified Sobek	Sulfate Sulfur-HCl	6.60	%	0.15			N/A		05/16/16 14:25	
Modified Sobek	Total Sulfur	26.2	%	0.15	0.08	15	W620064	AGF	05/10/16 15:06	D2
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	Paste pH @19.7°C	3.9	pH Units				W621060	AGF	05/17/16 11:30	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6E0101**  
Reported: 18-May-16 15:23

Client Sample ID: **YNL B COMPOSITE**  
SVL Sample ID: **W6E0101-04 (Soil)**

Sampled: 03-May-16 00:00  
Received: 05-May-16  
Sampled By: JH

**Sample Report Page 1 of 1**

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	ABA	160	TCaCO3/kT	0.3			N/A		05/17/16 12:53	
Modified Sobek	AGP	19.9	TCaCO3/kT	0.3			N/A		05/16/16 15:21	
Modified Sobek	ANP	180	TCaCO3/kT	0.3			W620064	AGF	05/17/16 12:53	A2
Modified Sobek	Non-extractable Sulfur	0.04	%	0.01	0.005		W620064	AGF	05/16/16 15:21	
Modified Sobek	Non-Sulfate Sulfur	0.68	%	0.01	0.005		W620064	AGF	05/16/16 13:41	
Modified Sobek	Pyritic Sulfur	0.64	%	0.01			N/A		05/16/16 15:21	
Modified Sobek	Sulfate Sulfur	0.08	%	0.01			N/A		05/16/16 13:41	
Modified Sobek	Total Sulfur	0.76	%	0.01	0.005		W620064	AGF	05/10/16 13:27	B7
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	ABA-HCl	161	TCaCO3/kT	0.3			N/A		05/17/16 12:53	
Modified Sobek	AGP-HCl	18.5	TCaCO3/kT	0.3			N/A		05/16/16 15:21	
Modified Sobek	Non-extractable Sulfur	0.04	%	0.01	0.005		W620064	AGF	05/16/16 15:21	
Modified Sobek	Non-Sulfate Sulfur-HCl	0.63	%	0.01	0.005		W620064	AGF	05/16/16 14:34	
Modified Sobek	Pyritic Sulfur-HCl	0.59	%	0.01			N/A		05/16/16 15:21	
Modified Sobek	Sulfate Sulfur-HCl	0.13	%	0.01			N/A		05/16/16 14:34	
Modified Sobek	Total Sulfur	0.76	%	0.01	0.005		W620064	AGF	05/10/16 13:27	
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	Paste pH @19.8°C	7.8	pH Units				W621060	AGF	05/17/16 11:30	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6E0101**  
Reported: 18-May-16 15:23

Client Sample ID: **LZFW COMPOSITE**  
SVL Sample ID: **W6E0101-05 (Soil)**

Sampled: 03-May-16 00:00  
Received: 05-May-16  
Sampled By: JH

**Sample Report Page 1 of 1**

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	ABA	5.6	TCaCO3/kT	0.3			N/A		05/17/16 12:53	
Modified Sobek	AGP	54.7	TCaCO3/kT	0.3			N/A		05/16/16 15:24	
Modified Sobek	ANP	60.3	TCaCO3/kT	0.3			W620064	AGF	05/17/16 12:53	A5
Modified Sobek	Non-extractable Sulfur	0.06	%	0.01	0.005		W620064	AGF	05/16/16 15:24	
Modified Sobek	Non-Sulfate Sulfur	1.81	%	0.01	0.005		W620064	AGF	05/16/16 13:45	
Modified Sobek	Pyritic Sulfur	1.75	%	0.01			N/A		05/16/16 15:24	
Modified Sobek	Sulfate Sulfur	0.20	%	0.01			N/A		05/16/16 13:45	
Modified Sobek	Total Sulfur	2.01	%	0.01	0.005		W620064	AGF	05/10/16 13:30	B7
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	ABA-HCl	9.3	TCaCO3/kT	0.3			N/A		05/17/16 12:53	
Modified Sobek	AGP-HCl	51.0	TCaCO3/kT	0.3			N/A		05/16/16 15:24	
Modified Sobek	Non-extractable Sulfur	0.06	%	0.01	0.005		W620064	AGF	05/16/16 15:24	
Modified Sobek	Non-Sulfate Sulfur-HCl	1.69	%	0.01	0.005		W620064	AGF	05/16/16 14:39	
Modified Sobek	Pyritic Sulfur-HCl	1.63	%	0.01			N/A		05/16/16 15:24	
Modified Sobek	Sulfate Sulfur-HCl	0.32	%	0.01			N/A		05/16/16 14:39	
Modified Sobek	Total Sulfur	2.01	%	0.01	0.005		W620064	AGF	05/10/16 13:30	
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	Paste pH @20.0°C	7.7	pH Units				W621060	AGF	05/17/16 11:30	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6E0101**  
Reported: 18-May-16 15:23

Client Sample ID: **YNLB EX**

SVL Sample ID: **W6E0101-06 (Soil)**

Sample Report Page 1 of 1

Sampled: 03-May-16 00:00  
Received: 05-May-16  
Sampled By: JH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	ABA	181	TCaCO3/kT	0.3			N/A		05/17/16 12:53	
Modified Sobek	AGP	18.0	TCaCO3/kT	0.3			N/A		05/16/16 15:27	
Modified Sobek	ANP	199	TCaCO3/kT	0.3			W620064	AGF	05/17/16 12:53	A2
Modified Sobek	Non-extractable Sulfur	0.01	%	0.01	0.005		W620064	AGF	05/16/16 15:27	
Modified Sobek	Non-Sulfate Sulfur	0.59	%	0.01	0.005		W620064	AGF	05/16/16 13:55	
Modified Sobek	Pyritic Sulfur	0.58	%	0.01			N/A		05/16/16 15:27	
Modified Sobek	Sulfate Sulfur	0.03	%	0.01			N/A		05/16/16 13:55	
Modified Sobek	Total Sulfur	0.62	%	0.01	0.005		W620064	AGF	05/10/16 13:34	B7
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	ABA-HCl	183	TCaCO3/kT	0.3			N/A		05/17/16 12:53	
Modified Sobek	AGP-HCl	16.1	TCaCO3/kT	0.3			N/A		05/16/16 15:27	
Modified Sobek	Non-extractable Sulfur	0.01	%	0.01	0.005		W620064	AGF	05/16/16 15:27	
Modified Sobek	Non-Sulfate Sulfur-HCl	0.52	%	0.01	0.005		W620064	AGF	05/16/16 14:41	
Modified Sobek	Pyritic Sulfur-HCl	0.51	%	0.01			N/A		05/16/16 15:27	
Modified Sobek	Sulfate Sulfur-HCl	0.10	%	0.01			N/A		05/16/16 14:41	
Modified Sobek	Total Sulfur	0.62	%	0.01	0.005		W620064	AGF	05/10/16 13:34	
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	Paste pH @19.8°C	8.2	pH Units				W621060	AGF	05/17/16 11:30	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6E0101**  
Reported: 18-May-16 15:23

Client Sample ID: **Y GD**

SVL Sample ID: **W6E0101-07 (Soil)**

Sample Report Page 1 of 1

Sampled: 03-May-16 00:00  
Received: 05-May-16  
Sampled By: JH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	<b>ABA</b>	70.8	TCaCO3/kT	0.3			N/A		05/17/16 12:53	
Modified Sobek	<b>AGP</b>	1.4	TCaCO3/kT	0.3			N/A		05/16/16 15:30	
Modified Sobek	<b>ANP</b>	72.2	TCaCO3/kT	0.3			W620064	AGF	05/17/16 12:53	A2
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.005		W620064	AGF	05/16/16 15:30	
Modified Sobek	<b>Non-Sulfate Sulfur</b>	0.05	%	0.01	0.005		W620064	AGF	05/16/16 13:58	
Modified Sobek	<b>Pyritic Sulfur</b>	0.05	%	0.01			N/A		05/16/16 15:30	
Modified Sobek	Sulfate Sulfur	< 0.01	%	0.01			N/A		05/17/16 09:57	
Modified Sobek	<b>Total Sulfur</b>	0.05	%	0.01	0.005		W620064	AGF	05/17/16 09:57	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	<b>ABA-HCl</b>	71.0	TCaCO3/kT	0.3			N/A		05/17/16 12:53	
Modified Sobek	<b>AGP-HCl</b>	1.2	TCaCO3/kT	0.3			N/A		05/16/16 15:30	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.005		W620064	AGF	05/16/16 15:30	
Modified Sobek	<b>Non-Sulfate Sulfur-HCl</b>	0.04	%	0.01	0.005		W620064	AGF	05/16/16 14:44	
Modified Sobek	<b>Pyritic Sulfur-HCl</b>	0.04	%	0.01			N/A		05/16/16 15:30	
Modified Sobek	<b>Sulfate Sulfur-HCl</b>	0.01	%	0.01			N/A		05/17/16 09:57	
Modified Sobek	<b>Total Sulfur</b>	0.05	%	0.01	0.005		W620064	AGF	05/17/16 09:57	
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	<b>Paste pH @19.7°C</b>	8.4	pH Units				W621060	AGF	05/17/16 11:30	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**Kirby Gray**  
Technical Director



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6E0101**  
Reported: 18-May-16 15:23

**Quality Control - BLANK Data**

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>								
Modified Sobek	ANP	TCaCO3/KT	<0.3		0.3	W620064	17-May-16	
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.005	0.01	W620064	16-May-16	
Modified Sobek	Non-Sulfate Sulfur	%	<0.01	0.005	0.01	W620064	16-May-16	
Modified Sobek	Total Sulfur	%	0.01	0.005	0.01	W620064	10-May-16	B7
Modified Sobek	Total Sulfur	%	<0.01	0.005	0.01	W620064	17-May-16	

**Acid/Base Accounting & Sulfur Forms (HCl Wash)**

Modified Sobek	Non-extractable Sulfur	%	<0.01	0.005	0.01	W620064	16-May-16	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.01	0.005	0.01	W620064	16-May-16	
Modified Sobek	Total Sulfur	%	0.01	0.005	0.01	W620064	10-May-16	B7
Modified Sobek	Total Sulfur	%	<0.01	0.005	0.01	W620064	17-May-16	

**Quality Control - LABORATORY CONTROL SAMPLE Data**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>									
Modified Sobek	ANP	TCaCO3/KT	215	212	102	80 - 120	W620064	17-May-16	
Modified Sobek	Total Sulfur	%	1.08	1.00	108	80 - 120	W620064	10-May-16	
Modified Sobek	Total Sulfur	%	1.12	1.00	112	80 - 120	W620064	17-May-16	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>									
Modified Sobek	Total Sulfur	%	1.08	1.00	108	80 - 120	W620064	10-May-16	
Modified Sobek	Total Sulfur	%	1.12	1.00	112	80 - 120	W620064	17-May-16	
<b>Classical Chemistry Parameters</b>									
EPA 600/2-78-054 mod Paste pH		pH Units	7.2	7.40	97.0	93.7 - 106.3	W621060	17-May-16	

**Quality Control - DUPLICATE Data**

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>									
Modified Sobek	ANP	TCaCO3/KT	6.1	6.6	8.0	20	W620064	17-May-16	
Modified Sobek	Non-extractable Sulfur	%	0.12	0.13	10.4	20	W620064	16-May-16	
Modified Sobek	Non-Sulfate Sulfur	%	1.33	1.39	4.4	20	W620064	16-May-16	
Modified Sobek	Total Sulfur	%	0.10	0.10	2.9	20	W620064	17-May-16	
Modified Sobek	Total Sulfur	%	1.72	1.61	6.6	20	W620064	10-May-16	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>									
Modified Sobek	Non-extractable Sulfur	%	0.12	0.13	10.4	20	W620064	16-May-16	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	1.11	1.31	16.5	20	W620064	16-May-16	
Modified Sobek	Total Sulfur	%	0.10	0.10	2.9	20	W620064	17-May-16	
Modified Sobek	Total Sulfur	%	1.72	1.61	6.6	20	W620064	10-May-16	



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Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6E0101**  
Reported: 18-May-16 15:23

**Quality Control - DUPLICATE Data (Continued)**

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
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**Classical Chemistry Parameters**

EPA 600/2-78-054 mod Paste pH		pH Units	8.0	8.1	1.1	20	W621060	17-May-16	
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**Notes and Definitions**

- A2 2 g of sample used in ANP analysis
- A5 5 g of sample used in ANP analysis
- B7 Target analyte detected in method blank exceeded method QC limits, but concentrations in the samples are at least 10x the blank concentration.
- D2 Sample required dilution due to high concentration of target analyte.
- LCS Laboratory Control Sample (Blank Spike)
- RPD Relative Percent Difference
- UDL A result is less than the detection limit
- R > 4S % recovery not applicable, sample concentration more than four times greater than spike level
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable





McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6F0042**  
Reported: 15-Jun-16 09:27

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
SATURATED TAILINGS (HC-4)	W6F0042-01	Soil	31-May-16 11:00	02-Jun-2016	
NON-SATURATED TAILINGS (HC-3)	W6F0042-02	Soil	31-May-16 11:00	02-Jun-2016	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6F0042**  
Reported: 15-Jun-16 09:27

Client Sample ID: **SATURATED TAILINGS (HC-4)**  
SVL Sample ID: **W6F0042-01 (Soil)**

Sampled: 31-May-16 11:00  
Received: 02-Jun-16  
Sampled By:

**Sample Report Page 1 of 1**

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	<b>ABA</b>	-595.0	TCaCO3/kT	4.5			N/A		06/10/16 14:45	
Modified Sobek	<b>AGP</b>	614	TCaCO3/kT	4.5			N/A		06/09/16 12:31	
Modified Sobek	<b>ANP</b>	19.7	TCaCO3/kT	0.3			W624033	AGF	06/10/16 14:45	A5
Modified Sobek	<b>Non-extractable Sulfur</b>	0.29	%	0.01	0.005		W624033	AGF	06/09/16 12:08	
Modified Sobek	<b>Non-Sulfate Sulfur</b>	20.0	%	0.15	0.08	15	W624033	AGF	06/09/16 12:31	D2
Modified Sobek	<b>Pyritic Sulfur</b>	19.70	%	0.15			N/A		06/09/16 12:31	
Modified Sobek	<b>Sulfate Sulfur</b>	6.90	%	0.15			N/A		06/09/16 12:31	
Modified Sobek	<b>Total Sulfur</b>	26.9	%	0.15	0.08	15	W624033	AGF	06/06/16 14:11	D2
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	<b>ABA-HCl</b>	-637.0	TCaCO3/kT	4.5			N/A		06/14/16 13:58	
Modified Sobek	<b>AGP-HCl</b>	657	TCaCO3/kT	4.5			N/A		06/14/16 13:58	
Modified Sobek	<b>Non-extractable Sulfur</b>	0.29	%	0.01	0.005		W624033	AGF	06/09/16 12:08	
Modified Sobek	<b>Non-Sulfate Sulfur-HCl</b>	21.3	%	0.15	0.08	15	W624033	AGF	06/14/16 13:58	D2
Modified Sobek	<b>Pyritic Sulfur-HCl</b>	21.00	%	0.15			N/A		06/14/16 13:58	
Modified Sobek	<b>Sulfate Sulfur-HCl</b>	5.55	%	0.15			N/A		06/14/16 13:58	
Modified Sobek	<b>Total Sulfur</b>	26.9	%	0.15	0.08	15	W624033	AGF	06/06/16 14:11	D2
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	<b>Paste pH @18.5°C</b>	3.7		pH Units			W625025	AGF	06/13/16 11:45	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6F0042**  
Reported: 15-Jun-16 09:27

Client Sample ID: **NON-SATURATED TAILINGS (HC-3)**

SVL Sample ID: **W6F0042-02 (Soil)**

Sample Report Page 1 of 1

Sampled: 31-May-16 11:00  
Received: 02-Jun-16  
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	ABA	-580.0	TCaCO3/kT	4.5			N/A		06/10/16 14:45	
Modified Sobek	AGP	580	TCaCO3/kT	4.5			N/A		06/09/16 12:35	
Modified Sobek	ANP	< 0.3	TCaCO3/kT	0.3			W624033	AGF	06/10/16 14:45	A5
Modified Sobek	Non-extractable Sulfur	0.33	%	0.01	0.005		W624033	AGF	06/09/16 12:13	
Modified Sobek	Non-Sulfate Sulfur	18.9	%	0.15	0.08	15	W624033	AGF	06/09/16 12:35	D2
Modified Sobek	Pyritic Sulfur	18.60	%	0.15			N/A		06/09/16 12:35	
Modified Sobek	Sulfate Sulfur	7.20	%	0.15			N/A		06/09/16 12:35	
Modified Sobek	Total Sulfur	26.1	%	0.15	0.08	15	W624033	AGF	06/06/16 14:14	D2
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	ABA-HCl	-463.0	TCaCO3/kT	4.5			N/A		06/10/16 14:45	
Modified Sobek	AGP-HCl	463	TCaCO3/kT	4.5			N/A		06/09/16 12:55	
Modified Sobek	Non-extractable Sulfur	0.33	%	0.01	0.005		W624033	AGF	06/09/16 12:13	
Modified Sobek	Non-Sulfate Sulfur-HCl	15.2	%	0.15	0.08	15	W624033	AGF	06/09/16 12:55	D2
Modified Sobek	Pyritic Sulfur-HCl	14.80	%	0.15			N/A		06/09/16 12:55	
Modified Sobek	Sulfate Sulfur-HCl	11.00	%	0.15			N/A		06/09/16 12:55	
Modified Sobek	Total Sulfur	26.1	%	0.15	0.08	15	W624033	AGF	06/06/16 14:14	D2
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	Paste pH @18.5°C	2.2	pH Units				W625025	AGF	06/13/16 11:45	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



McClelland Laboratories Inc  
 1016 Greg Street  
 Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
 Work Order: **W6F0042**  
 Reported: 15-Jun-16 09:27

**Quality Control - BLANK Data**

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>								
Modified Sobek	ANP	TCaCO3/KT	<0.3		0.3	W624033	10-Jun-16	
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.005	0.01	W624033	09-Jun-16	
Modified Sobek	Non-Sulfate Sulfur	%	<0.01	0.005	0.01	W624033	09-Jun-16	
Modified Sobek	Total Sulfur	%	<0.01	0.005	0.01	W624033	06-Jun-16	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>								
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.005	0.01	W624033	09-Jun-16	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.01	0.005	0.01	W624033	09-Jun-16	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.01	0.005	0.01	W624033	14-Jun-16	
Modified Sobek	Total Sulfur	%	<0.01	0.005	0.01	W624033	06-Jun-16	

**Quality Control - LABORATORY CONTROL SAMPLE Data**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>									
Modified Sobek	ANP	TCaCO3/KT	228	212	108	80 - 120	W624033	10-Jun-16	
Modified Sobek	Total Sulfur	%	1.12	1.00	112	80 - 120	W624033	06-Jun-16	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>									
Modified Sobek	Total Sulfur	%	1.12	1.00	112	80 - 120	W624033	06-Jun-16	
<b>Classical Chemistry Parameters</b>									
EPA 600/2-78-054 mod	Paste pH	pH Units	7.4	7.40	99.9	93.7 - 106.3	W625025	13-Jun-16	

**Quality Control - DUPLICATE Data**

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>									
Modified Sobek	ANP	TCaCO3/KT	19.7	19.7	0.0	20	W624033	10-Jun-16	
Modified Sobek	Non-extractable Sulfur	%	0.27	0.29	6.9	20	W624033	09-Jun-16	
Modified Sobek	Non-Sulfate Sulfur	%	19.7	20.0	1.5	20	W624033	09-Jun-16	D2
Modified Sobek	Total Sulfur	%	26.3	26.9	2.3	20	W624033	06-Jun-16	D2
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>									
Modified Sobek	Non-extractable Sulfur	%	0.27	0.29	6.9	20	W624033	09-Jun-16	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	18.9	21.3	11.9	20	W624033	14-Jun-16	D2
Modified Sobek	Total Sulfur	%	26.3	26.9	2.3	20	W624033	06-Jun-16	D2
<b>Classical Chemistry Parameters</b>									
EPA 600/2-78-054 mod	Paste pH	pH Units	7.3	7.4	0.1	20	W625025	13-Jun-16	



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Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6F0042**  
Reported: 15-Jun-16 09:27

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### Notes and Definitions

- A5        5 g of sample used in ANP analysis
  - D2        Sample required dilution due to high concentration of target analyte.
  - LCS       Laboratory Control Sample (Blank Spike)
  - RPD       Relative Percent Difference
  - UDL       A result is less than the detection limit
  - R > 4S   % recovery not applicable, sample concentration more than four times greater than spike level
  - <RL       A result is less than the reporting limit
  - MRL       Method Reporting Limit
  - MDL       Method Detection Limit
  - N/A       Not Applicable
-



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1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6I0161**  
Reported: 23-Sep-16 11:30

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received	Notes
3767 USZ 1 HIGH FE/USZ 2 LOW FE COMP ABA	W6I0161-01	Soil	02-Sep-16 07:00	CA	08-Sep-2016	
3767-01 LZFW COMP ABA	W6I0161-02	Soil	02-Sep-16 07:00	CA	08-Sep-2016	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

Case Narrative: W6I0161

Client did not relinquish COC.



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
**Work Order: W610161**  
**Reported: 23-Sep-16 11:30**

Client Sample ID: **3767 USZ 1 HIGH FE/USZ 2 LOW FE COMP ABA**

Sampled: 02-Sep-16 07:00

SVL Sample ID: **W610161-01 (Soil)**

**Sample Report Page 1 of 1**

Received: 08-Sep-16

Sampled By: CA

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	ABA	-51.7	TCaCO3/kT	3.0			N/A		09/18/16 16:20	
Modified Sobek	AGP	303	TCaCO3/kT	3.0			N/A		09/18/16 16:20	
Modified Sobek	ANP	251	TCaCO3/kT	0.3			W638134	AGF	09/16/16 17:30	A2
Modified Sobek	Non-extractable Sulfur	0.13	%	0.01	0.005		W638134	AGF	09/16/16 13:54	
Modified Sobek	Non-Sulfate Sulfur	9.82	%	0.10	0.05	10	W638134	AGF	09/18/16 16:20	D2
Modified Sobek	Pyritic Sulfur	9.69	%	0.10			N/A		09/18/16 16:20	
Modified Sobek	Sulfate Sulfur	6.08	%	0.10			N/A		09/18/16 16:20	
Modified Sobek	Total Sulfur	15.9	%	0.10	0.05	10	W638134	AGF	09/14/16 12:49	D2
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	ABA-HCl	-82.3	TCaCO3/kT	3.0			N/A		09/16/16 17:30	
Modified Sobek	AGP-HCl	333	TCaCO3/kT	3.0			N/A		09/16/16 17:00	
Modified Sobek	Non-extractable Sulfur	0.13	%	0.01	0.005		W638134	AGF	09/16/16 13:54	
Modified Sobek	Non-Sulfate Sulfur-HCl	10.8	%	0.10	0.05	10	W638134	AGF	09/16/16 17:00	D2
Modified Sobek	Pyritic Sulfur-HCl	10.70	%	0.10			N/A		09/16/16 17:00	
Modified Sobek	Sulfate Sulfur-HCl	5.10	%	0.10			N/A		09/16/16 17:00	
Modified Sobek	Total Sulfur	15.9	%	0.10	0.05	10	W638134	AGF	09/14/16 12:49	D2
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	Paste pH @18.6°C	6.7	pH Units				W639160	AGF	09/22/16 13:45	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
**Work Order: W610161**  
**Reported: 23-Sep-16 11:30**

Client Sample ID: **3767-01 LZFW COMP ABA**

SVL Sample ID: **W610161-02 (Soil)**

Sample Report Page 1 of 1

Sampled: 02-Sep-16 07:00  
Received: 08-Sep-16  
Sampled By: CA

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	ABA	-4.5	TCaCO3/kT	0.3			N/A		09/18/16 16:25	
Modified Sobek	AGP	44.5	TCaCO3/kT	0.3			N/A		09/18/16 16:25	
Modified Sobek	ANP	40.0	TCaCO3/kT	0.3			W638134	AGF	09/16/16 17:30	A2
Modified Sobek	Non-extractable Sulfur	0.02	%	0.01	0.005		W638134	AGF	09/16/16 13:57	
Modified Sobek	Non-Sulfate Sulfur	1.44	%	0.01	0.005		W638134	AGF	09/18/16 16:25	
Modified Sobek	Pyritic Sulfur	1.42	%	0.01			N/A		09/18/16 16:25	
Modified Sobek	Sulfate Sulfur	0.42	%	0.01			N/A		09/18/16 16:25	
Modified Sobek	Total Sulfur	1.86	%	0.01	0.005		W638134	AGF	09/14/16 10:50	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	ABA-HCl	-5.8	TCaCO3/kT	0.3			N/A		09/16/16 17:30	
Modified Sobek	AGP-HCl	45.7	TCaCO3/kT	0.3			N/A		09/16/16 17:05	
Modified Sobek	Non-extractable Sulfur	0.02	%	0.01	0.005		W638134	AGF	09/16/16 13:57	
Modified Sobek	Non-Sulfate Sulfur-HCl	1.48	%	0.01	0.005		W638134	AGF	09/16/16 17:05	
Modified Sobek	Pyritic Sulfur-HCl	1.46	%	0.01			N/A		09/16/16 17:05	
Modified Sobek	Sulfate Sulfur-HCl	0.38	%	0.01			N/A		09/16/16 17:05	
Modified Sobek	Total Sulfur	1.86	%	0.01	0.005		W638134	AGF	09/14/16 10:50	
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	Paste pH @18.8°C	7.7	pH Units				W639160	AGF	09/22/16 13:45	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director





McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6I0161**  
Reported: 23-Sep-16 11:30

**Quality Control - BLANK Data**

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>								
Modified Sobek	ANP	TCaCO3/kT	<0.3		0.3	W638134	16-Sep-16	
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.005	0.01	W638134	16-Sep-16	
Modified Sobek	Non-Sulfate Sulfur	%	<0.01	0.005	0.01	W638134	18-Sep-16	
Modified Sobek	Total Sulfur	%	<0.01	0.005	0.01	W638134	14-Sep-16	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>								
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.005	0.01	W638134	16-Sep-16	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.01	0.005	0.01	W638134	16-Sep-16	
Modified Sobek	Total Sulfur	%	<0.01	0.005	0.01	W638134	14-Sep-16	

**Quality Control - LABORATORY CONTROL SAMPLE Data**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>									
Modified Sobek	ANP	TCaCO3/kT	217	212	103	80 - 120	W638134	16-Sep-16	
Modified Sobek	Total Sulfur	%	1.03	1.00	103	80 - 120	W638134	14-Sep-16	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>									
Modified Sobek	Total Sulfur	%	1.03	1.00	103	80 - 120	W638134	14-Sep-16	
<b>Classical Chemistry Parameters</b>									
EPA 600/2-78-054 mod	Paste pH @18.9°C	pH Units	7.5	7.40	102	93.7 - 106.3	W639160	22-Sep-16	

**Quality Control - DUPLICATE Data**

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>									
Modified Sobek	ANP	TCaCO3/kT	109	107	1.2	20	W638134	16-Sep-16	
Modified Sobek	Non-extractable Sulfur	%	<0.01	<0.01	UDL	20	W638134	16-Sep-16	
Modified Sobek	Non-Sulfate Sulfur	%	0.64	0.63	0.3	20	W638134	18-Sep-16	
Modified Sobek	Total Sulfur	%	0.88	0.89	0.9	20	W638134	14-Sep-16	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>									
Modified Sobek	Non-extractable Sulfur	%	<0.01	<0.01	UDL	20	W638134	16-Sep-16	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	0.65	0.54	18.6	20	W638134	16-Sep-16	
Modified Sobek	Total Sulfur	%	0.88	0.89	0.9	20	W638134	14-Sep-16	
<b>Classical Chemistry Parameters</b>									
EPA 600/2-78-054 mod	Paste pH @18.9°C	pH Units	6.7	6.7	0.1	20	W639160	22-Sep-16	



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**Project Name: MLI: 3767 / 3767-01**

Work Order: **W610161**

Reported: 23-Sep-16 11:30

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### Notes and Definitions

A2	2 g of sample used in ANP analysis
D2	Sample required dilution due to high concentration of target analyte.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

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McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6L0308**  
Reported: 29-Dec-16 13:49

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
3767-01 USZ COMPOSITE (HC-1) ABA	W6L0308-01	Soil	—	14-Dec-2016	
3767-01 YNL EX (HC-7) ABA	W6L0308-02	Soil	—	14-Dec-2016	

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6L0308**  
Reported: 29-Dec-16 13:49

Client Sample ID: **3767-01 USZ COMPOSITE (HC-1) ABA**

SVL Sample ID: **W6L0308-01 (Soil)**

Sample Report Page 1 of 1

Sampled: —  
Received: 14-Dec-16  
Sampled By:

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	ABA	-484.0	TCaCO3/kT	4.5			N/A		12/23/16 11:55	
Modified Sobek	AGP	525	TCaCO3/kT	4.5			N/A		12/23/16 11:55	
Modified Sobek	ANP	40.5	TCaCO3/kT	0.3			W652014	AGF	12/22/16 14:39	A5
Modified Sobek	Non-extractable Sulfur	0.62	%	0.01	0.003		W652014	AGF	12/23/16 11:55	
Modified Sobek	Non-Sulfate Sulfur	17.4	%	0.15	0.04	15	W652014	AGF	12/22/16 12:04	D2
Modified Sobek	Pyritic Sulfur	16.80	%	0.15			N/A		12/23/16 11:55	
Modified Sobek	Sulfate Sulfur	13.70	%	0.15			N/A		12/22/16 12:04	
Modified Sobek	Total Sulfur	31.1	%	0.15	0.04	15	W652014	AGF	12/20/16 11:32	D2
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	ABA-HCl	-489.0	TCaCO3/kT	4.5			N/A		12/23/16 11:55	
Modified Sobek	AGP-HCl	529	TCaCO3/kT	4.5			N/A		12/23/16 11:55	
Modified Sobek	Non-extractable Sulfur	0.62	%	0.01	0.003		W652014	AGF	12/23/16 11:55	
Modified Sobek	Non-Sulfate Sulfur-HCl	17.6	%	0.15	0.04	15	W652014	AGF	12/22/16 13:53	D2
Modified Sobek	Pyritic Sulfur-HCl	16.90	%	0.15			N/A		12/23/16 11:55	
Modified Sobek	Sulfate Sulfur-HCl	13.50	%	0.15			N/A		12/22/16 13:53	
Modified Sobek	Total Sulfur	31.1	%	0.15	0.04	15	W652014	AGF	12/20/16 11:32	D2
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	Paste pH @17.9°C	5.3	pH Units				W653026	AGF	12/29/16 10:00	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6L0308**  
Reported: 29-Dec-16 13:49

Client Sample ID: **3767-01 YNL EX (HC-7) ABA**  
SVL Sample ID: **W6L0308-02 (Soil)**

Sampled: —  
Received: 14-Dec-16  
Sampled By:

**Sample Report Page 1 of 1**

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>										
Modified Sobek	<b>ABA</b>	151	TCaCO3/kT	0.3			N/A		12/22/16 14:39	
Modified Sobek	<b>AGP</b>	14.1	TCaCO3/kT	0.3			N/A		12/22/16 12:07	
Modified Sobek	<b>ANP</b>	165	TCaCO3/kT	0.3			W652014	AGF	12/22/16 14:39	A5
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.003		W652014	AGF	12/22/16 11:13	
Modified Sobek	<b>Non-Sulfate Sulfur</b>	0.45	%	0.01	0.003		W652014	AGF	12/22/16 12:07	
Modified Sobek	<b>Pyritic Sulfur</b>	0.45	%	0.01			N/A		12/22/16 12:07	
Modified Sobek	<b>Sulfate Sulfur</b>	0.10	%	0.01			N/A		12/22/16 12:07	
Modified Sobek	<b>Total Sulfur</b>	0.55	%	0.01	0.003		W652014	AGF	12/20/16 12:17	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>										
Modified Sobek	<b>ABA-HCl</b>	155	TCaCO3/kT	0.3			N/A		12/22/16 14:39	
Modified Sobek	<b>AGP-HCl</b>	10.6	TCaCO3/kT	0.3			N/A		12/22/16 14:02	
Modified Sobek	Non-extractable Sulfur	< 0.01	%	0.01	0.003		W652014	AGF	12/22/16 11:13	
Modified Sobek	<b>Non-Sulfate Sulfur-HCl</b>	0.34	%	0.01	0.003		W652014	AGF	12/22/16 14:02	
Modified Sobek	<b>Pyritic Sulfur-HCl</b>	0.30	%	0.01			N/A		12/22/16 14:02	
Modified Sobek	<b>Sulfate Sulfur-HCl</b>	0.20	%	0.01			N/A		12/22/16 14:02	
Modified Sobek	<b>Total Sulfur</b>	0.55	%	0.01	0.003		W652014	AGF	12/20/16 12:17	
<b>Classical Chemistry Parameters</b>										
EPA 600/2-78-054 mod	<b>Paste pH @17.1°C</b>	7.9	pH Units				W653026	AGF	12/29/16 10:00	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

**John Kern**  
Laboratory Director



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6L0308**  
Reported: 29-Dec-16 13:49

**Quality Control - BLANK Data**

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>								
Modified Sobek	ANP	TCaCO3/kT	<0.3		0.3	W652014	22-Dec-16	
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.003	0.01	W652014	22-Dec-16	
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.003	0.01	W652014	23-Dec-16	
Modified Sobek	Non-Sulfate Sulfur	%	<0.01	0.003	0.01	W652014	22-Dec-16	
Modified Sobek	Non-Sulfate Sulfur	%	<0.01	0.003	0.01	W652014	23-Dec-16	
Modified Sobek	Total Sulfur	%	<0.01	0.003	0.01	W652014	20-Dec-16	

**Acid/Base Accounting & Sulfur Forms (HCl Wash)**

Modified Sobek	Non-extractable Sulfur	%	<0.01	0.003	0.01	W652014	22-Dec-16	
Modified Sobek	Non-extractable Sulfur	%	<0.01	0.003	0.01	W652014	23-Dec-16	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	<0.01	0.003	0.01	W652014	22-Dec-16	
Modified Sobek	Total Sulfur	%	<0.01	0.003	0.01	W652014	20-Dec-16	

**Quality Control - LABORATORY CONTROL SAMPLE Data**

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>									
Modified Sobek	ANP	TCaCO3/kT	205	212	96.8	80 - 120	W652014	22-Dec-16	
Modified Sobek	Total Sulfur	%	1.05	1.00	105	80 - 120	W652014	20-Dec-16	
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>									
Modified Sobek	Total Sulfur	%	1.05	1.00	105	80 - 120	W652014	20-Dec-16	
<b>Classical Chemistry Parameters</b>									
EPA 600/2-78-054 mod	Paste pH @18.1°C	pH Units	7.3	7.40	99.2	93.7 - 106.3	W653026	29-Dec-16	

**Quality Control - DUPLICATE Data**

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
<b>Acid/Base Accounting &amp; Sulfur Forms</b>									
Modified Sobek	ANP	TCaCO3/kT	40.5	40.5	0.0	20	W652014	22-Dec-16	
Modified Sobek	Non-extractable Sulfur	%	0.72	0.62	15.5	20	W652014	23-Dec-16	
Modified Sobek	Non-Sulfate Sulfur	%	0.01	0.01	16.1	20	W652014	23-Dec-16	
Modified Sobek	Non-Sulfate Sulfur	%	20.3	17.4	15.1	20	W652014	22-Dec-16	D2
Modified Sobek	Total Sulfur	%	31.2	31.1	0.5	20	W652014	20-Dec-16	D2
<b>Acid/Base Accounting &amp; Sulfur Forms (HCl Wash)</b>									
Modified Sobek	Non-extractable Sulfur	%	0.72	0.62	15.5	20	W652014	23-Dec-16	
Modified Sobek	Non-Sulfate Sulfur-HCl	%	15.9	17.6	9.9	20	W652014	22-Dec-16	D2
Modified Sobek	Total Sulfur	%	31.2	31.1	0.5	20	W652014	20-Dec-16	D2



McClelland Laboratories Inc  
1016 Greg Street  
Sparks, NV 89431

**Project Name: MLI: 3767 / 3767-01**  
Work Order: **W6L0308**  
Reported: 29-Dec-16 13:49

**Quality Control - DUPLICATE Data (Continued)**

Method	Analyte	Units	Duplicate Result	Sample Result	RPD	RPD Limit	Batch ID	Analyzed	Notes
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**Classical Chemistry Parameters**

EPA 600/2-78-054 mod Paste pH @17.7°C		pH Units	5.3	5.3	0.6	20	W653026	29-Dec-16	
---------------------------------------	--	----------	-----	-----	-----	----	---------	-----------	--

**Notes and Definitions**

- A5 5 g of sample used in ANP analysis
- D2 Sample required dilution due to high concentration of target analyte.
- LCS Laboratory Control Sample (Blank Spike)
- RPD Relative Percent Difference
- UDL A result is less than the detection limit
- R > 4S % recovery not applicable, sample concentration more than four times greater than spike level
- <RL A result is less than the reporting limit
- MRL Method Reporting Limit
- MDL Method Detection Limit
- N/A Not Applicable



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Page: 1  
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 Account: EIM

**CERTIFICATE RE16149263**

Project: 3767- 01

This report is for 4 Pulp samples submitted to our lab in Reno, NV, USA on 6-SEP-2016.

The following have access to data associated with this certificate:

CHRISTINE DEBURLE  
 JACK MCPARTLAND

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
PUL- 21	Pulverize entire sample
LOG- 24	Pulp Login - Rcd w/o Barcode

ANALYTICAL PROCEDURES	
ALS CODE	DESCRIPTION
ME- MS61	48 element four acid ICP- MS
Hg- MS42	Trace Hg by ICPMS

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project. Statement required by Nevada State Law NRS 519

To: MCCLELLAND LABS  
 ATTN: JACK MCPARTLAND  
 1016 GREG ST  
 SPARKS NV 89431

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Signature:

Colin Ramshaw, Vancouver Laboratory Manager





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Project: 3767-01

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**CERTIFICATE OF ANALYSIS RE16149263**

Method Analyte Units	WEI-21 Recvd Wt kg	ME-MS61 Ag ppm	ME-MS61 Al %	ME-MS61 As ppm	ME-MS61 Ba ppm	ME-MS61 Be ppm	ME-MS61 Bi ppm	ME-MS61 Cd ppm	ME-MS61 Ce ppm	ME-MS61 Co ppm	ME-MS61 Cr ppm	ME-MS61 Cs ppm	ME-MS61 Cu ppm	ME-MS61 Fe %
LOR	0.02	0.01	0.01	0.2	1.0	0.05	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01
3767 Ynl B 2012 Decline ICP	0.10	4.84	2.73	77.8	50	1.28	0.24	0.53	23.4	10.9	40	3.15	52.1	16.25
3767-01 Ynl B Comp. ICP	0.10	0.09	4.30	16.1	260	1.42	0.33	1.41	47.4	8.8	54	5.54	24.9	3.12
3767-01 Ynl B Comp. ICP	0.10	0.12	5.96	12.0	1380	2.12	0.28	0.24	54.3	12.4	60	6.87	59.1	3.97
3767-01 LZFW Comp. ICP	0.10	0.65	3.35	79.6	260	2.14	10.70	0.02	27.2	43.6	172	5.62	439	3.01



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**CERTIFICATE OF ANALYSIS RE16149263**

Method Analyte Units LOR	ME-MS61 Ca ppm 0.05	ME-MS61 Ge ppm 0.05	ME-MS61 HF ppm 0.1	Hg-MS42 Hg ppm 0.005	ME-MS61 In ppm 0.005	ME-MS61 K % 0.01	ME-MS61 La ppm 0.5	ME-MS61 Li ppm 0.2	ME-MS61 Mg % 0.01	ME-MS61 Mn ppm 5	ME-MS61 Mo ppm 0.05	ME-MS61 Na % 0.01	ME-MS61 Nb ppm 0.1	ME-MS61 Ni ppm 0.2	ME-MS61 P ppm 10
3767 USZ 1 High FE/USZ 2 Low Fe Comp. ICP	7.36	0.14	1.3	0.210	0.579	1.55	9.8	47.3	3.76	801	5.31	0.06	4.2	26.4	260
3767 Ynl B 2012 Decline ICP	11.00	0.12	2.4	0.055	0.057	2.19	25.9	80.4	5.99	716	3.96	0.19	7.2	26.1	510
3767-01 Ynl B Comp. ICP	15.55	0.15	2.4	0.054	0.122	3.16	29.1	71.6	3.71	400	1.65	0.04	8.4	30.0	300
3767-01 LZFW Comp. ICP	13.60	0.10	1.3	0.081	0.102	1.33	13.5	62.0	1.95	149	6.47	0.03	4.5	49.7	3570



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**CERTIFICATE OF ANALYSIS RE16149263**

Method Analyte Units	ME-MS61 Pb ppm	ME-MS61 Rb ppm	ME-MS61 Re ppm	ME-MS61 S %	ME-MS61 Sb ppm	ME-MS61 Sc ppm	ME-MS61 Se ppm	ME-MS61 Sn ppm	ME-MS61 Sr ppm	ME-MS61 Ta ppm	ME-MS61 Te ppm	ME-MS61 Th ppm	ME-MS61 Ti %	ME-MS61 Tl ppm	ME-MS61 U ppm
Sample Description	737	55.8	0.003	>10.0	1.81	4.8	2	1.0	96.1	0.30	<0.05	3.59	0.112	29.5	2.0
3767 USZ 1 High Fe/USZ 2 Low Fe Comp. ICP	104.0	92.3	0.004	1.28	1.02	7.2	1	1.4	75.9	0.52	0.06	7.39	0.196	1.31	3.5
3767 Ynl B 2012 Decline ICP	10.7	115.0	0.003	0.65	0.78	10.8	1	2.0	71.3	0.59	<0.05	7.90	0.244	1.35	2.9
3767-01 Ynl B Comp. ICP	50.7	53.4	0.002	2.20	2.48	6.5	2	1.2	58.0	0.31	<0.05	4.27	0.131	5.92	29.2
3767-01 LZFW Comp. ICP															



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 Account: EIM

Project: 3767-01

**CERTIFICATE OF ANALYSIS RE16149263**

Method Analyte Units LOR	ME-MS61 V ppm	ME-MS61 W ppm	ME-MS61 Y ppm	ME-MS61 Zn ppm	ME-MS61 Zr ppm
3767 USZ 1 High RE/USZ 2 low Fx Comp ICP	37	0.6	11.5	102	48.7
3767 Ynl B 2012 Decline ICP	54	1.4	18.2	439	84.2
3767-01 Ynl B Comp. ICP	64	1.4	17.9	160	83.0
3767-01 LZFW Comp. ICP	40	0.8	14.2	24	46.8



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**CERTIFICATE OF ANALYSIS RE16149263**

CERTIFICATE COMMENTS	
<p>Applies to Method:</p> <p>Applies to Method:</p> <p>Applies to Method:</p>	<p>REE's may not be totally soluble in this method.            ME- MS61</p> <p>Processed at ALS Reno located at 4977 Energy Way, Reno, NV, USA.            LOG- 24            PUL- 21</p> <p>Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.            Hg- MS42            ME- MS61</p> <p style="text-align: center;">ANALYTICAL COMMENTS</p> <p style="text-align: center;">LABORATORY ADDRESSES</p> <p style="text-align: right;">WEI- 21</p>





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 Account: EIM

**CERTIFICATE RE16215364**

Project: 3767- 01

This report is for 2 Pulp samples submitted to our lab in Reno, NV, USA on 8- DEC- 2016.

The following have access to data associated with this certificate:

CHRISTINE DEBURLE

JACK MCPARTLAND

SAMPLE PREPARATION		
ALS CODE	DESCRIPTION	
WEI- 21	Received Sample Weight	
LOG- 24	Pulp Login - Rcd w/o Barcode	
ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
Hg- MS42	Trace Hg by ICPMS	ICP- MS
ME- MS61	48 element four acid ICP- MS	

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project. Statement required by Nevada State Law NRS 5.19

To: MCCLELLAND LABS  
 ATTN: JACK MCPARTLAND  
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This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Signature:

Colin Ramshaw, Vancouver Laboratory Manager



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**CERTIFICATE OF ANALYSIS RE16215364**

Method Analyte Units LOR	WEI- 21 Recvd Wt. kg	ME- MS61 Ag ppm	ME- MS61 Al %	ME- MS61 As ppm	ME- MS61 Ba ppm	ME- MS61 Be ppm	ME- MS61 Bi ppm	ME- MS61 Ca %	ME- MS61 Cd ppm	ME- MS61 Ce ppm	ME- MS61 Co ppm	ME- MS61 Cr ppm	ME- MS61 Cs ppm	ME- MS61 Cu ppm	ME- MS61 Fe %
3767-01 US2 Composite (HC- 1) ICP	0.12	11.10	1.68	418	20	1.37	17.55	1.38	0.26	5.19	217	52	3.26	3150	24.3
3767-01 Ynl EX (HC- 7) ICP	0.12	0.14	5.49	13.9	290	1.59	0.20	3.97	0.40	49.7	9.5	37	6.98	36.2	3.35



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**CERTIFICATE OF ANALYSIS RE16215364**

Method Analyte Units LOR	ME- MS61 Ga ppm	ME- MS61 Ge ppm	ME- MS61 Hf ppm	Hg- MS42 Hg ppm	ME- MS61 In ppm	ME- MS61 K %	ME- MS61 La ppm	ME- MS61 Li ppm	ME- MS61 Mg %	ME- MS61 Mn ppm	ME- MS61 Mo ppm	ME- MS61 Na %	ME- MS61 Nb ppm	ME- MS61 Ni ppm	ME- MS61 P ppm
3767- 01 USZ Composite (HC- 1) ICP	7.55	0.09	0.9	2.31	0.593	1.25	1.8	12.3	0.55	186	4.63	0.02	2.9	52.5	260
3767- 01 Ynl EX (HC- 7) ICP	14.10	0.13	2.1	0.058	0.059	1.84	27.5	93.6	5.01	319	0.64	0.19	9.3	22.5	580





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**CERTIFICATE OF ANALYSIS RE16215364**

Method Analyte Units LOR	ME- MS61 Pb ppm	ME- MS61 Rb ppm	ME- MS61 Re ppm	ME- MS61 S %	ME- MS61 Sb ppm	ME- MS61 Sc ppm	ME- MS61 Se ppm	ME- MS61 Sn ppm	ME- MS61 Sr ppm	ME- MS61 Ta ppm	ME- MS61 Te ppm	ME- MS61 Th ppm	ME- MS61 Ti %	ME- MS61 Tl ppm	ME- MS61 U ppm
3767- 01 USZ Composite (HC- 1) ICP	1000	39.7	0.002	>10.0	27.0	3.0	1	0.7	3530	0.20	<0.05	1.22	0.070	72.7	1.6
3767- 01 Ynl EX (HC- 7) ICP	40.7	104.0	<0.002	0.59	0.74	10.4	1	1.5	66.0	0.57	<0.05	7.03	0.271	0.73	2.8



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**CERTIFICATE OF ANALYSIS RE16215364**

Method Analyte Units LOR	ME-MS61 V ppm	ME-MS61 W ppm	ME-MS61 Y ppm	ME-MS61 Zn ppm	ME-MS61 Zr ppm
3767-01 USZ Composite (HC-1) ICP	26	0.8	6.5	93	32.6
3767-01 Ynl EX (HC-7) ICP	57	1.0	16.0	124	79.8



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Project: 3767- 01

CERTIFICATE OF ANALYSIS RE16215364

CERTIFICATE COMMENTS	
Applies to Method:	REE's may not be totally soluble in this method. ME- MS61
Applies to Method:	Processed at ALS Reno located at 4977 Energy Way, Reno, NV, USA. LOG- 24 WEI- 21
Applies to Method:	LABORATORY ADDRESSES Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada. Hg- MS42 ME- MS61

**APPENDIX**

**Section 3 - Energy Lab Reports**

**(See Attachments)**



# ANALYTICAL SUMMARY REPORT

June 26, 2015

Tintina Montana Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B15061624      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:0

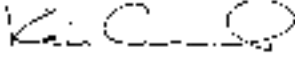
Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Montana Inc on 6/17/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15061624-001	USZ Comp	06/16/15 9:00	06/17/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15061624-002	Yc Comp	06/16/15 9:00	06/17/15	Aqueous	Same As Above
B15061624-003	Tailings	06/16/15 9:00	06/17/15	Aqueous	Same As Above
B15061624-004	Tailings (Saturated)	06/16/15 9:00	06/17/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2015.06.26 16:32:43 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0  
**Lab ID:** B15061624-001  
**Client Sample ID:** USZ Comp

**Report Date:** 06/26/15  
**Collection Date:** 06/16/15 09:00  
**Date Received:** 06/17/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	6950	mg/L	D	20		E300.0	06/25/15 18:53 / rbf
Fluoride	0.4	mg/L		0.2		A4500-F C	06/23/15 12:43 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.074	mg/L	L	0.005		E365.1	06/18/15 16:02 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	6.76	mg/L		0.009		E200.8	06/18/15 15:36 / mas
Antimony	0.0044	mg/L		0.0005		E200.8	06/18/15 15:36 / mas
Arsenic	0.085	mg/L		0.001		E200.8	06/18/15 15:36 / mas
Barium	0.018	mg/L		0.003		E200.7	06/18/15 19:02 / prw
Beryllium	0.0100	mg/L		0.0008		E200.8	06/18/15 15:36 / mas
Cadmium	0.00634	mg/L		0.00003		E200.8	06/18/15 15:36 / mas
Calcium	499	mg/L		1		E200.7	06/18/15 19:02 / prw
Chromium	ND	mg/L		0.01		E200.8	06/18/15 15:36 / mas
Copper	8.01	mg/L		0.002		E200.8	06/18/15 15:36 / mas
Iron	1510	mg/L	D	0.03		E200.7	06/18/15 19:02 / prw
Lead	0.0158	mg/L		0.0003		E200.8	06/18/15 15:36 / mas
Magnesium	234	mg/L		1		E200.7	06/18/15 19:02 / prw
Manganese	14.7	mg/L	D	0.006		E200.7	06/18/15 19:02 / prw
Mercury	ND	mg/L		5E-06		E245.1	06/18/15 16:50 / ser
Nickel	3.59	mg/L	D	0.02		E200.7	06/18/15 19:02 / prw
Selenium	0.005	mg/L		0.001		E200.8	06/18/15 15:36 / mas
Silicon	2.5	mg/L	D	0.1		E200.7	06/18/15 19:02 / prw
Silver	ND	mg/L		0.0002		E200.8	06/18/15 15:36 / mas
Strontium	52.9	mg/L		0.02		E200.7	06/18/15 19:02 / prw
Thallium	0.401	mg/L		0.0002		E200.8	06/18/15 15:36 / mas
Uranium	0.0068	mg/L		0.0002		E200.8	06/18/15 15:36 / mas
Zinc	1.38	mg/L	D	0.02		E200.7	06/18/15 19:02 / prw

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0  
**Lab ID:** B15061624-002  
**Client Sample ID:** Yc Comp

**Report Date:** 06/26/15  
**Collection Date:** 06/16/15 09:00  
**Date Received:** 06/17/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	100	mg/L		1		E300.0	06/23/15 11:51 / rbf
Fluoride	3.9	mg/L		0.2		A4500-F C	06/23/15 12:46 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.044	mg/L	L	0.005		E365.1	06/18/15 16:08 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.348	mg/L		0.009		E200.8	06/18/15 15:40 / mas
Antimony	0.0038	mg/L		0.0005		E200.8	06/18/15 15:40 / mas
Arsenic	0.043	mg/L		0.001		E200.8	06/18/15 15:40 / mas
Barium	0.097	mg/L		0.003		E200.7	06/18/15 19:06 / prw
Beryllium	ND	mg/L		0.0008		E200.7	06/18/15 19:06 / prw
Cadmium	0.00083	mg/L		0.00003		E200.8	06/18/15 15:40 / mas
Calcium	7	mg/L		1		E200.7	06/18/15 19:06 / prw
Chromium	ND	mg/L		0.01		E200.7	06/18/15 19:06 / prw
Copper	0.004	mg/L		0.002		E200.8	06/18/15 15:40 / mas
Iron	0.04	mg/L		0.02		E200.7	06/18/15 19:06 / prw
Lead	0.0020	mg/L		0.0003		E200.8	06/18/15 15:40 / mas
Magnesium	8	mg/L		1		E200.7	06/18/15 19:06 / prw
Manganese	ND	mg/L		0.005		E200.7	06/18/15 19:06 / prw
Mercury	8.6E-06	mg/L		5E-06		E245.1	06/24/15 12:01 / ser
Nickel	ND	mg/L		0.002		E200.8	06/18/15 15:40 / mas
Selenium	0.024	mg/L		0.001		E200.8	06/18/15 15:40 / mas
Silicon	3.03	mg/L		0.05		E200.7	06/18/15 19:06 / prw
Silver	ND	mg/L		0.0002		E200.8	06/18/15 15:40 / mas
Strontium	0.13	mg/L		0.02		E200.7	06/18/15 19:06 / prw
Thallium	0.0008	mg/L		0.0002		E200.8	06/18/15 15:40 / mas
Uranium	0.0077	mg/L		0.0002		E200.8	06/18/15 15:40 / mas
Zinc	ND	mg/L		0.008		E200.7	06/18/15 19:06 / prw

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0  
**Lab ID:** B15061624-003  
**Client Sample ID:** Tailings

**Report Date:** 06/26/15  
**Collection Date:** 06/16/15 09:00  
**Date Received:** 06/17/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	610	mg/L	D	2		E300.0	06/23/15 12:05 / rbf
Fluoride	ND	mg/L		0.2		A4500-F C	06/23/15 12:49 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.091	mg/L	L	0.005		E365.1	06/18/15 16:09 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	06/18/15 15:44 / mas
Antimony	0.0012	mg/L		0.0005		E200.8	06/18/15 15:44 / mas
Arsenic	0.031	mg/L		0.001		E200.8	06/18/15 15:44 / mas
Barium	0.027	mg/L		0.003		E200.7	06/18/15 19:09 / prw
Beryllium	ND	mg/L		0.0008		E200.7	06/18/15 19:09 / prw
Cadmium	0.00013	mg/L		0.00003		E200.8	06/18/15 15:44 / mas
Calcium	110	mg/L		1		E200.7	06/18/15 19:09 / prw
Chromium	ND	mg/L		0.01		E200.7	06/18/15 19:09 / prw
Copper	0.128	mg/L		0.002		E200.8	06/18/15 15:44 / mas
Iron	ND	mg/L		0.02		E200.7	06/18/15 19:09 / prw
Lead	0.0013	mg/L		0.0003		E200.8	06/18/15 15:44 / mas
Magnesium	82	mg/L		1		E200.7	06/18/15 19:09 / prw
Manganese	3.04	mg/L		0.005		E200.7	06/18/15 19:09 / prw
Mercury	0.0000213	mg/L		5E-06		E245.1	06/24/15 12:09 / ser
Nickel	1.94	mg/L	D	0.004		E200.7	06/18/15 19:09 / prw
Selenium	ND	mg/L		0.001		E200.8	06/18/15 15:44 / mas
Silicon	1.01	mg/L		0.05		E200.7	06/18/15 19:09 / prw
Silver	ND	mg/L		0.0002		E200.8	06/18/15 15:44 / mas
Strontium	0.29	mg/L		0.02		E200.7	06/18/15 19:09 / prw
Thallium	0.0326	mg/L		0.0002		E200.8	06/18/15 15:44 / mas
Uranium	ND	mg/L		0.0002		E200.8	06/18/15 15:44 / mas
Zinc	0.037	mg/L		0.008		E200.7	06/18/15 19:09 / prw

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0  
**Lab ID:** B15061624-004  
**Client Sample ID:** Tailings (Saturated)

**Report Date:** 06/26/15  
**Collection Date:** 06/16/15 09:00  
**Date Received:** 06/17/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	771	mg/L	D	2		E300.0	06/23/15 12:18 / rbf
Fluoride	ND	mg/L		0.2		A4500-F C	06/23/15 12:51 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.107	mg/L	L	0.005		E365.1	06/18/15 16:10 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	06/18/15 15:48 / mas
Antimony	0.0018	mg/L		0.0005		E200.8	06/18/15 15:48 / mas
Arsenic	0.034	mg/L		0.001		E200.8	06/18/15 15:48 / mas
Barium	0.023	mg/L		0.003		E200.7	06/18/15 19:13 / prw
Beryllium	ND	mg/L		0.0008		E200.7	06/18/15 19:13 / prw
Cadmium	0.00013	mg/L		0.00003		E200.8	06/18/15 15:48 / mas
Calcium	158	mg/L		1		E200.7	06/18/15 19:13 / prw
Chromium	ND	mg/L		0.01		E200.7	06/18/15 19:13 / prw
Copper	0.070	mg/L		0.002		E200.8	06/18/15 15:48 / mas
Iron	ND	mg/L		0.02		E200.7	06/18/15 19:13 / prw
Lead	0.0022	mg/L		0.0003		E200.8	06/18/15 15:48 / mas
Magnesium	97	mg/L		1		E200.7	06/18/15 19:13 / prw
Manganese	2.89	mg/L		0.005		E200.7	06/18/15 19:13 / prw
Mercury	0.0000258	mg/L		5E-06		E245.1	06/24/15 12:15 / ser
Nickel	1.60	mg/L	D	0.004		E200.7	06/18/15 19:13 / prw
Selenium	ND	mg/L		0.001		E200.8	06/18/15 15:48 / mas
Silicon	1.09	mg/L		0.05		E200.7	06/18/15 19:13 / prw
Silver	ND	mg/L		0.0002		E200.8	06/18/15 15:48 / mas
Strontium	0.37	mg/L		0.02		E200.7	06/18/15 19:13 / prw
Thallium	0.0444	mg/L		0.0002		E200.8	06/18/15 15:48 / mas
Uranium	ND	mg/L		0.0002		E200.8	06/18/15 15:48 / mas
Zinc	0.026	mg/L		0.008		E200.7	06/18/15 19:13 / prw

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0

**Report Date:** 06/25/15  
**Work Order:** B15061624

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_150623A		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Fluoride	1.04	mg/L	0.10	104	90	110			06/23/15 10:37	
<b>Method:</b> A4500-F C								Batch: R244981		
<b>Lab ID:</b> MBLK	Method Blank									
Fluoride	ND	mg/L	0.01						Run: MAN-TECH_150623A 06/23/15 10:32	
<b>Lab ID:</b> LFB	Laboratory Fortified Blank									
Fluoride	1.00	mg/L	0.10	100	90	110			Run: MAN-TECH_150623A 06/23/15 10:35	
<b>Lab ID:</b> B15061539-021AMS	Sample Matrix Spike									
Fluoride	1.21	mg/L	0.10	102	80	120			Run: MAN-TECH_150623A 06/23/15 12:26	
<b>Lab ID:</b> B15061539-021AMSD	Sample Matrix Spike Duplicate									
Fluoride	1.22	mg/L	0.10	103	80	120	0.8	10	Run: MAN-TECH_150623A 06/23/15 12:29	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0

**Report Date:** 06/25/15  
**Work Order:** B15061624

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E365.1</b>								Analytical Run: FIA202-B_150618B			
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									06/18/15 15:05	
Phosphorus, Total as P		0.510	mg/L	0.0050	102	90	110				
<b>Method: E365.1</b>								Batch: 90589			
<b>Lab ID: MB-90589</b>	Method Blank									Run: FIA202-B_150618B	06/18/15 15:56
Phosphorus, Total Dissolved as P		ND	mg/L	0.005							
<b>Lab ID: LCS-90589</b>	Laboratory Control Sample									Run: FIA202-B_150618B	06/18/15 15:58
Phosphorus, Total Dissolved as P		0.191	mg/L	0.0050	96	90	110				
<b>Lab ID: B15061624-001CMS</b>	Sample Matrix Spike									Run: FIA202-B_150618B	06/18/15 16:03
Phosphorus, Total Dissolved as P		0.248	mg/L	0.0050	87	90	110			S	
<b>Lab ID: B15061624-001CMSD</b>	Sample Matrix Spike Duplicate									Run: FIA202-B_150618B	06/18/15 16:05
Phosphorus, Total Dissolved as P		0.243	mg/L	0.0050	84	90	110			S	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 06/26/15

Project: 3767-01 WK:0

Work Order: B15061624

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>						Analytical Run: IC METROHM 2_150622A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		8.68	mg/L	1.0	96	90	110			06/22/15 12:03
<b>Method: E300.0</b>						Batch: R244928				
<b>Lab ID: MB</b>	Method Blank									
Sulfate		ND	mg/L	0.2						Run: IC METROHM 2_150622A 06/22/15 11:49
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		8.82	mg/L	1.0	98	90	110			Run: IC METROHM 2_150622A 06/22/15 12:16
<b>Lab ID: B15061622-001AMS</b>	Sample Matrix Spike									
Sulfate		57.5	mg/L	1.0	101	90	110			Run: IC METROHM 2_150622A 06/23/15 11:11
<b>Lab ID: B15061622-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		57.0	mg/L	1.0	100	90	110	0.8	20	Run: IC METROHM 2_150622A 06/23/15 11:24
<b>Method: E300.0</b>						Analytical Run: IC METROHM 2_150625A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		8.56	mg/L	1.0	95	90	110			06/25/15 14:51
<b>Method: E300.0</b>						Batch: R245144				
<b>Lab ID: MBLK</b>	Method Blank									
Sulfate		ND	mg/L	0.2						Run: IC METROHM 2_150625A 06/25/15 15:04
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		8.47	mg/L	1.0	94	90	110			Run: IC METROHM 2_150625A 06/25/15 15:18
<b>Lab ID: B15061624-001AMS</b>	Sample Matrix Spike									
Sulfate		5380	mg/L	18		90	110			Run: IC METROHM 2_150625A 06/25/15 19:07 A
<b>Lab ID: B15061624-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		5360	mg/L	18		90	110	0.4	20	Run: IC METROHM 2_150625A 06/25/15 19:20 A

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0

**Report Date:** 06/26/15  
**Work Order:** B15061624

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.7										Analytical Run: ICP203-B_150618A	
<b>Lab ID:</b> ICV	11	Continuing Calibration Verification Standard							06/18/15 10:48		
Barium		2.52	mg/L	0.10	101	95	105				
Beryllium		1.29	mg/L	0.010	103	95	105				
Calcium		25.7	mg/L	1.0	103	95	105				
Chromium		2.52	mg/L	0.050	101	95	105				
Iron		2.56	mg/L	0.020	102	95	105				
Magnesium		25.0	mg/L	1.0	100	95	105				
Manganese		2.54	mg/L	0.010	102	95	105				
Nickel		2.51	mg/L	0.050	100	95	105				
Silicon		5.16	mg/L	0.10	103	95	105				
Strontium		2.54	mg/L	0.10	101	95	105				
Zinc		2.49	mg/L	0.010	100	95	105				
<b>Method:</b> E200.7										Batch: R244732	
<b>Lab ID:</b> MB-6500DIS150618A	11	Method Blank							Run: ICP203-B_150618A 06/18/15 10:55		
Barium		ND	mg/L	0.0002							
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.08							
Chromium		ND	mg/L	0.003							
Iron		ND	mg/L	0.003							
Magnesium		ND	mg/L	0.006							
Manganese		ND	mg/L	0.0006							
Nickel		ND	mg/L	0.002							
Silicon		ND	mg/L	0.01							
Strontium		ND	mg/L	0.0003							
Zinc		ND	mg/L	0.002							
<b>Lab ID:</b> LFB-6500DIS150618A	11	Laboratory Fortified Blank							Run: ICP203-B_150618A 06/18/15 10:59		
Barium		1.04	mg/L	0.10	104	85	115				
Beryllium		0.535	mg/L	0.010	107	85	115				
Calcium		52.8	mg/L	1.0	106	85	115				
Chromium		1.03	mg/L	0.050	103	85	115				
Iron		5.27	mg/L	0.020	105	85	115				
Magnesium		52.6	mg/L	1.0	105	85	115				
Manganese		5.22	mg/L	0.010	104	85	115				
Nickel		1.03	mg/L	0.050	103	85	115				
Silicon		10.4	mg/L	0.10	104	85	115				
Strontium		1.05	mg/L	0.10	105	85	115				
Zinc		1.04	mg/L	0.010	104	85	115				
<b>Lab ID:</b> B15061570-010AMS2	11	Sample Matrix Spike							Run: ICP203-B_150618A 06/18/15 18:52		
Barium		1.05	mg/L	0.050	102	70	130				
Beryllium		0.510	mg/L	0.0010	102	70	130				
Calcium		70.9	mg/L	1.0	103	70	130				
Chromium		1.01	mg/L	0.0050	101	70	130				
Iron		5.64	mg/L	0.020	104	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0

**Report Date:** 06/26/15  
**Work Order:** B15061624

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Batch: R244732		
<b>Lab ID: B15061570-010AMS2</b>	11	Sample Matrix Spike				Run: ICP203-B_150618A		06/18/15 18:52		
Magnesium		59.5	mg/L	1.0	104	70	130			
Manganese		5.12	mg/L	0.0010	101	70	130			
Nickel		1.01	mg/L	0.0050	101	70	130			
Silicon		14.1	mg/L	0.10	102	70	130			
Strontium		1.09	mg/L	0.010	101	70	130			
Zinc		1.14	mg/L	0.010	104	70	130			
<b>Lab ID: B15061570-010AMSD</b>	11	Sample Matrix Spike Duplicate				Run: ICP203-B_150618A		06/18/15 18:55		
Barium		1.06	mg/L	0.050	102	70	130	0.3	20	
Beryllium		0.511	mg/L	0.0010	102	70	130	0.1	20	
Calcium		71.0	mg/L	1.0	104	70	130	0.1	20	
Chromium		1.02	mg/L	0.0050	102	70	130	0.8	20	
Iron		5.60	mg/L	0.020	103	70	130	0.7	20	
Magnesium		59.3	mg/L	1.0	104	70	130	0.3	20	
Manganese		5.12	mg/L	0.0010	101	70	130	0.0	20	
Nickel		1.01	mg/L	0.0050	101	70	130	0.4	20	
Silicon		14.8	mg/L	0.10	109	70	130	4.9	20	
Strontium		1.09	mg/L	0.010	101	70	130	0.1	20	
Zinc		1.14	mg/L	0.010	104	70	130	0.3	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0

**Report Date:** 06/26/15  
**Work Order:** B15061624

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS203-B_150618A			
<b>Lab ID: QCS</b>	13 Initial Calibration Verification Standard							06/18/15 15:17			
Aluminum		0.243	mg/L	0.10	97	90	110				
Antimony		0.0490	mg/L	0.050	98	90	110				
Arsenic		0.0522	mg/L	0.0050	104	90	110				
Beryllium		0.0252	mg/L	0.0010	101	90	110				
Cadmium		0.0257	mg/L	0.0010	103	90	110				
Chromium		0.0507	mg/L	0.010	101	90	110				
Copper		0.0505	mg/L	0.010	101	90	110				
Lead		0.0500	mg/L	0.010	100	90	110				
Nickel		0.0519	mg/L	0.010	104	90	110				
Selenium		0.0526	mg/L	0.0050	105	90	110				
Silver		0.0241	mg/L	0.0050	96	90	110				
Thallium		0.0493	mg/L	0.10	99	90	110				
Uranium		0.0199	mg/L	0.0010	99	90	110				
<b>Method: E200.8</b>								Batch: R244724			
<b>Lab ID: LFB</b>	13 Laboratory Fortified Blank							Run: ICPMS203-B_150618A 06/18/15 10:13			
Aluminum		0.0506	mg/L	0.10	101	85	115				
Antimony		0.0522	mg/L	0.050	104	85	115				
Arsenic		0.0547	mg/L	0.0050	109	85	115				
Beryllium		0.0524	mg/L	0.0010	105	85	115				
Cadmium		0.0522	mg/L	0.0010	104	85	115				
Chromium		0.0552	mg/L	0.010	110	85	115				
Copper		0.0557	mg/L	0.010	111	85	115				
Lead		0.0520	mg/L	0.010	104	85	115				
Nickel		0.0548	mg/L	0.010	110	85	115				
Selenium		0.0548	mg/L	0.0050	110	85	115				
Silver		0.0199	mg/L	0.0050	99	85	115				
Thallium		0.0540	mg/L	0.10	108	85	115				
Uranium		0.0553	mg/L	0.0010	111	85	115				
<b>Lab ID: LRB</b>	13 Method Blank							Run: ICPMS203-B_150618A 06/18/15 11:00			
Aluminum		ND	mg/L	0.0002							
Antimony		ND	mg/L	1E-05							
Arsenic		5E-05	mg/L	5E-05							
Beryllium		ND	mg/L	9E-06							
Cadmium		ND	mg/L	5E-06							
Chromium		ND	mg/L	2E-05							
Copper		ND	mg/L	4E-05							
Lead		ND	mg/L	3E-05							
Nickel		ND	mg/L	4E-05							
Selenium		ND	mg/L	7E-05							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	3E-06							

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0

**Report Date:** 06/26/15  
**Work Order:** B15061624

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R244724
<b>Lab ID:</b> B15061629-001AMS	13	Sample Matrix Spike			Run: ICPMS203-B_150618A				06/18/15 17:07	
Aluminum		0.279	mg/L	0.030	98	70	130			
Antimony		0.255	mg/L	0.0010	101	70	130			
Arsenic		0.286	mg/L	0.0010	100	70	130			
Beryllium		0.240	mg/L	0.0010	96	70	130			
Cadmium		0.236	mg/L	0.0010	94	70	130			
Chromium		0.251	mg/L	0.0050	99	70	130			
Copper		0.240	mg/L	0.0050	96	70	130			
Lead		0.234	mg/L	0.0010	94	70	130			
Nickel		0.242	mg/L	0.0050	95	70	130			
Selenium		0.231	mg/L	0.0010	91	70	130			
Silver		0.0906	mg/L	0.0010	91	70	130			
Thallium		0.242	mg/L	0.00050	97	70	130			
Uranium		0.265	mg/L	0.00030	101	70	130			
<b>Lab ID:</b> B15061629-001AMSD	13	Sample Matrix Spike Duplicate			Run: ICPMS203-B_150618A				06/18/15 17:11	
Aluminum		0.267	mg/L	0.030	93	70	130	4.4	20	
Antimony		0.255	mg/L	0.0010	102	70	130	0.3	20	
Arsenic		0.285	mg/L	0.0010	99	70	130	0.2	20	
Beryllium		0.230	mg/L	0.0010	92	70	130	4.1	20	
Cadmium		0.235	mg/L	0.0010	94	70	130	0.1	20	
Chromium		0.254	mg/L	0.0050	100	70	130	1.3	20	
Copper		0.244	mg/L	0.0050	97	70	130	1.4	20	
Lead		0.233	mg/L	0.0010	93	70	130	0.5	20	
Nickel		0.244	mg/L	0.0050	96	70	130	0.5	20	
Selenium		0.248	mg/L	0.0010	98	70	130	7.0	20	
Silver		0.0880	mg/L	0.0010	88	70	130	3.0	20	
Thallium		0.241	mg/L	0.00050	97	70	130	0.1	20	
Uranium		0.265	mg/L	0.00030	101	70	130	0.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0

**Report Date:** 06/26/15  
**Work Order:** B15061624

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1 Analytical Run: HGCV203-B_150618A											
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								06/18/15 15:24	
Mercury		0.000214	mg/L	1.0E-05	107	90	110				
<b>Method:</b> E245.1 Batch: 90600											
<b>Lab ID:</b> MB-90600		Method Blank								Run: HGCV203-B_150618A	06/18/15 16:44
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-90600		Laboratory Control Sample								Run: HGCV203-B_150618A	06/18/15 16:47
Mercury		0.000210	mg/L	1.0E-05	105	85	115				
<b>Lab ID:</b> B15061624-003BMS		Sample Matrix Spike								Run: HGCV203-B_150618A	06/18/15 16:58
Mercury		0.000232	mg/L	1.0E-05	105	70	130				
<b>Lab ID:</b> B15061624-003BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150618A	06/18/15 17:01
Mercury		0.000233	mg/L	1.0E-05	106	70	130	0.4	30		
<b>Method:</b> E245.1 Analytical Run: HGCV203-B_150624A											
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								06/24/15 11:34	
Mercury		0.000218	mg/L	1.0E-05	109	90	110				
<b>Method:</b> E245.1 Batch: 90740											
<b>Lab ID:</b> MB-90740		Method Blank								Run: HGCV203-B_150624A	06/24/15 11:43
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-90740		Laboratory Control Sample								Run: HGCV203-B_150624A	06/24/15 11:46
Mercury		0.000213	mg/L	1.0E-05	107	85	115				
<b>Lab ID:</b> B15061624-002BMS		Sample Matrix Spike								Run: HGCV203-B_150624A	06/24/15 12:04
Mercury		0.000225	mg/L	1.0E-05	108	70	130				
<b>Lab ID:</b> B15061624-002BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150624A	06/24/15 12:06
Mercury		0.000225	mg/L	1.0E-05	108	70	130	0.0	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15061624

Login completed by: Randa Nees

Date Received: 6/17/2015

Reviewed by: BL2000\tedwards

Received by: dlf

Reviewed Date: 6/19/2015

Carrier name: UPS NDA

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 5.4°C On Ice
- Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT - Provide as much information as possible.

Company Name: McClelland Lab		Project Name, PWS, Permit, Etc. 3767-01 WK:0		Sample Origin State: NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Email: MLI@METTEST.COM		Sampler: (Please Print) Robert Johnson	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko 604-628-1162		Purchase Order:		Quote/Bottle Order:	
<input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP State: _____ <input type="checkbox"/> Other: _____		<input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) Format: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		ANALYSIS REQUESTED SEE ATTACHED		Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page Comments:	
Special Report/Formats - ELI must be notified prior to sample submittal for the following:		Number of Containers Air Water Soils/Solids Vegetation Bioassay Other		R U S H Normal Turnaround (TAT)		Shipped by: Robert Johnson Cooler ID(s):	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date		Collection Time		Receipt Temp On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1 USZ Comp		6/16/15		09:00		Custody Seal Intact <input checked="" type="checkbox"/> Signature Match <input checked="" type="checkbox"/>	
2 Yc Comp		↓		↓		Please Copy results to: MLI@METTEST.COM	
3 Tailings		↓		↓		hold remaining preserved	
4 Tailings (Saturated)		↓		↓		samples (frozen) until further notice.	
5							
6							
7							
8							
9							
10							

<b>Custody Record MUST be Signed</b>	Relinquished by (print): JOE CHANEY	Date/Time: 6/16/15 9 AM	Received by (print): [Signature]	Date/Time: [Signature]
	Relinquished by (print):	Date/Time:	Received by (print):	Date/Time:
	Sample Disposal:	Return to Client:	Lab Disposal:	Received by Laboratory: 6/17/15 0830

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

July 08, 2015

Tintina Montana Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B15070127                      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:0

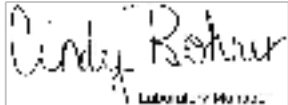
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Montana Inc on 7/1/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15070127-001	Ynl B Comp	06/30/15 9:00	07/01/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15070127-002	LZ FW Comp	06/30/15 9:00	07/01/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By: 

Digitally signed by  
Cindy Rohrer  
Date: 2015.07.08 16:25:22 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0  
**Lab ID:** B15070127-001  
**Client Sample ID:** Ynl B Comp

**Report Date:** 07/08/15  
**Collection Date:** 06/30/15 09:00  
**Date Received:** 07/01/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	604	mg/L	D	2		E300.0	07/06/15 17:17 / ajr
Fluoride	1.6	mg/L		0.2		A4500-F C	07/02/15 11:40 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.010	mg/L	L	0.005		E365.1	07/06/15 09:00 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.055	mg/L		0.009		E200.8	07/02/15 17:03 / mas
Antimony	0.0040	mg/L		0.0005		E200.8	07/02/15 17:03 / mas
Arsenic	0.001	mg/L		0.001		E200.8	07/02/15 17:03 / mas
Barium	0.038	mg/L		0.003		E200.7	07/02/15 16:48 / prw
Beryllium	ND	mg/L		0.0008		E200.7	07/02/15 16:48 / prw
Cadmium	0.00011	mg/L		0.00003		E200.8	07/02/15 17:03 / mas
Calcium	58	mg/L		1		E200.7	07/02/15 16:48 / prw
Chromium	ND	mg/L		0.01		E200.7	07/02/15 16:48 / prw
Copper	ND	mg/L		0.002		E200.8	07/06/15 12:43 / mas
Iron	ND	mg/L		0.02		E200.7	07/02/15 16:48 / prw
Lead	0.0011	mg/L		0.0003		E200.8	07/02/15 17:03 / mas
Magnesium	82	mg/L		1		E200.7	07/02/15 16:48 / prw
Manganese	0.054	mg/L		0.005		E200.7	07/02/15 16:48 / prw
Mercury	ND	mg/L		5E-06		E245.1	07/02/15 15:52 / ser
Nickel	0.021	mg/L		0.002		E200.8	07/02/15 17:03 / mas
Selenium	0.019	mg/L		0.001		E200.8	07/02/15 17:03 / mas
Silicon	1.48	mg/L		0.05		E200.7	07/02/15 16:48 / prw
Silver	ND	mg/L		0.0002		E200.8	07/02/15 17:03 / mas
Strontium	3.38	mg/L		0.02		E200.7	07/02/15 16:48 / prw
Thallium	0.0023	mg/L		0.0002		E200.8	07/02/15 17:03 / mas
Uranium	0.0036	mg/L		0.0002		E200.8	07/02/15 17:03 / mas
Zinc	ND	mg/L		0.008		E200.7	07/02/15 16:48 / prw

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0  
**Lab ID:** B15070127-002  
**Client Sample ID:** LZ FW Comp

**Report Date:** 07/08/15  
**Collection Date:** 06/30/15 09:00  
**Date Received:** 07/01/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	383	mg/L	D	2		E300.0	07/06/15 17:57 / ajr
Fluoride	2.2	mg/L		0.2		A4500-F C	07/02/15 11:42 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.031	mg/L	L	0.005		E365.1	07/06/15 09:01 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.035	mg/L		0.009		E200.7	07/02/15 16:51 / prw
Antimony	0.0099	mg/L		0.0005		E200.8	07/02/15 17:07 / mas
Arsenic	0.074	mg/L		0.001		E200.8	07/02/15 17:07 / mas
Barium	0.073	mg/L		0.003		E200.7	07/02/15 16:51 / prw
Beryllium	ND	mg/L		0.0008		E200.7	07/02/15 16:51 / prw
Cadmium	0.00014	mg/L		0.00003		E200.8	07/02/15 17:07 / mas
Calcium	34	mg/L		1		E200.7	07/02/15 16:51 / prw
Chromium	ND	mg/L		0.01		E200.7	07/02/15 16:51 / prw
Copper	ND	mg/L		0.002		E200.8	07/06/15 13:28 / mas
Iron	ND	mg/L		0.02		E200.7	07/02/15 16:51 / prw
Lead	0.0007	mg/L		0.0003		E200.8	07/02/15 17:07 / mas
Magnesium	58	mg/L		1		E200.7	07/02/15 16:51 / prw
Manganese	0.032	mg/L		0.005		E200.7	07/02/15 16:51 / prw
Mercury	ND	mg/L		5E-06		E245.1	07/02/15 16:03 / ser
Nickel	0.126	mg/L		0.002		E200.8	07/02/15 17:07 / mas
Selenium	0.017	mg/L		0.001		E200.8	07/02/15 17:07 / mas
Silicon	2.51	mg/L		0.05		E200.7	07/02/15 16:51 / prw
Silver	ND	mg/L		0.0002		E200.8	07/02/15 17:07 / mas
Strontium	0.93	mg/L		0.02		E200.7	07/02/15 16:51 / prw
Thallium	0.0011	mg/L		0.0002		E200.8	07/02/15 17:07 / mas
Uranium	0.367	mg/L		0.0002		E200.8	07/02/15 17:07 / mas
Zinc	ND	mg/L		0.008		E200.7	07/02/15 16:51 / prw

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/08/15

Project: 3767-01 WK:0

Work Order: B15070127

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150702A			
<b>Lab ID: ICV</b>	11 Continuing Calibration Verification Standard								07/02/15 10:30		
Aluminum		2.51	mg/L	0.10	100	95	105				
Barium		2.47	mg/L	0.10	99	95	105				
Beryllium		1.28	mg/L	0.010	102	95	105				
Calcium		25.2	mg/L	1.0	101	95	105				
Chromium		2.47	mg/L	0.050	99	95	105				
Iron		2.49	mg/L	0.020	100	95	105				
Magnesium		24.8	mg/L	1.0	99	95	105				
Manganese		2.53	mg/L	0.010	101	95	105				
Silicon		5.09	mg/L	0.10	102	95	105				
Strontium		2.50	mg/L	0.10	100	95	105				
Zinc		2.47	mg/L	0.010	99	95	105				
<b>Method: E200.7</b>								Batch: R245510			
<b>Lab ID: MB-6500DIS150702A</b>	11 Method Blank								Run: ICP203-B_150702A 07/02/15 10:58		
Aluminum		ND	mg/L	0.007							
Barium		0.0003	mg/L	0.0002							
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.08							
Chromium		ND	mg/L	0.003							
Iron		ND	mg/L	0.003							
Magnesium		0.01	mg/L	0.006							
Manganese		ND	mg/L	0.0006							
Silicon		ND	mg/L	0.01							
Strontium		ND	mg/L	0.0003							
Zinc		ND	mg/L	0.002							
<b>Lab ID: LFB-6500DIS150702A</b>	11 Laboratory Fortified Blank								Run: ICP203-B_150702A 07/02/15 11:02		
Aluminum		5.09	mg/L	0.10	102	85	115				
Barium		0.992	mg/L	0.10	99	85	115				
Beryllium		0.514	mg/L	0.010	103	85	115				
Calcium		50.4	mg/L	1.0	101	85	115				
Chromium		0.982	mg/L	0.050	98	85	115				
Iron		5.04	mg/L	0.020	101	85	115				
Magnesium		49.9	mg/L	1.0	100	85	115				
Manganese		5.06	mg/L	0.010	101	85	115				
Silicon		10.1	mg/L	0.10	101	85	115				
Strontium		1.01	mg/L	0.10	101	85	115				
Zinc		1.01	mg/L	0.010	101	85	115				
<b>Lab ID: B15070066-003BMS2</b>	11 Sample Matrix Spike								Run: ICP203-B_150702A 07/02/15 16:24		
Aluminum		95.5	mg/L	0.14	95	70	130				
Barium		25.5	mg/L	0.050	128	70	130				
Beryllium		12.8	mg/L	0.0027	128	70	130				
Calcium		1600	mg/L	1.7	120	70	130				
Chromium		25.3	mg/L	0.062	127	70	130				

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/08/15

Project: 3767-01 WK:0

Work Order: B15070127

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R245510</span>										
<b>Lab ID: B15070066-003BMS2</b>	11	Sample Matrix Spike		Run: ICP203-B_150702A			07/02/15 16:24			
Iron		130	mg/L	0.054	130	70	130			
Magnesium		1590	mg/L	1.0	123	70	130			
Manganese		154	mg/L	0.013	117	70	130			
Silicon		179	mg/L	0.27	88	70	130			
Strontium		27.9	mg/L	0.010	131	70	130			S
Zinc		19.0	mg/L	0.034	94	70	130			
<b>Lab ID: B15070066-003BMSD</b>	11	Sample Matrix Spike Duplicate		Run: ICP203-B_150702A			07/02/15 16:27			
Aluminum		99.7	mg/L	0.14	100	70	130	4.4	20	
Barium		22.1	mg/L	0.050	110	70	130	15	20	
Beryllium		11.0	mg/L	0.0027	110	70	130	15	20	
Calcium		1490	mg/L	1.7	109	70	130	7.0	20	
Chromium		21.9	mg/L	0.062	109	70	130	15	20	
Iron		112	mg/L	0.054	112	70	130	15	20	
Magnesium		1470	mg/L	1.0	111	70	130	7.8	20	
Manganese		143	mg/L	0.013	106	70	130	7.4	20	
Silicon		196	mg/L	0.27	97	70	130	8.9	20	
Strontium		24.5	mg/L	0.010	114	70	130	13	20	
Zinc		19.7	mg/L	0.034	98	70	130	3.3	20	
<b>Lab ID: MB-90979</b>	11	Method Blank		Run: ICP203-B_150702A			07/02/15 22:52			
Aluminum		ND	mg/L	0.007						
Barium		ND	mg/L	0.0002						
Beryllium		ND	mg/L	0.0001						
Calcium		ND	mg/L	0.08						
Chromium		ND	mg/L	0.003						
Iron		0.003	mg/L	0.003						
Magnesium		0.010	mg/L	0.006						
Manganese		0.0008	mg/L	0.0006						
Silicon		0.03	mg/L	0.01						
Strontium		ND	mg/L	0.0003						
Zinc		0.02	mg/L	0.002						
<b>Lab ID: B15070056-006BMS2</b>	11	Sample Matrix Spike		Run: ICP203-B_150702A			07/02/15 23:24			
Aluminum		5.25	mg/L	0.030	105	70	130			
Barium		1.25	mg/L	0.050	107	70	130			
Beryllium		0.536	mg/L	0.0010	107	70	130			
Calcium		118	mg/L	1.0	105	70	130			
Chromium		1.04	mg/L	0.0050	104	70	130			
Iron		5.23	mg/L	0.020	105	70	130			
Magnesium		69.7	mg/L	1.0	106	70	130			
Manganese		5.35	mg/L	0.0010	105	70	130			
Silicon		19.6	mg/L	0.10	107	70	130			
Strontium		1.22	mg/L	0.010	105	70	130			
Zinc		1.05	mg/L	0.010	105	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/08/15

**Project:** 3767-01 WK:0

**Work Order:** B15070127

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R245510</span>										
<b>Lab ID: B15070056-006BMS2</b>	11	Sample Matrix Spike					Run: ICP203-B_150702A			07/02/15 23:24
<b>Lab ID: B15070056-006BMSD</b>	11	Sample Matrix Spike Duplicate					Run: ICP203-B_150702A			07/02/15 23:27
Aluminum		5.30	mg/L	0.030	106	70	130	1.0	20	
Barium		1.22	mg/L	0.050	104	70	130	2.3	20	
Beryllium		0.525	mg/L	0.0010	105	70	130	2.1	20	
Calcium		116	mg/L	1.0	100	70	130	2.2	20	
Chromium		1.02	mg/L	0.0050	102	70	130	1.7	20	
Iron		5.12	mg/L	0.020	102	70	130	2.2	20	
Magnesium		68.2	mg/L	1.0	103	70	130	2.1	20	
Manganese		5.23	mg/L	0.0010	103	70	130	2.2	20	
Silicon		19.0	mg/L	0.10	102	70	130	2.7	20	
Strontium		1.19	mg/L	0.010	102	70	130	2.4	20	
Zinc		1.05	mg/L	0.010	105	70	130	0.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/08/15

**Project:** 3767-01 WK:0

**Work Order:** B15070127

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_150702A			
<b>Lab ID: QCS</b>	10	Initial Calibration Verification Standard								07/02/15 16:30	
Aluminum		0.244	mg/L	0.10	98	90	110				
Antimony		0.0486	mg/L	0.050	97	90	110				
Arsenic		0.0519	mg/L	0.0050	104	90	110				
Cadmium		0.0248	mg/L	0.0010	99	90	110				
Lead		0.0505	mg/L	0.010	101	90	110				
Nickel		0.0513	mg/L	0.010	103	90	110				
Selenium		0.0478	mg/L	0.0050	96	90	110				
Silver		0.0253	mg/L	0.0050	101	90	110				
Thallium		0.0496	mg/L	0.10	99	90	110				
Uranium		0.0190	mg/L	0.0010	95	90	110				
<b>Method: E200.8</b>								Batch: R245504			
<b>Lab ID: LRB</b>	10	Method Blank								07/02/15 10:37	
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	10	Laboratory Fortified Blank								07/02/15 10:41	
Aluminum		0.0477	mg/L	0.10	95	85	115				
Antimony		0.0461	mg/L	0.050	92	85	115				
Arsenic		0.0488	mg/L	0.0050	98	85	115				
Cadmium		0.0485	mg/L	0.0010	97	85	115				
Lead		0.0491	mg/L	0.010	98	85	115				
Nickel		0.0480	mg/L	0.010	96	85	115				
Selenium		0.0485	mg/L	0.0050	97	85	115				
Silver		0.0192	mg/L	0.0050	96	85	115				
Thallium		0.0492	mg/L	0.10	98	85	115				
Uranium		0.0493	mg/L	0.0010	99	85	115				
<b>Lab ID: B15070131-003BMS</b>	10	Sample Matrix Spike								07/02/15 17:26	
Aluminum		54.8	mg/L	0.030		70	130			A	
Antimony		0.475	mg/L	0.0010	92	70	130				
Arsenic		31.9	mg/L	0.0010		70	130			A	
Cadmium		0.494	mg/L	0.0010	92	70	130				
Lead		0.473	mg/L	0.0010	91	70	130				
Nickel		135	mg/L	0.0050		70	130			A	
Selenium		0.474	mg/L	0.0014	93	70	130				
Silver		0.128	mg/L	0.0010	64	70	130			S	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/08/15

Project: 3767-01 WK:0

Work Order: B15070127

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R245504</span>										
<b>Lab ID:</b>	<b>B15070131-003BMS</b>	10	Sample Matrix Spike							
						Run: ICPMS206-B_150702A				07/02/15 17:26
Thallium		0.461	mg/L	0.00065	91	70	130			
Uranium		0.721	mg/L	0.00051	90	70	130			
<b>Lab ID: B15070131-003BMSD</b> 10 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICPMS206-B_150702A 07/02/15 17:30</span>										
Aluminum		55.5	mg/L	0.030		70	130	1.4	20	A
Antimony		0.491	mg/L	0.0010	95	70	130	3.2	20	
Arsenic		31.9	mg/L	0.0010		70	130	0.2	20	A
Cadmium		0.493	mg/L	0.0010	92	70	130	0.3	20	
Lead		0.493	mg/L	0.0010	95	70	130	4.1	20	
Nickel		134	mg/L	0.0050		70	130	0.3	20	A
Selenium		0.498	mg/L	0.0014	98	70	130	4.9	20	
Silver		0.130	mg/L	0.0010	65	70	130	1.5	20	S
Thallium		0.478	mg/L	0.00065	95	70	130	3.7	20	
Uranium		0.748	mg/L	0.00051	95	70	130	3.7	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS206-B_150706A</span>										
<b>Lab ID:</b>	<b>QCS</b>		Initial Calibration Verification Standard							07/06/15 10:20
Copper		0.0526	mg/L	0.010	105	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R245578</span>										
<b>Lab ID:</b>	<b>LRB</b>		Method Blank							07/06/15 11:01
Copper		ND	mg/L	6E-05						
<b>Lab ID:</b>	<b>LFB</b>		Laboratory Fortified Blank							07/06/15 11:06
Copper		0.0476	mg/L	0.010	95	85	115			
<b>Lab ID:</b>	<b>B15070127-001BMS</b>		Sample Matrix Spike							07/06/15 13:01
Copper		0.0628	mg/L	0.0050	123	70	130			
<b>Lab ID:</b>	<b>B15070127-001BMSD</b>		Sample Matrix Spike Duplicate							07/06/15 13:05
Copper		0.0497	mg/L	0.0050	97	70	130	23	20	R
<b>Lab ID:</b>	<b>B15070154-005AMS</b>		Sample Matrix Spike							07/06/15 14:05
Copper		0.0672	mg/L	0.0050	129	70	130			
<b>Lab ID:</b>	<b>B15070154-005AMSD</b>		Sample Matrix Spike Duplicate							07/06/15 14:10
Copper		0.0495	mg/L	0.0050	93	70	130	30	20	R

**Qualifiers:**

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ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

R - RPD exceeds advisory limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/08/15

**Project:** 3767-01 WK:0

**Work Order:** B15070127

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E245.1</b>								Analytical Run: HGCV203-B_150702A			
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard										
Mercury	0.000213	mg/L	1.0E-05	107	90	110				07/02/15 14:34	
<b>Method: E245.1</b>								Batch: 91029			
<b>Lab ID: MB-91029</b>	Method Blank										
Mercury	ND	mg/L	1E-06				Run: HGCV203-B_150702A			07/02/15 15:37	
<b>Lab ID: LCS-91029</b>	Laboratory Control Sample										
Mercury	0.000209	mg/L	1.0E-05	105	85	115	Run: HGCV203-B_150702A			07/02/15 15:40	
<b>Lab ID: B15062677-001BMS</b>	Sample Matrix Spike										
Mercury	0.000209	mg/L	1.0E-05	104	70	130	Run: HGCV203-B_150702A			07/02/15 15:46	
<b>Lab ID: B15062677-001BMSD</b>	Sample Matrix Spike Duplicate										
Mercury	0.000213	mg/L	1.0E-05	106	70	130	1.9			07/02/15 15:49	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0

**Report Date:** 07/07/15  
**Work Order:** B15070127

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_150702A		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Fluoride	1.10	mg/L	0.10	110	90	110			07/02/15 11:34	
<b>Method:</b> A4500-F C								Batch: R245549		
<b>Lab ID:</b> MBLK	Method Blank									
Fluoride	ND	mg/L	0.01						Run: MAN-TECH_150702A 07/02/15 11:20	
<b>Lab ID:</b> LFB	Laboratory Fortified Blank									
Fluoride	1.05	mg/L	0.10	105	90	110			Run: MAN-TECH_150702A 07/02/15 11:22	
<b>Lab ID:</b> B15070120-001AMS	Sample Matrix Spike									
Fluoride	1.46	mg/L	0.10	108	80	120			Run: MAN-TECH_150702A 07/02/15 11:30	
<b>Lab ID:</b> B15070120-001AMSD	Sample Matrix Spike Duplicate									
Fluoride	1.45	mg/L	0.10	107	80	120	0.7	10	Run: MAN-TECH_150702A 07/02/15 11:37	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0

**Report Date:** 07/07/15  
**Work Order:** B15070127

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 2_150706A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								07/06/15 16:09
Sulfate	8.66	mg/L	1.0	96	90	110			
<b>Method:</b> E300.0	Batch: R245610								
<b>Lab ID:</b> MB	Method Blank								07/06/15 11:52
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								07/06/15 12:19
Sulfate	8.10	mg/L	1.0	90	90	110			
<b>Lab ID:</b> B15070066-004AMS	Sample Matrix Spike								07/06/15 16:23
Sulfate	6520	mg/L	18		90	110			A
<b>Lab ID:</b> B15070066-004AMSD	Sample Matrix Spike Duplicate								07/06/15 16:36
Sulfate	6460	mg/L	18		90	110	0.8	20	A
<b>Lab ID:</b> B15070137-001AMS	Sample Matrix Spike								07/06/15 19:32
Sulfate	1980	mg/L	9.0		90	110			A
<b>Lab ID:</b> B15070137-001AMSD	Sample Matrix Spike Duplicate								07/06/15 19:46
Sulfate	1980	mg/L	9.0		90	110	0.4	20	A

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:0

**Report Date:** 07/07/15  
**Work Order:** B15070127

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>							Analytical Run: FIA202-B_150706A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard						07/06/15 08:44		
Phosphorus, Total as P	0.517	mg/L	0.0050	103	90	110			
<b>Method: E365.1</b>							Batch: 91026		
<b>Lab ID: MB-91026</b>	Method Blank						Run: FIA202-B_150706A 07/06/15 08:58		
Phosphorus, Total as P	0.003	mg/L	0.003						
<b>Lab ID: LCS-91026</b>	Laboratory Control Sample						Run: FIA202-B_150706A 07/06/15 08:59		
Phosphorus, Total as P	0.195	mg/L	0.0050	96	90	110			
<b>Lab ID: B15070131-001CMS</b>	Sample Matrix Spike						Run: FIA202-B_150706A 07/06/15 09:04		
Phosphorus, Total Dissolved as P	0.179	mg/L	0.0050	89	90	110			S
<b>Lab ID: B15070131-001CMSD</b>	Sample Matrix Spike Duplicate						Run: FIA202-B_150706A 07/06/15 09:05		
Phosphorus, Total Dissolved as P	0.163	mg/L	0.0050	82	90	110			S

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.





# Work Order Receipt Checklist

Tintina Montana Inc

B15070127

Login completed by: Randa Nees

Date Received: 7/1/2015

Reviewed by: BL2000\jmueller

Received by: jrz

Reviewed Date: 7/1/2015

Carrier name: UPS NDA

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	4.0°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

Sample date and time for LZ FW Comp was taken from the sample containers.



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

July 14, 2015

Tintina Montana Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B15062256                      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:1


Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Montana Inc on 6/24/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15062256-001	USZ Comp	06/23/15 9:00	06/24/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15062256-002	Yc Comp	06/23/15 9:00	06/24/15	Aqueous	Same As Above
B15062256-003	Tailings	06/23/15 9:00	06/24/15	Aqueous	Same As Above
B15062256-004	Tailings (Saturated)	06/23/15 9:00	06/24/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2015.07.14 09:52:02 -06:00



**CLIENT:** Tintina Montana Inc  
**Project:** 3767-01 WK:1  
**Work Order:** B15062256

**Revised Date:** 07/14/15

**Report Date:** 07/07/15

## CASE NARRATIVE

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Revised 7/14/2015:

Upon further data review it was discovered that the original Thallium result for sample Tailings (B15062256-003) was reported in error. The value has been changed from 2.34 mg/L to 0.326 mg/L. We apologize for any inconvenience this may have caused.

The report has been revised and replaces any previously issued report in its entirety.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1  
**Lab ID:** B15062256-001  
**Client Sample ID:** USZ Comp

**Revised Date:** 07/14/15  
**Report Date:** 07/07/15  
**Collection Date:** 06/23/15 09:00  
**Date Received:** 06/24/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	2440	mg/L	D	9		E300.0	06/26/15 12:12 / rbf
Fluoride	0.3	mg/L		0.2		A4500-F C	06/26/15 13:15 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.006	mg/L	L	0.005		E365.1	06/29/15 11:49 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.16	mg/L	D	0.07		E200.7	06/26/15 13:08 / prw
Antimony	0.0011	mg/L		0.0005		E200.8	06/25/15 19:37 / mas
Arsenic	0.003	mg/L		0.001		E200.8	06/26/15 12:00 / amm
Barium	0.015	mg/L		0.003		E200.8	06/25/15 19:37 / mas
Beryllium	ND	mg/L		0.0008		E200.8	06/26/15 12:00 / amm
Cadmium	0.00048	mg/L		0.00003		E200.8	06/25/15 19:37 / mas
Calcium	538	mg/L		1		E200.7	06/26/15 13:08 / prw
Chromium	ND	mg/L		0.01		E200.8	06/25/15 19:37 / mas
Copper	0.053	mg/L		0.002		E200.8	06/26/15 12:00 / amm
Iron	32.6	mg/L	D	0.03		E200.7	06/26/15 13:08 / prw
Lead	0.0050	mg/L		0.0003		E200.8	06/26/15 12:00 / amm
Magnesium	349	mg/L		1		E200.8	06/25/15 19:37 / mas
Manganese	4.05	mg/L	D	0.006		E200.7	06/26/15 13:08 / prw
Mercury	0.0025	mg/L	D	0.0001		E245.1	06/30/15 15:57 / ser
Nickel	0.168	mg/L		0.002		E200.8	06/26/15 12:00 / amm
Selenium	0.003	mg/L		0.001		E200.8	06/25/15 19:37 / mas
Silicon	1.9	mg/L	D	0.1		E200.7	06/26/15 13:08 / prw
Silver	ND	mg/L		0.0002		E200.8	06/25/15 19:37 / mas
Strontium	36.6	mg/L		0.02		E200.7	06/26/15 13:08 / prw
Thallium	0.153	mg/L		0.0002		E200.8	06/26/15 12:00 / amm
Uranium	0.0003	mg/L		0.0002		E200.8	06/26/15 12:00 / amm
Zinc	0.042	mg/L		0.008		E200.8	06/25/15 19:37 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1  
**Lab ID:** B15062256-002  
**Client Sample ID:** Yc Comp

**Revised Date:** 07/14/15  
**Report Date:** 07/07/15  
**Collection Date:** 06/23/15 09:00  
**Date Received:** 06/24/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	52	mg/L		1		E300.0	06/26/15 12:26 / rbf
Fluoride	1.8	mg/L		0.2		A4500-F C	06/26/15 13:18 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.011	mg/L	L	0.005		E365.1	06/29/15 11:50 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.317	mg/L		0.009		E200.8	06/25/15 19:56 / mas
Antimony	0.0016	mg/L		0.0005		E200.8	06/25/15 19:56 / mas
Arsenic	0.021	mg/L		0.001		E200.8	06/25/15 19:56 / mas
Barium	0.082	mg/L		0.003		E200.8	06/25/15 19:56 / mas
Beryllium	ND	mg/L		0.0008		E200.7	06/26/15 13:22 / prw
Cadmium	0.00054	mg/L		0.00003		E200.8	06/25/15 19:56 / mas
Calcium	3	mg/L		1		E200.8	06/25/15 19:56 / mas
Chromium	ND	mg/L		0.01		E200.8	06/25/15 19:56 / mas
Copper	ND	mg/L		0.002		E200.8	06/26/15 12:20 / amm
Iron	0.03	mg/L		0.02		E200.7	06/26/15 13:22 / prw
Lead	0.0063	mg/L		0.0003		E200.8	06/26/15 12:20 / amm
Magnesium	3	mg/L		1		E200.8	06/25/15 19:56 / mas
Manganese	ND	mg/L		0.005		E200.7	06/26/15 13:22 / prw
Mercury	ND	mg/L		5E-06		E245.1	06/29/15 13:00 / ser
Nickel	ND	mg/L		0.002		E200.8	06/26/15 12:20 / amm
Selenium	0.006	mg/L		0.001		E200.8	06/25/15 19:56 / mas
Silicon	2.57	mg/L		0.05		E200.7	06/26/15 13:22 / prw
Silver	ND	mg/L		0.0002		E200.8	06/25/15 19:56 / mas
Strontium	0.08	mg/L		0.02		E200.7	06/26/15 13:22 / prw
Thallium	0.0003	mg/L		0.0002		E200.8	06/26/15 12:20 / amm
Uranium	0.0032	mg/L		0.0002		E200.8	06/26/15 12:20 / amm
Zinc	ND	mg/L		0.008		E200.8	06/25/15 19:56 / mas

**Report Definitions:** RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1  
**Lab ID:** B15062256-003  
**Client Sample ID:** Tailings

**Revised Date:** 07/14/15  
**Report Date:** 07/07/15  
**Collection Date:** 06/23/15 09:00  
**Date Received:** 06/24/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	8160	mg/L	D	40		E300.0	07/01/15 06:40 / ajr
Fluoride	ND	mg/L		0.2		A4500-F C	06/26/15 13:21 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.292	mg/L	L	0.005		E365.1	06/29/15 11:51 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	26.9	mg/L	D	0.01		E200.7	06/26/15 13:25 / prw
Antimony	0.0050	mg/L		0.0005		E200.8	06/25/15 20:00 / mas
Arsenic	0.548	mg/L		0.001		E200.8	06/25/15 20:00 / mas
Barium	0.015	mg/L		0.003		E200.8	06/25/15 20:00 / mas
Beryllium	0.0354	mg/L		0.0008		E200.7	06/26/15 13:25 / prw
Cadmium	0.0266	mg/L		0.00003		E200.8	06/25/15 20:00 / mas
Calcium	400	mg/L		1		E200.8	06/25/15 20:00 / mas
Chromium	0.42	mg/L		0.01		E200.8	06/25/15 20:00 / mas
Copper	402	mg/L	D	0.007		E200.7	06/26/15 13:25 / prw
Iron	381	mg/L		0.02		E200.7	06/26/15 13:25 / prw
Lead	0.0194	mg/L		0.0003		E200.8	06/26/15 12:24 / amm
Magnesium	994	mg/L		1		E200.7	06/26/15 13:25 / prw
Manganese	81.0	mg/L		0.005		E200.7	06/26/15 13:25 / prw
Mercury	ND	mg/L		5E-06		E245.1	06/30/15 16:08 / ser
Nickel	143	mg/L	D	0.004		E200.7	06/26/15 13:25 / prw
Selenium	0.006	mg/L		0.001		E200.8	06/25/15 20:00 / mas
Silicon	26.9	mg/L		0.05		E200.7	06/26/15 13:25 / prw
Silver	ND	mg/L		0.0002		E200.8	06/25/15 20:00 / mas
Strontium	2.90	mg/L		0.02		E200.7	06/26/15 13:25 / prw
Thallium	0.326	mg/L		0.0002		E200.8	06/26/15 12:24 / amm
Uranium	0.0890	mg/L		0.0002		E200.8	06/26/15 12:24 / amm
Zinc	10.4	mg/L		0.008		E200.8	06/25/15 20:00 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1  
**Lab ID:** B15062256-004  
**Client Sample ID:** Tailings (Saturated)

**Revised Date:** 07/14/15  
**Report Date:** 07/07/15  
**Collection Date:** 06/23/15 09:00  
**Date Received:** 06/24/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	1380	mg/L	D	4		E300.0	06/26/15 12:53 / rbf
Fluoride	0.3	mg/L		0.2		A4500-F C	06/26/15 13:23 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.195	mg/L	L	0.005		E365.1	06/29/15 11:53 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.011	mg/L		0.009		E200.8	06/29/15 11:31 / mas
Antimony	0.0016	mg/L		0.0005		E200.8	06/25/15 20:19 / mas
Arsenic	0.006	mg/L		0.001		E200.8	06/25/15 20:19 / mas
Barium	0.017	mg/L		0.003		E200.8	06/25/15 20:19 / mas
Beryllium	ND	mg/L		0.0008		E200.7	06/26/15 13:29 / prw
Cadmium	0.00004	mg/L		0.00003		E200.8	06/25/15 20:19 / mas
Calcium	233	mg/L		1		E200.8	06/25/15 20:19 / mas
Chromium	ND	mg/L		0.01		E200.8	06/25/15 20:19 / mas
Copper	0.003	mg/L		0.002		E200.8	07/06/15 19:11 / mas
Iron	0.05	mg/L		0.02		E200.7	06/26/15 13:29 / prw
Lead	0.0102	mg/L		0.0003		E200.8	06/26/15 12:28 / amf
Magnesium	180	mg/L		1		E200.8	06/25/15 20:19 / mas
Manganese	4.36	mg/L		0.005		E200.7	06/26/15 13:29 / prw
Mercury	ND	mg/L		5E-06		E245.1	06/29/15 13:08 / ser
Nickel	1.60	mg/L	D	0.004		E200.7	06/26/15 13:29 / prw
Selenium	ND	mg/L		0.001		E200.8	06/25/15 20:19 / mas
Silicon	3.14	mg/L		0.05		E200.7	06/26/15 13:29 / prw
Silver	ND	mg/L		0.0002		E200.8	06/25/15 20:19 / mas
Strontium	0.45	mg/L		0.02		E200.7	06/26/15 13:29 / prw
Thallium	0.0194	mg/L		0.0002		E200.8	06/26/15 12:28 / amf
Uranium	ND	mg/L		0.0002		E200.8	06/26/15 12:28 / amf
Zinc	0.018	mg/L		0.008		E200.8	06/25/15 20:19 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1

**Report Date:** 07/01/15  
**Work Order:** B15062256

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C	Analytical Run: MAN-TECH_150626A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								06/26/15 09:53
Fluoride	1.06	mg/L	0.10	106	90	110			
<b>Method:</b> A4500-F C	Batch: R245203								
<b>Lab ID:</b> MBLK	Method Blank								06/26/15 09:48
Fluoride	ND	mg/L	0.01						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								06/26/15 09:51
Fluoride	1.00	mg/L	0.10	100	90	110			
<b>Lab ID:</b> B15062254-004AMS	Sample Matrix Spike								06/26/15 13:01
Fluoride	1.09	mg/L	0.10	101	80	120			
<b>Lab ID:</b> B15062254-004AMSD	Sample Matrix Spike Duplicate								06/26/15 13:04
Fluoride	1.12	mg/L	0.10	104	80	120	2.7	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1

**Report Date:** 07/01/15  
**Work Order:** B15062256

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>					Analytical Run: IC METROHM 2_150625A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard								06/25/15 14:51
Sulfate	8.56	mg/L	1.0	95	90	110			
<b>Method: E300.0</b>					Batch: R245144				
<b>Lab ID: MBLK</b>	Method Blank								06/25/15 15:04
Sulfate	ND	mg/L	0.2						
<b>Lab ID: LFB</b>	Laboratory Fortified Blank								06/25/15 15:18
Sulfate	8.47	mg/L	1.0	94	90	110			
<b>Lab ID: B15062254-003AMS</b>	Sample Matrix Spike								06/26/15 10:52
Sulfate	658	mg/L	3.6	71	90	110			S
<b>Lab ID: B15062254-003AMSD</b>	Sample Matrix Spike Duplicate								06/26/15 11:05
Sulfate	656	mg/L	3.6	69	90	110	0.3	20	S
<b>Lab ID: B15062290-001AMS</b>	Sample Matrix Spike								06/26/15 14:00
Sulfate	532	mg/L	1.0		90	110			A
<b>Lab ID: B15062290-001AMSD</b>	Sample Matrix Spike Duplicate								06/26/15 14:13
Sulfate	530	mg/L	1.0		90	110	0.4	20	A
<b>Method: E300.0</b>					Analytical Run: IC METROHM 2_150630A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard								06/30/15 11:47
Sulfate	8.97	mg/L	1.0	100	90	110			
<b>Method: E300.0</b>					Batch: R245419				
<b>Lab ID: ICB</b>	Method Blank								06/30/15 12:01
Sulfate	ND	mg/L	0.2						
<b>Lab ID: LFB</b>	Laboratory Fortified Blank								06/30/15 12:14
Sulfate	8.87	mg/L	1.0	99	90	110			
<b>Lab ID: B15062516-002AMS</b>	Sample Matrix Spike								07/01/15 04:26
Sulfate	3260	mg/L	18		90	110			A
<b>Lab ID: B15062516-002AMSD</b>	Sample Matrix Spike Duplicate								07/01/15 04:39
Sulfate	3230	mg/L	18		90	110	1.0	20	A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1

**Report Date:** 07/01/15  
**Work Order:** B15062256

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E365.1									Batch: 90878
<b>Lab ID:</b> MB-90878 Phosphorus, Total as P	Method Blank ND	mg/L	0.003						Run: FIA202-B_150629A 06/29/15 11:47
<b>Lab ID:</b> LCS-90878 Phosphorus, Total as P	Laboratory Control Sample 0.203	mg/L	0.0050	101	90	110			Run: FIA202-B_150629A 06/29/15 11:48
<b>Lab ID:</b> B15062256-004CMS Phosphorus, Total Dissolved as P	Sample Matrix Spike 0.402	mg/L	0.0050	103	90	110			Run: FIA202-B_150629A 06/29/15 11:54
<b>Lab ID:</b> B15062256-004CMSD Phosphorus, Total Dissolved as P	Sample Matrix Spike Duplicate 0.402	mg/L	0.0050	103	90	110			Run: FIA202-B_150629A 06/29/15 11:55

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/07/15

Project: 3767-01 WK:1

Work Order: B15062256

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150626A		
<b>Lab ID: ICV</b>	10	Continuing Calibration Verification Standard								06/26/15 08:33
Aluminum		2.57	mg/L	0.10	103	95	105			
Beryllium		1.24	mg/L	0.010	100	95	105			
Calcium		25.4	mg/L	1.0	102	95	105			
Copper		2.48	mg/L	0.010	99	95	105			
Iron		2.53	mg/L	0.020	101	95	105			
Magnesium		25.8	mg/L	1.0	103	95	105			
Manganese		2.45	mg/L	0.010	98	95	105			
Nickel		2.45	mg/L	0.050	98	95	105			
Silicon		4.94	mg/L	0.10	99	95	105			
Strontium		2.47	mg/L	0.10	99	95	105			
<b>Method: E200.7</b>								Batch: R245155		
<b>Lab ID: MB-6500DIS150626A</b>	10	Method Blank								06/26/15 08:40
Aluminum		ND	mg/L	0.01						
Beryllium		ND	mg/L	0.0001						
Calcium		ND	mg/L	0.08						
Copper		ND	mg/L	0.004						
Iron		0.003	mg/L	0.003						
Magnesium		ND	mg/L	0.006						
Manganese		ND	mg/L	0.0006						
Nickel		0.007	mg/L	0.002						
Silicon		ND	mg/L	0.01						
Strontium		ND	mg/L	0.0003						
<b>Lab ID: LFB-6500DIS150626A</b>	10	Laboratory Fortified Blank								06/26/15 08:43
Aluminum		5.08	mg/L	0.10	102	85	115			
Beryllium		0.504	mg/L	0.010	101	85	115			
Calcium		50.8	mg/L	1.0	102	85	115			
Copper		1.00	mg/L	0.010	100	85	115			
Iron		5.11	mg/L	0.020	102	85	115			
Magnesium		52.5	mg/L	1.0	105	85	115			
Manganese		4.94	mg/L	0.010	99	85	115			
Nickel		0.975	mg/L	0.050	97	85	115			
Silicon		10.0	mg/L	0.10	100	85	115			
Strontium		1.00	mg/L	0.10	100	85	115			
<b>Lab ID: B15062256-001BMS2</b>	10	Sample Matrix Spike								06/26/15 13:15
Aluminum		49.2	mg/L	0.071	98	70	130			
Beryllium		5.36	mg/L	0.0014	107	70	130			
Calcium		1080	mg/L	1.0	108	70	130			
Copper		10.7	mg/L	0.037	107	70	130			
Iron		85.9	mg/L	0.027	107	70	130			
Magnesium		896	mg/L	1.0	110	70	130			
Manganese		57.6	mg/L	0.0066	107	70	130			
Nickel		9.95	mg/L	0.022	98	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/07/15

**Project:** 3767-01 WK:1

**Work Order:** B15062256

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R245155</span>										
<b>Lab ID: B15062256-001BMS2</b>	10	Sample Matrix Spike				Run: ICP203-B_150626A			06/26/15 13:15	
Silicon		110	mg/L	0.13	108	70	130			
Strontium		47.8	mg/L	0.010	113	70	130			
<b>Lab ID: B15062256-001BMSD</b> 10 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICP203-B_150626A 06/26/15 13:18</span>										
Aluminum		49.7	mg/L	0.071	99	70	130	0.9	20	
Beryllium		5.09	mg/L	0.0014	102	70	130	5.2	20	
Calcium		1040	mg/L	1.0	100	70	130	3.5	20	
Copper		10.3	mg/L	0.037	102	70	130	4.1	20	
Iron		83.0	mg/L	0.027	101	70	130	3.4	20	
Magnesium		866	mg/L	1.0	104	70	130	3.4	20	
Manganese		54.8	mg/L	0.0066	102	70	130	4.9	20	
Nickel		9.99	mg/L	0.022	99	70	130	0.4	20	
Silicon		109	mg/L	0.13	107	70	130	1.2	20	
Strontium		46.3	mg/L	0.010	97	70	130	3.3	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/07/15

Project: 3767-01 WK:1

Work Order: B15062256

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>		Analytical Run: ICPMS203-B_150626A								
<b>Lab ID: QCS</b>	7	Initial Calibration Verification Standard							06/26/15 13:56	
Arsenic		0.0508	mg/L	0.0050	102	90	110			
Beryllium		0.0239	mg/L	0.0010	96	90	110			
Copper		0.0521	mg/L	0.010	104	90	110			
Lead		0.0516	mg/L	0.010	103	90	110			
Nickel		0.0503	mg/L	0.010	101	90	110			
Thallium		0.0504	mg/L	0.10	101	90	110			
Uranium		0.0211	mg/L	0.0010	106	90	110			
<b>Method: E200.8</b>		Batch: R245171								
<b>Lab ID: LFB</b>	7	Laboratory Fortified Blank							06/26/15 10:14	
		Run: ICPMS203-B_150626A								
Arsenic		0.0477	mg/L	0.0050	95	85	115			
Beryllium		0.0457	mg/L	0.0010	91	85	115			
Copper		0.0478	mg/L	0.010	96	85	115			
Lead		0.0442	mg/L	0.010	88	85	115			
Nickel		0.0476	mg/L	0.010	95	85	115			
Thallium		0.0474	mg/L	0.10	95	85	115			
Uranium		0.0475	mg/L	0.0010	95	85	115			
<b>Lab ID: LRB</b>	7	Method Blank							06/26/15 10:37	
		Run: ICPMS203-B_150626A								
Arsenic		ND	mg/L	5E-05						
Beryllium		ND	mg/L	9E-06						
Copper		ND	mg/L	4E-05						
Lead		ND	mg/L	3E-05						
Nickel		ND	mg/L	4E-05						
Thallium		ND	mg/L	1E-05						
Uranium		ND	mg/L	3E-06						
<b>Lab ID: B15062256-001BMS</b>	7	Sample Matrix Spike							06/26/15 12:04	
		Run: ICPMS203-B_150626A								
Arsenic		0.248	mg/L	0.0010	98	70	130			
Beryllium		0.224	mg/L	0.0010	90	70	130			
Copper		0.286	mg/L	0.0050	93	70	130			
Lead		0.233	mg/L	0.0010	91	70	130			
Nickel		0.396	mg/L	0.0050	92	70	130			
Thallium		0.372	mg/L	0.00050	88	70	130			
Uranium		0.264	mg/L	0.00030	106	70	130			
<b>Lab ID: B15062256-001BMSD</b>	7	Sample Matrix Spike Duplicate							06/26/15 12:08	
		Run: ICPMS203-B_150626A								
Arsenic		0.251	mg/L	0.0010	99	70	130	1.1	20	
Beryllium		0.230	mg/L	0.0010	92	70	130	2.4	20	
Copper		0.292	mg/L	0.0050	96	70	130	2.1	20	
Lead		0.239	mg/L	0.0010	93	70	130	2.4	20	
Nickel		0.400	mg/L	0.0050	93	70	130	0.9	20	
Thallium		0.378	mg/L	0.00050	90	70	130	1.6	20	
Uranium		0.268	mg/L	0.00030	107	70	130	1.5	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/07/15

Project: 3767-01 WK:1

Work Order: B15062256

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Analytical Run: ICPMS203-B_150629A										
<b>Method:</b> E200.8										
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								06/29/15 10:24
Aluminum		0.248	mg/L	0.10	99	90	110			
Batch: R245277										
<b>Method:</b> E200.8										
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								06/29/15 10:27
Aluminum		0.0479	mg/L	0.10	96	85	115			
<b>Lab ID:</b> LRB		Method Blank								06/29/15 10:59
Aluminum		ND	mg/L	0.0002						
<b>Lab ID:</b> B15062254-007BMS		Sample Matrix Spike								06/29/15 11:07
Aluminum		5.12	mg/L	0.030		70	130			A
<b>Lab ID:</b> B15062254-007BMSD		Sample Matrix Spike Duplicate								06/29/15 11:11
Aluminum		4.59	mg/L	0.030		70	130	11	20	A
Analytical Run: ICPMS203-B_150706A										
<b>Method:</b> E200.8										
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								07/06/15 18:29
Copper		0.0511	mg/L	0.010	102	90	110			
Batch: R245582										
<b>Method:</b> E200.8										
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								07/06/15 11:12
Copper		0.0497	mg/L	0.010	99	85	115			
<b>Lab ID:</b> LRB		Method Blank								07/06/15 11:44
Copper		ND	mg/L	4E-05						
<b>Lab ID:</b> B15062649-004BMS		Sample Matrix Spike								07/06/15 19:23
Copper		0.0499	mg/L	0.0050	97	70	130			
<b>Lab ID:</b> B15062649-004BMSD		Sample Matrix Spike Duplicate								07/06/15 19:27
Copper		0.0495	mg/L	0.0050	96	70	130	0.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/07/15

**Project:** 3767-01 WK:1

**Work Order:** B15062256

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_150625A		
<b>Lab ID: QCS</b>	11 Initial Calibration Verification Standard							06/25/15 13:21		
Aluminum		0.248	mg/L	0.10	99	90	110			
Antimony		0.0492	mg/L	0.050	98	90	110			
Arsenic		0.0511	mg/L	0.0050	102	90	110			
Barium		0.0496	mg/L	0.10	99	90	110			
Cadmium		0.0254	mg/L	0.0010	102	90	110			
Calcium		2.53	mg/L	0.50	101	90	110			
Chromium		0.0500	mg/L	0.010	100	90	110			
Magnesium		2.57	mg/L	0.50	103	90	110			
Selenium		0.0518	mg/L	0.0050	104	90	110			
Silver		0.0245	mg/L	0.0050	98	90	110			
Zinc		0.0527	mg/L	0.010	105	90	110			
<b>Method: E200.8</b>								Batch: R245089		
<b>Lab ID: LRB</b>	11 Method Blank							Run: ICPMS206-B_150625A 06/25/15 10:21		
Aluminum		ND	mg/L	0.0001						
Antimony		ND	mg/L	8E-05						
Arsenic		ND	mg/L	6E-05						
Barium		ND	mg/L	0.0004						
Cadmium		ND	mg/L	3E-05						
Calcium		ND	mg/L	0.008						
Chromium		ND	mg/L	4E-05						
Magnesium		ND	mg/L	0.005						
Selenium		ND	mg/L	0.0001						
Silver		ND	mg/L	2E-05						
Zinc		ND	mg/L	0.0001						
<b>Lab ID: LFB</b>	11 Laboratory Fortified Blank							Run: ICPMS206-B_150625A 06/25/15 10:25		
Aluminum		0.0487	mg/L	0.10	97	85	115			
Antimony		0.0425	mg/L	0.050	85	85	115			
Arsenic		0.0489	mg/L	0.0050	98	85	115			
Barium		0.0484	mg/L	0.10	97	85	115			
Cadmium		0.0478	mg/L	0.0010	96	85	115			
Calcium		46.9	mg/L	0.50	94	85	115			
Chromium		0.0476	mg/L	0.010	95	85	115			
Magnesium		47.8	mg/L	0.50	96	85	115			
Selenium		0.0482	mg/L	0.0050	96	85	115			
Silver		0.0187	mg/L	0.0050	93	85	115			
Zinc		0.0478	mg/L	0.010	96	85	115			
<b>Lab ID: MB-90755</b>	11 Method Blank							Run: ICPMS206-B_150625A 06/25/15 11:39		
Aluminum		ND	mg/L	0.0001						
Antimony		ND	mg/L	8E-05						
Arsenic		ND	mg/L	6E-05						
Barium		ND	mg/L	0.0004						
Cadmium		ND	mg/L	3E-05						

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/07/15

Project: 3767-01 WK:1

Work Order: B15062256

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b> <span style="float:right">Batch: R245089</span>											
<b>Lab ID: MB-90755</b>	11	Method Blank									
						Run: ICPMS206-B_150625A			06/25/15 11:39		
Calcium		ND	mg/L	0.008							
Chromium		ND	mg/L	4E-05							
Magnesium		ND	mg/L	0.005							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Zinc		0.0005	mg/L	0.0001							
<b>Lab ID: B15062256-001BMS</b> 11 Sample Matrix Spike <span style="float:right">Run: ICPMS206-B_150625A 06/25/15 19:42</span>											
Aluminum		0.0452	mg/L	0.030	81	70	130				
Antimony		0.0463	mg/L	0.0010	90	70	130				
Arsenic		0.0475	mg/L	0.0010	92	70	130				
Barium		0.0663	mg/L	0.050	102	70	130				
Cadmium		0.0488	mg/L	0.0010	97	70	130				
Calcium		565	mg/L	1.0		70	130			A	
Chromium		0.0463	mg/L	0.0050	93	70	130				
Magnesium		388	mg/L	1.0		70	130			A	
Selenium		0.0547	mg/L	0.0010	102	70	130				
Silver		0.0135	mg/L	0.0010	68	70	130			S	
Zinc		0.0862	mg/L	0.010	88	70	130				
<b>Lab ID: B15062256-001BMSD</b> 11 Sample Matrix Spike Duplicate <span style="float:right">Run: ICPMS206-B_150625A 06/25/15 19:46</span>											
Aluminum		0.0460	mg/L	0.030	83	70	130	1.7	20		
Antimony		0.0462	mg/L	0.0010	90	70	130	0.2	20		
Arsenic		0.0472	mg/L	0.0010	92	70	130	0.8	20		
Barium		0.0641	mg/L	0.050	98	70	130	3.4	20		
Cadmium		0.0476	mg/L	0.0010	94	70	130	2.4	20		
Calcium		566	mg/L	1.0		70	130	0.2	20	A	
Chromium		0.0460	mg/L	0.0050	92	70	130	0.7	20		
Magnesium		379	mg/L	1.0		70	130	2.2	20	A	
Selenium		0.0511	mg/L	0.0010	95	70	130	6.9	20		
Silver		0.0138	mg/L	0.0010	69	70	130	2.0	20	S	
Zinc		0.0850	mg/L	0.010	86	70	130	1.5	20		
<b>Lab ID: B15062292-001BMS</b> 11 Sample Matrix Spike <span style="float:right">Run: ICPMS206-B_150625A 06/25/15 20:56</span>											
Aluminum		0.0447	mg/L	0.030	85	70	130				
Antimony		0.0448	mg/L	0.0010	90	70	130				
Arsenic		0.0475	mg/L	0.0010	95	70	130				
Barium		0.0625	mg/L	0.050	99	70	130				
Cadmium		0.0487	mg/L	0.0010	97	70	130				
Calcium		195	mg/L	1.0	69	70	130			S	
Chromium		0.0471	mg/L	0.0050	94	70	130				
Magnesium		107	mg/L	1.0	88	70	130				
Selenium		0.0499	mg/L	0.0010	98	70	130				
Silver		0.0137	mg/L	0.0010	69	70	130			S	
Zinc		0.0565	mg/L	0.010	94	70	130				

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/07/15

Project: 3767-01 WK:1

Work Order: B15062256

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Batch: R245089	
<b>Lab ID: B15062292-001BMS</b>	11	Sample Matrix Spike									Run: ICPMS206-B_150625A 06/25/15 20:56
<b>Lab ID: B15062292-001BMSD</b>	11	Sample Matrix Spike Duplicate									Run: ICPMS206-B_150625A 06/25/15 21:01
Aluminum		0.0444	mg/L	0.030	84	70	130	0.7	20		
Antimony		0.0450	mg/L	0.0010	90	70	130	0.6	20		
Arsenic		0.0466	mg/L	0.0010	93	70	130	2.0	20		
Barium		0.0613	mg/L	0.050	97	70	130	2.0	20		
Cadmium		0.0474	mg/L	0.0010	95	70	130	2.9	20		
Calcium		191	mg/L	1.0	61	70	130	2.2	20	S	
Chromium		0.0459	mg/L	0.0050	92	70	130	2.4	20		
Magnesium		106	mg/L	1.0	87	70	130	0.3	20		
Selenium		0.0525	mg/L	0.0010	103	70	130	5.0	20		
Silver		0.0152	mg/L	0.0010	76	70	130	10	20		
Zinc		0.0548	mg/L	0.010	91	70	130	3.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/07/15

Project: 3767-01 WK:1

Work Order: B15062256

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Analytical Run: HGCV203-B_150629A										
<b>Method:</b> E245.1										
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Mercury	0.000215	mg/L	1.0E-05	107	90	110	06/29/15 12:26			
Batch: 90831										
<b>Method:</b> E245.1										
<b>Lab ID:</b> MB-90831	Method Blank									
Mercury	ND	mg/L	1E-06	Run: HGCV203-B_150629A			06/29/15 12:36			
<b>Lab ID:</b> LCS-90831	Laboratory Control Sample									
Mercury	0.000214	mg/L	1.0E-05	107	85	115	06/29/15 12:39			
<b>Lab ID:</b> B15062072-002BMS	Sample Matrix Spike									
Mercury	0.000242	mg/L	1.0E-05	108	70	130	06/29/15 12:44			
<b>Lab ID:</b> B15062072-002BMSD	Sample Matrix Spike Duplicate									
Mercury	0.000242	mg/L	1.0E-05	108	70	130	0.0	30		
<b>Lab ID:</b> B15062270-002BMS	Sample Matrix Spike									
Mercury	0.000217	mg/L	1.0E-05	106	70	130	06/29/15 13:26			
<b>Lab ID:</b> B15062270-002BMSD	Sample Matrix Spike Duplicate									
Mercury	0.000218	mg/L	1.0E-05	107	70	130	0.5	30		
Analytical Run: HGCV203-B_150630A										
<b>Method:</b> E245.1										
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Mercury	0.000208	mg/L	1.0E-05	104	90	110	06/30/15 15:31			
Batch: 90949										
<b>Method:</b> E245.1										
<b>Lab ID:</b> MB-90949	Method Blank									
Mercury	ND	mg/L	1E-06	Run: HGCV203-B_150630A			06/30/15 15:48			
<b>Lab ID:</b> LCS-90949	Laboratory Control Sample									
Mercury	0.000207	mg/L	1.0E-05	104	85	115	06/30/15 15:51			
<b>Lab ID:</b> B15062347-004BMS	Sample Matrix Spike									
Mercury	0.000270	mg/L	1.0E-05	104	70	130	06/30/15 16:23			
<b>Lab ID:</b> B15062347-004BMSD	Sample Matrix Spike Duplicate									
Mercury	0.000273	mg/L	1.0E-05	106	70	130	1.1	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15062256

Login completed by: Randa Nees

Date Received: 6/24/2015

Reviewed by: BL2000\jmueller

Received by: brg

Reviewed Date: 6/25/2015

Carrier name: UPS NDA

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	5.6°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab		<b>Project Name, PWS, Permit, Etc.</b> 3767-01 WK:1		<b>Sample Origin</b> State: NV		<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Report Mail Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Contact Name:</b> Mike Medina		<b>Phone/Fax:</b> 775-356-1300		<b>Email:</b> MLI@METTEST.COM	
<b>Invoice Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko 604-628-1162		<b>Purchase Order:</b>		<b>Quote/Bottle Order:</b>	
<b>Special Report/Formats - ELI must be notified prior to sample submittal for the following:</b> <input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> GSA <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <b>Format:</b> _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC		<b>Number of Containers</b> Air Water Solids/Other Vegetation Bioassay Other		<b>ANALYSIS REQUESTED</b>		<b>Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page</b> Comments:	
<b>SAMPLE IDENTIFICATION</b> (Name, Location, Interval, etc.)		<b>Collection Date</b>		<b>Collection Time</b>		<b>Shipped by:</b> UPS Robert NDK Cooler ID(s):	
1 USZ Comp		6/23/15		09:00		Receipt Temp 1R 5.19 °C On Ice: Yes No	
2 Yc Comp		↓		↓		Custody Seal (Y) N Intact (Y) N Signature Match (Y) N	
3 Tailings		↓		↓		Please Copy results to: MLI@METTEST.COM	
4 Tailings (Saturated)		↓		↓		hold remaining preserved samples (frozen) until further notice.	
5		↓		↓		LABORATORY USE ONLY \$150,2232-001 602 603 604	
6		↓		↓		Received by (print): Received by (print): Received by Laboratory:	
7		↓		↓		Date/Time: Date/Time: Date/Time:	
8		↓		↓		Signature: Signature: Signature:	
9		↓		↓		Relinquished by (print): Relinquished by (print): Sample Disposal: Return to Client:	
10		↓		↓		Lab Disposal:	

**Custody Record MUST be Signed**

Relinquished by (print): JOE CHANEY  
 Date/Time: 6/23/15 9AM  
 Signature: [Signature]

Relinquished by (print):  
 Date/Time:  
 Signature:

Received by Laboratory: [Signature]  
 Date/Time: 6/24/15 09:15  
 Signature: [Signature]

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

July 13, 2015

Tintina Montana Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B15070131      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:2

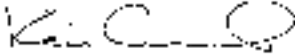
Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Montana Inc on 7/1/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15070131-001	USZ Comp	06/30/15 9:00	07/01/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15070131-002	Yc Comp	06/30/15 9:00	07/01/15	Aqueous	Same As Above
B15070131-003	Tailings	06/30/15 9:00	07/01/15	Aqueous	Same As Above
B15070131-004	Tailings (Saturated)	06/30/15 9:00	07/01/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Center  
Date: 2015.07.14 14:35:22 -06:00





**CLIENT:** Tintina Montana Inc  
**Project:** 3767-01 WK:2  
**Work Order:** B15070131

**Report Date:** 07/13/15

## **CASE NARRATIVE**

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Revised 7/14/2015;

The client sample ID did not match the COC on the original report sent for sample Tailings (B15070131-003). The sample ID has been corrected. We apologize for any inconvenience this may have caused.

The report has been revised and replaces any previously issued report in its entirety.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2  
**Lab ID:** B15070131-001  
**Client Sample ID:** USZ Comp

**Report Date:** 07/13/15  
**Collection Date:** 06/30/15 09:00  
**Date Received:** 07/01/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	3620	mg/L	D	9		E300.0	07/06/15 18:11 / ajr
Fluoride	0.3	mg/L		0.2		A4500-F C	07/02/15 11:45 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	07/06/15 09:02 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	07/02/15 17:12 / mas
Antimony	0.0007	mg/L		0.0005		E200.8	07/02/15 17:12 / mas
Arsenic	ND	mg/L		0.001		E200.8	07/02/15 17:12 / mas
Barium	0.014	mg/L		0.003		E200.7	07/02/15 16:55 / prw
Beryllium	ND	mg/L		0.0008		E200.7	07/02/15 16:55 / prw
Cadmium	0.00023	mg/L	D	0.00005		E200.8	07/02/15 17:12 / mas
Calcium	452	mg/L		1		E200.7	07/02/15 16:55 / prw
Chromium	ND	mg/L		0.01		E200.7	07/02/15 16:55 / prw
Copper	0.016	mg/L		0.002		E200.8	07/06/15 13:33 / mas
Iron	0.21	mg/L		0.02		E200.7	07/02/15 16:55 / prw
Lead	0.0019	mg/L		0.0003		E200.8	07/02/15 17:12 / mas
Magnesium	428	mg/L		1		E200.7	07/02/15 16:55 / prw
Manganese	5.32	mg/L		0.005		E200.7	07/02/15 16:55 / prw
Mercury	0.00208	mg/L	D	0.00005		E245.1	07/02/15 16:13 / ser
Nickel	0.075	mg/L		0.002		E200.8	07/02/15 17:12 / mas
Selenium	0.003	mg/L		0.001		E200.8	07/02/15 17:12 / mas
Silicon	1.05	mg/L	D	0.07		E200.7	07/02/15 16:55 / prw
Silver	ND	mg/L		0.0002		E200.8	07/02/15 17:12 / mas
Strontium	30.6	mg/L		0.02		E200.7	07/02/15 16:55 / prw
Thallium	0.131	mg/L		0.0002		E200.8	07/02/15 17:12 / mas
Uranium	0.0010	mg/L		0.0002		E200.8	07/02/15 17:12 / mas
Zinc	0.014	mg/L		0.008		E200.7	07/02/15 16:55 / prw

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2  
**Lab ID:** B15070131-002  
**Client Sample ID:** Yc Comp

**Report Date:** 07/13/15  
**Collection Date:** 06/30/15 09:00  
**Date Received:** 07/01/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	47	mg/L		1		E300.0	07/06/15 18:24 / ajr
Fluoride	1.6	mg/L		0.2		A4500-F C	07/02/15 11:47 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.009	mg/L	L	0.005		E365.1	07/06/15 09:08 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.491	mg/L		0.009		E200.7	07/02/15 16:58 / prw
Antimony	0.0010	mg/L		0.0005		E200.8	07/02/15 17:16 / mas
Arsenic	0.019	mg/L		0.001		E200.8	07/02/15 17:16 / mas
Barium	0.048	mg/L		0.003		E200.7	07/02/15 16:58 / prw
Beryllium	ND	mg/L		0.0008		E200.7	07/02/15 16:58 / prw
Cadmium	0.00028	mg/L		0.00003		E200.8	07/02/15 17:16 / mas
Calcium	3	mg/L		1		E200.7	07/02/15 16:58 / prw
Chromium	ND	mg/L		0.01		E200.7	07/02/15 16:58 / prw
Copper	ND	mg/L		0.002		E200.8	07/06/15 13:38 / mas
Iron	0.05	mg/L		0.02		E200.7	07/02/15 16:58 / prw
Lead	0.0008	mg/L		0.0003		E200.8	07/02/15 17:16 / mas
Magnesium	3	mg/L		1		E200.7	07/02/15 16:58 / prw
Manganese	ND	mg/L		0.005		E200.7	07/02/15 16:58 / prw
Mercury	ND	mg/L		5E-06		E245.1	07/02/15 16:19 / ser
Nickel	ND	mg/L		0.002		E200.8	07/02/15 17:16 / mas
Selenium	ND	mg/L		0.001		E200.8	07/02/15 17:16 / mas
Silicon	2.63	mg/L		0.05		E200.7	07/02/15 16:58 / prw
Silver	ND	mg/L		0.0002		E200.8	07/02/15 17:16 / mas
Strontium	0.08	mg/L		0.02		E200.7	07/02/15 16:58 / prw
Thallium	0.0002	mg/L		0.0002		E200.8	07/02/15 17:16 / mas
Uranium	0.0022	mg/L		0.0002		E200.8	07/02/15 17:16 / mas
Zinc	ND	mg/L		0.008		E200.7	07/02/15 16:58 / prw

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2  
**Lab ID:** B15070131-003  
**Client Sample ID:** Tailings

**Report Date:** 07/13/15  
**Collection Date:** 06/30/15 09:00  
**Date Received:** 07/01/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	12300	mg/L	D	90		E300.0	07/08/15 15:18 / ajr
Fluoride	ND	mg/L		0.2		A4500-F C	07/02/15 11:51 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	7.4	mg/L	D	0.2		E365.1	07/10/15 16:05 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	73.6	mg/L	D	0.1		E200.7	07/02/15 17:02 / prw
Antimony	0.0160	mg/L	D	0.0008		E200.8	07/02/15 17:21 / mas
Arsenic	34.7	mg/L	D	0.3		E200.7	07/02/15 17:02 / prw
Barium	0.026	mg/L	D	0.005		E200.7	07/02/15 17:02 / prw
Beryllium	0.0636	mg/L		0.0008		E200.8	07/02/15 17:21 / mas
Cadmium	0.0321	mg/L	D	0.0003		E200.8	07/02/15 17:21 / mas
Calcium	392	mg/L	D	2		E200.7	07/02/15 17:02 / prw
Chromium	6.06	mg/L	D	0.06		E200.7	07/02/15 17:02 / prw
Copper	733	mg/L	D	0.07		E200.7	07/02/15 17:02 / prw
Iron	2950	mg/L	D	0.05		E200.7	07/02/15 17:02 / prw
Lead	0.0175	mg/L	D	0.0005		E200.8	07/02/15 17:21 / mas
Magnesium	553	mg/L		1		E200.7	07/02/15 17:02 / prw
Manganese	82.4	mg/L	D	0.01		E200.7	07/02/15 17:02 / prw
Mercury	0.0000479	mg/L		5E-06		E245.1	07/02/15 16:25 / ser
Nickel	142	mg/L	D	0.04		E200.7	07/02/15 17:02 / prw
Selenium	0.007	mg/L		0.001		E200.8	07/02/15 17:21 / mas
Silicon	40.9	mg/L	D	0.3		E200.7	07/02/15 17:02 / prw
Silver	ND	mg/L		0.0002		E200.8	07/08/15 13:47 / mas
Strontium	1.44	mg/L		0.02		E200.7	07/02/15 17:02 / prw
Thallium	0.0047	mg/L	D	0.0007		E200.8	07/02/15 17:21 / mas
Uranium	0.272	mg/L	D	0.0005		E200.8	07/02/15 17:21 / mas
Zinc	13.1	mg/L		0.008		E200.8	07/02/15 17:21 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2  
**Lab ID:** B15070131-004  
**Client Sample ID:** Tailings (Saturated)

**Report Date:** 07/13/15  
**Collection Date:** 06/30/15 09:00  
**Date Received:** 07/01/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	1370	mg/L	D	4		E300.0	07/06/15 18:52 / ajr
Fluoride	0.3	mg/L		0.2		A4500-F C	07/02/15 11:53 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.184	mg/L	L	0.005		E365.1	07/06/15 09:10 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	07/02/15 17:53 / mas
Antimony	0.0014	mg/L		0.0005		E200.8	07/02/15 17:53 / mas
Arsenic	0.006	mg/L		0.001		E200.8	07/02/15 17:53 / mas
Barium	0.017	mg/L		0.003		E200.8	07/02/15 17:53 / mas
Beryllium	ND	mg/L		0.0008		E200.7	07/02/15 17:05 / prw
Cadmium	ND	mg/L	D	0.00005		E200.8	07/02/15 17:53 / mas
Calcium	268	mg/L		1		E200.7	07/02/15 17:05 / prw
Chromium	ND	mg/L		0.01		E200.8	07/02/15 17:53 / mas
Copper	0.003	mg/L		0.002		E200.8	07/07/15 14:56 / mas
Iron	0.45	mg/L		0.02		E200.7	07/02/15 17:05 / prw
Lead	0.0007	mg/L		0.0003		E200.8	07/07/15 14:56 / mas
Magnesium	152	mg/L		1		E200.7	07/02/15 17:05 / prw
Manganese	4.80	mg/L		0.005		E200.7	07/02/15 17:05 / prw
Mercury	ND	mg/L		5E-06		E245.1	07/02/15 16:30 / ser
Nickel	1.44	mg/L	D	0.01		E200.7	07/02/15 17:05 / prw
Selenium	ND	mg/L		0.001		E200.8	07/02/15 17:53 / mas
Silicon	3.64	mg/L	D	0.07		E200.7	07/02/15 17:05 / prw
Silver	ND	mg/L		0.0002		E200.8	07/02/15 17:53 / mas
Strontium	0.53	mg/L		0.02		E200.7	07/02/15 17:05 / prw
Thallium	0.0170	mg/L		0.0002		E200.8	07/07/15 14:56 / mas
Uranium	ND	mg/L		0.0002		E200.8	07/07/15 14:56 / mas
Zinc	0.017	mg/L		0.008		E200.8	07/02/15 17:53 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2

**Report Date:** 07/13/15  
**Work Order:** B15070131

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_150702A		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Fluoride	1.10	mg/L	0.10	110	90	110			07/02/15 11:34	
<b>Method:</b> A4500-F C								Batch: R245549		
<b>Lab ID:</b> MBLK	Method Blank									
Fluoride	ND	mg/L	0.01						Run: MAN-TECH_150702A 07/02/15 11:20	
<b>Lab ID:</b> LFB	Laboratory Fortified Blank									
Fluoride	1.05	mg/L	0.10	105	90	110			Run: MAN-TECH_150702A 07/02/15 11:22	
<b>Lab ID:</b> B15070120-001AMS	Sample Matrix Spike									
Fluoride	1.46	mg/L	0.10	108	80	120			Run: MAN-TECH_150702A 07/02/15 11:30	
<b>Lab ID:</b> B15070120-001AMSD	Sample Matrix Spike Duplicate									
Fluoride	1.45	mg/L	0.10	107	80	120	0.7	10	Run: MAN-TECH_150702A 07/02/15 11:37	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2

**Report Date:** 07/13/15  
**Work Order:** B15070131

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 2_150706A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								07/06/15 16:09
Sulfate	8.66	mg/L	1.0	96	90	110			
<b>Method:</b> E300.0	Batch: R245610								
<b>Lab ID:</b> MB	Method Blank								07/06/15 11:52
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								07/06/15 12:19
Sulfate	8.10	mg/L	1.0	90	90	110			
<b>Lab ID:</b> B15070137-001AMS	Sample Matrix Spike								07/06/15 19:32
Sulfate	1980	mg/L	9.0		90	110			A
<b>Lab ID:</b> B15070137-001AMSD	Sample Matrix Spike Duplicate								07/06/15 19:46
Sulfate	1980	mg/L	9.0		90	110	0.4	20	A
<b>Method:</b> E300.0	Analytical Run: IC METROHM 2_150708A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								07/08/15 12:23
Sulfate	9.28	mg/L	1.0	103	90	110			
<b>Method:</b> E300.0	Batch: R245770								
<b>Lab ID:</b> MB	Method Blank								07/08/15 12:09
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								07/08/15 12:36
Sulfate	9.59	mg/L	1.0	107	90	110			
<b>Lab ID:</b> B15070137-001AMS	Sample Matrix Spike								07/08/15 16:25
Sulfate	1960	mg/L	9.0		90	110			A
<b>Lab ID:</b> B15070137-001AMSD	Sample Matrix Spike Duplicate								07/08/15 16:39
Sulfate	1960	mg/L	9.0		90	110	0.3	20	A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2

**Report Date:** 07/13/15  
**Work Order:** B15070131

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E365.1									Analytical Run: FIA202-B_150706A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Phosphorus, Total as P	0.517	mg/L	0.0050	103	90	110			07/06/15 08:44
<b>Method:</b> E365.1									Batch: 91026
<b>Lab ID:</b> MB-91026	Method Blank								
Phosphorus, Total as P	0.003	mg/L	0.003						Run: FIA202-B_150706A 07/06/15 08:58
<b>Lab ID:</b> LCS-91026	Laboratory Control Sample								
Phosphorus, Total as P	0.195	mg/L	0.0050	96	90	110			Run: FIA202-B_150706A 07/06/15 08:59
<b>Lab ID:</b> B15070131-001CMS	Sample Matrix Spike								
Phosphorus, Total Dissolved as P	0.179	mg/L	0.0050	89	90	110			Run: FIA202-B_150706A 07/06/15 09:04 S
<b>Lab ID:</b> B15070131-001CMSD	Sample Matrix Spike Duplicate								
Phosphorus, Total Dissolved as P	0.163	mg/L	0.0050	82	90	110			Run: FIA202-B_150706A 07/06/15 09:05 S

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2

**Report Date:** 07/13/15  
**Work Order:** B15070131

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.7										Analytical Run: ICP203-B_150702A	
<b>Lab ID:</b> ICV	14 Continuing Calibration Verification Standard									07/02/15 10:30	
Aluminum		2.51	mg/L	0.10	100	95	105				
Arsenic		2.51	mg/L	0.10	100	95	105				
Barium		2.47	mg/L	0.10	99	95	105				
Beryllium		1.28	mg/L	0.010	102	95	105				
Calcium		25.2	mg/L	1.0	101	95	105				
Chromium		2.47	mg/L	0.050	99	95	105				
Copper		2.44	mg/L	0.010	98	95	105				
Iron		2.49	mg/L	0.020	100	95	105				
Magnesium		24.8	mg/L	1.0	99	95	105				
Manganese		2.53	mg/L	0.010	101	95	105				
Nickel		2.47	mg/L	0.050	99	95	105				
Silicon		5.09	mg/L	0.10	102	95	105				
Strontium		2.50	mg/L	0.10	100	95	105				
Zinc		2.47	mg/L	0.010	99	95	105				
<b>Method:</b> E200.7										Batch: R245510	
<b>Lab ID:</b> MB-6500DIS150702A	14 Method Blank									Run: ICP203-B_150702A 07/02/15 10:58	
Aluminum		ND	mg/L	0.007							
Arsenic		ND	mg/L	0.01							
Barium		0.0003	mg/L	0.0002							
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.08							
Chromium		ND	mg/L	0.003							
Copper		0.004	mg/L	0.004							
Iron		ND	mg/L	0.003							
Magnesium		0.01	mg/L	0.006							
Manganese		ND	mg/L	0.0006							
Nickel		0.002	mg/L	0.002							
Silicon		ND	mg/L	0.01							
Strontium		ND	mg/L	0.0003							
Zinc		ND	mg/L	0.002							
<b>Lab ID:</b> LFB-6500DIS150702A	14 Laboratory Fortified Blank									Run: ICP203-B_150702A 07/02/15 11:02	
Aluminum		5.09	mg/L	0.10	102	85	115				
Arsenic		1.03	mg/L	0.10	103	85	115				
Barium		0.992	mg/L	0.10	99	85	115				
Beryllium		0.514	mg/L	0.010	103	85	115				
Calcium		50.4	mg/L	1.0	101	85	115				
Chromium		0.982	mg/L	0.050	98	85	115				
Copper		0.990	mg/L	0.010	99	85	115				
Iron		5.04	mg/L	0.020	101	85	115				
Magnesium		49.9	mg/L	1.0	100	85	115				
Manganese		5.06	mg/L	0.010	101	85	115				
Nickel		1.00	mg/L	0.050	100	85	115				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2

**Report Date:** 07/13/15  
**Work Order:** B15070131

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										
Batch: R245510										
<b>Lab ID:</b>	<b>LFB-6500DIS150702A</b>	14	Laboratory Fortified Blank							
										Run: ICP203-B_150702A 07/02/15 11:02
Silicon		10.1	mg/L	0.10	101	85	115			
Strontium		1.01	mg/L	0.10	101	85	115			
Zinc		1.01	mg/L	0.010	101	85	115			
<b>Lab ID:</b>	<b>B15070157-001BMS2</b>	14	Sample Matrix Spike							
										Run: ICP203-B_150702A 07/02/15 17:23
Aluminum		24.8	mg/L	0.035	99	70	130			
Arsenic		5.03	mg/L	0.073	101	70	130			
Barium		5.34	mg/L	0.050	97	70	130			
Beryllium		2.48	mg/L	0.0010	99	70	130			
Calcium		509	mg/L	1.0	93	70	130			
Chromium		4.81	mg/L	0.016	96	70	130			
Copper		4.84	mg/L	0.018	96	70	130			
Iron		25.4	mg/L	0.020	100	70	130			
Magnesium		259	mg/L	1.0	99	70	130			
Manganese		24.3	mg/L	0.0033	97	70	130			
Nickel		4.75	mg/L	0.011	95	70	130			
Silicon		54.0	mg/L	0.10	96	70	130			
Strontium		5.73	mg/L	0.010	102	70	130			
Zinc		4.84	mg/L	0.010	97	70	130			
<b>Lab ID:</b>	<b>B15070157-001BMSD</b>	14	Sample Matrix Spike Duplicate							
										Run: ICP203-B_150702A 07/02/15 17:26
Aluminum		25.5	mg/L	0.035	101	70	130	2.6	20	
Arsenic		5.22	mg/L	0.073	104	70	130	3.6	20	
Barium		5.41	mg/L	0.050	98	70	130	1.3	20	
Beryllium		2.51	mg/L	0.0010	100	70	130	1.0	20	
Calcium		516	mg/L	1.0	96	70	130	1.3	20	
Chromium		4.88	mg/L	0.016	98	70	130	1.4	20	
Copper		4.93	mg/L	0.018	98	70	130	1.9	20	
Iron		25.8	mg/L	0.020	101	70	130	1.7	20	
Magnesium		264	mg/L	1.0	101	70	130	1.8	20	
Manganese		24.6	mg/L	0.0033	98	70	130	1.1	20	
Nickel		4.86	mg/L	0.011	97	70	130	2.4	20	
Silicon		55.1	mg/L	0.10	98	70	130	2.0	20	
Strontium		5.79	mg/L	0.010	103	70	130	1.1	20	
Zinc		4.96	mg/L	0.010	99	70	130	2.3	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2

**Report Date:** 07/13/15  
**Work Order:** B15070131

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_150702A	
<b>Lab ID: QCS</b>	14	Initial Calibration Verification Standard							07/02/15 16:30		
Aluminum		0.244	mg/L	0.10	98	90	110				
Antimony		0.0486	mg/L	0.050	97	90	110				
Arsenic		0.0519	mg/L	0.0050	104	90	110				
Barium		0.0484	mg/L	0.10	97	90	110				
Beryllium		0.0248	mg/L	0.0010	99	90	110				
Cadmium		0.0248	mg/L	0.0010	99	90	110				
Chromium		0.0494	mg/L	0.010	99	90	110				
Lead		0.0505	mg/L	0.010	101	90	110				
Nickel		0.0513	mg/L	0.010	103	90	110				
Selenium		0.0478	mg/L	0.0050	96	90	110				
Silver		0.0253	mg/L	0.0050	101	90	110				
Thallium		0.0496	mg/L	0.10	99	90	110				
Uranium		0.0190	mg/L	0.0010	95	90	110				
Zinc		0.0513	mg/L	0.010	103	90	110				
<b>Method: E200.8</b>										Batch: R245504	
<b>Lab ID: LRB</b>	14	Method Blank							Run: ICPMS206-B_150702A 07/02/15 10:37		
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Barium		ND	mg/L	0.0004							
Beryllium		ND	mg/L	1E-05							
Cadmium		ND	mg/L	3E-05							
Chromium		ND	mg/L	4E-05							
Lead		ND	mg/L	5E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
Zinc		0.0002	mg/L	0.0001							
<b>Lab ID: LFB</b>	14	Laboratory Fortified Blank							Run: ICPMS206-B_150702A 07/02/15 10:41		
Aluminum		0.0477	mg/L	0.10	95	85	115				
Antimony		0.0461	mg/L	0.050	92	85	115				
Arsenic		0.0488	mg/L	0.0050	98	85	115				
Barium		0.0483	mg/L	0.10	97	85	115				
Beryllium		0.0476	mg/L	0.0010	95	85	115				
Cadmium		0.0485	mg/L	0.0010	97	85	115				
Chromium		0.0489	mg/L	0.010	98	85	115				
Lead		0.0491	mg/L	0.010	98	85	115				
Nickel		0.0480	mg/L	0.010	96	85	115				
Selenium		0.0485	mg/L	0.0050	97	85	115				
Silver		0.0192	mg/L	0.0050	96	85	115				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2

**Report Date:** 07/13/15  
**Work Order:** B15070131

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R245504</span>										
<b>Lab ID: LFB</b>	14	Laboratory Fortified Blank					Run: ICPMS206-B_150702A		07/02/15 10:41	
Thallium		0.0492	mg/L	0.10	98	85	115			
Uranium		0.0493	mg/L	0.0010	99	85	115			
Zinc		0.0482	mg/L	0.010	96	85	115			
<b>Lab ID: B15070131-003BMS</b>	14	Sample Matrix Spike					Run: ICPMS206-B_150702A		07/02/15 17:26	
Aluminum		54.8	mg/L	0.030		70	130			A
Antimony		0.475	mg/L	0.0010	92	70	130			
Arsenic		31.9	mg/L	0.0010		70	130			A
Barium		0.480	mg/L	0.050	92	70	130			
Beryllium		0.465	mg/L	0.0010	80	70	130			
Cadmium		0.494	mg/L	0.0010	92	70	130			
Chromium		5.82	mg/L	0.0050		70	130			A
Lead		0.473	mg/L	0.0010	91	70	130			
Nickel		135	mg/L	0.0050		70	130			A
Selenium		0.474	mg/L	0.0014	93	70	130			
Silver		0.128	mg/L	0.0010	64	70	130			S
Thallium		0.461	mg/L	0.00065	91	70	130			
Uranium		0.721	mg/L	0.00051	90	70	130			
Zinc		12.9	mg/L	0.010		70	130			A
<b>Lab ID: B15070131-003BMSD</b>	14	Sample Matrix Spike Duplicate					Run: ICPMS206-B_150702A		07/02/15 17:30	
Aluminum		55.5	mg/L	0.030		70	130	1.4	20	A
Antimony		0.491	mg/L	0.0010	95	70	130	3.2	20	
Arsenic		31.9	mg/L	0.0010		70	130	0.2	20	A
Barium		0.485	mg/L	0.050	93	70	130	1.0	20	
Beryllium		0.467	mg/L	0.0010	81	70	130	0.5	20	
Cadmium		0.493	mg/L	0.0010	92	70	130	0.3	20	
Chromium		5.77	mg/L	0.0050		70	130	0.8	20	A
Lead		0.493	mg/L	0.0010	95	70	130	4.1	20	
Nickel		134	mg/L	0.0050		70	130	0.3	20	A
Selenium		0.498	mg/L	0.0014	98	70	130	4.9	20	
Silver		0.130	mg/L	0.0010	65	70	130	1.5	20	S
Thallium		0.478	mg/L	0.00065	95	70	130	3.7	20	
Uranium		0.748	mg/L	0.00051	95	70	130	3.7	20	
Zinc		12.8	mg/L	0.010		70	130	0.5	20	A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2

**Report Date:** 07/13/15  
**Work Order:** B15070131

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> Analytical Run: ICPMS206-B_150706A										
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard 07/06/15 10:20									
Copper		0.0526	mg/L	0.010	105	90	110			
<b>Method: E200.8</b> Batch: R245578										
<b>Lab ID: LRB</b>	Method Blank Run: ICPMS206-B_150706A 07/06/15 11:01									
Copper		ND	mg/L	6E-05						
<b>Lab ID: LFB</b>	Laboratory Fortified Blank Run: ICPMS206-B_150706A 07/06/15 11:06									
Copper		0.0476	mg/L	0.010	95	85	115			
<b>Lab ID: B15070127-001BMS</b>	Sample Matrix Spike Run: ICPMS206-B_150706A 07/06/15 13:01									
Copper		0.0628	mg/L	0.0050	123	70	130			
<b>Lab ID: B15070127-001BMSD</b>	Sample Matrix Spike Duplicate Run: ICPMS206-B_150706A 07/06/15 13:05									
Copper		0.0497	mg/L	0.0050	97	70	130	23	20	R
<b>Method: E200.8</b> Analytical Run: ICPMS206-B_150707A										
<b>Lab ID: QCS</b>	4 Initial Calibration Verification Standard 07/07/15 10:29									
Copper		0.0507	mg/L	0.010	101	90	110			
Lead		0.0505	mg/L	0.010	101	90	110			
Thallium		0.0514	mg/L	0.10	103	90	110			
Uranium		0.0191	mg/L	0.0010	96	90	110			
<b>Method: E200.8</b> Batch: R245651										
<b>Lab ID: LRB</b>	4 Method Blank Run: ICPMS206-B_150707A 07/07/15 11:10									
Copper		ND	mg/L	6E-05						
Lead		ND	mg/L	5E-05						
Thallium		ND	mg/L	7E-05						
Uranium		ND	mg/L	5E-05						
<b>Lab ID: LFB</b>	4 Laboratory Fortified Blank Run: ICPMS206-B_150707A 07/07/15 11:26									
Copper		0.0470	mg/L	0.010	94	85	115			
Lead		0.0487	mg/L	0.010	97	85	115			
Thallium		0.0483	mg/L	0.10	97	85	115			
Uranium		0.0491	mg/L	0.0010	98	85	115			
<b>Lab ID: B15070013-001BMS</b>	4 Sample Matrix Spike Run: ICPMS206-B_150707A 07/07/15 15:28									
Copper		0.102	mg/L	0.0050	85	70	130			
Lead		0.0982	mg/L	0.0010	98	70	130			
Thallium		0.0985	mg/L	0.00050	98	70	130			
Uranium		0.0976	mg/L	0.00030	97	70	130			
<b>Lab ID: B15070013-001BMSD</b>	4 Sample Matrix Spike Duplicate Run: ICPMS206-B_150707A 07/07/15 15:33									
Copper		0.102	mg/L	0.0050	85	70	130	0.4	20	
Lead		0.102	mg/L	0.0010	101	70	130	3.3	20	
Thallium		0.102	mg/L	0.00050	102	70	130	3.1	20	
Uranium		0.100	mg/L	0.00030	100	70	130	2.6	20	

**Qualifiers:**

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2

**Report Date:** 07/13/15  
**Work Order:** B15070131

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8										Analytical Run: ICPMS206-B_150708A	
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								07/08/15 10:39	
Silver		0.0252	mg/L	0.0050	101	90	110				
<b>Method:</b> E200.8										Batch: R245740	
<b>Lab ID:</b> LRB		Method Blank								Run: ICPMS206-B_150708A	07/08/15 11:43
Silver		ND	mg/L	2E-05							
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: ICPMS206-B_150708A	07/08/15 11:48
Silver		0.0195	mg/L	0.0050	97	85	115				
<b>Lab ID:</b> B15070504-006AMS		Sample Matrix Spike								Run: ICPMS206-B_150708A	07/08/15 14:19
Silver		0.0187	mg/L	0.0010	93	70	130				
<b>Lab ID:</b> B15070504-006AMSD		Sample Matrix Spike Duplicate								Run: ICPMS206-B_150708A	07/08/15 14:24
Silver		0.0183	mg/L	0.0010	92	70	130	1.9	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2

**Report Date:** 07/13/15  
**Work Order:** B15070131

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150702A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								07/02/15 14:34	
Mercury		0.000213	mg/L	1.0E-05	107	90	110				
<b>Method:</b> E245.1										Batch: 91029	
<b>Lab ID:</b> MB-91029		Method Blank								Run: HGCV203-B_150702A	07/02/15 15:37
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-91029		Laboratory Control Sample								Run: HGCV203-B_150702A	07/02/15 15:40
Mercury		0.000209	mg/L	1.0E-05	105	85	115				
<b>Lab ID:</b> B15070131-004BMS		Sample Matrix Spike								Run: HGCV203-B_150702A	07/02/15 16:36
Mercury		0.000216	mg/L	1.0E-05	107	70	130				
<b>Lab ID:</b> B15070131-004BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150702A	07/02/15 16:39
Mercury		0.000213	mg/L	1.0E-05	106	70	130	1.4	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15070131

Login completed by: Randa Nees

Date Received: 7/1/2015

Reviewed by: BL2000\raschim

Received by: jrjz

Reviewed Date: 7/2/2015

Carrier name: UPS NDA

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 4.0°C On Ice
- Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

None





# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: McClelland Lab		Project Name, PWS, Permit, Etc. 3767-01 WK:2		Sample Origin State: NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St, Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Phone/Fax: 775-356-1300		Email: MLI@METTEST.COM	
Invoice Address: Tintina Resources 200 Granville St, Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko		Purchase Order: 604-628-1162		Quote/Bottle Order:	
Special Report/Formats - ELI must be notified prior to sample submittal for the following: <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP State: _____ <input type="checkbox"/> Other: _____		Number of Containers Sample Type: A W S V B O Air Water Solids/Other Vegetation Bioassay Other SEE ATTACHED		ANALYSIS REQUESTED SEE ATTACHED		Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page Comments: RUSH Please Copy results to: MLI@METTEST.COM hold remaining preserved samples (frozen) until further notice.	
Shipped by: UPS Robert N/D/A Cooler ID(s): Receipt Temp: 4.0 °C On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Custody Seal Intact: Y/N Signature Match: Y/N		Shipped by: UPS Robert N/D/A Cooler ID(s): Receipt Temp: 4.0 °C On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Shipped by: UPS Robert N/D/A Cooler ID(s): Receipt Temp: 4.0 °C On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) 1 USZ Comp 2 Yc Comp 3 Tailings 4 Tailings (Saturated) 5 6 7 8 9 10		Collection Date 6/30/15		Collection Time 09:00		MATRIX Water	
Relinquished by (print): JOE CHANEY Date/Time: 6/30/15 9:44 AM		Relinquished by (print): Signature: [Signature]		Received by (print): Signature: [Signature]		Received by (print): Signature: [Signature]	
Sample Disposal: Return to Client:		Lab Disposal: Date/Time: 7/15/15 09:30 Signature: [Signature]		Date/Time: Signature: [Signature]		Date/Time: Signature: [Signature]	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

July 15, 2015

Tintina Montana Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B15070696                      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:1

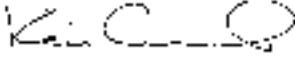
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Montana Inc on 7/8/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15070696-001	Ynl B Comp	07/07/15 9:00	07/08/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15070696-002	LZ FW Comp	07/07/15 9:00	07/08/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2015.07.15 18:27:22 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1  
**Lab ID:** B15070696-001  
**Client Sample ID:** Ynl B Comp

**Report Date:** 07/15/15  
**Collection Date:** 07/07/15 09:00  
**Date Received:** 07/08/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	341	mg/L	D	2		E300.0	07/09/15 21:50 / ajr
Fluoride	1.7	mg/L		0.2		A4500-F C	07/10/15 10:46 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.009	mg/L	L	0.005		E365.1	07/10/15 16:07 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.072	mg/L		0.009		E200.8	07/10/15 12:23 / mas
Antimony	0.0021	mg/L		0.0005		E200.8	07/10/15 12:23 / mas
Arsenic	0.004	mg/L		0.001		E200.8	07/10/15 12:23 / mas
Barium	0.029	mg/L		0.003		E200.8	07/10/15 12:23 / mas
Beryllium	ND	mg/L		0.0008		E200.8	07/10/15 12:23 / mas
Cadmium	0.00015	mg/L		0.00003		E200.8	07/10/15 12:23 / mas
Calcium	38	mg/L		1		E200.8	07/10/15 12:23 / mas
Chromium	ND	mg/L		0.01		E200.8	07/10/15 12:23 / mas
Copper	0.003	mg/L		0.002		E200.8	07/10/15 12:23 / mas
Iron	ND	mg/L		0.02		E200.8	07/10/15 12:23 / mas
Lead	0.0066	mg/L		0.0003		E200.8	07/10/15 12:23 / mas
Magnesium	47	mg/L		1		E200.8	07/10/15 12:23 / mas
Manganese	0.011	mg/L		0.005		E200.8	07/10/15 12:23 / mas
Mercury	0.0000114	mg/L		5E-06		E245.1	07/09/15 16:42 / ser
Nickel	ND	mg/L		0.002		E200.8	07/10/15 12:23 / mas
Selenium	0.015	mg/L		0.001		E200.8	07/10/15 12:23 / mas
Silicon	1.74	mg/L		0.05		E200.8	07/10/15 12:23 / mas
Silver	ND	mg/L		0.0002		E200.8	07/10/15 12:23 / mas
Strontium	2.14	mg/L		0.02		E200.8	07/10/15 12:23 / mas
Thallium	0.0008	mg/L		0.0002		E200.8	07/10/15 12:23 / mas
Uranium	0.0016	mg/L		0.0002		E200.8	07/10/15 12:23 / mas
Zinc	ND	mg/L		0.008		E200.8	07/10/15 12:23 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1  
**Lab ID:** B15070696-002  
**Client Sample ID:** LZ FW Comp

**Report Date:** 07/15/15  
**Collection Date:** 07/07/15 09:00  
**Date Received:** 07/08/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	465	mg/L	D	2		E300.0	07/09/15 22:30 / ajr
Fluoride	2.3	mg/L		0.2		A4500-F C	07/10/15 10:48 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.016	mg/L	L	0.005		E365.1	07/10/15 16:11 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.050	mg/L		0.009		E200.8	07/10/15 12:27 / mas
Antimony	0.0095	mg/L		0.0005		E200.8	07/10/15 12:27 / mas
Arsenic	0.128	mg/L		0.001		E200.8	07/10/15 12:27 / mas
Barium	0.035	mg/L		0.003		E200.8	07/10/15 12:27 / mas
Beryllium	ND	mg/L		0.0008		E200.8	07/10/15 12:27 / mas
Cadmium	0.00019	mg/L		0.00003		E200.8	07/10/15 12:27 / mas
Calcium	47	mg/L		1		E200.8	07/10/15 12:27 / mas
Chromium	ND	mg/L		0.01		E200.8	07/10/15 12:27 / mas
Copper	0.002	mg/L		0.002		E200.8	07/10/15 12:27 / mas
Iron	ND	mg/L		0.02		E200.8	07/10/15 12:27 / mas
Lead	0.0044	mg/L		0.0003		E200.8	07/10/15 12:27 / mas
Magnesium	71	mg/L		1		E200.8	07/10/15 12:27 / mas
Manganese	0.022	mg/L		0.005		E200.8	07/10/15 12:27 / mas
Mercury	ND	mg/L		5E-06		E245.1	07/09/15 16:44 / ser
Nickel	0.025	mg/L		0.002		E200.8	07/10/15 12:27 / mas
Selenium	0.022	mg/L		0.001		E200.8	07/10/15 12:27 / mas
Silicon	2.87	mg/L		0.05		E200.8	07/10/15 12:27 / mas
Silver	ND	mg/L		0.0002		E200.8	07/10/15 12:27 / mas
Strontium	0.93	mg/L		0.02		E200.8	07/10/15 12:27 / mas
Thallium	0.0008	mg/L		0.0002		E200.8	07/10/15 12:27 / mas
Uranium	0.292	mg/L		0.0002		E200.8	07/10/15 12:27 / mas
Zinc	ND	mg/L		0.008		E200.8	07/10/15 12:27 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1

**Report Date:** 07/13/15  
**Work Order:** B15070696

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_150710A		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Fluoride	1.08	mg/L	0.10	108	90	110			07/10/15 10:27	
<b>Method:</b> A4500-F C								Batch: R245883		
<b>Lab ID:</b> MBLK	Method Blank									
Fluoride	ND	mg/L	0.01						Run: MAN-TECH_150710A 07/10/15 10:20	
<b>Lab ID:</b> LFB	Laboratory Fortified Blank									
Fluoride	0.980	mg/L	0.10	98	90	110			Run: MAN-TECH_150710A 07/10/15 10:23	
<b>Lab ID:</b> B15070675-001AMS	Sample Matrix Spike									
Fluoride	1.93	mg/L	0.10	101	80	120			Run: MAN-TECH_150710A 07/10/15 10:35	
<b>Lab ID:</b> B15070675-001AMSD	Sample Matrix Spike Duplicate									
Fluoride	1.92	mg/L	0.10	100	80	120	0.5	10	Run: MAN-TECH_150710A 07/10/15 10:39	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1

**Report Date:** 07/13/15  
**Work Order:** B15070696

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 1_150709A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								07/09/15 12:23
Sulfate	9.16	mg/L	1.0	102	90	110			
<b>Method:</b> E300.0	Batch: R245823								
<b>Lab ID:</b> ICB	Method Blank								07/09/15 12:36
Sulfate	ND	mg/L	0.09						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								07/09/15 12:50
Sulfate	9.34	mg/L	1.0	104	90	110			
<b>Lab ID:</b> B15070678-004AMS	Sample Matrix Spike								07/09/15 20:29
Sulfate	2290	mg/L	9.0		90	110			A
<b>Lab ID:</b> B15070678-004AMSD	Sample Matrix Spike Duplicate								07/09/15 20:43
Sulfate	2260	mg/L	9.0		90	110	1.1	20	A
<b>Lab ID:</b> B15070730-001AMS	Sample Matrix Spike								07/09/15 23:37
Sulfate	95.8	mg/L	1.0	92	90	110			
<b>Lab ID:</b> B15070730-001AMSD	Sample Matrix Spike Duplicate								07/09/15 23:51
Sulfate	95.1	mg/L	1.0	90	90	110	0.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1

**Report Date:** 07/13/15  
**Work Order:** B15070696

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E365.1								Analytical Run: FIA202-B_150710A		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Phosphorus, Total as P	0.498	mg/L	0.0050	100	90	110			07/10/15 15:01	
<b>Method:</b> E365.1								Batch: 91250		
<b>Lab ID:</b> MB-91250	Method Blank									
Phosphorus, Total as P	0.006	mg/L	0.003						Run: FIA202-B_150710A 07/10/15 16:03	
<b>Lab ID:</b> LCS-91250	Laboratory Control Sample									
Phosphorus, Total as P	0.187	mg/L	0.0050	91	90	110			Run: FIA202-B_150710A 07/10/15 16:04	
<b>Lab ID:</b> B15070696-001CMS	Sample Matrix Spike									
Phosphorus, Total Dissolved as P	0.191	mg/L	0.0050	91	90	110			Run: FIA202-B_150710A 07/10/15 16:09	
<b>Lab ID:</b> B15070696-001CMSD	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P	0.194	mg/L	0.0050	92	90	110			Run: FIA202-B_150710A 07/10/15 16:10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1

**Report Date:** 07/15/15  
**Work Order:** B15070696

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS203-B_150710A	
<b>Lab ID: QCS</b>	21	Initial Calibration Verification Standard							07/10/15 10:23		
Aluminum		0.228	mg/L	0.10	91	90	110				
Antimony		0.0491	mg/L	0.050	98	90	110				
Arsenic		0.0500	mg/L	0.0050	100	90	110				
Barium		0.0490	mg/L	0.10	98	90	110				
Beryllium		0.0238	mg/L	0.0010	95	90	110				
Cadmium		0.0251	mg/L	0.0010	101	90	110				
Calcium		2.48	mg/L	0.50	99	90	110				
Chromium		0.0485	mg/L	0.010	97	90	110				
Copper		0.0494	mg/L	0.010	99	90	110				
Iron		0.264	mg/L	0.020	106	90	110				
Lead		0.0484	mg/L	0.010	97	90	110				
Magnesium		2.54	mg/L	0.50	102	90	110				
Manganese		0.236	mg/L	0.010	95	90	110				
Nickel		0.0503	mg/L	0.010	101	90	110				
Selenium		0.0516	mg/L	0.0050	103	90	110				
Silicon		0.519	mg/L	0.10	104	90	110				
Silver		0.0251	mg/L	0.0050	100	90	110				
Strontium		0.0482	mg/L	0.10	96	90	110				
Thallium		0.0483	mg/L	0.10	97	90	110				
Uranium		0.0188	mg/L	0.0010	94	90	110				
Zinc		0.0508	mg/L	0.010	102	90	110				

<b>Method: E200.8</b>										Batch: R245881	
<b>Lab ID: LFB</b>	21	Laboratory Fortified Blank							Run: ICPMS203-B_150710A		07/10/15 10:27
Aluminum		0.0484	mg/L	0.10	97	85	115				
Antimony		0.0459	mg/L	0.050	92	85	115				
Arsenic		0.0487	mg/L	0.0050	97	85	115				
Barium		0.0490	mg/L	0.10	98	85	115				
Beryllium		0.0474	mg/L	0.0010	95	85	115				
Cadmium		0.0482	mg/L	0.0010	96	85	115				
Calcium		48.7	mg/L	0.50	97	85	115				
Chromium		0.0474	mg/L	0.010	95	85	115				
Copper		0.0469	mg/L	0.010	94	85	115				
Iron		5.00	mg/L	0.020	100	85	115				
Lead		0.0478	mg/L	0.010	96	85	115				
Magnesium		48.1	mg/L	0.50	96	85	115				
Manganese		0.0477	mg/L	0.010	95	85	115				
Nickel		0.0482	mg/L	0.010	96	85	115				
Selenium		0.0495	mg/L	0.0050	99	85	115				
Silicon		0.201	mg/L	0.10	101	85	115				
Silver		0.0195	mg/L	0.0050	98	85	115				
Strontium		0.0493	mg/L	0.10	99	85	115				
Thallium		0.0479	mg/L	0.10	96	85	115				
Uranium		0.0480	mg/L	0.0010	96	85	115				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1

**Report Date:** 07/15/15  
**Work Order:** B15070696

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R245881
<b>Lab ID:</b> LFB	21	Laboratory Fortified Blank					Run: ICPMS203-B_150710A			07/10/15 10:27
Zinc		0.0485	mg/L	0.010	97	85	115			
<b>Lab ID:</b> LRB	21	Method Blank					Run: ICPMS203-B_150710A			07/10/15 11:00
Aluminum		ND	mg/L	0.0002						
Antimony		ND	mg/L	1E-05						
Arsenic		0.0001	mg/L	5E-05						
Barium		ND	mg/L	2E-05						
Beryllium		ND	mg/L	9E-06						
Cadmium		ND	mg/L	5E-06						
Calcium		ND	mg/L	0.02						
Chromium		2E-05	mg/L	2E-05						
Copper		ND	mg/L	4E-05						
Iron		ND	mg/L	0.0003						
Lead		ND	mg/L	3E-05						
Magnesium		ND	mg/L	0.0005						
Manganese		ND	mg/L	2E-05						
Nickel		ND	mg/L	4E-05						
Selenium		ND	mg/L	7E-05						
Silicon		ND	mg/L	0.003						
Silver		ND	mg/L	2E-05						
Strontium		ND	mg/L	8E-06						
Thallium		ND	mg/L	1E-05						
Uranium		ND	mg/L	3E-06						
Zinc		ND	mg/L	0.00010						
<b>Lab ID:</b> B15070731-001BMS	21	Sample Matrix Spike					Run: ICPMS203-B_150710A			07/10/15 12:51
Aluminum		0.0669	mg/L	0.030	112	70	130			
Antimony		0.0482	mg/L	0.0010	96	70	130			
Arsenic		0.0532	mg/L	0.0010	105	70	130			
Barium		0.0589	mg/L	0.050	102	70	130			
Beryllium		0.0520	mg/L	0.0010	103	70	130			
Cadmium		0.0489	mg/L	0.0010	98	70	130			
Calcium		250	mg/L	1.0		70	130			A
Chromium		0.0493	mg/L	0.0050	96	70	130			
Copper		0.0458	mg/L	0.0050	92	70	130			
Iron		19.7	mg/L	0.020	87	70	130			
Lead		0.0497	mg/L	0.0010	99	70	130			
Magnesium		80.9	mg/L	1.0	91	70	130			
Manganese		1.50	mg/L	0.0010		70	130			A
Nickel		0.0969	mg/L	0.0050	89	70	130			
Selenium		0.0542	mg/L	0.0010	107	70	130			
Silicon		8.79	mg/L	0.10		70	130			A
Silver		0.0133	mg/L	0.0010	66	70	130			S
Strontium		0.762	mg/L	0.010		70	130			A
Thallium		0.0472	mg/L	0.00050	94	70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1

**Report Date:** 07/15/15  
**Work Order:** B15070696

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R245881										
<b>Lab ID:</b>	<b>B15070731-001BMS</b>	21	Sample Matrix Spike							
										Run: ICPMS203-B_150710A 07/10/15 12:51
Uranium		0.0492	mg/L	0.00030	98	70	130			
Zinc		0.142	mg/L	0.010	89	70	130			
<b>Lab ID:</b>	<b>B15070731-001BMSD</b>	21	Sample Matrix Spike Duplicate							
										Run: ICPMS203-B_150710A 07/10/15 12:55
Aluminum		0.0587	mg/L	0.030	96	70	130	13	20	
Antimony		0.0488	mg/L	0.0010	97	70	130	1.1	20	
Arsenic		0.0519	mg/L	0.0010	102	70	130	2.4	20	
Barium		0.0578	mg/L	0.050	100	70	130	1.7	20	
Beryllium		0.0512	mg/L	0.0010	101	70	130	1.5	20	
Cadmium		0.0491	mg/L	0.0010	98	70	130	0.4	20	
Calcium		244	mg/L	1.0		70	130	2.5	20	A
Chromium		0.0486	mg/L	0.0050	95	70	130	1.4	20	
Copper		0.0453	mg/L	0.0050	91	70	130	1.0	20	
Iron		19.5	mg/L	0.020	84	70	130	0.7	20	
Lead		0.0497	mg/L	0.0010	99	70	130	0.1	20	
Magnesium		78.9	mg/L	1.0	87	70	130	2.6	20	
Manganese		1.54	mg/L	0.0010		70	130	2.7	20	A
Nickel		0.0962	mg/L	0.0050	87	70	130	0.8	20	
Selenium		0.0541	mg/L	0.0010	107	70	130	0.0	20	
Silicon		8.64	mg/L	0.10		70	130	1.7	20	A
Silver		0.00827	mg/L	0.0010	41	70	130	46	20	SR
Strontium		0.756	mg/L	0.010		70	130	0.9	20	A
Thallium		0.0475	mg/L	0.00050	95	70	130	0.5	20	
Uranium		0.0479	mg/L	0.00030	96	70	130	2.5	20	
Zinc		0.139	mg/L	0.010	83	70	130	2.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

R - RPD exceeds advisory limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:1

**Report Date:** 07/15/15  
**Work Order:** B15070696

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150709A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								07/09/15 15:11	
Mercury		0.000216	mg/L	1.0E-05	108	90	110				
<b>Method:</b> E245.1										Batch: 91209	
<b>Lab ID:</b> MB-91209		Method Blank								Run: HGCV203-B_150709A	07/09/15 15:21
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-91209		Laboratory Control Sample								Run: HGCV203-B_150709A	07/09/15 15:24
Mercury		0.000218	mg/L	1.0E-05	109	85	115				
<b>Lab ID:</b> B15070696-002BMS		Sample Matrix Spike								Run: HGCV203-B_150709A	07/09/15 16:50
Mercury		0.000236	mg/L	1.0E-05	117	70	130				
<b>Lab ID:</b> B15070696-002BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150709A	07/09/15 16:52
Mercury		0.000242	mg/L	1.0E-05	120	70	130	2.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15070696

Login completed by: Randa Nees

Date Received: 7/8/2015

Reviewed by: BL2000\jmueller

Received by: kl

Reviewed Date: 7/9/2015

Carrier name: UPS NDA

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	5.8°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

The sample date and time for LZ FW Comp was taken from the sample containers.



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

July 23, 2015

Tintina Montana Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B15071399      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:4

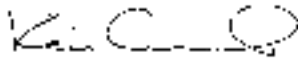
Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Montana Inc on 7/15/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15071399-001	USZ Comp	07/14/15 9:00	07/15/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15071399-002	Yc Comp	07/14/15 9:00	07/15/15	Aqueous	Same As Above
B15071399-003	Tailings	07/14/15 9:00	07/15/15	Aqueous	Same As Above
B15071399-004	Tailings (Saturated)	07/14/15 9:00	07/15/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2015.07.23 15:33:28 -06:00





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4  
**Lab ID:** B15071399-001  
**Client Sample ID:** USZ Comp

**Report Date:** 07/23/15  
**Collection Date:** 07/14/15 09:00  
**Date Received:** 07/15/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	3290	mg/L	D	9		E300.0	07/16/15 21:00 / ajr
Fluoride	0.2	mg/L		0.2		A4500-F C	07/15/15 15:33 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	07/16/15 16:10 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	07/17/15 18:15 / amm
Antimony	0.0012	mg/L		0.0005		E200.8	07/20/15 18:48 / amm
Arsenic	0.002	mg/L		0.001		E200.8	07/17/15 18:15 / amm
Barium	0.012	mg/L		0.003		E200.8	07/17/15 18:15 / amm
Beryllium	ND	mg/L		0.0008		E200.7	07/16/15 15:30 / prw
Cadmium	0.00034	mg/L		0.00003		E200.8	07/21/15 14:24 / mas
Calcium	436	mg/L		1		E200.7	07/16/15 15:30 / prw
Chromium	ND	mg/L		0.01		E200.7	07/16/15 15:30 / prw
Copper	0.070	mg/L		0.002		E200.8	07/17/15 18:15 / amm
Iron	0.05	mg/L		0.02		E200.7	07/16/15 15:30 / prw
Lead	0.0004	mg/L		0.0003		E200.8	07/17/15 18:15 / amm
Magnesium	540	mg/L		1		E200.7	07/16/15 15:30 / prw
Manganese	6.19	mg/L		0.005		E200.7	07/16/15 15:30 / prw
Mercury	0.0000799	mg/L		5E-06		E245.1	07/20/15 14:26 / ser
Nickel	0.081	mg/L		0.002		E200.8	07/17/15 18:15 / amm
Selenium	0.006	mg/L		0.001		E200.8	07/20/15 18:48 / amm
Silicon	1.20	mg/L		0.05		E200.7	07/16/15 15:30 / prw
Silver	ND	mg/L		0.0002		E200.8	07/17/15 18:15 / amm
Strontium	25.1	mg/L		0.02		E200.7	07/16/15 15:30 / prw
Thallium	0.0972	mg/L		0.0002		E200.8	07/17/15 18:15 / amm
Uranium	ND	mg/L		0.0002		E200.8	07/17/15 18:15 / amm
Zinc	0.015	mg/L		0.008		E200.8	07/17/15 18:15 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4  
**Lab ID:** B15071399-002  
**Client Sample ID:** Yc Comp

**Report Date:** 07/23/15  
**Collection Date:** 07/14/15 09:00  
**Date Received:** 07/15/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	38	mg/L		1		E300.0	07/16/15 21:14 / ajr
Fluoride	1.6	mg/L		0.2		A4500-F C	07/15/15 15:35 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.007	mg/L	L	0.005		E365.1	07/16/15 16:11 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.280	mg/L		0.009		E200.8	07/17/15 18:20 / amm
Antimony	0.0011	mg/L		0.0005		E200.8	07/20/15 19:06 / amm
Arsenic	0.021	mg/L		0.001		E200.8	07/17/15 18:20 / amm
Barium	0.041	mg/L		0.003		E200.7	07/16/15 15:34 / prw
Beryllium	ND	mg/L		0.0008		E200.7	07/16/15 15:34 / prw
Cadmium	0.00026	mg/L		0.00003		E200.8	07/17/15 18:20 / amm
Calcium	3	mg/L		1		E200.7	07/16/15 15:34 / prw
Chromium	ND	mg/L		0.01		E200.7	07/16/15 15:34 / prw
Copper	ND	mg/L		0.002		E200.8	07/17/15 18:20 / amm
Iron	0.17	mg/L		0.02		E200.7	07/16/15 15:34 / prw
Lead	ND	mg/L		0.0003		E200.8	07/17/15 18:20 / amm
Magnesium	3	mg/L		1		E200.7	07/16/15 15:34 / prw
Manganese	ND	mg/L		0.005		E200.7	07/16/15 15:34 / prw
Mercury	ND	mg/L		5E-06		E245.1	07/16/15 15:13 / ser
Nickel	ND	mg/L		0.002		E200.8	07/17/15 18:20 / amm
Selenium	0.002	mg/L		0.001		E200.8	07/17/15 18:20 / amm
Silicon	4.31	mg/L		0.05		E200.7	07/16/15 15:34 / prw
Silver	ND	mg/L		0.0002		E200.8	07/17/15 18:20 / amm
Strontium	0.07	mg/L		0.02		E200.7	07/16/15 15:34 / prw
Thallium	ND	mg/L		0.0002		E200.8	07/17/15 18:20 / amm
Uranium	0.0035	mg/L		0.0002		E200.8	07/17/15 18:20 / amm
Zinc	ND	mg/L		0.008		E200.7	07/16/15 15:34 / prw

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4  
**Lab ID:** B15071399-003  
**Client Sample ID:** Tailings

**Report Date:** 07/23/15  
**Collection Date:** 07/14/15 09:00  
**Date Received:** 07/15/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	11200	mg/L	D	40		E300.0	07/17/15 15:41 / rbf
Fluoride	ND	mg/L		0.2		A4500-F C	07/15/15 15:39 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	5.4	mg/L	D	0.5		E365.1	07/16/15 17:02 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	21.2	mg/L		0.009		E200.8	07/17/15 18:24 / amm
Antimony	0.0162	mg/L		0.0005		E200.8	07/17/15 18:24 / amm
Arsenic	50.3	mg/L		0.001		E200.8	07/17/15 18:24 / amm
Barium	0.013	mg/L		0.003		E200.8	07/17/15 18:24 / amm
Beryllium	0.0318	mg/L		0.0008		E200.8	07/17/15 18:24 / amm
Cadmium	0.0098	mg/L	D	0.0004		E200.8	07/17/15 18:24 / amm
Calcium	357	mg/L		1		E200.8	07/17/15 18:24 / amm
Chromium	3.63	mg/L		0.01		E200.8	07/17/15 18:24 / amm
Copper	219	mg/L		0.002		E200.8	07/17/15 18:24 / amm
Iron	5060	mg/L	D	0.03		E200.7	07/17/15 21:06 / prw
Lead	0.0126	mg/L		0.0003		E200.8	07/17/15 18:24 / amm
Magnesium	79	mg/L		1		E200.8	07/17/15 18:24 / amm
Manganese	54.8	mg/L		0.005		E200.8	07/17/15 18:24 / amm
Mercury	0.0000339	mg/L		5E-06		E245.1	07/16/15 15:24 / ser
Nickel	38.4	mg/L		0.002		E200.8	07/17/15 18:24 / amm
Selenium	0.008	mg/L		0.001		E200.8	07/20/15 19:11 / amm
Silicon	33.0	mg/L	D	0.1		E200.7	07/17/15 21:06 / prw
Silver	ND	mg/L		0.0002		E200.8	07/17/15 18:24 / amm
Strontium	0.72	mg/L		0.02		E200.8	07/17/15 18:24 / amm
Thallium	0.0006	mg/L	D	0.0003		E200.8	07/17/15 18:24 / amm
Uranium	0.103	mg/L	D	0.0003		E200.8	07/17/15 18:24 / amm
Zinc	5.05	mg/L		0.008		E200.8	07/17/15 18:24 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4  
**Lab ID:** B15071399-004  
**Client Sample ID:** Tailings (Saturated)

**Report Date:** 07/23/15  
**Collection Date:** 07/14/15 09:00  
**Date Received:** 07/15/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	578	mg/L	D	2		E300.0	07/16/15 21:41 / ajr
Fluoride	ND	mg/L		0.2		A4500-F C	07/15/15 15:41 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.061	mg/L	L	0.005		E365.1	07/16/15 16:14 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	07/16/15 17:16 / amm
Antimony	0.0006	mg/L		0.0005		E200.8	07/20/15 19:16 / amm
Arsenic	0.012	mg/L		0.001		E200.8	07/17/15 18:29 / amm
Barium	0.025	mg/L		0.003		E200.8	07/16/15 17:16 / amm
Beryllium	ND	mg/L		0.0008		E200.8	07/16/15 17:16 / amm
Cadmium	ND	mg/L		0.00003		E200.8	07/20/15 19:16 / amm
Calcium	156	mg/L		1		E200.8	07/16/15 17:16 / amm
Chromium	ND	mg/L		0.01		E200.8	07/16/15 17:16 / amm
Copper	0.017	mg/L		0.002		E200.8	07/20/15 19:16 / amm
Iron	0.21	mg/L		0.02		E200.7	07/16/15 16:19 / prw
Lead	ND	mg/L		0.0003		E200.8	07/16/15 17:16 / amm
Magnesium	44	mg/L		1		E200.8	07/16/15 17:16 / amm
Manganese	2.50	mg/L		0.005		E200.8	07/16/15 17:16 / amm
Mercury	ND	mg/L		5E-06		E245.1	07/16/15 15:30 / ser
Nickel	0.753	mg/L		0.002		E200.8	07/16/15 17:16 / amm
Selenium	ND	mg/L		0.001		E200.8	07/16/15 17:16 / amm
Silicon	2.58	mg/L		0.05		E200.8	07/16/15 17:16 / amm
Silver	ND	mg/L		0.0002		E200.8	07/16/15 17:16 / amm
Strontium	0.36	mg/L		0.02		E200.8	07/16/15 17:16 / amm
Thallium	0.0131	mg/L		0.0002		E200.8	07/16/15 17:16 / amm
Uranium	ND	mg/L		0.0002		E200.8	07/16/15 17:16 / amm
Zinc	0.013	mg/L		0.008		E200.8	07/16/15 17:16 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/22/15

**Project:** 3767-01 WK:4

**Work Order:** B15071399

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_150715B		
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								07/15/15 14:37
Fluoride		1.06	mg/L	0.10	106	90	110			
<b>Method:</b> A4500-F C										Batch: R246159
<b>Lab ID:</b> MBLK		Method Blank						Run: MAN-TECH_150715B		07/15/15 14:32
Fluoride		ND	mg/L	0.01						
<b>Lab ID:</b> LFB		Laboratory Fortified Blank						Run: MAN-TECH_150715B		07/15/15 14:34
Fluoride		1.08	mg/L	0.10	108	90	110			
<b>Lab ID:</b> B15071295-003AMS		Sample Matrix Spike						Run: MAN-TECH_150715B		07/15/15 15:28
Fluoride		1.28	mg/L	0.10	118	80	120			
<b>Lab ID:</b> B15071295-003AMSD		Sample Matrix Spike Duplicate						Run: MAN-TECH_150715B		07/15/15 15:30
Fluoride		1.30	mg/L	0.10	120	80	120	1.6	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/22/15

**Project:** 3767-01 WK:4

**Work Order:** B15071399

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>						Analytical Run: IC METROHM 1_150716A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		9.08	mg/L	1.0	101	90	110			07/16/15 13:08
<b>Method: E300.0</b>						Batch: R246234				
<b>Lab ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.2						Run: IC METROHM 1_150716A 07/16/15 13:21
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		8.89	mg/L	1.0	99	90	110			Run: IC METROHM 1_150716A 07/16/15 13:35
<b>Lab ID: B15071382-004AMS</b>	Sample Matrix Spike									
Sulfate		22.0	mg/L	1.0	99	90	110			Run: IC METROHM 1_150716A 07/16/15 20:33
<b>Lab ID: B15071382-004AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		22.3	mg/L	1.0	101	90	110	1.5	20	Run: IC METROHM 1_150716A 07/16/15 20:47
<b>Method: E300.0</b>						Analytical Run: IC METROHM 2_150717A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		9.14	mg/L	1.0	102	90	110			07/17/15 11:52
<b>Method: E300.0</b>						Batch: R246309				
<b>Lab ID: MB</b>	Method Blank									
Sulfate		ND	mg/L	0.2						Run: IC METROHM 2_150717A 07/17/15 11:38
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		8.80	mg/L	1.0	98	90	110			Run: IC METROHM 2_150717A 07/17/15 12:05
<b>Lab ID: B15071497-002AMS</b>	Sample Matrix Spike									
Sulfate		131	mg/L	1.0	52	90	110			Run: IC METROHM 2_150717A 07/17/15 16:08 S
<b>Lab ID: B15071497-002AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		131	mg/L	1.0	52	90	110	0.0	20	Run: IC METROHM 2_150717A 07/17/15 16:21 S

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/22/15

**Project:** 3767-01 WK:4

**Work Order:** B15071399

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b> <span style="float: right;">Batch: 91407</span>										
<b>Lab ID: MB-91407</b>		Method Blank								07/16/15 16:02
Phosphorus, Total Dissolved as P		ND	mg/L	0.005						
<b>Lab ID: LCS-91407</b>		Laboratory Control Sample								07/16/15 16:03
Phosphorus, Total Dissolved as P		0.197	mg/L	0.0050	99	90	110			
<b>Lab ID: B15071295-001CMS</b>		Sample Matrix Spike								07/16/15 16:05
Phosphorus, Total Dissolved as P		0.233	mg/L	0.0050	103	90	110			
<b>Lab ID: B15071295-001CMSD</b>		Sample Matrix Spike Duplicate								07/16/15 16:06
Phosphorus, Total Dissolved as P		0.229	mg/L	0.0050	101	90	110			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 07/23/15  
**Work Order:** B15071399

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150716A			
<b>Lab ID: ICV</b>	10 Continuing Calibration Verification Standard							07/16/15 12:02			
Barium		2.46	mg/L	0.10	98	95	105				
Beryllium		1.25	mg/L	0.010	100	95	105				
Calcium		24.8	mg/L	1.0	99	95	105				
Chromium		2.45	mg/L	0.050	98	95	105				
Iron		2.50	mg/L	0.020	100	95	105				
Magnesium		25.4	mg/L	1.0	102	95	105				
Manganese		2.47	mg/L	0.010	99	95	105				
Silicon		5.13	mg/L	0.10	103	95	105				
Strontium		2.48	mg/L	0.10	99	95	105				
Zinc		2.43	mg/L	0.010	97	95	105				
<b>Method: E200.7</b>								Batch: R246214			
<b>Lab ID: MB-6500DIS150716A</b>	10 Method Blank							Run: ICP203-B_150716A		07/16/15 12:31	
Barium		0.0005	mg/L	0.0002							
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.08							
Chromium		0.003	mg/L	0.003							
Iron		0.004	mg/L	0.003							
Magnesium		ND	mg/L	0.006							
Manganese		ND	mg/L	0.0006							
Silicon		ND	mg/L	0.01							
Strontium		ND	mg/L	0.0003							
Zinc		ND	mg/L	0.002							
<b>Lab ID: LFB-6500DIS150716A</b>	10 Laboratory Fortified Blank							Run: ICP203-B_150716A		07/16/15 12:34	
Barium		1.00	mg/L	0.10	100	85	115				
Beryllium		0.515	mg/L	0.010	103	85	115				
Calcium		50.9	mg/L	1.0	102	85	115				
Chromium		0.993	mg/L	0.050	99	85	115				
Iron		5.18	mg/L	0.020	104	85	115				
Magnesium		53.3	mg/L	1.0	107	85	115				
Manganese		5.06	mg/L	0.010	101	85	115				
Silicon		10.5	mg/L	0.10	105	85	115				
Strontium		1.01	mg/L	0.10	101	85	115				
Zinc		0.996	mg/L	0.010	100	85	115				
<b>Lab ID: B15071399-002BMS2</b>	10 Sample Matrix Spike							Run: ICP203-B_150716A		07/16/15 16:09	
Barium		2.10	mg/L	0.050	103	70	130				
Beryllium		1.02	mg/L	0.0010	102	70	130				
Calcium		105	mg/L	1.0	102	70	130				
Chromium		2.03	mg/L	0.0062	102	70	130				
Iron		10.3	mg/L	0.020	102	70	130				
Magnesium		106	mg/L	1.0	103	70	130				
Manganese		10.0	mg/L	0.0013	100	70	130				
Silicon		25.2	mg/L	0.10	104	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 07/23/15  
**Work Order:** B15071399

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R246214</span>										
<b>Lab ID:</b> B15071399-002BMS2	10	Sample Matrix Spike								
										Run: ICP203-B_150716A 07/16/15 16:09
Strontium		2.09	mg/L	0.010	101	70	130			
Zinc		2.02	mg/L	0.010	101	70	130			
<b>Lab ID: B15071399-002BMSD</b> 10 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICP203-B_150716A 07/16/15 16:12</span>										
Barium		2.12	mg/L	0.050	104	70	130	1.0	20	
Beryllium		1.03	mg/L	0.0010	103	70	130	1.7	20	
Calcium		107	mg/L	1.0	104	70	130	1.3	20	
Chromium		2.07	mg/L	0.0062	103	70	130	1.8	20	
Iron		10.5	mg/L	0.020	103	70	130	1.6	20	
Magnesium		108	mg/L	1.0	104	70	130	1.5	20	
Manganese		10.2	mg/L	0.0013	102	70	130	1.5	20	
Silicon		25.6	mg/L	0.10	107	70	130	1.8	20	
Strontium		2.12	mg/L	0.010	102	70	130	1.3	20	
Zinc		2.03	mg/L	0.010	102	70	130	0.6	20	
<b>Method: E200.7</b> <span style="float: right;">Analytical Run: ICP203-B_150717A</span>										
<b>Lab ID:</b> ICV	2	Continuing Calibration Verification Standard								07/17/15 11:27
Iron		2.45	mg/L	0.020	98	95	105			
Silicon		4.98	mg/L	0.10	100	95	105			
<b>Method: E200.7</b> <span style="float: right;">Batch: R246285</span>										
<b>Lab ID:</b> MB-6500DIS150717A	2	Method Blank								Run: ICP203-B_150717A 07/17/15 11:55
Iron		ND	mg/L	0.003						
Silicon		0.07	mg/L	0.01						
<b>Lab ID:</b> LFB-6500DIS150717A	2	Laboratory Fortified Blank								Run: ICP203-B_150717A 07/17/15 11:59
Iron		5.15	mg/L	0.020	103	85	115			
Silicon		10.3	mg/L	0.10	102	85	115			
<b>Lab ID:</b> B15071514-001AMS2	2	Sample Matrix Spike								Run: ICP203-B_150717A 07/17/15 20:21
Iron		5.60	mg/L	0.020	112	70	130			
Silicon		16.2	mg/L	0.10	108	70	130			
<b>Lab ID:</b> B15071514-001AMSD	2	Sample Matrix Spike Duplicate								Run: ICP203-B_150717A 07/17/15 20:24
Iron		5.69	mg/L	0.020	114	70	130	1.6	20	
Silicon		16.3	mg/L	0.10	108	70	130	0.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 07/23/15  
**Work Order:** B15071399

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8								Analytical Run: ICPMS202-B_150721A			
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								07/21/15 11:23	
Cadmium		0.0270	mg/L	0.0010	108	90	110				
<b>Method:</b> E200.8										Batch: R246424	
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: ICPMS202-B_150721A	07/21/15 11:29
Cadmium		0.0492	mg/L	0.0010	99	85	115				
<b>Lab ID:</b> LRB		Method Blank								Run: ICPMS202-B_150721A	07/21/15 12:08
Cadmium		ND	mg/L	1E-05							
<b>Lab ID:</b> B15071399-001BMS		Sample Matrix Spike								Run: ICPMS202-B_150721A	07/21/15 14:26
Cadmium		0.0984	mg/L	0.0010	98	70	130				
<b>Lab ID:</b> B15071399-001BMSD		Sample Matrix Spike Duplicate								Run: ICPMS202-B_150721A	07/21/15 14:29
Cadmium		0.0992	mg/L	0.0010	99	70	130	0.8	20		

**Qualifiers:**

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# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 07/23/15  
**Work Order:** B15071399

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_150716A	
<b>Lab ID: QCS</b>	16	Initial Calibration Verification Standard							07/16/15 15:38		
Aluminum		0.240	mg/L	0.10	96	90	110				
Barium		0.0500	mg/L	0.10	100	90	110				
Beryllium		0.0246	mg/L	0.0010	98	90	110				
Calcium		2.60	mg/L	0.50	104	90	110				
Chromium		0.0503	mg/L	0.010	101	90	110				
Lead		0.0508	mg/L	0.010	102	90	110				
Magnesium		2.57	mg/L	0.50	103	90	110				
Manganese		0.251	mg/L	0.010	101	90	110				
Nickel		0.0519	mg/L	0.010	104	90	110				
Selenium		0.0476	mg/L	0.0050	95	90	110				
Silicon		0.499	mg/L	0.10	100	90	110				
Silver		0.0253	mg/L	0.0050	101	90	110				
Strontium		0.0507	mg/L	0.10	101	90	110				
Thallium		0.0502	mg/L	0.10	100	90	110				
Uranium		0.0194	mg/L	0.0010	97	90	110				
Zinc		0.0528	mg/L	0.010	106	90	110				

<b>Method: E200.8</b>										Batch: R246201	
<b>Lab ID: LRB</b>	16	Method Blank							Run: ICPMS206-B_150716A		07/16/15 10:49
Aluminum		ND	mg/L	0.0001							
Barium		ND	mg/L	0.0004							
Beryllium		ND	mg/L	1E-05							
Calcium		ND	mg/L	0.008							
Chromium		ND	mg/L	4E-05							
Lead		ND	mg/L	5E-05							
Magnesium		ND	mg/L	0.005							
Manganese		ND	mg/L	4E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Silicon		ND	mg/L	0.002							
Silver		ND	mg/L	2E-05							
Strontium		ND	mg/L	1E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
Zinc		ND	mg/L	0.0001							

<b>Lab ID: LFB</b>	16	Laboratory Fortified Blank							Run: ICPMS206-B_150716A		07/16/15 10:54
Aluminum		0.0480	mg/L	0.10	96	85	115				
Barium		0.0502	mg/L	0.10	100	85	115				
Beryllium		0.0486	mg/L	0.0010	97	85	115				
Calcium		48.1	mg/L	0.50	96	85	115				
Chromium		0.0498	mg/L	0.010	100	85	115				
Lead		0.0500	mg/L	0.010	100	85	115				
Magnesium		47.9	mg/L	0.50	96	85	115				

**Qualifiers:**

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ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 07/23/15  
**Work Order:** B15071399

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Batch: R246201	
<b>Lab ID: LFB</b>	16 Laboratory Fortified Blank				Run: ICPMS206-B_150716A				07/16/15 10:54		
Manganese		0.0492	mg/L	0.010	98	85	115				
Nickel		0.0484	mg/L	0.010	97	85	115				
Selenium		0.0497	mg/L	0.0050	99	85	115				
Silicon		0.198	mg/L	0.10	99	85	115				
Silver		0.0194	mg/L	0.0050	97	85	115				
Strontium		0.0497	mg/L	0.10	99	85	115				
Thallium		0.0496	mg/L	0.10	99	85	115				
Uranium		0.0502	mg/L	0.0010	100	85	115				
Zinc		0.0496	mg/L	0.010	99	85	115				
<b>Lab ID: B15071437-012BMS</b>	16 Sample Matrix Spike				Run: ICPMS206-B_150716A				07/16/15 17:39		
Aluminum		0.107	mg/L	0.030	87	70	130				
Barium		0.127	mg/L	0.050	99	70	130				
Beryllium		0.0931	mg/L	0.0010	93	70	130				
Calcium		225	mg/L	1.0	86	70	130				
Chromium		0.0967	mg/L	0.0050	96	70	130				
Lead		0.0989	mg/L	0.0010	99	70	130				
Magnesium		269	mg/L	1.0	78	70	130				
Manganese		0.557	mg/L	0.0010		70	130			A	
Nickel		0.0936	mg/L	0.0050	94	70	130				
Selenium		0.0999	mg/L	0.0010	100	70	130				
Silicon		12.2	mg/L	0.10		70	130			A	
Silver		0.0309	mg/L	0.0010	77	70	130				
Strontium		4.18	mg/L	0.010		70	130			A	
Thallium		0.0987	mg/L	0.00050	99	70	130				
Uranium		0.105	mg/L	0.00030	102	70	130				
Zinc		0.0972	mg/L	0.010	95	70	130				
<b>Lab ID: B15071437-012BMSD</b>	16 Sample Matrix Spike Duplicate				Run: ICPMS206-B_150716A				07/16/15 17:57		
Aluminum		0.103	mg/L	0.030	83	70	130	3.8	20		
Barium		0.125	mg/L	0.050	97	70	130	1.3	20		
Beryllium		0.0919	mg/L	0.0010	92	70	130	1.3	20		
Calcium		229	mg/L	1.0	90	70	130	1.6	20		
Chromium		0.0965	mg/L	0.0050	96	70	130	0.2	20		
Lead		0.0994	mg/L	0.0010	99	70	130	0.5	20		
Magnesium		266	mg/L	1.0	74	70	130	1.3	20		
Manganese		0.557	mg/L	0.0010		70	130	0.1	20	A	
Nickel		0.0944	mg/L	0.0050	94	70	130	0.8	20		
Selenium		0.0976	mg/L	0.0010	97	70	130	2.3	20		
Silicon		12.1	mg/L	0.10		70	130	0.5	20	A	
Silver		0.0306	mg/L	0.0010	77	70	130	0.8	20		
Strontium		4.18	mg/L	0.010		70	130	0.1	20	A	
Thallium		0.1000	mg/L	0.00050	100	70	130	1.3	20		
Uranium		0.104	mg/L	0.00030	101	70	130	1.0	20		
Zinc		0.0962	mg/L	0.010	93	70	130	1.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 07/23/15  
**Work Order:** B15071399

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_150717A	
<b>Lab ID: QCS</b>	19	Initial Calibration Verification Standard							07/17/15 16:44		
Aluminum		0.245	mg/L	0.10	98	90	110				
Antimony		0.0475	mg/L	0.050	95	90	110				
Arsenic		0.0493	mg/L	0.0050	99	90	110				
Barium		0.0502	mg/L	0.10	100	90	110				
Beryllium		0.0252	mg/L	0.0010	101	90	110				
Cadmium		0.0259	mg/L	0.0010	104	90	110				
Calcium		2.53	mg/L	0.50	101	90	110				
Chromium		0.0513	mg/L	0.010	103	90	110				
Copper		0.0533	mg/L	0.010	107	90	110				
Lead		0.0520	mg/L	0.010	104	90	110				
Magnesium		2.55	mg/L	0.50	102	90	110				
Manganese		0.256	mg/L	0.010	102	90	110				
Nickel		0.0511	mg/L	0.010	102	90	110				
Selenium		0.0500	mg/L	0.0050	100	90	110				
Silver		0.0250	mg/L	0.0050	100	90	110				
Strontium		0.0506	mg/L	0.10	101	90	110				
Thallium		0.0532	mg/L	0.10	106	90	110				
Uranium		0.0210	mg/L	0.0010	105	90	110				
Zinc		0.0527	mg/L	0.010	105	90	110				
<b>Method: E200.8</b>										Batch: R246283	
<b>Lab ID: LRB</b>	19	Method Blank							Run: ICPMS206-B_150717A 07/17/15 10:45		
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Barium		ND	mg/L	0.0004							
Beryllium		ND	mg/L	1E-05							
Cadmium		ND	mg/L	3E-05							
Calcium		ND	mg/L	0.008							
Chromium		ND	mg/L	4E-05							
Copper		0.0001	mg/L	6E-05							
Lead		ND	mg/L	5E-05							
Magnesium		ND	mg/L	0.005							
Manganese		7E-05	mg/L	4E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Strontium		ND	mg/L	1E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
Zinc		0.0001	mg/L	0.0001							
<b>Lab ID: LFB</b>	19	Laboratory Fortified Blank							Run: ICPMS206-B_150717A 07/17/15 10:50		
Aluminum		0.0467	mg/L	0.10	93	85	115				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 07/23/15  
**Work Order:** B15071399

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R246283
<b>Lab ID:</b> LFB	19	Laboratory Fortified Blank			Run: ICPMS206-B_150717A			07/17/15 10:50		
Antimony		0.0424	mg/L	0.050	85	85	115			
Arsenic		0.0470	mg/L	0.0050	94	85	115			
Barium		0.0481	mg/L	0.10	96	85	115			
Beryllium		0.0464	mg/L	0.0010	93	85	115			
Cadmium		0.0476	mg/L	0.0010	95	85	115			
Calcium		47.6	mg/L	0.50	95	85	115			
Chromium		0.0458	mg/L	0.010	92	85	115			
Copper		0.0467	mg/L	0.010	93	85	115			
Lead		0.0478	mg/L	0.010	96	85	115			
Magnesium		48.0	mg/L	0.50	96	85	115			
Manganese		0.0482	mg/L	0.010	96	85	115			
Nickel		0.0474	mg/L	0.010	95	85	115			
Selenium		0.0463	mg/L	0.0050	93	85	115			
Silver		0.0196	mg/L	0.0050	98	85	115			
Strontium		0.0493	mg/L	0.10	99	85	115			
Thallium		0.0474	mg/L	0.10	95	85	115			
Uranium		0.0479	mg/L	0.0010	96	85	115			
Zinc		0.0462	mg/L	0.010	92	85	115			
<b>Lab ID:</b> B15071408-001BMS	19	Sample Matrix Spike			Run: ICPMS206-B_150717A			07/17/15 18:38		
Aluminum		0.108	mg/L	0.030	84	70	130			
Antimony		0.0464	mg/L	0.0010	89	70	130			
Arsenic		0.0513	mg/L	0.0010	94	70	130			
Barium		0.0788	mg/L	0.050	96	70	130			
Beryllium		0.0458	mg/L	0.0010	92	70	130			
Cadmium		0.0468	mg/L	0.0010	94	70	130			
Calcium		67.3	mg/L	1.0	90	70	130			
Chromium		0.0463	mg/L	0.0050	93	70	130			
Copper		0.0464	mg/L	0.0050	86	70	130			
Lead		0.0484	mg/L	0.0010	96	70	130			
Magnesium		70.2	mg/L	1.0	88	70	130			
Manganese		0.0533	mg/L	0.0010	91	70	130			
Nickel		0.0453	mg/L	0.0050	87	70	130			
Selenium		0.0508	mg/L	0.0010	87	70	130			
Silver		0.0173	mg/L	0.0010	87	70	130			
Strontium		1.26	mg/L	0.010		70	130			A
Thallium		0.0488	mg/L	0.00050	96	70	130			
Uranium		0.0491	mg/L	0.00030	97	70	130			
Zinc		0.0466	mg/L	0.010	89	70	130			
<b>Lab ID:</b> B15071408-001BMSD	19	Sample Matrix Spike Duplicate			Run: ICPMS206-B_150717A			07/17/15 18:43		
Aluminum		0.110	mg/L	0.030	88	70	130	1.8	20	
Antimony		0.0481	mg/L	0.0010	92	70	130	3.5	20	
Arsenic		0.0504	mg/L	0.0010	92	70	130	1.9	20	
Barium		0.0799	mg/L	0.050	98	70	130	1.3	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 07/23/15  
**Work Order:** B15071399

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R246283
<b>Lab ID:</b> B15071408-001BMSD	19	Sample Matrix Spike Duplicate								Run: ICPMS206-B_150717A
										07/17/15 18:43
Beryllium		0.0449	mg/L	0.0010	90	70	130	2.1	20	
Cadmium		0.0471	mg/L	0.0010	94	70	130	0.7	20	
Calcium		69.2	mg/L	1.0	94	70	130	2.8	20	
Chromium		0.0466	mg/L	0.0050	93	70	130	0.5	20	
Copper		0.0463	mg/L	0.0050	86	70	130	0.3	20	
Lead		0.0479	mg/L	0.0010	95	70	130	0.9	20	
Magnesium		71.6	mg/L	1.0	90	70	130	2.0	20	
Manganese		0.0513	mg/L	0.0010	87	70	130	4.0	20	
Nickel		0.0465	mg/L	0.0050	89	70	130	2.5	20	
Selenium		0.0534	mg/L	0.0010	92	70	130	4.9	20	
Silver		0.0184	mg/L	0.0010	92	70	130	5.8	20	
Strontium		1.25	mg/L	0.010		70	130	0.8	20	A
Thallium		0.0483	mg/L	0.00050	95	70	130	1.0	20	
Uranium		0.0480	mg/L	0.00030	95	70	130	2.1	20	
Zinc		0.0471	mg/L	0.010	90	70	130	1.0	20	

**Qualifiers:**

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# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 07/23/15  
**Work Order:** B15071399

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_150720A	
<b>Lab ID: QCS</b>	4	Initial Calibration Verification Standard							07/20/15 16:44		
Antimony		0.0513	mg/L	0.050	103	90	110				
Cadmium		0.0258	mg/L	0.0010	103	90	110				
Copper		0.0518	mg/L	0.010	104	90	110				
Selenium		0.0532	mg/L	0.0050	106	90	110				
<b>Method: E200.8</b>										Batch: R246368	
<b>Lab ID: LRB</b>	4	Method Blank							Run: ICPMS206-B_150720A 07/20/15 13:35		
Antimony		ND	mg/L	8E-05							
Cadmium		ND	mg/L	3E-05							
Copper		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
<b>Lab ID: LFB</b>	4	Laboratory Fortified Blank							Run: ICPMS206-B_150720A 07/20/15 13:41		
Antimony		0.0449	mg/L	0.050	90	85	115				
Cadmium		0.0463	mg/L	0.0010	93	85	115				
Copper		0.0448	mg/L	0.010	90	85	115				
Selenium		0.0474	mg/L	0.0050	95	85	115				
<b>Lab ID: B15062071-005AMS</b>	4	Sample Matrix Spike							Run: ICPMS206-B_150720A 07/20/15 18:34		
Antimony		0.0485	mg/L	0.0010	97	70	130				
Cadmium		0.0506	mg/L	0.0010	101	70	130				
Copper		0.0550	mg/L	0.0050	104	70	130				
Selenium		0.0528	mg/L	0.0010	106	70	130				
<b>Lab ID: B15062071-005AMSD</b>	4	Sample Matrix Spike Duplicate							Run: ICPMS206-B_150720A 07/20/15 18:39		
Antimony		0.0519	mg/L	0.0010	104	70	130	6.9	20		
Cadmium		0.0505	mg/L	0.0010	101	70	130	0.2	20		
Copper		0.0523	mg/L	0.0050	99	70	130	5.2	20		
Selenium		0.0516	mg/L	0.0010	103	70	130	2.3	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 07/23/15  
**Work Order:** B15071399

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1 Analytical Run: HGCV203-B_150716A											
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								07/16/15 14:19	
Mercury		0.000206	mg/L	1.0E-05	103	90	110				
<b>Method:</b> E245.1 Batch: 91422											
<b>Lab ID:</b> MB-91422		Method Blank								Run: HGCV203-B_150716A	07/16/15 14:29
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-91422		Laboratory Control Sample								Run: HGCV203-B_150716A	07/16/15 14:32
Mercury		0.000210	mg/L	1.0E-05	105	85	115				
<b>Lab ID:</b> B15071408-001BMS		Sample Matrix Spike								Run: HGCV203-B_150716A	07/16/15 15:41
Mercury		0.000210	mg/L	1.0E-05	104	70	130				
<b>Lab ID:</b> B15071408-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150716A	07/16/15 15:44
Mercury		0.000212	mg/L	1.0E-05	105	70	130	0.9	30		
<b>Method:</b> E245.1 Analytical Run: HGCV203-B_150720A											
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								07/20/15 14:04	
Mercury		0.000216	mg/L	1.0E-05	108	90	110				
<b>Method:</b> E245.1 Batch: 91498											
<b>Lab ID:</b> MB-91498		Method Blank								Run: HGCV203-B_150720A	07/20/15 14:20
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-91498		Laboratory Control Sample								Run: HGCV203-B_150720A	07/20/15 14:23
Mercury		0.000212	mg/L	1.0E-05	106	85	115				
<b>Lab ID:</b> B15071399-001BMS		Sample Matrix Spike								Run: HGCV203-B_150720A	07/20/15 14:32
Mercury		0.000295	mg/L	1.0E-05	108	70	130				
<b>Lab ID:</b> B15071399-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150720A	07/20/15 14:35
Mercury		0.000296	mg/L	1.0E-05	108	70	130	0.3	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15071399

Login completed by: Randa Nees

Date Received: 7/15/2015

Reviewed by: BL2000\jmueller

Received by: kl

Reviewed Date: 7/15/2015

Carrier name: UPS NDA

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	8.2°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab		<b>Project Name, PWS, Permit, Etc.</b> 3767-01 WK:4		<b>Sample Origin</b> NV		<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Report Mail Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Contact Name:</b> Mike Medina		<b>Phone/Fax:</b> 775-356-1300		<b>Email:</b> MLI@METTEST.COM	
<b>Invoice Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko 604-628-1162		<b>Purchase Order:</b>		<b>Quote/Bottle Order:</b>	
<b>Special Report/Formats - ELI must be notified prior to sample submittal for the following:</b> <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP State: _____ <input type="checkbox"/> Other: _____		<input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) <b>Format:</b> <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		<b>ANALYSIS REQUESTED</b> SEE ATTACHED		<b>Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page</b> Comments:	
<b>Number of Containers</b> Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other		<b>MATRIX</b> Water		<b>Normal Turnaround (TAT)</b> SEE ATTACHED		<b>Shipped by:</b> Robert UPS NDA Cooler ID(s):	
<b>SAMPLE IDENTIFICATION</b> (Name, Location, Interval, etc.)		<b>Collection Date</b>		<b>Collection Time</b>		<b>Receipt Temp</b> 8.2 °C <b>On Ice:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
1 USZ Comp		7/14/15		09:00		<b>Custody Seal</b> Intact <input checked="" type="checkbox"/> N <input type="checkbox"/> C Signature Match <input checked="" type="checkbox"/> N <input type="checkbox"/> N	
2 Yc Comp		↓		↓		Please Copy results to: MLI@METTEST.COM	
3 Tailings		↓		↓		hold remaining preserved	
4 Tailings (Saturated)		↓		↓		samples (frozen) until further notice.	
5		↓		↓		LABORATORY USE ONLY	
6		↓		↓		002	
7		↓		↓		003	
8		↓		↓		004	
9		↓		↓		Signature: _____	
10		↓		↓		Signature: _____	
<b>Custody Record MUST be Signed</b>		<b>Relinquished by (print):</b> JOE CHANEY		<b>Date/Time:</b> 7/14/15 9am		<b>Received by (print):</b> Signature: _____	
<b>Sample Disposal:</b>		<b>Return to Client:</b>		<b>Lab Disposal:</b>		<b>Received by (print):</b> Signature: _____	
<b>Relinquished by (print):</b> JOE CHANEY		<b>Date/Time:</b> 7/14/15 9am		<b>Received by Laboratory:</b> KYLE LARSEN		<b>Date/Time:</b> 15 Jul 2015 9:15 am	
<b>Signature:</b> Signature: _____		<b>Signature:</b> Signature: _____		<b>Signature:</b> Signature: _____		<b>Signature:</b> Signature: _____	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

July 28, 2015

Tintina Montana Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B15071408                      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:2

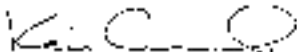
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Montana Inc on 7/15/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15071408-001	Ynl B Comp	07/14/15 9:00	07/15/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15071408-002	LZ FW Comp	07/14/15 9:00	07/15/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2015.07.28 08:34:02 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2  
**Lab ID:** B15071408-001  
**Client Sample ID:** Ynl B Comp

**Report Date:** 07/28/15  
**Collection Date:** 07/14/15 09:00  
**Date Received:** 07/15/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	185	mg/L		1		E300.0	07/16/15 22:08 / ajr
Fluoride	2.0	mg/L		0.2		A4500-F C	07/15/15 15:44 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	07/16/15 16:15 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.068	mg/L		0.009		E200.8	07/16/15 17:20 / amm
Antimony	0.0020	mg/L	D	0.0002		E200.8	07/20/15 19:20 / amm
Arsenic	0.003	mg/L		0.001		E200.8	07/16/15 17:20 / amm
Barium	0.032	mg/L		0.003		E200.8	07/16/15 17:20 / amm
Beryllium	ND	mg/L		0.0008		E200.8	07/16/15 17:20 / amm
Cadmium	ND	mg/L	D	0.00008		E200.8	07/16/15 17:20 / amm
Calcium	22	mg/L		1		E200.8	07/16/15 17:20 / amm
Chromium	ND	mg/L		0.01		E200.8	07/16/15 17:20 / amm
Copper	0.003	mg/L		0.002		E200.8	07/22/15 12:37 / mas
Iron	ND	mg/L		0.02		E200.8	07/16/15 17:20 / amm
Lead	0.0005	mg/L		0.0003		E200.8	07/16/15 17:20 / amm
Magnesium	26	mg/L		1		E200.8	07/16/15 17:20 / amm
Manganese	0.007	mg/L		0.005		E200.8	07/16/15 17:20 / amm
Mercury	ND	mg/L		5E-06		E245.1	07/16/15 15:36 / ser
Nickel	ND	mg/L		0.002		E200.8	07/16/15 17:20 / amm
Selenium	0.007	mg/L		0.001		E200.8	07/16/15 17:20 / amm
Silicon	1.55	mg/L		0.05		E200.8	07/16/15 17:20 / amm
Silver	ND	mg/L		0.0002		E200.8	07/16/15 17:20 / amm
Strontium	1.26	mg/L		0.02		E200.8	07/16/15 17:20 / amm
Thallium	0.0009	mg/L		0.0002		E200.8	07/16/15 17:20 / amm
Uranium	0.0005	mg/L		0.0002		E200.8	07/16/15 17:20 / amm
Zinc	ND	mg/L		0.008		E200.8	07/16/15 17:20 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2  
**Lab ID:** B15071408-002  
**Client Sample ID:** LZ FW Comp

**Report Date:** 07/28/15  
**Collection Date:** 07/14/15 09:00  
**Date Received:** 07/15/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	278	mg/L		1		E300.0	07/16/15 22:22 / ajr
Fluoride	2.3	mg/L		0.2		A4500-F C	07/15/15 15:46 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.012	mg/L	L	0.005		E365.1	07/16/15 16:16 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.054	mg/L		0.009		E200.8	07/16/15 17:25 / amm
Antimony	0.0074	mg/L		0.0005		E200.8	07/17/15 19:06 / amm
Arsenic	0.137	mg/L		0.001		E200.8	07/16/15 17:25 / amm
Barium	0.027	mg/L		0.003		E200.8	07/16/15 17:25 / amm
Beryllium	ND	mg/L		0.0008		E200.8	07/16/15 17:25 / amm
Cadmium	ND	mg/L	D	0.00008		E200.8	07/16/15 17:25 / amm
Calcium	31	mg/L		1		E200.8	07/16/15 17:25 / amm
Chromium	ND	mg/L		0.01		E200.8	07/16/15 17:25 / amm
Copper	ND	mg/L		0.002		E200.8	07/22/15 12:40 / mas
Iron	ND	mg/L		0.02		E200.8	07/16/15 17:25 / amm
Lead	ND	mg/L		0.0003		E200.8	07/16/15 17:25 / amm
Magnesium	46	mg/L		1		E200.8	07/16/15 17:25 / amm
Manganese	0.011	mg/L		0.005		E200.8	07/16/15 17:25 / amm
Mercury	ND	mg/L		5E-06		E245.1	07/16/15 15:47 / ser
Nickel	0.009	mg/L		0.002		E200.8	07/16/15 17:25 / amm
Selenium	0.013	mg/L		0.001		E200.8	07/16/15 17:25 / amm
Silicon	2.46	mg/L		0.05		E200.8	07/16/15 17:25 / amm
Silver	ND	mg/L		0.0002		E200.8	07/16/15 17:25 / amm
Strontium	0.56	mg/L		0.02		E200.8	07/16/15 17:25 / amm
Thallium	0.0006	mg/L		0.0002		E200.8	07/16/15 17:25 / amm
Uranium	0.174	mg/L		0.0002		E200.8	07/16/15 17:25 / amm
Zinc	ND	mg/L		0.008		E200.8	07/16/15 17:25 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2

**Report Date:** 07/21/15  
**Work Order:** B15071408

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C							Analytical Run: MAN-TECH_150715B			
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Fluoride	1.06	mg/L	0.10	106	90	110			07/15/15 14:37	
<b>Method:</b> A4500-F C							Batch: R246159			
<b>Lab ID:</b> MBLK	Method Blank									
Fluoride	ND	mg/L	0.01						Run: MAN-TECH_150715B 07/15/15 14:32	
<b>Lab ID:</b> LFB	Laboratory Fortified Blank									
Fluoride	1.08	mg/L	0.10	108	90	110			Run: MAN-TECH_150715B 07/15/15 14:34	
<b>Lab ID:</b> B15071295-003AMS	Sample Matrix Spike									
Fluoride	1.28	mg/L	0.10	118	80	120			Run: MAN-TECH_150715B 07/15/15 15:28	
<b>Lab ID:</b> B15071295-003AMSD	Sample Matrix Spike Duplicate									
Fluoride	1.30	mg/L	0.10	120	80	120	1.6	10	Run: MAN-TECH_150715B 07/15/15 15:30	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:2

**Report Date:** 07/21/15  
**Work Order:** B15071408

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E365.1									Batch: 91407
<b>Lab ID:</b> MB-91407 Phosphorus, Total Dissolved as P	Method Blank ND	mg/L	0.005						Run: FIA202-B_150716B 07/16/15 16:02
<b>Lab ID:</b> LCS-91407 Phosphorus, Total Dissolved as P	Laboratory Control Sample 0.197	mg/L	0.0050	99	90	110			Run: FIA202-B_150716B 07/16/15 16:03
<b>Lab ID:</b> B15071295-001CMS Phosphorus, Total Dissolved as P	Sample Matrix Spike 0.233	mg/L	0.0050	103	90	110			Run: FIA202-B_150716B 07/16/15 16:05
<b>Lab ID:</b> B15071295-001CMSD Phosphorus, Total Dissolved as P	Sample Matrix Spike Duplicate 0.229	mg/L	0.0050	101	90	110			Run: FIA202-B_150716B 07/16/15 16:06

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/23/15

Project: 3767-01 WK:2

Work Order: B15071408

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS202-B_150722A				
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard										
Copper	0.0513	mg/L	0.010	103	90	110				07/22/15 11:45	
<b>Method: E200.8</b>							Batch: R246506				
<b>Lab ID: LFB</b>	Laboratory Fortified Blank										
Copper	0.0492	mg/L	0.010	98	85	115				07/22/15 11:49	
<b>Lab ID: LRB</b>	Method Blank										
Copper	ND	mg/L	9E-05							07/22/15 12:25	
<b>Lab ID: B15071746-001BMS</b>	Sample Matrix Spike										
Copper	0.0707	mg/L	0.0050	76	70	130				07/22/15 13:36	
<b>Lab ID: B15071746-001BMSD</b>	Sample Matrix Spike Duplicate										
Copper	0.0698	mg/L	0.0050	74	70	130	1.3	20		07/22/15 13:39	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/23/15

Project: 3767-01 WK:2

Work Order: B15071408

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_150716A		
<b>Lab ID: QCS</b>	19 Initial Calibration Verification Standard							07/16/15 15:38		
Aluminum		0.240	mg/L	0.10	96	90	110			
Arsenic		0.0528	mg/L	0.0050	106	90	110			
Barium		0.0500	mg/L	0.10	100	90	110			
Beryllium		0.0246	mg/L	0.0010	98	90	110			
Cadmium		0.0248	mg/L	0.0010	99	90	110			
Calcium		2.60	mg/L	0.50	104	90	110			
Chromium		0.0503	mg/L	0.010	101	90	110			
Iron		0.248	mg/L	0.020	99	90	110			
Lead		0.0508	mg/L	0.010	102	90	110			
Magnesium		2.57	mg/L	0.50	103	90	110			
Manganese		0.251	mg/L	0.010	101	90	110			
Nickel		0.0519	mg/L	0.010	104	90	110			
Selenium		0.0476	mg/L	0.0050	95	90	110			
Silicon		0.499	mg/L	0.10	100	90	110			
Silver		0.0253	mg/L	0.0050	101	90	110			
Strontium		0.0507	mg/L	0.10	101	90	110			
Thallium		0.0502	mg/L	0.10	100	90	110			
Uranium		0.0194	mg/L	0.0010	97	90	110			
Zinc		0.0528	mg/L	0.010	106	90	110			
<b>Method: E200.8</b>								Batch: R246201		
<b>Lab ID: LRB</b>	19 Method Blank							Run: ICPMS206-B_150716A 07/16/15 10:49		
Aluminum		ND	mg/L	0.0001						
Arsenic		ND	mg/L	6E-05						
Barium		ND	mg/L	0.0004						
Beryllium		ND	mg/L	1E-05						
Cadmium		ND	mg/L	3E-05						
Calcium		ND	mg/L	0.008						
Chromium		ND	mg/L	4E-05						
Iron		ND	mg/L	0.0007						
Lead		ND	mg/L	5E-05						
Magnesium		ND	mg/L	0.005						
Manganese		ND	mg/L	4E-05						
Nickel		ND	mg/L	6E-05						
Selenium		ND	mg/L	0.0001						
Silicon		ND	mg/L	0.002						
Silver		ND	mg/L	2E-05						
Strontium		ND	mg/L	1E-05						
Thallium		ND	mg/L	7E-05						
Uranium		ND	mg/L	5E-05						
Zinc		ND	mg/L	0.0001						
<b>Lab ID: LFB</b>	19 Laboratory Fortified Blank							Run: ICPMS206-B_150716A 07/16/15 10:54		
Aluminum		0.0480	mg/L	0.10	96	85	115			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/23/15

Project: 3767-01 WK:2

Work Order: B15071408

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b> <span style="float: right;">Batch: R246201</span>											
<b>Lab ID: LFB</b>	19 Laboratory Fortified Blank				Run: ICPMS206-B_150716A				07/16/15 10:54		
Arsenic		0.0517	mg/L	0.0050	103	85	115				
Barium		0.0502	mg/L	0.10	100	85	115				
Beryllium		0.0486	mg/L	0.0010	97	85	115				
Cadmium		0.0492	mg/L	0.0010	98	85	115				
Calcium		48.1	mg/L	0.50	96	85	115				
Chromium		0.0498	mg/L	0.010	100	85	115				
Iron		4.84	mg/L	0.020	97	85	115				
Lead		0.0500	mg/L	0.010	100	85	115				
Magnesium		47.9	mg/L	0.50	96	85	115				
Manganese		0.0492	mg/L	0.010	98	85	115				
Nickel		0.0484	mg/L	0.010	97	85	115				
Selenium		0.0497	mg/L	0.0050	99	85	115				
Silicon		0.198	mg/L	0.10	99	85	115				
Silver		0.0194	mg/L	0.0050	97	85	115				
Strontium		0.0497	mg/L	0.10	99	85	115				
Thallium		0.0496	mg/L	0.10	99	85	115				
Uranium		0.0502	mg/L	0.0010	100	85	115				
Zinc		0.0496	mg/L	0.010	99	85	115				
<b>Lab ID: B15071437-012BMS</b>	19 Sample Matrix Spike				Run: ICPMS206-B_150716A				07/16/15 17:39		
Aluminum		0.107	mg/L	0.030	87	70	130				
Arsenic		0.102	mg/L	0.0010	100	70	130				
Barium		0.127	mg/L	0.050	99	70	130				
Beryllium		0.0931	mg/L	0.0010	93	70	130				
Cadmium		0.0972	mg/L	0.0010	97	70	130				
Calcium		225	mg/L	1.0	86	70	130				
Chromium		0.0967	mg/L	0.0050	96	70	130				
Iron		11.5	mg/L	0.020	97	70	130				
Lead		0.0989	mg/L	0.0010	99	70	130				
Magnesium		269	mg/L	1.0	78	70	130				
Manganese		0.557	mg/L	0.0010		70	130			A	
Nickel		0.0936	mg/L	0.0050	94	70	130				
Selenium		0.0999	mg/L	0.0010	100	70	130				
Silicon		12.2	mg/L	0.10		70	130			A	
Silver		0.0309	mg/L	0.0010	77	70	130				
Strontium		4.18	mg/L	0.010		70	130			A	
Thallium		0.0987	mg/L	0.00050	99	70	130				
Uranium		0.105	mg/L	0.00030	102	70	130				
Zinc		0.0972	mg/L	0.010	95	70	130				
<b>Lab ID: B15071437-012BMSD</b>	19 Sample Matrix Spike Duplicate				Run: ICPMS206-B_150716A				07/16/15 17:57		
Aluminum		0.103	mg/L	0.030	83	70	130	3.8	20		
Arsenic		0.102	mg/L	0.0010	100	70	130	0.5	20		
Barium		0.125	mg/L	0.050	97	70	130	1.3	20		

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/23/15

Project: 3767-01 WK:2

Work Order: B15071408

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Batch: R246201		
<b>Lab ID:</b>	<b>B15071437-012BMSD</b>	19 Sample Matrix Spike Duplicate			Run: ICPMS206-B_150716A				07/16/15 17:57	
Beryllium		0.0919	mg/L	0.0010	92	70	130	1.3	20	
Cadmium		0.0957	mg/L	0.0010	96	70	130	1.6	20	
Calcium		229	mg/L	1.0	90	70	130	1.6	20	
Chromium		0.0965	mg/L	0.0050	96	70	130	0.2	20	
Iron		11.1	mg/L	0.020	93	70	130	3.3	20	
Lead		0.0994	mg/L	0.0010	99	70	130	0.5	20	
Magnesium		266	mg/L	1.0	74	70	130	1.3	20	
Manganese		0.557	mg/L	0.0010		70	130	0.1	20	A
Nickel		0.0944	mg/L	0.0050	94	70	130	0.8	20	
Selenium		0.0976	mg/L	0.0010	97	70	130	2.3	20	
Silicon		12.1	mg/L	0.10		70	130	0.5	20	A
Silver		0.0306	mg/L	0.0010	77	70	130	0.8	20	
Strontium		4.18	mg/L	0.010		70	130	0.1	20	A
Thallium		0.1000	mg/L	0.00050	100	70	130	1.3	20	
Uranium		0.104	mg/L	0.00030	101	70	130	1.0	20	
Zinc		0.0962	mg/L	0.010	93	70	130	1.1	20	

<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_150717A		
<b>Lab ID:</b>	<b>QCS</b>	Initial Calibration Verification Standard							07/17/15 16:44	
Antimony		0.0475	mg/L	0.050	95	90	110			

<b>Method: E200.8</b>								Batch: R246283		
<b>Lab ID:</b>	<b>LRB</b>	Method Blank			Run: ICPMS206-B_150717A				07/17/15 10:45	
Antimony		ND	mg/L	8E-05						

<b>Lab ID:</b>	<b>LFB</b>	Laboratory Fortified Blank			Run: ICPMS206-B_150717A				07/17/15 10:50	
Antimony		0.0424	mg/L	0.050	85	85	115			

<b>Lab ID:</b>	<b>B15071408-001BMS</b>	Sample Matrix Spike			Run: ICPMS206-B_150717A				07/17/15 18:38	
Antimony		0.0464	mg/L	0.0010	89	70	130			

<b>Lab ID:</b>	<b>B15071408-001BMSD</b>	Sample Matrix Spike Duplicate			Run: ICPMS206-B_150717A				07/17/15 18:43	
Antimony		0.0481	mg/L	0.0010	92	70	130	3.5	20	

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/23/15

**Project:** 3767-01 WK:2

**Work Order:** B15071408

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_150720A			
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard										
Antimony	0.0513	mg/L	0.050	103	90	110				07/20/15 16:44	
<b>Method: E200.8</b>								Batch: R246368			
<b>Lab ID: LRB</b>	Method Blank										
Antimony	ND	mg/L	8E-05				Run: ICPMS206-B_150720A			07/20/15 13:35	
<b>Lab ID: LFB</b>	Laboratory Fortified Blank										
Antimony	0.0449	mg/L	0.050	90	85	115	Run: ICPMS206-B_150720A			07/20/15 13:41	
<b>Lab ID: B15071733-001BMS</b>	Sample Matrix Spike										
Antimony	0.0903	mg/L	0.0010	90	70	130	Run: ICPMS206-B_150720A			07/20/15 19:38	
<b>Lab ID: B15071733-001BMSD</b>	Sample Matrix Spike Duplicate										
Antimony	0.0926	mg/L	0.0010	93	70	130	2.6	20		07/20/15 19:43	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/23/15

**Project:** 3767-01 WK:2

**Work Order:** B15071408

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150716A	
<b>Lab ID:</b> CCV		Continuing Calibration Verification Standard								07/16/15 15:18	
Mercury		9.79E-05	mg/L	1.0E-05	98	90	110				
<b>Method:</b> E245.1										Batch: 91422	
<b>Lab ID:</b> MB-91422		Method Blank								Run: HGCV203-B_150716A	07/16/15 14:29
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-91422		Laboratory Control Sample								Run: HGCV203-B_150716A	07/16/15 14:32
Mercury		0.000210	mg/L	1.0E-05	105	85	115				
<b>Lab ID:</b> B15071408-001BMS		Sample Matrix Spike								Run: HGCV203-B_150716A	07/16/15 15:41
Mercury		0.000210	mg/L	1.0E-05	104	70	130				
<b>Lab ID:</b> B15071408-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150716A	07/16/15 15:44
Mercury		0.000212	mg/L	1.0E-05	105	70	130	0.9	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15071408

Login completed by: Randa Nees

Date Received: 7/15/2015

Reviewed by: BL2000\jmueller

Received by: kl

Reviewed Date: 7/15/2015

Carrier name: UPS NDA

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	8.2°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

Sample date and time for LZ FW Comp was taken from the sample containers.





# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: McClelland Lab		Project Name, PWS, Permit, Etc. 3767-01 WK:2		Sample Origin State: NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Phone/Fax: 775-356-1300		Email: MLI@METTEST.COM	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko		604-628-1162		Purchase Order:	
<input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP State: _____ <input type="checkbox"/> Other: _____		<input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) Format: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		Special Report/Formats - ELI must be notified prior to sample submittal for the following:		Shipped by: Robert Uffs NAA Cooler ID(s):	
Number of Containers Sample Type: A W S V O Air Water Soils/Solids Vegetation Bioassay Other		ANALYSIS REQUESTED SEE ATTACHED		R U S H Normal Turnaround (TAT)		Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page Comments:	
MATRIX Water		X SEE ATTACHED		X SEE ATTACHED		Receipt Temp 8.2 °C On Ice: YES No	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date		Collection Time		Custody Seal Intact Signature Match	
1 Ynl B Comp		7/14/15		09:00		Please Copy results to: MLI@METTEST.COM	
2 LZ FW Comp						hold remaining preserved samples (frozen) until further notice.	
3							
4							
5							
6							
7							
8							
9							
10							
Relinquished by (print): JOE CHANEY		Date/Time: 7/15/15 9am		Received by (print): Signature:		Date/Time: Signature:	
Relinquished by (print):		Date/Time:		Received by (print):		Date/Time:	
Sample Disposal:		Return to Client:		Lab Disposal:		Received by Laboratory: KYLE LARSEN 15 JUL 2015 9:15 am Signature:	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

August 07, 2015

Tintina Montana Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B15072631      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:4

Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Montana Inc on 7/29/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15072631-001	Ynl B Comp	07/28/15 9:00	07/29/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15072631-002	LZ FW Comp	07/28/15 9:00	07/29/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Technical Data Reviewer

Digitally signed by  
Jillian B. Miller  
Date: 2015.08.07 08:00:56 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4  
**Lab ID:** B15072631-001  
**Client Sample ID:** Ynl B Comp

**Report Date:** 08/07/15  
**Collection Date:** 07/28/15 09:00  
**Date Received:** 07/29/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	08/05/15 14:33 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.076	mg/L		0.009		E200.8	07/30/15 15:40 / mas
Antimony	0.0025	mg/L		0.0005		E200.8	07/30/15 15:40 / mas
Arsenic	0.004	mg/L		0.001		E200.8	07/30/15 15:40 / mas
Barium	0.023	mg/L		0.003		E200.8	07/30/15 15:40 / mas
Beryllium	ND	mg/L		0.0008		E200.7	07/31/15 12:23 / prw
Cadmium	0.00012	mg/L		0.00003		E200.8	07/30/15 15:40 / mas
Calcium	21	mg/L		1		E200.8	07/30/15 15:40 / mas
Chromium	ND	mg/L		0.01		E200.8	07/30/15 15:40 / mas
Copper	ND	mg/L		0.002		E200.8	07/30/15 15:40 / mas
Iron	ND	mg/L		0.02		E200.8	07/30/15 15:40 / mas
Lead	0.0014	mg/L		0.0003		E200.8	07/30/15 15:40 / mas
Magnesium	25	mg/L		1		E200.8	07/30/15 15:40 / mas
Manganese	ND	mg/L		0.005		E200.8	07/30/15 15:40 / mas
Mercury	ND	mg/L		5E-06		E245.1	08/03/15 16:50 / ser
Nickel	ND	mg/L		0.002		E200.8	07/30/15 15:40 / mas
Selenium	0.003	mg/L		0.001		E200.8	07/30/15 15:40 / mas
Silicon	1.84	mg/L		0.05		E200.7	07/31/15 12:23 / prw
Silver	ND	mg/L		0.0002		E200.8	07/30/15 15:40 / mas
Strontium	1.01	mg/L		0.02		E200.8	07/30/15 15:40 / mas
Thallium	0.0005	mg/L		0.0002		E200.8	07/30/15 15:40 / mas
Uranium	0.0017	mg/L		0.0002		E200.8	07/30/15 15:40 / mas
Zinc	ND	mg/L		0.008		E200.8	07/30/15 15:40 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4  
**Lab ID:** B15072631-002  
**Client Sample ID:** LZ FW Comp

**Report Date:** 08/07/15  
**Collection Date:** 07/28/15 09:00  
**Date Received:** 07/29/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	144	mg/L		1		E300.0	07/31/15 03:33 / ajr
Fluoride	1.8	mg/L		0.2		A4500-F C	07/31/15 09:47 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.010	mg/L	L	0.005		E365.1	08/05/15 14:36 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.070	mg/L		0.009		E200.8	07/30/15 15:45 / mas
Antimony	0.0079	mg/L		0.0005		E200.8	07/30/15 15:45 / mas
Arsenic	0.136	mg/L		0.001		E200.8	07/30/15 15:45 / mas
Barium	0.018	mg/L		0.003		E200.8	07/30/15 15:45 / mas
Beryllium	ND	mg/L		0.0008		E200.7	07/31/15 12:27 / prw
Cadmium	0.00023	mg/L		0.00003		E200.8	07/30/15 15:45 / mas
Calcium	19	mg/L		1		E200.8	07/30/15 15:45 / mas
Chromium	ND	mg/L		0.01		E200.8	07/30/15 15:45 / mas
Copper	ND	mg/L		0.002		E200.8	07/30/15 15:45 / mas
Iron	ND	mg/L		0.02		E200.8	07/30/15 15:45 / mas
Lead	0.0004	mg/L		0.0003		E200.8	07/30/15 15:45 / mas
Magnesium	28	mg/L		1		E200.8	07/30/15 15:45 / mas
Manganese	0.008	mg/L		0.005		E200.8	07/30/15 15:45 / mas
Mercury	ND	mg/L		5E-06		E245.1	08/03/15 17:01 / ser
Nickel	0.005	mg/L		0.002		E200.8	07/30/15 15:45 / mas
Selenium	0.010	mg/L		0.001		E200.8	07/30/15 15:45 / mas
Silicon	2.97	mg/L		0.05		E200.7	07/31/15 12:27 / prw
Silver	ND	mg/L		0.0002		E200.8	07/30/15 15:45 / mas
Strontium	0.31	mg/L		0.02		E200.8	07/30/15 15:45 / mas
Thallium	0.0004	mg/L		0.0002		E200.8	07/30/15 15:45 / mas
Uranium	0.202	mg/L		0.0002		E200.8	07/30/15 15:45 / mas
Zinc	ND	mg/L		0.008		E200.8	07/30/15 15:45 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 08/07/15  
**Work Order:** B15072631

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_150731A		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Fluoride	0.980	mg/L	0.10	98	90	110			07/31/15 09:33	
<b>Method:</b> A4500-F C								Batch: R246993		
<b>Lab ID:</b> MBLK	Method Blank									
Fluoride	ND	mg/L	0.01						Run: MAN-TECH_150731A 07/31/15 09:28	
<b>Lab ID:</b> LFB	Laboratory Fortified Blank									
Fluoride	0.920	mg/L	0.10	92	90	110			Run: MAN-TECH_150731A 07/31/15 09:31	
<b>Lab ID:</b> B15072624-001AMS	Sample Matrix Spike									
Fluoride	2.30	mg/L	0.10	102	80	120			Run: MAN-TECH_150731A 07/31/15 09:39	
<b>Lab ID:</b> B15072624-001AMSD	Sample Matrix Spike Duplicate									
Fluoride	2.31	mg/L	0.10	103	80	120	0.4	10	Run: MAN-TECH_150731A 07/31/15 09:41	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 08/07/15  
**Work Order:** B15072631

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 2_150730A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								07/30/15 12:16
Sulfate	8.72	mg/L	1.0	97	90	110			
<b>Method:</b> E300.0	Batch: R246947								
<b>Lab ID:</b> MB	Method Blank								07/30/15 12:03
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								07/30/15 12:30
Sulfate	8.94	mg/L	1.0	99	90	110			
<b>Lab ID:</b> B15072571-003AMS	Sample Matrix Spike								07/31/15 02:12
Sulfate	19.2	mg/L	1.0	99	90	110			
<b>Lab ID:</b> B15072571-003AMSD	Sample Matrix Spike Duplicate								07/31/15 02:26
Sulfate	19.2	mg/L	1.0	100	90	110	0.3	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 08/07/15  
**Work Order:** B15072631

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E365.1									Analytical Run: FIA202-B_150805A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								08/05/15 14:28
Phosphorus, Total as P	0.522	mg/L	0.0050	104	90	110			
<b>Method:</b> E365.1									Batch: 91986
<b>Lab ID:</b> MB-91986	Method Blank								08/05/15 14:31
Phosphorus, Total as P	0.004	mg/L	0.003				Run: FIA202-B_150805A		
<b>Lab ID:</b> LCS-91986	Laboratory Control Sample								08/05/15 14:32
Phosphorus, Total as P	0.197	mg/L	0.0050	97	90	110	Run: FIA202-B_150805A		
<b>Lab ID:</b> B15072631-001CMS	Sample Matrix Spike								08/05/15 14:34
Phosphorus, Total Dissolved as P	0.193	mg/L	0.0050	97	90	110	Run: FIA202-B_150805A		
<b>Lab ID:</b> B15072631-001CMSD	Sample Matrix Spike Duplicate								08/05/15 14:35
Phosphorus, Total Dissolved as P	0.192	mg/L	0.0050	96	90	110	Run: FIA202-B_150805A		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 08/05/15  
**Work Order:** B15072631

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150731A			
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard						07/31/15 09:17			
Beryllium		1.25	mg/L	0.010	100	95	105				
Silicon		4.99	mg/L	0.10	100	95	105				
<b>Method: E200.7</b>								Batch: R246999			
<b>Lab ID: MB-6500DIS150731A</b>	2	Method Blank						Run: ICP203-B_150731A 07/31/15 09:45			
Beryllium		ND	mg/L	0.0001							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS150731A</b>	2	Laboratory Fortified Blank						Run: ICP203-B_150731A 07/31/15 09:49			
Beryllium		0.528	mg/L	0.010	106	85	115				
Silicon		10.4	mg/L	0.10	104	85	115				
<b>Lab ID: B15072631-002BMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_150731A 07/31/15 12:30			
Beryllium		0.458	mg/L	0.0010	92	70	130				
Silicon		13.5	mg/L	0.10	105	70	130				
<b>Lab ID: B15072631-002BMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_150731A 07/31/15 12:34			
Beryllium		0.459	mg/L	0.0010	92	70	130	0.2	20		
Silicon		13.4	mg/L	0.10	105	70	130	0.4	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 08/05/15  
**Work Order:** B15072631

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_150730A			
<b>Lab ID: QCS</b>	19	Initial Calibration Verification Standard						07/30/15 10:26			
Aluminum		0.250	mg/L	0.10	100	90	110				
Antimony		0.0527	mg/L	0.050	105	90	110				
Arsenic		0.0517	mg/L	0.0050	103	90	110				
Barium		0.0494	mg/L	0.10	99	90	110				
Cadmium		0.0254	mg/L	0.0010	102	90	110				
Calcium		2.59	mg/L	0.50	104	90	110				
Chromium		0.0492	mg/L	0.010	98	90	110				
Copper		0.0509	mg/L	0.010	102	90	110				
Iron		0.246	mg/L	0.020	98	90	110				
Lead		0.0509	mg/L	0.010	102	90	110				
Magnesium		2.56	mg/L	0.50	102	90	110				
Manganese		0.254	mg/L	0.010	102	90	110				
Nickel		0.0505	mg/L	0.010	101	90	110				
Selenium		0.0509	mg/L	0.0050	102	90	110				
Silver		0.0246	mg/L	0.0050	98	90	110				
Strontium		0.0502	mg/L	0.10	100	90	110				
Thallium		0.0500	mg/L	0.10	100	90	110				
Uranium		0.0196	mg/L	0.0010	98	90	110				
Zinc		0.0505	mg/L	0.010	101	90	110				

<b>Method: E200.8</b>								Batch: R246920		
<b>Lab ID: LRB</b>	19	Method Blank						Run: ICPMS206-B_150730A		07/30/15 11:09
Aluminum		ND	mg/L	0.0001						
Antimony		9E-05	mg/L	8E-05						
Arsenic		ND	mg/L	6E-05						
Barium		ND	mg/L	0.0004						
Cadmium		ND	mg/L	3E-05						
Calcium		ND	mg/L	0.008						
Chromium		ND	mg/L	4E-05						
Copper		ND	mg/L	6E-05						
Iron		0.0009	mg/L	0.0007						
Lead		ND	mg/L	5E-05						
Magnesium		ND	mg/L	0.005						
Manganese		0.0003	mg/L	4E-05						
Nickel		ND	mg/L	6E-05						
Selenium		ND	mg/L	0.0001						
Silver		ND	mg/L	2E-05						
Strontium		ND	mg/L	1E-05						
Thallium		ND	mg/L	7E-05						
Uranium		ND	mg/L	5E-05						
Zinc		ND	mg/L	0.0001						

<b>Lab ID: LFB</b>	19	Laboratory Fortified Blank						Run: ICPMS206-B_150730A		07/30/15 11:18
Aluminum		0.0484	mg/L	0.10	97	85	115			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 08/05/15  
**Work Order:** B15072631

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										Batch: R246920
<b>Lab ID: LFB</b>	19	Laboratory Fortified Blank					Run: ICPMS206-B_150730A			07/30/15 11:18
Antimony		0.0471	mg/L	0.050	94	85	115			
Arsenic		0.0478	mg/L	0.0050	96	85	115			
Barium		0.0485	mg/L	0.10	97	85	115			
Cadmium		0.0479	mg/L	0.0010	96	85	115			
Calcium		47.0	mg/L	0.50	94	85	115			
Chromium		0.0476	mg/L	0.010	95	85	115			
Copper		0.0467	mg/L	0.010	93	85	115			
Iron		4.73	mg/L	0.020	95	85	115			
Lead		0.0488	mg/L	0.010	98	85	115			
Magnesium		46.6	mg/L	0.50	93	85	115			
Manganese		0.0490	mg/L	0.010	97	85	115			
Nickel		0.0474	mg/L	0.010	95	85	115			
Selenium		0.0482	mg/L	0.0050	96	85	115			
Silver		0.0188	mg/L	0.0050	94	85	115			
Strontium		0.0488	mg/L	0.10	98	85	115			
Thallium		0.0482	mg/L	0.10	96	85	115			
Uranium		0.0492	mg/L	0.0010	98	85	115			
Zinc		0.0465	mg/L	0.010	93	85	115			
<b>Lab ID: B15072417-001AMS</b>	19	Sample Matrix Spike					Run: ICPMS206-B_150730A			07/30/15 17:27
Aluminum		0.0753	mg/L	0.030	72	70	130			
Antimony		0.0545	mg/L	0.0010	108	70	130			
Arsenic		0.0544	mg/L	0.0010	97	70	130			
Barium		0.0658	mg/L	0.050	99	70	130			
Cadmium		0.0481	mg/L	0.0010	96	70	130			
Calcium		56.8	mg/L	1.0	94	70	130			
Chromium		0.0484	mg/L	0.0050	96	70	130			
Copper		0.0511	mg/L	0.0050	98	70	130			
Iron		4.65	mg/L	0.020	92	70	130			
Lead		0.0499	mg/L	0.0010	99	70	130			
Magnesium		51.5	mg/L	1.0	92	70	130			
Manganese		0.0635	mg/L	0.0010	107	70	130			
Nickel		0.0482	mg/L	0.0050	94	70	130			
Selenium		0.0489	mg/L	0.0010	98	70	130			
Silver		0.0209	mg/L	0.0010	105	70	130			
Strontium		0.472	mg/L	0.010		70	130			A
Thallium		0.0488	mg/L	0.00050	97	70	130			
Uranium		0.0498	mg/L	0.00030	98	70	130			
Zinc		0.0497	mg/L	0.010	98	70	130			
<b>Lab ID: B15072417-001AMSD</b>	19	Sample Matrix Spike Duplicate					Run: ICPMS206-B_150730A			07/30/15 17:32
Aluminum		0.0729	mg/L	0.030	67	70	130	3.2	20	S
Antimony		0.0533	mg/L	0.0010	105	70	130	2.2	20	
Arsenic		0.0525	mg/L	0.0010	94	70	130	3.5	20	
Barium		0.0646	mg/L	0.050	97	70	130	1.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 08/05/15  
**Work Order:** B15072631

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R246920
<b>Lab ID:</b> B15072417-001AMSD	19	Sample Matrix Spike Duplicate								Run: ICPMS206-B_150730A
										07/30/15 17:32
Cadmium		0.0471	mg/L	0.0010	94	70	130	2.0	20	
Calcium		55.8	mg/L	1.0	92	70	130	1.8	20	
Chromium		0.0466	mg/L	0.0050	92	70	130	3.9	20	
Copper		0.0502	mg/L	0.0050	96	70	130	1.7	20	
Iron		4.65	mg/L	0.020	92	70	130	0.2	20	
Lead		0.0486	mg/L	0.0010	96	70	130	2.7	20	
Magnesium		50.9	mg/L	1.0	91	70	130	1.2	20	
Manganese		0.0635	mg/L	0.0010	107	70	130	0.1	20	
Nickel		0.0466	mg/L	0.0050	91	70	130	3.4	20	
Selenium		0.0499	mg/L	0.0010	100	70	130	2.2	20	
Silver		0.0154	mg/L	0.0010	77	70	130	30	20	R
Strontium		0.474	mg/L	0.010		70	130	0.3	20	A
Thallium		0.0481	mg/L	0.00050	96	70	130	1.5	20	
Uranium		0.0495	mg/L	0.00030	97	70	130	0.6	20	
Zinc		0.0488	mg/L	0.010	96	70	130	1.9	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

R - RPD exceeds advisory limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:4

**Report Date:** 08/05/15  
**Work Order:** B15072631

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150803A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								08/03/15 16:36	
Mercury		0.000208	mg/L	1.0E-05	104	90	110				
<b>Method:</b> E245.1										Batch: 91914	
<b>Lab ID:</b> MB-91914		Method Blank								Run: HGCV203-B_150803A	08/03/15 16:45
Mercury		2E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-91914		Laboratory Control Sample								Run: HGCV203-B_150803A	08/03/15 16:48
Mercury		0.000211	mg/L	1.0E-05	104	85	115				
<b>Lab ID:</b> B15072631-001BMS		Sample Matrix Spike								Run: HGCV203-B_150803A	08/03/15 16:56
Mercury		0.000211	mg/L	1.0E-05	104	70	130				
<b>Lab ID:</b> B15072631-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150803A	08/03/15 16:59
Mercury		0.000211	mg/L	1.0E-05	104	70	130	0.0	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15072631

Login completed by: Leslie S. Cadreau

Date Received: 7/29/2015

Reviewed by: BL2000\jmueller

Received by: jrz

Reviewed Date: 7/29/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	5.4°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

Unpreserved container for sample Ynl B Comp received broken. Per phone call with Mike Medina, cancel analysis and client will resample.

# Chain of Custody and Analytical Request Record

PLEASE PRINT - Provide as much information as possible.



<b>Company Name:</b> McClelland Lab <b>Report Mail Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Project Name, PWS, Permit, Etc.</b> 3767-01 WK:4		<b>Sample Origin</b> State: NV		<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Invoice Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Contact Name:</b> Mike Medina Phone/Fax: 775-356-1300		<b>Email:</b> MLI@METTEST.COM		<b>Sampler:</b> (Please Print) Robert Johnson	
<b>Special Report/Formats - ELI must be notified</b> prior to sample submittal for the following:		<b>Number of Containers</b> Sample Type: AWSVB Air Water Solids/Other Vegetation Bioassay Other		<b>Normal Turnaround (TAT)</b> SEE ATTACHED		<b>Contact ELI prior to</b> RUSH sample submittal for charges and scheduling - See instruction Page	
<input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: <input type="checkbox"/> Other:		<input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) Format: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		<b>ANALYSIS REQUESTED</b>		<b>Comments:</b> Date 1 time for 12 containers per container J.C.	
<b>Matrix</b> Water		<b>Collection Date</b> 7/28/15		<b>Collection Time</b> 09:00		<b>Receipt Temp</b> 5.4 °C	
1 Ynl B Comp		↓		↓		On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
2 LZ FW Comp		J.C.		J.C.		Custody Seal Intact: <input checked="" type="checkbox"/> N Signature Match: <input checked="" type="checkbox"/> N	
3		↓		↓		Shipped by: Robert Johnson	
4		↓		↓		Cooler ID(s):	
5		↓		↓		Please Copy results to: MLI@METTEST.COM	
6		↓		↓		hold remaining preserved samples (frozen) until further notice.	
7		↓		↓		Received by (print): Signature:	
8		↓		↓		Received by (print): Signature:	
9		↓		↓		Received by Laboratory: Date/Time: 7/29/15 09:15 Signature:	
10		↓		↓		Date/Time: Signature:	
<b>Custody Record MUST be Signed</b>		<b>Relinquished by (print):</b> JOE CHANEY 7/29/15 9AM		<b>Relinquished by (print):</b> Signature:		<b>Sample Disposal:</b> Return to Client:	
<b>Lab Disposal:</b>		Lab Disposal:		Date/Time:		Signature:	

LABORATORY USE ONLY

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012





# ANALYTICAL SUMMARY REPORT

August 24, 2015

Tintina Montana Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B15081032      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:8


Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Montana Inc on 8/12/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15081032-001	USZ Comp	08/11/15 9:00	08/12/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15081032-002	Yc Comp	08/11/15 9:00	08/12/15	Aqueous	Same As Above
B15081032-003	Tailings	08/11/15 9:00	08/12/15	Aqueous	Same As Above
B15081032-004	Tailigs (Saturated)	08/11/15 9:00	08/12/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2015.08.24 15:09:58 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:8  
**Lab ID:** B15081032-001  
**Client Sample ID:** USZ Comp

**Report Date:** 08/24/15  
**Collection Date:** 08/11/15 09:00  
**Date Received:** 08/12/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	2150	mg/L	D	9		E300.0	08/14/15 12:26 / ajr
Fluoride	ND	mg/L		0.2		A4500-F C	08/12/15 16:03 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.011	mg/L	L	0.005		E365.1	08/14/15 09:08 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	08/13/15 19:17 / mas
Antimony	ND	mg/L		0.0005		E200.8	08/13/15 19:17 / mas
Arsenic	0.003	mg/L		0.001		E200.8	08/13/15 19:17 / mas
Barium	0.015	mg/L		0.003		E200.8	08/13/15 19:17 / mas
Beryllium	ND	mg/L		0.0008		E200.7	08/14/15 13:29 / prw
Cadmium	0.00029	mg/L		0.00003		E200.8	08/13/15 19:17 / mas
Calcium	459	mg/L		1		E200.7	08/14/15 13:29 / prw
Chromium	ND	mg/L		0.01		E200.8	08/13/15 19:17 / mas
Copper	0.150	mg/L		0.002		E200.8	08/13/15 19:17 / mas
Iron	ND	mg/L		0.02		E200.8	08/13/15 19:17 / mas
Lead	ND	mg/L		0.0003		E200.8	08/13/15 19:17 / mas
Magnesium	324	mg/L		1		E200.7	08/14/15 13:29 / prw
Manganese	3.79	mg/L		0.005		E200.8	08/13/15 19:17 / mas
Mercury	0.0000220	mg/L		5E-06		E245.1	08/17/15 16:06 / ser
Nickel	0.060	mg/L		0.002		E200.8	08/13/15 19:17 / mas
Selenium	0.002	mg/L		0.001		E200.8	08/13/15 19:17 / mas
Silicon	1.38	mg/L	D	0.07		E200.7	08/14/15 13:29 / prw
Silver	ND	mg/L		0.0002		E200.8	08/13/15 19:17 / mas
Strontium	24.9	mg/L		0.02		E200.7	08/14/15 13:29 / prw
Thallium	0.0658	mg/L		0.0002		E200.8	08/13/15 19:17 / mas
Uranium	ND	mg/L		0.0002		E200.8	08/13/15 19:17 / mas
Zinc	0.020	mg/L		0.008		E200.8	08/13/15 19:17 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:8  
**Lab ID:** B15081032-002  
**Client Sample ID:** Yc Comp

**Report Date:** 08/24/15  
**Collection Date:** 08/11/15 09:00  
**Date Received:** 08/12/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	59	mg/L		1		E300.0	08/14/15 12:39 / ajr
Fluoride	1.8	mg/L		0.2		A4500-F C	08/12/15 16:06 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.007	mg/L	L	0.005		E365.1	08/14/15 09:09 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.197	mg/L		0.009		E200.8	08/13/15 19:23 / mas
Antimony	0.0024	mg/L		0.0005		E200.8	08/13/15 19:23 / mas
Arsenic	0.027	mg/L		0.001		E200.8	08/13/15 19:23 / mas
Barium	0.060	mg/L		0.003		E200.8	08/13/15 19:23 / mas
Beryllium	ND	mg/L		0.0008		E200.7	08/14/15 13:32 / prw
Cadmium	0.00005	mg/L		0.00003		E200.8	08/13/15 19:23 / mas
Calcium	9	mg/L		1		E200.7	08/14/15 13:32 / prw
Chromium	ND	mg/L		0.01		E200.8	08/13/15 19:23 / mas
Copper	ND	mg/L		0.002		E200.8	08/13/15 19:23 / mas
Iron	0.04	mg/L		0.02		E200.8	08/13/15 19:23 / mas
Lead	ND	mg/L		0.0003		E200.8	08/13/15 19:23 / mas
Magnesium	10	mg/L		1		E200.7	08/14/15 13:32 / prw
Manganese	ND	mg/L		0.005		E200.8	08/13/15 19:23 / mas
Mercury	ND	mg/L		5E-06		E245.1	08/17/15 16:11 / ser
Nickel	ND	mg/L		0.002		E200.8	08/13/15 19:23 / mas
Selenium	0.001	mg/L		0.001		E200.8	08/13/15 19:23 / mas
Silicon	4.21	mg/L		0.05		E200.7	08/14/15 13:32 / prw
Silver	ND	mg/L		0.0002		E200.8	08/13/15 19:23 / mas
Strontium	0.25	mg/L		0.02		E200.8	08/13/15 19:23 / mas
Thallium	0.0003	mg/L		0.0002		E200.8	08/13/15 19:23 / mas
Uranium	0.0045	mg/L		0.0002		E200.8	08/13/15 19:23 / mas
Zinc	ND	mg/L		0.008		E200.8	08/13/15 19:23 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:8  
**Lab ID:** B15081032-003  
**Client Sample ID:** Tailings

**Report Date:** 08/24/15  
**Collection Date:** 08/11/15 09:00  
**Date Received:** 08/12/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	12500	mg/L	D	40		E300.0	08/17/15 17:46 / ajr
Fluoride	ND	mg/L		0.2		A4500-F C	08/12/15 16:09 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	14.0	mg/L	D	0.1		E365.1	08/14/15 10:17 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	16.2	mg/L	D	0.1		E200.7	08/14/15 13:36 / prw
Antimony	0.0386	mg/L		0.0005		E200.8	08/14/15 19:02 / jjw
Arsenic	92.3	mg/L	D	0.3		E200.7	08/14/15 13:36 / prw
Barium	0.011	mg/L		0.003		E200.8	08/14/15 19:02 / jjw
Beryllium	0.0207	mg/L		0.0008		E200.8	08/14/15 19:02 / jjw
Cadmium	0.00803	mg/L	D	0.00005		E200.8	08/14/15 19:02 / jjw
Calcium	242	mg/L	D	2		E200.7	08/19/15 13:50 / prw
Chromium	3.66	mg/L		0.01		E200.8	08/14/15 19:02 / jjw
Copper	125	mg/L		0.002		E200.8	08/14/15 19:02 / jjw
Iron	7680	mg/L	D	0.05		E200.7	08/19/15 13:50 / prw
Lead	0.0241	mg/L		0.0003		E200.8	08/14/15 19:02 / jjw
Magnesium	75	mg/L		1		E200.7	08/14/15 13:36 / prw
Manganese	31.0	mg/L		0.005		E200.8	08/14/15 19:02 / jjw
Mercury	0.0000311	mg/L		5E-06		E245.1	08/17/15 16:17 / ser
Nickel	15.3	mg/L		0.002		E200.8	08/14/15 19:02 / jjw
Selenium	0.007	mg/L		0.001		E200.8	08/14/15 19:02 / jjw
Silicon	32.0	mg/L	D	0.3		E200.7	08/14/15 13:36 / prw
Silver	ND	mg/L		0.0002		E200.8	08/14/15 19:02 / jjw
Strontium	0.64	mg/L		0.02		E200.7	08/14/15 13:36 / prw
Thallium	0.0017	mg/L		0.0002		E200.8	08/20/15 16:14 / mas
Uranium	0.0370	mg/L		0.0002		E200.8	08/14/15 19:02 / jjw
Zinc	3.27	mg/L		0.008		E200.8	08/14/15 19:02 / jjw

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:8  
**Lab ID:** B15081032-004  
**Client Sample ID:** Tailigs (Saturated)

**Report Date:** 08/24/15  
**Collection Date:** 08/11/15 09:00  
**Date Received:** 08/12/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	656	mg/L	D	2		E300.0	08/14/15 13:06 / ajr
Fluoride	0.3	mg/L		0.2		A4500-F C	08/12/15 16:12 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.036	mg/L	L	0.005		E365.1	08/14/15 09:14 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	08/13/15 19:34 / mas
Antimony	ND	mg/L		0.0005		E200.8	08/13/15 19:34 / mas
Arsenic	0.094	mg/L		0.001		E200.8	08/13/15 19:34 / mas
Barium	0.017	mg/L		0.003		E200.8	08/13/15 19:34 / mas
Beryllium	ND	mg/L		0.0008		E200.7	08/14/15 13:39 / prw
Cadmium	0.00006	mg/L		0.00003		E200.8	08/13/15 19:34 / mas
Calcium	252	mg/L		1		E200.7	08/14/15 13:39 / prw
Chromium	ND	mg/L		0.01		E200.8	08/13/15 19:34 / mas
Copper	0.006	mg/L		0.002		E200.8	08/14/15 19:06 / jjw
Iron	0.46	mg/L		0.02		E200.7	08/14/15 13:39 / prw
Lead	ND	mg/L		0.0003		E200.8	08/13/15 19:34 / mas
Magnesium	14	mg/L		1		E200.8	08/13/15 19:34 / mas
Manganese	2.49	mg/L		0.005		E200.8	08/13/15 19:34 / mas
Mercury	ND	mg/L		5E-06		E245.1	08/17/15 16:28 / ser
Nickel	0.657	mg/L		0.002		E200.8	08/13/15 19:34 / mas
Selenium	ND	mg/L		0.001		E200.8	08/13/15 19:34 / mas
Silicon	4.95	mg/L		0.05		E200.7	08/14/15 13:39 / prw
Silver	ND	mg/L		0.0002		E200.8	08/13/15 19:34 / mas
Strontium	0.54	mg/L		0.02		E200.8	08/13/15 19:34 / mas
Thallium	0.0094	mg/L		0.0002		E200.8	08/13/15 19:34 / mas
Uranium	ND	mg/L		0.0002		E200.8	08/13/15 19:34 / mas
Zinc	0.024	mg/L		0.008		E200.8	08/13/15 19:34 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/24/15

**Project:** 3767-01 WK:8

**Work Order:** B15081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b> Analytical Run: MAN-TECH_150812A										
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Fluoride		1.02	mg/L	0.10	102	90	110			08/12/15 15:42
<b>Method: A4500-F C</b> Batch: R247647										
<b>Lab ID: MBLK</b>	Method Blank									
Fluoride		ND	mg/L	0.01						08/12/15 15:36
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Fluoride		1.06	mg/L	0.10	106	90	110			08/12/15 15:39
<b>Lab ID: B15081022-001BMS</b>	Sample Matrix Spike									
Fluoride		1.17	mg/L	0.10	106	80	120			08/12/15 15:47
<b>Lab ID: B15081022-001BMSD</b>	Sample Matrix Spike Duplicate									
Fluoride		1.18	mg/L	0.10	107	80	120	0.9	10	08/12/15 15:50
<b>Lab ID: B15081056-001AMS</b>	Sample Matrix Spike									
Fluoride		1.25	mg/L	0.10	106	80	120			08/12/15 16:31
<b>Lab ID: B15081056-001AMSD</b>	Sample Matrix Spike Duplicate									
Fluoride		1.26	mg/L	0.10	107	80	120	0.8	10	08/12/15 16:34

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 08/24/15

Project: 3767-01 WK:8

Work Order: B15081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>						Analytical Run: IC METROHM 1_150813B				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		8.54	mg/L	1.0	95	90	110			08/13/15 08:59
<b>Method: E300.0</b>						Batch: R247758				
<b>Lab ID: MB</b>	Method Blank									
Sulfate		ND	mg/L	0.2						Run: IC METROHM 1_150813B 08/13/15 09:13
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		8.80	mg/L	1.0	98	90	110			Run: IC METROHM 1_150813B 08/13/15 09:26
<b>Lab ID: B15081027-001AMS</b>	Sample Matrix Spike									
Sulfate		325	mg/L	1.8	67	90	110			Run: IC METROHM 1_150813B 08/14/15 11:59 S
<b>Lab ID: B15081027-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		323	mg/L	1.8	65	90	110	0.5	20	Run: IC METROHM 1_150813B 08/14/15 12:12 S
<b>Method: E300.0</b>						Analytical Run: IC METROHM 2_150817A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		8.80	mg/L	1.0	98	90	110			08/17/15 17:05
<b>Method: E300.0</b>						Batch: R247928				
<b>Lab ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.2						Run: IC METROHM 2_150817A 08/17/15 17:19
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		8.88	mg/L	1.0	99	90	110			Run: IC METROHM 2_150817A 08/17/15 17:32
<b>Lab ID: B15081284-009AMS</b>	Sample Matrix Spike									
Sulfate		7520	mg/L	9.0		90	110			Run: IC METROHM 2_150817A 08/18/15 00:04 A
<b>Lab ID: B15081284-009AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		7460	mg/L	9.0		90	110	0.8	20	Run: IC METROHM 2_150817A 08/18/15 00:17 A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/24/15

**Project:** 3767-01 WK:8

**Work Order:** B15081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_150814A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.524	mg/L	0.0050	105	90	110			08/14/15 09:00
<b>Method: E365.1</b>								Batch: 92252		
<b>Lab ID: MB-92252</b>	Method Blank									
Phosphorus, Total as P		ND	mg/L	0.003				Run: FIA202-B_150814A		08/14/15 09:03
<b>Lab ID: LCS-92252</b>	Laboratory Control Sample									
Phosphorus, Total as P		0.205	mg/L	0.0050	102	90	110	Run: FIA202-B_150814A		08/14/15 09:04
<b>Lab ID: B15081032-002CMS</b>	Sample Matrix Spike									
Phosphorus, Total Dissolved as P		0.211	mg/L	0.0050	102	90	110	Run: FIA202-B_150814A		08/14/15 09:10
<b>Lab ID: B15081032-002CMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P		0.212	mg/L	0.0050	103	90	110	Run: FIA202-B_150814A		08/14/15 09:12

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/24/15

**Project:** 3767-01 WK:8

**Work Order:** B15081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150814A			
<b>Lab ID: ICV</b>	8	Continuing Calibration Verification Standard						08/14/15 10:55			
Aluminum		2.50	mg/L	0.10	100	95	105				
Arsenic		2.49	mg/L	0.10	100	95	105				
Beryllium		1.24	mg/L	0.010	99	95	105				
Calcium		24.8	mg/L	1.0	99	95	105				
Iron		2.45	mg/L	0.020	98	95	105				
Magnesium		25.0	mg/L	1.0	100	95	105				
Silicon		4.99	mg/L	0.10	100	95	105				
Strontium		2.53	mg/L	0.10	101	95	105				
<b>Method: E200.7</b>								Batch: R247784			
<b>Lab ID: MB-6500DIS150814A</b>	8	Method Blank						Run: ICP203-B_150814A 08/14/15 11:23			
Aluminum		ND	mg/L	0.007							
Arsenic		ND	mg/L	0.01							
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.08							
Iron		ND	mg/L	0.003							
Magnesium		ND	mg/L	0.006							
Silicon		ND	mg/L	0.01							
Strontium		ND	mg/L	0.0003							
<b>Lab ID: LFB-6500DIS150814A</b>	8	Laboratory Fortified Blank						Run: ICP203-B_150814A 08/14/15 11:27			
Aluminum		5.19	mg/L	0.10	104	85	115				
Arsenic		1.06	mg/L	0.10	106	85	115				
Beryllium		0.524	mg/L	0.010	105	85	115				
Calcium		52.3	mg/L	1.0	105	85	115				
Iron		5.23	mg/L	0.020	105	85	115				
Magnesium		53.0	mg/L	1.0	106	85	115				
Silicon		10.3	mg/L	0.10	103	85	115				
Strontium		1.07	mg/L	0.10	107	85	115				
<b>Lab ID: B15080980-031AMS2</b>	8	Sample Matrix Spike						Run: ICP203-B_150814A 08/14/15 13:15			
Aluminum		5.35	mg/L	0.030	106	70	130				
Arsenic		1.12	mg/L	0.015	112	70	130				
Beryllium		0.535	mg/L	0.0010	107	70	130				
Calcium		53.5	mg/L	1.0	107	70	130				
Iron		5.24	mg/L	0.020	105	70	130				
Magnesium		53.9	mg/L	1.0	108	70	130				
Silicon		10.7	mg/L	0.10	107	70	130				
Strontium		1.06	mg/L	0.010	106	70	130				
<b>Lab ID: B15080980-031AMSD</b>	8	Sample Matrix Spike Duplicate						Run: ICP203-B_150814A 08/14/15 13:18			
Aluminum		5.43	mg/L	0.030	108	70	130	1.6	20		
Arsenic		1.12	mg/L	0.015	112	70	130	0.2	20		
Beryllium		0.536	mg/L	0.0010	107	70	130	0.2	20		
Calcium		53.9	mg/L	1.0	108	70	130	0.7	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/24/15

**Project:** 3767-01 WK:8

**Work Order:** B15081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R247784</span>										
<b>Lab ID:</b> B15080980-031AMSD	8	Sample Matrix Spike Duplicate					Run: ICP203-B_150814A			08/14/15 13:18
Iron		5.30	mg/L	0.020	106	70	130	1.3	20	
Magnesium		54.2	mg/L	1.0	108	70	130	0.5	20	
Silicon		10.7	mg/L	0.10	107	70	130	0.2	20	
Strontium		1.06	mg/L	0.010	106	70	130	0.9	20	
<b>Method: E200.7</b> <span style="float: right;">Analytical Run: ICP203-B_150819A</span>										
<b>Lab ID:</b> ICV	2	Continuing Calibration Verification Standard								08/19/15 10:57
Calcium		26.0	mg/L	1.0	104	95	105			
Iron		2.58	mg/L	0.020	103	95	105			
<b>Method: E200.7</b> <span style="float: right;">Batch: R248023</span>										
<b>Lab ID:</b> MB-6500DIS150819A	2	Method Blank					Run: ICP203-B_150819A			08/19/15 11:25
Calcium		ND	mg/L	0.08						
Iron		0.005	mg/L	0.003						
<b>Lab ID:</b> LFB-6500DIS150819A	2	Laboratory Fortified Blank					Run: ICP203-B_150819A			08/19/15 11:28
Calcium		52.6	mg/L	1.0	105	85	115			
Iron		5.24	mg/L	0.020	105	85	115			
<b>Lab ID:</b> B15081517-001AMS2	2	Sample Matrix Spike					Run: ICP203-B_150819A			08/19/15 14:45
Calcium		249	mg/L	1.0	97	70	130			
Iron		24.2	mg/L	0.020	97	70	130			
<b>Lab ID:</b> B15081517-001AMSD	2	Sample Matrix Spike Duplicate					Run: ICP203-B_150819A			08/19/15 14:49
Calcium		252	mg/L	1.0	98	70	130	1.5	20	
Iron		24.5	mg/L	0.020	98	70	130	1.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 08/24/15

Project: 3767-01 WK:8

Work Order: B15081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS203-B_150813A	
<b>Lab ID: QCS</b>	18	Initial Calibration Verification Standard							08/13/15 12:37		
Aluminum		0.226	mg/L	0.10	90	90	110				
Antimony		0.0488	mg/L	0.050	98	90	110				
Arsenic		0.0509	mg/L	0.0050	102	90	110				
Barium		0.0502	mg/L	0.10	100	90	110				
Cadmium		0.0256	mg/L	0.0010	103	90	110				
Chromium		0.0510	mg/L	0.010	102	90	110				
Copper		0.0501	mg/L	0.010	100	90	110				
Iron		0.259	mg/L	0.020	104	90	110				
Lead		0.0497	mg/L	0.010	99	90	110				
Magnesium		2.64	mg/L	0.50	105	90	110				
Manganese		0.246	mg/L	0.010	99	90	110				
Nickel		0.0504	mg/L	0.010	101	90	110				
Selenium		0.0526	mg/L	0.0050	105	90	110				
Silver		0.0252	mg/L	0.0050	101	90	110				
Strontium		0.0537	mg/L	0.10	107	90	110				
Thallium		0.0472	mg/L	0.10	94	90	110				
Uranium		0.0195	mg/L	0.0010	98	90	110				
Zinc		0.0522	mg/L	0.010	104	90	110				

<b>Method: E200.8</b>										Batch: R247707	
<b>Lab ID: LFB</b>	18	Laboratory Fortified Blank							Run: ICPMS203-B_150813A		08/13/15 10:01
Aluminum		0.0443	mg/L	0.10	89	85	115				
Antimony		0.0472	mg/L	0.050	94	85	115				
Arsenic		0.0468	mg/L	0.0050	94	85	115				
Barium		0.0463	mg/L	0.10	93	85	115				
Cadmium		0.0460	mg/L	0.0010	92	85	115				
Chromium		0.0473	mg/L	0.010	95	85	115				
Copper		0.0450	mg/L	0.010	90	85	115				
Iron		4.71	mg/L	0.020	94	85	115				
Lead		0.0454	mg/L	0.010	91	85	115				
Magnesium		48.3	mg/L	0.50	97	85	115				
Manganese		0.0478	mg/L	0.010	96	85	115				
Nickel		0.0475	mg/L	0.010	95	85	115				
Selenium		0.0470	mg/L	0.0050	94	85	115				
Silver		0.0197	mg/L	0.0050	98	85	115				
Strontium		0.0474	mg/L	0.10	95	85	115				
Thallium		0.0448	mg/L	0.10	90	85	115				
Uranium		0.0437	mg/L	0.0010	87	85	115				
Zinc		0.0473	mg/L	0.010	95	85	115				

<b>Lab ID: LRB</b>	18	Method Blank							Run: ICPMS203-B_150813A		08/13/15 10:45
Aluminum		ND	mg/L	0.0002							
Antimony		ND	mg/L	1E-05							
Arsenic		ND	mg/L	5E-05							

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 08/24/15

Project: 3767-01 WK:8

Work Order: B15081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b> <span style="float: right;">Batch: R247707</span>											
<b>Lab ID: LRB</b>	18 Method Blank			Run: ICPMS203-B_150813A				08/13/15 10:45			
Barium		ND	mg/L	2E-05							
Cadmium		7E-06	mg/L	5E-06							
Chromium		ND	mg/L	2E-05							
Copper		ND	mg/L	4E-05							
Iron		ND	mg/L	0.0003							
Lead		ND	mg/L	3E-05							
Magnesium		ND	mg/L	0.0005							
Manganese		ND	mg/L	2E-05							
Nickel		ND	mg/L	4E-05							
Selenium		ND	mg/L	7E-05							
Silver		ND	mg/L	2E-05							
Strontium		ND	mg/L	8E-06							
Thallium		ND	mg/L	1E-05							
Uranium		4E-06	mg/L	3E-06							
Zinc		ND	mg/L	0.00010							
<b>Lab ID: B15081116-003BMS</b>	18 Sample Matrix Spike			Run: ICPMS203-B_150813A				08/13/15 19:57			
Aluminum		0.0384	mg/L	0.030	74	70	130				
Antimony		0.0505	mg/L	0.0010	101	70	130				
Arsenic		0.0576	mg/L	0.0010	105	70	130				
Barium		0.0899	mg/L	0.050	98	70	130				
Cadmium		0.0492	mg/L	0.0010	98	70	130				
Chromium		0.0486	mg/L	0.0050	92	70	130				
Copper		0.0447	mg/L	0.0050	89	70	130				
Iron		18.8	mg/L	0.020	79	70	130				
Lead		0.0483	mg/L	0.0010	97	70	130				
Magnesium		67.4	mg/L	1.0	83	70	130				
Manganese		2.32	mg/L	0.0010		70	130			A	
Nickel		0.0602	mg/L	0.0050	87	70	130				
Selenium		0.0601	mg/L	0.0010	116	70	130				
Silver		0.0156	mg/L	0.0010	78	70	130				
Strontium		0.201	mg/L	0.010	77	70	130				
Thallium		0.0461	mg/L	0.00050	92	70	130				
Uranium		0.0529	mg/L	0.00030	98	70	130				
Zinc		0.0476	mg/L	0.010	95	70	130				
<b>Lab ID: B15081116-003BMSD</b>	18 Sample Matrix Spike Duplicate			Run: ICPMS203-B_150813A				08/13/15 20:03			
Aluminum		0.0391	mg/L	0.030	76	70	130	1.7	20		
Antimony		0.0504	mg/L	0.0010	101	70	130	0.1	20		
Arsenic		0.0552	mg/L	0.0010	100	70	130	4.3	20		
Barium		0.0904	mg/L	0.050	99	70	130	0.6	20		
Cadmium		0.0488	mg/L	0.0010	98	70	130	0.7	20		
Chromium		0.0478	mg/L	0.0050	90	70	130	1.5	20		
Copper		0.0438	mg/L	0.0050	87	70	130	2.1	20		

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 08/24/15

Project: 3767-01 WK:8

Work Order: B15081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Batch: R247707		
<b>Lab ID:</b>	<b>B15081116-003BMSD</b>	18	Sample Matrix Spike Duplicate			Run: ICPMS203-B_150813A		08/13/15 20:03		
Iron		18.0	mg/L	0.020	62	70	130	4.7	20	S
Lead		0.0487	mg/L	0.0010	97	70	130	0.7	20	
Magnesium		67.6	mg/L	1.0	83	70	130	0.3	20	
Manganese		2.38	mg/L	0.0010		70	130	3.0	20	A
Nickel		0.0600	mg/L	0.0050	86	70	130	0.4	20	
Selenium		0.0587	mg/L	0.0010	113	70	130	2.3	20	
Silver		0.0144	mg/L	0.0010	72	70	130	7.5	20	
Strontium		0.209	mg/L	0.010	93	70	130	3.9	20	
Thallium		0.0463	mg/L	0.00050	93	70	130	0.5	20	
Uranium		0.0525	mg/L	0.00030	97	70	130	0.7	20	
Zinc		0.0454	mg/L	0.010	91	70	130	4.6	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 08/24/15

Project: 3767-01 WK:8

Work Order: B15081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS203-B_150814A			
<b>Lab ID: QCS</b>	13	Initial Calibration Verification Standard						08/14/15 14:27			
Antimony		0.0504	mg/L	0.050	101	90	110				
Barium		0.0500	mg/L	0.10	100	90	110				
Beryllium		0.0246	mg/L	0.0010	98	90	110				
Cadmium		0.0255	mg/L	0.0010	102	90	110				
Chromium		0.0510	mg/L	0.010	102	90	110				
Copper		0.0516	mg/L	0.010	103	90	110				
Lead		0.0520	mg/L	0.010	104	90	110				
Manganese		0.259	mg/L	0.010	104	90	110				
Nickel		0.0510	mg/L	0.010	102	90	110				
Selenium		0.0522	mg/L	0.0050	104	90	110				
Silver		0.0250	mg/L	0.0050	100	90	110				
Uranium		0.0201	mg/L	0.0010	100	90	110				
Zinc		0.0522	mg/L	0.010	104	90	110				

<b>Method: E200.8</b>								Batch: R247810			
<b>Lab ID: LFB</b>	13	Laboratory Fortified Blank						Run: ICPMS203-B_150814A 08/14/15 14:31			
Antimony		0.0449	mg/L	0.050	90	85	115				
Barium		0.0475	mg/L	0.10	95	85	115				
Beryllium		0.0433	mg/L	0.0010	87	85	115				
Cadmium		0.0454	mg/L	0.0010	91	85	115				
Chromium		0.0504	mg/L	0.010	101	85	115				
Copper		0.0498	mg/L	0.010	100	85	115				
Lead		0.0456	mg/L	0.010	91	85	115				
Manganese		0.0494	mg/L	0.010	99	85	115				
Nickel		0.0487	mg/L	0.010	97	85	115				
Selenium		0.0475	mg/L	0.0050	95	85	115				
Silver		0.0173	mg/L	0.0050	87	85	115				
Uranium		0.0510	mg/L	0.0010	102	85	115				
Zinc		0.0476	mg/L	0.010	95	85	115				

<b>Lab ID: LRB</b>	13	Method Blank						Run: ICPMS203-B_150814A 08/14/15 15:08			
Antimony		ND	mg/L	1E-05							
Barium		ND	mg/L	2E-05							
Beryllium		ND	mg/L	9E-06							
Cadmium		ND	mg/L	5E-06							
Chromium		ND	mg/L	2E-05							
Copper		ND	mg/L	4E-05							
Lead		ND	mg/L	3E-05							
Manganese		ND	mg/L	2E-05							
Nickel		ND	mg/L	4E-05							
Selenium		ND	mg/L	7E-05							
Silver		ND	mg/L	2E-05							
Uranium		ND	mg/L	3E-06							
Zinc		ND	mg/L	0.00010							

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 08/24/15

Project: 3767-01 WK:8

Work Order: B15081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b> <span style="float:right">Batch: R247810</span>											
<b>Lab ID:</b>	<b>B15081201-001BMS</b>	13 Sample Matrix Spike			Run: ICPMS203-B_150814A			08/14/15 19:46			
Antimony		0.0476	mg/L	0.0010	95	70	130				
Barium		0.0775	mg/L	0.050	93	70	130				
Beryllium		0.0415	mg/L	0.0010	83	70	130				
Cadmium		0.0439	mg/L	0.0010	88	70	130				
Chromium		0.0464	mg/L	0.0050	92	70	130				
Copper		0.0434	mg/L	0.0050	86	70	130				
Lead		0.0434	mg/L	0.0010	86	70	130				
Manganese		2.06	mg/L	0.0010		70	130			A	
Nickel		0.0441	mg/L	0.0050	84	70	130				
Selenium		0.0433	mg/L	0.0010	86	70	130				
Silver		0.0169	mg/L	0.0010	85	70	130				
Uranium		0.0518	mg/L	0.00030	98	70	130				
Zinc		0.0446	mg/L	0.010	87	70	130				
<b>Lab ID:</b>	<b>B15081201-001BMSD</b>	13 Sample Matrix Spike Duplicate			Run: ICPMS203-B_150814A			08/14/15 19:50			
Antimony		0.0498	mg/L	0.0010	100	70	130	4.6	20		
Barium		0.0803	mg/L	0.050	98	70	130	3.5	20		
Beryllium		0.0428	mg/L	0.0010	86	70	130	3.2	20		
Cadmium		0.0456	mg/L	0.0010	91	70	130	3.9	20		
Chromium		0.0466	mg/L	0.0050	93	70	130	0.5	20		
Copper		0.0438	mg/L	0.0050	86	70	130	0.9	20		
Lead		0.0450	mg/L	0.0010	90	70	130	3.7	20		
Manganese		2.15	mg/L	0.0010		70	130	3.9	20	A	
Nickel		0.0450	mg/L	0.0050	86	70	130	2.0	20		
Selenium		0.0432	mg/L	0.0010	86	70	130	0.1	20		
Silver		0.0181	mg/L	0.0010	91	70	130	6.7	20		
Uranium		0.0538	mg/L	0.00030	102	70	130	3.6	20		
Zinc		0.0448	mg/L	0.010	87	70	130	0.4	20		
<b>Method: E200.8</b> <span style="float:right">Analytical Run: ICPMS203-B_150820A</span>											
<b>Lab ID:</b>	<b>QCS</b>	Initial Calibration Verification Standard								08/20/15 09:57	
Thallium		0.0484	mg/L	0.10	97	90	110				
<b>Method: E200.8</b> <span style="float:right">Batch: R248084</span>											
<b>Lab ID:</b>	<b>LFB</b>	Laboratory Fortified Blank			Run: ICPMS203-B_150820A			08/20/15 10:50			
Thallium		0.0493	mg/L	0.10	99	85	115				
<b>Lab ID:</b>	<b>LRB</b>	Method Blank			Run: ICPMS203-B_150820A			08/20/15 11:06			
Thallium		ND	mg/L	1E-05							
<b>Lab ID:</b>	<b>B15081517-001AMS</b>	Sample Matrix Spike			Run: ICPMS203-B_150820A			08/20/15 14:55			
Thallium		0.0957	mg/L	0.00050	96	70	130				
<b>Lab ID:</b>	<b>B15081517-001AMSD</b>	Sample Matrix Spike Duplicate			Run: ICPMS203-B_150820A			08/20/15 14:59			
Thallium		0.0995	mg/L	0.00050	100	70	130	3.9	20		

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/24/15

**Project:** 3767-01 WK:8

**Work Order:** B15081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150817A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								08/17/15 15:30	
Mercury		0.000211	mg/L	1.0E-05	106	90	110				
<b>Method:</b> E245.1										Batch: 92335	
<b>Lab ID:</b> MB-92335		Method Blank								Run: HGCV203-B_150817A	08/17/15 15:42
Mercury		3E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-92335		Laboratory Control Sample								Run: HGCV203-B_150817A	08/17/15 15:45
Mercury		0.000209	mg/L	1.0E-05	103	85	115				
<b>Lab ID:</b> B15080940-002BMS		Sample Matrix Spike								Run: HGCV203-B_150817A	08/17/15 15:57
Mercury		0.000214	mg/L	1.0E-05	106	70	130				
<b>Lab ID:</b> B15080940-002BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150817A	08/17/15 16:00
Mercury		0.000215	mg/L	1.0E-05	107	70	130	0.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# Work Order Receipt Checklist

Tintina Montana Inc

B15081032

Login completed by: Randa Nees

Date Received: 8/12/2015

Reviewed by: BL2000\raschim

Received by: jrjz

Reviewed Date: 8/12/2015

Carrier name: UPS NDA

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	5.9°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab		<b>Project Name, PWS, Permit, Etc.</b> 3767-01 WK: 8		<b>Sample Origin State:</b> NV		<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Report Mail Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Contact Name:</b> Mike Medina		<b>Phone/Fax:</b> 775-356-1300		<b>Email:</b> MLI@METTEST.COM	
<b>Invoice Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko 604-628-1162		<b>Purchase Order:</b>		<b>Quoter/Bottle Order:</b>	
<b>Special Report/Formats - ELL must be notified prior to sample submittal for the following:</b> <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/MWTP <input type="checkbox"/> State: _____ <input type="checkbox"/> Other: _____		<b>Number of Containers</b> Air Water Soils/Solids Vegetation Biossay Other		<b>ANALYSIS REQUESTED</b>		<b>Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page</b>	
<input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) <b>Format:</b> <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		<b>MATRIX</b> Water		<b>SEE ATTACHED</b>		<b>Comments:</b> Receipt Temp: 5.9 °C On Ice: <input checked="" type="radio"/> Yes <input type="radio"/> No Custody Seal Intact: <input checked="" type="radio"/> Y <input checked="" type="radio"/> N Signature Match: <input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
<b>SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)</b>		<b>Collection Date</b>		<b>Collection Time</b>		<b>Shipped by:</b> Robert <b>Cooler ID(s):</b>	
1 USZ Comp		8/11/15		09:00		Please Copy results to: MLI@METTEST.COM	
2 Yc Comp		↓		↓		hold remaining preserved	
3 Tailings		↓		↓		samples (frozen) until further notice.	
4 Tailings (Saturated)		↓		↓		LABORATORY USE ONLY 615081032-201 002 003 004	
5							
6							
7							
8							
9							
10							
<b>Relinquished by (print):</b> JOE CHANEY		<b>Date/Time:</b> 8/11/15 9AM		<b>Signature:</b>		<b>Date/Time:</b>	
<b>Relinquished by (print):</b>		<b>Date/Time:</b>		<b>Signature:</b>		<b>Date/Time:</b>	
<b>Sample Disposal:</b>		<b>Return to Client:</b>		<b>Lab Disposal:</b>		<b>Signature:</b>	
<b>Custody Record MUST be Signed</b>		<b>Received by Laboratory:</b> 8/12/15 0915		<b>Signature:</b>		<b>Date/Time:</b>	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

September 04, 2015

Tintina Montana Inc  
Ste 2560 - 200 Granville St  
Vancouver, BC V6C 1S4

Work Order: B15082343      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:8

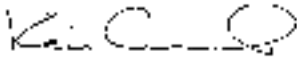
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Montana Inc on 8/26/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15082343-001	Ynl B Comp	08/25/15 9:00	08/26/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15082343-002	LZ FW Comp	08/25/15 9:00	08/26/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2015.09.04 16:58:42 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:8  
**Lab ID:** B15082343-001  
**Client Sample ID:** Ynl B Comp

**Report Date:** 09/04/15  
**Collection Date:** 08/25/15 09:00  
**Date Received:** 08/26/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	694	mg/L	D	2		E300.0	08/29/15 05:16 / ajr
Fluoride	0.7	mg/L		0.2		A4500-F C	08/31/15 13:19 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	09/01/15 14:32 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.026	mg/L		0.009		E200.8	08/31/15 18:48 / amm
Antimony	0.0008	mg/L		0.0005		E200.8	08/28/15 17:36 / mas
Arsenic	0.001	mg/L		0.001		E200.8	08/27/15 19:19 / mas
Barium	0.010	mg/L		0.003		E200.7	08/27/15 13:33 / prw
Beryllium	ND	mg/L		0.0008		E200.7	08/27/15 13:33 / prw
Cadmium	ND	mg/L		0.00003		E200.8	08/27/15 19:19 / mas
Calcium	122	mg/L		1		E200.7	08/27/15 13:33 / prw
Chromium	ND	mg/L		0.01		E200.7	08/27/15 13:33 / prw
Copper	ND	mg/L		0.002		E200.8	08/28/15 17:36 / mas
Iron	0.02	mg/L		0.02		E200.7	08/27/15 13:33 / prw
Lead	0.0057	mg/L		0.0003		E200.8	08/27/15 19:19 / mas
Magnesium	94	mg/L		1		E200.7	08/27/15 13:33 / prw
Manganese	0.005	mg/L		0.005		E200.7	08/27/15 13:33 / prw
Mercury	6.1E-06	mg/L		5E-06		E245.1	09/04/15 15:20 / ser
Nickel	0.003	mg/L		0.002		E200.8	08/27/15 19:19 / mas
Selenium	0.002	mg/L		0.001		E200.8	08/27/15 19:19 / mas
Silicon	1.73	mg/L		0.05		E200.7	08/27/15 13:33 / prw
Silver	ND	mg/L		0.0002		E200.8	08/28/15 17:36 / mas
Strontium	2.39	mg/L		0.02		E200.7	08/27/15 13:33 / prw
Thallium	0.0007	mg/L		0.0002		E200.8	08/27/15 19:19 / mas
Uranium	0.0021	mg/L		0.0002		E200.8	08/27/15 19:19 / mas
Zinc	ND	mg/L		0.008		E200.7	08/27/15 13:33 / prw

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:8  
**Lab ID:** B15082343-002  
**Client Sample ID:** LZ FW Comp

**Report Date:** 09/04/15  
**Collection Date:** 08/25/15 09:00  
**Date Received:** 08/26/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	118	mg/L		1		E300.0	08/29/15 05:30 / ajr
Fluoride	1.0	mg/L		0.2		A4500-F C	08/31/15 13:21 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.011	mg/L	L	0.005		E365.1	09/01/15 14:35 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.054	mg/L		0.009		E200.7	08/27/15 13:36 / prw
Antimony	0.0052	mg/L		0.0005		E200.8	08/28/15 17:40 / mas
Arsenic	0.125	mg/L		0.001		E200.8	08/27/15 19:24 / mas
Barium	0.017	mg/L		0.003		E200.7	08/27/15 13:36 / prw
Beryllium	ND	mg/L		0.0008		E200.7	08/27/15 13:36 / prw
Cadmium	0.00012	mg/L		0.00003		E200.8	08/27/15 19:24 / mas
Calcium	19	mg/L		1		E200.7	08/27/15 13:36 / prw
Chromium	ND	mg/L		0.01		E200.7	08/27/15 13:36 / prw
Copper	ND	mg/L		0.002		E200.8	08/28/15 17:40 / mas
Iron	ND	mg/L		0.02		E200.7	08/27/15 13:36 / prw
Lead	0.0058	mg/L		0.0003		E200.8	08/27/15 19:24 / mas
Magnesium	21	mg/L		1		E200.7	08/27/15 13:36 / prw
Manganese	0.009	mg/L		0.005		E200.7	08/27/15 13:36 / prw
Mercury	5.0E-06	mg/L		5E-06		E245.1	09/02/15 16:24 / ser
Nickel	0.003	mg/L		0.002		E200.8	08/27/15 19:24 / mas
Selenium	0.004	mg/L		0.001		E200.8	08/27/15 19:24 / mas
Silicon	2.67	mg/L		0.05		E200.7	08/27/15 13:36 / prw
Silver	ND	mg/L		0.0002		E200.8	08/28/15 17:40 / mas
Strontium	0.25	mg/L		0.02		E200.7	08/27/15 13:36 / prw
Thallium	0.0003	mg/L		0.0002		E200.8	08/27/15 19:24 / mas
Uranium	0.193	mg/L		0.0002		E200.8	08/27/15 19:24 / mas
Zinc	ND	mg/L		0.008		E200.7	08/27/15 13:36 / prw

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:8

**Report Date:** 09/04/15  
**Work Order:** B15082343

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_150831A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Fluoride	1.06	mg/L	0.10	106	90	110			08/31/15 11:59
<b>Method:</b> A4500-F C									Batch: R248609
<b>Lab ID:</b> MBLK	Method Blank								
Fluoride	ND	mg/L	0.01						Run: MAN-TECH_150831A 08/31/15 11:53
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								
Fluoride	1.03	mg/L	0.10	103	90	110			Run: MAN-TECH_150831A 08/31/15 11:56
<b>Lab ID:</b> B15082343-002AMSD	Sample Matrix Spike Duplicate								
Fluoride	2.02	mg/L	0.10	99	80	120	0.0	10	Run: MAN-TECH_150831A 08/31/15 13:24
<b>Lab ID:</b> B15082343-002AMS	Sample Matrix Spike								
Fluoride	2.04	mg/L	0.10	101	80	120			Run: MAN-TECH_150831A 08/31/15 13:27

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:8

**Report Date:** 09/04/15  
**Work Order:** B15082343

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E365.1								Analytical Run: FIA202-B_150901A		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Phosphorus, Total as P	0.512	mg/L	0.0050	102	90	110			09/01/15 08:49	
<b>Method:</b> E365.1								Batch: 92801		
<b>Lab ID:</b> MB-92801	Method Blank									
Phosphorus, Total as P	ND	mg/L	0.003						Run: FIA202-B_150901A 09/01/15 14:30	
<b>Lab ID:</b> B15082343-001CMS	Sample Matrix Spike									
Phosphorus, Total Dissolved as P	0.189	mg/L	0.0050	95	90	110			Run: FIA202-B_150901A 09/01/15 14:33	
<b>Lab ID:</b> B15082343-001CMSD	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P	0.190	mg/L	0.0050	95	90	110			Run: FIA202-B_150901A 09/01/15 14:34	
<b>Lab ID:</b> LCS-92801	Laboratory Control Sample									
Phosphorus, Total as P	0.192	mg/L	0.0050	96	90	110			Run: FIA202-B_150901A 09/01/15 15:08	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 09/04/15

Project: 3767-01 WK:8

Work Order: B15082343

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150827A		
<b>Lab ID: ICV</b>	11 Continuing Calibration Verification Standard									08/27/15 11:09
Aluminum		2.46	mg/L	0.10	98	95	105			
Barium		2.45	mg/L	0.10	98	95	105			
Beryllium		1.25	mg/L	0.010	100	95	105			
Calcium		24.7	mg/L	1.0	99	95	105			
Chromium		2.43	mg/L	0.050	97	95	105			
Iron		2.46	mg/L	0.020	98	95	105			
Magnesium		24.9	mg/L	1.0	100	95	105			
Manganese		2.46	mg/L	0.010	99	95	105			
Silicon		5.07	mg/L	0.10	101	95	105			
Strontium		2.51	mg/L	0.10	100	95	105			
Zinc		2.46	mg/L	0.010	98	95	105			
<b>Method: E200.7</b>								Batch: R248441		
<b>Lab ID: LFB-6500DIS150827A</b>	11 Laboratory Fortified Blank							Run: ICP203-B_150827A		08/27/15 11:41
Aluminum		5.01	mg/L	0.10	100	85	115			
Barium		1.01	mg/L	0.10	101	85	115			
Beryllium		0.514	mg/L	0.010	103	85	115			
Calcium		50.6	mg/L	1.0	101	85	115			
Chromium		0.993	mg/L	0.050	99	85	115			
Iron		5.09	mg/L	0.020	102	85	115			
Magnesium		51.6	mg/L	1.0	103	85	115			
Manganese		5.05	mg/L	0.010	101	85	115			
Silicon		10.3	mg/L	0.10	103	85	115			
Strontium		1.04	mg/L	0.10	104	85	115			
Zinc		1.02	mg/L	0.010	102	85	115			
<b>Lab ID: MB-6500DIS150827A</b>	11 Method Blank							Run: ICP203-B_150827A		08/27/15 11:38
Aluminum		ND	mg/L	0.007						
Barium		ND	mg/L	0.0002						
Beryllium		ND	mg/L	0.0001						
Calcium		ND	mg/L	0.08						
Chromium		ND	mg/L	0.003						
Iron		ND	mg/L	0.003						
Magnesium		ND	mg/L	0.006						
Manganese		ND	mg/L	0.0006						
Silicon		0.02	mg/L	0.01						
Strontium		ND	mg/L	0.0003						
Zinc		ND	mg/L	0.002						
<b>Lab ID: B15082343-002BMS2</b>	11 Sample Matrix Spike							Run: ICP203-B_150827A		08/27/15 13:40
Aluminum		5.06	mg/L	0.030	100	70	130			
Barium		1.02	mg/L	0.050	100	70	130			
Beryllium		0.502	mg/L	0.0010	100	70	130			
Calcium		68.5	mg/L	1.0	100	70	130			
Chromium		0.994	mg/L	0.0050	99	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 09/04/15

Project: 3767-01 WK:8

Work Order: B15082343

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R248441</span>										
<b>Lab ID: B15082343-002BMS2</b>	11	Sample Matrix Spike				Run: ICP203-B_150827A				08/27/15 13:40
Iron		5.02	mg/L	0.020	100	70	130			
Magnesium		71.8	mg/L	1.0	102	70	130			
Manganese		5.00	mg/L	0.0010	100	70	130			
Silicon		12.9	mg/L	0.10	103	70	130			
Strontium		1.30	mg/L	0.010	105	70	130			
Zinc		1.04	mg/L	0.010	104	70	130			
<b>Lab ID: B15082343-002BMSD</b>	11	Sample Matrix Spike Duplicate				Run: ICP203-B_150827A				08/27/15 13:43
Aluminum		5.01	mg/L	0.030	99	70	130	1.1	20	
Barium		1.01	mg/L	0.050	100	70	130	0.7	20	
Beryllium		0.497	mg/L	0.0010	99	70	130	0.9	20	
Calcium		68.2	mg/L	1.0	99	70	130	0.4	20	
Chromium		0.988	mg/L	0.0050	99	70	130	0.7	20	
Iron		4.99	mg/L	0.020	100	70	130	0.6	20	
Magnesium		71.6	mg/L	1.0	102	70	130	0.3	20	
Manganese		4.98	mg/L	0.0010	99	70	130	0.6	20	
Silicon		12.9	mg/L	0.10	103	70	130	0.1	20	
Strontium		1.29	mg/L	0.010	104	70	130	0.7	20	
Zinc		1.04	mg/L	0.010	104	70	130	0.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 09/04/15

Project: 3767-01 WK:8

Work Order: B15082343

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_150828A				
<b>Lab ID: QCS</b>	3	Initial Calibration Verification Standard								08/28/15 17:04	
Antimony		0.0484	mg/L	0.050	97	90	110				
Copper		0.0514	mg/L	0.010	103	90	110				
Silver		0.0239	mg/L	0.0050	96	90	110				
<b>Method: E200.8</b>							Batch: R248513				
<b>Lab ID: LFB</b>	3	Laboratory Fortified Blank								08/28/15 13:03	
Antimony		0.0446	mg/L	0.050	89	85	115				
Copper		0.0459	mg/L	0.010	92	85	115				
Silver		0.0187	mg/L	0.0050	94	85	115				
<b>Lab ID: LRB</b>	3	Method Blank								08/28/15 13:31	
Antimony		ND	mg/L	1E-05							
Copper		ND	mg/L	4E-05							
Silver		ND	mg/L	2E-05							
<b>Lab ID: B15082507-002BMS</b>	3	Sample Matrix Spike								08/28/15 18:12	
Antimony		0.0485	mg/L	0.0010	96	70	130				
Copper		0.0470	mg/L	0.0050	94	70	130				
Silver		0.0121	mg/L	0.0010	60	70	130			S	
<b>Lab ID: B15082507-002BMSD</b>	3	Sample Matrix Spike Duplicate								08/28/15 18:16	
Antimony		0.0487	mg/L	0.0010	97	70	130	0.4	20		
Copper		0.0473	mg/L	0.0050	94	70	130	0.6	20		
Silver		0.0127	mg/L	0.0010	64	70	130	5.2	20	S	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 09/04/15

Project: 3767-01 WK:8

Work Order: B15082343

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_150827A	
<b>Lab ID: QCS</b>	7	Initial Calibration Verification Standard							08/27/15 18:31		
Arsenic		0.0518	mg/L	0.0050	104	90	110				
Cadmium		0.0260	mg/L	0.0010	104	90	110				
Lead		0.0519	mg/L	0.010	104	90	110				
Nickel		0.0536	mg/L	0.010	107	90	110				
Selenium		0.0515	mg/L	0.0050	103	90	110				
Thallium		0.0514	mg/L	0.10	103	90	110				
Uranium		0.0202	mg/L	0.0010	101	90	110				
<b>Method: E200.8</b>										Batch: R248457	
<b>Lab ID: LRB</b>	7	Method Blank							Run: ICPMS206-B_150827A 08/27/15 14:24		
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	7	Laboratory Fortified Blank							Run: ICPMS206-B_150827A 08/27/15 14:38		
Arsenic		0.0472	mg/L	0.0050	94	85	115				
Cadmium		0.0483	mg/L	0.0010	97	85	115				
Lead		0.0484	mg/L	0.010	97	85	115				
Nickel		0.0481	mg/L	0.010	96	85	115				
Selenium		0.0474	mg/L	0.0050	95	85	115				
Thallium		0.0487	mg/L	0.10	97	85	115				
Uranium		0.0484	mg/L	0.0010	97	85	115				
<b>Lab ID: B15082362-004BMS</b>	7	Sample Matrix Spike							Run: ICPMS206-B_150827A 08/27/15 20:54		
Arsenic		0.247	mg/L	0.0010	98	70	130				
Cadmium		0.236	mg/L	0.0010	94	70	130				
Lead		0.242	mg/L	0.0010	97	70	130				
Nickel		0.229	mg/L	0.0050	90	70	130				
Selenium		0.244	mg/L	0.0010	98	70	130				
Thallium		0.244	mg/L	0.00050	98	70	130				
Uranium		0.251	mg/L	0.00030	95	70	130				
<b>Lab ID: B15082362-004BMSD</b>	7	Sample Matrix Spike Duplicate							Run: ICPMS206-B_150827A 08/27/15 20:59		
Arsenic		0.249	mg/L	0.0010	98	70	130	0.8	20		
Cadmium		0.236	mg/L	0.0010	95	70	130	0.2	20		
Lead		0.244	mg/L	0.0010	98	70	130	0.8	20		
Nickel		0.230	mg/L	0.0050	91	70	130	0.5	20		
Selenium		0.243	mg/L	0.0010	97	70	130	0.4	20		
Thallium		0.248	mg/L	0.00050	99	70	130	1.6	20		
Uranium		0.251	mg/L	0.00030	95	70	130	0.3	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 09/04/15

**Project:** 3767-01 WK:8

**Work Order:** B15082343

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_150831A			
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard										
Aluminum		0.261	mg/L	0.10	104	90	110			08/31/15 13:25	
<b>Method: E200.8</b>								Batch: R248599			
<b>Lab ID: LRB</b>	Method Blank										
Aluminum		ND	mg/L	0.0001						Run: ICPMS206-B_150831A 08/31/15 14:17	
<b>Lab ID: LFB</b>	Laboratory Fortified Blank										
Aluminum		0.0475	mg/L	0.10	95	85	115			Run: ICPMS206-B_150831A 08/31/15 14:22	
<b>Lab ID: B15082483-039BMS</b>	Sample Matrix Spike										
Aluminum		106	mg/L	0.030		70	130			Run: ICPMS206-B_150831A 09/01/15 00:39 A	
<b>Lab ID: B15082483-039BMSD</b>	Sample Matrix Spike Duplicate										
Aluminum		106	mg/L	0.030		70	130	0.2	20	Run: ICPMS206-B_150831A 09/01/15 00:44 A	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 09/04/15

**Project:** 3767-01 WK:8

**Work Order:** B15082343

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>						Analytical Run: IC METROHM 2_150828A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		8.94	mg/L	1.0	99	90	110			08/28/15 23:26
<b>Method: E300.0</b>						Batch: R248567				
<b>Lab ID: MB</b>	Method Blank									
Sulfate		ND	mg/L	0.2						Run: IC METROHM 2_150828A 08/28/15 23:12
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		9.55	mg/L	1.0	106	90	110			Run: IC METROHM 2_150828A 08/28/15 23:39
<b>Lab ID: B15082347-003AMS</b>	Sample Matrix Spike									
Sulfate		97.9	mg/L	1.0	111	90	110			Run: IC METROHM 2_150828A 08/29/15 06:37 S
<b>Lab ID: B15082347-003AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		96.3	mg/L	1.0	108	90	110	1.6	20	Run: IC METROHM 2_150828A 08/29/15 06:51

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 09/04/15

Project: 3767-01 WK:8

Work Order: B15082343

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Analytical Run: HGCV202-B_150904A										
<b>Method:</b> E245.1										
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/04/15 15:06
Mercury		0.000202	mg/L	1.0E-05	101	90	110			
Batch: 92910										
<b>Method:</b> E245.1										
<b>Lab ID:</b> MB-92910		Method Blank								09/04/15 15:15
Mercury		ND	mg/L	1E-06						
<b>Lab ID:</b> LCS-92910		Laboratory Control Sample								09/04/15 15:17
Mercury		0.000207	mg/L	1.0E-05	104	85	115			
<b>Lab ID:</b> B15090456-001AMS		Sample Matrix Spike								09/04/15 15:48
Mercury		0.000224	mg/L	1.0E-05	103	70	130			
<b>Lab ID:</b> B15090456-001AMSD		Sample Matrix Spike Duplicate								09/04/15 15:51
Mercury		0.000222	mg/L	1.0E-05	102	70	130	0.9	30	
Analytical Run: HGCV203-B_150902A										
<b>Method:</b> E245.1										
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/02/15 14:39
Mercury		0.000205	mg/L	1.0E-05	103	90	110			
Batch: 92746										
<b>Method:</b> E245.1										
<b>Lab ID:</b> MB-92746		Method Blank								09/02/15 16:16
Mercury		3E-06	mg/L	1E-06						
<b>Lab ID:</b> LCS-92746		Laboratory Control Sample								09/02/15 16:19
Mercury		0.000215	mg/L	1.0E-05	106	85	115			
<b>Lab ID:</b> B15082482-002AMS		Sample Matrix Spike								09/02/15 17:10
Mercury		0.00289	mg/L	5.0E-05		70	130			A
<b>Lab ID:</b> B15082482-002AMSD		Sample Matrix Spike Duplicate								09/02/15 17:13
Mercury		0.00218	mg/L	5.0E-05		70	130	28	30	A

**Qualifiers:**

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15082343

Login completed by: Tabitha Edwards

Date Received: 8/26/2015

Reviewed by: BL2000\jmueller

Received by: jmm

Reviewed Date: 8/27/2015

Carrier name: NDA

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 6.2°C On Ice
- Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

None





# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab	<b>Project Name, PWS, Permit, Etc.</b> 3767-01 WK:8	<b>Sample Origin State:</b> NV	<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>Report Mail Address:</b> Tintina Resources 200 Granville St, Suite 2560 Vancouver, BC V6C 1S4 Canada	<b>Contact Name:</b> Mike Medina	<b>Email:</b> MLI@METTEST.COM	<b>Sampler: (Please Print)</b> Robert Johnson
<b>Invoice Address:</b> Tintina Resources 200 Granville St, Suite 2560 Vancouver, BC V6C 1S4 Canada	<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko 604-628-1162	<b>Purchase Order:</b>	<b>Quote/Bottle Order:</b>
<b>Special Report/Formats - ELI must be notified prior to sample submittal for the following:</b> <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: _____ <input type="checkbox"/> Other: _____ <input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) <b>Format:</b> <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC	<b>Number of Containers</b> <input checked="" type="checkbox"/> SEE ATTACHED <b>Sample Type: A W S V B O</b> Air Water Soils/Solids Vegetation Bioassay Other	<b>ANALYSIS REQUESTED</b> SEE ATTACHED	<b>Shipped by:</b> Robert/UPS <b>Cooler/Die:</b> Receipt Temp: 6.2 °C On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Custody Seal: <input checked="" type="checkbox"/> N Intact: <input checked="" type="checkbox"/> N Signature Match: <input checked="" type="checkbox"/> N
<b>SAMPLE IDENTIFICATION</b> (Name, Location, Interval, etc.)	<b>Collection Date</b>	<b>Collection Time</b>	<b>Comments:</b> Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page Please Copy results to: MLI@METTEST.COM
1 Ynl B Comp	8/25/15	09:00	R U S H hold remaining preserved samples (frozen) until further notice.
2 LZ FW Comp	8/25/15	09:00	
3			
4			
5			
6			
7			
8			
9			
10			
<b>Relinquished by (print):</b> JOE CHANEY	<b>Date/Time:</b> 8/25/15 9AM	<b>Received by (print):</b> 	<b>Signature:</b> 
<b>Relinquished by (print):</b>	<b>Date/Time:</b>	<b>Received by (print):</b>	<b>Signature:</b>
<b>Sample Disposal:</b>	<b>Return to Client:</b>	<b>Lab Disposal:</b>	<b>Received by Laboratory:</b> J Mueller 8/26/15 09:15 <b>Signature:</b> 

LABORATORY USE ONLY

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

September 17, 2015

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B15090811      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:12

Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Montana Inc on 9/9/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15090811-001	USZ Comp	09/08/15 9:00	09/09/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15090811-002	Yc Comp	09/08/15 9:00	09/09/15	Aqueous	Same As Above
B15090811-003	Tailings	09/08/15 9:00	09/09/15	Aqueous	Same As Above
B15090811-004	Tailings (Saturated)	09/08/15 9:00	09/09/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

Digitally signed by  
Cindy Rohrer  
Date: 2015.09.17 15:22:58 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12  
**Lab ID:** B15090811-001  
**Client Sample ID:** USZ Comp

**Report Date:** 09/17/15  
**Collection Date:** 09/08/15 09:00  
**Date Received:** 09/09/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	2370	mg/L	D	9		E300.0	09/11/15 21:10 / ajr
Fluoride	ND	mg/L		0.2		A4500-F C	09/15/15 11:46 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.009	mg/L	L	0.005		E365.1	09/11/15 15:14 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.012	mg/L		0.009		E200.8	09/10/15 14:10 / amm
Antimony	ND	mg/L		0.0005		E200.8	09/10/15 14:10 / amm
Arsenic	0.001	mg/L		0.001		E200.8	09/11/15 22:07 / amm
Barium	0.014	mg/L		0.003		E200.8	09/10/15 14:10 / amm
Beryllium	ND	mg/L		0.0008		E200.7	09/11/15 13:03 / rlh
Cadmium	0.00034	mg/L		0.00003		E200.8	09/10/15 14:10 / amm
Calcium	423	mg/L		1		E200.7	09/11/15 13:03 / rlh
Chromium	ND	mg/L		0.01		E200.8	09/10/15 14:10 / amm
Copper	0.472	mg/L		0.002		E200.8	09/10/15 14:10 / amm
Iron	0.06	mg/L		0.02		E200.7	09/11/15 13:03 / rlh
Lead	0.0072	mg/L		0.0003		E200.8	09/10/15 14:10 / amm
Magnesium	269	mg/L		1		E200.7	09/11/15 13:03 / rlh
Manganese	4.28	mg/L		0.005		E200.7	09/11/15 13:03 / rlh
Mercury	0.0000195	mg/L		5E-06		E245.1	09/10/15 15:33 / ser
Nickel	0.063	mg/L		0.002		E200.8	09/10/15 14:10 / amm
Selenium	0.002	mg/L		0.001		E200.8	09/11/15 22:07 / amm
Silicon	0.82	mg/L	D	0.07		E200.7	09/11/15 13:03 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/10/15 14:10 / amm
Strontium	19.6	mg/L		0.02		E200.7	09/11/15 13:03 / rlh
Thallium	0.0578	mg/L		0.0002		E200.8	09/10/15 14:10 / amm
Uranium	ND	mg/L		0.0002		E200.8	09/14/15 23:14 / amm
Zinc	0.034	mg/L		0.008		E200.8	09/10/15 14:10 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12  
**Lab ID:** B15090811-002  
**Client Sample ID:** Yc Comp

**Report Date:** 09/17/15  
**Collection Date:** 09/08/15 09:00  
**Date Received:** 09/09/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	68	mg/L		1		E300.0	09/11/15 21:50 / ajr
Fluoride	0.8	mg/L		0.2		A4500-F C	09/15/15 11:47 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.009	mg/L	L	0.005		E365.1	09/11/15 15:15 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.058	mg/L		0.009		E200.8	09/14/15 23:25 / amm
Antimony	0.0019	mg/L		0.0005		E200.8	09/14/15 23:25 / amm
Arsenic	0.015	mg/L		0.001		E200.8	09/11/15 22:12 / amm
Barium	0.062	mg/L		0.003		E200.7	09/11/15 13:13 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	09/11/15 13:13 / rlh
Cadmium	0.00011	mg/L		0.00003		E200.8	09/14/15 23:25 / amm
Calcium	14	mg/L		1		E200.7	09/11/15 13:13 / rlh
Chromium	ND	mg/L		0.01		E200.7	09/11/15 13:13 / rlh
Copper	ND	mg/L		0.002		E200.8	09/11/15 22:12 / amm
Iron	0.02	mg/L		0.02		E200.7	09/11/15 13:13 / rlh
Lead	0.0064	mg/L		0.0003		E200.8	09/11/15 22:12 / amm
Magnesium	14	mg/L		1		E200.7	09/11/15 13:13 / rlh
Manganese	ND	mg/L		0.005		E200.7	09/11/15 13:13 / rlh
Mercury	ND	mg/L		5E-06		E245.1	09/10/15 15:39 / ser
Nickel	ND	mg/L		0.002		E200.8	09/11/15 22:12 / amm
Selenium	0.001	mg/L		0.001		E200.8	09/11/15 22:12 / amm
Silicon	3.66	mg/L		0.05		E200.7	09/11/15 13:13 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/16/15 17:31 / mas
Strontium	0.33	mg/L		0.02		E200.7	09/11/15 13:13 / rlh
Thallium	0.0002	mg/L		0.0002		E200.8	09/14/15 23:25 / amm
Uranium	0.0072	mg/L		0.0002		E200.8	09/11/15 22:12 / amm
Zinc	ND	mg/L		0.008		E200.7	09/11/15 13:13 / rlh

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12  
**Lab ID:** B15090811-003  
**Client Sample ID:** Tailings

**Report Date:** 09/17/15  
**Collection Date:** 09/08/15 09:00  
**Date Received:** 09/09/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	12800	mg/L	D	40		E300.0	09/14/15 15:29 / ajr
Fluoride	2.4	mg/L		0.2		A4500-F C	09/15/15 11:51 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	19.2	mg/L	D	0.2		E365.1	09/11/15 16:05 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	17.1	mg/L		0.009		E200.8	09/11/15 22:16 / amm
Antimony	0.0777	mg/L	D	0.0008		E200.8	09/11/15 22:16 / amm
Arsenic	136	mg/L		0.001		E200.8	09/11/15 22:16 / amm
Barium	0.015	mg/L		0.003		E200.8	09/11/15 22:16 / amm
Beryllium	0.0067	mg/L		0.0008		E200.8	09/11/15 22:16 / amm
Cadmium	0.0048	mg/L	D	0.0003		E200.8	09/11/15 22:16 / amm
Calcium	120	mg/L	D	2		E200.7	09/11/15 13:17 / rlh
Chromium	4.93	mg/L		0.01		E200.8	09/11/15 22:16 / amm
Copper	113	mg/L		0.002		E200.8	09/11/15 22:16 / amm
Iron	5940	mg/L	D	0.05		E200.7	09/11/15 13:17 / rlh
Lead	0.0431	mg/L	D	0.0005		E200.8	09/11/15 22:16 / amm
Magnesium	14	mg/L		1		E200.7	09/11/15 13:17 / rlh
Manganese	9.81	mg/L	D	0.01		E200.7	09/11/15 13:17 / rlh
Mercury	0.0000377	mg/L		5E-06		E245.1	09/10/15 15:55 / ser
Nickel	8.83	mg/L	D	0.04		E200.7	09/11/15 13:17 / rlh
Selenium	0.006	mg/L		0.001		E200.8	09/16/15 04:31 / mas
Silicon	19.0	mg/L	D	0.3		E200.7	09/11/15 13:17 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/16/15 17:34 / mas
Strontium	0.39	mg/L		0.02		E200.7	09/11/15 13:17 / rlh
Thallium	0.0095	mg/L		0.0002		E200.8	09/14/15 23:28 / amm
Uranium	0.0164	mg/L	D	0.0005		E200.8	09/11/15 22:16 / amm
Zinc	2.20	mg/L	D	0.03		E200.7	09/11/15 13:17 / rlh

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12  
**Lab ID:** B15090811-004  
**Client Sample ID:** Tailings (Saturated)

**Report Date:** 09/17/15  
**Collection Date:** 09/08/15 09:00  
**Date Received:** 09/09/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	265	mg/L		1		E300.0	09/11/15 22:17 / ajr
Fluoride	0.4	mg/L		0.2		A4500-F C	09/15/15 11:55 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.030	mg/L	L	0.005		E365.1	09/11/15 15:20 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.012	mg/L		0.009		E200.8	09/11/15 22:21 / amm
Antimony	0.0007	mg/L		0.0005		E200.8	09/14/15 23:30 / amm
Arsenic	0.027	mg/L		0.001		E200.8	09/11/15 22:21 / amm
Barium	0.025	mg/L		0.003		E200.7	09/11/15 13:52 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	09/11/15 13:52 / rlh
Cadmium	0.00005	mg/L		0.00003		E200.8	09/11/15 22:21 / amm
Calcium	96	mg/L		1		E200.7	09/11/15 13:52 / rlh
Chromium	ND	mg/L		0.01		E200.7	09/11/15 13:52 / rlh
Copper	0.018	mg/L		0.002		E200.8	09/11/15 22:21 / amm
Iron	0.53	mg/L		0.02		E200.8	09/16/15 04:36 / mas
Lead	0.0075	mg/L		0.0003		E200.8	09/11/15 22:21 / amm
Magnesium	9	mg/L		1		E200.7	09/11/15 13:52 / rlh
Manganese	1.12	mg/L		0.005		E200.7	09/11/15 13:52 / rlh
Mercury	0.0000913	mg/L		5E-06		E245.1	09/10/15 16:01 / ser
Nickel	0.274	mg/L		0.002		E200.7	09/11/15 13:52 / rlh
Selenium	ND	mg/L		0.001		E200.8	09/11/15 22:21 / amm
Silicon	5.20	mg/L		0.05		E200.7	09/11/15 13:52 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/16/15 17:36 / mas
Strontium	0.48	mg/L		0.02		E200.7	09/11/15 13:52 / rlh
Thallium	0.0056	mg/L		0.0002		E200.8	09/11/15 22:21 / amm
Uranium	ND	mg/L		0.0002		E200.8	09/11/15 22:21 / amm
Zinc	0.015	mg/L		0.008		E200.7	09/11/15 13:52 / rlh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 09/17/15  
**Work Order:** B15090811

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>							Analytical Run: ICP203-B_150911A			
<b>Lab ID: ICV</b>	Continuing Calibration Verification Standard							09/11/15 09:47		
Barium	2.49	mg/L	0.10	100	95	105				
Beryllium	1.27	mg/L	0.010	101	95	105				
Calcium	25.2	mg/L	1.0	101	95	105				
Chromium	2.49	mg/L	0.050	100	95	105				
Iron	2.52	mg/L	0.020	101	95	105				
Magnesium	25.2	mg/L	1.0	101	95	105				
Manganese	2.49	mg/L	0.010	100	95	105				
Nickel	2.43	mg/L	0.050	97	95	105				
Silicon	5.02	mg/L	0.10	100	95	105				
Strontium	2.53	mg/L	0.10	101	95	105				
Zinc	2.45	mg/L	0.010	98	95	105				
<b>Method: E200.7</b>							Batch: R249167			
<b>Lab ID: MB-6500DIS150911A</b>	Method Blank			Run: ICP203-B_150911A			09/11/15 10:16			
Barium	ND	mg/L	0.0002							
Beryllium	ND	mg/L	0.0001							
Calcium	ND	mg/L	0.08							
Chromium	0.006	mg/L	0.003							
Iron	ND	mg/L	0.003							
Magnesium	ND	mg/L	0.006							
Manganese	ND	mg/L	0.0006							
Nickel	ND	mg/L	0.002							
Silicon	ND	mg/L	0.01							
Strontium	ND	mg/L	0.0003							
Zinc	ND	mg/L	0.002							
<b>Lab ID: LFB-6500DIS150911A</b>	Laboratory Fortified Blank			Run: ICP203-B_150911A			09/11/15 10:19			
Barium	1.01	mg/L	0.10	101	85	115				
Beryllium	0.520	mg/L	0.010	104	85	115				
Calcium	51.1	mg/L	1.0	102	85	115				
Chromium	1.01	mg/L	0.050	100	85	115				
Iron	5.14	mg/L	0.020	103	85	115				
Magnesium	50.8	mg/L	1.0	102	85	115				
Manganese	5.08	mg/L	0.010	102	85	115				
Nickel	0.998	mg/L	0.050	100	85	115				
Silicon	10.2	mg/L	0.10	102	85	115				
Strontium	1.01	mg/L	0.10	101	85	115				
Zinc	1.02	mg/L	0.010	102	85	115				
<b>Lab ID: B15090811-001BMS2</b>	Sample Matrix Spike			Run: ICP203-B_150911A			09/11/15 13:06			
Barium	5.00	mg/L	0.050	100	70	130				
Beryllium	2.48	mg/L	0.0010	99	70	130				
Calcium	670	mg/L	1.0	99	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 09/17/15  
**Work Order:** B15090811

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>									
Batch: R249167									
<b>Lab ID:</b>	<b>B15090811-001BMS2</b>	Sample Matrix Spike							
									Run: ICP203-B_150911A 09/11/15 13:06
Chromium	4.87	mg/L	0.016	97	70	130			
Iron	24.9	mg/L	0.020	99	70	130			
Magnesium	521	mg/L	1.0	101	70	130			
Manganese	28.9	mg/L	0.0033	98	70	130			
Nickel	4.63	mg/L	0.011	91	70	130			
Silicon	51.1	mg/L	0.10	101	70	130			
Strontium	24.7	mg/L	0.010	101	70	130			
Zinc	4.90	mg/L	0.010	97	70	130			
<b>Lab ID:</b>	<b>B15090811-001BMSD2</b>	Sample Matrix Spike Duplicate							
									Run: ICP203-B_150911A 09/11/15 13:10
Barium	4.96	mg/L	0.050	99	70	130	0.7	20	
Beryllium	2.46	mg/L	0.0010	98	70	130	0.9	20	
Calcium	665	mg/L	1.0	97	70	130	0.8	20	
Chromium	4.85	mg/L	0.016	97	70	130	0.5	20	
Iron	24.7	mg/L	0.020	99	70	130	0.5	20	
Magnesium	519	mg/L	1.0	100	70	130	0.4	20	
Manganese	28.7	mg/L	0.0033	98	70	130	0.6	20	
Nickel	4.78	mg/L	0.011	94	70	130	3.1	20	
Silicon	50.4	mg/L	0.10	99	70	130	1.4	20	
Strontium	24.8	mg/L	0.010	103	70	130	0.4	20	
Zinc	5.08	mg/L	0.010	101	70	130	3.7	20	
<b>Lab ID:</b>	<b>B15090820-007BMS2</b>	Sample Matrix Spike							
									Run: ICP203-B_150911A 09/11/15 14:23
Barium	5.39	mg/L	0.050	94	70	130			
Beryllium	2.40	mg/L	0.0010	96	70	130			
Calcium	263	mg/L	1.0	94	70	130			
Chromium	4.73	mg/L	0.016	95	70	130			
Iron	23.9	mg/L	0.020	94	70	130			
Magnesium	255	mg/L	1.0	96	70	130			
Manganese	23.7	mg/L	0.0033	95	70	130			
Nickel	4.75	mg/L	0.011	95	70	130			
Silicon	55.3	mg/L	0.10	100	70	130			
Strontium	5.81	mg/L	0.010	100	70	130			
Zinc	4.87	mg/L	0.010	97	70	130			
<b>Lab ID:</b>	<b>B15090820-007BMSD2</b>	Sample Matrix Spike Duplicate							
									Run: ICP203-B_150911A 09/11/15 14:34
Barium	5.57	mg/L	0.050	98	70	130	3.4	20	
Beryllium	2.54	mg/L	0.0010	102	70	130	5.6	20	
Calcium	275	mg/L	1.0	99	70	130	4.6	20	
Chromium	4.94	mg/L	0.016	99	70	130	4.3	20	
Iron	25.1	mg/L	0.020	99	70	130	4.7	20	
Magnesium	266	mg/L	1.0	101	70	130	4.4	20	
Manganese	24.9	mg/L	0.0033	100	70	130	4.9	20	
Nickel	4.94	mg/L	0.011	99	70	130	4.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 09/17/15  
**Work Order:** B15090811

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.7									Batch: R249167
<b>Lab ID:</b> B15090820-007BMSD2	Sample Matrix Spike Duplicate								Run: ICP203-B_150911A 09/11/15 14:34
Silicon	58.0	mg/L	0.10	105	70	130	4.7	20	
Strontium	5.90	mg/L	0.010	101	70	130	1.4	20	
Zinc	5.04	mg/L	0.010	100	70	130	3.5	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 09/17/15  
**Work Order:** B15090811

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Analytical Run: ICPMS202-B_150914B		
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard						09/14/15 16:06		
Aluminum	0.228	mg/L	0.10	91	90	110			
Antimony	0.0497	mg/L	0.050	99	90	110			
Cadmium	0.0258	mg/L	0.0010	103	90	110			
Thallium	0.0491	mg/L	0.10	98	90	110			
Uranium	0.0201	mg/L	0.0010	100	90	110			
<b>Method: E200.8</b>							Batch: R249296		
<b>Lab ID: LRB</b>	Method Blank						Run: ICPMS202-B_150914B 09/14/15 15:54		
Aluminum	ND	mg/L	0.0007						
Antimony	5E-05	mg/L	1E-05						
Cadmium	ND	mg/L	1E-05						
Thallium	6E-05	mg/L	1E-05						
Uranium	8E-06	mg/L	7E-06						
<b>Lab ID: LFB</b>	Laboratory Fortified Blank						Run: ICPMS202-B_150914B 09/14/15 15:58		
Aluminum	0.0485	mg/L	0.10	97	85	115			
Antimony	0.0462	mg/L	0.050	92	85	115			
Cadmium	0.0489	mg/L	0.0010	98	85	115			
Thallium	0.0470	mg/L	0.10	94	85	115			
Uranium	0.0455	mg/L	0.0010	91	85	115			
<b>Lab ID: B15090811-001BMS</b>	Sample Matrix Spike						Run: ICPMS202-B_150914B 09/14/15 23:17		
Aluminum	0.0960	mg/L	0.030	81	70	130			
Antimony	0.0968	mg/L	0.0010	96	70	130			
Cadmium	0.0890	mg/L	0.0010	89	70	130			
Thallium	0.156	mg/L	0.00050	92	70	130			
Uranium	0.0984	mg/L	0.00030	98	70	130			
<b>Lab ID: B15090811-001BMSD</b>	Sample Matrix Spike Duplicate						Run: ICPMS202-B_150914B 09/14/15 23:19		
Aluminum	0.0936	mg/L	0.030	79	70	130	2.5	20	
Antimony	0.0950	mg/L	0.0010	95	70	130	1.9	20	
Cadmium	0.0878	mg/L	0.0010	87	70	130	1.4	20	
Thallium	0.155	mg/L	0.00050	91	70	130	1.0	20	
Uranium	0.0976	mg/L	0.00030	98	70	130	0.9	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 09/17/15  
**Work Order:** B15090811

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8	Analytical Run: ICPMS202-B_150916A								
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard								
Silver	0.0231	mg/L	0.0050	92	90	110			09/16/15 15:50
<b>Method:</b> E200.8	Batch: R249452								
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								
Silver	0.0193	mg/L	0.0050	96	85	115			Run: ICPMS202-B_150916A 09/16/15 10:17
<b>Lab ID:</b> LRB	Method Blank								
Silver	ND	mg/L	2E-05						Run: ICPMS202-B_150916A 09/16/15 11:04
<b>Lab ID:</b> B15090770-001AMS	Sample Matrix Spike								
Silver	0.0132	mg/L	0.0010	66	70	130			Run: ICPMS202-B_150916A 09/16/15 17:17 S
<b>Lab ID:</b> B15090770-001AMSD	Sample Matrix Spike Duplicate								
Silver	0.0137	mg/L	0.0010	68	70	130	3.7	20	Run: ICPMS202-B_150916A 09/16/15 17:20 S

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 09/17/15  
**Work Order:** B15090811

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_150910A			
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard							09/10/15 10:16		
Aluminum	0.262	mg/L	0.10	105	90	110				
Antimony	0.0526	mg/L	0.050	105	90	110				
Barium	0.0489	mg/L	0.10	98	90	110				
Cadmium	0.0255	mg/L	0.0010	102	90	110				
Chromium	0.0496	mg/L	0.010	99	90	110				
Copper	0.0516	mg/L	0.010	103	90	110				
Lead	0.0483	mg/L	0.010	97	90	110				
Nickel	0.0499	mg/L	0.010	100	90	110				
Silver	0.0253	mg/L	0.0050	101	90	110				
Thallium	0.0479	mg/L	0.10	96	90	110				
Zinc	0.0506	mg/L	0.010	101	90	110				
<b>Method: E200.8</b>							Batch: R249105			
<b>Lab ID: LFB</b>	Laboratory Fortified Blank							Run: ICPMS203-B_150910A		09/10/15 11:26
Aluminum	0.0552	mg/L	0.10	110	85	115				
Antimony	0.0523	mg/L	0.050	105	85	115				
Barium	0.0525	mg/L	0.10	105	85	115				
Cadmium	0.0521	mg/L	0.0010	104	85	115				
Chromium	0.0517	mg/L	0.010	103	85	115				
Copper	0.0521	mg/L	0.010	104	85	115				
Lead	0.0508	mg/L	0.010	102	85	115				
Nickel	0.0511	mg/L	0.010	102	85	115				
Silver	0.0202	mg/L	0.0050	101	85	115				
Thallium	0.0516	mg/L	0.10	103	85	115				
Zinc	0.0488	mg/L	0.010	98	85	115				
<b>Lab ID: LRB</b>	Method Blank							Run: ICPMS203-B_150910A		09/10/15 11:54
Aluminum	ND	mg/L	0.0002							
Antimony	ND	mg/L	1E-05							
Barium	ND	mg/L	2E-05							
Cadmium	ND	mg/L	5E-06							
Chromium	ND	mg/L	2E-05							
Copper	ND	mg/L	4E-05							
Lead	8E-05	mg/L	3E-05							
Nickel	ND	mg/L	4E-05							
Silver	ND	mg/L	2E-05							
Thallium	ND	mg/L	1E-05							
Zinc	ND	mg/L	0.00010							
<b>Lab ID: B15090811-001BMS</b>	Sample Matrix Spike							Run: ICPMS203-B_150910A		09/10/15 14:14
Aluminum	0.0553	mg/L	0.030	86	70	130				
Antimony	0.0514	mg/L	0.0010	102	70	130				
Barium	0.0605	mg/L	0.050	93	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 09/17/15  
**Work Order:** B15090811

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Batch: R249105		
<b>Lab ID:</b>	<b>B15090811-001BMS</b>	Sample Matrix Spike			Run: ICPMS203-B_150910A		09/10/15 14:14		
Cadmium	0.0452	mg/L	0.0010	90	70	130			
Chromium	0.0445	mg/L	0.0050	89	70	130			
Copper	0.454	mg/L	0.0050		70	130			A
Lead	0.0533	mg/L	0.0010	92	70	130			
Nickel	0.0952	mg/L	0.0050	65	70	130			S
Silver	0.0153	mg/L	0.0010	77	70	130			
Thallium	0.100	mg/L	0.00050	85	70	130			
Zinc	0.0701	mg/L	0.010	72	70	130			
<b>Lab ID:</b>	<b>B15090811-001BMSD</b>	Sample Matrix Spike Duplicate			Run: ICPMS203-B_150910A		09/10/15 14:18		
Aluminum	0.0533	mg/L	0.030	82	70	130	3.7	20	
Antimony	0.0513	mg/L	0.0010	102	70	130	0.2	20	
Barium	0.0597	mg/L	0.050	91	70	130	1.2	20	
Cadmium	0.0439	mg/L	0.0010	87	70	130	2.8	20	
Chromium	0.0454	mg/L	0.0050	90	70	130	1.8	20	
Copper	0.459	mg/L	0.0050		70	130	1.3	20	A
Lead	0.0515	mg/L	0.0010	89	70	130	3.5	20	
Nickel	0.0974	mg/L	0.0050	70	70	130	2.3	20	
Silver	0.0153	mg/L	0.0010	76	70	130	0.5	20	
Thallium	0.0979	mg/L	0.00050	80	70	130	2.3	20	
Zinc	0.0709	mg/L	0.010	73	70	130	1.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 09/17/15  
**Work Order:** B15090811

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Analytical Run: ICPMS206-B_150911A		
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard							09/11/15 21:48	
Aluminum	0.250	mg/L	0.10	100	90	110			
Antimony	0.0450	mg/L	0.050	90	90	110			
Arsenic	0.0528	mg/L	0.0050	106	90	110			
Barium	0.0503	mg/L	0.10	101	90	110			
Beryllium	0.0255	mg/L	0.0010	102	90	110			
Cadmium	0.0256	mg/L	0.0010	103	90	110			
Chromium	0.0516	mg/L	0.010	103	90	110			
Copper	0.0544	mg/L	0.010	109	90	110			
Lead	0.0502	mg/L	0.010	100	90	110			
Nickel	0.0524	mg/L	0.010	105	90	110			
Selenium	0.0520	mg/L	0.0050	104	90	110			
Thallium	0.0508	mg/L	0.10	102	90	110			
Uranium	0.0203	mg/L	0.0010	102	90	110			

<b>Method: E200.8</b>							Batch: R249198			
<b>Lab ID: LRB</b>	Method Blank							Run: ICPMS206-B_150911A		09/11/15 13:53
Aluminum	ND	mg/L	0.0001							
Antimony	ND	mg/L	8E-05							
Arsenic	ND	mg/L	6E-05							
Barium	ND	mg/L	0.0004							
Beryllium	ND	mg/L	1E-05							
Cadmium	ND	mg/L	3E-05							
Chromium	ND	mg/L	4E-05							
Copper	ND	mg/L	6E-05							
Lead	ND	mg/L	5E-05							
Nickel	ND	mg/L	6E-05							
Selenium	ND	mg/L	0.0001							
Thallium	ND	mg/L	7E-05							
Uranium	ND	mg/L	5E-05							

<b>Lab ID: LFB</b>	Laboratory Fortified Blank							Run: ICPMS206-B_150911A		09/11/15 13:57
Aluminum	0.0534	mg/L	0.10	107	85	115				
Antimony	0.0493	mg/L	0.050	99	85	115				
Arsenic	0.0549	mg/L	0.0050	110	85	115				
Barium	0.0537	mg/L	0.10	107	85	115				
Beryllium	0.0510	mg/L	0.0010	102	85	115				
Cadmium	0.0526	mg/L	0.0010	105	85	115				
Chromium	0.0529	mg/L	0.010	106	85	115				
Copper	0.0532	mg/L	0.010	106	85	115				
Lead	0.0545	mg/L	0.010	109	85	115				
Nickel	0.0533	mg/L	0.010	107	85	115				
Selenium	0.0522	mg/L	0.0050	104	85	115				
Thallium	0.0539	mg/L	0.10	108	85	115				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 09/17/15  
**Work Order:** B15090811

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8									Batch: R249198
<b>Lab ID:</b> LFB	Laboratory Fortified Blank				Run: ICPMS206-B_150911A			09/11/15 13:57	
Uranium	0.0551	mg/L	0.0010	110	85	115			
<b>Lab ID:</b> B15090911-001BMS	Sample Matrix Spike				Run: ICPMS206-B_150911A			09/11/15 18:33	
Aluminum	0.100	mg/L	0.030	88	70	130			
Antimony	0.0927	mg/L	0.0010	92	70	130			
Arsenic	0.0967	mg/L	0.0010	96	70	130			
Barium	0.105	mg/L	0.050	94	70	130			
Beryllium	0.0887	mg/L	0.0010	89	70	130			
Cadmium	0.0938	mg/L	0.0010	94	70	130			
Chromium	0.0925	mg/L	0.0050	92	70	130			
Copper	0.0936	mg/L	0.0050	94	70	130			
Lead	0.0941	mg/L	0.0010	94	70	130			
Nickel	0.0898	mg/L	0.0050	90	70	130			
Selenium	0.0952	mg/L	0.0010	95	70	130			
Thallium	0.0943	mg/L	0.00050	94	70	130			
Uranium	0.0925	mg/L	0.00030	92	70	130			
<b>Lab ID:</b> B15090911-001BMSD	Sample Matrix Spike Duplicate				Run: ICPMS206-B_150911A			09/11/15 18:38	
Aluminum	0.0998	mg/L	0.030	88	70	130	0.4	20	
Antimony	0.0947	mg/L	0.0010	94	70	130	2.2	20	
Arsenic	0.0982	mg/L	0.0010	97	70	130	1.5	20	
Barium	0.106	mg/L	0.050	94	70	130	0.4	20	
Beryllium	0.0910	mg/L	0.0010	91	70	130	2.5	20	
Cadmium	0.0941	mg/L	0.0010	94	70	130	0.4	20	
Chromium	0.0913	mg/L	0.0050	91	70	130	1.3	20	
Copper	0.0927	mg/L	0.0050	93	70	130	0.9	20	
Lead	0.0946	mg/L	0.0010	95	70	130	0.5	20	
Nickel	0.0884	mg/L	0.0050	88	70	130	1.6	20	
Selenium	0.0950	mg/L	0.0010	95	70	130	0.1	20	
Thallium	0.0934	mg/L	0.00050	93	70	130	0.9	20	
Uranium	0.0939	mg/L	0.00030	93	70	130	1.5	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 09/17/15  
**Work Order:** B15090811

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8									Analytical Run: ICPMS206-B_150914A
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard								09/15/15 19:39
Iron	0.242	mg/L	0.020	97	90	110			
Selenium	0.0491	mg/L	0.0050	98	90	110			
<b>Method:</b> E200.8									Batch: R249301
<b>Lab ID:</b> LRB	Method Blank								Run: ICPMS206-B_150914A 09/14/15 13:08
Iron	ND	mg/L	0.0007						
Selenium	ND	mg/L	0.0001						
<b>Lab ID:</b> B15090770-001AMS	Sample Matrix Spike								Run: ICPMS206-B_150914A 09/16/15 03:48
Iron	4.93	mg/L	0.020	99	70	130			
Selenium	0.0501	mg/L	0.0010	100	70	130			
<b>Lab ID:</b> B15090770-001AMSD	Sample Matrix Spike Duplicate								Run: ICPMS206-B_150914A 09/16/15 03:53
Iron	4.94	mg/L	0.020	99	70	130	0.2	20	
Selenium	0.0512	mg/L	0.0010	102	70	130	2.2	20	
<b>Lab ID:</b> B15091185-001AMS	Sample Matrix Spike								Run: ICPMS206-B_150914A 09/16/15 06:34
Iron	4.83	mg/L	0.020	97	70	130			
Selenium	0.0490	mg/L	0.0010	98	70	130			
<b>Lab ID:</b> B15091185-001AMSD	Sample Matrix Spike Duplicate								Run: ICPMS206-B_150914A 09/16/15 06:39
Iron	4.86	mg/L	0.020	97	70	130	0.4	20	
Selenium	0.0474	mg/L	0.0010	95	70	130	3.4	20	
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: ICPMS206-B_150914A 09/16/15 08:33
Iron	4.78	mg/L	0.020	96	85	115			
Selenium	0.0485	mg/L	0.0050	97	85	115			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 09/17/15  
**Work Order:** B15090811

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV203-B_150910A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Mercury	0.000205	mg/L	1.0E-05	103	90	110			09/10/15 14:23
<b>Method:</b> E245.1									Batch: 93030
<b>Lab ID:</b> MB-93030	Method Blank								
Mercury	2E-06	mg/L	1E-06						Run: HGCV203-B_150910A 09/10/15 14:33
<b>Lab ID:</b> LCS-93030	Laboratory Control Sample								
Mercury	0.000208	mg/L	1.0E-05	103	85	115			Run: HGCV203-B_150910A 09/10/15 14:36
<b>Lab ID:</b> B15090811-002BMS	Sample Matrix Spike								
Mercury	0.000210	mg/L	1.0E-05	105	70	130			Run: HGCV203-B_150910A 09/10/15 15:49
<b>Lab ID:</b> B15090811-002BMSD	Sample Matrix Spike Duplicate								
Mercury	0.000217	mg/L	1.0E-05	108	70	130	3.3	30	Run: HGCV203-B_150910A 09/10/15 15:52

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 09/17/15  
**Work Order:** B15090811

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C								Analytical Run: AR50_150915A		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Fluoride	0.973	mg/L	0.20	97	90	110			09/15/15 11:09	
<b>Method:</b> A4500-F C								Batch: 150915A		
<b>Lab ID:</b> MBLK	Method Blank									
Fluoride	ND	mg/L	0.05						Run: AR50_150915A 09/15/15 11:09	
<b>Lab ID:</b> LFB	Laboratory Fortified Blank									
Fluoride	0.980	mg/L	0.20	98	90	110			Run: AR50_150915A 09/15/15 11:10	
<b>Lab ID:</b> B15090614-001AMS	Sample Matrix Spike									
Fluoride	74.4	mg/L	4.0	86	80	120			Run: AR50_150915A 09/15/15 11:22	
<b>Lab ID:</b> B15090614-001AMSD	Sample Matrix Spike Duplicate									
Fluoride	75.8	mg/L	4.0	93	80	120	1.9	10	Run: AR50_150915A 09/15/15 11:25	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 09/17/15  
**Work Order:** B15090811

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b> Analytical Run: IC METROHM 1_150911A									
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								09/11/15 11:28
Sulfate	8.84	mg/L	1.0	98	90	110			
<b>Method: E300.0</b> Batch: R249245									
<b>Lab ID:</b> MB	Method Blank								09/11/15 11:42
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								09/11/15 11:55
Sulfate	9.21	mg/L	1.0	102	90	110			
<b>Lab ID:</b> B15090809-003AMS	Sample Matrix Spike								09/11/15 20:43
Sulfate	29.8	mg/L	1.0	104	90	110			
<b>Lab ID:</b> B15090809-003AMSD	Sample Matrix Spike Duplicate								09/11/15 20:56
Sulfate	29.8	mg/L	1.0	105	90	110	0.2	20	
<b>Lab ID:</b> B15090947-004AMS	Sample Matrix Spike								09/11/15 23:51
Sulfate	741	mg/L	3.6	79	90	110			S
<b>Lab ID:</b> B15090947-004AMSD	Sample Matrix Spike Duplicate								09/12/15 00:04
Sulfate	734	mg/L	3.6	76	90	110	0.9	20	S
<b>Method: E300.0</b> Analytical Run: IC METROHM 1_150914A									
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								09/14/15 11:28
Sulfate	8.75	mg/L	1.0	97	90	110			
<b>Method: E300.0</b> Batch: R249279									
<b>Lab ID:</b> MB	Method Blank								09/14/15 11:41
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								09/14/15 11:55
Sulfate	9.27	mg/L	1.0	103	90	110			
<b>Lab ID:</b> B15090654-001AMS	Sample Matrix Spike								09/14/15 14:49
Sulfate	912	mg/L	18	101	90	110			
<b>Lab ID:</b> B15090654-001AMSD	Sample Matrix Spike Duplicate								09/14/15 15:02
Sulfate	931	mg/L	18	103	90	110	2.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 09/17/15  
**Work Order:** B15090811

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E365.1								Analytical Run: FIA202-B_150911A		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Phosphorus, Total as P	0.536	mg/L	0.0050	107	90	110			09/11/15 14:36	
<b>Method:</b> E365.1								Batch: 93071		
<b>Lab ID:</b> MB-93071	Method Blank									
Phosphorus, Total as P	0.004	mg/L	0.002						Run: FIA202-B_150911A 09/11/15 15:09	
<b>Lab ID:</b> LCS-93071	Laboratory Control Sample									
Phosphorus, Total as P	0.202	mg/L	0.0050	99	90	110			Run: FIA202-B_150911A 09/11/15 15:10	
<b>Lab ID:</b> B15090811-002CMS	Sample Matrix Spike									
Phosphorus, Total Dissolved as P	0.211	mg/L	0.0050	101	90	110			Run: FIA202-B_150911A 09/11/15 15:16	
<b>Lab ID:</b> B15090811-002CMSD	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P	0.211	mg/L	0.0050	101	90	110			Run: FIA202-B_150911A 09/11/15 15:18	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15090811

Login completed by: Leslie S. Cadreau

Date Received: 9/9/2015

Reviewed by: BL2000\jmueller

Received by: Ig

Reviewed Date: 9/10/2015

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 3.7°C On Ice
- Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT. Provide as much information as possible.

Company Name: McClelland Lab		Project Name, PWS, Permit, Etc. 3767-01 WK: 12		Sample Origin State: NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Phone/Fax: 775-356-1300		Email: MLI@METTEST.COM	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko		Phone: 604-628-1162		Purchase Order:	
Special Report/Formats - ELI must be notified prior to sample submittal for the following:		ANALYSIS REQUESTED		R U S H		Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	
<input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: <input type="checkbox"/> Other:		<input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) Format: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		SEE ATTACHED		Comments: B15090811	
Number of Containers Air Water Vegetation Soil/Solids Bioassay Other		MATRIX		SEE ATTACHED		Receipt Temp 3.7 °C On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Custody Seal Intact Signature Match	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date	Collection Time	Please Copy results to:		Shipped by: Robert MDA Cooler ID(s):	
1 USZ Comp	9/8/15	09:00	X	X	MLI@METTEST.COM	LABORATORY USE ONLY	
2 Yc Comp						-001	
3 Tailings						-002	
4 Tailings (Saturated)						-003	
5						-004	
6						hold remaining preserved samples (frozen) until further notice.	
7							
8							
9							
10							
Relinquished by (print): JOE CHANEY		Date/Time: 9/8/15 09:00		Received by (print):		Date/Time:	
Relinquished by (print):		Date/Time:		Received by (print):		Date/Time:	
Sample Disposal: Return to Client:		Lab Disposal:		Received by Laboratory: 9-9-15 9:15		Signature: Joe Chaney	
<b>Custody Record MUST be Signed</b>							

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012





# ANALYTICAL SUMMARY REPORT

October 02, 2015

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B15092043      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:12

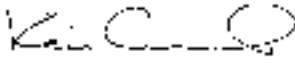
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Montana Inc on 9/23/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15092043-001	YNL B Comp	09/22/15 9:00	09/23/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15092043-002	LZ FW Comp	09/22/15 9:00	09/23/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2015.10.02 10:42:47 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12  
**Lab ID:** B15092043-001  
**Client Sample ID:** YNL B Comp

**Report Date:** 10/02/15  
**Collection Date:** 09/22/15 09:00  
**Date Received:** 09/23/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	482	mg/L	D	2		E300.0	09/29/15 16:54 / ajr
Fluoride	0.8	mg/L		0.2		A4500-F C	09/28/15 12:16 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	09/29/15 15:26 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.024	mg/L		0.009		E200.8	09/29/15 18:41 / am
Antimony	0.0007	mg/L		0.0005		E200.8	09/29/15 18:41 / am
Arsenic	0.001	mg/L		0.001		E200.8	09/29/15 18:41 / am
Barium	0.009	mg/L		0.003		E200.7	09/24/15 13:53 / mas
Beryllium	ND	mg/L		0.0008		E200.7	09/24/15 13:53 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/29/15 18:41 / am
Calcium	97	mg/L		1		E200.7	09/24/15 13:53 / mas
Chromium	ND	mg/L		0.01		E200.7	09/24/15 13:53 / mas
Copper	ND	mg/L		0.002		E200.8	09/29/15 18:41 / am
Iron	ND	mg/L		0.02		E200.7	09/24/15 13:53 / mas
Lead	0.0041	mg/L		0.0003		E200.8	09/29/15 18:41 / am
Magnesium	62	mg/L		1		E200.7	09/24/15 13:53 / mas
Manganese	ND	mg/L		0.005		E200.7	09/24/15 13:53 / mas
Mercury	ND	mg/L		5E-06		E245.1	09/25/15 15:12 / ser
Nickel	ND	mg/L		0.002		E200.8	09/29/15 18:41 / am
Selenium	0.002	mg/L		0.001		E200.8	09/29/15 18:41 / am
Silicon	1.51	mg/L		0.05		E200.7	09/24/15 13:53 / mas
Silver	ND	mg/L		0.0002		E200.8	09/29/15 18:41 / am
Strontium	1.13	mg/L		0.02		E200.7	09/24/15 13:53 / mas
Thallium	0.0004	mg/L		0.0002		E200.8	09/29/15 18:41 / am
Uranium	0.0004	mg/L		0.0002		E200.8	09/29/15 18:41 / am
Zinc	ND	mg/L		0.008		E200.7	09/24/15 13:53 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12  
**Lab ID:** B15092043-002  
**Client Sample ID:** LZ FW Comp

**Report Date:** 10/02/15  
**Collection Date:** 09/22/15 09:00  
**Date Received:** 09/23/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	213	mg/L		1		E300.0	09/29/15 17:08 / ajr
Fluoride	0.8	mg/L		0.2		A4500-F C	09/28/15 12:19 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.028	mg/L	L	0.005		E365.1	09/29/15 15:27 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.040	mg/L		0.009		E200.8	09/29/15 18:46 / amm
Antimony	0.0048	mg/L		0.0005		E200.8	09/29/15 18:46 / amm
Arsenic	0.118	mg/L		0.001		E200.8	09/29/15 18:46 / amm
Barium	0.015	mg/L		0.003		E200.7	09/24/15 13:56 / mas
Beryllium	ND	mg/L		0.0008		E200.7	09/24/15 13:56 / mas
Cadmium	0.00006	mg/L		0.00003		E200.8	09/29/15 18:46 / amm
Calcium	26	mg/L		1		E200.7	09/24/15 13:56 / mas
Chromium	ND	mg/L		0.01		E200.7	09/24/15 13:56 / mas
Copper	ND	mg/L		0.002		E200.8	09/29/15 18:46 / amm
Iron	ND	mg/L		0.02		E200.7	09/24/15 13:56 / mas
Lead	0.0025	mg/L		0.0003		E200.8	09/29/15 18:46 / amm
Magnesium	24	mg/L		1		E200.7	09/24/15 13:56 / mas
Manganese	0.010	mg/L		0.005		E200.7	09/24/15 13:56 / mas
Mercury	ND	mg/L		5E-06		E245.1	09/25/15 15:20 / ser
Nickel	0.004	mg/L		0.002		E200.8	09/29/15 18:46 / amm
Selenium	0.004	mg/L		0.001		E200.8	09/29/15 18:46 / amm
Silicon	3.08	mg/L		0.05		E200.7	09/24/15 13:56 / mas
Silver	ND	mg/L		0.0002		E200.8	09/29/15 18:46 / amm
Strontium	0.25	mg/L		0.02		E200.7	09/24/15 13:56 / mas
Thallium	0.0002	mg/L		0.0002		E200.8	09/29/15 18:46 / amm
Uranium	0.198	mg/L		0.0002		E200.8	09/29/15 18:46 / amm
Zinc	ND	mg/L		0.008		E200.7	09/24/15 13:56 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 10/01/15  
**Work Order:** B15092043

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_150928A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								09/28/15 11:07
Fluoride	0.960	mg/L	0.10	96	90	110			
<b>Method:</b> A4500-F C									Batch: R250083
<b>Lab ID:</b> MBLK	Method Blank								09/28/15 11:01
Fluoride	ND	mg/L	0.01						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								09/28/15 11:04
Fluoride	0.950	mg/L	0.10	95	90	110			
<b>Lab ID:</b> B15091680-019AMS	Sample Matrix Spike								09/28/15 11:41
Fluoride	1.34	mg/L	0.10	94	80	120			
<b>Lab ID:</b> B15091680-019AMSD	Sample Matrix Spike Duplicate								09/28/15 11:43
Fluoride	1.35	mg/L	0.10	95	80	120	0.7	10	
<b>Lab ID:</b> B15092110-005AMS	Sample Matrix Spike								09/28/15 12:44
Fluoride	1.01	mg/L	0.10	96	80	120			
<b>Lab ID:</b> B15092110-005AMSD	Sample Matrix Spike Duplicate								09/28/15 12:47
Fluoride	1.04	mg/L	0.10	99	80	120	2.9	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 10/01/15  
**Work Order:** B15092043

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 2_150928A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								09/28/15 14:37
Sulfate	8.81	mg/L	1.0	98	90	110			
<b>Method:</b> E300.0	Batch: R250095								
<b>Lab ID:</b> MB	Method Blank								09/28/15 14:23
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								09/28/15 14:50
Sulfate	9.27	mg/L	1.0	103	90	110			
<b>Lab ID:</b> B15091951-002AMS	Sample Matrix Spike								09/29/15 15:33
Sulfate	11.7	mg/L	1.0	103	90	110			
<b>Lab ID:</b> B15091951-002AMSD	Sample Matrix Spike Duplicate								09/29/15 15:47
Sulfate	11.6	mg/L	1.0	101	90	110	1.4	20	
<b>Lab ID:</b> B15092061-004AMS	Sample Matrix Spike								09/29/15 18:42
Sulfate	1430	mg/L	9.0	87	90	110			S
<b>Lab ID:</b> B15092061-004AMSD	Sample Matrix Spike Duplicate								09/29/15 18:56
Sulfate	1420	mg/L	9.0	86	90	110	0.4	20	S

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:12

**Report Date:** 10/01/15  
**Work Order:** B15092043

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E365.1									Batch: 93567
<b>Lab ID:</b> MB-93567 Phosphorus, Total as P	Method Blank 0.003	mg/L	0.002						Run: FIA202-B_150929B 09/29/15 15:24
<b>Lab ID:</b> LCS-93567 Phosphorus, Total as P	Laboratory Control Sample 0.197	mg/L	0.0050	97	90	110			Run: FIA202-B_150929B 09/29/15 15:25
<b>Lab ID:</b> B15092043-002CMS Phosphorus, Total Dissolved as P	Sample Matrix Spike 0.228	mg/L	0.0050	100	90	110			Run: FIA202-B_150929B 09/29/15 15:28
<b>Lab ID:</b> B15092043-002CMSD Phosphorus, Total Dissolved as P	Sample Matrix Spike Duplicate 0.231	mg/L	0.0050	101	90	110			Run: FIA202-B_150929B 09/29/15 15:29

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 10/02/15

Project: 3767-01 WK:12

Work Order: B15092043

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150924A		
<b>Lab ID: ICV</b>	10 Continuing Calibration Verification Standard									09/24/15 10:30
Barium		2.45	mg/L	0.10	98	95	105			
Beryllium		1.24	mg/L	0.010	99	95	105			
Calcium		24.7	mg/L	1.0	99	95	105			
Chromium		2.42	mg/L	0.050	97	95	105			
Iron		2.44	mg/L	0.020	98	95	105			
Magnesium		24.7	mg/L	1.0	99	95	105			
Manganese		2.44	mg/L	0.010	98	95	105			
Silicon		4.92	mg/L	0.10	98	95	105			
Strontium		2.46	mg/L	0.10	99	95	105			
Zinc		2.47	mg/L	0.010	99	95	105			
<b>Method: E200.7</b>								Batch: R249889		
<b>Lab ID: MB-6500DIS150924A</b>	10 Method Blank							Run: ICP203-B_150924A		09/24/15 10:59
Barium		ND	mg/L	0.0002						
Beryllium		ND	mg/L	0.0001						
Calcium		ND	mg/L	0.08						
Chromium		ND	mg/L	0.003						
Iron		0.005	mg/L	0.003						
Magnesium		ND	mg/L	0.006						
Manganese		ND	mg/L	0.0006						
Silicon		0.02	mg/L	0.01						
Strontium		ND	mg/L	0.0003						
Zinc		ND	mg/L	0.002						
<b>Lab ID: LFB-6500DIS150924A</b>	10 Laboratory Fortified Blank							Run: ICP203-B_150924A		09/24/15 11:02
Barium		1.02	mg/L	0.10	102	85	115			
Beryllium		0.527	mg/L	0.010	105	85	115			
Calcium		51.7	mg/L	1.0	103	85	115			
Chromium		1.02	mg/L	0.050	102	85	115			
Iron		5.19	mg/L	0.020	104	85	115			
Magnesium		51.5	mg/L	1.0	103	85	115			
Manganese		5.17	mg/L	0.010	103	85	115			
Silicon		9.90	mg/L	0.10	99	85	115			
Strontium		1.01	mg/L	0.10	101	85	115			
Zinc		1.04	mg/L	0.010	104	85	115			
<b>Lab ID: B15091997-001BMS2</b>	10 Sample Matrix Spike							Run: ICP203-B_150924A		09/24/15 13:25
Barium		6.13	mg/L	0.050	122	70	130			
Beryllium		3.08	mg/L	0.0010	123	70	130			
Calcium		523	mg/L	1.0	119	70	130			
Chromium		6.01	mg/L	0.016	120	70	130			
Iron		30.5	mg/L	0.020	122	70	130			
Magnesium		552	mg/L	1.0	120	70	130			
Manganese		30.7	mg/L	0.0033	122	70	130			
Silicon		39.4	mg/L	0.10	78	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 10/02/15

Project: 3767-01 WK:12

Work Order: B15092043

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R249889</span>										
<b>Lab ID: B15091997-001BMS2</b>	10	Sample Matrix Spike								
Strontium		8.33	mg/L	0.010	110	70	130			
Zinc		4.52	mg/L	0.010	90	70	130			
<b>Lab ID: B15091997-001BMSD</b> 10 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICP203-B_150924A 09/24/15 13:25</span>										
Barium		5.62	mg/L	0.050	112	70	130	8.8	20	
Beryllium		2.82	mg/L	0.0010	113	70	130	8.9	20	
Calcium		499	mg/L	1.0	109	70	130	4.7	20	
Chromium		5.53	mg/L	0.016	111	70	130	8.3	20	
Iron		28.0	mg/L	0.020	112	70	130	8.5	20	
Magnesium		531	mg/L	1.0	111	70	130	4.0	20	
Manganese		28.1	mg/L	0.0033	112	70	130	8.8	20	
Silicon		49.4	mg/L	0.10	98	70	130	22	20	R
Strontium		8.09	mg/L	0.010	105	70	130	2.9	20	
Zinc		4.91	mg/L	0.010	98	70	130	8.3	20	

**Qualifiers:**

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 10/02/15

Project: 3767-01 WK:12

Work Order: B15092043

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_150929A			
<b>Lab ID: QCS</b>	11	Initial Calibration Verification Standard								09/29/15 14:53	
Aluminum		0.263	mg/L	0.10	105	90	110				
Antimony		0.0494	mg/L	0.050	99	90	110				
Arsenic		0.0493	mg/L	0.0050	99	90	110				
Cadmium		0.0248	mg/L	0.0010	99	90	110				
Copper		0.0513	mg/L	0.010	103	90	110				
Lead		0.0496	mg/L	0.010	99	90	110				
Nickel		0.0506	mg/L	0.010	101	90	110				
Selenium		0.0504	mg/L	0.0050	101	90	110				
Silver		0.0237	mg/L	0.0050	95	90	110				
Thallium		0.0490	mg/L	0.10	98	90	110				
Uranium		0.0193	mg/L	0.0010	97	90	110				
<hr/>											
<b>Method: E200.8</b>								Batch: R250119			
<b>Lab ID: LRB</b>	11	Method Blank								09/29/15 11:45	
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		0.00010	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Copper		0.0001	mg/L	6E-05							
Lead		ND	mg/L	5E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<hr/>											
<b>Lab ID: LFB</b>	11	Laboratory Fortified Blank								09/29/15 11:50	
Aluminum		0.0483	mg/L	0.10	97	85	115				
Antimony		0.0452	mg/L	0.050	90	85	115				
Arsenic		0.0499	mg/L	0.0050	100	85	115				
Cadmium		0.0482	mg/L	0.0010	96	85	115				
Copper		0.0487	mg/L	0.010	97	85	115				
Lead		0.0506	mg/L	0.010	101	85	115				
Nickel		0.0493	mg/L	0.010	99	85	115				
Selenium		0.0489	mg/L	0.0050	98	85	115				
Silver		0.0200	mg/L	0.0050	100	85	115				
Thallium		0.0502	mg/L	0.10	100	85	115				
Uranium		0.0511	mg/L	0.0010	102	85	115				
<hr/>											
<b>Lab ID: B15091917-003BMS</b>	11	Sample Matrix Spike								09/29/15 18:18	
Aluminum		0.0490	mg/L	0.030	94	70	130				
Antimony		0.0499	mg/L	0.0010	99	70	130				
Arsenic		0.0555	mg/L	0.0010	94	70	130				
Cadmium		0.0476	mg/L	0.0010	94	70	130				
Copper		0.0481	mg/L	0.0050	93	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 10/02/15

Project: 3767-01 WK:12

Work Order: B15092043

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R250119</span>										
<b>Lab ID: B15091917-003BMS</b>	11	Sample Matrix Spike								
										Run: ICPMS206-B_150929A <span style="float: right;">09/29/15 18:18</span>
Lead		0.0492	mg/L	0.0010	98	70	130			
Nickel		0.0472	mg/L	0.0050	91	70	130			
Selenium		0.0508	mg/L	0.0010	93	70	130			
Silver		0.0170	mg/L	0.0010	85	70	130			
Thallium		0.0492	mg/L	0.00050	98	70	130			
Uranium		0.0580	mg/L	0.00030	101	70	130			
<b>Lab ID: B15091917-003BMSD</b>	11	Sample Matrix Spike Duplicate								
										Run: ICPMS206-B_150929A <span style="float: right;">09/29/15 18:22</span>
Aluminum		0.0491	mg/L	0.030	94	70	130	0.2	20	
Antimony		0.0495	mg/L	0.0010	98	70	130	0.9	20	
Arsenic		0.0574	mg/L	0.0010	98	70	130	3.4	20	
Cadmium		0.0471	mg/L	0.0010	93	70	130	1.0	20	
Copper		0.0484	mg/L	0.0050	93	70	130	0.6	20	
Lead		0.0491	mg/L	0.0010	98	70	130	0.2	20	
Nickel		0.0473	mg/L	0.0050	91	70	130	0.4	20	
Selenium		0.0525	mg/L	0.0010	97	70	130	3.3	20	
Silver		0.0154	mg/L	0.0010	77	70	130	9.5	20	
Thallium		0.0491	mg/L	0.00050	98	70	130	0.3	20	
Uranium		0.0574	mg/L	0.00030	100	70	130	1.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 10/02/15

Project: 3767-01 WK:12

Work Order: B15092043

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E245.1</b>								Analytical Run: HGCV203-B_150925A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Mercury	0.000204	mg/L	1.0E-05	102	90	110	09/25/15 14:30			
<b>Method: E245.1</b>								Batch: 93484		
<b>Lab ID: MB-93484</b>	Method Blank									
Mercury	2E-06	mg/L	1E-06	Run: HGCV203-B_150925A		09/25/15 14:46				
<b>Lab ID: LCS-93484</b>	Laboratory Control Sample									
Mercury	0.000203	mg/L	1.0E-05	100	85	115	09/25/15 14:48			
<b>Lab ID: B15092061-001BMS</b>	Sample Matrix Spike									
Mercury	0.000203	mg/L	1.0E-05	100	70	130	09/25/15 15:25			
<b>Lab ID: B15092061-001BMSD</b>	Sample Matrix Spike Duplicate									
Mercury	0.000205	mg/L	1.0E-05	101	70	130	1.0	30	09/25/15 15:28	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15092043

Login completed by: Tabitha Edwards

Date Received: 9/23/2015

Reviewed by: BL2000\jmueller

Received by: Ig

Reviewed Date: 9/24/2015

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 2.7°C On Ice
- Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

The sulfuric preserved bottle for sample for YNL B Comp was received cracked and compromised. Per phone conversation with Mike Medina subsample and preserve the filtered raw sample with sulfuric acid.



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: <b>McClelland Lab</b>		Project Name, PWS, Permit, Etc. <b>3767-01 WK:12</b>		Sample Origin State: <b>NV</b>		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: <b>Mike Medina</b>		Phone/Fax: <b>775-356-1300</b>		Email: <b>MLI@METTEST.COM</b>	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: <b>Mr Bob Jacko</b>		Phone: <b>604-628-1162</b>		Purchase Order:	
Special Report/Formats - ELI must be notified prior to sample submittal for the following:  <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: <input type="checkbox"/> Other: <input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) Format: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		Number of Containers Sample Type: A W S V B O Air Water Soils/Solids Vegetation Blossay Other		ANALYSIS REQUESTED		Shipped by: <b>Robert</b> Cooler ID(s):	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date	Collection Time	MATRIX	SEE ATTACHED	Normal Turnaround (TAT)	Contact ELI prior to RUSH sample submittal for charges and scheduling - See instruction Page
1 Ynl B Comp	9/22/15	09:00	Water	X	SEE ATTACHED	X	Comments: <b>R U S H</b>
2 LZ FW Comp	9/22/15	09:00					Please Copy results to: <b>MLI@METTEST.COM</b>
3			<i>as per sampling the 9/22/15</i>				Receipt Temp <b>2.7 °C</b>
4							On Ice: <input checked="" type="radio"/> Yes <input type="radio"/> No
5							Custody Seal (Y/N) Intact <input checked="" type="radio"/> Y <input type="radio"/> N Signature Match <input checked="" type="radio"/> Y <input type="radio"/> N
6							LABORATORY USE ONLY
7							
8							
9							
10							
Relinquished by (print): <b>JOE CHANEY</b>		Date/Time: <b>9/22/15 9AM</b>		Signature: <i>[Signature]</i>		Received by (print):	
Relinquished by (print):		Date/Time:		Signature:		Received by (print):	
Sample Disposal: <b>Return to Client</b>		Date/Time: <b>9-23-15 9:15</b>		Signature: <i>[Signature]</i>		Received by Laboratory:	
<b>Custody Record MUST be Signed</b>		Date/Time: <b>9-23-15 9:15</b>		Signature: <i>[Signature]</i>		Received by Laboratory:	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Visit our web site at [www.enerylab.com](http://www.enerylab.com) for additional information downloadable fee schedule, forms and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

October 19, 2015

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B15100767      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:16

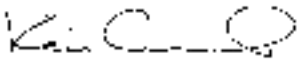
Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Montana Inc on 10/8/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15100767-001	USZ Comp	10/06/15 9:00	10/08/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15100767-002	Yc Comp	10/06/15 9:00	10/08/15	Aqueous	Same As Above
B15100767-003	Tailings	10/06/15 9:00	10/08/15	Aqueous	Same As Above
B15100767-004	Tailings (Saturated)	10/06/15 9:00	10/08/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2015.10.19 14:57:48 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:16  
**Lab ID:** B15100767-001  
**Client Sample ID:** USZ Comp

**Report Date:** 10/19/15  
**Collection Date:** 10/06/15 09:00  
**Date Received:** 10/08/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	2120	mg/L	D	9		E300.0	10/10/15 00:29 / ajr
Fluoride	ND	mg/L		0.2		A4500-F C	10/13/15 12:24 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.008	mg/L	L	0.005		E365.1	10/13/15 09:47 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.010	mg/L		0.009		E200.8	10/09/15 14:25 / jjw
Antimony	ND	mg/L		0.0005		E200.8	10/09/15 14:25 / jjw
Arsenic	0.002	mg/L		0.001		E200.8	10/12/15 12:31 / mas
Barium	0.014	mg/L		0.003		E200.8	10/09/15 14:25 / jjw
Beryllium	ND	mg/L		0.0008		E200.8	10/09/15 14:25 / jjw
Cadmium	0.00044	mg/L		0.00003		E200.8	10/09/15 14:25 / jjw
Calcium	457	mg/L		1		E200.7	10/13/15 13:46 / mas
Chromium	ND	mg/L		0.01		E200.8	10/09/15 14:25 / jjw
Copper	0.902	mg/L		0.002		E200.8	10/09/15 14:25 / jjw
Iron	0.16	mg/L		0.02		E200.7	10/13/15 13:46 / mas
Lead	0.0067	mg/L		0.0003		E200.8	10/09/15 14:25 / jjw
Magnesium	267	mg/L		1		E200.7	10/13/15 13:46 / mas
Manganese	4.31	mg/L		0.005		E200.8	10/09/15 14:25 / jjw
Mercury	0.0000155	mg/L		5E-06		E245.1	10/13/15 17:54 / ser
Nickel	0.087	mg/L		0.002		E200.8	10/09/15 14:25 / jjw
Selenium	0.002	mg/L		0.001		E200.8	10/09/15 14:25 / jjw
Silicon	3.47	mg/L	D	0.07		E200.7	10/13/15 13:46 / mas
Silver	ND	mg/L		0.0002		E200.8	10/09/15 14:25 / jjw
Strontium	18.7	mg/L		0.02		E200.8	10/12/15 12:31 / mas
Thallium	0.0589	mg/L		0.0002		E200.8	10/09/15 14:25 / jjw
Uranium	ND	mg/L		0.0002		E200.8	10/09/15 14:25 / jjw
Zinc	0.069	mg/L		0.008		E200.8	10/09/15 14:25 / jjw

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:16  
**Lab ID:** B15100767-002  
**Client Sample ID:** Yc Comp

**Report Date:** 10/19/15  
**Collection Date:** 10/06/15 09:00  
**Date Received:** 10/08/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	49	mg/L		1		E300.0	10/10/15 00:42 / ajr
Fluoride	0.6	mg/L		0.2		A4500-F C	10/13/15 12:27 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	10/13/15 09:48 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.105	mg/L		0.009		E200.8	10/09/15 14:27 / jjw
Antimony	0.0014	mg/L		0.0005		E200.8	10/09/15 14:27 / jjw
Arsenic	0.012	mg/L		0.001		E200.8	10/09/15 14:27 / jjw
Barium	0.050	mg/L		0.003		E200.8	10/09/15 14:27 / jjw
Beryllium	ND	mg/L		0.0008		E200.8	10/09/15 14:27 / jjw
Cadmium	ND	mg/L		0.00003		E200.8	10/09/15 14:27 / jjw
Calcium	12	mg/L		1		E200.7	10/13/15 13:50 / mas
Chromium	ND	mg/L		0.01		E200.8	10/09/15 14:27 / jjw
Copper	ND	mg/L		0.002		E200.8	10/09/15 14:27 / jjw
Iron	ND	mg/L		0.02		E200.7	10/13/15 13:50 / mas
Lead	0.0017	mg/L		0.0003		E200.8	10/09/15 14:27 / jjw
Magnesium	12	mg/L		1		E200.7	10/13/15 13:50 / mas
Manganese	ND	mg/L		0.005		E200.8	10/09/15 14:27 / jjw
Mercury	ND	mg/L		5E-06		E245.1	10/13/15 17:59 / ser
Nickel	ND	mg/L		0.002		E200.8	10/09/15 14:27 / jjw
Selenium	ND	mg/L		0.001		E200.8	10/09/15 14:27 / jjw
Silicon	3.48	mg/L		0.05		E200.7	10/13/15 13:50 / mas
Silver	ND	mg/L		0.0002		E200.8	10/09/15 14:27 / jjw
Strontium	0.24	mg/L		0.02		E200.8	10/09/15 14:27 / jjw
Thallium	0.0003	mg/L		0.0002		E200.8	10/09/15 14:27 / jjw
Uranium	0.0042	mg/L		0.0002		E200.8	10/09/15 14:27 / jjw
Zinc	ND	mg/L		0.008		E200.8	10/09/15 14:27 / jjw

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:16  
**Lab ID:** B15100767-003  
**Client Sample ID:** Tailings

**Report Date:** 10/19/15  
**Collection Date:** 10/06/15 09:00  
**Date Received:** 10/08/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	14400	mg/L	DE	20		E300.0	10/10/15 00:56 / ajr
Fluoride	0.2	mg/L		0.2		A4500-F C	10/13/15 12:40 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	37.6	mg/L	D	0.4		E365.1	10/13/15 10:59 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	25.3	mg/L		0.009		E200.8	10/12/15 12:33 / mas
Antimony	0.174	mg/L		0.0005		E200.8	10/09/15 14:30 / jjw
Arsenic	266	mg/L	D	0.3		E200.7	10/13/15 13:53 / mas
Barium	0.016	mg/L		0.003		E200.8	10/09/15 14:30 / jjw
Beryllium	0.0016	mg/L		0.0008		E200.8	10/09/15 14:30 / jjw
Cadmium	0.00588	mg/L		0.00003		E200.8	10/09/15 14:30 / jjw
Calcium	188	mg/L	D	2		E200.7	10/13/15 13:53 / mas
Chromium	2.11	mg/L		0.01		E200.8	10/09/15 14:30 / jjw
Copper	140	mg/L	D	0.07		E200.7	10/13/15 13:53 / mas
Iron	7250	mg/L	D	0.05		E200.7	10/13/15 13:53 / mas
Lead	0.0319	mg/L		0.0003		E200.8	10/09/15 14:30 / jjw
Magnesium	6	mg/L		1		E200.7	10/13/15 13:53 / mas
Manganese	1.86	mg/L		0.005		E200.8	10/09/15 14:30 / jjw
Mercury	0.00002	mg/L	D	0.00001		E245.1	10/13/15 18:10 / ser
Nickel	3.86	mg/L		0.002		E200.8	10/09/15 14:30 / jjw
Selenium	0.013	mg/L		0.001		E200.8	10/09/15 14:30 / jjw
Silicon	40.1	mg/L	D	0.3		E200.7	10/13/15 13:53 / mas
Silver	ND	mg/L		0.0002		E200.8	10/12/15 12:33 / mas
Strontium	0.63	mg/L		0.02		E200.8	10/09/15 14:30 / jjw
Thallium	0.0103	mg/L		0.0002		E200.8	10/09/15 14:30 / jjw
Uranium	0.0099	mg/L		0.0002		E200.8	10/09/15 14:30 / jjw
Zinc	1.46	mg/L		0.008		E200.8	10/09/15 14:30 / jjw

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
E - Estimated value. Result exceeds the instrument upper quantitation limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:16  
**Lab ID:** B15100767-004  
**Client Sample ID:** Tailings (Saturated)

**Report Date:** 10/19/15  
**Collection Date:** 10/06/15 09:00  
**Date Received:** 10/08/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	112	mg/L		1		E300.0	10/10/15 01:09 / ajr
Fluoride	0.3	mg/L		0.2		A4500-F C	10/13/15 12:55 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.019	mg/L	L	0.005		E365.1	10/13/15 09:53 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.022	mg/L		0.009		E200.8	10/12/15 12:36 / mas
Antimony	0.0010	mg/L		0.0005		E200.8	10/09/15 14:33 / jjw
Arsenic	0.014	mg/L		0.001		E200.8	10/12/15 12:36 / mas
Barium	0.040	mg/L		0.003		E200.8	10/09/15 14:33 / jjw
Beryllium	ND	mg/L		0.0008		E200.8	10/09/15 14:33 / jjw
Cadmium	0.00006	mg/L		0.00003		E200.8	10/09/15 14:33 / jjw
Calcium	34	mg/L		1		E200.7	10/13/15 14:35 / mas
Chromium	ND	mg/L		0.01		E200.8	10/09/15 14:33 / jjw
Copper	0.029	mg/L		0.002		E200.8	10/12/15 12:36 / mas
Iron	ND	mg/L		0.02		E200.7	10/13/15 14:35 / mas
Lead	0.0014	mg/L		0.0003		E200.8	10/09/15 14:33 / jjw
Magnesium	10	mg/L		1		E200.7	10/13/15 14:35 / mas
Manganese	0.690	mg/L		0.005		E200.8	10/09/15 14:33 / jjw
Mercury	ND	mg/L		5E-06		E245.1	10/13/15 18:15 / ser
Nickel	0.274	mg/L		0.002		E200.8	10/09/15 14:33 / jjw
Selenium	ND	mg/L		0.001		E200.8	10/09/15 14:33 / jjw
Silicon	4.66	mg/L		0.05		E200.7	10/13/15 14:35 / mas
Silver	ND	mg/L		0.0002		E200.8	10/12/15 12:36 / mas
Strontium	0.39	mg/L		0.02		E200.8	10/09/15 14:33 / jjw
Thallium	0.0070	mg/L		0.0002		E200.8	10/09/15 14:33 / jjw
Uranium	ND	mg/L		0.0002		E200.8	10/09/15 14:33 / jjw
Zinc	0.026	mg/L		0.008		E200.8	10/09/15 14:33 / jjw

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:16

**Report Date:** 10/16/15  
**Work Order:** B15100767

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_151013A	
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								10/13/15 10:31	
Fluoride	1.05	mg/L	0.10	105	90	110				
<b>Method:</b> A4500-F C									Batch: R250850	
<b>Lab ID:</b> MBLK	Method Blank								Run: MAN-TECH_151013A	10/13/15 10:26
Fluoride	ND	mg/L	0.01							
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: MAN-TECH_151013A	10/13/15 10:28
Fluoride	0.980	mg/L	0.10	98	90	110				
<b>Lab ID:</b> B15100741-008AMS	Sample Matrix Spike								Run: MAN-TECH_151013A	10/13/15 12:19
Fluoride	14.3	mg/L	0.50	94	80	120				
<b>Lab ID:</b> B15100741-008AMSD	Sample Matrix Spike Duplicate								Run: MAN-TECH_151013A	10/13/15 12:21
Fluoride	14.2	mg/L	0.50	91	80	120	1.1	10		
<b>Lab ID:</b> B15100819-001AMS	Sample Matrix Spike								Run: MAN-TECH_151013A	10/13/15 13:03
Fluoride	1.03	mg/L	0.10	96	80	120				
<b>Lab ID:</b> B15100819-001AMSD	Sample Matrix Spike Duplicate								Run: MAN-TECH_151013A	10/13/15 13:06
Fluoride	1.03	mg/L	0.10	96	80	120	0.0	10		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:16

**Report Date:** 10/16/15  
**Work Order:** B15100767

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 1_151009A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								10/09/15 13:41
Sulfate	8.69	mg/L	1.0	97	90	110			
<b>Method:</b> E300.0	Batch: R250742								
<b>Lab ID:</b> ICB	Method Blank								10/09/15 13:55
Sulfate	0.3	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								10/09/15 14:08
Sulfate	8.75	mg/L	1.0	94	90	110			
<b>Lab ID:</b> B15100741-008AMS	Sample Matrix Spike								10/10/15 00:02
Sulfate	188	mg/L	1.8	86	90	110			S
<b>Lab ID:</b> B15100741-008AMSD	Sample Matrix Spike Duplicate								10/10/15 00:15
Sulfate	187	mg/L	1.8	85	90	110	0.4	20	S
<b>Lab ID:</b> B15100817-001AMS	Sample Matrix Spike								10/10/15 01:50
Sulfate	54.8	mg/L	1.0	95	90	110			
<b>Lab ID:</b> B15100817-001AMSD	Sample Matrix Spike Duplicate								10/10/15 02:03
Sulfate	55.1	mg/L	1.0	96	90	110	0.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:16

**Report Date:** 10/16/15  
**Work Order:** B15100767

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E365.1									Analytical Run: FIA202-B_151013A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								10/13/15 09:15
Phosphorus, Total as P	0.549	mg/L	0.0050	110	90	110			
<b>Method:</b> E365.1									Batch: 93886
<b>Lab ID:</b> MB-93886	Method Blank								Run: FIA202-B_151013A
Phosphorus, Total as P	ND	mg/L	0.002				10/13/15 09:18		
<b>Lab ID:</b> LCS-93886	Laboratory Control Sample								Run: FIA202-B_151013A
Phosphorus, Total as P	0.195	mg/L	0.0050	98	90	110	10/13/15 09:19		
<b>Lab ID:</b> B15100767-002CMS	Sample Matrix Spike								Run: FIA202-B_151013A
Phosphorus, Total Dissolved as P	0.203	mg/L	0.0050	101	90	110	10/13/15 09:49		
<b>Lab ID:</b> B15100767-002CMSD	Sample Matrix Spike Duplicate								Run: FIA202-B_151013A
Phosphorus, Total Dissolved as P	0.201	mg/L	0.0050	100	90	110	10/13/15 09:51		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 10/19/15

**Project:** 3767-01 WK:16

**Work Order:** B15100767

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>										Analytical Run: ICP203-B_151013A	
<b>Lab ID: ICV</b>	6	Continuing Calibration Verification Standard							10/13/15 10:33		
Arsenic		2.44	mg/L	0.10	98	95	105				
Calcium		24.5	mg/L	1.0	98	95	105				
Copper		2.48	mg/L	0.010	99	95	105				
Iron		2.46	mg/L	0.020	98	95	105				
Magnesium		24.8	mg/L	1.0	99	95	105				
Silicon		5.07	mg/L	0.10	101	95	105				
<b>Method: E200.7</b>										Batch: R250832	
<b>Lab ID: MB-6500DIS151013A</b>	6	Method Blank							Run: ICP203-B_151013A 10/13/15 11:02		
Arsenic		ND	mg/L	0.01							
Calcium		ND	mg/L	0.08							
Copper		ND	mg/L	0.004							
Iron		ND	mg/L	0.003							
Magnesium		ND	mg/L	0.006							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS151013A</b>	6	Laboratory Fortified Blank							Run: ICP203-B_151013A 10/13/15 11:06		
Arsenic		1.09	mg/L	0.10	109	85	115				
Calcium		53.4	mg/L	1.0	107	85	115				
Copper		1.06	mg/L	0.010	106	85	115				
Iron		5.38	mg/L	0.020	108	85	115				
Magnesium		53.6	mg/L	1.0	107	85	115				
Silicon		10.3	mg/L	0.10	103	85	115				
<b>Lab ID: MB-93912</b>	6	Method Blank							Run: ICP203-B_151013A 10/13/15 19:41		
Arsenic		ND	mg/L	0.01							
Calcium		0.3	mg/L	0.08							
Copper		ND	mg/L	0.004							
Iron		ND	mg/L	0.003							
Magnesium		0.01	mg/L	0.006							
Silicon		ND	mg/L	0.01							
<b>Lab ID: B15100949-002BMS2</b>	6	Sample Matrix Spike							Run: ICP203-B_151013A 10/13/15 20:05		
Arsenic		1.14	mg/L	0.015	114	70	130				
Calcium		111	mg/L	1.0	110	70	130				
Copper		1.06	mg/L	0.0050	106	70	130				
Iron		5.41	mg/L	0.020	108	70	130				
Magnesium		71.9	mg/L	1.0	110	70	130				
Silicon		18.7	mg/L	0.10	108	70	130				
<b>Lab ID: B15100949-002BMSD</b>	6	Sample Matrix Spike Duplicate							Run: ICP203-B_151013A 10/13/15 20:09		
Arsenic		1.14	mg/L	0.015	114	70	130	0.2	20		
Calcium		110	mg/L	1.0	108	70	130	0.9	20		
Copper		1.06	mg/L	0.0050	106	70	130	0.2	20		
Iron		5.46	mg/L	0.020	109	70	130	0.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 10/19/15

**Project:** 3767-01 WK:16

**Work Order:** B15100767

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.7								Batch: R250832		
<b>Lab ID:</b> B15100949-002BMSD	6	Sample Matrix Spike Duplicate			Run: ICP203-B_151013A				10/13/15 20:09	
Magnesium		71.6	mg/L	1.0	109	70	130	0.5	20	
Silicon		18.6	mg/L	0.10	107	70	130	0.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 10/19/15

**Project:** 3767-01 WK:16

**Work Order:** B15100767

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_151009A			
<b>Lab ID: QCS</b>	17 Initial Calibration Verification Standard							10/09/15 14:00			
Aluminum		0.225	mg/L	0.10	90	90	110				
Antimony		0.0532	mg/L	0.050	106	90	110				
Arsenic		0.0500	mg/L	0.0050	100	90	110				
Barium		0.0500	mg/L	0.10	100	90	110				
Beryllium		0.0246	mg/L	0.0010	98	90	110				
Cadmium		0.0252	mg/L	0.0010	101	90	110				
Chromium		0.0488	mg/L	0.010	98	90	110				
Copper		0.0509	mg/L	0.010	102	90	110				
Lead		0.0508	mg/L	0.010	102	90	110				
Manganese		0.244	mg/L	0.010	98	90	110				
Nickel		0.0491	mg/L	0.010	98	90	110				
Selenium		0.0507	mg/L	0.0050	101	90	110				
Silver		0.0236	mg/L	0.0050	94	90	110				
Strontium		0.0531	mg/L	0.10	106	90	110				
Thallium		0.0497	mg/L	0.10	99	90	110				
Uranium		0.0201	mg/L	0.0010	101	90	110				
Zinc		0.0506	mg/L	0.010	101	90	110				

<b>Method: E200.8</b>								Batch: R250692		
<b>Lab ID: LFB</b>	17 Laboratory Fortified Blank							Run: ICPMS202-B_151009A		10/09/15 10:56
Aluminum		0.0438	mg/L	0.10	88	85	115			
Antimony		0.0524	mg/L	0.050	105	85	115			
Arsenic		0.0528	mg/L	0.0050	105	85	115			
Barium		0.0529	mg/L	0.10	106	85	115			
Beryllium		0.0526	mg/L	0.0010	105	85	115			
Cadmium		0.0527	mg/L	0.0010	105	85	115			
Chromium		0.0531	mg/L	0.010	106	85	115			
Copper		0.0541	mg/L	0.010	108	85	115			
Lead		0.0553	mg/L	0.010	111	85	115			
Manganese		0.0514	mg/L	0.010	103	85	115			
Nickel		0.0531	mg/L	0.010	106	85	115			
Selenium		0.0517	mg/L	0.0050	103	85	115			
Silver		0.0222	mg/L	0.0050	111	85	115			
Strontium		0.0491	mg/L	0.10	98	85	115			
Thallium		0.0560	mg/L	0.10	112	85	115			
Uranium		0.0555	mg/L	0.0010	111	85	115			
Zinc		0.0535	mg/L	0.010	107	85	115			

<b>Lab ID: LRB</b>	17 Method Blank							Run: ICPMS202-B_151009A		10/09/15 11:43
Aluminum		ND	mg/L	0.0007						
Antimony		ND	mg/L	1E-05						
Arsenic		0.0004	mg/L	0.0001						
Barium		ND	mg/L	0.0001						
Beryllium		ND	mg/L	9E-05						

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 10/19/15

Project: 3767-01 WK:16

Work Order: B15100767

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R250692</span>										
<b>Lab ID: LRB</b>	17	Method Blank						Run: ICPMS202-B_151009A		10/09/15 11:43
Cadmium		ND	mg/L			1E-05				
Chromium		ND	mg/L			0.0003				
Copper		ND	mg/L			9E-05				
Lead		ND	mg/L			2E-05				
Manganese		ND	mg/L			8E-05				
Nickel		ND	mg/L			7E-05				
Selenium		ND	mg/L			0.0003				
Silver		ND	mg/L			2E-05				
Strontium		ND	mg/L			1E-05				
Thallium		ND	mg/L			1E-05				
Uranium		ND	mg/L			7E-06				
Zinc		ND	mg/L			0.0002				
<b>Lab ID: MB-93819</b>	17	Method Blank						Run: ICPMS202-B_151009A		10/09/15 14:58
Aluminum		0.005	mg/L			0.0007				
Antimony		0.0004	mg/L			1E-05				
Arsenic		0.002	mg/L			0.0001				
Barium		0.0002	mg/L			0.0001				
Beryllium		ND	mg/L			9E-05				
Cadmium		ND	mg/L			1E-05				
Chromium		ND	mg/L			0.0003				
Copper		0.0009	mg/L			9E-05				
Lead		5E-05	mg/L			2E-05				
Manganese		0.0002	mg/L			8E-05				
Nickel		0.0001	mg/L			7E-05				
Selenium		0.0008	mg/L			0.0003				
Silver		ND	mg/L			2E-05				
Strontium		ND	mg/L			1E-05				
Thallium		4E-05	mg/L			1E-05				
Uranium		1E-05	mg/L			7E-06				
Zinc		0.002	mg/L			0.0002				
<b>Lab ID: B15100641-001BMS</b>	17	Sample Matrix Spike						Run: ICPMS202-B_151009A		10/09/15 15:11
Aluminum		0.672	mg/L			0.030	103	70	130	
Antimony		0.289	mg/L			0.0010	115	70	130	
Arsenic		0.315	mg/L			0.0010	123	70	130	
Barium		0.457	mg/L			0.050	121	70	130	
Beryllium		0.302	mg/L			0.0010	121	70	130	
Cadmium		0.284	mg/L			0.0010	113	70	130	
Chromium		0.334	mg/L			0.0050	117	70	130	
Copper		0.356	mg/L			0.0050	118	70	130	
Lead		0.298	mg/L			0.0010	119	70	130	
Manganese		0.334	mg/L			0.0010	116	70	130	
Nickel		0.320	mg/L			0.0050	116	70	130	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 10/19/15

Project: 3767-01 WK:16

Work Order: B15100767

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R250692</span>										
<b>Lab ID: B15100641-001BMS</b>	17	Sample Matrix Spike				Run: ICPMS202-B_151009A			10/09/15 15:11	
Selenium		0.352	mg/L	0.0016	137	70	130			S
Silver		0.107	mg/L	0.0010	107	70	130			
Strontium		1.16	mg/L	0.010	114	70	130			
Thallium		0.294	mg/L	0.00050	118	70	130			
Uranium		0.284	mg/L	0.00030	113	70	130			
Zinc		0.288	mg/L	0.010	111	70	130			
<b>Lab ID: B15100641-001BMSD</b>	17	Sample Matrix Spike Duplicate				Run: ICPMS202-B_151009A			10/09/15 15:57	
Aluminum		0.574	mg/L	0.030	64	70	130	16	20	S
Antimony		0.263	mg/L	0.0010	105	70	130	9.3	20	
Arsenic		0.269	mg/L	0.0010	104	70	130	16	20	
Barium		0.384	mg/L	0.050	92	70	130	17	20	
Beryllium		0.233	mg/L	0.0010	93	70	130	26	20	R
Cadmium		0.243	mg/L	0.0010	97	70	130	15	20	
Chromium		0.278	mg/L	0.0050	94	70	130	18	20	
Copper		0.296	mg/L	0.0050	94	70	130	18	20	
Lead		0.255	mg/L	0.0010	101	70	130	16	20	
Manganese		0.282	mg/L	0.0010	95	70	130	17	20	
Nickel		0.264	mg/L	0.0050	94	70	130	19	20	
Selenium		0.283	mg/L	0.0016	110	70	130	22	20	R
Silver		0.0921	mg/L	0.0010	92	70	130	15	20	
Strontium		0.938	mg/L	0.010	26	70	130	21	20	SR
Thallium		0.249	mg/L	0.00050	100	70	130	16	20	
Uranium		0.243	mg/L	0.00030	97	70	130	15	20	
Zinc		0.245	mg/L	0.010	94	70	130	16	20	

**Qualifiers:**

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 10/19/15

**Project:** 3767-01 WK:16

**Work Order:** B15100767

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_151012A			
<b>Lab ID: QCS</b>	5	Initial Calibration Verification Standard									10/12/15 10:16
Aluminum		0.229	mg/L	0.10	92	90	110				
Arsenic		0.0515	mg/L	0.0050	103	90	110				
Copper		0.0518	mg/L	0.010	104	90	110				
Silver		0.0238	mg/L	0.0050	95	90	110				
Strontium		0.0507	mg/L	0.10	101	90	110				
<b>Method: E200.8</b>								Batch: R250771			
<b>Lab ID: LFB</b>	5	Laboratory Fortified Blank									10/12/15 10:43
Aluminum		0.0468	mg/L	0.10	94	85	115				
Arsenic		0.0514	mg/L	0.0050	103	85	115				
Copper		0.0553	mg/L	0.010	111	85	115				
Silver		0.0217	mg/L	0.0050	108	85	115				
Strontium		0.0484	mg/L	0.10	97	85	115				
<b>Lab ID: LRB</b>	5	Method Blank									10/12/15 11:04
Aluminum		ND	mg/L	0.0007							
Arsenic		ND	mg/L	0.0001							
Copper		ND	mg/L	9E-05							
Silver		ND	mg/L	2E-05							
Strontium		ND	mg/L	1E-05							
<b>Lab ID: MB-93819</b>	5	Method Blank									10/12/15 12:47
Aluminum		0.006	mg/L	0.0007							
Arsenic		0.0009	mg/L	0.0001							
Copper		0.0009	mg/L	9E-05							
Silver		ND	mg/L	2E-05							
Strontium		ND	mg/L	1E-05							
<b>Lab ID: B15100741-001BMS</b>	5	Sample Matrix Spike									10/12/15 13:14
Aluminum		0.0490	mg/L	0.030	98	70	130				
Arsenic		0.0516	mg/L	0.0010	99	70	130				
Copper		0.0492	mg/L	0.0050	97	70	130				
Silver		0.0196	mg/L	0.0010	98	70	130				
Strontium		0.111	mg/L	0.010	84	70	130				
<b>Lab ID: B15100741-001BMSD</b>	5	Sample Matrix Spike Duplicate									10/12/15 13:17
Aluminum		0.0496	mg/L	0.030	99	70	130	1.4	20		
Arsenic		0.0518	mg/L	0.0010	99	70	130	0.5	20		
Copper		0.0497	mg/L	0.0050	98	70	130	1.2	20		
Silver		0.0198	mg/L	0.0010	99	70	130	1.3	20		
Strontium		0.114	mg/L	0.010	90	70	130	2.9	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 10/19/15

**Project:** 3767-01 WK:16

**Work Order:** B15100767

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151013A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								10/13/15 13:58	
Mercury	0.000205	mg/L	1.0E-05	103	90	110					
<b>Method:</b> E245.1										Batch: 93947	
<b>Lab ID:</b> MB-93947		Method Blank								Run: HGCV203-B_151013A	10/13/15 17:15
Mercury	ND	mg/L	1E-06								
<b>Lab ID:</b> LCS-93947		Laboratory Control Sample								Run: HGCV203-B_151013A	10/13/15 17:18
Mercury	0.000201	mg/L	1.0E-05	101	85	115					
<b>Lab ID:</b> B15100767-002BMS		Sample Matrix Spike								Run: HGCV203-B_151013A	10/13/15 18:04
Mercury	0.000207	mg/L	1.0E-05	104	70	130					
<b>Lab ID:</b> B15100767-002BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_151013A	10/13/15 18:07
Mercury	0.000207	mg/L	1.0E-05	104	70	130	0.0	30			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15100767

Login completed by: Randa Nees

Date Received: 10/8/2015

Reviewed by: BL2000\lcardreau

Received by: qej

Reviewed Date: 10/9/2015

Carrier name: UPS NDA

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 6.0°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT - Provide as much information as possible.

<b>Company Name:</b> McClelland Lab		<b>Project Name, PWS, Permit, Etc.</b> 3767-01 WK: 16		<b>Sample Origin</b> State: NV		<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Report Mail Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Contact Name:</b> Mike Medina <b>Phone/Fax:</b> 775-356-1300		<b>Email:</b> MLI@METTEST.COM		<b>Sampler:</b> (Please Print) Robert Johnson	
<b>Invoice Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko 604-628-1162		<b>Purchase Order:</b>		<b>Quote/Bottle Order:</b>	
<b>Special Report/Formats - ELI must be notified</b> prior to sample submittal for the following:		<input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP State: _____ <input type="checkbox"/> Other: _____		<input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) Format: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		<b>Shipped by:</b> Robert UPS NDA <b>Cooler ID#(s):</b>	
<b>Number of Containers</b> <input type="checkbox"/> Air <input type="checkbox"/> Water <input type="checkbox"/> Solids <input type="checkbox"/> Other		<b>Vegetation Possy</b> <input type="checkbox"/> Other		<b>Normal Turnaround (TAT)</b> SEE ATTACHED		<b>Comments:</b> R U S H	
<b>MATRIX</b> Water		<input checked="" type="checkbox"/> SEE ATTACHED		<b>Request ELI prior to RUSH sample submittal</b> for charges and scheduling - See Instruction Page		<b>Recalpt Temp</b> 10.0 °C	
<b>SAMPLE IDENTIFICATION</b> (Name, Location, Interval, etc.)		<b>Collection Date</b>		<b>Collection Time</b>		<b>On Ice:</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1 USZ Comp		10/6/15		09:00		<b>Custody Seal</b> N	
2 Yc Comp		↓		↓		<b>Intract</b> N	
3 Tailings		↓		↓		<b>Signature Match</b> N	
4 Tailings (Saturated)		↓		↓		Please Copy results to: MLI@METTEST.COM	
5		↓		↓		hold remaining preserved samples (frozen) until further notice.	
6		↓		↓		MLI@METTEST.COM	
7		↓		↓		Signature: _____	
8		↓		↓		Date/Time: _____	
9		↓		↓		Received by (print): _____	
10		↓		↓		Received by (print): _____	
<b>Custody Record MUST be Signed</b>		<b>Relinquished by (print):</b> JOE CHANEY <b>Date/Time:</b> 10/6/15 9AM		<b>Signature:</b> _____		<b>Date/Time:</b> _____	
<b>Sample Disposal:</b> Return to Client: _____		<b>Relinquished by (print):</b> _____ <b>Date/Time:</b> _____		<b>Signature:</b> _____		<b>Date/Time:</b> _____	
<b>Lab Disposal:</b> _____		<b>Relinquished by (print):</b> _____ <b>Date/Time:</b> _____		<b>Signature:</b> _____		<b>Date/Time:</b> _____	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012





# ANALYTICAL SUMMARY REPORT

October 29, 2015

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B15101741      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:16


Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Montana Inc on 10/21/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15101741-001	Ynl B Comp	10/20/15 9:00	10/21/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15101741-002	LZ FW Comp	10/20/15 9:00	10/21/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2015.10.29 16:10:14 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:16  
**Lab ID:** B15101741-001  
**Client Sample ID:** Ynl B Comp

**Report Date:** 10/29/15  
**Collection Date:** 10/20/15 09:00  
**Date Received:** 10/21/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	295	mg/L		1		E300.0	10/23/15 19:55 / ajr
Fluoride	0.5	mg/L		0.2		A4500-F C	10/27/15 11:15 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	10/22/15 15:39 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.020	mg/L		0.009		E200.7	10/27/15 13:32 / jjw
Antimony	0.0007	mg/L		0.0005		E200.8	10/22/15 16:53 / mas
Arsenic	0.002	mg/L		0.001		E200.8	10/22/15 16:53 / mas
Barium	0.008	mg/L		0.003		E200.8	10/22/15 16:53 / mas
Beryllium	ND	mg/L		0.0008		E200.8	10/22/15 16:53 / mas
Cadmium	ND	mg/L		0.00003		E200.8	10/22/15 16:53 / mas
Calcium	74	mg/L		1		E200.7	10/23/15 14:22 / rlh
Chromium	ND	mg/L		0.01		E200.8	10/22/15 16:53 / mas
Copper	0.002	mg/L		0.002		E200.8	10/23/15 19:52 / mas
Iron	ND	mg/L		0.02		E200.7	10/23/15 14:22 / rlh
Lead	0.0017	mg/L		0.0003		E200.8	10/22/15 16:53 / mas
Magnesium	49	mg/L		1		E200.7	10/23/15 14:22 / rlh
Manganese	ND	mg/L		0.005		E200.8	10/22/15 16:53 / mas
Mercury	ND	mg/L		5E-06		E245.1	10/23/15 14:17 / ser
Nickel	ND	mg/L		0.002		E200.8	10/22/15 16:53 / mas
Selenium	0.001	mg/L		0.001		E200.8	10/22/15 16:53 / mas
Silicon	18.3	mg/L		0.05		E200.7	10/23/15 14:22 / rlh
Silver	ND	mg/L		0.0002		E200.8	10/22/15 16:53 / mas
Strontium	0.58	mg/L		0.02		E200.8	10/22/15 16:53 / mas
Thallium	ND	mg/L		0.0002		E200.8	10/23/15 19:52 / mas
Uranium	0.0012	mg/L		0.0002		E200.8	10/22/15 16:53 / mas
Zinc	ND	mg/L		0.008		E200.8	10/22/15 16:53 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:16  
**Lab ID:** B15101741-002  
**Client Sample ID:** LZ FW Comp

**Report Date:** 10/29/15  
**Collection Date:** 10/20/15 09:00  
**Date Received:** 10/21/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	101	mg/L		1		E300.0	10/23/15 20:08 / ajr
Fluoride	0.4	mg/L		0.2		A4500-F C	10/27/15 11:17 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.013	mg/L	L	0.005		E365.1	10/22/15 15:43 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.048	mg/L		0.009		E200.7	10/27/15 13:35 / jjw
Antimony	0.0051	mg/L		0.0005		E200.8	10/22/15 17:01 / mas
Arsenic	0.173	mg/L		0.001		E200.8	10/22/15 17:01 / mas
Barium	0.018	mg/L		0.003		E200.8	10/22/15 17:01 / mas
Beryllium	ND	mg/L		0.0008		E200.8	10/22/15 17:01 / mas
Cadmium	ND	mg/L		0.00003		E200.8	10/27/15 15:32 / mas
Calcium	24	mg/L		1		E200.7	10/23/15 14:45 / rih
Chromium	ND	mg/L		0.01		E200.8	10/22/15 17:01 / mas
Copper	0.003	mg/L		0.002		E200.8	10/22/15 17:01 / mas
Iron	0.03	mg/L		0.02		E200.7	10/23/15 14:45 / rih
Lead	0.0033	mg/L		0.0003		E200.8	10/22/15 17:01 / mas
Magnesium	22	mg/L		1		E200.7	10/23/15 14:45 / rih
Manganese	0.008	mg/L		0.005		E200.8	10/22/15 17:01 / mas
Mercury	ND	mg/L		5E-06		E245.1	10/23/15 14:22 / ser
Nickel	0.004	mg/L		0.002		E200.8	10/22/15 17:01 / mas
Selenium	0.004	mg/L		0.001		E200.8	10/22/15 17:01 / mas
Silicon	18.7	mg/L		0.05		E200.7	10/23/15 14:45 / rih
Silver	ND	mg/L		0.0002		E200.8	10/22/15 17:01 / mas
Strontium	0.18	mg/L		0.02		E200.8	10/22/15 17:01 / mas
Thallium	ND	mg/L		0.0002		E200.8	10/27/15 15:32 / mas
Uranium	0.156	mg/L		0.0002		E200.8	10/22/15 17:01 / mas
Zinc	0.009	mg/L		0.008		E200.8	10/22/15 17:01 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:16

**Report Date:** 10/29/15  
**Work Order:** B15101741

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_151027A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								10/27/15 10:54
Fluoride	0.970	mg/L	0.10	97	90	110			
<b>Method:</b> A4500-F C									Batch: R251567
<b>Lab ID:</b> MBLK	Method Blank								Run: MAN-TECH_151027A
Fluoride	ND	mg/L	0.01						10/27/15 10:48
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: MAN-TECH_151027A
Fluoride	0.920	mg/L	0.10	92	90	110			10/27/15 10:51
<b>Lab ID:</b> B15101683-001AMS	Sample Matrix Spike								Run: MAN-TECH_151027A
Fluoride	1.08	mg/L	0.10	92	80	120			10/27/15 10:59
<b>Lab ID:</b> B15101683-001AMSD	Sample Matrix Spike Duplicate								Run: MAN-TECH_151027A
Fluoride	1.08	mg/L	0.10	92	80	120	0.0	10	10/27/15 11:02
<b>Lab ID:</b> B15101826-002AMS	Sample Matrix Spike								Run: MAN-TECH_151027A
Fluoride	1.41	mg/L	0.10	81	80	120			10/27/15 11:39
<b>Lab ID:</b> B15101826-002AMSD	Sample Matrix Spike Duplicate								Run: MAN-TECH_151027A
Fluoride	1.43	mg/L	0.10	83	80	120	1.4	10	10/27/15 11:42

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:16

**Report Date:** 10/29/15  
**Work Order:** B15101741

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 1_151022A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								10/22/15 15:39
Sulfate	8.80	mg/L	1.0	98	90	110			
<b>Method:</b> E300.0	Batch: R251411								
<b>Lab ID:</b> MB	Method Blank								10/22/15 15:52
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								10/22/15 16:06
Sulfate	8.69	mg/L	1.0	97	90	110			
<b>Lab ID:</b> B15101722-013AMS	Sample Matrix Spike								10/23/15 18:20
Sulfate	1640	mg/L	9.0	64	90	110			S
<b>Lab ID:</b> B15101722-013AMSD	Sample Matrix Spike Duplicate								10/23/15 18:33
Sulfate	1630	mg/L	9.0	61	90	110	0.9	20	S
<b>Lab ID:</b> B15101754-002AMS	Sample Matrix Spike								10/23/15 21:29
Sulfate	15500	mg/L	36		90	110			A
<b>Lab ID:</b> B15101754-002AMSD	Sample Matrix Spike Duplicate								10/23/15 21:43
Sulfate	15500	mg/L	36		90	110	0.5	20	A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:16

**Report Date:** 10/29/15  
**Work Order:** B15101741

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E365.1								Analytical Run: FIA202-B_151022B		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Phosphorus, Total as P	0.517	mg/L	0.0050	103	90	110			10/22/15 15:13	
<b>Method:</b> E365.1								Batch: 94240		
<b>Lab ID:</b> MB-94240	Method Blank									
Phosphorus, Total as P	0.002	mg/L	0.002						Run: FIA202-B_151022B 10/22/15 15:16	
<b>Lab ID:</b> LCS-94240	Laboratory Control Sample									
Phosphorus, Total as P	0.194	mg/L	0.0050	96	90	110			Run: FIA202-B_151022B 10/22/15 15:17	
<b>Lab ID:</b> B15101741-001CMS	Sample Matrix Spike									
Phosphorus, Total Dissolved as P	0.196	mg/L	0.0050	98	90	110			Run: FIA202-B_151022B 10/22/15 15:41	
<b>Lab ID:</b> B15101741-001CMSD	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P	0.194	mg/L	0.0050	97	90	110			Run: FIA202-B_151022B 10/22/15 15:42	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 10/29/15

**Project:** 3767-01 WK:16

**Work Order:** B15101741

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b> <span style="float: right;">Analytical Run: ICP201-B_151023A</span>											
<b>Lab ID: ICV</b>	4	Continuing Calibration Verification Standard								10/23/15 15:38	
Calcium		25.7	mg/L	1.0	103	95	105				
Iron		2.57	mg/L	0.020	103	95	105				
Magnesium		26.0	mg/L	1.0	104	95	105				
Silicon		5.14	mg/L	0.10	103	95	105				
<hr/>											
<b>Method: E200.7</b> <span style="float: right;">Batch: R251442</span>											
<b>Lab ID: MB-IRISDIS151023A</b>	4	Method Blank								Run: ICP201-B_151023A	10/23/15 11:38
Calcium		ND	mg/L	0.04							
Iron		0.010	mg/L	0.005							
Magnesium		ND	mg/L	0.1							
Silicon		ND	mg/L	0.03							
<b>Lab ID: LFB-IRISDIS151023A</b>	4	Laboratory Fortified Blank								Run: ICP201-B_151023A	10/23/15 11:41
Calcium		49.8	mg/L	1.0	100	85	115				
Iron		5.12	mg/L	0.020	102	85	115				
Magnesium		50.6	mg/L	1.0	101	85	115				
Silicon		9.45	mg/L	0.10	94	85	115				
<b>Lab ID: B15101741-001BMS2</b>	4	Sample Matrix Spike								Run: ICP201-B_151023A	10/23/15 14:37
Calcium		135	mg/L	1.0	122	70	130				
Iron		6.49	mg/L	0.020	130	70	130				
Magnesium		113	mg/L	1.0	128	70	130				
Silicon		29.5	mg/L	0.10	113	70	130				
<b>Lab ID: B15101741-001BMSD</b>	4	Sample Matrix Spike Duplicate								Run: ICP201-B_151023A	10/23/15 14:41
Calcium		121	mg/L	1.0	93	70	130	11	20		
Iron		5.70	mg/L	0.020	114	70	130	13	20		
Magnesium		99.3	mg/L	1.0	100	70	130	13	20		
Silicon		27.1	mg/L	0.10	89	70	130	8.4	20		
<hr/>											
<b>Method: E200.7</b> <span style="float: right;">Analytical Run: ICP203-B_151027A</span>											
<b>Lab ID: ICV</b>		Continuing Calibration Verification Standard								10/27/15 11:54	
Aluminum		2.45	mg/L	0.10	98	95	105				
<hr/>											
<b>Method: E200.7</b> <span style="float: right;">Batch: R251563</span>											
<b>Lab ID: MB-6500DIS151027A</b>		Method Blank								Run: ICP203-B_151027A	10/27/15 12:22
Aluminum		ND	mg/L	0.007							
<b>Lab ID: LFB-6500DIS151027A</b>		Laboratory Fortified Blank								Run: ICP203-B_151027A	10/27/15 12:26
Aluminum		4.89	mg/L	0.10	98	85	115				
<b>Lab ID: B15101836-001AMS2</b>		Sample Matrix Spike								Run: ICP203-B_151027A	10/27/15 13:11
Aluminum		23.6	mg/L	0.035	94	70	130				
<b>Lab ID: B15101836-001AMSD</b>		Sample Matrix Spike Duplicate								Run: ICP203-B_151027A	10/27/15 13:15
Aluminum		24.2	mg/L	0.035	97	70	130	2.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 10/29/15

Project: 3767-01 WK:16

Work Order: B15101741

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>		Analytical Run: ICPMS202-B_151022A									
<b>Lab ID: QCS</b>	15	Initial Calibration Verification Standard							10/22/15 15:02		
Antimony		0.0507	mg/L	0.050	101	90	110				
Arsenic		0.0500	mg/L	0.0050	100	90	110				
Barium		0.0498	mg/L	0.10	100	90	110				
Beryllium		0.0240	mg/L	0.0010	96	90	110				
Cadmium		0.0255	mg/L	0.0010	102	90	110				
Chromium		0.0493	mg/L	0.010	99	90	110				
Copper		0.0510	mg/L	0.010	102	90	110				
Lead		0.0500	mg/L	0.010	100	90	110				
Manganese		0.239	mg/L	0.010	96	90	110				
Nickel		0.0491	mg/L	0.010	98	90	110				
Selenium		0.0511	mg/L	0.0050	102	90	110				
Silver		0.0245	mg/L	0.0050	98	90	110				
Strontium		0.0495	mg/L	0.10	99	90	110				
Uranium		0.0206	mg/L	0.0010	103	90	110				
Zinc		0.0538	mg/L	0.010	108	90	110				

<b>Method: E200.8</b>		Batch: R251400									
<b>Lab ID: LFB</b>	15	Laboratory Fortified Blank							Run: ICPMS202-B_151022A 10/22/15 12:10		
Antimony		0.0508	mg/L	0.050	101	85	115				
Arsenic		0.0482	mg/L	0.0050	96	85	115				
Barium		0.0497	mg/L	0.10	99	85	115				
Beryllium		0.0492	mg/L	0.0010	98	85	115				
Cadmium		0.0508	mg/L	0.0010	102	85	115				
Chromium		0.0497	mg/L	0.010	99	85	115				
Copper		0.0502	mg/L	0.010	100	85	115				
Lead		0.0502	mg/L	0.010	100	85	115				
Manganese		0.0486	mg/L	0.010	97	85	115				
Nickel		0.0480	mg/L	0.010	96	85	115				
Selenium		0.0490	mg/L	0.0050	98	85	115				
Silver		0.0221	mg/L	0.0050	110	85	115				
Strontium		0.0488	mg/L	0.10	98	85	115				
Uranium		0.0478	mg/L	0.0010	96	85	115				
Zinc		0.0481	mg/L	0.010	96	85	115				

<b>Lab ID: LRB</b>	15	Method Blank							Run: ICPMS202-B_151022A 10/22/15 15:21		
Antimony		ND	mg/L	1E-05							
Arsenic		ND	mg/L	0.0001							
Barium		ND	mg/L	0.0001							
Beryllium		ND	mg/L	9E-05							
Cadmium		ND	mg/L	1E-05							
Chromium		ND	mg/L	0.0003							
Copper		ND	mg/L	9E-05							
Lead		ND	mg/L	2E-05							
Manganese		ND	mg/L	8E-05							

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 10/29/15

Project: 3767-01 WK:16

Work Order: B15101741

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R251400</span>										
<b>Lab ID: LRB</b>	15	Method Blank								
						Run: ICPMS202-B_151022A				10/22/15 15:21
Nickel		ND	mg/L	7E-05						
Selenium		0.0004	mg/L	0.0003						
Silver		ND	mg/L	2E-05						
Strontium		1E-05	mg/L	1E-05						
Uranium		ND	mg/L	7E-06						
Zinc		ND	mg/L	0.0002						
<b>Lab ID: B15101741-001BMS</b>	15	Sample Matrix Spike								
						Run: ICPMS202-B_151022A				10/22/15 16:55
Antimony		0.0628	mg/L	0.0010	124	70	130			
Arsenic		0.0546	mg/L	0.0010	105	70	130			
Barium		0.0589	mg/L	0.050	101	70	130			
Beryllium		0.0531	mg/L	0.0010	106	70	130			
Cadmium		0.0537	mg/L	0.0010	107	70	130			
Chromium		0.0496	mg/L	0.0050	99	70	130			
Copper		0.0579	mg/L	0.0050	66	70	130			S
Lead		0.0550	mg/L	0.0010	107	70	130			
Manganese		0.0507	mg/L	0.0010	99	70	130			
Nickel		0.0511	mg/L	0.0050	98	70	130			
Selenium		0.0581	mg/L	0.0010	114	70	130			
Silver		0.0150	mg/L	0.0010	75	70	130			
Strontium		0.633	mg/L	0.010		70	130			A
Uranium		0.0515	mg/L	0.00030	101	70	130			
Zinc		0.0601	mg/L	0.010	104	70	130			
<b>Lab ID: B15101741-001BMSD</b>	15	Sample Matrix Spike Duplicate								
						Run: ICPMS202-B_151022A				10/22/15 16:58
Antimony		0.0633	mg/L	0.0010	125	70	130	0.8	20	
Arsenic		0.0536	mg/L	0.0010	103	70	130	1.9	20	
Barium		0.0585	mg/L	0.050	100	70	130	0.6	20	
Beryllium		0.0512	mg/L	0.0010	102	70	130	3.6	20	
Cadmium		0.0526	mg/L	0.0010	105	70	130	2.2	20	
Chromium		0.0482	mg/L	0.0050	96	70	130	2.9	20	
Copper		0.0532	mg/L	0.0050	56	70	130	8.4	20	S
Lead		0.0534	mg/L	0.0010	103	70	130	3.1	20	
Manganese		0.0492	mg/L	0.0010	96	70	130	3.1	20	
Nickel		0.0500	mg/L	0.0050	96	70	130	2.3	20	
Selenium		0.0573	mg/L	0.0010	112	70	130	1.4	20	
Silver		0.0182	mg/L	0.0010	91	70	130	19	20	
Strontium		0.625	mg/L	0.010		70	130	1.3	20	A
Uranium		0.0511	mg/L	0.00030	100	70	130	0.8	20	
Zinc		0.0603	mg/L	0.010	105	70	130	0.3	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 10/29/15

**Project:** 3767-01 WK:16

**Work Order:** B15101741

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b> Analytical Run: ICPMS202-B_151027A											
<b>Lab ID: QCS</b>	2	Initial Calibration Verification Standard									10/27/15 14:46
Cadmium		0.0267	mg/L	0.0010	107	90	110				
Thallium		0.0522	mg/L	0.10	104	90	110				
<b>Method: E200.8</b> Batch: R251564											
<b>Lab ID: LRB</b>	2	Method Blank									Run: ICPMS202-B_151027A 10/27/15 12:54
Cadmium		ND	mg/L	1E-05							
Thallium		3E-05	mg/L	1E-05							
<b>Lab ID: LFB</b>	2	Laboratory Fortified Blank									Run: ICPMS202-B_151027A 10/27/15 12:56
Cadmium		0.0521	mg/L	0.0010	104	85	115				
Thallium		0.0502	mg/L	0.10	100	85	115				
<b>Lab ID: B15101637-001BMS</b>	2	Sample Matrix Spike									Run: ICPMS202-B_151027A 10/27/15 15:10
Cadmium		0.0536	mg/L	0.0010	107	70	130				
Thallium		0.0532	mg/L	0.00050	106	70	130				
<b>Lab ID: B15101637-001BMSD</b>	2	Sample Matrix Spike Duplicate									Run: ICPMS202-B_151027A 10/27/15 15:13
Cadmium		0.0531	mg/L	0.0010	106	70	130	1.0	20		
Thallium		0.0526	mg/L	0.00050	105	70	130	1.2	20		
<b>Method: E200.8</b> Analytical Run: ICPMS206-B_151023A											
<b>Lab ID: QCS</b>	2	Initial Calibration Verification Standard									10/23/15 12:34
Copper		0.0521	mg/L	0.010	104	90	110				
Thallium		0.0493	mg/L	0.10	99	90	110				
<b>Method: E200.8</b> Batch: R251433											
<b>Lab ID: LRB</b>	2	Method Blank									Run: ICPMS206-B_151023A 10/23/15 13:03
Copper		ND	mg/L	6E-05							
Thallium		ND	mg/L	7E-05							
<b>Lab ID: LFB</b>	2	Laboratory Fortified Blank									Run: ICPMS206-B_151023A 10/23/15 13:07
Copper		0.0559	mg/L	0.010	112	85	115				
Thallium		0.0564	mg/L	0.10	113	85	115				
<b>Lab ID: B15101828-004BMS</b>	2	Sample Matrix Spike									Run: ICPMS206-B_151023A 10/23/15 20:30
Copper		0.0476	mg/L	0.0050	95	70	130				
Thallium		0.0496	mg/L	0.00050	99	70	130				
<b>Lab ID: B15101828-004BMSD</b>	2	Sample Matrix Spike Duplicate									Run: ICPMS206-B_151023A 10/23/15 20:35
Copper		0.0468	mg/L	0.0050	93	70	130	1.7	20		
Thallium		0.0491	mg/L	0.00050	98	70	130	1.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 10/29/15

**Project:** 3767-01 WK:16

**Work Order:** B15101741

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151023A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								10/23/15 12:42	
Mercury		0.000202	mg/L	1.0E-05	101	90	110				
<b>Method:</b> E245.1										Batch: 94238	
<b>Lab ID:</b> MB-94238		Method Blank								Run: HGCV203-B_151023A	10/23/15 13:20
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-94238		Laboratory Control Sample								Run: HGCV203-B_151023A	10/23/15 13:22
Mercury		0.000211	mg/L	1.0E-05	106	85	115				
<b>Lab ID:</b> B15101741-002BMS		Sample Matrix Spike								Run: HGCV203-B_151023A	10/23/15 14:27
Mercury		0.000216	mg/L	1.0E-05	106	70	130				
<b>Lab ID:</b> B15101741-002BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_151023A	10/23/15 14:30
Mercury		0.000218	mg/L	1.0E-05	107	70	130	0.9	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15101741

Login completed by: Randa Nees

Date Received: 10/21/2015

Reviewed by: BL2000\jmueller

Received by: jrjz

Reviewed Date: 10/22/2015

Carrier name: UPS NDA

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	5.2°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

LA FW Comp sample date and time were taken from the sample containers.



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab		<b>Project Name, PWS, Permit, Etc.:</b> 3767-01 WK:16		<b>Sample Origin:</b> State: NV		<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Report Mail Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Contact Name:</b> Mike Medina		<b>Email:</b> MLI@METTEST.COM		<b>Sampler: (Please Print)</b> Robert Johnson	
<b>Invoice Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko 604-628-1162		<b>Purchase Order:</b>		<b>Quote/Bottle Order:</b>	
<b>Special Report/Formats - ELI must be notified prior to sample submittal for the following:</b> <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: _____ <input type="checkbox"/> Other: _____ <input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) <b>Format:</b> <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		<b>ANALYSIS REQUESTED</b> SEE ATTACHED		<b>Normal Turnaround (TAT)</b> SEE ATTACHED		<b>Contact ELI prior to RUSH sample submittal for charges and scheduling - See instruction Page</b> <b>Comments:</b> R U S H	
<b>Number of Containers</b> Air Water Soils/Solids Vegetation Bioassay Other		<b>MATRIX</b> Water		<b>Shipped by:</b> Robert Johnson		<b>Receipt Temp:</b> 5.2 °C	
<b>SAMPLE IDENTIFICATION</b> (Name, Location, Interval, etc.)		<b>Collection Date</b> 10/20/15		<b>Collection Time</b> 09:00		<b>On Ice:</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1 Ynl B Comp		10/20/15		09:00		<b>Custody Seal Intact</b> Y N Y N Y N	
2 LZ FW Comp		_____		_____		<b>Signature Match</b> Y N Y N Y N	
3 _____		_____		_____		<b>Please Copy results to:</b> MLI@METTEST.COM	
4 _____		_____		_____		hold remaining preserved	
5 _____		_____		_____		samples (frozen) until	
6 _____		_____		_____		further notice.	
7 _____		_____		_____		_____	
8 _____		_____		_____		_____	
9 _____		_____		_____		_____	
10 _____		_____		_____		_____	

**Custody Record MUST be Signed**

Relinquished by (print): JOE CHANEY Date/Time: 10/20/15 9Am Signature:

Relinquished by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_

Received by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_

Received by Laboratory: SEAN MCDONNELL Date/Time: 10/21/15 0915 Signature:

Sample Disposal: \_\_\_\_\_ Return to Client: \_\_\_\_\_ Lab Disposal: \_\_\_\_\_

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

November 13, 2015

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B15110378      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:20

Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Montana Inc on 11/4/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15110378-001	USZ Comp	11/03/15 9:00	11/04/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15110378-002	Yc Comp	11/03/15 9:00	11/04/15	Aqueous	Same As Above
B15110378-003	Tailings	11/03/15 9:00	11/04/15	Aqueous	Same As Above
B15110378-004	Tailings (Saturated)	11/03/15 9:00	11/04/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Technical Data Reviewer

Digitally signed by  
Jillian B. Miller  
Date: 2015.11.13 16:31:11 -07:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20  
**Lab ID:** B15110378-001  
**Client Sample ID:** USZ Comp

**Report Date:** 11/13/15  
**Collection Date:** 11/03/15 09:00  
**Date Received:** 11/04/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	2060	mg/L	D	9		E300.0	11/06/15 23:55 / ajr
Fluoride	ND	mg/L		0.2		A4500-F C	11/05/15 14:14 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	11/10/15 09:06 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.012	mg/L		0.009		E200.8	11/05/15 23:35 / amm
Antimony	ND	mg/L		0.0005		E200.8	11/05/15 23:35 / amm
Arsenic	0.001	mg/L		0.001		E200.8	11/05/15 23:35 / amm
Barium	0.012	mg/L		0.003		E200.8	11/05/15 23:35 / amm
Beryllium	ND	mg/L		0.0008		E200.8	11/05/15 23:35 / amm
Cadmium	0.0002	mg/L	D	0.0002		E200.8	11/05/15 23:35 / amm
Calcium	479	mg/L		1		E200.8	11/05/15 23:35 / amm
Chromium	ND	mg/L		0.01		E200.8	11/05/15 23:35 / amm
Copper	1.03	mg/L		0.002		E200.8	11/05/15 23:35 / amm
Iron	0.12	mg/L		0.02		E200.8	11/05/15 23:35 / amm
Lead	0.0044	mg/L		0.0003		E200.8	11/05/15 23:35 / amm
Magnesium	233	mg/L		1		E200.8	11/05/15 23:35 / amm
Manganese	4.26	mg/L		0.005		E200.8	11/05/15 23:35 / amm
Mercury	7.1E-06	mg/L		5E-06		E245.1	11/09/15 14:24 / ser
Nickel	0.085	mg/L		0.002		E200.8	11/05/15 23:35 / amm
Selenium	0.001	mg/L		0.001		E200.8	11/05/15 23:35 / amm
Silicon	8.80	mg/L	D	0.07		E200.7	11/05/15 21:16 / rjh
Silver	ND	mg/L		0.0002		E200.8	11/05/15 23:35 / amm
Strontium	19.5	mg/L		0.02		E200.8	11/05/15 23:35 / amm
Thallium	0.0431	mg/L		0.0002		E200.8	11/05/15 23:35 / amm
Uranium	ND	mg/L		0.0002		E200.8	11/05/15 23:35 / amm
Zinc	0.068	mg/L		0.008		E200.8	11/05/15 23:35 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.





**LABORATORY ANALYTICAL REPORT**

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20  
**Lab ID:** B15110378-002  
**Client Sample ID:** Yc Comp

**Report Date:** 11/13/15  
**Collection Date:** 11/03/15 09:00  
**Date Received:** 11/04/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	36	mg/L		1		E300.0	11/07/15 00:09 / ajr
Fluoride	0.5	mg/L		0.2		A4500-F C	11/05/15 14:16 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	11/10/15 09:07 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.118	mg/L		0.009		E200.8	11/05/15 23:40 / amm
Antimony	0.0013	mg/L		0.0005		E200.8	11/05/15 23:40 / amm
Arsenic	0.016	mg/L		0.001		E200.8	11/05/15 23:40 / amm
Barium	0.043	mg/L		0.003		E200.8	11/05/15 23:40 / amm
Beryllium	ND	mg/L		0.0008		E200.8	11/05/15 23:40 / amm
Cadmium	ND	mg/L	L	0.00008		E200.8	11/05/15 23:40 / amm
Calcium	9	mg/L		1		E200.8	11/05/15 23:40 / amm
Chromium	ND	mg/L		0.01		E200.8	11/05/15 23:40 / amm
Copper	ND	mg/L		0.002		E200.8	11/05/15 23:40 / amm
Iron	0.03	mg/L		0.02		E200.8	11/05/15 23:40 / amm
Lead	0.0015	mg/L		0.0003		E200.8	11/05/15 23:40 / amm
Magnesium	9	mg/L		1		E200.8	11/05/15 23:40 / amm
Manganese	ND	mg/L		0.005		E200.8	11/05/15 23:40 / amm
Mercury	ND	mg/L		5E-06		E245.1	11/09/15 14:29 / ser
Nickel	ND	mg/L		0.002		E200.8	11/05/15 23:40 / amm
Selenium	ND	mg/L		0.001		E200.8	11/05/15 23:40 / amm
Silicon	4.88	mg/L		0.05		E200.7	11/05/15 21:20 / rih
Silver	ND	mg/L		0.0002		E200.8	11/05/15 23:40 / amm
Strontium	0.21	mg/L		0.02		E200.8	11/05/15 23:40 / amm
Thallium	ND	mg/L		0.0002		E200.8	11/05/15 23:40 / amm
Uranium	0.0024	mg/L		0.0002		E200.8	11/05/15 23:40 / amm
Zinc	ND	mg/L		0.008		E200.8	11/05/15 23:40 / amm

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20  
**Lab ID:** B15110378-003  
**Client Sample ID:** Tailings

**Report Date:** 11/13/15  
**Collection Date:** 11/03/15 09:00  
**Date Received:** 11/04/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	3120	mg/L	D	9		E300.0	11/07/15 01:16 / ajr
Fluoride	0.4	mg/L		0.2		A4500-F C	11/05/15 14:19 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.93	mg/L	D	0.01		E365.1	11/13/15 16:11 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	6.77	mg/L		0.009		E200.8	11/05/15 23:45 / amm
Antimony	0.0251	mg/L		0.0005		E200.8	11/05/15 23:45 / amm
Arsenic	3.38	mg/L		0.001		E200.8	11/05/15 23:45 / amm
Barium	0.015	mg/L		0.003		E200.8	11/05/15 23:45 / amm
Beryllium	0.0013	mg/L		0.0008		E200.8	11/05/15 23:45 / amm
Cadmium	0.0016	mg/L	D	0.0004		E200.8	11/05/15 23:45 / amm
Calcium	281	mg/L		1		E200.8	11/05/15 23:45 / amm
Chromium	0.31	mg/L		0.01		E200.8	11/05/15 23:45 / amm
Copper	21.0	mg/L		0.002		E200.8	11/05/15 23:45 / amm
Iron	1290	mg/L	D	0.03		E200.7	11/05/15 21:30 / rih
Lead	0.0082	mg/L		0.0003		E200.8	11/05/15 23:45 / amm
Magnesium	ND	mg/L		1		E200.8	11/05/15 23:45 / amm
Manganese	0.561	mg/L		0.005		E200.8	11/05/15 23:45 / amm
Mercury	ND	mg/L		5E-06		E245.1	11/09/15 14:39 / ser
Nickel	1.40	mg/L		0.002		E200.8	11/05/15 23:45 / amm
Selenium	ND	mg/L		0.001		E200.8	11/05/15 23:45 / amm
Silicon	51.2	mg/L	D	0.1		E200.7	11/05/15 21:30 / rih
Silver	ND	mg/L		0.0002		E200.8	11/05/15 23:45 / amm
Strontium	0.69	mg/L		0.02		E200.8	11/05/15 23:45 / amm
Thallium	0.0194	mg/L	D	0.0003		E200.8	11/05/15 23:45 / amm
Uranium	0.0011	mg/L	D	0.0003		E200.8	11/05/15 23:45 / amm
Zinc	1.11	mg/L		0.008		E200.8	11/05/15 23:45 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20  
**Lab ID:** B15110378-004  
**Client Sample ID:** Tailings (Saturated)

**Report Date:** 11/13/15  
**Collection Date:** 11/03/15 09:00  
**Date Received:** 11/04/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	114	mg/L		1		E300.0	11/07/15 01:29 / ajr
Fluoride	0.2	mg/L		0.2		A4500-F C	11/05/15 14:22 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.013	mg/L	L	0.005		E365.1	11/10/15 09:12 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	11/05/15 23:49 / amm
Antimony	0.0006	mg/L		0.0005		E200.8	11/06/15 19:20 / mas
Arsenic	0.013	mg/L		0.001		E200.8	11/05/15 23:49 / amm
Barium	0.031	mg/L		0.003		E200.8	11/05/15 23:49 / amm
Beryllium	ND	mg/L		0.0008		E200.8	11/05/15 23:49 / amm
Cadmium	ND	mg/L		0.00003		E200.8	11/05/15 23:49 / amm
Calcium	31	mg/L		1		E200.8	11/05/15 23:49 / amm
Chromium	ND	mg/L		0.01		E200.8	11/05/15 23:49 / amm
Copper	0.069	mg/L		0.002		E200.8	11/05/15 23:49 / amm
Iron	ND	mg/L		0.02		E200.7	11/05/15 21:34 / rlh
Lead	0.0021	mg/L		0.0003		E200.8	11/05/15 23:49 / amm
Magnesium	12	mg/L		1		E200.8	11/05/15 23:49 / amm
Manganese	0.516	mg/L		0.005		E200.8	11/05/15 23:49 / amm
Mercury	ND	mg/L		5E-06		E245.1	11/09/15 14:44 / ser
Nickel	0.173	mg/L		0.002		E200.8	11/05/15 23:49 / amm
Selenium	ND	mg/L		0.001		E200.8	11/05/15 23:49 / amm
Silicon	6.73	mg/L		0.05		E200.7	11/05/15 21:34 / rlh
Silver	ND	mg/L		0.0002		E200.8	11/05/15 23:49 / amm
Strontium	0.46	mg/L		0.02		E200.8	11/05/15 23:49 / amm
Thallium	0.0050	mg/L		0.0002		E200.8	11/05/15 23:49 / amm
Uranium	ND	mg/L		0.0002		E200.8	11/05/15 23:49 / amm
Zinc	0.017	mg/L		0.008		E200.8	11/05/15 23:49 / amm

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20

**Report Date:** 11/12/15  
**Work Order:** B15110378

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_151105A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								11/05/15 10:24
Fluoride	0.940	mg/L	0.10	94	90	110			
<b>Method:</b> A4500-F C									Batch: R252044
<b>Lab ID:</b> MBLK	Method Blank								Run: MAN-TECH_151105A
Fluoride	ND	mg/L	0.01						11/05/15 10:19
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: MAN-TECH_151105A
Fluoride	0.900	mg/L	0.10	90	90	110			11/05/15 10:22
<b>Lab ID:</b> B15110362-002AMS	Sample Matrix Spike								Run: MAN-TECH_151105A
Fluoride	1.85	mg/L	0.10	101	80	120			11/05/15 14:06
<b>Lab ID:</b> B15110362-002AMSD	Sample Matrix Spike Duplicate								Run: MAN-TECH_151105A
Fluoride	1.88	mg/L	0.10	104	80	120	1.6	10	11/05/15 14:08

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20

**Report Date:** 11/12/15  
**Work Order:** B15110378

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 2_151106A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								11/06/15 18:04
Sulfate	8.59	mg/L	1.0	95	90	110			
<b>Method:</b> E300.0	Batch: R252152								
<b>Lab ID:</b> MB	Method Blank								11/06/15 17:51
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								11/06/15 18:18
Sulfate	8.62	mg/L	1.0	96	90	110			
<b>Lab ID:</b> B15110378-002AMS	Sample Matrix Spike								11/07/15 00:22
Sulfate	51.4	mg/L	1.0	84	90	110			S
<b>Lab ID:</b> B15110378-002AMSD	Sample Matrix Spike Duplicate								11/07/15 01:02
Sulfate	51.3	mg/L	1.0	83	90	110	0.2	20	S

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20

**Report Date:** 11/13/15  
**Work Order:** B15110378

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>							Analytical Run: FIA202-B_151110A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard								
Phosphorus, Total as P	0.526	mg/L	0.0050	105	90	110			11/10/15 09:01
<b>Method: E365.1</b>							Batch: 94693		
<b>Lab ID: MB-94693</b>	Method Blank								
Phosphorus, Total as P	ND	mg/L	0.002						Run: FIA202-B_151110A 11/10/15 09:04
<b>Lab ID: LCS-94693</b>	Laboratory Control Sample								
Phosphorus, Total as P	0.196	mg/L	0.0050	98	90	110			Run: FIA202-B_151110A 11/10/15 09:05
<b>Lab ID: B15110378-002CMS</b>	Sample Matrix Spike								
Phosphorus, Total Dissolved as P	0.207	mg/L	0.0050	103	90	110			Run: FIA202-B_151110A 11/10/15 09:08
<b>Lab ID: B15110378-002CMSD</b>	Sample Matrix Spike Duplicate								
Phosphorus, Total Dissolved as P	0.207	mg/L	0.0050	103	90	110			Run: FIA202-B_151110A 11/10/15 09:09
<b>Method: E365.1</b>							Analytical Run: FIA202-B_151113A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard								
Phosphorus, Total as P	0.530	mg/L	0.0050	106	90	110			11/13/15 10:18
<b>Method: E365.1</b>							Batch: 94838		
<b>Lab ID: MB-94838</b>	Method Blank								
Phosphorus, Total as P	ND	mg/L	0.002						Run: FIA202-B_151113A 11/13/15 14:53
<b>Lab ID: LCS-94838</b>	Laboratory Control Sample								
Phosphorus, Total as P	0.194	mg/L	0.0050	97	90	110			Run: FIA202-B_151113A 11/13/15 14:54
<b>Lab ID: B15110378-003CMS</b>	Sample Matrix Spike								
Phosphorus, Total Dissolved as P	1.38	mg/L	0.010	112	90	110			Run: FIA202-B_151113A 11/13/15 16:13 S
<b>Lab ID: B15110378-003CMSD</b>	Sample Matrix Spike Duplicate								
Phosphorus, Total Dissolved as P	1.38	mg/L	0.010	112	90	110			Run: FIA202-B_151113A 11/13/15 16:14 S

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 11/13/15

Project: 3767-01 WK:20

Work Order: B15110378

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_151105A			
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard								11/05/15 09:58	
Iron		2.45	mg/L	0.020	98	95	105				
Silicon		5.17	mg/L	0.10	103	95	105				
<b>Method: E200.7</b>								Batch: R252020			
<b>Lab ID: MB-6500DIS151104A</b>	2	Method Blank						Run: ICP203-B_151105A		11/05/15 10:26	
Iron		ND	mg/L	0.003							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS151104A</b>	2	Laboratory Fortified Blank						Run: ICP203-B_151105A		11/05/15 10:30	
Iron		4.96	mg/L	0.020	99	85	115				
Silicon		10.2	mg/L	0.10	102	85	115				
<b>Lab ID: B15110341-004BMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_151105A		11/05/15 21:06	
Iron		42.0	mg/L	0.020	112	70	130				
Silicon		65.5	mg/L	0.10	109	70	130				
<b>Lab ID: B15110341-004BMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_151105A		11/05/15 21:09	
Iron		40.1	mg/L	0.020	104	70	130	4.6	20		
Silicon		61.9	mg/L	0.10	102	70	130	5.6	20		
<b>Lab ID: B15110193-001CMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_151105A		11/05/15 21:59	
Iron		13.5	mg/L	0.020	121	70	130				
Silicon		32.8	mg/L	0.10	121	70	130				
<b>Lab ID: B15110193-001CMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_151105A		11/05/15 22:02	
Iron		13.1	mg/L	0.020	117	70	130	3.0	20		
Silicon		31.8	mg/L	0.10	115	70	130	3.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 11/13/15

Project: 3767-01 WK:20

Work Order: B15110378

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_151105A		
<b>Lab ID: QCS</b>	20	Initial Calibration Verification Standard						11/05/15 17:05		
Aluminum		0.247	mg/L	0.10	99	90	110			
Antimony		0.0491	mg/L	0.050	98	90	110			
Arsenic		0.0502	mg/L	0.0050	100	90	110			
Barium		0.0484	mg/L	0.10	97	90	110			
Beryllium		0.0249	mg/L	0.0010	99	90	110			
Cadmium		0.0250	mg/L	0.0010	100	90	110			
Calcium		2.58	mg/L	0.50	103	90	110			
Chromium		0.0497	mg/L	0.010	99	90	110			
Copper		0.0509	mg/L	0.010	102	90	110			
Iron		0.241	mg/L	0.020	96	90	110			
Lead		0.0492	mg/L	0.010	98	90	110			
Magnesium		2.49	mg/L	0.50	100	90	110			
Manganese		0.253	mg/L	0.010	101	90	110			
Nickel		0.0512	mg/L	0.010	102	90	110			
Selenium		0.0491	mg/L	0.0050	98	90	110			
Silver		0.0240	mg/L	0.0050	96	90	110			
Strontium		0.0499	mg/L	0.10	100	90	110			
Thallium		0.0493	mg/L	0.10	99	90	110			
Uranium		0.0197	mg/L	0.0010	98	90	110			
Zinc		0.0502	mg/L	0.010	100	90	110			

<b>Method: E200.8</b>								Batch: R252039		
<b>Lab ID: LRB</b>	20	Method Blank						Run: ICPMS206-B_151105A 11/05/15 12:14		
Aluminum		ND	mg/L	0.0001						
Antimony		ND	mg/L	8E-05						
Arsenic		ND	mg/L	6E-05						
Barium		ND	mg/L	0.0004						
Beryllium		ND	mg/L	1E-05						
Cadmium		ND	mg/L	3E-05						
Calcium		ND	mg/L	0.008						
Chromium		ND	mg/L	4E-05						
Copper		ND	mg/L	6E-05						
Iron		ND	mg/L	0.0007						
Lead		ND	mg/L	5E-05						
Magnesium		ND	mg/L	0.005						
Manganese		ND	mg/L	4E-05						
Nickel		ND	mg/L	6E-05						
Selenium		ND	mg/L	0.0001						
Silver		ND	mg/L	2E-05						
Strontium		ND	mg/L	1E-05						
Thallium		ND	mg/L	7E-05						
Uranium		ND	mg/L	5E-05						
Zinc		0.0007	mg/L	0.0001						

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 11/13/15

Project: 3767-01 WK:20

Work Order: B15110378

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Batch: R252039	
<b>Lab ID:</b>	<b>LFB</b>	20 Laboratory Fortified Blank			Run: ICPMS206-B_151105A			11/05/15 12:18			
Aluminum		0.0471	mg/L	0.10	94	85	115				
Antimony		0.0437	mg/L	0.050	87	85	115				
Arsenic		0.0488	mg/L	0.0050	98	85	115				
Barium		0.0476	mg/L	0.10	95	85	115				
Beryllium		0.0450	mg/L	0.0010	90	85	115				
Cadmium		0.0472	mg/L	0.0010	94	85	115				
Calcium		45.6	mg/L	0.50	91	85	115				
Chromium		0.0463	mg/L	0.010	93	85	115				
Copper		0.0448	mg/L	0.010	90	85	115				
Iron		4.66	mg/L	0.020	93	85	115				
Lead		0.0482	mg/L	0.010	96	85	115				
Magnesium		45.0	mg/L	0.50	90	85	115				
Manganese		0.0479	mg/L	0.010	96	85	115				
Nickel		0.0450	mg/L	0.010	90	85	115				
Selenium		0.0483	mg/L	0.0050	97	85	115				
Silver		0.0177	mg/L	0.0050	88	85	115				
Strontium		0.0479	mg/L	0.10	96	85	115				
Thallium		0.0482	mg/L	0.10	96	85	115				
Uranium		0.0472	mg/L	0.0010	94	85	115				
Zinc		0.0476	mg/L	0.010	94	85	115				
<b>Lab ID:</b>	<b>B15102496-001BMS</b>	20 Sample Matrix Spike			Run: ICPMS206-B_151105A			11/05/15 22:57			
Aluminum		0.0916	mg/L	0.030	90	70	130				
Antimony		0.0975	mg/L	0.0010	97	70	130				
Arsenic		0.0972	mg/L	0.0010	97	70	130				
Barium		0.381	mg/L	0.050	82	70	130				
Beryllium		0.0902	mg/L	0.0010	90	70	130				
Cadmium		0.0920	mg/L	0.0010	92	70	130				
Calcium		389	mg/L	1.0	76	70	130				
Chromium		0.0948	mg/L	0.0050	95	70	130				
Copper		0.0976	mg/L	0.0050	91	70	130				
Iron		8.66	mg/L	0.020	86	70	130				
Lead		0.0946	mg/L	0.0010	95	70	130				
Magnesium		199	mg/L	1.0	83	70	130				
Manganese		1.85	mg/L	0.0010		70	130			A	
Nickel		0.107	mg/L	0.0050	92	70	130				
Selenium		0.0918	mg/L	0.0010	92	70	130				
Silver		0.0346	mg/L	0.0010	86	70	130				
Strontium		1.80	mg/L	0.010		70	130			A	
Thallium		0.0948	mg/L	0.00050	95	70	130				
Uranium		0.145	mg/L	0.00030	97	70	130				
Zinc		0.118	mg/L	0.010	89	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 11/13/15

Project: 3767-01 WK:20

Work Order: B15110378

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Batch: R252039	
<b>Lab ID:</b>	<b>B15102496-001BMSD</b>	20 Sample Matrix Spike Duplicate			Run: ICPMS206-B_151105A				11/05/15 23:02		
Aluminum		0.0945	mg/L	0.030	93	70	130	3.2	20		
Antimony		0.0996	mg/L	0.0010	99	70	130	2.1	20		
Arsenic		0.0989	mg/L	0.0010	98	70	130	1.7	20		
Barium		0.395	mg/L	0.050	96	70	130	3.7	20		
Beryllium		0.0936	mg/L	0.0010	94	70	130	3.7	20		
Cadmium		0.0941	mg/L	0.0010	94	70	130	2.2	20		
Calcium		391	mg/L	1.0	78	70	130	0.5	20		
Chromium		0.0958	mg/L	0.0050	96	70	130	1.1	20		
Copper		0.0976	mg/L	0.0050	91	70	130	0.0	20		
Iron		9.74	mg/L	0.020	97	70	130	12	20		
Lead		0.0960	mg/L	0.0010	96	70	130	1.5	20		
Magnesium		202	mg/L	1.0	86	70	130	1.5	20		
Manganese		1.88	mg/L	0.0010		70	130	1.6	20	A	
Nickel		0.106	mg/L	0.0050	92	70	130	0.1	20		
Selenium		0.0933	mg/L	0.0010	93	70	130	1.6	20		
Silver		0.0351	mg/L	0.0010	88	70	130	1.6	20		
Strontium		1.83	mg/L	0.010		70	130	1.7	20	A	
Thallium		0.0962	mg/L	0.00050	96	70	130	1.4	20		
Uranium		0.147	mg/L	0.00030	100	70	130	1.6	20		
Zinc		0.116	mg/L	0.010	88	70	130	1.0	20		
<b>Lab ID:</b>	<b>B15110404-004BMS</b>	20 Sample Matrix Spike			Run: ICPMS206-B_151105A				11/06/15 00:13		
Aluminum		0.0468	mg/L	0.030	88	70	130				
Antimony		0.0430	mg/L	0.0010	86	70	130				
Arsenic		0.0523	mg/L	0.0010	97	70	130				
Barium		0.146	mg/L	0.050	87	70	130				
Beryllium		0.0454	mg/L	0.0010	91	70	130				
Cadmium		0.0462	mg/L	0.0010	92	70	130				
Calcium		78.2	mg/L	1.0	88	70	130				
Chromium		0.0475	mg/L	0.0050	95	70	130				
Copper		0.0498	mg/L	0.0050	91	70	130				
Iron		4.88	mg/L	0.020	98	70	130				
Lead		0.0471	mg/L	0.0010	94	70	130				
Magnesium		49.2	mg/L	1.0	91	70	130				
Manganese		0.0468	mg/L	0.0010	93	70	130				
Nickel		0.0460	mg/L	0.0050	92	70	130				
Selenium		0.0465	mg/L	0.0010	92	70	130				
Silver		0.0173	mg/L	0.0010	87	70	130				
Strontium		0.254	mg/L	0.010		70	130			A	
Thallium		0.0472	mg/L	0.00050	94	70	130				
Uranium		0.0487	mg/L	0.00030	96	70	130				
Zinc		0.0466	mg/L	0.010	93	70	130				

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 11/13/15

Project: 3767-01 WK:20

Work Order: B15110378

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Batch: R252039		
<b>Lab ID:</b>	<b>B15110404-004BMSD</b>	20 Sample Matrix Spike Duplicate			Run: ICPMS206-B_151105A				11/06/15 00:18	
Aluminum		0.0476	mg/L	0.030	89	70	130	1.7	20	
Antimony		0.0450	mg/L	0.0010	90	70	130	4.6	20	
Arsenic		0.0532	mg/L	0.0010	98	70	130	1.7	20	
Barium		0.150	mg/L	0.050	94	70	130	2.5	20	
Beryllium		0.0466	mg/L	0.0010	93	70	130	2.6	20	
Cadmium		0.0470	mg/L	0.0010	94	70	130	1.8	20	
Calcium		79.7	mg/L	1.0	91	70	130	1.9	20	
Chromium		0.0482	mg/L	0.0050	96	70	130	1.6	20	
Copper		0.0512	mg/L	0.0050	94	70	130	2.7	20	
Iron		5.19	mg/L	0.020	104	70	130	6.1	20	
Lead		0.0479	mg/L	0.0010	96	70	130	1.6	20	
Magnesium		50.9	mg/L	1.0	94	70	130	3.5	20	
Manganese		0.0473	mg/L	0.0010	94	70	130	0.9	20	
Nickel		0.0471	mg/L	0.0050	94	70	130	2.4	20	
Selenium		0.0485	mg/L	0.0010	96	70	130	4.1	20	
Silver		0.0180	mg/L	0.0010	90	70	130	3.5	20	
Strontium		0.254	mg/L	0.010		70	130	0.1	20	A
Thallium		0.0479	mg/L	0.00050	96	70	130	1.5	20	
Uranium		0.0492	mg/L	0.00030	97	70	130	1.2	20	
Zinc		0.0483	mg/L	0.010	96	70	130	3.6	20	

<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_151106A		
<b>Lab ID:</b>	<b>QCS</b>	Initial Calibration Verification Standard							11/06/15 17:22	
Antimony		0.0497	mg/L	0.050	99	90	110			

<b>Method: E200.8</b>								Batch: R252140		
<b>Lab ID:</b>	<b>LRB</b>	Method Blank			Run: ICPMS206-B_151106A				11/06/15 16:02	
Antimony		ND	mg/L	8E-05						

<b>Lab ID:</b>	<b>LFB</b>	Laboratory Fortified Blank			Run: ICPMS206-B_151106A				11/06/15 16:07	
Antimony		0.0443	mg/L	0.050	89	85	115			

<b>Lab ID:</b>	<b>B15102372-001BMS</b>	Sample Matrix Spike			Run: ICPMS206-B_151106A				11/06/15 18:42	
Antimony		0.0436	mg/L	0.0010	87	70	130			

<b>Lab ID:</b>	<b>B15102372-001BMSD</b>	Sample Matrix Spike Duplicate			Run: ICPMS206-B_151106A				11/06/15 18:47	
Antimony		0.0469	mg/L	0.0010	94	70	130	7.2	20	

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 11/13/15

**Project:** 3767-01 WK:20

**Work Order:** B15110378

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151109A
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								11/09/15 13:27
Mercury		0.000194	mg/L	1.0E-05	97	90	110			
<b>Method:</b> E245.1										Batch: 94659
<b>Lab ID:</b> MB-94659		Method Blank								11/09/15 13:37
Mercury		1E-06	mg/L	1E-06						Run: HGCV203-B_151109A
<b>Lab ID:</b> LCS-94659		Laboratory Control Sample								11/09/15 13:40
Mercury		0.000197	mg/L	1.0E-05	98	85	115			Run: HGCV203-B_151109A
<b>Lab ID:</b> B15110244-002BMS		Sample Matrix Spike								11/09/15 14:16
Mercury		0.000200	mg/L	1.0E-05	99	70	130			Run: HGCV203-B_151109A
<b>Lab ID:</b> B15110244-002BMSD		Sample Matrix Spike Duplicate								11/09/15 14:19
Mercury		0.000164	mg/L	1.0E-05	81	70	130	20	30	Run: HGCV203-B_151109A
<b>Lab ID:</b> B15110378-002BMS		Sample Matrix Spike								11/09/15 14:34
Mercury		0.000202	mg/L	1.0E-05	99	70	130			Run: HGCV203-B_151109A
<b>Lab ID:</b> B15110378-002BMSD		Sample Matrix Spike Duplicate								11/09/15 14:37
Mercury		0.000201	mg/L	1.0E-05	99	70	130	0.5	30	Run: HGCV203-B_151109A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15110378

Login completed by: Lisa Gancze

Date Received: 11/4/2015

Reviewed by: BL2000\tedwards

Received by: car

Reviewed Date: 11/5/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	6.2°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: McClelland Lab  
 Report Mail Address: Tintina Resources, 200 Granville St. Suite 2560, Vancouver, BC V6C 1S4 Canada  
 Invoice Address: Tintina Resources, 200 Granville St. Suite 2560, Vancouver, BC V6C 1S4 Canada

Project Name, PWS, Permit, Etc.: 3767-01 WK: 20  
 Sample Origin: NV  
 State: NV  
 Email: MLI@METTEST.COM  
 Phone/Fax: 775-356-1300  
 Purchase Order: 604-628-1162

Special Report/Formats - ELI must be notified prior to sample submittal for the following:  
 DW  A2LA  
 GSA  EDD/EDT (Electronic Data)  
 POTW/WWTP **Format:**  
 State:  LEVEL IV  
 Other:  NELAC

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Number of Containers Sample Type: A W S V B O Vegetation Bioassay Other	ANALYSIS REQUESTED	SEE ATTACHED	SEE ATTACHED	Normal Turnaround (TAT)	Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	Comments:	Receipt Temp	On Ice	Custody Seal Intact	Signature Match	Shipped by: Robert	Cooler ID(s): UWS NDAIT	EPA/State Compliance:	
																	Yes <input type="checkbox"/>	No <input type="checkbox"/>
1 USZ Comp	11/3/15	09:00	Water	X				X			6.2 °C	Yes <input checked="" type="checkbox"/>	Y N	Y N	Y N			
2 Yc Comp																		
3 Tailings																		
4 Tailings (Saturated)																		
5																		
6																		
7																		
8																		
9																		
10																		

Please Copy results to: MLI@METTEST.COM  
 hold remaining preserved samples (frozen) until further notice.

Received by (print): *[Signature]* Date/Time: 11/3/15 9AM  
 Received by (print): *[Signature]* Date/Time: 11/4/15 9:15  
 Received by Laboratory: *[Signature]* Date/Time: 11/4/15 9:15

Relinquished by (print): JOE CHANEY Date/Time: 11/3/15 9AM  
 Relinquished by (print): *[Signature]* Date/Time: *[Signature]*

Sample Disposal: Return to Client: Lab Disposal: *[Signature]*

**Custody Record MUST be Signed**

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly noted on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

November 25, 2015

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B15111472                      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:20

Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Montana Inc on 11/18/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15111472-001	Ynl B Comp	11/17/15 9:00	11/18/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15111472-002	LZ FW Comp	11/17/15 9:00	11/18/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Technical Data Reviewer

Digitally signed by  
Jillian B. Miller  
Date: 2015.11.25 12:39:30 -07:00





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20  
**Lab ID:** B15111472-001  
**Client Sample ID:** Ynl B Comp

**Report Date:** 11/25/15  
**Collection Date:** 11/17/15 09:00  
**Date Received:** 11/18/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	232	mg/L		1		E300.0	11/19/15 20:53 / rbf
Fluoride	0.4	mg/L		0.2		A4500-F C	11/19/15 10:00 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	11/20/15 16:24 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.015	mg/L		0.009		E200.8	11/19/15 15:25 / mas
Antimony	0.0005	mg/L		0.0005		E200.8	11/19/15 15:25 / mas
Arsenic	0.001	mg/L		0.001		E200.8	11/19/15 15:25 / mas
Barium	0.006	mg/L		0.003		E200.8	11/19/15 15:25 / mas
Beryllium	ND	mg/L		0.0008		E200.8	11/19/15 15:25 / mas
Cadmium	ND	mg/L		0.00003		E200.8	11/19/15 15:25 / mas
Calcium	44	mg/L		1		E200.7	11/19/15 14:18 / jjw
Chromium	ND	mg/L		0.01		E200.8	11/19/15 15:25 / mas
Copper	ND	mg/L		0.002		E200.8	11/19/15 15:25 / mas
Iron	0.11	mg/L		0.02		E200.8	11/19/15 15:25 / mas
Lead	0.0003	mg/L		0.0003		E200.8	11/19/15 15:25 / mas
Magnesium	29	mg/L		1		E200.7	11/19/15 14:18 / jjw
Manganese	ND	mg/L		0.005		E200.8	11/19/15 15:25 / mas
Mercury	ND	mg/L		5E-06		E245.1	11/19/15 16:59 / ser
Nickel	ND	mg/L		0.002		E200.8	11/19/15 15:25 / mas
Selenium	ND	mg/L		0.001		E200.8	11/19/15 15:25 / mas
Silicon	7.30	mg/L		0.05		E200.8	11/19/15 15:25 / mas
Silver	ND	mg/L		0.0002		E200.8	11/19/15 15:25 / mas
Strontium	0.43	mg/L		0.02		E200.8	11/19/15 15:25 / mas
Thallium	0.0007	mg/L		0.0002		E200.8	11/19/15 15:25 / mas
Uranium	0.0004	mg/L		0.0002		E200.8	11/19/15 15:25 / mas
Zinc	ND	mg/L		0.008		E200.8	11/19/15 15:25 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20  
**Lab ID:** B15111472-002  
**Client Sample ID:** LZ FW Comp

**Report Date:** 11/25/15  
**Collection Date:** 11/17/15 09:00  
**Date Received:** 11/18/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	96	mg/L		1		E300.0	11/19/15 21:33 / rbf
Fluoride	0.3	mg/L		0.2		A4500-F C	11/19/15 10:03 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.010	mg/L	L	0.005		E365.1	11/20/15 16:27 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.027	mg/L		0.009		E200.8	11/19/15 15:30 / mas
Antimony	0.0033	mg/L		0.0005		E200.8	11/19/15 15:30 / mas
Arsenic	0.145	mg/L		0.001		E200.8	11/19/15 15:30 / mas
Barium	0.019	mg/L		0.003		E200.7	11/19/15 14:53 / jjw
Beryllium	ND	mg/L		0.0008		E200.7	11/19/15 14:53 / jjw
Cadmium	ND	mg/L		0.00003		E200.8	11/19/15 15:30 / mas
Calcium	19	mg/L		1		E200.8	11/19/15 15:30 / mas
Chromium	ND	mg/L		0.01		E200.7	11/19/15 14:53 / jjw
Copper	ND	mg/L		0.002		E200.8	11/19/15 15:30 / mas
Iron	ND	mg/L		0.02		E200.8	11/19/15 15:30 / mas
Lead	ND	mg/L		0.0003		E200.8	11/19/15 15:30 / mas
Magnesium	15	mg/L		1		E200.7	11/19/15 14:53 / jjw
Manganese	0.008	mg/L		0.005		E200.7	11/19/15 14:53 / jjw
Mercury	ND	mg/L		5E-06		E245.1	11/19/15 17:02 / ser
Nickel	0.004	mg/L		0.002		E200.8	11/19/15 15:30 / mas
Selenium	0.002	mg/L		0.001		E200.8	11/19/15 15:30 / mas
Silicon	9.73	mg/L		0.05		E200.7	11/19/15 14:53 / jjw
Silver	ND	mg/L		0.0002		E200.8	11/19/15 15:30 / mas
Strontium	0.16	mg/L		0.02		E200.7	11/19/15 14:53 / jjw
Thallium	ND	mg/L		0.0002		E200.8	11/19/15 15:30 / mas
Uranium	0.162	mg/L		0.0002		E200.8	11/19/15 15:30 / mas
Zinc	ND	mg/L		0.008		E200.8	11/19/15 15:30 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20

**Report Date:** 11/25/15  
**Work Order:** B15111472

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_151119A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								11/19/15 09:29
Fluoride	0.960	mg/L	0.10	96	90	110			
<b>Method:</b> A4500-F C									Batch: R252713
<b>Lab ID:</b> MBLK	Method Blank								11/19/15 09:23
Fluoride	ND	mg/L	0.01						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								11/19/15 09:32
Fluoride	0.980	mg/L	0.10	98	90	110			
<b>Lab ID:</b> B15111243-002AMS	Sample Matrix Spike								11/19/15 09:39
Fluoride	1.24	mg/L	0.10	92	80	120			
<b>Lab ID:</b> B15111243-002AMSD	Sample Matrix Spike Duplicate								11/19/15 09:42
Fluoride	1.25	mg/L	0.10	93	80	120	0.8	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20

**Report Date:** 11/25/15  
**Work Order:** B15111472

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 2_151119A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								11/19/15 10:33
Sulfate	8.72	mg/L	1.0	97	90	110			
<b>Method:</b> E300.0	Batch: R252771								
<b>Lab ID:</b> MB	Method Blank								11/19/15 10:19
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								11/19/15 10:46
Sulfate	9.08	mg/L	1.0	101	90	110			
<b>Lab ID:</b> B15111472-001AMS	Sample Matrix Spike								11/19/15 21:06
Sulfate	253	mg/L	1.0		90	110			A
<b>Lab ID:</b> B15111472-001AMSD	Sample Matrix Spike Duplicate								11/19/15 21:20
Sulfate	251	mg/L	1.0		90	110	0.6	20	A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20

**Report Date:** 11/25/15  
**Work Order:** B15111472

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E365.1								Analytical Run: FIA202-B_151120B		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Phosphorus, Total as P	0.534	mg/L	0.0050	107	90	110			11/20/15 15:50	
<b>Method:</b> E365.1								Batch: 95046		
<b>Lab ID:</b> MB-95046	Method Blank									
Phosphorus, Total as P	ND	mg/L	0.002						Run: FIA202-B_151120B 11/20/15 15:53	
<b>Lab ID:</b> LCS-95046	Laboratory Control Sample									
Phosphorus, Total as P	0.200	mg/L	0.0050	100	90	110			Run: FIA202-B_151120B 11/20/15 15:54	
<b>Lab ID:</b> B15111472-001CMS	Sample Matrix Spike									
Phosphorus, Total Dissolved as P	0.201	mg/L	0.0050	100	90	110			Run: FIA202-B_151120B 11/20/15 16:25	
<b>Lab ID:</b> B15111472-001CMSD	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P	0.201	mg/L	0.0050	100	90	110			Run: FIA202-B_151120B 11/20/15 16:26	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20

**Report Date:** 11/23/15  
**Work Order:** B15111472

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_151119A			
<b>Lab ID: ICV</b>	8	Continuing Calibration Verification Standard						11/19/15 10:46			
Barium		2.48	mg/L	0.10	99	95	105				
Beryllium		1.27	mg/L	0.010	101	95	105				
Calcium		26.0	mg/L	1.0	104	95	105				
Chromium		2.47	mg/L	0.050	99	95	105				
Magnesium		26.0	mg/L	1.0	104	95	105				
Manganese		2.48	mg/L	0.010	99	95	105				
Silicon		5.01	mg/L	0.10	100	95	105				
Strontium		2.53	mg/L	0.10	101	95	105				
<b>Method: E200.7</b>								Batch: R252723			
<b>Lab ID: MB-6500DIS151119A</b>	8	Method Blank						Run: ICP203-B_151119A 11/19/15 11:19			
Barium		ND	mg/L	0.0002							
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.08							
Chromium		ND	mg/L	0.003							
Magnesium		ND	mg/L	0.006							
Manganese		ND	mg/L	0.0006							
Silicon		0.03	mg/L	0.01							
Strontium		ND	mg/L	0.0003							
<b>Lab ID: LFB-6500DIS151119A</b>	8	Laboratory Fortified Blank						Run: ICP203-B_151119A 11/19/15 11:22			
Barium		1.02	mg/L	0.10	102	85	115				
Beryllium		0.513	mg/L	0.010	103	85	115				
Calcium		53.3	mg/L	1.0	107	85	115				
Chromium		1.02	mg/L	0.050	102	85	115				
Magnesium		57.6	mg/L	1.0	115	85	115				
Manganese		5.04	mg/L	0.010	101	85	115				
Silicon		10.7	mg/L	0.10	107	85	115				
Strontium		1.05	mg/L	0.10	105	85	115				
<b>Lab ID: B15111446-002BMS2</b>	8	Sample Matrix Spike						Run: ICP203-B_151119A 11/19/15 14:07			
Barium		4.68	mg/L	0.050	83	70	130				
Beryllium		1.99	mg/L	0.0010	80	70	130				
Calcium		239	mg/L	1.0	89	70	130				
Chromium		4.21	mg/L	0.016	84	70	130				
Magnesium		242	mg/L	1.0	91	70	130				
Manganese		20.1	mg/L	0.0033	80	70	130				
Silicon		51.4	mg/L	0.10	92	70	130				
Strontium		5.96	mg/L	0.010	113	70	130				
<b>Lab ID: B15111446-002BMSD</b>	8	Sample Matrix Spike Duplicate						Run: ICP203-B_151119A 11/19/15 14:11			
Barium		4.62	mg/L	0.050	82	70	130	1.3	20		
Beryllium		1.97	mg/L	0.0010	79	70	130	1.3	20		
Calcium		236	mg/L	1.0	88	70	130	1.4	20		
Chromium		4.16	mg/L	0.016	83	70	130	1.4	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20

**Report Date:** 11/23/15  
**Work Order:** B15111472

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.7										Batch: R252723
<b>Lab ID:</b> B15111446-002BMSD	8	Sample Matrix Spike Duplicate								Run: ICP203-B_151119A 11/19/15 14:11
Magnesium		240	mg/L	1.0	90	70	130	1.0	20	
Manganese		19.8	mg/L	0.0033	79	70	130	1.5	20	
Silicon		50.3	mg/L	0.10	90	70	130	2.2	20	
Strontium		5.90	mg/L	0.010	111	70	130	0.9	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20

**Report Date:** 11/23/15  
**Work Order:** B15111472

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_151119A	
<b>Lab ID: QCS</b>	20	Initial Calibration Verification Standard							11/19/15 12:00		
Aluminum		0.257	mg/L	0.10	103	90	110				
Antimony		0.0526	mg/L	0.050	105	90	110				
Arsenic		0.0500	mg/L	0.0050	100	90	110				
Barium		0.0491	mg/L	0.10	98	90	110				
Beryllium		0.0247	mg/L	0.0010	99	90	110				
Cadmium		0.0255	mg/L	0.0010	102	90	110				
Calcium		2.54	mg/L	0.50	102	90	110				
Chromium		0.0491	mg/L	0.010	98	90	110				
Copper		0.0500	mg/L	0.010	100	90	110				
Iron		0.239	mg/L	0.020	96	90	110				
Lead		0.0492	mg/L	0.010	98	90	110				
Manganese		0.256	mg/L	0.010	102	90	110				
Nickel		0.0503	mg/L	0.010	101	90	110				
Selenium		0.0516	mg/L	0.0050	103	90	110				
Silicon		0.481	mg/L	0.10	96	90	110				
Silver		0.0254	mg/L	0.0050	102	90	110				
Strontium		0.0498	mg/L	0.10	100	90	110				
Thallium		0.0487	mg/L	0.10	97	90	110				
Uranium		0.0195	mg/L	0.0010	98	90	110				
Zinc		0.0511	mg/L	0.010	102	90	110				

<b>Method: E200.8</b>										Batch: R252735	
<b>Lab ID: LRB</b>	20	Method Blank							Run: ICPMS206-B_151119A 11/19/15 12:56		
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Barium		ND	mg/L	0.0004							
Beryllium		ND	mg/L	1E-05							
Cadmium		ND	mg/L	3E-05							
Calcium		ND	mg/L	0.008							
Chromium		ND	mg/L	4E-05							
Copper		ND	mg/L	6E-05							
Iron		ND	mg/L	0.0007							
Lead		ND	mg/L	5E-05							
Manganese		ND	mg/L	4E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Silicon		ND	mg/L	0.002							
Silver		ND	mg/L	2E-05							
Strontium		ND	mg/L	1E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
Zinc		0.0001	mg/L	0.0001							

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20

**Report Date:** 11/23/15  
**Work Order:** B15111472

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										Batch: R252735
<b>Lab ID: LFB</b>	20	Laboratory Fortified Blank					Run: ICPMS206-B_151119A			11/19/15 13:01
Aluminum		0.0474	mg/L	0.10	95	85	115			
Antimony		0.0426	mg/L	0.050	85	85	115			
Arsenic		0.0496	mg/L	0.0050	99	85	115			
Barium		0.0454	mg/L	0.10	91	85	115			
Beryllium		0.0433	mg/L	0.0010	87	85	115			
Cadmium		0.0452	mg/L	0.0010	90	85	115			
Calcium		51.0	mg/L	0.50	102	85	115			
Chromium		0.0494	mg/L	0.010	99	85	115			
Copper		0.0510	mg/L	0.010	102	85	115			
Iron		4.60	mg/L	0.020	92	85	115			
Lead		0.0456	mg/L	0.010	91	85	115			
Manganese		0.0462	mg/L	0.010	92	85	115			
Nickel		0.0485	mg/L	0.010	97	85	115			
Selenium		0.0465	mg/L	0.0050	93	85	115			
Silicon		0.172	mg/L	0.10	86	85	115			
Silver		0.0180	mg/L	0.0050	90	85	115			
Strontium		0.0490	mg/L	0.10	98	85	115			
Thallium		0.0454	mg/L	0.10	91	85	115			
Uranium		0.0457	mg/L	0.0010	91	85	115			
Zinc		0.0538	mg/L	0.010	107	85	115			
<b>Lab ID: B15111444-001AMS</b>	20	Sample Matrix Spike					Run: ICPMS206-B_151119A			11/19/15 15:01
Aluminum		0.0487	mg/L	0.030	88	70	130			
Antimony		0.0515	mg/L	0.0010	101	70	130			
Arsenic		0.0436	mg/L	0.0010	86	70	130			
Barium		21.6	mg/L	0.050		70	130			A
Beryllium		0.0406	mg/L	0.0010	81	70	130			
Cadmium		0.0432	mg/L	0.0010	86	70	130			
Calcium		166	mg/L	1.0	76	70	130			
Chromium		0.0412	mg/L	0.0050	81	70	130			
Copper		0.0366	mg/L	0.0050	73	70	130			
Iron		6.18	mg/L	0.020	76	70	130			
Lead		0.0511	mg/L	0.0010	98	70	130			
Manganese		0.195	mg/L	0.0010	75	70	130			
Nickel		0.0372	mg/L	0.0050	73	70	130			
Selenium		0.0397	mg/L	0.0010	79	70	130			
Silicon		19.1	mg/L	0.10		70	130			AE
Silver		0.0107	mg/L	0.0010	54	70	130			S
Strontium		15.6	mg/L	0.010		70	130			A
Thallium		0.0431	mg/L	0.00050	86	70	130			
Uranium		0.0511	mg/L	0.00030	102	70	130			
Zinc		1.60	mg/L	0.010		70	130			A
<b>Lab ID: B15111444-001AMSD</b>	20	Sample Matrix Spike Duplicate					Run: ICPMS206-B_151119A			11/19/15 15:06
Aluminum		0.0483	mg/L	0.030	87	70	130	0.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

E - Estimated value. Result exceeds the instrument upper quantitation limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20

**Report Date:** 11/23/15  
**Work Order:** B15111472

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R252735
<b>Lab ID:</b> B15111444-001AMSD	20	Sample Matrix Spike Duplicate					Run: ICPMS206-B_151119A			11/19/15 15:06
Antimony		0.0499	mg/L	0.0010	98	70	130	3.2	20	
Arsenic		0.0447	mg/L	0.0010	88	70	130	2.7	20	
Barium		21.3	mg/L	0.050		70	130	1.4	20	A
Beryllium		0.0392	mg/L	0.0010	78	70	130	3.6	20	
Cadmium		0.0418	mg/L	0.0010	84	70	130	3.1	20	
Calcium		168	mg/L	1.0	79	70	130	0.8	20	
Chromium		0.0420	mg/L	0.0050	83	70	130	1.9	20	
Copper		0.0368	mg/L	0.0050	73	70	130	0.5	20	
Iron		6.47	mg/L	0.020	82	70	130	4.6	20	
Lead		0.0508	mg/L	0.0010	98	70	130	0.4	20	
Manganese		0.193	mg/L	0.0010	70	70	130	1.1	20	
Nickel		0.0371	mg/L	0.0050	73	70	130	0.1	20	
Selenium		0.0412	mg/L	0.0010	82	70	130	3.6	20	
Silicon		19.2	mg/L	0.10		70	130	0.5	20	AE
Silver		0.0142	mg/L	0.0010	71	70	130	28	20	R
Strontium		15.4	mg/L	0.010		70	130	0.9	20	A
Thallium		0.0433	mg/L	0.00050	87	70	130	0.4	20	
Uranium		0.0501	mg/L	0.00030	100	70	130	1.9	20	
Zinc		1.60	mg/L	0.010		70	130	0.5	20	A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

E - Estimated value. Result exceeds the instrument upper quantitation limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:20

**Report Date:** 11/23/15  
**Work Order:** B15111472

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151119A
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								11/19/15 15:37
Mercury		0.000190	mg/L	1.0E-05	95	90	110			
<b>Method:</b> E245.1										Batch: 95009
<b>Lab ID:</b> MB-95009		Method Blank								11/19/15 16:27
Mercury		1E-06	mg/L	1E-06						Run: HGCV203-B_151119A
<b>Lab ID:</b> LCS-95009		Laboratory Control Sample								11/19/15 16:29
Mercury		0.000195	mg/L	1.0E-05	97	85	115			Run: HGCV203-B_151119A
<b>Lab ID:</b> B15111430-006CMS		Sample Matrix Spike								11/19/15 16:49
Mercury		0.000196	mg/L	1.0E-05	97	70	130			Run: HGCV203-B_151119A
<b>Lab ID:</b> B15111430-006CMSD		Sample Matrix Spike Duplicate								11/19/15 17:05
Mercury		0.000184	mg/L	2.5E-05	92	70	130	6.0	30	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15111472

Login completed by: Brittaney R. Garza

Date Received: 11/18/2015

Reviewed by: BL2000\lcardreau

Received by: amn

Reviewed Date: 11/18/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	6.8°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: McClelland Lab		Project Name, PWS, Permit, Etc. 3767-01 WK:20		Sample Origin State: NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Phone/Fax: 775-356-1300		Email: MLI@METTEST.COM	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko		604-628-1162		Purchase Order:	
Special Report/Formats - ELI must be notified prior to sample submittal for the following:  <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: <input type="checkbox"/> Other: <input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) Format: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		ANALYSIS REQUESTED		R U S H		Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	
Number of Containers		Sample Type: A W S V B O		Vegetation Blossay Other		Shipped by: <u>UPS</u> Cooler ID(s): <u>Robert UPS Mpt</u>	
MATRIX		Water		SEE ATTACHED		Receipt Temp: <u>4.8</u> °C On Ice: <input checked="" type="radio"/> Yes <input type="radio"/> No	
Custody Seal <input type="checkbox"/> Y <input type="checkbox"/> N		Intact <input type="checkbox"/> Y <input type="checkbox"/> N		Signature Match <input type="checkbox"/> Y <input type="checkbox"/> N		Custody Seal <input type="checkbox"/> Y <input type="checkbox"/> N	
1 Ynl B Comp		Collection Date: 11/17/15		Collection Time: 09:00		Please Copy results to: MLI@METTEST.COM	
2 LZ FW Comp		11/17/15		09:00		hold remaining preserved	
3		B6		B6		samples (frozen) until further notice.	
4							
5							
6							
7							
8							
9							
10							
Relinquished by (print): JOE CHANEY		Date/Time: 11/17/15 9AM		Signature: 		Received by (print):	
Relinquished by (print):		Date/Time:		Signature:		Received by (print):	
Sample Disposal:		Return to Client:		Lab Disposal:		Received by Laboratory: Ann Hebel	
Date/Time: 11/18/15 09:15		Signature: 		Date/Time: 11/18/15 09:15		Signature: 	
<b>Custody Record MUST be Signed</b>						LABORATORY USE ONLY	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

December 10, 2015

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B15120211      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:24

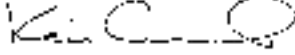
Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Montana Inc on 12/2/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15120211-001	USZ Comp	12/01/15 9:00	12/02/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15120211-002	Yc Comp	12/01/15 9:00	12/02/15	Aqueous	Same As Above
B15120211-003	Tailings	12/01/15 9:00	12/02/15	Aqueous	Same As Above
B15120211-004	Tailings (Saturated)	12/01/15 9:00	12/02/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2015.12.10 10:21:44 -07:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:24  
**Lab ID:** B15120211-001  
**Client Sample ID:** USZ Comp

**Report Date:** 12/10/15  
**Collection Date:** 12/01/15 09:00  
**Date Received:** 12/02/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	1910	mg/L	D	9		E300.0	12/03/15 20:48 / ajr
Fluoride	ND	mg/L		0.2		A4500-F C	12/07/15 10:42 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	12/04/15 15:36 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	12/04/15 16:36 / mas
Antimony	ND	mg/L		0.0005		E200.8	12/03/15 14:34 / mas
Arsenic	ND	mg/L		0.001		E200.8	12/03/15 14:34 / mas
Barium	0.011	mg/L		0.003		E200.8	12/03/15 14:34 / mas
Beryllium	ND	mg/L		0.0008		E200.7	12/03/15 13:39 / jjw
Cadmium	0.00046	mg/L		0.00003		E200.8	12/03/15 14:34 / mas
Calcium	392	mg/L		1		E200.7	12/03/15 13:39 / jjw
Chromium	ND	mg/L		0.01		E200.8	12/03/15 14:34 / mas
Copper	1.08	mg/L		0.002		E200.8	12/03/15 14:34 / mas
Iron	0.12	mg/L		0.02		E200.7	12/03/15 13:39 / jjw
Lead	0.0026	mg/L		0.0003		E200.8	12/03/15 14:34 / mas
Magnesium	184	mg/L		1		E200.7	12/03/15 13:39 / jjw
Manganese	3.73	mg/L		0.005		E200.8	12/03/15 14:34 / mas
Mercury	6.4E-06	mg/L		5E-06		E245.1	12/04/15 17:09 / ser
Nickel	0.090	mg/L		0.002		E200.8	12/03/15 14:34 / mas
Selenium	ND	mg/L		0.001		E200.8	12/04/15 16:36 / mas
Silicon	3.15	mg/L	D	0.07		E200.7	12/03/15 13:39 / jjw
Silver	ND	mg/L		0.0002		E200.8	12/04/15 16:36 / mas
Strontium	18.3	mg/L		0.02		E200.8	12/03/15 14:34 / mas
Thallium	0.0317	mg/L		0.0002		E200.8	12/03/15 14:34 / mas
Uranium	ND	mg/L		0.0002		E200.8	12/04/15 16:36 / mas
Zinc	0.069	mg/L		0.008		E200.8	12/03/15 14:34 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:24  
**Lab ID:** B15120211-002  
**Client Sample ID:** Yc Comp

**Report Date:** 12/10/15  
**Collection Date:** 12/01/15 09:00  
**Date Received:** 12/02/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	28	mg/L		1		E300.0	12/03/15 21:01 / ajr
Fluoride	ND	mg/L		0.2		A4500-F C	12/07/15 10:56 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	12/04/15 15:37 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	0.098	mg/L		0.009		E200.8	12/04/15 16:41 / mas
Antimony	0.0008	mg/L		0.0005		E200.8	12/04/15 16:41 / mas
Arsenic	0.014	mg/L		0.001		E200.8	12/03/15 14:49 / mas
Barium	0.057	mg/L		0.003		E200.8	12/03/15 14:49 / mas
Beryllium	ND	mg/L		0.0008		E200.7	12/03/15 13:42 / jjw
Cadmium	ND	mg/L		0.00003		E200.8	12/03/15 14:49 / mas
Calcium	8	mg/L		1		E200.7	12/03/15 13:42 / jjw
Chromium	ND	mg/L		0.01		E200.8	12/03/15 14:49 / mas
Copper	ND	mg/L		0.002		E200.8	12/03/15 14:49 / mas
Iron	0.02	mg/L		0.02		E200.7	12/03/15 13:42 / jjw
Lead	ND	mg/L		0.0003		E200.8	12/03/15 14:49 / mas
Magnesium	8	mg/L		1		E200.7	12/03/15 13:42 / jjw
Manganese	ND	mg/L		0.005		E200.8	12/03/15 14:49 / mas
Mercury	ND	mg/L		5E-06		E245.1	12/04/15 17:14 / ser
Nickel	ND	mg/L		0.002		E200.8	12/03/15 14:49 / mas
Selenium	ND	mg/L		0.001		E200.8	12/03/15 14:49 / mas
Silicon	5.83	mg/L		0.05		E200.7	12/03/15 13:42 / jjw
Silver	ND	mg/L		0.0002		E200.8	12/04/15 16:41 / mas
Strontium	0.18	mg/L		0.02		E200.8	12/03/15 14:49 / mas
Thallium	ND	mg/L		0.0002		E200.8	12/03/15 14:49 / mas
Uranium	0.0035	mg/L		0.0002		E200.8	12/04/15 16:41 / mas
Zinc	ND	mg/L		0.008		E200.8	12/03/15 14:49 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:24  
**Lab ID:** B15120211-003  
**Client Sample ID:** Tailings

**Report Date:** 12/10/15  
**Collection Date:** 12/01/15 09:00  
**Date Received:** 12/02/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	2070	mg/L	D	9		E300.0	12/03/15 21:15 / ajr
Fluoride	0.6	mg/L		0.2		A4500-F C	12/07/15 11:04 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	1.22	mg/L	D	0.05		E365.1	12/04/15 16:34 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	5.05	mg/L	D	0.03		E200.7	12/03/15 14:00 / jjw
Antimony	0.0119	mg/L		0.0005		E200.8	12/03/15 14:52 / mas
Arsenic	12.9	mg/L		0.001		E200.8	12/03/15 14:52 / mas
Barium	0.013	mg/L		0.003		E200.8	12/03/15 14:52 / mas
Beryllium	0.0009	mg/L		0.0008		E200.7	12/03/15 14:00 / jjw
Cadmium	0.00073	mg/L		0.00003		E200.8	12/03/15 14:52 / mas
Calcium	189	mg/L		1		E200.7	12/03/15 14:00 / jjw
Chromium	0.06	mg/L		0.01		E200.8	12/03/15 14:52 / mas
Copper	1.80	mg/L		0.002		E200.8	12/03/15 14:52 / mas
Iron	746	mg/L		0.02		E200.7	12/03/15 14:00 / jjw
Lead	0.0017	mg/L		0.0003		E200.8	12/03/15 14:52 / mas
Magnesium	ND	mg/L		1		E200.7	12/03/15 14:00 / jjw
Manganese	0.261	mg/L		0.005		E200.8	12/03/15 14:52 / mas
Mercury	8.9E-06	mg/L		5E-06		E245.1	12/04/15 17:17 / ser
Nickel	0.702	mg/L		0.002		E200.8	12/03/15 14:52 / mas
Selenium	ND	mg/L		0.001		E200.8	12/04/15 16:46 / mas
Silicon	26.0	mg/L	D	0.07		E200.7	12/03/15 14:00 / jjw
Silver	ND	mg/L		0.0002		E200.8	12/04/15 16:46 / mas
Strontium	0.61	mg/L		0.02		E200.8	12/03/15 14:52 / mas
Thallium	0.0381	mg/L		0.0002		E200.8	12/03/15 14:52 / mas
Uranium	ND	mg/L		0.0002		E200.8	12/04/15 16:46 / mas
Zinc	0.498	mg/L		0.008		E200.8	12/03/15 14:52 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:24  
**Lab ID:** B15120211-004  
**Client Sample ID:** Tailings (Saturated)

**Report Date:** 12/10/15  
**Collection Date:** 12/01/15 09:00  
**Date Received:** 12/02/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	124	mg/L		1		E300.0	12/03/15 21:28 / ajr
Fluoride	0.2	mg/L		0.2		A4500-F C	12/07/15 11:07 / ajr
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.010	mg/L	L	0.005		E365.1	12/04/15 15:44 / gap
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	12/04/15 16:50 / mas
Antimony	ND	mg/L		0.0005		E200.8	12/03/15 14:55 / mas
Arsenic	0.010	mg/L		0.001		E200.8	12/03/15 14:55 / mas
Barium	0.028	mg/L		0.003		E200.8	12/03/15 14:55 / mas
Beryllium	ND	mg/L		0.0008		E200.7	12/03/15 14:03 / jjw
Cadmium	ND	mg/L		0.00003		E200.8	12/03/15 14:55 / mas
Calcium	26	mg/L		1		E200.7	12/03/15 14:03 / jjw
Chromium	ND	mg/L		0.01		E200.8	12/03/15 14:55 / mas
Copper	1.35	mg/L		0.002		E200.8	12/03/15 14:55 / mas
Iron	0.97	mg/L		0.02		E200.7	12/03/15 14:03 / jjw
Lead	ND	mg/L		0.0003		E200.8	12/03/15 14:55 / mas
Magnesium	12	mg/L		1		E200.7	12/03/15 14:03 / jjw
Manganese	0.533	mg/L		0.005		E200.8	12/03/15 14:55 / mas
Mercury	ND	mg/L		5E-06		E245.1	12/04/15 17:19 / ser
Nickel	0.253	mg/L		0.002		E200.8	12/03/15 14:55 / mas
Selenium	ND	mg/L		0.001		E200.8	12/03/15 14:55 / mas
Silicon	7.60	mg/L		0.05		E200.7	12/03/15 14:03 / jjw
Silver	ND	mg/L		0.0002		E200.8	12/04/15 16:50 / mas
Strontium	0.44	mg/L		0.02		E200.8	12/03/15 14:55 / mas
Thallium	0.0042	mg/L		0.0002		E200.8	12/03/15 14:55 / mas
Uranium	ND	mg/L		0.0002		E200.8	12/04/15 16:50 / mas
Zinc	0.023	mg/L		0.008		E200.8	12/03/15 14:55 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:24

**Report Date:** 12/09/15  
**Work Order:** B15120211

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_151207A	
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								12/07/15 10:04	
Fluoride	1.02	mg/L	0.10	102	90	110				
<b>Method:</b> A4500-F C									Batch: R253413	
<b>Lab ID:</b> MBLK	Method Blank								Run: MAN-TECH_151207A	12/07/15 09:58
Fluoride	ND	mg/L	0.01							
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: MAN-TECH_151207A	12/07/15 10:01
Fluoride	1.06	mg/L	0.10	106	90	110				
<b>Lab ID:</b> B15120211-002AMS	Sample Matrix Spike								Run: MAN-TECH_151207A	12/07/15 10:59
Fluoride	1.24	mg/L	0.10	106	80	120				
<b>Lab ID:</b> B15120211-002AMSD	Sample Matrix Spike Duplicate								Run: MAN-TECH_151207A	12/07/15 11:01
Fluoride	1.27	mg/L	0.10	109	80	120	2.4	10		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:24

**Report Date:** 12/09/15  
**Work Order:** B15120211

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 1_151203A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								12/03/15 13:23
Sulfate	9.20	mg/L	1.0	102	90	110			
<b>Method:</b> E300.0	Batch: R253315								
<b>Lab ID:</b> MB	Method Blank								12/03/15 13:36
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								12/03/15 13:49
Sulfate	33.0	mg/L	1.0	94	90	110			
<b>Lab ID:</b> B15120176-001AMS	Sample Matrix Spike								12/03/15 19:26
Sulfate	1210	mg/L	4.2	93	90	110			
<b>Lab ID:</b> B15120176-001AMSD	Sample Matrix Spike Duplicate								12/03/15 19:40
Sulfate	1210	mg/L	4.2	92	90	110	0.3	20	
<b>Lab ID:</b> B15120230-001AMS	Sample Matrix Spike								12/03/15 22:36
Sulfate	514	mg/L	1.1	92	90	110			
<b>Lab ID:</b> B15120230-001AMSD	Sample Matrix Spike Duplicate								12/03/15 22:49
Sulfate	514	mg/L	1.1	92	90	110	0.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:24

**Report Date:** 12/09/15  
**Work Order:** B15120211

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E365.1								Analytical Run: FIA202-B_151204B		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Phosphorus, Total as P	0.544	mg/L	0.0050	109	90	110			12/04/15 15:23	
<b>Method:</b> E365.1								Batch: 95335		
<b>Lab ID:</b> MB-95335	Method Blank									
Phosphorus, Total as P	ND	mg/L	0.002						Run: FIA202-B_151204B 12/04/15 15:25	
<b>Lab ID:</b> LCS-95335	Laboratory Control Sample									
Phosphorus, Total as P	0.198	mg/L	0.0050	99	90	110			Run: FIA202-B_151204B 12/04/15 15:26	
<b>Lab ID:</b> B15120211-002CMS	Sample Matrix Spike									
Phosphorus, Total Dissolved as P	0.199	mg/L	0.0050	100	90	110			Run: FIA202-B_151204B 12/04/15 15:38	
<b>Lab ID:</b> B15120211-002CMSD	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P	0.198	mg/L	0.0050	99	90	110			Run: FIA202-B_151204B 12/04/15 15:40	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15120211

Login completed by: Brittaney R. Garza

Date Received: 12/2/2015

Reviewed by: BL2000\cindy

Received by: cds

Reviewed Date: 12/3/2015

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 7.2°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None





**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

December 28, 2015

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B15121387      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:24

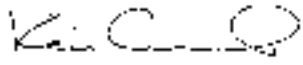
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Montana Inc on 12/17/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15121387-001	Ynl B Comp	12/15/15 9:00	12/17/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15121387-002	LZ FW Comp	12/15/15 9:00	12/17/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2015.12.28 12:43:41 -07:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:24  
**Lab ID:** B15121387-001  
**Client Sample ID:** Ynl B Comp

**Report Date:** 12/28/15  
**Collection Date:** 12/15/15 09:00  
**Date Received:** 12/17/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	187	mg/L		1		E300.0	12/24/15 07:15 / ajr
Fluoride	0.3	mg/L		0.2		A4500-F C	12/23/15 10:15 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	D	0.01		E365.1	12/21/15 16:26 / jpv
<b>METALS, DISSOLVED</b>							
Aluminum	0.016	mg/L		0.009		E200.8	12/21/15 23:29 / amm
Antimony	0.0005	mg/L		0.0005		E200.8	12/21/15 23:29 / amm
Arsenic	0.002	mg/L		0.001		E200.8	12/18/15 18:28 / mas
Barium	0.008	mg/L		0.003		E200.8	12/21/15 23:29 / amm
Beryllium	ND	mg/L		0.0008		E200.8	12/18/15 18:28 / mas
Cadmium	ND	mg/L		0.00003		E200.8	12/18/15 18:28 / mas
Calcium	43	mg/L		1		E200.8	12/18/15 18:28 / mas
Chromium	ND	mg/L		0.01		E200.8	12/18/15 18:28 / mas
Copper	ND	mg/L		0.002		E200.8	12/18/15 18:28 / mas
Iron	ND	mg/L		0.02		E200.8	12/18/15 18:28 / mas
Lead	0.0020	mg/L		0.0003		E200.8	12/18/15 18:28 / mas
Magnesium	23	mg/L		1		E200.8	12/18/15 18:28 / mas
Manganese	ND	mg/L		0.005		E200.8	12/18/15 18:28 / mas
Mercury	ND	mg/L		5E-06		E245.1	12/21/15 17:33 / ser
Nickel	ND	mg/L		0.002		E200.8	12/18/15 18:28 / mas
Selenium	ND	mg/L		0.001		E200.8	12/18/15 18:28 / mas
Silicon	4.04	mg/L		0.05		E200.7	12/21/15 14:15 / jjw
Silver	ND	mg/L		0.0002		E200.8	12/18/15 18:28 / mas
Strontium	0.35	mg/L		0.02		E200.8	12/18/15 18:28 / mas
Thallium	ND	mg/L		0.0002		E200.8	12/18/15 18:28 / mas
Uranium	0.0004	mg/L		0.0002		E200.8	12/21/15 23:29 / amm
Zinc	ND	mg/L		0.008		E200.8	12/18/15 18:28 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:24  
**Lab ID:** B15121387-002  
**Client Sample ID:** LZ FW Comp

**Report Date:** 12/28/15  
**Collection Date:** 12/15/15 09:00  
**Date Received:** 12/17/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	77	mg/L		1		E300.0	12/24/15 07:29 / ajr
Fluoride	0.2	mg/L		0.2		A4500-F C	12/23/15 10:18 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.007	mg/L	L	0.005		E365.1	12/21/15 16:29 / jpv
<b>METALS, DISSOLVED</b>							
Aluminum	0.033	mg/L		0.009		E200.8	12/18/15 18:33 / mas
Antimony	0.0029	mg/L		0.0005		E200.8	12/18/15 18:33 / mas
Arsenic	0.126	mg/L		0.001		E200.8	12/18/15 18:33 / mas
Barium	0.023	mg/L		0.003		E200.8	12/18/15 18:33 / mas
Beryllium	ND	mg/L		0.0008		E200.8	12/18/15 18:33 / mas
Cadmium	ND	mg/L		0.00003		E200.8	12/18/15 18:33 / mas
Calcium	18	mg/L		1		E200.8	12/18/15 18:33 / mas
Chromium	ND	mg/L		0.01		E200.8	12/18/15 18:33 / mas
Copper	0.002	mg/L		0.002		E200.8	12/18/15 18:33 / mas
Iron	ND	mg/L		0.02		E200.8	12/18/15 18:33 / mas
Lead	0.0009	mg/L		0.0003		E200.8	12/18/15 18:33 / mas
Magnesium	12	mg/L		1		E200.8	12/18/15 18:33 / mas
Manganese	0.009	mg/L		0.005		E200.8	12/18/15 18:33 / mas
Mercury	ND	mg/L		5E-06		E245.1	12/21/15 17:35 / ser
Nickel	0.003	mg/L		0.002		E200.8	12/18/15 18:33 / mas
Selenium	0.002	mg/L		0.001		E200.8	12/18/15 18:33 / mas
Silicon	7.20	mg/L		0.05		E200.7	12/21/15 14:19 / jjw
Silver	ND	mg/L		0.0002		E200.8	12/18/15 18:33 / mas
Strontium	0.13	mg/L		0.02		E200.8	12/18/15 18:33 / mas
Thallium	ND	mg/L		0.0002		E200.8	12/18/15 18:33 / mas
Uranium	0.189	mg/L		0.0002		E200.8	12/18/15 18:33 / mas
Zinc	ND	mg/L		0.008		E200.8	12/18/15 18:33 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:24

**Report Date:** 12/24/15  
**Work Order:** B15121387

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_151223A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Fluoride	1.04	mg/L	0.10	104	90	110	12/23/15 09:58		
<b>Method:</b> A4500-F C									Batch: R254224
<b>Lab ID:</b> MBLK	Method Blank								
Fluoride	ND	mg/L	0.01			Run: MAN-TECH_151223A		12/23/15 09:53	
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								
Fluoride	0.930	mg/L	0.10	93	90	110	12/23/15 10:02		
<b>Lab ID:</b> B15121338-001AMS	Sample Matrix Spike								
Fluoride	1.00	mg/L	0.10	93	80	120	Run: MAN-TECH_151223A		12/23/15 10:07
<b>Lab ID:</b> B15121338-001AMSD	Sample Matrix Spike Duplicate								
Fluoride	1.00	mg/L	0.10	93	80	120	0.0	10	12/23/15 10:10

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:24

**Report Date:** 12/24/15  
**Work Order:** B15121387

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 2_151223A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								12/23/15 23:50
Sulfate	8.80	mg/L	1.0	98	90	110			
<b>Method:</b> E300.0	Batch: R254288								
<b>Lab ID:</b> MB	Method Blank								Run: IC METROHM 2_151223A 12/23/15 23:37
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: IC METROHM 2_151223A 12/24/15 00:04
Sulfate	17.1	mg/L	1.0	95	90	110			
<b>Lab ID:</b> B15121341-002AMS	Sample Matrix Spike								Run: IC METROHM 2_151223A 12/24/15 05:41
Sulfate	342	mg/L	2.0	108	90	110			
<b>Lab ID:</b> B15121341-002AMSD	Sample Matrix Spike Duplicate								Run: IC METROHM 2_151223A 12/24/15 05:54
Sulfate	341	mg/L	2.0	108	90	110	0.1	20	
<b>Lab ID:</b> B15121498-004AMS	Sample Matrix Spike								Run: IC METROHM 2_151223A 12/24/15 08:49
Sulfate	114	mg/L	1.0	108	90	110			
<b>Lab ID:</b> B15121498-004AMSD	Sample Matrix Spike Duplicate								Run: IC METROHM 2_151223A 12/24/15 09:03
Sulfate	113	mg/L	1.0	107	90	110	0.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:24

**Report Date:** 12/24/15  
**Work Order:** B15121387

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E365.1									Analytical Run: FIA202-B_151221A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								12/21/15 11:33
Phosphorus, Total as P	0.512	mg/L	0.0050	102	90	110			
<b>Method:</b> E365.1									Batch: 95708
<b>Lab ID:</b> MB-95708	Method Blank								Run: FIA202-B_151221A
Phosphorus, Total as P	0.003	mg/L	0.002				12/21/15 16:17		
<b>Lab ID:</b> LCS-95708	Laboratory Control Sample								Run: FIA202-B_151221A
Phosphorus, Total as P	0.192	mg/L	0.0050	95	90	110	12/21/15 16:18		
<b>Lab ID:</b> B15121387-001CMS	Sample Matrix Spike								Run: FIA202-B_151221A
Phosphorus, Total Dissolved as P	0.378	mg/L	0.010	95	90	110	12/21/15 16:27		
<b>Lab ID:</b> B15121387-001CMSD	Sample Matrix Spike Duplicate								Run: FIA202-B_151221A
Phosphorus, Total Dissolved as P	0.378	mg/L	0.010	95	90	110	12/21/15 16:28		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 12/28/15

**Project:** 3767-01 WK:24

**Work Order:** B15121387

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_151221A			
<b>Lab ID:</b> ICV	Continuing Calibration Verification Standard										
Silicon		5.05	mg/L	0.10	101	95	105			12/21/15 12:18	
<b>Method: E200.7</b>								Batch: R254079			
<b>Lab ID:</b> MB-6500DIS151221A	Method Blank										
Silicon		ND	mg/L	0.01						Run: ICP203-B_151221A 12/21/15 11:16	
<b>Lab ID:</b> LFB-6500DIS151221A	Laboratory Fortified Blank										
Silicon		10.3	mg/L	0.10	103	85	115			Run: ICP203-B_151221A 12/21/15 11:20	
<b>Lab ID:</b> B15121365-011AMS2	Sample Matrix Spike										
Silicon		57.7	mg/L	0.10	100	70	130			Run: ICP203-B_151221A 12/21/15 13:55	
<b>Lab ID:</b> B15121365-011AMSD	Sample Matrix Spike Duplicate										
Silicon		56.3	mg/L	0.10	97	70	130	2.5	20	Run: ICP203-B_151221A 12/21/15 13:58	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 12/28/15

**Project:** 3767-01 WK:24

**Work Order:** B15121387

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_151218A		
<b>Lab ID:</b>	<b>QCS</b>	20 Initial Calibration Verification Standard							12/18/15 15:18	
Aluminum		0.255	mg/L	0.10	102	90	110			
Antimony		0.0543	mg/L	0.050	109	90	110			
Arsenic		0.0521	mg/L	0.0050	104	90	110			
Barium		0.0509	mg/L	0.10	102	90	110			
Beryllium		0.0256	mg/L	0.0010	102	90	110			
Cadmium		0.0260	mg/L	0.0010	104	90	110			
Calcium		2.59	mg/L	0.50	104	90	110			
Chromium		0.0506	mg/L	0.010	101	90	110			
Copper		0.0514	mg/L	0.010	103	90	110			
Iron		0.252	mg/L	0.020	101	90	110			
Lead		0.0513	mg/L	0.010	103	90	110			
Magnesium		2.55	mg/L	0.50	102	90	110			
Manganese		0.253	mg/L	0.010	101	90	110			
Nickel		0.0485	mg/L	0.010	97	90	110			
Selenium		0.0486	mg/L	0.0050	97	90	110			
Silver		0.0246	mg/L	0.0050	99	90	110			
Strontium		0.0504	mg/L	0.10	101	90	110			
Thallium		0.0510	mg/L	0.10	102	90	110			
Uranium		0.0205	mg/L	0.0010	103	90	110			
Zinc		0.0530	mg/L	0.010	106	90	110			

<b>Method: E200.8</b>								Batch: R253997			
<b>Lab ID:</b>	<b>LRB</b>	20 Method Blank							Run: ICPMS206-B_151218A		12/18/15 10:44
Aluminum		0.0002	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Barium		ND	mg/L	0.0004							
Beryllium		ND	mg/L	1E-05							
Cadmium		ND	mg/L	3E-05							
Calcium		ND	mg/L	0.008							
Chromium		ND	mg/L	4E-05							
Copper		ND	mg/L	6E-05							
Iron		ND	mg/L	0.0007							
Lead		ND	mg/L	5E-05							
Magnesium		ND	mg/L	0.005							
Manganese		ND	mg/L	4E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Strontium		ND	mg/L	1E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
Zinc		0.0001	mg/L	0.0001							

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 12/28/15

Project: 3767-01 WK:24

Work Order: B15121387

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Batch: R253997	
<b>Lab ID:</b>	<b>LFB</b>	20 Laboratory Fortified Blank			Run: ICPMS206-B_151218A			12/18/15 10:49			
Aluminum		0.0493	mg/L	0.10	98	85	115				
Antimony		0.0468	mg/L	0.050	94	85	115				
Arsenic		0.0474	mg/L	0.0050	95	85	115				
Barium		0.0486	mg/L	0.10	97	85	115				
Beryllium		0.0482	mg/L	0.0010	96	85	115				
Cadmium		0.0477	mg/L	0.0010	95	85	115				
Calcium		51.8	mg/L	0.50	104	85	115				
Chromium		0.0492	mg/L	0.010	98	85	115				
Copper		0.0528	mg/L	0.010	106	85	115				
Iron		5.00	mg/L	0.020	100	85	115				
Lead		0.0493	mg/L	0.010	99	85	115				
Magnesium		49.5	mg/L	0.50	99	85	115				
Manganese		0.0498	mg/L	0.010	100	85	115				
Nickel		0.0483	mg/L	0.010	97	85	115				
Selenium		0.0466	mg/L	0.0050	93	85	115				
Silver		0.0188	mg/L	0.0050	94	85	115				
Strontium		0.0504	mg/L	0.10	101	85	115				
Thallium		0.0491	mg/L	0.10	98	85	115				
Uranium		0.0487	mg/L	0.0010	97	85	115				
Zinc		0.0500	mg/L	0.010	100	85	115				
<b>Lab ID:</b>	<b>B15121323-001AMS</b>	20 Sample Matrix Spike			Run: ICPMS206-B_151218A			12/18/15 11:50			
Aluminum		0.0706	mg/L	0.030	97	70	130				
Antimony		0.0457	mg/L	0.0010	90	70	130				
Arsenic		0.0578	mg/L	0.0010	100	70	130				
Barium		0.148	mg/L	0.050	90	70	130				
Beryllium		0.0475	mg/L	0.0010	95	70	130				
Cadmium		0.0470	mg/L	0.0010	94	70	130				
Calcium		144	mg/L	1.0	89	70	130				
Chromium		0.0500	mg/L	0.0050	98	70	130				
Copper		0.0492	mg/L	0.0050	95	70	130				
Iron		5.57	mg/L	0.020	96	70	130				
Lead		0.0494	mg/L	0.0010	99	70	130				
Magnesium		85.2	mg/L	1.0	93	70	130				
Manganese		0.177	mg/L	0.0010	89	70	130				
Nickel		0.0530	mg/L	0.0050	92	70	130				
Selenium		0.104	mg/L	0.0010	85	70	130				
Silver		0.0177	mg/L	0.0010	89	70	130				
Strontium		1.04	mg/L	0.010		70	130			A	
Thallium		0.0493	mg/L	0.00050	99	70	130				
Uranium		0.0509	mg/L	0.00030	100	70	130				
Zinc		0.0494	mg/L	0.010	91	70	130				

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 12/28/15

Project: 3767-01 WK:24

Work Order: B15121387

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R253997
<b>Lab ID:</b> B15121323-001AMSD	20	Sample Matrix Spike Duplicate			Run: ICPMS206-B_151218A				12/18/15 11:55	
Aluminum		0.0709	mg/L	0.030	97	70	130	0.4	20	
Antimony		0.0472	mg/L	0.0010	93	70	130	3.4	20	
Arsenic		0.0575	mg/L	0.0010	99	70	130	0.4	20	
Barium		0.148	mg/L	0.050	89	70	130	0.3	20	
Beryllium		0.0484	mg/L	0.0010	97	70	130	1.9	20	
Cadmium		0.0472	mg/L	0.0010	94	70	130	0.5	20	
Calcium		143	mg/L	1.0	89	70	130	0.1	20	
Chromium		0.0491	mg/L	0.0050	97	70	130	1.8	20	
Copper		0.0475	mg/L	0.0050	92	70	130	3.4	20	
Iron		5.62	mg/L	0.020	97	70	130	0.8	20	
Lead		0.0493	mg/L	0.0010	99	70	130	0.2	20	
Magnesium		85.7	mg/L	1.0	93	70	130	0.6	20	
Manganese		0.177	mg/L	0.0010	89	70	130	0.0	20	
Nickel		0.0521	mg/L	0.0050	90	70	130	1.8	20	
Selenium		0.102	mg/L	0.0010	83	70	130	1.2	20	
Silver		0.0195	mg/L	0.0010	98	70	130	9.6	20	
Strontium		1.04	mg/L	0.010		70	130	0.5	20	A
Thallium		0.0496	mg/L	0.00050	99	70	130	0.6	20	
Uranium		0.0508	mg/L	0.00030	99	70	130	0.2	20	
Zinc		0.0497	mg/L	0.010	91	70	130	0.5	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 12/28/15

Project: 3767-01 WK:24

Work Order: B15121387

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS206-B_151221A				
<b>Lab ID: QCS</b>	4	Initial Calibration Verification Standard									12/21/15 12:08
Aluminum		0.262	mg/L	0.10	105	90	110				
Antimony		0.0493	mg/L	0.050	99	90	110				
Barium		0.0500	mg/L	0.10	100	90	110				
Uranium		0.0199	mg/L	0.0010	100	90	110				
<b>Method: E200.8</b>							Batch: R254106				
<b>Lab ID: LRB</b>	4	Method Blank									12/21/15 13:06
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Barium		ND	mg/L	0.0004							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	4	Laboratory Fortified Blank									12/21/15 13:10
Aluminum		0.0501	mg/L	0.10	100	85	115				
Antimony		0.0480	mg/L	0.050	96	85	115				
Barium		0.0493	mg/L	0.10	99	85	115				
Uranium		0.0501	mg/L	0.0010	100	85	115				
<b>Lab ID: B15121496-005BMS</b>	4	Sample Matrix Spike									12/21/15 21:02
Aluminum		0.0919	mg/L	0.030	91	70	130				
Antimony		0.0965	mg/L	0.0010	96	70	130				
Barium		0.147	mg/L	0.050	94	70	130				
Uranium		0.0992	mg/L	0.00030	91	70	130				
<b>Lab ID: B15121496-005BMSD</b>	4	Sample Matrix Spike Duplicate									12/21/15 21:06
Aluminum		0.0926	mg/L	0.030	91	70	130	0.7	20		
Antimony		0.0953	mg/L	0.0010	95	70	130	1.3	20		
Barium		0.144	mg/L	0.050	90	70	130	2.5	20		
Uranium		0.101	mg/L	0.00030	94	70	130	2.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 12/28/15

Project: 3767-01 WK:24

Work Order: B15121387

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Analytical Run: HGCV203-B_151221A										
<b>Method:</b> E245.1										
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Mercury	0.000199	mg/L	1.0E-05	100	90	110	12/21/15 15:11			
Batch: 95701										
<b>Method:</b> E245.1										
<b>Lab ID:</b> MB-95701	Method Blank									
Mercury	ND	mg/L	1E-06	Run: HGCV203-B_151221A		12/21/15 16:40				
<b>Lab ID:</b> LCS-95701	Laboratory Control Sample									
Mercury	0.000200	mg/L	1.0E-05	100	85	115	12/21/15 16:43			
<b>Lab ID:</b> B15121430-001CMS	Sample Matrix Spike									
Mercury	0.000211	mg/L	1.0E-05	105	70	130	12/21/15 17:40			
<b>Lab ID:</b> B15121430-001CMSD	Sample Matrix Spike Duplicate									
Mercury	0.000210	mg/L	1.0E-05	104	70	130	0.5	30	12/21/15 17:43	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15121387

Login completed by: Brittaney R. Garza

Date Received: 12/17/2015

Reviewed by: BL2000\lcardreau

Received by: jwc

Reviewed Date: 12/17/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	1.6°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

Sample containers were received partially frozen.



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride ~	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate -	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012





# ANALYTICAL SUMMARY REPORT

January 11, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B15121982      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK: 28

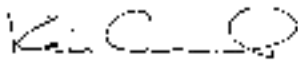
Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Montana Inc on 12/30/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15121982-001	USZ Comp	12/29/15 9:00	12/30/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B15121982-002	Yc Comp	12/29/15 9:00	12/30/15	Aqueous	Same As Above
B15121982-003	Tailings	12/29/15 9:00	12/30/15	Aqueous	Same As Above
B15121982-004	Tailings (Saturated)	12/29/15 9:00	12/30/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.01.11 09:45:32 -07:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 28  
**Lab ID:** B15121982-001  
**Client Sample ID:** USZ Comp

**Report Date:** 01/11/16  
**Collection Date:** 12/29/15 09:00  
**Date Received:** 12/30/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	1560	mg/L	D	4		E300.0	12/31/15 05:13 / rbf
Fluoride	ND	mg/L		0.2		A4500-F C	12/31/15 10:01 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	12/31/15 15:15 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	12/31/15 15:45 / mas
Antimony	ND	mg/L		0.0005		E200.8	12/31/15 15:45 / mas
Arsenic	0.001	mg/L		0.001		E200.8	12/31/15 15:45 / mas
Barium	0.013	mg/L		0.003		E200.8	12/31/15 15:45 / mas
Beryllium	ND	mg/L		0.0008		E200.7	12/31/15 16:27 / jjw
Cadmium	0.00036	mg/L	D	0.00005		E200.8	12/31/15 15:45 / mas
Calcium	449	mg/L		1		E200.8	12/31/15 15:45 / mas
Chromium	ND	mg/L		0.01		E200.8	12/31/15 15:45 / mas
Copper	0.657	mg/L		0.002		E200.8	12/31/15 15:45 / mas
Iron	0.06	mg/L		0.02		E200.8	12/31/15 15:45 / mas
Lead	0.0037	mg/L		0.0003		E200.8	12/31/15 15:45 / mas
Magnesium	146	mg/L		1		E200.8	12/31/15 15:45 / mas
Manganese	2.99	mg/L		0.005		E200.8	12/31/15 15:45 / mas
Mercury	ND	mg/L		5E-06		E245.1	01/04/16 15:05 / ser
Nickel	0.067	mg/L		0.002		E200.8	12/31/15 15:45 / mas
Selenium	0.001	mg/L		0.001		E200.8	12/31/15 15:45 / mas
Silicon	2.71	mg/L	D	0.07		E200.7	12/31/15 16:27 / jjw
Silver	ND	mg/L		0.0002		E200.8	12/31/15 15:45 / mas
Strontium	20.2	mg/L		0.02		E200.8	12/31/15 15:45 / mas
Thallium	0.0309	mg/L		0.0002		E200.8	12/31/15 15:45 / mas
Uranium	ND	mg/L		0.0002		E200.8	12/31/15 15:45 / mas
Zinc	0.058	mg/L		0.008		E200.8	12/31/15 15:45 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 28  
**Lab ID:** B15121982-002  
**Client Sample ID:** Yc Comp

**Report Date:** 01/11/16  
**Collection Date:** 12/29/15 09:00  
**Date Received:** 12/30/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	26	mg/L		1		E300.0	12/31/15 05:26 / rbf
Fluoride	ND	mg/L		0.2		A4500-F C	12/31/15 10:04 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.016	mg/L	L	0.005		E365.1	12/31/15 15:16 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	0.057	mg/L		0.009		E200.8	12/31/15 15:49 / mas
Antimony	0.0010	mg/L		0.0005		E200.8	12/31/15 15:49 / mas
Arsenic	0.013	mg/L		0.001		E200.8	01/04/16 12:04 / mas
Barium	0.084	mg/L		0.003		E200.8	12/31/15 15:49 / mas
Beryllium	ND	mg/L		0.0008		E200.7	12/31/15 16:41 / jjw
Cadmium	ND	mg/L		0.00003		E200.8	12/31/15 15:49 / mas
Calcium	12	mg/L		1		E200.7	12/31/15 16:41 / jjw
Chromium	ND	mg/L		0.01		E200.7	12/31/15 16:41 / jjw
Copper	ND	mg/L		0.002		E200.8	12/31/15 15:49 / mas
Iron	ND	mg/L		0.02		E200.8	12/31/15 15:49 / mas
Lead	0.0003	mg/L		0.0003		E200.8	12/31/15 15:49 / mas
Magnesium	10	mg/L		1		E200.7	12/31/15 16:41 / jjw
Manganese	ND	mg/L		0.005		E200.8	12/31/15 15:49 / mas
Mercury	ND	mg/L		5E-06		E245.1	01/04/16 15:10 / ser
Nickel	ND	mg/L		0.002		E200.8	01/04/16 12:04 / mas
Selenium	ND	mg/L		0.001		E200.8	12/31/15 15:49 / mas
Silicon	4.61	mg/L		0.05		E200.7	12/31/15 16:41 / jjw
Silver	ND	mg/L		0.0002		E200.8	12/31/15 15:49 / mas
Strontium	0.24	mg/L		0.02		E200.8	12/31/15 15:49 / mas
Thallium	ND	mg/L		0.0002		E200.8	12/31/15 15:49 / mas
Uranium	0.0040	mg/L		0.0002		E200.8	12/31/15 15:49 / mas
Zinc	ND	mg/L		0.008		E200.7	12/31/15 16:41 / jjw

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 28  
**Lab ID:** B15121982-003  
**Client Sample ID:** Tailings

**Report Date:** 01/11/16  
**Collection Date:** 12/29/15 09:00  
**Date Received:** 12/30/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	706	mg/L	D	4		E300.0	01/06/16 11:52 / rbf
Fluoride	1.4	mg/L		0.2		A4500-F C	12/31/15 10:10 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.891	mg/L	L	0.005		E365.1	12/31/15 15:17 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	2.72	mg/L		0.009		E200.8	12/31/15 15:54 / mas
Antimony	0.0087	mg/L		0.0005		E200.8	12/31/15 15:54 / mas
Arsenic	2.04	mg/L		0.001		E200.8	12/31/15 15:54 / mas
Barium	0.038	mg/L		0.003		E200.8	12/31/15 15:54 / mas
Beryllium	0.0009	mg/L		0.0008		E200.7	12/31/15 16:51 / jjw
Cadmium	0.00048	mg/L	D	0.00005		E200.8	12/31/15 15:54 / mas
Calcium	61	mg/L		1		E200.8	12/31/15 15:54 / mas
Chromium	0.11	mg/L		0.01		E200.8	12/31/15 15:54 / mas
Copper	6.67	mg/L		0.002		E200.8	12/31/15 15:54 / mas
Iron	234	mg/L		0.02		E200.7	12/31/15 16:51 / jjw
Lead	0.0114	mg/L		0.0003		E200.8	12/31/15 15:54 / mas
Magnesium	ND	mg/L		1		E200.8	12/31/15 15:54 / mas
Manganese	0.147	mg/L		0.005		E200.8	12/31/15 15:54 / mas
Mercury	ND	mg/L		5E-06		E245.1	01/04/16 15:15 / ser
Nickel	0.313	mg/L		0.002		E200.8	12/31/15 15:54 / mas
Selenium	ND	mg/L		0.001		E200.8	12/31/15 15:54 / mas
Silicon	12.6	mg/L	D	0.07		E200.7	12/31/15 16:51 / jjw
Silver	ND	mg/L		0.0002		E200.8	12/31/15 15:54 / mas
Strontium	0.40	mg/L		0.02		E200.8	12/31/15 15:54 / mas
Thallium	0.0846	mg/L		0.0002		E200.8	12/31/15 15:54 / mas
Uranium	0.0003	mg/L		0.0002		E200.8	12/31/15 15:54 / mas
Zinc	0.301	mg/L		0.008		E200.8	12/31/15 15:54 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 28  
**Lab ID:** B15121982-004  
**Client Sample ID:** Tailings (Saturated)

**Report Date:** 01/11/16  
**Collection Date:** 12/29/15 09:00  
**Date Received:** 12/30/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	107	mg/L		1		E300.0	12/31/15 05:53 / rbf
Fluoride	ND	mg/L		0.2		A4500-F C	12/31/15 10:12 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.014	mg/L	L	0.005		E365.1	12/31/15 15:18 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	12/31/15 15:59 / mas
Antimony	ND	mg/L		0.0005		E200.8	12/31/15 15:59 / mas
Arsenic	0.006	mg/L		0.001		E200.8	01/04/16 12:06 / mas
Barium	0.035	mg/L		0.003		E200.8	12/31/15 15:59 / mas
Beryllium	ND	mg/L		0.0008		E200.7	12/31/15 16:55 / jjw
Cadmium	0.00003	mg/L		0.00003		E200.8	12/31/15 15:59 / mas
Calcium	24	mg/L		1		E200.7	12/31/15 16:55 / jjw
Chromium	ND	mg/L		0.01		E200.7	12/31/15 16:55 / jjw
Copper	1.04	mg/L		0.002		E200.8	12/31/15 15:59 / mas
Iron	0.04	mg/L		0.02		E200.8	12/31/15 15:59 / mas
Lead	0.0003	mg/L		0.0003		E200.8	12/31/15 15:59 / mas
Magnesium	11	mg/L		1		E200.7	12/31/15 16:55 / jjw
Manganese	1.05	mg/L		0.005		E200.8	12/31/15 15:59 / mas
Mercury	ND	mg/L		5E-06		E245.1	01/04/16 15:20 / ser
Nickel	0.272	mg/L		0.002		E200.7	12/31/15 16:55 / jjw
Selenium	ND	mg/L		0.001		E200.8	12/31/15 15:59 / mas
Silicon	8.35	mg/L		0.05		E200.7	12/31/15 16:55 / jjw
Silver	ND	mg/L		0.0002		E200.8	12/31/15 15:59 / mas
Strontium	0.52	mg/L		0.02		E200.8	12/31/15 15:59 / mas
Thallium	0.0041	mg/L		0.0002		E200.8	12/31/15 15:59 / mas
Uranium	ND	mg/L		0.0002		E200.8	12/31/15 15:59 / mas
Zinc	0.020	mg/L		0.008		E200.7	12/31/15 16:55 / jjw

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 28

**Report Date:** 01/11/16  
**Work Order:** B15121982

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_151231A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								12/31/15 09:47
Fluoride	1.04	mg/L	0.10	104	90	110			
<b>Method:</b> A4500-F C									Batch: R254500
<b>Lab ID:</b> MBLK	Method Blank								Run: MAN-TECH_151231A
Fluoride	ND	mg/L	0.01						12/31/15 09:35
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: MAN-TECH_151231A
Fluoride	0.980	mg/L	0.10	98	90	110			12/31/15 09:50
<b>Lab ID:</b> B15121772-001AMS	Sample Matrix Spike								Run: MAN-TECH_151231A
Fluoride	1.47	mg/L	0.10	100	80	120			12/31/15 09:55
<b>Lab ID:</b> B15121772-001AMSD	Sample Matrix Spike Duplicate								Run: MAN-TECH_151231A
Fluoride	1.45	mg/L	0.10	98	80	120	1.4	10	12/31/15 09:57

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 28

**Report Date:** 01/11/16  
**Work Order:** B15121982

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 1_151230A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								12/30/15 17:46
Sulfate	8.79	mg/L	1.0	98	90	110			
<b>Method:</b> E300.0	Batch: R254476								
<b>Lab ID:</b> MB	Method Blank								Run: IC METROHM 1_151230A 12/30/15 17:59
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: IC METROHM 1_151230A 12/30/15 18:13
Sulfate	18.9	mg/L	1.0	105	90	110			
<b>Lab ID:</b> B15121525-007AMS	Sample Matrix Spike								Run: IC METROHM 1_151230A 12/31/15 04:19
Sulfate	5690	mg/L	20	103	90	110			
<b>Lab ID:</b> B15121525-007AMSD	Sample Matrix Spike Duplicate								Run: IC METROHM 1_151230A 12/31/15 04:32
Sulfate	5890	mg/L	20	114	90	110	3.3	20	S
<b>Method:</b> E300.0	Analytical Run: IC METROHM 2_160106A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								01/06/16 11:11
Sulfate	8.28	mg/L	1.0	92	90	110			
<b>Method:</b> E300.0	Batch: R254693								
<b>Lab ID:</b> MB	Method Blank								Run: IC METROHM 2_160106A 01/06/16 10:58
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: IC METROHM 2_160106A 01/06/16 11:25
Sulfate	16.7	mg/L	1.0	93	90	110			
<b>Lab ID:</b> B15121982-003AMS	Sample Matrix Spike								Run: IC METROHM 2_160106A 01/06/16 12:05
Sulfate	1090	mg/L	4.0	108	90	110			
<b>Lab ID:</b> B15121982-003AMSD	Sample Matrix Spike Duplicate								Run: IC METROHM 2_160106A 01/06/16 12:18
Sulfate	1080	mg/L	4.0	105	90	110	1.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 28

**Report Date:** 01/11/16  
**Work Order:** B15121982

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E365.1								Analytical Run: FIA202-B_151231A		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Phosphorus, Total as P	0.491	mg/L	0.0050	98	90	110			12/31/15 13:42	
<b>Method:</b> E365.1								Batch: 95941		
<b>Lab ID:</b> MB-95941	Method Blank									
Phosphorus, Total as P	ND	mg/L	0.002						Run: FIA202-B_151231A 12/31/15 15:13	
<b>Lab ID:</b> LCS-95941	Laboratory Control Sample									
Phosphorus, Total as P	0.191	mg/L	0.0050	96	90	110			Run: FIA202-B_151231A 12/31/15 15:14	
<b>Lab ID:</b> B15121982-001CMS	Sample Matrix Spike									
Phosphorus, Total Dissolved as P	0.198	mg/L	0.0050	99	90	110			Run: FIA202-B_151231A 12/31/15 15:31	
<b>Lab ID:</b> B15121982-001CMSD	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P	0.200	mg/L	0.0050	100	90	110			Run: FIA202-B_151231A 12/31/15 15:32	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 01/11/16

Project: 3767-01 WK: 28

Work Order: B15121982

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b> Analytical Run: ICP203-B_151231A											
<b>Lab ID: ICV</b>	8	Continuing Calibration Verification Standard								12/31/15 16:02	
Beryllium		1.25	mg/L	0.010	100	95	105				
Calcium		25.4	mg/L	1.0	101	95	105				
Chromium		2.60	mg/L	0.050	104	95	105				
Iron		2.50	mg/L	0.020	100	95	105				
Magnesium		24.8	mg/L	1.0	99	95	105				
Nickel		2.60	mg/L	0.050	104	95	105				
Silicon		5.16	mg/L	0.10	103	95	105				
Zinc		2.44	mg/L	0.010	97	95	105				
<b>Method: E200.7</b> Batch: R254504											
<b>Lab ID: MB-6500DIS151231A</b>	8	Method Blank								Run: ICP203-B_151231A	12/31/15 11:19
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.08							
Chromium		ND	mg/L	0.003							
Iron		ND	mg/L	0.003							
Magnesium		ND	mg/L	0.006							
Nickel		0.003	mg/L	0.002							
Silicon		0.03	mg/L	0.01							
Zinc		ND	mg/L	0.002							
<b>Lab ID: LFB-6500DIS151231A</b>	8	Laboratory Fortified Blank								Run: ICP203-B_151231A	12/31/15 11:23
Beryllium		0.512	mg/L	0.010	102	85	115				
Calcium		47.4	mg/L	1.0	95	85	115				
Chromium		0.966	mg/L	0.050	97	85	115				
Iron		4.69	mg/L	0.020	94	85	115				
Magnesium		51.0	mg/L	1.0	102	85	115				
Nickel		0.924	mg/L	0.050	92	85	115				
Silicon		9.79	mg/L	0.10	98	85	115				
Zinc		0.938	mg/L	0.010	94	85	115				
<b>Lab ID: B15121982-001BMS2</b>	8	Sample Matrix Spike								Run: ICP203-B_151231A	12/31/15 16:34
Beryllium		2.38	mg/L	0.0010	95	70	130				
Calcium		580	mg/L	1.0	70	70	130				
Chromium		4.97	mg/L	0.016	99	70	130				
Iron		24.1	mg/L	0.020	96	70	130				
Magnesium		361	mg/L	1.0	87	70	130				
Nickel		4.85	mg/L	0.011	95	70	130				
Silicon		54.7	mg/L	0.10	104	70	130				
Zinc		4.68	mg/L	0.010	92	70	130				
<b>Lab ID: B15121982-001BMSD</b>	8	Sample Matrix Spike Duplicate								Run: ICP203-B_151231A	12/31/15 16:37
Beryllium		2.46	mg/L	0.0010	98	70	130	3.3	20		
Calcium		642	mg/L	1.0	95	70	130	10	20		
Chromium		5.07	mg/L	0.016	101	70	130	2.1	20		
Iron		24.5	mg/L	0.020	98	70	130	1.5	20		

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 01/11/16

Project: 3767-01 WK: 28

Work Order: B15121982

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R254504</span>										
<b>Lab ID: B15121982-001BMSD</b>	8	Sample Matrix Spike Duplicate					Run: ICP203-B_151231A			12/31/15 16:37
Magnesium		388	mg/L	1.0	98	70	130	7.4	20	
Nickel		5.14	mg/L	0.011	101	70	130	5.7	20	
Silicon		55.5	mg/L	0.10	106	70	130	1.6	20	
Zinc		4.88	mg/L	0.010	96	70	130	4.2	20	
<b>Lab ID: B15121993-002BMS2</b>	8	Sample Matrix Spike					Run: ICP203-B_151231A			12/31/15 17:05
Beryllium		0.485	mg/L	0.0010	97	70	130			
Calcium		186	mg/L	1.0	95	70	130			
Chromium		1.02	mg/L	0.0050	102	70	130			
Iron		4.97	mg/L	0.020	99	70	130			
Magnesium		113	mg/L	1.0	99	70	130			
Nickel		0.979	mg/L	0.0050	97	70	130			
Silicon		17.4	mg/L	0.10	104	70	130			
Zinc		0.984	mg/L	0.010	95	70	130			
<b>Lab ID: B15121993-002BMSD</b>	8	Sample Matrix Spike Duplicate					Run: ICP203-B_151231A			12/31/15 17:09
Beryllium		0.482	mg/L	0.0010	96	70	130	0.6	20	
Calcium		178	mg/L	1.0	79	70	130	4.3	20	
Chromium		1.02	mg/L	0.0050	102	70	130	0.2	20	
Iron		5.00	mg/L	0.020	100	70	130	0.5	20	
Magnesium		109	mg/L	1.0	93	70	130	3.2	20	
Nickel		0.938	mg/L	0.0050	93	70	130	4.2	20	
Silicon		16.8	mg/L	0.10	98	70	130	3.4	20	
Zinc		0.943	mg/L	0.010	91	70	130	4.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 01/11/16

**Project:** 3767-01 WK: 28

**Work Order:** B15121982

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_160104A			
<b>Lab ID: QCS</b>	2	Initial Calibration Verification Standard								01/04/16 10:54	
Arsenic		0.0509	mg/L	0.0050	102	90	110				
Nickel		0.0505	mg/L	0.010	101	90	110				
<b>Method: E200.8</b>								Batch: R254544			
<b>Lab ID: LRB</b>	2	Method Blank								01/04/16 10:21	
Arsenic		ND	mg/L	0.0001							
Nickel		ND	mg/L	7E-05							
<b>Lab ID: LFB</b>	2	Laboratory Fortified Blank								01/04/16 10:24	
Arsenic		0.0509	mg/L	0.0050	102	85	115				
Nickel		0.0526	mg/L	0.010	105	85	115				
<b>Lab ID: B15121949-004BMS</b>	2	Sample Matrix Spike								01/04/16 11:45	
Arsenic		0.0533	mg/L	0.0010	107	70	130				
Nickel		0.0530	mg/L	0.0050	106	70	130				
<b>Lab ID: B15121949-004BMSD</b>	2	Sample Matrix Spike Duplicate								01/04/16 11:48	
Arsenic		0.0542	mg/L	0.0010	108	70	130	1.7	20		
Nickel		0.0538	mg/L	0.0050	108	70	130	1.5	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 01/11/16

**Project:** 3767-01 WK: 28

**Work Order:** B15121982

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_151231A			
<b>Lab ID: QCS</b>	19	Initial Calibration Verification Standard								12/31/15 10:54	
Aluminum		0.249	mg/L	0.10	100	90	110				
Antimony		0.0493	mg/L	0.050	99	90	110				
Arsenic		0.0529	mg/L	0.0050	106	90	110				
Barium		0.0500	mg/L	0.10	100	90	110				
Cadmium		0.0253	mg/L	0.0010	101	90	110				
Calcium		2.67	mg/L	0.50	107	90	110				
Chromium		0.0497	mg/L	0.010	99	90	110				
Copper		0.0514	mg/L	0.010	103	90	110				
Iron		0.252	mg/L	0.020	101	90	110				
Lead		0.0507	mg/L	0.010	101	90	110				
Magnesium		2.54	mg/L	0.50	102	90	110				
Manganese		0.261	mg/L	0.010	105	90	110				
Nickel		0.0505	mg/L	0.010	101	90	110				
Selenium		0.0506	mg/L	0.0050	101	90	110				
Silver		0.0237	mg/L	0.0050	95	90	110				
Strontium		0.0502	mg/L	0.10	100	90	110				
Thallium		0.0504	mg/L	0.10	101	90	110				
Uranium		0.0197	mg/L	0.0010	99	90	110				
Zinc		0.0531	mg/L	0.010	106	90	110				
<b>Method: E200.8</b>								Batch: R254507			
<b>Lab ID: LRB</b>	19	Method Blank								Run: ICPMS206-B_151231A 12/31/15 11:36	
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Barium		ND	mg/L	0.0004							
Cadmium		ND	mg/L	3E-05							
Calcium		ND	mg/L	0.008							
Chromium		7E-05	mg/L	4E-05							
Copper		ND	mg/L	6E-05							
Iron		ND	mg/L	0.0007							
Lead		ND	mg/L	5E-05							
Magnesium		ND	mg/L	0.005							
Manganese		ND	mg/L	4E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Strontium		ND	mg/L	1E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
Zinc		ND	mg/L	0.0001							
<b>Lab ID: LFB</b>	19	Laboratory Fortified Blank								Run: ICPMS206-B_151231A 12/31/15 11:41	
Aluminum		0.0503	mg/L	0.10	101	85	115				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 01/11/16

Project: 3767-01 WK: 28

Work Order: B15121982

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b> <span style="float: right;">Batch: R254507</span>											
<b>Lab ID: LFB</b>	19 Laboratory Fortified Blank				Run: ICPMS206-B_151231A				12/31/15 11:41		
Antimony		0.0459	mg/L	0.050	92	85	115				
Arsenic		0.0507	mg/L	0.0050	101	85	115				
Barium		0.0505	mg/L	0.10	101	85	115				
Cadmium		0.0497	mg/L	0.0010	99	85	115				
Calcium		52.3	mg/L	0.50	105	85	115				
Chromium		0.0506	mg/L	0.010	101	85	115				
Copper		0.0488	mg/L	0.010	98	85	115				
Iron		5.19	mg/L	0.020	104	85	115				
Lead		0.0508	mg/L	0.010	102	85	115				
Magnesium		48.7	mg/L	0.50	97	85	115				
Manganese		0.0503	mg/L	0.010	101	85	115				
Nickel		0.0489	mg/L	0.010	98	85	115				
Selenium		0.0493	mg/L	0.0050	99	85	115				
Silver		0.0196	mg/L	0.0050	98	85	115				
Strontium		0.0505	mg/L	0.10	101	85	115				
Thallium		0.0505	mg/L	0.10	101	85	115				
Uranium		0.0514	mg/L	0.0010	103	85	115				
Zinc		0.0504	mg/L	0.010	101	85	115				
<b>Lab ID: B15121982-004BMS</b>	19 Sample Matrix Spike				Run: ICPMS206-B_151231A				12/31/15 16:04		
Aluminum		0.0507	mg/L	0.030	91	70	130				
Antimony		0.0452	mg/L	0.0010	90	70	130				
Arsenic		0.0570	mg/L	0.0010	103	70	130				
Barium		0.0823	mg/L	0.050	94	70	130				
Cadmium		0.0496	mg/L	0.0010	99	70	130				
Calcium		70.4	mg/L	1.0	92	70	130				
Chromium		0.0486	mg/L	0.0050	97	70	130				
Copper		0.940	mg/L	0.0050		70	130			A	
Iron		4.34	mg/L	0.020	86	70	130				
Lead		0.0503	mg/L	0.0010	100	70	130				
Magnesium		60.8	mg/L	1.0	99	70	130				
Manganese		1.06	mg/L	0.0010		70	130			A	
Nickel		0.283	mg/L	0.0050		70	130			A	
Selenium		0.0492	mg/L	0.0010	98	70	130				
Silver		0.0179	mg/L	0.0010	90	70	130				
Strontium		0.547	mg/L	0.010		70	130			A	
Thallium		0.0536	mg/L	0.00050	99	70	130				
Uranium		0.0493	mg/L	0.00030	99	70	130				
Zinc		0.0678	mg/L	0.010	94	70	130				
<b>Lab ID: B15121982-004BMSD</b>	19 Sample Matrix Spike Duplicate				Run: ICPMS206-B_151231A				12/31/15 16:08		
Aluminum		0.0516	mg/L	0.030	93	70	130	1.7	20		
Antimony		0.0461	mg/L	0.0010	92	70	130	2.0	20		
Arsenic		0.0548	mg/L	0.0010	98	70	130	4.0	20		

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 01/11/16

Project: 3767-01 WK: 28

Work Order: B15121982

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Batch: R254507			
<b>Lab ID:</b>	<b>B15121982-004BMSD</b>	19 Sample Matrix Spike Duplicate			Run: ICPMS206-B_151231A				12/31/15 16:08		
Barium		0.0823	mg/L	0.050	94	70	130	0.0	20		
Cadmium		0.0492	mg/L	0.0010	98	70	130	0.8	20		
Calcium		69.6	mg/L	1.0	91	70	130	1.3	20		
Chromium		0.0482	mg/L	0.0050	96	70	130	0.9	20		
Copper		0.944	mg/L	0.0050		70	130	0.5	20	A	
Iron		4.35	mg/L	0.020	86	70	130	0.0	20		
Lead		0.0498	mg/L	0.0010	99	70	130	0.9	20		
Magnesium		60.5	mg/L	1.0	99	70	130	0.4	20		
Manganese		1.06	mg/L	0.0010		70	130	0.5	20	A	
Nickel		0.281	mg/L	0.0050		70	130	0.7	20	A	
Selenium		0.0487	mg/L	0.0010	97	70	130	1.0	20		
Silver		0.0187	mg/L	0.0010	93	70	130	4.2	20		
Strontium		0.550	mg/L	0.010		70	130	0.4	20	A	
Thallium		0.0531	mg/L	0.00050	98	70	130	0.9	20		
Uranium		0.0489	mg/L	0.00030	98	70	130	0.8	20		
Zinc		0.0673	mg/L	0.010	93	70	130	0.8	20		

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 01/11/16

**Project:** 3767-01 WK: 28

**Work Order:** B15121982

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E245.1</b> Analytical Run: HGCV203-B_160104A										
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Mercury	0.000205	mg/L	1.0E-05	103	90	110				01/04/16 14:47
<b>Method: E245.1</b> Batch: 95958										
<b>Lab ID: MB-95958</b>	Method Blank									
Mercury	ND	mg/L	1E-06				Run: HGCV203-B_160104A			01/04/16 14:55
<b>Lab ID: LCS-95958</b>	Laboratory Control Sample									
Mercury	0.000214	mg/L	1.0E-05	107	85	115	Run: HGCV203-B_160104A			01/04/16 14:58
<b>Lab ID: B15121982-004BMS</b>	Sample Matrix Spike									
Mercury	0.000213	mg/L	1.0E-05	107	70	130	Run: HGCV203-B_160104A			01/04/16 15:25
<b>Lab ID: B15121982-004BMSD</b>	Sample Matrix Spike Duplicate									
Mercury	0.000222	mg/L	1.0E-05	111	70	130	4.1			01/04/16 15:28

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B15121982

Login completed by: Ladonna Weis

Date Received: 12/30/2015

Reviewed by: BL2000\lcardreau

Received by: cds

Reviewed Date: 12/30/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	6.4°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None





# Chain of Custody and Analytical Request Record

**Company Name:** McClelland Lab  
**Report Mail Address:** Tintina Resources, 200 Granville St. Suite 2560, Vancouver, BC V6C 1S4 Canada  
**Invoice Address:** Tintina Resources, 200 Granville St. Suite 2560, Vancouver, BC V6C 1S4 Canada

**Project Name, PWS, Permit, Etc.:** 3767-01 WK: 28  
**Sample Origin State:** NV  
**EPA/State Compliance:** Yes  No

**Contact Name:** Mike Medina  
**Phone/Fax:** 775-356-1300  
**Email:** MLI@METTEST.COM  
**Sampler:** Robert Johnson

**Invoice Contact & Phone:** Mr Bob Jacko  
**Phone/Fax:** 604-628-1162  
**Purchase Order:**

**Special Report/Formats - ELI must be notified prior to sample submittal for the following:**

DW  A2LA  
 GSA  EDD/EDT (Electronic Data)  
 POTW/MWTP **Format:** \_\_\_\_\_  
 State: \_\_\_\_\_  
 Other: \_\_\_\_\_

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	Number of Containers		Vegetation	Air Water	Soils/Solids	Other	ANALYSIS REQUESTED	Normal Turnaround (TAT)	Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	Comments:	Receipt Temp	On Ice:	Custody Seal Intact	Signature Match	Shipped by:	Cooler ID(s):
				AWSD	Other														
1 USZ Comp	12/29/15	09:00	Water	X	SEE ATTACHED						X							Robert	10/29/15
2 Yc Comp											X								
3 Tailings																			
4 Tailings (Saturated)																			
5																			
6																			
7																			
8																			
9																			
10																			

**Received by (print):** JOE CHANEY 12/29/15 9AM  
**Signature:** [Signature]  
**Date/Time:** 12/29/15 9AM

**Received by (print):** [Signature]  
**Signature:** [Signature]  
**Date/Time:** [Signature]

**Received by Laboratory:** Chris Schuster 10/30/15 1000  
**Signature:** [Signature]  
**Date/Time:** 10/30/15 1000

**Sample Disposal:** Return to Client: \_\_\_\_\_  
**Lab Disposal:** \_\_\_\_\_

**Custody Record MUST be Signed**

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

January 22, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16010836      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:28

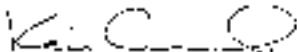
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Montana Inc on 1/13/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16010836-001	Ynl B Comp	01/12/16 9:00	01/13/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B16010836-002	LZ FW Comp	01/12/16 9:00	01/13/16	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.01.22 13:36:37 -07:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:28  
**Lab ID:** B16010836-001  
**Client Sample ID:** Ynl B Comp

**Report Date:** 01/22/16  
**Collection Date:** 01/12/16 09:00  
**Date Received:** 01/13/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	122	mg/L		1		E300.0	01/14/16 17:40 / rbf
Fluoride	0.3	mg/L		0.2		A4500-F C	01/14/16 11:56 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	D	0.01		E365.1	01/15/16 10:29 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	0.011	mg/L		0.009		E200.8	01/21/16 13:44 / amm
Antimony	ND	mg/L		0.0005		E200.8	01/14/16 11:52 / mas
Arsenic	0.001	mg/L		0.001		E200.8	01/14/16 11:52 / mas
Barium	0.009	mg/L		0.003		E200.8	01/14/16 11:52 / mas
Beryllium	ND	mg/L		0.0008		E200.8	01/14/16 11:52 / mas
Cadmium	ND	mg/L		0.00003		E200.8	01/14/16 11:52 / mas
Calcium	31	mg/L		1		E200.8	01/14/16 11:52 / mas
Chromium	ND	mg/L		0.01		E200.8	01/14/16 11:52 / mas
Copper	ND	mg/L		0.002		E200.8	01/14/16 11:52 / mas
Iron	ND	mg/L		0.02		E200.8	01/14/16 11:52 / mas
Lead	ND	mg/L		0.0003		E200.8	01/14/16 11:52 / mas
Magnesium	20	mg/L		1		E200.8	01/14/16 11:52 / mas
Manganese	ND	mg/L		0.005		E200.8	01/14/16 11:52 / mas
Mercury	ND	mg/L		5E-06		E245.1	01/19/16 16:03 / ser
Nickel	ND	mg/L		0.002		E200.8	01/14/16 11:52 / mas
Selenium	ND	mg/L		0.001		E200.8	01/14/16 11:52 / mas
Silicon	8.02	mg/L		0.05		E200.7	01/14/16 15:27 / jjw
Silver	ND	mg/L		0.0002		E200.8	01/14/16 11:52 / mas
Strontium	0.25	mg/L		0.02		E200.8	01/14/16 11:52 / mas
Thallium	ND	mg/L		0.0002		E200.8	01/14/16 11:52 / mas
Uranium	0.0004	mg/L		0.0002		E200.8	01/14/16 11:52 / mas
Zinc	ND	mg/L		0.008		E200.8	01/14/16 11:52 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:28  
**Lab ID:** B16010836-002  
**Client Sample ID:** LZ FW Comp

**Report Date:** 01/22/16  
**Collection Date:** 01/12/16 09:00  
**Date Received:** 01/13/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	65	mg/L		1		E300.0	01/14/16 17:53 / rbf
Fluoride	ND	mg/L		0.2		A4500-F C	01/14/16 11:58 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.02	mg/L	D	0.01		E365.1	01/15/16 10:32 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	0.019	mg/L		0.009		E200.8	01/21/16 13:48 / amm
Antimony	0.0026	mg/L		0.0005		E200.8	01/14/16 11:57 / mas
Arsenic	0.101	mg/L		0.001		E200.8	01/14/16 11:57 / mas
Barium	0.026	mg/L		0.003		E200.8	01/14/16 11:57 / mas
Beryllium	ND	mg/L		0.0008		E200.8	01/14/16 11:57 / mas
Cadmium	ND	mg/L		0.00003		E200.8	01/14/16 11:57 / mas
Calcium	18	mg/L		1		E200.8	01/14/16 11:57 / mas
Chromium	ND	mg/L		0.01		E200.8	01/14/16 11:57 / mas
Copper	0.002	mg/L		0.002		E200.8	01/14/16 11:57 / mas
Iron	ND	mg/L		0.02		E200.8	01/14/16 11:57 / mas
Lead	0.0023	mg/L		0.0003		E200.8	01/14/16 11:57 / mas
Magnesium	14	mg/L		1		E200.8	01/14/16 11:57 / mas
Manganese	0.013	mg/L		0.005		E200.8	01/14/16 11:57 / mas
Mercury	ND	mg/L		5E-06		E245.1	01/19/16 16:11 / ser
Nickel	0.004	mg/L		0.002		E200.8	01/14/16 11:57 / mas
Selenium	0.001	mg/L		0.001		E200.8	01/14/16 11:57 / mas
Silicon	8.80	mg/L		0.05		E200.7	01/14/16 15:30 / jjw
Silver	ND	mg/L		0.0002		E200.8	01/14/16 11:57 / mas
Strontium	0.13	mg/L		0.02		E200.8	01/14/16 11:57 / mas
Thallium	ND	mg/L		0.0002		E200.8	01/14/16 11:57 / mas
Uranium	0.178	mg/L		0.0002		E200.8	01/14/16 11:57 / mas
Zinc	ND	mg/L		0.008		E200.8	01/14/16 11:57 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:28

**Report Date:** 01/20/16  
**Work Order:** B16010836

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_160114A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								01/14/16 11:28
Fluoride	1.05	mg/L	0.10	105	90	110			
<b>Method:</b> A4500-F C									Batch: R255031
<b>Lab ID:</b> MBLK	Method Blank								01/14/16 11:22
Fluoride	ND	mg/L	0.01						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								01/14/16 11:25
Fluoride	0.990	mg/L	0.10	99	90	110			
<b>Lab ID:</b> B16010679-001AMS	Sample Matrix Spike								01/14/16 11:45
Fluoride	1.15	mg/L	0.10	99	80	120			
<b>Lab ID:</b> B16010679-001AMSD	Sample Matrix Spike Duplicate								01/14/16 11:48
Fluoride	1.17	mg/L	0.10	101	80	120	1.7	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:28

**Report Date:** 01/20/16  
**Work Order:** B16010836

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 2_160114A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								01/14/16 12:16
Sulfate	8.24	mg/L	1.0	92	90	110			
<b>Method:</b> E300.0	Batch: R255062								
<b>Lab ID:</b> MB	Method Blank								01/14/16 12:03
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								01/14/16 12:30
Sulfate	17.7	mg/L	1.0	98	90	110			
<b>Lab ID:</b> B16010820-001AMS	Sample Matrix Spike								01/14/16 16:19
Sulfate	3230	mg/L	9.9	91	90	110			
<b>Lab ID:</b> B16010820-001AMSD	Sample Matrix Spike Duplicate								01/14/16 16:32
Sulfate	3280	mg/L	9.9	96	90	110	1.4	20	
<b>Lab ID:</b> B16010844-001AMS	Sample Matrix Spike								01/14/16 19:28
Sulfate	2690	mg/L	9.9	100	90	110			
<b>Lab ID:</b> B16010844-001AMSD	Sample Matrix Spike Duplicate								01/14/16 19:41
Sulfate	2620	mg/L	9.9	92	90	110	2.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:28

**Report Date:** 01/20/16  
**Work Order:** B16010836

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E365.1									Analytical Run: FIA202-B_160115A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Phosphorus, Total as P	0.519	mg/L	0.0050	104	90	110			01/15/16 10:04
<b>Method:</b> E365.1									Batch: 96209
<b>Lab ID:</b> MB-96209	Method Blank								
Phosphorus, Total as P	0.003	mg/L	0.002						Run: FIA202-B_160115A 01/15/16 10:06
<b>Lab ID:</b> LCS-96209	Laboratory Control Sample								
Phosphorus, Total as P	0.183	mg/L	0.0050	90	90	110			Run: FIA202-B_160115A 01/15/16 10:07
<b>Lab ID:</b> B16010836-001CMS	Sample Matrix Spike								
Phosphorus, Total Dissolved as P	0.382	mg/L	0.010	96	90	110			Run: FIA202-B_160115A 01/15/16 10:30
<b>Lab ID:</b> B16010836-001CMSD	Sample Matrix Spike Duplicate								
Phosphorus, Total Dissolved as P	0.370	mg/L	0.010	93	90	110			Run: FIA202-B_160115A 01/15/16 10:31

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 01/22/16

**Project:** 3767-01 WK:28

**Work Order:** B16010836

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.7										Analytical Run: ICP203-B_160114A	
<b>Lab ID:</b> ICV		Continuing Calibration Verification Standard								01/14/16 09:25	
Silicon		5.14	mg/L	0.10	103	95	105				
<b>Method:</b> E200.7										Batch: R255003	
<b>Lab ID:</b> MB-6500DIS160114A		Method Blank								Run: ICP203-B_160114A	01/14/16 10:16
Silicon		ND	mg/L	0.01							
<b>Lab ID:</b> LFB-6500DIS160114A		Laboratory Fortified Blank								Run: ICP203-B_160114A	01/14/16 10:20
Silicon		10.0	mg/L	0.10	100	85	115				
<b>Lab ID:</b> B16010795-001BMS2		Sample Matrix Spike								Run: ICP203-B_160114A	01/14/16 15:16
Silicon		93.0	mg/L	0.13	89	70	130				
<b>Lab ID:</b> B16010795-001BMSD		Sample Matrix Spike Duplicate								Run: ICP203-B_160114A	01/14/16 15:20
Silicon		92.8	mg/L	0.13	88	70	130	0.3	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 01/22/16

Project: 3767-01 WK:28

Work Order: B16010838

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_160114A			
<b>Lab ID: QCS</b>	19	Initial Calibration Verification Standard								01/14/16 10:03	
Antimony		0.0490	mg/L	0.050	98	90	110				
Arsenic		0.0502	mg/L	0.0050	100	90	110				
Barium		0.0492	mg/L	0.10	98	90	110				
Beryllium		0.0250	mg/L	0.0010	100	90	110				
Cadmium		0.0256	mg/L	0.0010	102	90	110				
Calcium		2.69	mg/L	0.50	108	90	110				
Chromium		0.0506	mg/L	0.010	101	90	110				
Copper		0.0514	mg/L	0.010	103	90	110				
Iron		0.248	mg/L	0.020	99	90	110				
Lead		0.0501	mg/L	0.010	100	90	110				
Magnesium		2.52	mg/L	0.50	101	90	110				
Manganese		0.261	mg/L	0.010	105	90	110				
Nickel		0.0510	mg/L	0.010	102	90	110				
Selenium		0.0502	mg/L	0.0050	100	90	110				
Silver		0.0250	mg/L	0.0050	100	90	110				
Strontium		0.0500	mg/L	0.10	100	90	110				
Thallium		0.0501	mg/L	0.10	100	90	110				
Uranium		0.0199	mg/L	0.0010	99	90	110				
Zinc		0.0503	mg/L	0.010	101	90	110				
<b>Method: E200.8</b>								Batch: R255038			
<b>Lab ID: LRB</b>	19	Method Blank								Run: ICPMS206-B_160114A 01/14/16 10:45	
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Barium		ND	mg/L	0.0004							
Beryllium		ND	mg/L	1E-05							
Cadmium		ND	mg/L	3E-05							
Calcium		ND	mg/L	0.008							
Chromium		4E-05	mg/L	4E-05							
Copper		ND	mg/L	6E-05							
Iron		ND	mg/L	0.0007							
Lead		ND	mg/L	5E-05							
Magnesium		ND	mg/L	0.005							
Manganese		ND	mg/L	4E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Strontium		ND	mg/L	1E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
Zinc		ND	mg/L	0.0001							
<b>Lab ID: LFB</b>	19	Laboratory Fortified Blank								Run: ICPMS206-B_160114A 01/14/16 10:50	
Antimony		0.0482	mg/L	0.050	96	85	115				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 01/22/16

Project: 3767-01 WK:28

Work Order: B16010836

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b> <span style="float: right;">Batch: R255038</span>											
<b>Lab ID: LFB</b>	19 Laboratory Fortified Blank				Run: ICPMS206-B_160114A				01/14/16 10:50		
Arsenic		0.0513	mg/L	0.0050	103	85	115				
Barium		0.0508	mg/L	0.10	102	85	115				
Beryllium		0.0491	mg/L	0.0010	98	85	115				
Cadmium		0.0498	mg/L	0.0010	100	85	115				
Calcium		48.5	mg/L	0.50	97	85	115				
Chromium		0.0500	mg/L	0.010	100	85	115				
Copper		0.0492	mg/L	0.010	98	85	115				
Iron		4.92	mg/L	0.020	98	85	115				
Lead		0.0511	mg/L	0.010	102	85	115				
Magnesium		48.6	mg/L	0.50	97	85	115				
Manganese		0.0507	mg/L	0.010	101	85	115				
Nickel		0.0486	mg/L	0.010	97	85	115				
Selenium		0.0509	mg/L	0.0050	102	85	115				
Silver		0.0200	mg/L	0.0050	100	85	115				
Strontium		0.0507	mg/L	0.10	101	85	115				
Thallium		0.0512	mg/L	0.10	102	85	115				
Uranium		0.0510	mg/L	0.0010	102	85	115				
Zinc		0.0494	mg/L	0.010	99	85	115				
<b>Lab ID: B16010836-001BMS</b>	19 Sample Matrix Spike				Run: ICPMS206-B_160114A				01/14/16 12:01		
Antimony		0.0446	mg/L	0.0010	88	70	130				
Arsenic		0.0498	mg/L	0.0010	97	70	130				
Barium		0.0574	mg/L	0.050	97	70	130				
Beryllium		0.0433	mg/L	0.0010	87	70	130				
Cadmium		0.0486	mg/L	0.0010	97	70	130				
Calcium		76.8	mg/L	1.0	91	70	130				
Chromium		0.0502	mg/L	0.0050	100	70	130				
Copper		0.0501	mg/L	0.0050	98	70	130				
Iron		4.32	mg/L	0.020	86	70	130				
Lead		0.0501	mg/L	0.0010	100	70	130				
Magnesium		67.0	mg/L	1.0	94	70	130				
Manganese		0.0503	mg/L	0.0010	99	70	130				
Nickel		0.0486	mg/L	0.0050	96	70	130				
Selenium		0.0489	mg/L	0.0010	97	70	130				
Silver		0.0188	mg/L	0.0010	94	70	130				
Strontium		0.287	mg/L	0.010		70	130			A	
Thallium		0.0505	mg/L	0.00050	101	70	130				
Uranium		0.0507	mg/L	0.00030	101	70	130				
Zinc		0.0525	mg/L	0.010	97	70	130				
<b>Lab ID: B16010836-001BMSD</b>	19 Sample Matrix Spike Duplicate				Run: ICPMS206-B_160114A				01/14/16 12:06		
Antimony		0.0457	mg/L	0.0010	90	70	130	2.5	20		
Arsenic		0.0510	mg/L	0.0010	99	70	130	2.5	20		
Barium		0.0572	mg/L	0.050	97	70	130	0.3	20		

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 01/22/16

**Project:** 3767-01 WK:28

**Work Order:** B16010836

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										Batch: R255038
<b>Lab ID:</b>	<b>B16010836-001BMSD</b>	19 Sample Matrix Spike Duplicate			Run: ICPMS206-B_160114A				01/14/16 12:06	
Beryllium		0.0431	mg/L	0.0010	86	70	130	0.6	20	
Cadmium		0.0492	mg/L	0.0010	98	70	130	1.2	20	
Calcium		78.7	mg/L	1.0	95	70	130	2.4	20	
Chromium		0.0509	mg/L	0.0050	102	70	130	1.4	20	
Copper		0.0508	mg/L	0.0050	99	70	130	1.3	20	
Iron		4.32	mg/L	0.020	86	70	130	0.0	20	
Lead		0.0504	mg/L	0.0010	101	70	130	0.5	20	
Magnesium		69.1	mg/L	1.0	98	70	130	3.0	20	
Manganese		0.0504	mg/L	0.0010	99	70	130	0.1	20	
Nickel		0.0493	mg/L	0.0050	98	70	130	1.5	20	
Selenium		0.0510	mg/L	0.0010	101	70	130	4.2	20	
Silver		0.0168	mg/L	0.0010	84	70	130	11	20	
Strontium		0.285	mg/L	0.010		70	130	0.6	20	A
Thallium		0.0507	mg/L	0.00050	101	70	130	0.4	20	
Uranium		0.0505	mg/L	0.00030	100	70	130	0.4	20	
Zinc		0.0535	mg/L	0.010	99	70	130	1.7	20	

<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_160121A
<b>Lab ID:</b>	<b>QCS</b>	Initial Calibration Verification Standard							01/21/16 13:25	
Aluminum		0.247	mg/L	0.10	99	90	110			

<b>Method: E200.8</b>										Batch: R255355
<b>Lab ID:</b>	<b>LRB</b>	Method Blank			Run: ICPMS206-B_160121A				01/21/16 10:53	
Aluminum		ND	mg/L	0.0001						

<b>Lab ID:</b>	<b>LFB</b>	Laboratory Fortified Blank			Run: ICPMS206-B_160121A				01/21/16 11:02	
Aluminum		0.0506	mg/L	0.10	101	85	115			

<b>Lab ID:</b>	<b>B16011216-001AMS</b>	Sample Matrix Spike			Run: ICPMS206-B_160121A				01/21/16 14:12	
Aluminum		0.0955	mg/L	0.030	94	70	130			

<b>Lab ID:</b>	<b>B16011216-001AMSD</b>	Sample Matrix Spike Duplicate			Run: ICPMS206-B_160121A				01/21/16 14:17	
Aluminum		0.0966	mg/L	0.030	95	70	130	1.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 01/22/16

**Project:** 3767-01 WK:28

**Work Order:** B16010836

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160119A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								01/19/16 15:28	
Mercury		0.000203	mg/L	1.0E-05	102	90	110				
<b>Method:</b> E245.1										Batch: 96318	
<b>Lab ID:</b> MB-96318		Method Blank								Run: HGCV203-B_160119A	01/19/16 15:37
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-96318		Laboratory Control Sample								Run: HGCV203-B_160119A	01/19/16 15:40
Mercury		0.000201	mg/L	1.0E-05	101	85	115				
<b>Lab ID:</b> B16010836-001BMS		Sample Matrix Spike								Run: HGCV203-B_160119A	01/19/16 16:06
Mercury		0.000200	mg/L	1.0E-05	99	70	130				
<b>Lab ID:</b> B16010836-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160119A	01/19/16 16:08
Mercury		0.000207	mg/L	1.0E-05	103	70	130	3.4	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16010836

Login completed by: Gina McCartney

Date Received: 1/13/2016

Reviewed by: BL2000\tedwards

Received by: qej

Reviewed Date: 1/15/2016

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 7.6°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

**PLEASE PRINT- Provide as much information as possible.**

Project Name, PWS, Permit, Etc. **3767-01 WK:28**

Sample Origin **NV**

EPA/State Compliance: Yes  No

Contact Name: **Mike Medina** Phone/Fax: **775-356-1300** Email: **MLI@METTEST.COM**

Sampler: (Please Print) **Robert Johnson**

Quote/Bottle Order:

Company Name: **McClelland Lab**

Report Mail Address: **Tintina Resources, 200 Granville St. Suite 2560, Vancouver, BC V6C 1S4 Canada**

Invoice Address: **Tintina Resources, 200 Granville St. Suite 2560, Vancouver, BC V6C 1S4 Canada**

Purchase Order: **604-628-1162**

Shipped by: **UPS**

Cooler ID(s): **NDA**

Receipt Temp: **7.6 °C**

On Ice:  Yes  No

Custody Seal Intact:  Yes  No

Signature Match:  Yes  No

Special Report/Formats - ELI must be notified prior to sample submittal for the following:

DW  A2LA  GSA  EDD/EDT (Electronic Data)  POT/WWTP  State:  LEVEL IV  Other:  NELAC

Number of Containers: **1**

Sample Type: **AWS/B**

Vegetation Bioassay Other:

Matrix: **Water**

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	SEE ATTACHED	SEE ATTACHED (TAT)	Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	Comments:
1 Ynl B Comp	1/12/16	09:00	Water	X	X		
2 LZ FW Comp	1-12-16	09:00					
3							
4							
5							
6							
7							
8							
9							
10							

LABORATORY USE ONLY

Please Copy results to: **MLI@METTEST.COM**

hold remaining preserved samples (frozen) until further notice.

Received by (print): **JOE CHANEY** Date/Time: **1/12/16 9AM**

Signature: *[Signature]*

Received by (print): **Mike Medina** Date/Time: **1/13/16 09:20**

Signature: *[Signature]*

Received by Laboratory: **Mike Medina** Date/Time: **1/13/16 09:20**

Signature: *[Signature]*

Relinquished by (print): **JOE CHANEY** Date/Time: **1/12/16 9AM**

Signature: *[Signature]*

Relinquished by (print): **JOE CHANEY** Date/Time: **1/12/16 9AM**

Signature: *[Signature]*

Sample Disposal: **Return to Client:**

Lab Disposal: **Return to Client:**

**Custody Record MUST be Signed**

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012





# ANALYTICAL SUMMARY REPORT

February 05, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16011876                      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:32

Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Montana Inc on 1/28/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16011876-001	USZ Comp	01/27/16 9:00	01/28/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B16011876-002	Yc Comp	01/27/16 9:00	01/28/16	Aqueous	Same As Above
B16011876-003	Tailings	01/27/16 9:00	01/28/16	Aqueous	Same As Above
B16011876-004	Tailings (Saturated)	01/27/16 9:00	01/28/16	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Technical Data Reviewer

Digitally signed by  
Jillian B. Miller  
Date: 2016.02.05 13:56:18 -07:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:32  
**Lab ID:** B16011876-001  
**Client Sample ID:** USZ Comp

**Report Date:** 02/05/16  
**Collection Date:** 01/27/16 09:00  
**Date Received:** 01/28/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	1630	mg/L	D	4		E300.0	01/29/16 20:14 / rbf
Fluoride	ND	mg/L		0.2		A4500-F C	02/01/16 13:33 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	02/02/16 15:31 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	02/01/16 14:14 / mas
Antimony	ND	mg/L		0.0005		E200.8	01/29/16 14:37 / mas
Arsenic	0.002	mg/L		0.001		E200.8	02/01/16 14:14 / mas
Barium	0.013	mg/L		0.003		E200.8	01/29/16 14:37 / mas
Beryllium	ND	mg/L		0.0008		E200.7	01/29/16 21:09 / jjw
Cadmium	0.00045	mg/L		0.00003		E200.8	01/29/16 14:37 / mas
Calcium	385	mg/L		1		E200.7	01/29/16 21:09 / jjw
Chromium	ND	mg/L		0.01		E200.8	01/29/16 14:37 / mas
Copper	1.40	mg/L		0.002		E200.8	01/29/16 14:37 / mas
Iron	0.06	mg/L		0.02		E200.7	01/29/16 21:09 / jjw
Lead	0.0051	mg/L		0.0003		E200.8	01/29/16 14:37 / mas
Magnesium	167	mg/L		1		E200.7	01/29/16 21:09 / jjw
Manganese	2.71	mg/L		0.005		E200.7	01/29/16 21:09 / jjw
Mercury	ND	mg/L		5E-06		E245.1	01/29/16 16:44 / ser
Nickel	0.090	mg/L		0.002		E200.8	02/01/16 14:14 / mas
Selenium	ND	mg/L		0.001		E200.8	02/01/16 14:14 / mas
Silicon	10.6	mg/L		0.05		E200.7	01/29/16 21:09 / jjw
Silver	ND	mg/L		0.0002		E200.8	01/29/16 14:37 / mas
Strontium	18.0	mg/L		0.02		E200.7	01/29/16 21:09 / jjw
Thallium	0.0349	mg/L		0.0002		E200.8	01/29/16 14:37 / mas
Uranium	ND	mg/L		0.0002		E200.8	01/29/16 14:37 / mas
Zinc	0.097	mg/L		0.008		E200.8	02/01/16 14:14 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:32  
**Lab ID:** B16011876-002  
**Client Sample ID:** Yc Comp

**Report Date:** 02/05/16  
**Collection Date:** 01/27/16 09:00  
**Date Received:** 01/28/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	57	mg/L		1		E300.0	01/29/16 20:27 / rbf
Fluoride	ND	mg/L		0.2		A4500-F C	02/01/16 13:36 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.014	mg/L	L	0.005		E365.1	02/02/16 14:08 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	0.047	mg/L		0.009		E200.8	02/01/16 14:19 / mas
Antimony	0.0008	mg/L		0.0005		E200.8	01/29/16 14:40 / mas
Arsenic	0.015	mg/L		0.001		E200.8	02/01/16 14:19 / mas
Barium	0.061	mg/L		0.003		E200.8	01/29/16 14:40 / mas
Beryllium	ND	mg/L		0.0008		E200.7	01/29/16 21:13 / jjw
Cadmium	ND	mg/L		0.00003		E200.8	01/29/16 14:40 / mas
Calcium	6	mg/L		1		E200.7	01/29/16 21:13 / jjw
Chromium	ND	mg/L		0.01		E200.8	01/29/16 14:40 / mas
Copper	ND	mg/L		0.002		E200.8	01/29/16 14:40 / mas
Iron	ND	mg/L		0.02		E200.7	01/29/16 21:13 / jjw
Lead	0.0004	mg/L		0.0003		E200.8	01/29/16 14:40 / mas
Magnesium	6	mg/L		1		E200.7	01/29/16 21:13 / jjw
Manganese	ND	mg/L		0.005		E200.7	01/29/16 21:13 / jjw
Mercury	ND	mg/L		5E-06		E245.1	01/29/16 16:54 / ser
Nickel	ND	mg/L		0.002		E200.8	01/29/16 14:40 / mas
Selenium	ND	mg/L		0.001		E200.8	01/29/16 14:40 / mas
Silicon	4.54	mg/L		0.05		E200.7	01/29/16 21:13 / jjw
Silver	ND	mg/L		0.0002		E200.8	01/29/16 14:40 / mas
Strontium	0.14	mg/L		0.02		E200.8	01/29/16 14:40 / mas
Thallium	ND	mg/L		0.0002		E200.8	01/29/16 14:40 / mas
Uranium	0.0007	mg/L		0.0002		E200.8	01/29/16 14:40 / mas
Zinc	ND	mg/L		0.008		E200.8	01/29/16 14:40 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:32  
**Lab ID:** B16011876-003  
**Client Sample ID:** Tailings

**Report Date:** 02/05/16  
**Collection Date:** 01/27/16 09:00  
**Date Received:** 01/28/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	8600	mg/L	D	40		E300.0	01/29/16 20:41 / rbf
Fluoride	0.4	mg/L		0.2		A4500-F C	02/01/16 13:39 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	43.4	mg/L	D	0.5		E365.1	02/04/16 16:24 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	10.4	mg/L	D	0.06		E200.7	02/01/16 11:55 / rlh
Antimony	0.0938	mg/L		0.0005		E200.8	01/29/16 14:43 / mas
Arsenic	129	mg/L	D	0.07		E200.7	02/01/16 11:55 / rlh
Barium	0.014	mg/L		0.003		E200.8	01/29/16 14:43 / mas
Beryllium	0.0013	mg/L		0.0008		E200.7	02/01/16 11:55 / rlh
Cadmium	0.00204	mg/L		0.00003		E200.8	01/29/16 14:43 / mas
Calcium	43	mg/L		1		E200.7	02/01/16 11:55 / rlh
Chromium	0.73	mg/L		0.01		E200.8	01/29/16 14:43 / mas
Copper	50.4	mg/L	D	0.02		E200.7	02/01/16 11:55 / rlh
Iron	2610	mg/L	D	0.07		E200.7	02/01/16 11:55 / rlh
Lead	0.0589	mg/L		0.0003		E200.8	01/29/16 14:43 / mas
Magnesium	1	mg/L		1		E200.7	02/01/16 11:55 / rlh
Manganese	0.909	mg/L		0.005		E200.7	02/01/16 11:55 / rlh
Mercury	9.5E-06	mg/L		5E-06		E245.1	01/29/16 17:00 / ser
Nickel	1.56	mg/L		0.002		E200.8	01/29/16 14:43 / mas
Selenium	0.005	mg/L		0.001		E200.8	01/29/16 14:43 / mas
Silicon	49.8	mg/L	D	0.07		E200.7	02/01/16 11:55 / rlh
Silver	ND	mg/L		0.0002		E200.8	01/29/16 14:43 / mas
Strontium	0.73	mg/L		0.02		E200.8	01/29/16 14:43 / mas
Thallium	0.479	mg/L		0.0002		E200.8	01/29/16 14:43 / mas
Uranium	0.0021	mg/L		0.0002		E200.8	01/29/16 14:43 / mas
Zinc	0.670	mg/L		0.008		E200.8	01/29/16 14:43 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:32  
**Lab ID:** B16011876-004  
**Client Sample ID:** Tailings (Saturated)

**Report Date:** 02/05/16  
**Collection Date:** 01/27/16 09:00  
**Date Received:** 01/28/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	103	mg/L		1		E300.0	01/29/16 21:21 / rbf
Fluoride	ND	mg/L		0.2		A4500-F C	02/01/16 13:42 / rbf
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.011	mg/L	L	0.005		E365.1	02/02/16 14:12 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	0.013	mg/L		0.009		E200.8	02/02/16 18:12 / mas
Antimony	ND	mg/L		0.0005		E200.8	01/29/16 14:54 / mas
Arsenic	0.007	mg/L		0.001		E200.8	02/02/16 18:12 / mas
Barium	0.035	mg/L		0.003		E200.8	01/29/16 14:54 / mas
Beryllium	ND	mg/L		0.0008		E200.7	01/29/16 21:30 / jjw
Cadmium	ND	mg/L		0.00003		E200.8	01/29/16 14:54 / mas
Calcium	20	mg/L		1		E200.7	01/29/16 21:30 / jjw
Chromium	ND	mg/L		0.01		E200.8	01/29/16 14:54 / mas
Copper	0.396	mg/L		0.002		E200.8	01/29/16 14:54 / mas
Iron	4.31	mg/L		0.02		E200.7	01/29/16 21:30 / jjw
Lead	0.0006	mg/L		0.0003		E200.8	01/29/16 14:54 / mas
Magnesium	8	mg/L		1		E200.7	01/29/16 21:30 / jjw
Manganese	2.22	mg/L		0.005		E200.8	01/29/16 14:54 / mas
Mercury	ND	mg/L		5E-06		E245.1	01/29/16 17:05 / ser
Nickel	0.567	mg/L		0.002		E200.8	01/29/16 14:54 / mas
Selenium	ND	mg/L		0.001		E200.8	01/29/16 14:54 / mas
Silicon	8.99	mg/L		0.05		E200.7	01/29/16 21:30 / jjw
Silver	ND	mg/L		0.0002		E200.8	01/29/16 14:54 / mas
Strontium	0.54	mg/L		0.02		E200.8	01/29/16 14:54 / mas
Thallium	0.0039	mg/L		0.0002		E200.8	01/29/16 14:54 / mas
Uranium	ND	mg/L		0.0002		E200.8	01/29/16 14:54 / mas
Zinc	0.017	mg/L		0.008		E200.8	01/29/16 14:54 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:32

**Report Date:** 02/04/16  
**Work Order:** B16011876

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_160201A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								02/01/16 13:17
Fluoride	1.03	mg/L	0.10	103	90	110			
<b>Method:</b> A4500-F C									Batch: R255837
<b>Lab ID:</b> MBLK	Method Blank								02/01/16 13:12
Fluoride	ND	mg/L	0.01						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								02/01/16 13:15
Fluoride	0.960	mg/L	0.10	96	90	110			
<b>Lab ID:</b> B16011743-001AMS	Sample Matrix Spike								02/01/16 13:23
Fluoride	3.37	mg/L	0.10	96	80	120			
<b>Lab ID:</b> B16011743-001AMSD	Sample Matrix Spike Duplicate								02/01/16 13:25
Fluoride	3.39	mg/L	0.10	98	80	120	0.6	10	
<b>Lab ID:</b> B16011908-004AMS	Sample Matrix Spike								02/01/16 14:05
Fluoride	2.97	mg/L	0.10	96	80	120			
<b>Lab ID:</b> B16011908-004AMSD	Sample Matrix Spike Duplicate								02/01/16 14:08
Fluoride	2.99	mg/L	0.10	98	80	120	0.7	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:32

**Report Date:** 02/04/16  
**Work Order:** B16011876

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 1_160129A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								01/29/16 17:05
Sulfate	9.06	mg/L	1.0	101	90	110			
<b>Method:</b> E300.0	Batch: R255808								
<b>Lab ID:</b> MB	Method Blank								01/29/16 17:19
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								01/29/16 17:32
Sulfate	18.2	mg/L	1.0	101	90	110			
<b>Lab ID:</b> B16011728-001AMS test	Sample Matrix Spike								01/29/16 18:53
Sulfate	158	mg/L	1.0	92	90	110			
<b>Lab ID:</b> B16011728-001AMSD te	Sample Matrix Spike Duplicate								01/29/16 19:07
Sulfate	159	mg/L	1.0	92	90	110	0.2	20	
<b>Lab ID:</b> B16011880-002AMS	Sample Matrix Spike								01/29/16 22:02
Sulfate	1610	mg/L	9.9	108	90	110			
<b>Lab ID:</b> B16011880-002AMSD	Sample Matrix Spike Duplicate								01/29/16 22:15
Sulfate	1620	mg/L	9.9	110	90	110	0.7	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:32

**Report Date:** 02/05/16  
**Work Order:** B16011876

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>							Analytical Run: FIA202-B_160202B		
<b>Lab ID: ICV</b> Phosphorus, Total as P	Initial Calibration Verification Standard								02/02/16 12:42
	0.488	mg/L	0.0050	98	90	110			
<b>Method: E365.1</b>							Batch: 96596		
<b>Lab ID: MB-96596</b> Phosphorus, Total as P	Method Blank								02/02/16 15:07
	ND	mg/L	0.002						
<b>Lab ID: LCS-96596</b> Phosphorus, Total as P	Laboratory Control Sample								02/02/16 15:08
	0.188	mg/L	0.0050	94	90	110			
<b>Lab ID: B16011807-001CMS</b> Phosphorus, Dissolved as P	Sample Matrix Spike								02/02/16 15:10
	0.244	mg/L	0.0050	95	90	110			
<b>Lab ID: B16011807-001CMSD</b> Phosphorus, Dissolved as P	Sample Matrix Spike Duplicate								02/02/16 15:11
	0.241	mg/L	0.0050	94	90	110			
<b>Method: E365.1</b>							Batch: 96625		
<b>Lab ID: MB-96625</b> Phosphorus, Total as P	Method Blank								02/02/16 13:38
	ND	mg/L	0.002						
<b>Lab ID: LCS-96625</b> Phosphorus, Total as P	Laboratory Control Sample								02/02/16 13:39
	0.187	mg/L	0.0050	94	90	110			
<b>Lab ID: B16011876-002CMS</b> Phosphorus, Total Dissolved as P	Sample Matrix Spike								02/02/16 14:09
	0.187	mg/L	0.0050	86	90	110			S
<b>Lab ID: B16011876-002CMSD</b> Phosphorus, Total Dissolved as P	Sample Matrix Spike Duplicate								02/02/16 14:10
	0.189	mg/L	0.0050	87	90	110			S

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:32

**Report Date:** 02/05/16  
**Work Order:** B16011876

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>							Analytical Run: FIA202-B_160204B		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard								
Phosphorus, Total as P	0.505	mg/L	0.0050	101	90	110			02/04/16 14:50
<b>Method: E365.1</b>							Batch: 96699		
<b>Lab ID: MB-96699</b>	Method Blank								
Phosphorus, Total as P	0.005	mg/L	0.002						Run: FIA202-B_160204B 02/04/16 15:26
<b>Lab ID: LCS-96699</b>	Laboratory Control Sample								
Phosphorus, Total as P	0.206	mg/L	0.0050	100	90	110			Run: FIA202-B_160204B 02/04/16 15:27
<b>Lab ID: B16011876-003CMS</b>	Sample Matrix Spike								
Phosphorus, Total Dissolved as P	68.1	mg/L	0.50	118	90	110			Run: FIA202-B_160204B 02/04/16 16:21 S
<b>Lab ID: B16011876-003CMSD</b>	Sample Matrix Spike Duplicate								
Phosphorus, Total Dissolved as P	63.2	mg/L	0.50	94	90	110			Run: FIA202-B_160204B 02/04/16 16:23

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 02/05/16

**Project:** 3767-01 WK:32

**Work Order:** B16011876

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160129A		
<b>Lab ID: ICV</b>	7	Continuing Calibration Verification Standard								01/29/16 11:39
Beryllium		1.22	mg/L	0.010	98	95	105			
Calcium		24.2	mg/L	1.0	97	95	105			
Iron		2.45	mg/L	0.020	98	95	105			
Magnesium		24.1	mg/L	1.0	96	95	105			
Manganese		2.44	mg/L	0.010	98	95	105			
Silicon		4.89	mg/L	0.10	98	95	105			
Strontium		2.46	mg/L	0.10	98	95	105			
<b>Method: E200.7</b>								Batch: R255731		
<b>Lab ID: MB-6500DIS160129A</b>	7	Method Blank						Run: ICP203-B_160129A		01/29/16 11:18
Beryllium		ND	mg/L	0.0001						
Calcium		ND	mg/L	0.08						
Iron		ND	mg/L	0.003						
Magnesium		ND	mg/L	0.006						
Manganese		ND	mg/L	0.0006						
Silicon		ND	mg/L	0.01						
Strontium		ND	mg/L	0.0003						
<b>Lab ID: LFB-6500DIS160129A</b>	7	Laboratory Fortified Blank						Run: ICP203-B_160129A		01/29/16 11:22
Beryllium		0.484	mg/L	0.010	97	85	115			
Calcium		47.3	mg/L	1.0	95	85	115			
Iron		4.82	mg/L	0.020	96	85	115			
Magnesium		47.8	mg/L	1.0	96	85	115			
Manganese		4.80	mg/L	0.010	96	85	115			
Silicon		9.67	mg/L	0.10	97	85	115			
Strontium		0.964	mg/L	0.10	96	85	115			
<b>Lab ID: B16011855-001BMS2</b>	7	Sample Matrix Spike						Run: ICP203-B_160129A		01/29/16 20:55
Beryllium		0.936	mg/L	0.0010	94	70	130			
Calcium		135	mg/L	1.0	96	70	130			
Iron		9.73	mg/L	0.020	97	70	130			
Magnesium		122	mg/L	1.0	97	70	130			
Manganese		9.28	mg/L	0.0013	93	70	130			
Silicon		25.6	mg/L	0.10	95	70	130			
Strontium		2.45	mg/L	0.010	94	70	130			
<b>Lab ID: B16011855-001BMSD</b>	7	Sample Matrix Spike Duplicate						Run: ICP203-B_160129A		01/29/16 21:06
Beryllium		0.939	mg/L	0.0010	94	70	130	0.3	20	
Calcium		135	mg/L	1.0	96	70	130	0.1	20	
Iron		9.67	mg/L	0.020	96	70	130	0.6	20	
Magnesium		122	mg/L	1.0	97	70	130	0.1	20	
Manganese		9.21	mg/L	0.0013	92	70	130	0.8	20	
Silicon		25.6	mg/L	0.10	95	70	130	0.1	20	
Strontium		2.47	mg/L	0.010	94	70	130	0.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 02/05/16

Project: 3767-01 WK:32

Work Order: B16011876

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R255731</span>										
<b>Lab ID: B16011876-003BMS2</b>	7	Sample Matrix Spike				Run: ICP203-B_160129A			01/29/16 21:23	
Beryllium		0.917	mg/L	0.0010	92	70	130			
Calcium		133	mg/L	1.0	94	70	130			
Iron		2280	mg/L	0.029		70	130			A
Magnesium		95.8	mg/L	1.0	94	70	130			
Manganese		9.73	mg/L	0.0013	91	70	130			
Silicon		62.5	mg/L	0.10	92	70	130			
Strontium		2.79	mg/L	0.010	92	70	130			
<b>Lab ID: B16011876-003BMSD</b>	7	Sample Matrix Spike Duplicate				Run: ICP203-B_160129A			01/29/16 21:27	
Beryllium		0.918	mg/L	0.0010	92	70	130	0.1	20	
Calcium		131	mg/L	1.0	93	70	130	1.1	20	
Iron		2310	mg/L	0.029		70	130	1.2	20	A
Magnesium		95.0	mg/L	1.0	93	70	130	0.8	20	
Manganese		9.59	mg/L	0.0013	90	70	130	1.5	20	
Silicon		62.3	mg/L	0.10	91	70	130	0.2	20	
Strontium		2.81	mg/L	0.010	93	70	130	0.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 02/05/16

Project: 3767-01 WK:32

Work Order: B16011876

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160201A		
<b>Lab ID: ICV</b>	9	Continuing Calibration Verification Standard								02/01/16 10:03
Aluminum		2.49	mg/L	0.10	100	95	105			
Arsenic		2.50	mg/L	0.10	100	95	105			
Beryllium		1.25	mg/L	0.010	100	95	105			
Calcium		24.5	mg/L	1.0	98	95	105			
Copper		2.52	mg/L	0.010	101	95	105			
Iron		2.45	mg/L	0.020	98	95	105			
Magnesium		25.0	mg/L	1.0	100	95	105			
Manganese		2.49	mg/L	0.010	100	95	105			
Silicon		4.92	mg/L	0.10	98	95	105			
<b>Method: E200.7</b>								Batch: R255800		
<b>Lab ID: MB-6500DIS160201A</b>	9	Method Blank						Run: ICP203-B_160201A		02/01/16 10:31
Aluminum		ND	mg/L	0.01						
Arsenic		ND	mg/L	0.01						
Beryllium		ND	mg/L	0.0001						
Calcium		ND	mg/L	0.08						
Copper		ND	mg/L	0.004						
Iron		ND	mg/L	0.003						
Magnesium		ND	mg/L	0.006						
Manganese		ND	mg/L	0.0006						
Silicon		ND	mg/L	0.01						
<b>Lab ID: LFB-6500DIS160201A</b>	9	Laboratory Fortified Blank						Run: ICP203-B_160201A		02/01/16 10:34
Aluminum		5.04	mg/L	0.10	101	85	115			
Arsenic		0.983	mg/L	0.10	98	85	115			
Beryllium		0.510	mg/L	0.010	102	85	115			
Calcium		49.3	mg/L	1.0	99	85	115			
Copper		1.00	mg/L	0.010	100	85	115			
Iron		4.85	mg/L	0.020	97	85	115			
Magnesium		50.5	mg/L	1.0	101	85	115			
Manganese		4.92	mg/L	0.010	98	85	115			
Silicon		9.85	mg/L	0.10	99	85	115			
<b>Lab ID: B16011727-003BMS2</b>	9	Sample Matrix Spike						Run: ICP203-B_160201A		02/01/16 11:48
Aluminum		25.6	mg/L	0.035	102	70	130			
Arsenic		5.10	mg/L	0.073	100	70	130			
Beryllium		2.49	mg/L	0.0010	99	70	130			
Calcium		268	mg/L	1.0	96	70	130			
Copper		4.87	mg/L	0.018	97	70	130			
Iron		24.1	mg/L	0.020	95	70	130			
Magnesium		268	mg/L	1.0	97	70	130			
Manganese		23.9	mg/L	0.0033	96	70	130			
Silicon		54.5	mg/L	0.10	99	70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 02/05/16

**Project:** 3767-01 WK:32

**Work Order:** B16011876

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Batch: R255800		
<b>Lab ID:</b>	<b>B16011727-003BMSD</b>	9 Sample Matrix Spike Duplicate			Run: ICP203-B_160201A				02/01/16 11:52	
Aluminum		26.3	mg/L	0.035	105	70	130	2.9	20	
Arsenic		5.24	mg/L	0.073	103	70	130	2.7	20	
Beryllium		2.56	mg/L	0.0010	102	70	130	2.7	20	
Calcium		277	mg/L	1.0	99	70	130	3.2	20	
Copper		5.02	mg/L	0.018	100	70	130	2.9	20	
Iron		24.7	mg/L	0.020	97	70	130	2.6	20	
Magnesium		277	mg/L	1.0	101	70	130	3.5	20	
Manganese		24.5	mg/L	0.0033	98	70	130	2.5	20	
Silicon		56.2	mg/L	0.10	102	70	130	2.9	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 02/05/16

Project: 3767-01 WK:32

Work Order: B16011876

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_160129B			
<b>Lab ID: QCS</b>	14 Initial Calibration Verification Standard							01/29/16 15:56			
Antimony		0.0497	mg/L	0.050	99	90	110				
Barium		0.0514	mg/L	0.10	103	90	110				
Cadmium		0.0258	mg/L	0.0010	103	90	110				
Chromium		0.0488	mg/L	0.010	98	90	110				
Copper		0.0519	mg/L	0.010	104	90	110				
Lead		0.0490	mg/L	0.010	98	90	110				
Manganese		0.255	mg/L	0.010	102	90	110				
Nickel		0.0504	mg/L	0.010	101	90	110				
Selenium		0.0490	mg/L	0.0050	98	90	110				
Silver		0.0250	mg/L	0.0050	100	90	110				
Strontium		0.0469	mg/L	0.10	94	90	110				
Thallium		0.0489	mg/L	0.10	98	90	110				
Uranium		0.0184	mg/L	0.0010	92	90	110				
Zinc		0.0512	mg/L	0.010	102	90	110				

<b>Method: E200.8</b>								Batch: R255744		
<b>Lab ID: LRB</b>	14 Method Blank							Run: ICPMS202-B_160129B		01/29/16 13:03
Antimony		ND	mg/L	1E-05						
Barium		ND	mg/L	0.0001						
Cadmium		1E-05	mg/L	1E-05						
Chromium		ND	mg/L	0.0003						
Copper		ND	mg/L	9E-05						
Lead		ND	mg/L	2E-05						
Manganese		ND	mg/L	8E-05						
Nickel		ND	mg/L	7E-05						
Selenium		ND	mg/L	0.0003						
Silver		ND	mg/L	2E-05						
Strontium		ND	mg/L	1E-05						
Thallium		ND	mg/L	1E-05						
Uranium		ND	mg/L	7E-06						
Zinc		ND	mg/L	0.0002						

<b>Lab ID: LFB</b>	14 Laboratory Fortified Blank							Run: ICPMS202-B_160129B		01/29/16 13:06
Antimony		0.0457	mg/L	0.050	91	85	115			
Barium		0.0492	mg/L	0.10	98	85	115			
Cadmium		0.0497	mg/L	0.0010	99	85	115			
Chromium		0.0497	mg/L	0.010	99	85	115			
Copper		0.0529	mg/L	0.010	106	85	115			
Lead		0.0491	mg/L	0.010	98	85	115			
Manganese		0.0485	mg/L	0.010	97	85	115			
Nickel		0.0518	mg/L	0.010	103	85	115			
Selenium		0.0501	mg/L	0.0050	100	85	115			
Silver		0.0202	mg/L	0.0050	101	85	115			
Strontium		0.0474	mg/L	0.10	95	85	115			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 02/05/16

Project: 3767-01 WK:32

Work Order: B16011876

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R255744</span>										
<b>Lab ID: LFB</b>	14	Laboratory Fortified Blank					Run: ICPMS202-B_160129B		01/29/16 13:06	
Thallium		0.0479	mg/L	0.10	96	85	115			
Uranium		0.0443	mg/L	0.0010	89	85	115			
Zinc		0.0520	mg/L	0.010	104	85	115			
<b>Lab ID: B16011805-001BMS</b>	14	Sample Matrix Spike					Run: ICPMS202-B_160129B		01/29/16 15:05	
Antimony		0.0505	mg/L	0.0010	98	70	130			
Barium		0.0502	mg/L	0.050	98	70	130			
Cadmium		0.0488	mg/L	0.0010	98	70	130			
Chromium		0.0444	mg/L	0.0050	89	70	130			
Copper		0.0519	mg/L	0.0050	103	70	130			
Lead		0.0488	mg/L	0.0010	98	70	130			
Manganese		0.0499	mg/L	0.0010	90	70	130			
Nickel		0.0564	mg/L	0.0050	103	70	130			
Selenium		0.0534	mg/L	0.0010	101	70	130			
Silver		0.0120	mg/L	0.0010	60	70	130			S
Strontium		0.0749	mg/L	0.010	95	70	130			
Thallium		0.0483	mg/L	0.00050	96	70	130			
Uranium		0.0460	mg/L	0.00030	92	70	130			
Zinc		0.0517	mg/L	0.010	103	70	130			
<b>Lab ID: B16011805-001BMSD</b>	14	Sample Matrix Spike Duplicate					Run: ICPMS202-B_160129B		01/29/16 15:07	
Antimony		0.0512	mg/L	0.0010	100	70	130	1.3	20	
Barium		0.0516	mg/L	0.050	101	70	130	2.8	20	
Cadmium		0.0494	mg/L	0.0010	99	70	130	1.1	20	
Chromium		0.0442	mg/L	0.0050	88	70	130	0.4	20	
Copper		0.0512	mg/L	0.0050	102	70	130	1.4	20	
Lead		0.0500	mg/L	0.0010	100	70	130	2.6	20	
Manganese		0.0503	mg/L	0.0010	91	70	130	0.9	20	
Nickel		0.0571	mg/L	0.0050	104	70	130	1.2	20	
Selenium		0.0514	mg/L	0.0010	97	70	130	3.8	20	
Silver		0.0136	mg/L	0.0010	68	70	130	12	20	S
Strontium		0.0723	mg/L	0.010	89	70	130	3.5	20	
Thallium		0.0495	mg/L	0.00050	99	70	130	2.6	20	
Uranium		0.0475	mg/L	0.00030	95	70	130	3.2	20	
Zinc		0.0511	mg/L	0.010	102	70	130	1.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 02/05/16

Project: 3767-01 WK:32

Work Order: B16011876

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS206-B_160201A				
<b>Lab ID: QCS</b>	5	Initial Calibration Verification Standard									02/01/16 11:09
Aluminum		0.256	mg/L	0.10	102	90	110				
Arsenic		0.0514	mg/L	0.0050	103	90	110				
Nickel		0.0509	mg/L	0.010	102	90	110				
Selenium		0.0504	mg/L	0.0050	101	90	110				
Zinc		0.0520	mg/L	0.010	104	90	110				
<b>Method: E200.8</b>							Batch: R255818				
<b>Lab ID: LRB</b>	5	Method Blank									02/01/16 11:47
Aluminum		ND	mg/L	0.0001							
Arsenic		ND	mg/L	6E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Zinc		ND	mg/L	0.0001							
<b>Lab ID: LFB</b>	5	Laboratory Fortified Blank									02/01/16 12:01
Aluminum		0.0499	mg/L	0.10	100	85	115				
Arsenic		0.0500	mg/L	0.0050	100	85	115				
Nickel		0.0496	mg/L	0.010	99	85	115				
Selenium		0.0490	mg/L	0.0050	98	85	115				
Zinc		0.0482	mg/L	0.010	96	85	115				
<b>Lab ID: B16011805-001BMS</b>	5	Sample Matrix Spike									02/01/16 14:00
Aluminum		0.0757	mg/L	0.030	94	70	130				
Arsenic		0.0491	mg/L	0.0010	97	70	130				
Nickel		0.0514	mg/L	0.0050	94	70	130				
Selenium		0.0496	mg/L	0.0010	95	70	130				
Zinc		0.0484	mg/L	0.010	96	70	130				
<b>Lab ID: B16011805-001BMSD</b>	5	Sample Matrix Spike Duplicate									02/01/16 14:05
Aluminum		0.0761	mg/L	0.030	95	70	130	0.5	20		
Arsenic		0.0497	mg/L	0.0010	98	70	130	1.2	20		
Nickel		0.0510	mg/L	0.0050	93	70	130	0.8	20		
Selenium		0.0498	mg/L	0.0010	95	70	130	0.3	20		
Zinc		0.0481	mg/L	0.010	96	70	130	0.7	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 02/05/16

**Project:** 3767-01 WK:32

**Work Order:** B16011876

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS206-B_160202A				
<b>Lab ID: QCS</b>	2	Initial Calibration Verification Standard								02/02/16 12:19	
Aluminum		0.258	mg/L	0.10	103	90	110				
Arsenic		0.0493	mg/L	0.0050	99	90	110				
<b>Method: E200.8</b>							Batch: R255873				
<b>Lab ID: LFB</b>	2	Laboratory Fortified Blank								02/02/16 12:29	
Aluminum		0.0471	mg/L	0.10	94	85	115				
Arsenic		0.0476	mg/L	0.0050	95	85	115				
<b>Lab ID: LRB</b>	2	Method Blank								02/02/16 13:02	
Aluminum		ND	mg/L	0.0001							
Arsenic		ND	mg/L	6E-05							
<b>Lab ID: B16020042-002BMS</b>	2	Sample Matrix Spike								02/02/16 19:14	
Aluminum		0.0508	mg/L	0.030	102	70	130				
Arsenic		0.0649	mg/L	0.0010	96	70	130				
<b>Lab ID: B16020042-002BMSD</b>	2	Sample Matrix Spike Duplicate								02/02/16 19:18	
Aluminum		0.0535	mg/L	0.030	107	70	130	5.2	20		
Arsenic		0.0660	mg/L	0.0010	98	70	130	1.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 02/05/16

Project: 3767-01 WK:32

Work Order: B16011876

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160129A
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								01/29/16 15:06
Mercury		0.000205	mg/L	1.0E-05	103	90	110			
<b>Method:</b> E245.1										Batch: 96567
<b>Lab ID:</b> MB-96567		Method Blank								01/29/16 16:36
Mercury		2E-06	mg/L	1E-06						Run: HGCV203-B_160129A
<b>Lab ID:</b> LCS-96567		Laboratory Control Sample								01/29/16 16:39
Mercury		0.000199	mg/L	1.0E-05	99	85	115			Run: HGCV203-B_160129A
<b>Lab ID:</b> B16011876-001BMS		Sample Matrix Spike								01/29/16 16:49
Mercury		0.000209	mg/L	1.0E-05	102	70	130			Run: HGCV203-B_160129A
<b>Lab ID:</b> B16011876-001BMSD		Sample Matrix Spike Duplicate								01/29/16 16:52
Mercury		0.000215	mg/L	1.0E-05	105	70	130	2.8	30	Run: HGCV203-B_160129A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16011876

Login completed by: Gina McCartney

Date Received: 1/28/2016

Reviewed by: BL2000\cindy

Received by: cmb

Reviewed Date: 1/29/2016

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 5.4°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

For all the samples, the collection date indicated on the sample container label is 1/26/16 and on the Chain of Custody it's 1/27/16. Proceeded with the collection date/time as indicated on the Chain of Custody.



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab		<b>Project Name, PWS, Permit, Etc.</b> 3767-01 WK: 32		<b>Sample Origin</b> State: NV		<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Report Mail Address:</b> Tintina Resources 200 Granville St, Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Contact Name:</b> Mike Medina Phone/Fax: 775-356-1300		<b>Email:</b> MLI@METTEST.COM		<b>Sampler:</b> (Please Print) Robert Johnson	
<b>Invoice Address:</b> Tintina Resources 200 Granville St, Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko 604-628-1162		<b>Purchase Order:</b>		<b>Quote/Bottle Order:</b>	
<b>Special Report/Formats - ELI must be notified prior to sample submittal for the following:</b> <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: <input type="checkbox"/> Other: <input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) <b>Format:</b> <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		<b>Number of Containers</b> Sample Type: A W S V B Air Water Soils/Solids Vegetation Bioassay Other		<b>ANALYSIS REQUESTED</b>		<b>Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page</b> <b>Comments:</b> RUSH	
<b>SAMPLE IDENTIFICATION</b> (Name, Location, Interval, etc.)		<b>Collection Date</b>	<b>Collection Time</b>	<b>MATRIX</b>	<b>Normal Turnaround (TAT)</b>	<b>Please Copy results to:</b>	<b>Shipped by:</b> Robert
1	USZ Comp	1/27/16	09:00	Water	SEE ATTACHED	MLI@METTEST.COM	Cooler ID(s): Receipt Temp: 5.4 °C On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Custody Seal Intact: N Signature Match: N
2	Yc Comp						8160/1876201
3	Tailings						002
4	Tailings (Saturated)						003
5							004
6							
7							
8							
9							
10							
<b>Custody Record MUST be Signed</b>		<b>Relinquished by (print):</b> JOE CHANEY <b>Signature:</b>	<b>Date/Time:</b> 1/27/16 9 Am	<b>Received by (print):</b> <b>Signature:</b>	<b>Date/Time:</b>	<b>Signature:</b>	<b>LABORATORY USE ONLY</b>
<b>Sample Disposal:</b> Return to Client		<b>Relinquished by (print):</b> <b>Signature:</b>	<b>Date/Time:</b>	<b>Received by (print):</b> <b>Signature:</b>	<b>Date/Time:</b>	<b>Signature:</b>	<b>LABORATORY USE ONLY</b>
<b>Lab Disposal:</b>		<b>Relinquished by (print):</b> <b>Signature:</b>	<b>Date/Time:</b>	<b>Received by (print):</b> <b>Signature:</b>	<b>Date/Time:</b> 1-28-16 9:45 am	<b>Signature:</b>	<b>LABORATORY USE ONLY</b>

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

February 19, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16020876      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:32

Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Montana Inc on 2/10/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16020876-001	YNI B Comp	02/09/16 9:00	02/10/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B16020876-002	LZ FW Comp	02/09/16 9:00	02/10/16	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Technical Data Reviewer

Digitally signed by  
Jillian B. Miller  
Date: 2016.02.19 10:08:13 -07:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:32  
**Lab ID:** B16020876-001  
**Client Sample ID:** YNI B Comp

**Report Date:** 02/19/16  
**Collection Date:** 02/09/16 09:00  
**Date Received:** 02/10/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	117	mg/L		1		E300.0	02/11/16 13:50 / amm
Fluoride	0.2	mg/L		0.2		A4500-F C	02/12/16 13:05 / mpg
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	02/12/16 11:20 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	02/12/16 11:58 / mas
Antimony	ND	mg/L		0.0005		E200.8	02/11/16 12:19 / mas
Arsenic	0.002	mg/L		0.001		E200.8	02/11/16 12:19 / mas
Barium	0.011	mg/L		0.003		E200.7	02/12/16 10:28 / r/h
Beryllium	ND	mg/L		0.0008		E200.8	02/11/16 12:19 / mas
Cadmium	ND	mg/L		0.00003		E200.8	02/11/16 12:19 / mas
Calcium	29	mg/L		1		E200.7	02/12/16 10:28 / r/h
Chromium	ND	mg/L		0.01		E200.7	02/12/16 10:28 / r/h
Copper	ND	mg/L		0.002		E200.8	02/12/16 11:58 / mas
Iron	ND	mg/L		0.02		E200.7	02/12/16 10:28 / r/h
Lead	ND	mg/L		0.0003		E200.8	02/11/16 12:19 / mas
Magnesium	19	mg/L		1		E200.7	02/12/16 10:28 / r/h
Manganese	ND	mg/L		0.005		E200.7	02/12/16 10:28 / r/h
Mercury	ND	mg/L		5E-06		E245.1	02/12/16 16:04 / ser
Nickel	ND	mg/L		0.002		E200.8	02/11/16 12:19 / mas
Selenium	ND	mg/L		0.001		E200.8	02/11/16 12:19 / mas
Silicon	3.14	mg/L		0.05		E200.7	02/12/16 10:28 / r/h
Silver	ND	mg/L		0.0002		E200.8	02/11/16 12:19 / mas
Strontium	0.20	mg/L		0.02		E200.8	02/11/16 12:19 / mas
Thallium	ND	mg/L		0.0002		E200.8	02/11/16 12:19 / mas
Uranium	0.0003	mg/L		0.0002		E200.8	02/11/16 12:19 / mas
Zinc	ND	mg/L		0.008		E200.8	02/11/16 12:19 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:32  
**Lab ID:** B16020876-002  
**Client Sample ID:** LZ FW Comp

**Report Date:** 02/19/16  
**Collection Date:** 02/09/16 09:00  
**Date Received:** 02/10/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	88	mg/L		1		E300.0	02/11/16 14:31 / amm
Fluoride	ND	mg/L		0.2		A4500-F C	02/12/16 13:08 / mpg
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	02/12/16 11:21 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	0.009	mg/L		0.009		E200.8	02/12/16 12:20 / mas
Antimony	0.0019	mg/L		0.0005		E200.8	02/11/16 12:21 / mas
Arsenic	0.118	mg/L		0.001		E200.8	02/11/16 12:21 / mas
Barium	0.018	mg/L		0.003		E200.7	02/12/16 11:00 / r/h
Beryllium	ND	mg/L		0.0008		E200.8	02/11/16 12:21 / mas
Cadmium	ND	mg/L		0.00003		E200.8	02/11/16 12:21 / mas
Calcium	20	mg/L		1		E200.7	02/12/16 11:00 / r/h
Chromium	ND	mg/L		0.01		E200.7	02/12/16 11:00 / r/h
Copper	ND	mg/L		0.002		E200.8	02/12/16 12:20 / mas
Iron	ND	mg/L		0.02		E200.7	02/12/16 11:00 / r/h
Lead	ND	mg/L		0.0003		E200.8	02/11/16 12:21 / mas
Magnesium	14	mg/L		1		E200.7	02/12/16 11:00 / r/h
Manganese	0.010	mg/L		0.005		E200.7	02/12/16 11:00 / r/h
Mercury	ND	mg/L		5E-06		E245.1	02/12/16 16:07 / ser
Nickel	0.005	mg/L		0.002		E200.8	02/11/16 12:21 / mas
Selenium	0.001	mg/L		0.001		E200.8	02/11/16 12:21 / mas
Silicon	7.74	mg/L		0.05		E200.7	02/12/16 11:00 / r/h
Silver	ND	mg/L		0.0002		E200.8	02/11/16 12:21 / mas
Strontium	0.13	mg/L		0.02		E200.8	02/11/16 12:21 / mas
Thallium	ND	mg/L		0.0002		E200.8	02/11/16 12:21 / mas
Uranium	0.0844	mg/L		0.0002		E200.8	02/11/16 12:21 / mas
Zinc	ND	mg/L		0.008		E200.8	02/11/16 12:21 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:32

**Report Date:** 02/19/16  
**Work Order:** B16020876

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_160212A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								02/12/16 11:27
Fluoride	0.940	mg/L	0.10	94	90	110			
<b>Method:</b> A4500-F C									Batch: R256473
<b>Lab ID:</b> MBLK	Method Blank								02/12/16 11:22
Fluoride	ND	mg/L	0.03						Run: MAN-TECH_160212A
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								02/12/16 11:25
Fluoride	0.930	mg/L	0.10	93	90	110			Run: MAN-TECH_160212A
<b>Lab ID:</b> B16020717-001AMS	Sample Matrix Spike								02/12/16 12:49
Fluoride	1.19	mg/L	0.10	93	80	120			Run: MAN-TECH_160212A
<b>Lab ID:</b> B16020717-001AMSD	Sample Matrix Spike Duplicate								02/12/16 12:51
Fluoride	1.21	mg/L	0.10	95	80	120	1.7	10	Run: MAN-TECH_160212A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:32

**Report Date:** 02/19/16  
**Work Order:** B16020876

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0									Analytical Run: IC METROHM 2_160211A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								02/11/16 10:01
Sulfate	9.22	mg/L	1.0	102	90	110			
<b>Method:</b> E300.0									Batch: R256377
<b>Lab ID:</b> MB	Method Blank								Run: IC METROHM 2_160211A 02/11/16 09:34
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: IC METROHM 2_160211A 02/11/16 10:15
Sulfate	31.2	mg/L	1.0	104	90	110			
<b>Lab ID:</b> B16020876-001AMS	Sample Matrix Spike								Run: IC METROHM 2_160211A 02/11/16 14:04
Sulfate	174	mg/L	1.0	94	90	110			
<b>Lab ID:</b> B16020876-001AMSD	Sample Matrix Spike Duplicate								Run: IC METROHM 2_160211A 02/11/16 14:17
Sulfate	174	mg/L	1.0	94	90	110	0.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:32

**Report Date:** 02/19/16  
**Work Order:** B16020876

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E365.1								Analytical Run: FIA202-B_160212A		
<b>Lab ID:</b> CCV	Continuing Calibration Verification Standard									
Phosphorus, Total as P	0.504	mg/L	0.0050	101	90	110			02/12/16 10:33	
<b>Method:</b> E365.1								Batch: 96893		
<b>Lab ID:</b> MB-96893	Method Blank									
Phosphorus, Total as P	ND	mg/L	0.002						Run: FIA202-B_160212A 02/12/16 10:54	
<b>Lab ID:</b> LCS-96893	Laboratory Control Sample									
Phosphorus, Total as P	0.200	mg/L	0.0050	100	90	110			Run: FIA202-B_160212A 02/12/16 10:56	
<b>Lab ID:</b> B16020876-002CMS	Sample Matrix Spike									
Phosphorus, Total Dissolved as P	0.211	mg/L	0.0050	105	90	110			Run: FIA202-B_160212A 02/12/16 11:22	
<b>Lab ID:</b> B16020876-002CMSD	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P	0.210	mg/L	0.0050	105	90	110			Run: FIA202-B_160212A 02/12/16 11:23	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 02/18/16

**Project:** 3767-01 WK:32

**Work Order:** B16020876

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.7		Analytical Run: ICP203-B_160212A								
<b>Lab ID:</b> ICV	7	Continuing Calibration Verification Standard							02/12/16 09:14	
Barium		2.50	mg/L	0.10	100	95	105			
Calcium		25.8	mg/L	1.0	103	95	105			
Chromium		2.45	mg/L	0.050	98	95	105			
Iron		2.49	mg/L	0.020	100	95	105			
Magnesium		25.9	mg/L	1.0	104	95	105			
Manganese		2.39	mg/L	0.010	96	95	105			
Silicon		4.93	mg/L	0.10	99	95	105			
<b>Method:</b> E200.7		Batch: R256438								
<b>Lab ID:</b> MB-6500DIS160212A	7	Method Blank							Run: ICP203-B_160212A 02/12/16 09:43	
Barium		ND	mg/L	0.0002						
Calcium		ND	mg/L	0.08						
Chromium		ND	mg/L	0.003						
Iron		ND	mg/L	0.003						
Magnesium		ND	mg/L	0.006						
Manganese		ND	mg/L	0.0006						
Silicon		ND	mg/L	0.01						
<b>Lab ID:</b> LFB-6500DIS160212A	7	Laboratory Fortified Blank							Run: ICP203-B_160212A 02/12/16 09:46	
Barium		0.997	mg/L	0.10	100	85	115			
Calcium		52.2	mg/L	1.0	104	85	115			
Chromium		0.968	mg/L	0.050	97	85	115			
Iron		4.96	mg/L	0.020	99	85	115			
Magnesium		53.2	mg/L	1.0	106	85	115			
Manganese		4.71	mg/L	0.010	94	85	115			
Silicon		9.83	mg/L	0.10	98	85	115			
<b>Lab ID:</b> B16020876-001BMS2	7	Sample Matrix Spike							Run: ICP203-B_160212A 02/12/16 10:35	
Barium		0.991	mg/L	0.050	98	70	130			
Calcium		78.8	mg/L	1.0	100	70	130			
Chromium		0.942	mg/L	0.0050	94	70	130			
Iron		4.84	mg/L	0.020	97	70	130			
Magnesium		69.7	mg/L	1.0	102	70	130			
Manganese		4.60	mg/L	0.0010	92	70	130			
Silicon		12.7	mg/L	0.10	96	70	130			
<b>Lab ID:</b> B16020876-001BMSD	7	Sample Matrix Spike Duplicate							Run: ICP203-B_160212A 02/12/16 10:45	
Barium		1.00	mg/L	0.050	99	70	130	1.1	20	
Calcium		78.9	mg/L	1.0	100	70	130	0.1	20	
Chromium		0.954	mg/L	0.0050	95	70	130	1.2	20	
Iron		4.87	mg/L	0.020	97	70	130	0.7	20	
Magnesium		70.2	mg/L	1.0	103	70	130	0.7	20	
Manganese		4.63	mg/L	0.0010	92	70	130	0.6	20	
Silicon		12.9	mg/L	0.10	97	70	130	1.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 02/18/16

**Project:** 3767-01 WK:32

**Work Order:** B16020876

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_160211A			
<b>Lab ID: QCS</b>	12 Initial Calibration Verification Standard							02/11/16 09:24			
Antimony		0.0482	mg/L	0.050	96	90	110				
Arsenic		0.0511	mg/L	0.0050	102	90	110				
Beryllium		0.0248	mg/L	0.0010	99	90	110				
Cadmium		0.0258	mg/L	0.0010	103	90	110				
Lead		0.0496	mg/L	0.010	99	90	110				
Nickel		0.0515	mg/L	0.010	103	90	110				
Selenium		0.0519	mg/L	0.0050	104	90	110				
Silver		0.0254	mg/L	0.0050	101	90	110				
Strontium		0.0498	mg/L	0.10	100	90	110				
Thallium		0.0496	mg/L	0.10	99	90	110				
Uranium		0.0193	mg/L	0.0010	97	90	110				
Zinc		0.0516	mg/L	0.010	103	90	110				
<b>Method: E200.8</b>								Batch: R256386			
<b>Lab ID: LFB</b>	12 Laboratory Fortified Blank							Run: ICPMS202-B_160211A 02/11/16 09:29			
Antimony		0.0489	mg/L	0.050	98	85	115				
Arsenic		0.0533	mg/L	0.0050	107	85	115				
Beryllium		0.0544	mg/L	0.0010	109	85	115				
Cadmium		0.0518	mg/L	0.0010	104	85	115				
Lead		0.0535	mg/L	0.010	107	85	115				
Nickel		0.0524	mg/L	0.010	105	85	115				
Selenium		0.0543	mg/L	0.0050	109	85	115				
Silver		0.0222	mg/L	0.0050	111	85	115				
Strontium		0.0530	mg/L	0.10	106	85	115				
Thallium		0.0535	mg/L	0.10	107	85	115				
Uranium		0.0507	mg/L	0.0010	101	85	115				
Zinc		0.0514	mg/L	0.010	103	85	115				
<b>Lab ID: LRB</b>	12 Method Blank							Run: ICPMS202-B_160211A 02/11/16 09:49			
Antimony		ND	mg/L	1E-05							
Arsenic		ND	mg/L	0.0001							
Beryllium		ND	mg/L	9E-05							
Cadmium		ND	mg/L	1E-05							
Lead		ND	mg/L	2E-05							
Nickel		ND	mg/L	7E-05							
Selenium		ND	mg/L	0.0003							
Silver		ND	mg/L	2E-05							
Strontium		ND	mg/L	1E-05							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	7E-06							
Zinc		ND	mg/L	0.0002							
<b>Lab ID: B16020662-001BMS</b>	12 Sample Matrix Spike							Run: ICPMS202-B_160211A 02/11/16 12:34			
Antimony		0.102	mg/L	0.0010	102	70	130				
Arsenic		0.109	mg/L	0.0010	109	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 02/18/16

**Project:** 3767-01 WK:32

**Work Order:** B16020876

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R256386										
<b>Lab ID:</b>	<b>B16020662-001BMS</b>	12 Sample Matrix Spike			Run: ICPMS202-B_160211A				02/11/16 12:34	
Beryllium		0.0919	mg/L	0.0010	92	70	130			
Cadmium		0.104	mg/L	0.0010	104	70	130			
Lead		0.115	mg/L	0.0010	113	70	130			
Nickel		0.119	mg/L	0.0050	117	70	130			
Selenium		0.113	mg/L	0.0010	112	70	130			
Silver		0.0379	mg/L	0.0010	95	70	130			
Strontium		0.192	mg/L	0.010	107	70	130			
Thallium		0.120	mg/L	0.00050	120	70	130			
Uranium		0.108	mg/L	0.00030	106	70	130			
Zinc		0.656	mg/L	0.010		70	130			A
<b>Lab ID:</b>	<b>B16020662-001BMSD</b>	12 Sample Matrix Spike Duplicate			Run: ICPMS202-B_160211A				02/11/16 12:36	
Antimony		0.0982	mg/L	0.0010	98	70	130	3.9	20	
Arsenic		0.104	mg/L	0.0010	104	70	130	4.5	20	
Beryllium		0.0893	mg/L	0.0010	89	70	130	2.8	20	
Cadmium		0.104	mg/L	0.0010	104	70	130	0.6	20	
Lead		0.110	mg/L	0.0010	108	70	130	4.5	20	
Nickel		0.112	mg/L	0.0050	110	70	130	5.8	20	
Selenium		0.106	mg/L	0.0010	105	70	130	5.8	20	
Silver		0.0381	mg/L	0.0010	95	70	130	0.4	20	
Strontium		0.188	mg/L	0.010	103	70	130	2.4	20	
Thallium		0.108	mg/L	0.00050	108	70	130	11	20	
Uranium		0.103	mg/L	0.00030	101	70	130	5.0	20	
Zinc		0.657	mg/L	0.010		70	130	0.1	20	A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 02/18/16

**Project:** 3767-01 WK:32

**Work Order:** B16020876

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS206-B_160212A				
<b>Lab ID: QCS</b>	2	Initial Calibration Verification Standard								02/12/16 09:46	
Aluminum		0.254	mg/L	0.10	102	90	110				
Copper		0.0504	mg/L	0.010	101	90	110				
<b>Method: E200.8</b>							Batch: R256466				
<b>Lab ID: LFB</b>	2	Laboratory Fortified Blank					Run: ICPMS206-B_160212A			02/12/16 09:52	
Aluminum		0.0492	mg/L	0.10	98	85	115				
Copper		0.0476	mg/L	0.010	95	85	115				
<b>Lab ID: LRB</b>	2	Method Blank					Run: ICPMS206-B_160212A			02/12/16 10:22	
Aluminum		ND	mg/L	0.0001							
Copper		ND	mg/L	6E-05							
<b>Lab ID: B16020876-001BMS</b>	2	Sample Matrix Spike					Run: ICPMS206-B_160212A			02/12/16 12:01	
Aluminum		0.0593	mg/L	0.030	101	70	130				
Copper		0.0514	mg/L	0.0050	103	70	130				
<b>Lab ID: B16020876-001BMSD</b>	2	Sample Matrix Spike Duplicate					Run: ICPMS206-B_160212A			02/12/16 12:14	
Aluminum		0.0587	mg/L	0.030	100	70	130	0.9	20		
Copper		0.0493	mg/L	0.0050	99	70	130	4.3	20		
<b>Lab ID: B16020980-001AMS</b>	2	Sample Matrix Spike					Run: ICPMS206-B_160212A			02/12/16 12:56	
Aluminum		0.0910	mg/L	0.030	91	70	130				
Copper		0.107	mg/L	0.0050	94	70	130				
<b>Lab ID: B16020980-001AMSD</b>	2	Sample Matrix Spike Duplicate					Run: ICPMS206-B_160212A			02/12/16 12:59	
Aluminum		0.0941	mg/L	0.030	94	70	130	3.3	20		
Copper		0.111	mg/L	0.0050	98	70	130	3.6	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 02/18/16

**Project:** 3767-01 WK:32

**Work Order:** B16020876

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160212A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								02/12/16 15:30	
Mercury		0.000206	mg/L	1.0E-05	103	90	110				
<b>Method:</b> E245.1										Batch: 96923	
<b>Lab ID:</b> MB-96923		Method Blank								Run: HGCV203-B_160212A	02/12/16 15:59
Mercury		2E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-96923		Laboratory Control Sample								Run: HGCV203-B_160212A	02/12/16 16:02
Mercury		0.000210	mg/L	1.0E-05	104	85	115				
<b>Lab ID:</b> B16020959-002AMS		Sample Matrix Spike								Run: HGCV203-B_160212A	02/12/16 16:17
Mercury		0.000210	mg/L	1.0E-05	104	70	130				
<b>Lab ID:</b> B16020959-002AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160212A	02/12/16 16:19
Mercury		0.000212	mg/L	1.0E-05	105	70	130	0.9	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# Work Order Receipt Checklist

Tintina Montana Inc

B16020876

Login completed by: Leslie S. Cadreau

Date Received: 2/10/2016

Reviewed by: BL2000\tedwards

Received by: dlf

Reviewed Date: 2/11/2016

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	4.8°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: <b>McClelland Lab</b>		Project Name, PWS, Permit, Etc. <b>3767-01 WK:32</b>		Sample Origin State: <b>NV</b>		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: <b>Mike Medina</b>		Phone/Fax: <b>775-356-1300</b>		Email: <b>MLI@METTEST.COM</b>	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: <b>Mr Bob Jacko 604-628-1162</b>		Purchase Order:		Quote/Bottle Order:	
Special Report/Formats - ELI must be notified prior to sample submittal for the following: <input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> GSA <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/MWTP    Format: _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC		Number of Containers Sample Type: A W S V B Air Water Soils/Solids Vegetation Bioassay Other		ANALYSIS REQUESTED <input checked="" type="checkbox"/> SEE ATTACHED <input type="checkbox"/> Normal Turnaround (TAT)		Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page <b>R U S H</b>	
Shipped by: <b>Robert USMADA</b> Cooler ID(s):		Receipt Temp <b>4.8 °C</b> On Ice: <input checked="" type="radio"/> Yes <input type="radio"/> No		Custody Seal <input checked="" type="radio"/> Y <input type="radio"/> N Intact <input checked="" type="radio"/> Y <input type="radio"/> N Signature Match <input checked="" type="radio"/> Y <input type="radio"/> N		Shipped by: <b>Robert USMADA</b> Cooler ID(s):	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date		Collection Time		Comments: <b>Blue 20876</b> Please Copy results to: <b>MLI@METTEST.COM</b>	
1 Ynl B Comp		2/9/16		09:00		Please Copy results to: <b>5-001</b>	
2 LZ FW Comp		2/9/16		09:00		Please Copy results to: <b>MLI@METTEST.COM</b>	
3						hold remaining preserved	
4						samples (frozen) until further notice.	
5							
6							
7							
8							
9							
10							
Relinquished by (print): <b>JOE CHANEY</b>		Date/Time: <b>2/9/16 9AM</b>		Received by (print): <i>[Signature]</i>		Date/Time: 	
Relinquished by (print):		Date/Time:		Received by (print):		Date/Time:	
Sample Disposal:		Return to Client:		Lab Disposal:		Received by Laboratory: <b>2/10/16 08:15</b>	
<b>Custody Record MUST be Signed</b>		Signature:		Signature:		Signature:	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

March 03, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16021748      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:36

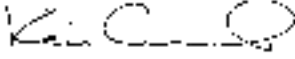
Energy Laboratories Inc Billings MT received the following 4 samples for Tintina Montana Inc on 2/24/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16021748-001	USZ Comp	02/23/16 9:00	02/24/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B16021748-002	Yc Comp	02/23/16 9:00	02/24/16	Aqueous	Same As Above
B16021748-003	Tailings	02/23/16 9:00	02/24/16	Aqueous	Same As Above
B16021748-004	Tailings (Saturated)	02/23/16 9:00	02/24/16	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.03.03 14:16:56 -07:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:36  
**Lab ID:** B16021748-001  
**Client Sample ID:** USZ Comp

**Report Date:** 03/03/16  
**Collection Date:** 02/23/16 09:00  
**Date Received:** 02/24/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	1720	mg/L	D	4		E300.0	02/25/16 14:22 / amm
Fluoride	ND	mg/L		0.2		A4500-F C	02/24/16 19:54 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	02/25/16 13:18 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	02/25/16 12:24 / mas
Antimony	ND	mg/L		0.0005		E200.8	02/25/16 12:24 / mas
Arsenic	0.001	mg/L		0.001		E200.8	02/29/16 16:11 / mas
Barium	0.013	mg/L		0.003		E200.8	02/25/16 12:24 / mas
Beryllium	ND	mg/L		0.0008		E200.8	02/25/16 12:24 / mas
Cadmium	0.00037	mg/L		0.00003		E200.8	02/25/16 12:24 / mas
Calcium	431	mg/L		1		E200.8	02/25/16 12:24 / mas
Chromium	ND	mg/L		0.01		E200.8	02/25/16 12:24 / mas
Copper	0.630	mg/L		0.002		E200.8	02/25/16 12:24 / mas
Iron	0.05	mg/L		0.02		E200.7	02/25/16 19:34 / rih
Lead	0.0024	mg/L		0.0003		E200.8	02/25/16 12:24 / mas
Magnesium	172	mg/L		1		E200.8	02/25/16 12:24 / mas
Manganese	2.31	mg/L		0.005		E200.8	02/25/16 12:24 / mas
Mercury	ND	mg/L		5E-06		E245.1	02/29/16 16:09 / ser
Nickel	0.073	mg/L		0.002		E200.8	02/25/16 12:24 / mas
Selenium	ND	mg/L		0.001		E200.8	02/25/16 12:24 / mas
Silicon	2.61	mg/L	D	0.07		E200.7	02/25/16 19:34 / rih
Silver	ND	mg/L		0.0002		E200.8	02/29/16 16:11 / mas
Strontium	18.9	mg/L		0.02		E200.8	02/25/16 12:24 / mas
Thallium	0.0365	mg/L		0.0002		E200.8	02/25/16 12:24 / mas
Uranium	ND	mg/L		0.0002		E200.8	02/25/16 12:24 / mas
Zinc	0.068	mg/L		0.008		E200.8	02/25/16 12:24 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:36  
**Lab ID:** B16021748-002  
**Client Sample ID:** Yc Comp

**Report Date:** 03/03/16  
**Collection Date:** 02/23/16 09:00  
**Date Received:** 02/24/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	25	mg/L		1		E300.0	02/25/16 14:36 / amm
Fluoride	ND	mg/L		0.2		A4500-F C	02/24/16 20:06 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	02/25/16 13:19 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	0.029	mg/L		0.009		E200.8	02/29/16 16:31 / mas
Antimony	0.0009	mg/L		0.0005		E200.8	03/02/16 11:14 / jjw
Arsenic	0.021	mg/L		0.001		E200.8	02/29/16 16:31 / mas
Barium	0.097	mg/L		0.003		E200.8	02/25/16 12:27 / mas
Beryllium	ND	mg/L		0.0008		E200.8	02/25/16 12:27 / mas
Cadmium	ND	mg/L		0.00003		E200.8	02/25/16 12:27 / mas
Calcium	11	mg/L		1		E200.8	02/25/16 12:27 / mas
Chromium	ND	mg/L		0.01		E200.8	02/25/16 12:27 / mas
Copper	ND	mg/L		0.002		E200.8	02/25/16 12:27 / mas
Iron	ND	mg/L		0.02		E200.8	02/25/16 12:27 / mas
Lead	0.0004	mg/L		0.0003		E200.8	02/25/16 12:27 / mas
Magnesium	10	mg/L		1		E200.8	02/25/16 12:27 / mas
Manganese	ND	mg/L		0.005		E200.8	02/25/16 12:27 / mas
Mercury	ND	mg/L		5E-06		E245.1	02/29/16 16:17 / ser
Nickel	ND	mg/L		0.002		E200.8	02/25/16 12:27 / mas
Selenium	ND	mg/L		0.001		E200.8	02/25/16 12:27 / mas
Silicon	6.84	mg/L		0.05		E200.7	02/25/16 19:37 / rlh
Silver	ND	mg/L		0.0002		E200.8	03/02/16 11:14 / jjw
Strontium	0.22	mg/L		0.02		E200.8	02/25/16 12:27 / mas
Thallium	0.0002	mg/L		0.0002		E200.8	02/25/16 12:27 / mas
Uranium	0.0036	mg/L		0.0002		E200.8	02/25/16 12:27 / mas
Zinc	ND	mg/L		0.008		E200.8	02/25/16 12:27 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:36  
**Lab ID:** B16021748-003  
**Client Sample ID:** Tailings

**Report Date:** 03/03/16  
**Collection Date:** 02/23/16 09:00  
**Date Received:** 02/24/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	3780	mg/L	D	20		E300.0	02/25/16 14:49 / amm
Fluoride	0.5	mg/L		0.2		A4500-F C	02/24/16 20:15 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	27.0	mg/L	D	0.5		E365.1	02/25/16 13:20 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	9.27	mg/L		0.009		E200.8	03/02/16 11:17 / jjw
Antimony	0.0799	mg/L		0.0005		E200.8	02/25/16 12:30 / mas
Arsenic	88.2	mg/L		0.001		E200.8	02/29/16 16:34 / mas
Barium	0.015	mg/L		0.003		E200.8	02/25/16 12:30 / mas
Beryllium	0.0010	mg/L		0.0008		E200.8	02/25/16 12:30 / mas
Cadmium	0.00206	mg/L		0.00003		E200.8	02/25/16 12:30 / mas
Calcium	23	mg/L		1		E200.8	02/25/16 12:30 / mas
Chromium	0.55	mg/L		0.01		E200.8	02/25/16 12:30 / mas
Copper	72.7	mg/L		0.002		E200.8	02/29/16 16:34 / mas
Iron	1350	mg/L		0.02		E200.7	02/25/16 19:41 / rlh
Lead	0.172	mg/L	D	0.0004		E200.8	03/02/16 11:17 / jjw
Magnesium	ND	mg/L		1		E200.8	02/25/16 12:30 / mas
Manganese	0.554	mg/L		0.005		E200.8	02/25/16 12:30 / mas
Mercury	0.0000202	mg/L		5E-06		E245.1	03/02/16 14:28 / mas
Nickel	1.19	mg/L		0.002		E200.8	02/25/16 12:30 / mas
Selenium	0.003	mg/L		0.001		E200.8	02/25/16 12:30 / mas
Silicon	12.3	mg/L	D	0.07		E200.7	02/25/16 19:41 / rlh
Silver	ND	mg/L	D	0.0007		E200.8	03/02/16 11:17 / jjw
Strontium	1.04	mg/L		0.02		E200.8	02/29/16 16:34 / mas
Thallium	0.488	mg/L	D	0.0003		E200.8	03/02/16 11:17 / jjw
Uranium	0.0025	mg/L	D	0.0003		E200.8	03/02/16 11:17 / jjw
Zinc	1.04	mg/L		0.008		E200.8	02/25/16 12:30 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:36  
**Lab ID:** B16021748-004  
**Client Sample ID:** Tailings (Saturated)

**Report Date:** 03/03/16  
**Collection Date:** 02/23/16 09:00  
**Date Received:** 02/24/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	147	mg/L		1		E300.0	02/25/16 15:03 / amm
Fluoride	ND	mg/L		0.2		A4500-F C	02/24/16 20:19 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.007	mg/L	L	0.005		E365.1	02/25/16 13:25 / ehm
<b>METALS, DISSOLVED</b>							
Aluminum	0.063	mg/L		0.009		E200.8	02/25/16 12:33 / mas
Antimony	0.0005	mg/L		0.0005		E200.8	02/25/16 12:33 / mas
Arsenic	0.019	mg/L		0.001		E200.8	02/29/16 16:37 / mas
Barium	0.029	mg/L		0.003		E200.8	02/25/16 12:33 / mas
Beryllium	ND	mg/L		0.0008		E200.8	02/25/16 12:33 / mas
Cadmium	0.00005	mg/L		0.00003		E200.8	02/25/16 12:33 / mas
Calcium	24	mg/L		1		E200.8	02/25/16 12:33 / mas
Chromium	ND	mg/L		0.01		E200.8	02/25/16 12:33 / mas
Copper	0.678	mg/L		0.002		E200.8	02/25/16 12:33 / mas
Iron	13.8	mg/L		0.02		E200.8	02/25/16 12:33 / mas
Lead	0.0110	mg/L		0.0003		E200.8	02/25/16 12:33 / mas
Magnesium	10	mg/L		1		E200.8	02/25/16 12:33 / mas
Manganese	2.92	mg/L		0.005		E200.8	02/25/16 12:33 / mas
Mercury	ND	mg/L		5E-06		E245.1	02/29/16 16:22 / ser
Nickel	0.780	mg/L		0.002		E200.8	02/25/16 12:33 / mas
Selenium	ND	mg/L		0.001		E200.8	02/25/16 12:33 / mas
Silicon	12.7	mg/L		0.05		E200.7	02/25/16 19:55 / rlh
Silver	ND	mg/L		0.0002		E200.8	03/02/16 11:19 / jjw
Strontium	0.72	mg/L		0.02		E200.8	02/25/16 12:33 / mas
Thallium	0.0085	mg/L		0.0002		E200.8	02/25/16 12:33 / mas
Uranium	0.0003	mg/L		0.0002		E200.8	02/25/16 12:33 / mas
Zinc	0.028	mg/L		0.008		E200.8	02/25/16 12:33 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.





## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:36

**Report Date:** 03/02/16  
**Work Order:** B16021748

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_160224B
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								02/24/16 19:20
Fluoride	1.05	mg/L	0.10	105	90	110			
<b>Method:</b> A4500-F C									Batch: R257065
<b>Lab ID:</b> MBLK	Method Blank								02/24/16 19:13
Fluoride	ND	mg/L	0.03						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								02/24/16 19:22
Fluoride	0.980	mg/L	0.10	98	90	110			
<b>Lab ID:</b> B16021748-002AMS	Sample Matrix Spike								02/24/16 20:09
Fluoride	1.30	mg/L	0.10	118	80	120			
<b>Lab ID:</b> B16021748-002AMSD	Sample Matrix Spike Duplicate								02/24/16 20:11
Fluoride	1.32	mg/L	0.10	120	80	120	1.5	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:36

**Report Date:** 03/02/16  
**Work Order:** B16021748

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 2_160225A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								02/25/16 10:06
Sulfate	8.79	mg/L	1.0	98	90	110			
<b>Method:</b> E300.0	Batch: R257099								
<b>Lab ID:</b> MB	Method Blank								02/25/16 09:53
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								02/25/16 10:20
Sulfate	30.4	mg/L	1.0	101	90	110			
<b>Lab ID:</b> B16021767-006AMS	Sample Matrix Spike								02/25/16 13:55
Sulfate	1380	mg/L	3.7	96	90	110			
<b>Lab ID:</b> B16021767-006AMSD	Sample Matrix Spike Duplicate								02/25/16 14:09
Sulfate	1390	mg/L	3.7	97	90	110	0.3	20	
<b>Lab ID:</b> B16021786-001AMS	Sample Matrix Spike								02/25/16 15:43
Sulfate	7700	mg/L	18	98	90	110			
<b>Lab ID:</b> B16021786-001AMSD	Sample Matrix Spike Duplicate								02/25/16 15:57
Sulfate	7680	mg/L	18	97	90	110	0.3	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:36

**Report Date:** 03/02/16  
**Work Order:** B16021748

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>							Analytical Run: FIA202-B_160225B		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard						02/25/16 11:43		
Phosphorus, Total as P	0.514	mg/L	0.0050	103	90	110			
<b>Method: E365.1</b>							Batch: 97189		
<b>Lab ID: MB-97189</b>	Method Blank						Run: FIA202-B_160225B 02/25/16 13:10		
Phosphorus, Total as P	0.003	mg/L	0.002						
<b>Lab ID: LCS-97189</b>	Laboratory Control Sample						Run: FIA202-B_160225B 02/25/16 13:11		
Phosphorus, Total as P	0.200	mg/L	0.0050	99	90	110			
<b>Lab ID: B16021748-003CMS</b>	Sample Matrix Spike						Run: FIA202-B_160225B 02/25/16 13:21		
Phosphorus, Total Dissolved as P	50.2	mg/L	0.50	116	90	110			S
<b>Lab ID: B16021748-003CMSD</b>	Sample Matrix Spike Duplicate						Run: FIA202-B_160225B 02/25/16 13:22		
Phosphorus, Total Dissolved as P	50.7	mg/L	0.50	119	90	110			S

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 03/03/16

**Project:** 3767-01 WK:36

**Work Order:** B16021748

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160225A		
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard								02/25/16 14:32
Iron		2.52	mg/L	0.020	101	95	105			
Silicon		5.09	mg/L	0.10	102	95	105			
<b>Method: E200.7</b>								Batch: R257112		
<b>Lab ID: MB-6500DIS160225A</b>	2	Method Blank								02/25/16 14:39
Iron		ND	mg/L	0.003						
Silicon		0.03	mg/L	0.01						
<b>Lab ID: LFB-6500DIS160225A</b>	2	Laboratory Fortified Blank								02/25/16 14:43
Iron		5.12	mg/L	0.020	102	85	115			
Silicon		10.0	mg/L	0.10	100	85	115			
<b>Lab ID: B16021748-003BMS2</b>	2	Sample Matrix Spike								02/25/16 19:48
Iron		1390	mg/L	0.020		70	130			A
Silicon		63.2	mg/L	0.10	102	70	130			
<b>Lab ID: B16021748-003BMSD</b>	2	Sample Matrix Spike Duplicate								02/25/16 19:51
Iron		1380	mg/L	0.020		70	130	0.5	20	A
Silicon		63.4	mg/L	0.10	102	70	130	0.3	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 03/03/16

Project: 3767-01 WK:36

Work Order: B16021748

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS202-B_160302A	
<b>Lab ID: QCS</b>	6	Initial Calibration Verification Standard							03/02/16 09:44		
Aluminum		0.271	mg/L	0.10	108	90	110				
Antimony		0.0490	mg/L	0.050	98	90	110				
Lead		0.0501	mg/L	0.010	100	90	110				
Silver		0.0252	mg/L	0.0050	101	90	110				
Thallium		0.0496	mg/L	0.10	99	90	110				
Uranium		0.0208	mg/L	0.0010	104	90	110				
<b>Method: E200.8</b>										Batch: R257366	
<b>Lab ID: LRB</b>	6	Method Blank							Run: ICPMS202-B_160302A 03/02/16 10:28		
Aluminum		ND	mg/L	0.0004							
Antimony		ND	mg/L	4E-05							
Lead		ND	mg/L	2E-05							
Silver		ND	mg/L	4E-05							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	1E-05							
<b>Lab ID: LFB</b>	6	Laboratory Fortified Blank							Run: ICPMS202-B_160302A 03/02/16 10:36		
Aluminum		0.0483	mg/L	0.10	97	85	115				
Antimony		0.0435	mg/L	0.050	87	85	115				
Lead		0.0488	mg/L	0.010	98	85	115				
Silver		0.0209	mg/L	0.0050	105	85	115				
Thallium		0.0478	mg/L	0.10	96	85	115				
Uranium		0.0480	mg/L	0.0010	96	85	115				
<b>Lab ID: B16021854-001BMS</b>	6	Sample Matrix Spike							Run: ICPMS202-B_160302A 03/02/16 11:25		
Aluminum		0.106	mg/L	0.030	97	70	130				
Antimony		0.101	mg/L	0.0010	101	70	130				
Lead		0.108	mg/L	0.0010	107	70	130				
Silver		0.0404	mg/L	0.0010	101	70	130				
Thallium		0.106	mg/L	0.00050	106	70	130				
Uranium		0.112	mg/L	0.00030	111	70	130				
<b>Lab ID: B16021854-001BMSD</b>	6	Sample Matrix Spike Duplicate							Run: ICPMS202-B_160302A 03/02/16 11:28		
Aluminum		0.105	mg/L	0.030	96	70	130	1.5	20		
Antimony		0.102	mg/L	0.0010	102	70	130	0.9	20		
Lead		0.109	mg/L	0.0010	109	70	130	1.6	20		
Silver		0.0401	mg/L	0.0010	100	70	130	0.8	20		
Thallium		0.108	mg/L	0.00050	108	70	130	1.7	20		
Uranium		0.113	mg/L	0.00030	112	70	130	0.8	20		
<b>Lab ID: B16021928-011BMS3</b>	6	Sample Matrix Spike							Run: ICPMS202-B_160302A 03/02/16 13:11		
Aluminum		2.33	mg/L	0.030	88	70	130				
Antimony		0.499	mg/L	0.0010	100	70	130				
Lead		0.556	mg/L	0.0010	111	70	130				
Silver		0.0296	mg/L	0.0010	59	70	130			S	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 03/03/16

**Project:** 3767-01 WK:36

**Work Order:** B16021748

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R257366</span>										
<b>Lab ID: B16021928-011BMS3</b>	6	Sample Matrix Spike				Run: ICPMS202-B_160302A		03/02/16 13:11		
Thallium		0.528	mg/L	0.00050	105	70	130			
Uranium		0.780	mg/L	0.00030	135	70	130			S
<b>Lab ID: B16021928-011BMSD</b> 6 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICPMS202-B_160302A 03/02/16 13:14</span>										
Aluminum		2.33	mg/L	0.030	88	70	130	0.2	20	
Antimony		0.500	mg/L	0.0010	100	70	130	0.3	20	
Lead		0.548	mg/L	0.0010	110	70	130	1.3	20	
Silver		0.0293	mg/L	0.0010	58	70	130	1.2	20	S
Thallium		0.522	mg/L	0.00050	104	70	130	1.1	20	
Uranium		0.762	mg/L	0.00030	131	70	130	2.3	20	S

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 03/03/16

Project: 3767-01 WK:36

Work Order: B16021748

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_160225A	
<b>Lab ID: QCS</b>	18	Initial Calibration Verification Standard							02/25/16 10:16		
Aluminum		0.244	mg/L	0.10	97	90	110				
Antimony		0.0480	mg/L	0.050	96	90	110				
Barium		0.0488	mg/L	0.10	98	90	110				
Beryllium		0.0252	mg/L	0.0010	101	90	110				
Cadmium		0.0257	mg/L	0.0010	103	90	110				
Calcium		2.63	mg/L	0.50	105	90	110				
Chromium		0.0505	mg/L	0.010	101	90	110				
Copper		0.0512	mg/L	0.010	102	90	110				
Iron		0.244	mg/L	0.020	98	90	110				
Lead		0.0498	mg/L	0.010	100	90	110				
Magnesium		2.53	mg/L	0.50	101	90	110				
Manganese		0.249	mg/L	0.010	99	90	110				
Nickel		0.0511	mg/L	0.010	102	90	110				
Selenium		0.0451	mg/L	0.0050	90	90	110				
Strontium		0.0501	mg/L	0.10	100	90	110				
Thallium		0.0497	mg/L	0.10	99	90	110				
Uranium		0.0207	mg/L	0.0010	103	90	110				
Zinc		0.0520	mg/L	0.010	104	90	110				

<b>Method: E200.8</b>										Batch: R257079	
<b>Lab ID: LFB</b>	18	Laboratory Fortified Blank							Run: ICPMS206-B_160225A 02/25/16 10:31		
Aluminum		0.0507	mg/L	0.10	101	85	115				
Antimony		0.0434	mg/L	0.050	87	85	115				
Barium		0.0489	mg/L	0.10	98	85	115				
Beryllium		0.0495	mg/L	0.0010	99	85	115				
Cadmium		0.0488	mg/L	0.0010	98	85	115				
Calcium		49.2	mg/L	0.50	98	85	115				
Chromium		0.0494	mg/L	0.010	99	85	115				
Copper		0.0495	mg/L	0.010	99	85	115				
Iron		5.07	mg/L	0.020	101	85	115				
Lead		0.0510	mg/L	0.010	102	85	115				
Magnesium		48.7	mg/L	0.50	97	85	115				
Manganese		0.0502	mg/L	0.010	100	85	115				
Nickel		0.0490	mg/L	0.010	98	85	115				
Selenium		0.0507	mg/L	0.0050	101	85	115				
Strontium		0.0514	mg/L	0.10	103	85	115				
Thallium		0.0505	mg/L	0.10	101	85	115				
Uranium		0.0513	mg/L	0.0010	103	85	115				
Zinc		0.0511	mg/L	0.010	102	85	115				

<b>Lab ID: LRB</b>	18	Method Blank							Run: ICPMS206-B_160225A 02/25/16 11:01		
Aluminum		0.0003	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Barium		ND	mg/L	0.0004							

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 03/03/16

Project: 3767-01 WK:36

Work Order: B16021748

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b> <span style="float: right;">Batch: R257079</span>											
<b>Lab ID:</b>	<b>LRB</b>	18 Method Blank			Run: ICPMS206-B_160225A			02/25/16 11:01			
Beryllium		ND	mg/L	1E-05							
Cadmium		ND	mg/L	3E-05							
Calcium		ND	mg/L	0.008							
Chromium		ND	mg/L	4E-05							
Copper		7E-05	mg/L	6E-05							
Iron		0.003	mg/L	0.0007							
Lead		ND	mg/L	5E-05							
Magnesium		ND	mg/L	0.005							
Manganese		ND	mg/L	4E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Strontium		ND	mg/L	1E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
Zinc		0.0003	mg/L	0.0001							
<b>Lab ID:</b>	<b>B16021748-004BMS</b>	18 Sample Matrix Spike			Run: ICPMS206-B_160225A			02/25/16 12:36			
Aluminum		0.106	mg/L	0.030	86	70	130				
Antimony		0.0442	mg/L	0.0010	87	70	130				
Barium		0.0775	mg/L	0.050	98	70	130				
Beryllium		0.0454	mg/L	0.0010	91	70	130				
Cadmium		0.0501	mg/L	0.0010	100	70	130				
Calcium		69.9	mg/L	1.0	93	70	130				
Chromium		0.0542	mg/L	0.0050	102	70	130				
Copper		0.585	mg/L	0.0050		70	130			A	
Iron		15.3	mg/L	0.020	29	70	130			S	
Lead		0.0627	mg/L	0.0010	104	70	130				
Magnesium		60.5	mg/L	1.0	101	70	130				
Manganese		2.93	mg/L	0.0010		70	130			A	
Nickel		0.773	mg/L	0.0050		70	130			A	
Selenium		0.0537	mg/L	0.0010	107	70	130				
Strontium		0.757	mg/L	0.010		70	130			A	
Thallium		0.0595	mg/L	0.00050	102	70	130				
Uranium		0.0527	mg/L	0.00030	105	70	130				
Zinc		0.0773	mg/L	0.010	99	70	130				
<b>Lab ID:</b>	<b>B16021748-004BMSD</b>	18 Sample Matrix Spike Duplicate			Run: ICPMS206-B_160225A			02/25/16 12:39			
Aluminum		0.104	mg/L	0.030	82	70	130	1.7	20		
Antimony		0.0448	mg/L	0.0010	89	70	130	1.3	20		
Barium		0.0744	mg/L	0.050	92	70	130	4.1	20		
Beryllium		0.0447	mg/L	0.0010	89	70	130	1.6	20		
Cadmium		0.0488	mg/L	0.0010	98	70	130	2.6	20		
Calcium		69.8	mg/L	1.0	93	70	130	0.2	20		
Chromium		0.0534	mg/L	0.0050	100	70	130	1.5	20		

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 03/03/16

**Project:** 3767-01 WK:36

**Work Order:** B16021748

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Batch: R257079			
<b>Lab ID:</b>	<b>B16021748-004BMSD</b>	18 Sample Matrix Spike Duplicate			Run: ICPMS206-B_160225A				02/25/16 12:39		
Copper		0.563	mg/L	0.0050		70	130	3.9	20	A	
Iron		15.4	mg/L	0.020	32	70	130	1.0	20	S	
Lead		0.0617	mg/L	0.0010	102	70	130	1.6	20		
Magnesium		60.8	mg/L	1.0	101	70	130	0.5	20		
Manganese		2.94	mg/L	0.0010		70	130	0.5	20	A	
Nickel		0.759	mg/L	0.0050		70	130	1.8	20	A	
Selenium		0.0540	mg/L	0.0010	108	70	130	0.7	20		
Strontium		0.743	mg/L	0.010		70	130	1.9	20	A	
Thallium		0.0592	mg/L	0.00050	101	70	130	0.5	20		
Uranium		0.0514	mg/L	0.00030	102	70	130	2.4	20		
Zinc		0.0728	mg/L	0.010	90	70	130	6.0	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 03/03/16

**Project:** 3767-01 WK:36

**Work Order:** B16021748

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS206-B_160229A				
<b>Lab ID: QCS</b>	5	Initial Calibration Verification Standard									02/29/16 12:16
Aluminum		0.248	mg/L	0.10	99	90	110				
Arsenic		0.0508	mg/L	0.0050	102	90	110				
Copper		0.0508	mg/L	0.010	102	90	110				
Silver		0.0256	mg/L	0.0050	102	90	110				
Strontium		0.0503	mg/L	0.10	101	90	110				
<b>Method: E200.8</b>							Batch: R257226				
<b>Lab ID: LRB</b>	5	Method Blank									02/29/16 12:39
Aluminum		ND	mg/L	0.0001							
Arsenic		ND	mg/L	6E-05							
Copper		ND	mg/L	6E-05							
Silver		ND	mg/L	2E-05							
Strontium		ND	mg/L	1E-05							
<b>Lab ID: LFB</b>	5	Laboratory Fortified Blank									02/29/16 12:48
Aluminum		0.0496	mg/L	0.10	99	85	115				
Arsenic		0.0503	mg/L	0.0050	101	85	115				
Copper		0.0495	mg/L	0.010	99	85	115				
Silver		0.0189	mg/L	0.0050	94	85	115				
Strontium		0.0509	mg/L	0.10	102	85	115				
<b>Lab ID: B16021748-001BMS</b>	5	Sample Matrix Spike									02/29/16 16:23
Aluminum		0.119	mg/L	0.030	117	70	130				
Arsenic		0.110	mg/L	0.0010	109	70	130				
Copper		0.753	mg/L	0.0050		70	130			A	
Silver		0.0382	mg/L	0.0010	95	70	130				
Strontium		18.6	mg/L	0.010		70	130			A	
<b>Lab ID: B16021748-001BMSD</b>	5	Sample Matrix Spike Duplicate									02/29/16 16:26
Aluminum		0.115	mg/L	0.030	114	70	130	2.8	20		
Arsenic		0.110	mg/L	0.0010	108	70	130	0.2	20		
Copper		0.753	mg/L	0.0050		70	130	0.0	20	A	
Silver		0.0405	mg/L	0.0010	101	70	130	5.8	20		
Strontium		19.0	mg/L	0.010		70	130	1.9	20	A	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 03/03/16

**Project:** 3767-01 WK:36

**Work Order:** B16021748

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E245.1</b> Analytical Run: HGCV203-B_160229A										
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Mercury	0.000209	mg/L	1.0E-05	105	90	110				02/29/16 15:48
<b>Method: E245.1</b> Batch: 97225										
<b>Lab ID:</b> MB-97225	Method Blank									
Mercury	1E-06	mg/L	1E-06				Run: HGCV203-B_160229A			02/29/16 16:01
<b>Lab ID:</b> LCS-97225	Laboratory Control Sample									
Mercury	0.000207	mg/L	1.0E-05	103	85	115	Run: HGCV203-B_160229A			02/29/16 16:04
<b>Lab ID:</b> B16021748-001BMS	Sample Matrix Spike									
Mercury	0.000215	mg/L	1.0E-05	106	70	130	Run: HGCV203-B_160229A			02/29/16 16:11
<b>Lab ID:</b> B16021748-001BMSD	Sample Matrix Spike Duplicate									
Mercury	0.000213	mg/L	1.0E-05	105	70	130	0.9		30	02/29/16 16:14
<b>Method: E245.1</b> Analytical Run: HGCV203-B_160302A										
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Mercury	0.000203	mg/L	1.0E-05	102	90	110				03/02/16 13:45
<b>Method: E245.1</b> Batch: 97284										
<b>Lab ID:</b> MB-97284	Method Blank									
Mercury	3E-06	mg/L	1E-06				Run: HGCV203-B_160302A			03/02/16 14:23
<b>Lab ID:</b> LCS-97284	Laboratory Control Sample									
Mercury	0.000208	mg/L	1.0E-05	103	85	115	Run: HGCV203-B_160302A			03/02/16 14:25
<b>Lab ID:</b> B16021748-003BDUP	Sample Duplicate									
Mercury	1.87E-05	mg/L	1.0E-05				Run: HGCV203-B_160302A	7.7	30	03/02/16 14:30
<b>Lab ID:</b> B16030008-008BMS	Sample Matrix Spike									
Mercury	0.000215	mg/L	1.0E-05	106	70	130	Run: HGCV203-B_160302A			03/02/16 14:49
<b>Lab ID:</b> B16030008-008BMSD	Sample Matrix Spike Duplicate									
Mercury	0.000220	mg/L	1.0E-05	108	70	130	2.3		30	03/02/16 14:51

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16021748

Login completed by: Gina McCartney

Date Received: 2/24/2016

Reviewed by: BL2000\jmueller

Received by: cmb

Reviewed Date: 2/25/2016

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 5.4°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab	<b>Project Name, PWS, Permit, Etc.</b> 3767-01 WK: 36	<b>Sample Origin</b> State: NV	<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>				
<b>Report Mail Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada	<b>Contact Name:</b> Mike Medina Phone/Fax: 775-356-1300	<b>Email:</b> MLI@METTEST.COM	<b>Sampler: (Please Print)</b> Robert Johnson				
<b>Invoice Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada	<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko 604-628-1162	<b>Purchase Order:</b>	<b>Quote/Bottle Order:</b>				
<b>Special Report/Formats – ELI must be notified prior to sample submittal for the following:</b>							
<input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> GSA <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP <b>Format:</b> <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC							
	<b>Number of Containers</b>	<b>Sample Type: A W S V B O</b>	<b>Vegetation Bioassay Other</b>	<b>ANALYSIS REQUESTED</b>	<b>Normal Turnaround (TAT)</b>	<b>Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page</b>	<b>Comments:</b>
1	USZ Comp	Water	SEE ATTACHED	SEE ATTACHED	SEE ATTACHED	SEE ATTACHED	Shipped by: <b>Robert</b> Cooler ID(s): Receipt Temp: <b>5.4 °C</b> On Ice: <input checked="" type="radio"/> Yes <input type="radio"/> No Custody Seal Intact: <input checked="" type="radio"/> N <input type="radio"/> N Signature Match: <input checked="" type="radio"/> N <input type="radio"/> N
2	Yc Comp	Water	↓	↓	↓	↓	Please Copy results to: <b>81602174800/</b> <b>MLI@METTEST.COM</b>
3	Tailings	↓	↓	↓	↓	↓	<b>-002</b>
4	Tailings (Saturated)	↓	↓	↓	↓	↓	<b>-003</b>
5							<b>-004</b>
6							
7							
8							
9							
10							
<b>Relinquished by (print):</b> JOE CHANEY		<b>Signature:</b>		<b>Date/Time:</b> 2/23/16 9AM		<b>Received by (print):</b>	
<b>Relinquished by (print):</b>		<b>Signature:</b>		<b>Date/Time:</b>		<b>Received by (print):</b>	
<b>Sample Disposal:</b>		<b>Return to Client:</b>		<b>Received by Laboratory:</b>		<b>Signature:</b>	
<b>Custody Record MUST be Signed</b>		<b>Lab Disposal:</b>		<b>Date/Time:</b> 2/24/16 9:05 AM		<b>Signature:</b>	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

March 16, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16030817      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:38

Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Montana Inc on 3/9/2016 for analysis.


Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16030817-001	Yc Comp	03/08/16 9:00	03/09/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.03.16 16:29:15 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:38  
**Lab ID:** B16030817-001  
**Client Sample ID:** Yc Comp

**Report Date:** 03/16/16  
**Collection Date:** 03/08/16 09:00  
**Date Received:** 03/09/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	22	mg/L		1		E300.0	03/11/16 18:24 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	03/15/16 13:00 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	03/11/16 13:10 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	0.086	mg/L		0.009		E200.8	03/10/16 12:57 / mas
Antimony	0.0007	mg/L		0.0005		E200.8	03/10/16 12:57 / mas
Arsenic	0.018	mg/L		0.001		E200.8	03/10/16 12:57 / mas
Barium	0.078	mg/L		0.003		E200.7	03/10/16 12:08 / r/h
Beryllium	ND	mg/L		0.0008		E200.7	03/10/16 12:08 / r/h
Cadmium	ND	mg/L		0.00003		E200.8	03/10/16 12:57 / mas
Calcium	8	mg/L		1		E200.7	03/10/16 12:08 / r/h
Chromium	ND	mg/L		0.01		E200.7	03/10/16 12:08 / r/h
Copper	ND	mg/L		0.002		E200.8	03/10/16 12:57 / mas
Iron	ND	mg/L		0.02		E200.7	03/10/16 12:08 / r/h
Lead	0.0007	mg/L		0.0003		E200.8	03/10/16 12:57 / mas
Magnesium	7	mg/L		1		E200.7	03/10/16 12:08 / r/h
Manganese	ND	mg/L		0.005		E200.7	03/10/16 12:08 / r/h
Mercury	ND	mg/L		5E-06		E245.1	03/10/16 15:16 / ser
Nickel	ND	mg/L		0.002		E200.8	03/10/16 12:57 / mas
Selenium	ND	mg/L		0.001		E200.8	03/10/16 12:57 / mas
Silicon	5.71	mg/L		0.05		E200.7	03/10/16 12:08 / r/h
Silver	ND	mg/L		0.0002		E200.8	03/10/16 12:57 / mas
Strontium	0.18	mg/L		0.02		E200.7	03/10/16 12:08 / r/h
Thallium	ND	mg/L		0.0002		E200.8	03/10/16 12:57 / mas
Uranium	0.0023	mg/L		0.0002		E200.8	03/10/16 12:57 / mas
Zinc	ND	mg/L		0.008		E200.7	03/10/16 12:08 / r/h

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:38

**Report Date:** 03/16/16  
**Work Order:** B16030817

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_160315A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								03/15/16 11:48
Fluoride	1.05	mg/L	0.10	105	90	110			
<b>Method:</b> A4500-F C									Batch: R258018
<b>Lab ID:</b> MBLK	Method Blank								03/15/16 11:43
Fluoride	0.03	mg/L	0.03						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								03/15/16 11:56
Fluoride	0.990	mg/L	0.10	96	90	110			
<b>Lab ID:</b> B16030809-005AMS	Sample Matrix Spike								03/15/16 12:52
Fluoride	1.51	mg/L	0.10	103	80	120			
<b>Lab ID:</b> B16030809-005AMSD	Sample Matrix Spike Duplicate								03/15/16 12:55
Fluoride	1.51	mg/L	0.10	103	80	120	0.0	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:38

**Report Date:** 03/16/16  
**Work Order:** B16030817

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 2_160311A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								03/11/16 15:54
Sulfate	8.72	mg/L	1.0	97	90	110			
<b>Method:</b> E300.0	Batch: R257835								
<b>Lab ID:</b> ICB	Method Blank								03/11/16 16:08
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								03/11/16 16:21
Sulfate	30.2	mg/L	1.0	101	90	110			
<b>Lab ID:</b> B16030807-001AMS	Sample Matrix Spike								03/11/16 17:15
Sulfate	2840	mg/L	3.7	91	90	110			E
<b>Lab ID:</b> B16030807-001AMSD	Sample Matrix Spike Duplicate								03/11/16 17:30
Sulfate	2780	mg/L	3.7	81	90	110	2.0	20	SE

**Qualifiers:**

RL - Analyte reporting limit.

E - Estimated value. Result exceeds the instrument upper quantitation limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:38

**Report Date:** 03/16/16  
**Work Order:** B16030817

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E365.1								Analytical Run: FIA202-B_160311B		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Phosphorus, Total as P	0.498	mg/L	0.0050	100	90	110			03/11/16 12:18	
<b>Method:</b> E365.1								Batch: 97494		
<b>Lab ID:</b> MB-97494	Method Blank									
Phosphorus, Total as P	ND	mg/L	0.002						Run: FIA202-B_160311B 03/11/16 12:53	
<b>Lab ID:</b> LCS-97494	Laboratory Control Sample									
Phosphorus, Total as P	0.195	mg/L	0.0050	98	90	110			Run: FIA202-B_160311B 03/11/16 12:54	
<b>Lab ID:</b> B16030817-001CMS	Sample Matrix Spike									
Phosphorus, Total Dissolved as P	0.198	mg/L	0.0050	99	90	110			Run: FIA202-B_160311B 03/11/16 13:11	
<b>Lab ID:</b> B16030817-001CMSD	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P	0.194	mg/L	0.0050	97	90	110			Run: FIA202-B_160311B 03/11/16 13:12	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 03/16/16

**Project:** 3767-01 WK:38

**Work Order:** B16030817

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160310A			
<b>Lab ID: ICV</b>	10 Continuing Calibration Verification Standard							03/10/16 09:24			
Barium		2.48	mg/L	0.10	99	95	105				
Beryllium		1.22	mg/L	0.010	98	95	105				
Calcium		25.1	mg/L	1.0	100	95	105				
Chromium		2.48	mg/L	0.050	99	95	105				
Iron		2.49	mg/L	0.020	100	95	105				
Magnesium		25.8	mg/L	1.0	103	95	105				
Manganese		2.41	mg/L	0.010	96	95	105				
Silicon		4.89	mg/L	0.10	98	95	105				
Strontium		2.46	mg/L	0.10	99	95	105				
Zinc		2.42	mg/L	0.010	97	95	105				
<b>Method: E200.7</b>								Batch: R257738			
<b>Lab ID: MB-6500DIS160310A</b>	10 Method Blank							Run: ICP203-B_160310A 03/10/16 09:31			
Barium		ND	mg/L	0.0002							
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.08							
Chromium		ND	mg/L	0.003							
Iron		ND	mg/L	0.003							
Magnesium		ND	mg/L	0.006							
Manganese		0.0008	mg/L	0.0006							
Silicon		ND	mg/L	0.01							
Strontium		ND	mg/L	0.0003							
Zinc		ND	mg/L	0.002							
<b>Lab ID: LFB-6500DIS160310A</b>	10 Laboratory Fortified Blank							Run: ICP203-B_160310A 03/10/16 09:38			
Barium		0.967	mg/L	0.10	97	85	115				
Beryllium		0.495	mg/L	0.010	99	85	115				
Calcium		48.8	mg/L	1.0	98	85	115				
Chromium		0.964	mg/L	0.050	96	85	115				
Iron		4.84	mg/L	0.020	97	85	115				
Magnesium		51.5	mg/L	1.0	103	85	115				
Manganese		4.70	mg/L	0.010	94	85	115				
Silicon		9.56	mg/L	0.10	96	85	115				
Strontium		1.00	mg/L	0.10	100	85	115				
Zinc		0.939	mg/L	0.010	94	85	115				
<b>Lab ID: B16030820-002BMS2</b>	10 Sample Matrix Spike							Run: ICP203-B_160310A 03/10/16 12:26			
Barium		0.935	mg/L	0.050	92	70	130				
Beryllium		0.509	mg/L	0.0010	102	70	130				
Calcium		69.8	mg/L	1.0	94	70	130				
Chromium		0.928	mg/L	0.0050	93	70	130				
Iron		4.66	mg/L	0.020	93	70	130				
Magnesium		64.1	mg/L	1.0	98	70	130				
Manganese		4.72	mg/L	0.0011	94	70	130				
Silicon		14.2	mg/L	0.10	94	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 03/16/16

**Project:** 3767-01 WK:38

**Work Order:** B16030817

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R257738</span>										
<b>Lab ID:</b> B16030820-002BMS2	10	Sample Matrix Spike				Run: ICP203-B_160310A				03/10/16 12:26
Strontium		1.18	mg/L	0.010	105	70	130			
Zinc		0.939	mg/L	0.010	94	70	130			
<b>Lab ID: B16030820-002BMSD</b> 10 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICP203-B_160310A 03/10/16 12:29</span>										
Barium		0.926	mg/L	0.050	91	70	130	0.9	20	
Beryllium		0.505	mg/L	0.0010	101	70	130	0.9	20	
Calcium		69.3	mg/L	1.0	93	70	130	0.7	20	
Chromium		0.916	mg/L	0.0050	92	70	130	1.3	20	
Iron		4.62	mg/L	0.020	92	70	130	0.8	20	
Magnesium		63.8	mg/L	1.0	97	70	130	0.5	20	
Manganese		4.68	mg/L	0.0011	93	70	130	0.8	20	
Silicon		14.1	mg/L	0.10	93	70	130	0.8	20	
Strontium		1.17	mg/L	0.010	104	70	130	0.8	20	
Zinc		0.944	mg/L	0.010	94	70	130	0.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 03/16/16

Project: 3767-01 WK:38

Work Order: B16030817

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_160310A		
<b>Lab ID: QCS</b>	11 Initial Calibration Verification Standard							03/10/16 09:51		
Aluminum		0.240	mg/L	0.10	96	90	110			
Antimony		0.0494	mg/L	0.050	99	90	110			
Arsenic		0.0494	mg/L	0.0050	99	90	110			
Cadmium		0.0258	mg/L	0.0010	103	90	110			
Copper		0.0501	mg/L	0.010	100	90	110			
Lead		0.0501	mg/L	0.010	100	90	110			
Nickel		0.0505	mg/L	0.010	101	90	110			
Selenium		0.0488	mg/L	0.0050	98	90	110			
Silver		0.0260	mg/L	0.0050	104	90	110			
Thallium		0.0489	mg/L	0.10	98	90	110			
Uranium		0.0196	mg/L	0.0010	98	90	110			
<hr/>										
<b>Method: E200.8</b>								Batch: R257775		
<b>Lab ID: LFB</b>	11 Laboratory Fortified Blank							Run: ICPMS202-B_160310A 03/10/16 10:10		
Aluminum		0.0480	mg/L	0.10	96	85	115			
Antimony		0.0458	mg/L	0.050	92	85	115			
Arsenic		0.0488	mg/L	0.0050	98	85	115			
Cadmium		0.0494	mg/L	0.0010	99	85	115			
Copper		0.0503	mg/L	0.010	101	85	115			
Lead		0.0507	mg/L	0.010	101	85	115			
Nickel		0.0497	mg/L	0.010	99	85	115			
Selenium		0.0469	mg/L	0.0050	94	85	115			
Silver		0.0209	mg/L	0.0050	104	85	115			
Thallium		0.0500	mg/L	0.10	100	85	115			
Uranium		0.0487	mg/L	0.0010	97	85	115			
<hr/>										
<b>Lab ID: LRB</b>	11 Method Blank							Run: ICPMS202-B_160310A 03/10/16 10:29		
Aluminum		ND	mg/L	0.0004						
Antimony		ND	mg/L	4E-05						
Arsenic		ND	mg/L	9E-05						
Cadmium		ND	mg/L	9E-06						
Copper		ND	mg/L	9E-05						
Lead		ND	mg/L	2E-05						
Nickel		ND	mg/L	9E-05						
Selenium		ND	mg/L	0.0002						
Silver		ND	mg/L	4E-05						
Thallium		ND	mg/L	1E-05						
Uranium		ND	mg/L	1E-05						
<hr/>										
<b>Lab ID: B16030817-001BMS</b>	11 Sample Matrix Spike							Run: ICPMS202-B_160310A 03/10/16 12:59		
Aluminum		0.128	mg/L	0.030	83	70	130			
Antimony		0.0462	mg/L	0.0010	91	70	130			
Arsenic		0.0693	mg/L	0.0010	103	70	130			
Cadmium		0.0512	mg/L	0.0010	102	70	130			
Copper		0.0530	mg/L	0.0050	104	70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 03/16/16

Project: 3767-01 WK:38

Work Order: B16030817

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R257775</span>										
<b>Lab ID: B16030817-001BMS</b>	11	Sample Matrix Spike					Run: ICPMS202-B_160310A			03/10/16 12:59
Lead		0.0517	mg/L	0.0010	102	70	130			
Nickel		0.0496	mg/L	0.0050	99	70	130			
Selenium		0.0544	mg/L	0.0010	107	70	130			
Silver		0.0210	mg/L	0.0010	105	70	130			
Thallium		0.0501	mg/L	0.00050	100	70	130			
Uranium		0.0488	mg/L	0.00030	93	70	130			
<b>Lab ID: B16030817-001BMSD</b>	11	Sample Matrix Spike Duplicate					Run: ICPMS202-B_160310A			03/10/16 13:02
Aluminum		0.137	mg/L	0.030	102	70	130	7.2	20	
Antimony		0.0462	mg/L	0.0010	91	70	130	0.1	20	
Arsenic		0.0691	mg/L	0.0010	103	70	130	0.3	20	
Cadmium		0.0509	mg/L	0.0010	102	70	130	0.6	20	
Copper		0.0543	mg/L	0.0050	107	70	130	2.4	20	
Lead		0.0519	mg/L	0.0010	103	70	130	0.5	20	
Nickel		0.0509	mg/L	0.0050	101	70	130	2.4	20	
Selenium		0.0521	mg/L	0.0010	103	70	130	4.2	20	
Silver		0.0205	mg/L	0.0010	103	70	130	2.4	20	
Thallium		0.0503	mg/L	0.00050	101	70	130	0.5	20	
Uranium		0.0494	mg/L	0.00030	94	70	130	1.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 03/16/16

**Project:** 3767-01 WK:38

**Work Order:** B16030817

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160310A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								03/10/16 11:08	
Mercury		0.000216	mg/L	1.0E-05	108	90	110				
<b>Method:</b> E245.1										Batch: 97493	
<b>Lab ID:</b> MB-97493		Method Blank								Run: HGCV203-B_160310A	03/10/16 14:58
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-97493		Laboratory Control Sample								Run: HGCV203-B_160310A	03/10/16 15:01
Mercury		0.000183	mg/L	1.0E-05	92	85	115				
<b>Lab ID:</b> B16030653-012BMS		Sample Matrix Spike								Run: HGCV203-B_160310A	03/10/16 15:08
Mercury		0.000179	mg/L	1.0E-05	90	70	130				
<b>Lab ID:</b> B16030653-012BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160310A	03/10/16 15:11
Mercury		0.000177	mg/L	1.0E-05	89	70	130	1.1	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# Work Order Receipt Checklist

Tintina Montana Inc

B16030817

Login completed by: Tabitha Edwards

Date Received: 3/9/2016

Reviewed by: BL2000\jmueller

Received by: jlb

Reviewed Date: 3/10/2016

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 7.4°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: <b>McClelland Lab</b>		Project Name, PWS, Permit, Etc. <b>3767-01 WK: 38</b>		Sample Origin State: <b>NV</b>		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St, Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: <b>Mike Medina</b>		Phone/Fax: <b>775-356-1300</b>		Email: <b>MLI@METTEST.COM</b>	
Invoice Address: Tintina Resources 200 Granville St, Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: <b>Mr Bob Jacko 604-628-1162</b>		Purchase Order:		Quote/Bottle Order:	
Special Report/Formats - ELI must be notified prior to sample submittal for the following: <input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> GSA <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP    Format: _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC		Number of Containers Sample Type: <b>AW S V B O</b> Air Water Soils/Solids Vegetation Bioassay Other		ANALYSIS REQUESTED SEE ATTACHED		Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page <b>R U S H</b> Comments:	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date		Collection Time		MATRIX	
1 Yc Comp		3/8/16		09:00		Water	
2							
3							
4							
5							
6							
7							
8							
9							
10							
Relinquished by (print): <b>JOE CHANEY</b>		Date/Time: <b>3/9/16 9 AM</b>		Received by (print): <i>[Signature]</i>		Date/Time: 	
Relinquished by (print):		Date/Time:		Received by (print):		Date/Time:	
Sample Disposal:		Return to Client:		Lab Disposal:		Signature:	
<b>Custody Record MUST be Signed</b>		Signature:		Signature:		Signature:	
Shipped by: <b>Robert VPS NDA</b>		Cooler ID(s):		Receipt Temp: <b>7.4 °C</b>		On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Custody Seal Intact Signature Match		Y N Y N Y N		Please Copy results to: <b>MLI@METTEST.COM</b>		Shipped by: <b>Robert VPS NDA</b>	
Laboratory Use Only		hold remaining preserved samples (frozen) until further notice.		Signature:		Date/Time:	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energovlah.com](http://www.energovlah.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

March 18, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16030820      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:36

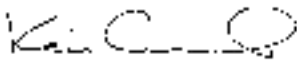
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Montana Inc on 3/9/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16030820-001	Ynl B Comp	03/08/16 9:00	03/09/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B16030820-002	LZ FW Comp	03/08/16 9:00	03/09/16	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.03.18 10:35:34 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:36  
**Lab ID:** B16030820-001  
**Client Sample ID:** Ynl B Comp

**Report Date:** 03/18/16  
**Collection Date:** 03/08/16 09:00  
**Date Received:** 03/09/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	122	mg/L		1		E300.0	03/11/16 18:38 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	03/15/16 13:03 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	D	0.01		E365.1	03/15/16 09:30 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	0.021	mg/L		0.009		E200.8	03/10/16 13:08 / mas
Antimony	ND	mg/L		0.0005		E200.8	03/10/16 13:08 / mas
Arsenic	0.001	mg/L		0.001		E200.8	03/10/16 13:08 / mas
Barium	0.011	mg/L		0.003		E200.7	03/10/16 12:19 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	03/10/16 12:19 / rlh
Cadmium	ND	mg/L		0.00003		E200.8	03/10/16 13:08 / mas
Calcium	26	mg/L		1		E200.7	03/10/16 12:19 / rlh
Chromium	ND	mg/L		0.01		E200.7	03/10/16 12:19 / rlh
Copper	ND	mg/L		0.002		E200.8	03/10/16 13:08 / mas
Iron	ND	mg/L		0.02		E200.7	03/10/16 12:19 / rlh
Lead	ND	mg/L		0.0003		E200.8	03/10/16 13:08 / mas
Magnesium	17	mg/L		1		E200.7	03/10/16 12:19 / rlh
Manganese	ND	mg/L		0.005		E200.7	03/10/16 12:19 / rlh
Mercury	ND	mg/L		5E-06		E245.1	03/10/16 15:19 / ser
Nickel	ND	mg/L		0.002		E200.8	03/10/16 13:08 / mas
Selenium	ND	mg/L		0.001		E200.8	03/10/16 13:08 / mas
Silicon	1.79	mg/L		0.05		E200.7	03/10/16 12:19 / rlh
Silver	ND	mg/L		0.0002		E200.8	03/10/16 13:08 / mas
Strontium	0.17	mg/L		0.02		E200.7	03/10/16 12:19 / rlh
Thallium	ND	mg/L		0.0002		E200.8	03/10/16 13:08 / mas
Uranium	0.0003	mg/L		0.0002		E200.8	03/10/16 13:08 / mas
Zinc	ND	mg/L		0.008		E200.7	03/10/16 12:19 / rlh

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:36  
**Lab ID:** B16030820-002  
**Client Sample ID:** LZ FW Comp

**Report Date:** 03/18/16  
**Collection Date:** 03/08/16 09:00  
**Date Received:** 03/09/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	112	mg/L		1		E300.0	03/11/16 18:51 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	03/15/16 13:06 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.005	mg/L	L	0.005		E365.1	03/15/16 09:34 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	0.018	mg/L		0.009		E200.8	03/10/16 13:16 / mas
Antimony	0.0017	mg/L		0.0005		E200.8	03/10/16 13:16 / mas
Arsenic	0.068	mg/L		0.001		E200.8	03/10/16 13:16 / mas
Barium	0.018	mg/L		0.003		E200.7	03/10/16 12:22 / r/h
Beryllium	ND	mg/L		0.0008		E200.7	03/10/16 12:22 / r/h
Cadmium	ND	mg/L		0.00003		E200.8	03/10/16 13:16 / mas
Calcium	23	mg/L		1		E200.7	03/10/16 12:22 / r/h
Chromium	ND	mg/L		0.01		E200.7	03/10/16 12:22 / r/h
Copper	ND	mg/L		0.002		E200.8	03/10/16 13:16 / mas
Iron	ND	mg/L		0.02		E200.7	03/10/16 12:22 / r/h
Lead	ND	mg/L		0.0003		E200.8	03/10/16 13:16 / mas
Magnesium	15	mg/L		1		E200.7	03/10/16 12:22 / r/h
Manganese	0.007	mg/L		0.005		E200.7	03/10/16 12:22 / r/h
Mercury	ND	mg/L		5E-06		E245.1	03/10/16 15:21 / ser
Nickel	0.004	mg/L		0.002		E200.8	03/10/16 13:16 / mas
Selenium	0.001	mg/L		0.001		E200.8	03/10/16 13:16 / mas
Silicon	4.86	mg/L		0.05		E200.7	03/10/16 12:22 / r/h
Silver	ND	mg/L		0.0002		E200.8	03/10/16 13:16 / mas
Strontium	0.12	mg/L		0.02		E200.7	03/10/16 12:22 / r/h
Thallium	ND	mg/L		0.0002		E200.8	03/10/16 13:16 / mas
Uranium	0.0732	mg/L		0.0002		E200.8	03/10/16 13:16 / mas
Zinc	ND	mg/L		0.008		E200.7	03/10/16 12:22 / r/h

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:36

**Report Date:** 03/16/16  
**Work Order:** B16030820

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_160315A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								03/15/16 11:48
Fluoride	1.05	mg/L	0.10	105	90	110			
<b>Method:</b> A4500-F C									Batch: R258018
<b>Lab ID:</b> MBLK	Method Blank								03/15/16 11:43
Fluoride	0.03	mg/L	0.03						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								03/15/16 11:56
Fluoride	0.990	mg/L	0.10	96	90	110			
<b>Lab ID:</b> B16030809-005AMS	Sample Matrix Spike								03/15/16 12:52
Fluoride	1.51	mg/L	0.10	103	80	120			
<b>Lab ID:</b> B16030809-005AMSD	Sample Matrix Spike Duplicate								03/15/16 12:55
Fluoride	1.51	mg/L	0.10	103	80	120	0.0	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:36

**Report Date:** 03/16/16  
**Work Order:** B16030820

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 2_160311A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								03/11/16 15:54
Sulfate	8.72	mg/L	1.0	97	90	110			
<b>Method:</b> E300.0	Batch: R257835								
<b>Lab ID:</b> ICB	Method Blank								03/11/16 16:08
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								03/11/16 16:21
Sulfate	30.2	mg/L	1.0	101	90	110			
<b>Lab ID:</b> B16030807-001AMS	Sample Matrix Spike								03/11/16 17:15
Sulfate	2840	mg/L	3.7	91	90	110			E
<b>Lab ID:</b> B16030807-001AMSD	Sample Matrix Spike Duplicate								03/11/16 17:30
Sulfate	2780	mg/L	3.7	81	90	110	2.0	20	SE
<b>Lab ID:</b> B16030826-001AMS	Sample Matrix Spike								03/11/16 20:12
Sulfate	6170	mg/L	18	100	90	110			
<b>Lab ID:</b> B16030826-001AMSD	Sample Matrix Spike Duplicate								03/11/16 20:25
Sulfate	6200	mg/L	18	101	90	110	0.5	20	

**Qualifiers:**

RL - Analyte reporting limit.

E - Estimated value. Result exceeds the instrument upper quantitation limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:36

**Report Date:** 03/16/16  
**Work Order:** B16030820

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E365.1								Analytical Run: FIA202-B_160315B		
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard									
Phosphorus, Total as P	0.500	mg/L	0.0050	100	90	110			03/15/16 09:26	
<b>Method:</b> E365.1								Batch: 97535		
<b>Lab ID:</b> MB-97535	Method Blank									
Phosphorus, Total as P	ND	mg/L	0.002						Run: FIA202-B_160315B 03/15/16 09:28	
<b>Lab ID:</b> LCS-97535	Laboratory Control Sample									
Phosphorus, Total as P	0.197	mg/L	0.0050	99	90	110			Run: FIA202-B_160315B 03/15/16 09:29	
<b>Lab ID:</b> B16030820-001CMS	Sample Matrix Spike									
Phosphorus, Total Dissolved as P	0.398	mg/L	0.010	100	90	110			Run: FIA202-B_160315B 03/15/16 09:31	
<b>Lab ID:</b> B16030820-001CMSD	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P	0.394	mg/L	0.010	99	90	110			Run: FIA202-B_160315B 03/15/16 09:32	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 03/18/16

**Project:** 3767-01 WK:36

**Work Order:** B16030820

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160310A			
<b>Lab ID: ICV</b>	10 Continuing Calibration Verification Standard							03/10/16 09:24			
Barium		2.48	mg/L	0.10	99	95	105				
Beryllium		1.22	mg/L	0.010	98	95	105				
Calcium		25.1	mg/L	1.0	100	95	105				
Chromium		2.48	mg/L	0.050	99	95	105				
Iron		2.49	mg/L	0.020	100	95	105				
Magnesium		25.8	mg/L	1.0	103	95	105				
Manganese		2.41	mg/L	0.010	96	95	105				
Silicon		4.89	mg/L	0.10	98	95	105				
Strontium		2.46	mg/L	0.10	99	95	105				
Zinc		2.42	mg/L	0.010	97	95	105				
<b>Method: E200.7</b>								Batch: R257738			
<b>Lab ID: MB-6500DIS160310A</b>	10 Method Blank							Run: ICP203-B_160310A 03/10/16 09:31			
Barium		ND	mg/L	0.0002							
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.08							
Chromium		ND	mg/L	0.003							
Iron		ND	mg/L	0.003							
Magnesium		ND	mg/L	0.006							
Manganese		0.0008	mg/L	0.0006							
Silicon		ND	mg/L	0.01							
Strontium		ND	mg/L	0.0003							
Zinc		ND	mg/L	0.002							
<b>Lab ID: LFB-6500DIS160310A</b>	10 Laboratory Fortified Blank							Run: ICP203-B_160310A 03/10/16 09:38			
Barium		0.967	mg/L	0.10	97	85	115				
Beryllium		0.495	mg/L	0.010	99	85	115				
Calcium		48.8	mg/L	1.0	98	85	115				
Chromium		0.964	mg/L	0.050	96	85	115				
Iron		4.84	mg/L	0.020	97	85	115				
Magnesium		51.5	mg/L	1.0	103	85	115				
Manganese		4.70	mg/L	0.010	94	85	115				
Silicon		9.56	mg/L	0.10	96	85	115				
Strontium		1.00	mg/L	0.10	100	85	115				
Zinc		0.939	mg/L	0.010	94	85	115				
<b>Lab ID: B16030820-002BMS2</b>	10 Sample Matrix Spike							Run: ICP203-B_160310A 03/10/16 12:26			
Barium		0.935	mg/L	0.050	92	70	130				
Beryllium		0.509	mg/L	0.0010	102	70	130				
Calcium		69.8	mg/L	1.0	94	70	130				
Chromium		0.928	mg/L	0.0050	93	70	130				
Iron		4.66	mg/L	0.020	93	70	130				
Magnesium		64.1	mg/L	1.0	98	70	130				
Manganese		4.72	mg/L	0.0011	94	70	130				
Silicon		14.2	mg/L	0.10	94	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 03/18/16

**Project:** 3767-01 WK:36

**Work Order:** B16030820

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R257738</span>										
<b>Lab ID:</b> B16030820-002BMS2	10	Sample Matrix Spike				Run: ICP203-B_160310A			03/10/16 12:26	
Strontium		1.18	mg/L	0.010	105	70	130			
Zinc		0.939	mg/L	0.010	94	70	130			
<b>Lab ID: B16030820-002BMSD</b> 10 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICP203-B_160310A 03/10/16 12:29</span>										
Barium		0.926	mg/L	0.050	91	70	130	0.9	20	
Beryllium		0.505	mg/L	0.0010	101	70	130	0.9	20	
Calcium		69.3	mg/L	1.0	93	70	130	0.7	20	
Chromium		0.916	mg/L	0.0050	92	70	130	1.3	20	
Iron		4.62	mg/L	0.020	92	70	130	0.8	20	
Magnesium		63.8	mg/L	1.0	97	70	130	0.5	20	
Manganese		4.68	mg/L	0.0011	93	70	130	0.8	20	
Silicon		14.1	mg/L	0.10	93	70	130	0.8	20	
Strontium		1.17	mg/L	0.010	104	70	130	0.8	20	
Zinc		0.944	mg/L	0.010	94	70	130	0.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 03/18/16

**Project:** 3767-01 WK:36

**Work Order:** B16030820

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_160310A			
<b>Lab ID: QCS</b>	11	Initial Calibration Verification Standard								03/10/16 09:51	
Aluminum		0.240	mg/L	0.10	96	90	110				
Antimony		0.0494	mg/L	0.050	99	90	110				
Arsenic		0.0494	mg/L	0.0050	99	90	110				
Cadmium		0.0258	mg/L	0.0010	103	90	110				
Copper		0.0501	mg/L	0.010	100	90	110				
Lead		0.0501	mg/L	0.010	100	90	110				
Nickel		0.0505	mg/L	0.010	101	90	110				
Selenium		0.0488	mg/L	0.0050	98	90	110				
Silver		0.0260	mg/L	0.0050	104	90	110				
Thallium		0.0489	mg/L	0.10	98	90	110				
Uranium		0.0196	mg/L	0.0010	98	90	110				
<b>Method: E200.8</b>								Batch: R257775			
<b>Lab ID: LFB</b>	11	Laboratory Fortified Blank								Run: ICPMS202-B_160310A 03/10/16 10:10	
Aluminum		0.0480	mg/L	0.10	96	85	115				
Antimony		0.0458	mg/L	0.050	92	85	115				
Arsenic		0.0488	mg/L	0.0050	98	85	115				
Cadmium		0.0494	mg/L	0.0010	99	85	115				
Copper		0.0503	mg/L	0.010	101	85	115				
Lead		0.0507	mg/L	0.010	101	85	115				
Nickel		0.0497	mg/L	0.010	99	85	115				
Selenium		0.0469	mg/L	0.0050	94	85	115				
Silver		0.0209	mg/L	0.0050	104	85	115				
Thallium		0.0500	mg/L	0.10	100	85	115				
Uranium		0.0487	mg/L	0.0010	97	85	115				
<b>Lab ID: LRB</b>	11	Method Blank								Run: ICPMS202-B_160310A 03/10/16 10:29	
Aluminum		ND	mg/L	0.0004							
Antimony		ND	mg/L	4E-05							
Arsenic		ND	mg/L	9E-05							
Cadmium		ND	mg/L	9E-06							
Copper		ND	mg/L	9E-05							
Lead		ND	mg/L	2E-05							
Nickel		ND	mg/L	9E-05							
Selenium		ND	mg/L	0.0002							
Silver		ND	mg/L	4E-05							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	1E-05							
<b>Lab ID: B16030817-001BMS</b>	11	Sample Matrix Spike								Run: ICPMS202-B_160310A 03/10/16 12:59	
Aluminum		0.128	mg/L	0.030	83	70	130				
Antimony		0.0462	mg/L	0.0010	91	70	130				
Arsenic		0.0693	mg/L	0.0010	103	70	130				
Cadmium		0.0512	mg/L	0.0010	102	70	130				
Copper		0.0530	mg/L	0.0050	104	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 03/18/16

Project: 3767-01 WK:36

Work Order: B16030820

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R257775</span>										
<b>Lab ID: B16030817-001BMS</b>	11	Sample Matrix Spike			Run: ICPMS202-B_160310A				03/10/16 12:59	
Lead		0.0517	mg/L	0.0010	102	70	130			
Nickel		0.0496	mg/L	0.0050	99	70	130			
Selenium		0.0544	mg/L	0.0010	107	70	130			
Silver		0.0210	mg/L	0.0010	105	70	130			
Thallium		0.0501	mg/L	0.00050	100	70	130			
Uranium		0.0488	mg/L	0.00030	93	70	130			
<b>Lab ID: B16030817-001BMSD</b>	11	Sample Matrix Spike Duplicate			Run: ICPMS202-B_160310A				03/10/16 13:02	
Aluminum		0.137	mg/L	0.030	102	70	130	7.2	20	
Antimony		0.0462	mg/L	0.0010	91	70	130	0.1	20	
Arsenic		0.0691	mg/L	0.0010	103	70	130	0.3	20	
Cadmium		0.0509	mg/L	0.0010	102	70	130	0.6	20	
Copper		0.0543	mg/L	0.0050	107	70	130	2.4	20	
Lead		0.0519	mg/L	0.0010	103	70	130	0.5	20	
Nickel		0.0509	mg/L	0.0050	101	70	130	2.4	20	
Selenium		0.0521	mg/L	0.0010	103	70	130	4.2	20	
Silver		0.0205	mg/L	0.0010	103	70	130	2.4	20	
Thallium		0.0503	mg/L	0.00050	101	70	130	0.5	20	
Uranium		0.0494	mg/L	0.00030	94	70	130	1.1	20	
<b>Lab ID: B16030701-002BMS</b>	11	Sample Matrix Spike			Run: ICPMS202-B_160310A				03/10/16 17:26	
Aluminum		0.164	mg/L	0.030	156	70	130			S
Antimony		0.0457	mg/L	0.0010	91	70	130			
Arsenic		0.0560	mg/L	0.0010	100	70	130			
Cadmium		0.0475	mg/L	0.0010	95	70	130			
Copper		0.0496	mg/L	0.0050	97	70	130			
Lead		0.0498	mg/L	0.0010	99	70	130			
Nickel		0.0520	mg/L	0.0050	95	70	130			
Selenium		0.0495	mg/L	0.0010	98	70	130			
Silver		0.0200	mg/L	0.0010	100	70	130			
Thallium		0.0489	mg/L	0.00050	98	70	130			
Uranium		0.0508	mg/L	0.00030	96	70	130			
<b>Lab ID: B16030701-002BMSD</b>	11	Sample Matrix Spike Duplicate			Run: ICPMS202-B_160310A				03/10/16 17:29	
Aluminum		0.110	mg/L	0.030	49	70	130	39	20	SR
Antimony		0.0468	mg/L	0.0010	93	70	130	2.4	20	
Arsenic		0.0554	mg/L	0.0010	99	70	130	1.0	20	
Cadmium		0.0480	mg/L	0.0010	96	70	130	1.0	20	
Copper		0.0497	mg/L	0.0050	97	70	130	0.2	20	
Lead		0.0507	mg/L	0.0010	101	70	130	1.8	20	
Nickel		0.0511	mg/L	0.0050	93	70	130	1.7	20	
Selenium		0.0485	mg/L	0.0010	96	70	130	2.0	20	
Silver		0.0209	mg/L	0.0010	104	70	130	4.5	20	
Thallium		0.0493	mg/L	0.00050	99	70	130	0.9	20	
Uranium		0.0515	mg/L	0.00030	98	70	130	1.3	20	

**Qualifiers:**

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 03/18/16

**Project:** 3767-01 WK:36

**Work Order:** B16030820

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160310A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								03/10/16 11:08	
Mercury		0.000216	mg/L	1.0E-05	108	90	110				
<b>Method:</b> E245.1										Batch: 97493	
<b>Lab ID:</b> MB-97493		Method Blank								Run: HGCV203-B_160310A	03/10/16 14:58
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-97493		Laboratory Control Sample								Run: HGCV203-B_160310A	03/10/16 15:01
Mercury		0.000183	mg/L	1.0E-05	92	85	115				
<b>Lab ID:</b> B16030653-012BMS		Sample Matrix Spike								Run: HGCV203-B_160310A	03/10/16 15:08
Mercury		0.000179	mg/L	1.0E-05	90	70	130				
<b>Lab ID:</b> B16030653-012BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160310A	03/10/16 15:11
Mercury		0.000177	mg/L	1.0E-05	89	70	130	1.1	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16030820

Login completed by: Tabitha Edwards

Date Received: 3/9/2016

Reviewed by: BL2000\jmueller

Received by: jlb

Reviewed Date: 3/10/2016

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	7.4°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

The collection date and time for LZ FW Comp was recorded from the container labels.



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: McClelland Lab		Project Name, PWS, Permit, Etc. 3767-01 WK:36		Sample Origin State: NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Phone/Fax: 775-356-1300		Email: MLI@METTEST.COM	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko		Purchase Order: 604-628-1162		Quote/Bottle Order:	
Special Report/Formats – ELI must be notified prior to sample submittal for the following:  <input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> GSA <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP      Format: _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC		Number of Containers Air Water Solids Vegetation Brossay Other SEE ATTACHED		ANALYSIS REQUESTED SEE ATTACHED		Contact ELI prior to RUSH sample submittal for charges and scheduling – See instruction Page Comments: <b>R U S H</b>	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) 1 Ynl B Comp      Collection Date: 3/8/16      Collection Time: 09:00 2 LZ FW Comp 3 4 5 6 7 8 9 10		MATRIX Water		Normal Turnaround (TAT) X X		Shipped by: Robert UPS NDA Cooler ID(s): Receipt Temp: 7.4 °C On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Custody Seal Intact: YES Signature Match: YES Please Copy results to: MLI@METTEST.COM	
Relinquished by (print): JOE CHANEY      Date/Time: 3/9/16 9AM		Relinquished by (print): Signature: _____ Date/Time: _____		Received by (print): Signature: _____ Date/Time: _____		Received by (print): Signature: _____ Date/Time: _____	
Sample Disposal: _____      Return to Client: _____      Lab Disposal: _____		Received by Laboratory: Julie Boehmck      Date/Time: 3/9/16 9:25		Signature: _____ Date/Time: _____		Signature: _____ Date/Time: _____	
<b>Custody Record MUST be Signed</b>		LABORATORY USE ONLY					

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly noted on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

April 01, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16031893      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:40

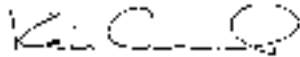
Energy Laboratories Inc Billings MT received the following 3 samples for Tintina Montana Inc on 3/23/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16031893-001	USZ Comp	03/22/16 9:00	03/23/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B16031893-002	Tailings	03/22/16 9:00	03/23/16	Aqueous	Same As Above
B16031893-003	Tailings (Saturated)	03/22/16 9:00	03/23/16	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.04.01 12:14:25 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:40  
**Lab ID:** B16031893-001  
**Client Sample ID:** USZ Comp

**Report Date:** 04/01/16  
**Collection Date:** 03/22/16 09:00  
**Date Received:** 03/23/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	1700	mg/L	D	4		E300.0	03/25/16 01:14 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	03/28/16 16:20 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	03/30/16 16:09 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	03/25/16 13:59 / mas
Antimony	ND	mg/L		0.0005		E200.8	03/25/16 13:59 / mas
Arsenic	0.001	mg/L		0.001		E200.8	03/24/16 12:50 / mas
Barium	0.011	mg/L		0.003		E200.8	03/24/16 12:50 / mas
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 12:50 / mas
Cadmium	0.00032	mg/L		0.00003		E200.8	03/24/16 12:50 / mas
Calcium	497	mg/L		1		E200.7	03/25/16 14:08 / rlh
Chromium	ND	mg/L		0.01		E200.8	03/24/16 12:50 / mas
Copper	0.556	mg/L		0.002		E200.8	03/24/16 12:50 / mas
Iron	0.02	mg/L		0.02		E200.8	03/24/16 12:50 / mas
Lead	0.0026	mg/L		0.0003		E200.8	03/24/16 12:50 / mas
Magnesium	138	mg/L		1		E200.8	03/24/16 12:50 / mas
Manganese	1.63	mg/L		0.005		E200.8	03/24/16 12:50 / mas
Mercury	ND	mg/L		5E-06		E245.1	03/31/16 14:48 / ser
Nickel	0.057	mg/L		0.002		E200.8	03/24/16 12:50 / mas
Selenium	ND	mg/L		0.001		E200.8	03/24/16 12:50 / mas
Silicon	1.79	mg/L		0.05		E200.8	03/24/16 12:50 / mas
Silver	ND	mg/L		0.0002		E200.8	03/25/16 13:59 / mas
Strontium	21.1	mg/L		0.02		E200.7	03/25/16 14:08 / rlh
Thallium	0.0349	mg/L		0.0002		E200.8	03/24/16 12:50 / mas
Uranium	ND	mg/L		0.0002		E200.8	03/24/16 12:50 / mas
Zinc	0.057	mg/L		0.008		E200.8	03/24/16 12:50 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:40  
**Lab ID:** B16031893-002  
**Client Sample ID:** Tailings

**Report Date:** 04/01/16  
**Collection Date:** 03/22/16 09:00  
**Date Received:** 03/23/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	705	mg/L	D	4		E300.0	03/25/16 01:54 / cmb
Fluoride	0.5	mg/L		0.2		A4500-F C	03/28/16 16:25 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	5.7	mg/L	D	0.5		E365.1	03/30/16 16:12 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	0.979	mg/L		0.009		E200.8	03/25/16 14:02 / mas
Antimony	0.0072	mg/L		0.0005		E200.8	03/25/16 14:02 / mas
Arsenic	27.9	mg/L		0.001		E200.8	03/24/16 13:02 / mas
Barium	0.022	mg/L		0.003		E200.8	03/24/16 13:02 / mas
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 13:02 / mas
Cadmium	0.00023	mg/L		0.00003		E200.8	03/24/16 13:02 / mas
Calcium	4	mg/L		1		E200.8	03/24/16 13:02 / mas
Chromium	0.01	mg/L		0.01		E200.8	03/24/16 13:02 / mas
Copper	0.045	mg/L		0.002		E200.8	03/24/16 13:02 / mas
Iron	382	mg/L		0.02		E200.7	03/25/16 14:22 / r/h
Lead	0.0090	mg/L		0.0003		E200.8	03/24/16 13:02 / mas
Magnesium	ND	mg/L		1		E200.8	03/24/16 13:02 / mas
Manganese	0.161	mg/L		0.005		E200.8	03/24/16 13:02 / mas
Mercury	ND	mg/L		5E-06		E245.1	03/28/16 15:00 / ser
Nickel	0.286	mg/L		0.002		E200.8	03/24/16 13:02 / mas
Selenium	ND	mg/L		0.001		E200.8	03/24/16 13:02 / mas
Silicon	9.61	mg/L		0.05		E200.8	03/24/16 13:02 / mas
Silver	ND	mg/L		0.0002		E200.8	03/24/16 13:02 / mas
Strontium	0.25	mg/L		0.02		E200.7	03/25/16 14:22 / r/h
Thallium	0.0886	mg/L		0.0002		E200.8	03/24/16 13:02 / mas
Uranium	ND	mg/L		0.0002		E200.8	03/24/16 13:02 / mas
Zinc	0.223	mg/L		0.008		E200.8	03/24/16 13:02 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:40  
**Lab ID:** B16031893-003  
**Client Sample ID:** Tailings (Saturated)

**Report Date:** 04/01/16  
**Collection Date:** 03/22/16 09:00  
**Date Received:** 03/23/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	167	mg/L		1		E300.0	03/25/16 02:08 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	03/28/16 16:29 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.011	mg/L	L	0.005		E365.1	03/30/16 16:13 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	0.143	mg/L		0.009		E200.8	03/25/16 14:05 / mas
Antimony	ND	mg/L		0.0005		E200.8	03/25/16 14:05 / mas
Arsenic	0.042	mg/L		0.001		E200.8	03/24/16 13:04 / mas
Barium	0.024	mg/L		0.003		E200.8	03/24/16 13:04 / mas
Beryllium	ND	mg/L		0.0008		E200.8	03/24/16 13:04 / mas
Cadmium	0.00006	mg/L		0.00003		E200.8	03/24/16 13:04 / mas
Calcium	20	mg/L		1		E200.8	03/24/16 13:04 / mas
Chromium	0.01	mg/L		0.01		E200.8	03/24/16 13:04 / mas
Copper	0.807	mg/L		0.002		E200.8	03/24/16 13:04 / mas
Iron	23.1	mg/L		0.02		E200.8	03/24/16 13:04 / mas
Lead	0.0181	mg/L		0.0003		E200.8	03/24/16 13:04 / mas
Magnesium	9	mg/L		1		E200.8	03/24/16 13:04 / mas
Manganese	2.73	mg/L		0.005		E200.8	03/25/16 14:05 / mas
Mercury	ND	mg/L		5E-06		E245.1	03/25/16 13:16 / ser
Nickel	0.746	mg/L		0.002		E200.8	03/24/16 13:04 / mas
Selenium	ND	mg/L		0.001		E200.8	03/24/16 13:04 / mas
Silicon	9.10	mg/L		0.05		E200.8	03/24/16 13:04 / mas
Silver	ND	mg/L		0.0002		E200.8	03/24/16 13:04 / mas
Strontium	0.70	mg/L		0.02		E200.8	03/25/16 14:05 / mas
Thallium	0.0088	mg/L		0.0002		E200.8	03/24/16 13:04 / mas
Uranium	0.0005	mg/L		0.0002		E200.8	03/24/16 13:04 / mas
Zinc	0.033	mg/L		0.008		E200.8	03/24/16 13:04 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:40

**Report Date:** 04/01/16  
**Work Order:** B16031893

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_160328A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								03/28/16 15:28
Fluoride	1.01	mg/L	0.10	101	90	110			
<b>Method:</b> A4500-F C									Batch: R258684
<b>Lab ID:</b> MBLK	Method Blank								03/28/16 15:21
Fluoride	ND	mg/L	0.03						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								03/28/16 15:25
Fluoride	0.910	mg/L	0.10	91	90	110			
<b>Lab ID:</b> B16031888-002AMS	Sample Matrix Spike								03/28/16 16:09
Fluoride	1.23	mg/L	0.10	102	80	120			
<b>Lab ID:</b> B16031888-002AMSD	Sample Matrix Spike Duplicate								03/28/16 16:11
Fluoride	1.23	mg/L	0.10	102	80	120	0.0	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:40

**Report Date:** 04/01/16  
**Work Order:** B16031893

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 1_160324A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								03/24/16 12:26
Sulfate	8.80	mg/L	1.0	98	90	110			
<b>Method:</b> E300.0	Batch: R258566								
<b>Lab ID:</b> ICB	Method Blank								03/24/16 12:39
Sulfate	ND	mg/L	0.2						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								03/24/16 12:52
Sulfate	29.8	mg/L	1.0	99	90	110			
<b>Lab ID:</b> B16031891-006AMS	Sample Matrix Spike								03/25/16 00:47
Sulfate	161	mg/L	1.0	104	90	110			
<b>Lab ID:</b> B16031891-006AMSD	Sample Matrix Spike Duplicate								03/25/16 01:00
Sulfate	162	mg/L	1.0	104	90	110	0.5	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:40

**Report Date:** 04/01/16  
**Work Order:** B16031893

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E365.1									Analytical Run: FIA202-B_160330A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								03/30/16 16:00
Phosphorus, Total as P	0.517	mg/L	0.0050	103	90	110			
<b>Method:</b> E365.1									Batch: 98026
<b>Lab ID:</b> MB-98026	Method Blank								03/30/16 16:02
Phosphorus, Total as P	ND	mg/L	0.002	Run: FIA202-B_160330A					
<b>Lab ID:</b> LCS-98026	Laboratory Control Sample								03/30/16 16:03
Phosphorus, Total as P	0.195	mg/L	0.0050	98	90	110			
<b>Lab ID:</b> B16031893-001CMS	Sample Matrix Spike								03/30/16 16:10
Phosphorus, Total Dissolved as P	0.193	mg/L	0.0050	97	90	110			
<b>Lab ID:</b> B16031893-001CMSD	Sample Matrix Spike Duplicate								03/30/16 16:11
Phosphorus, Total Dissolved as P	0.193	mg/L	0.0050	97	90	110			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 04/01/16

**Project:** 3767-01 WK:40

**Work Order:** B16031893

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160325A			
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard									03/25/16 09:07
Calcium		24.5	mg/L	1.0	98	95	105				
Iron		2.47	mg/L	0.020	99	95	105				
Strontium		2.42	mg/L	0.10	97	95	105				
<b>Method: E200.7</b>								Batch: R258576			
<b>Lab ID: MB-6500DIS160325A</b>	3	Method Blank					Run: ICP203-B_160325A				03/25/16 09:14
Calcium		ND	mg/L	0.02							
Iron		0.002	mg/L	0.002							
Strontium		ND	mg/L	0.0002							
<b>Lab ID: LFB-6500DIS160325A</b>	3	Laboratory Fortified Blank					Run: ICP203-B_160325A				03/25/16 09:21
Calcium		50.4	mg/L	1.0	101	85	115				
Iron		5.05	mg/L	0.020	101	85	115				
Strontium		1.02	mg/L	0.10	102	85	115				
<b>Lab ID: B16031893-001BMS2</b>	3	Sample Matrix Spike					Run: ICP203-B_160325A				03/25/16 14:15
Calcium		731	mg/L	1.0	94	70	130				
Iron		25.7	mg/L	0.020	103	70	130				
Strontium		23.9	mg/L	0.010		70	130			A	
<b>Lab ID: B16031893-001BMSD</b>	3	Sample Matrix Spike Duplicate					Run: ICP203-B_160325A				03/25/16 14:19
Calcium		755	mg/L	1.0	103	70	130	3.2	20		
Iron		26.2	mg/L	0.020	105	70	130	1.9	20		
Strontium		27.7	mg/L	0.010		70	130	15	20	A	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 04/01/16

Project: 3767-01 WK:40

Work Order: B16031893

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_160324A	
<b>Lab ID: QCS</b>	18	Initial Calibration Verification Standard						03/24/16 10:16			
Arsenic		0.0521	mg/L	0.0050	104	90	110				
Barium		0.0499	mg/L	0.10	100	90	110				
Beryllium		0.0249	mg/L	0.0010	99	90	110				
Cadmium		0.0256	mg/L	0.0010	103	90	110				
Calcium		2.65	mg/L	0.50	106	90	110				
Chromium		0.0497	mg/L	0.010	99	90	110				
Copper		0.0522	mg/L	0.010	104	90	110				
Iron		0.255	mg/L	0.020	102	90	110				
Lead		0.0499	mg/L	0.010	100	90	110				
Magnesium		2.64	mg/L	0.50	106	90	110				
Manganese		0.254	mg/L	0.010	102	90	110				
Nickel		0.0522	mg/L	0.010	104	90	110				
Selenium		0.0483	mg/L	0.0050	97	90	110				
Silicon		0.489	mg/L	0.10	98	90	110				
Silver		0.0261	mg/L	0.0050	105	90	110				
Thallium		0.0500	mg/L	0.10	100	90	110				
Uranium		0.0200	mg/L	0.0010	100	90	110				
Zinc		0.0482	mg/L	0.010	96	90	110				

<b>Method: E200.8</b>										Batch: R258503	
<b>Lab ID: LFB</b>	18	Laboratory Fortified Blank						Run: ICPMS206-B_160324A		03/24/16 09:06	
Arsenic		0.0509	mg/L	0.0050	102	85	115				
Barium		0.0505	mg/L	0.10	101	85	115				
Beryllium		0.0515	mg/L	0.0010	103	85	115				
Cadmium		0.0504	mg/L	0.0010	101	85	115				
Calcium		49.2	mg/L	0.50	98	85	115				
Chromium		0.0517	mg/L	0.010	103	85	115				
Copper		0.0490	mg/L	0.010	98	85	115				
Iron		4.65	mg/L	0.020	93	85	115				
Lead		0.0519	mg/L	0.010	104	85	115				
Magnesium		48.2	mg/L	0.50	96	85	115				
Manganese		0.0513	mg/L	0.010	103	85	115				
Nickel		0.0503	mg/L	0.010	101	85	115				
Selenium		0.0478	mg/L	0.0050	96	85	115				
Silicon		0.197	mg/L	0.10	98	85	115				
Silver		0.0210	mg/L	0.0050	105	85	115				
Thallium		0.0519	mg/L	0.10	104	85	115				
Uranium		0.0521	mg/L	0.0010	104	85	115				
Zinc		0.0474	mg/L	0.010	95	85	115				

<b>Lab ID: LRB</b>	18	Method Blank						Run: ICPMS206-B_160324A		03/24/16 09:38	
Arsenic		0.0002	mg/L	6E-05							
Barium		ND	mg/L	0.0004							
Beryllium		ND	mg/L	1E-05							

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 04/01/16

Project: 3767-01 WK:40

Work Order: B16031893

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b> <span style="float: right;">Batch: R258503</span>											
<b>Lab ID:</b>	<b>LRB</b>	18 Method Blank			Run: ICPMS206-B_160324A			03/24/16 09:38			
Cadmium		ND	mg/L	3E-05							
Calcium		ND	mg/L	0.008							
Chromium		ND	mg/L	4E-05							
Copper		ND	mg/L	6E-05							
Iron		ND	mg/L	0.0007							
Lead		ND	mg/L	5E-05							
Magnesium		ND	mg/L	0.005							
Manganese		ND	mg/L	4E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Silicon		0.005	mg/L	0.002							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
Zinc		ND	mg/L	0.0001							
<b>Lab ID:</b>	<b>B16031891-003BMS</b>	18 Sample Matrix Spike			Run: ICPMS206-B_160324A			03/24/16 12:33			
Arsenic		0.0505	mg/L	0.0010	101	70	130				
Barium		0.0829	mg/L	0.050	103	70	130				
Beryllium		0.0497	mg/L	0.0010	99	70	130				
Cadmium		0.0504	mg/L	0.0010	101	70	130				
Calcium		107	mg/L	1.0	88	70	130				
Chromium		0.0495	mg/L	0.0050	96	70	130				
Copper		0.0466	mg/L	0.0050	93	70	130				
Iron		4.70	mg/L	0.020	94	70	130				
Lead		0.0542	mg/L	0.0010	108	70	130				
Magnesium		60.0	mg/L	1.0	88	70	130				
Manganese		0.0515	mg/L	0.0010	102	70	130				
Nickel		0.0463	mg/L	0.0050	92	70	130				
Selenium		0.0519	mg/L	0.0010	103	70	130				
Silicon		4.67	mg/L	0.10		70	130			A	
Silver		0.0226	mg/L	0.0010	113	70	130				
Thallium		0.0538	mg/L	0.00050	108	70	130				
Uranium		0.0554	mg/L	0.00030	110	70	130				
Zinc		0.0478	mg/L	0.010	91	70	130				
<b>Lab ID:</b>	<b>B16031891-003BMSD</b>	18 Sample Matrix Spike Duplicate			Run: ICPMS206-B_160324A			03/24/16 12:36			
Arsenic		0.0556	mg/L	0.0010	111	70	130	9.5	20		
Barium		0.0835	mg/L	0.050	104	70	130	0.8	20		
Beryllium		0.0510	mg/L	0.0010	102	70	130	2.4	20		
Cadmium		0.0508	mg/L	0.0010	102	70	130	0.8	20		
Calcium		115	mg/L	1.0	103	70	130	6.8	20		
Chromium		0.0522	mg/L	0.0050	101	70	130	5.4	20		
Copper		0.0497	mg/L	0.0050	99	70	130	6.4	20		

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 04/01/16

**Project:** 3767-01 WK:40

**Work Order:** B16031893

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										Batch: R258503
<b>Lab ID:</b>	<b>B16031891-003BMSD</b>	18	Sample Matrix Spike Duplicate							
Iron		5.16	mg/L	0.020	103	70	130	9.2	20	
Lead		0.0552	mg/L	0.0010	110	70	130	1.8	20	
Magnesium		65.1	mg/L	1.0	98	70	130	8.2	20	
Manganese		0.0520	mg/L	0.0010	103	70	130	1.0	20	
Nickel		0.0510	mg/L	0.0050	102	70	130	9.8	20	
Selenium		0.0549	mg/L	0.0010	109	70	130	5.7	20	
Silicon		5.07	mg/L	0.10		70	130	8.1	20	A
Silver		0.0194	mg/L	0.0010	97	70	130	15	20	
Thallium		0.0548	mg/L	0.00050	110	70	130	1.9	20	
Uranium		0.0557	mg/L	0.00030	110	70	130	0.5	20	
Zinc		0.0527	mg/L	0.010	101	70	130	9.8	20	
<b>Lab ID:</b>	<b>B16031913-002AMS</b>	18	Sample Matrix Spike							
Arsenic		0.0515	mg/L	0.0010	101	70	130			
Barium		0.0842	mg/L	0.050	107	70	130			
Beryllium		0.0460	mg/L	0.0010	92	70	130			
Cadmium		0.0539	mg/L	0.0010	101	70	130			
Calcium		119	mg/L	1.0	99	70	130			
Chromium		0.0506	mg/L	0.0050	101	70	130			
Copper		0.0500	mg/L	0.0050	100	70	130			
Iron		4.99	mg/L	0.020	100	70	130			
Lead		0.0522	mg/L	0.0010	104	70	130			
Magnesium		68.6	mg/L	1.0	96	70	130			
Manganese		0.741	mg/L	0.0010		70	130			A
Nickel		0.0696	mg/L	0.0050	98	70	130			
Selenium		0.0541	mg/L	0.0010	107	70	130			
Silicon		11.4	mg/L	0.10		70	130			A
Silver		0.0209	mg/L	0.0010	105	70	130			
Thallium		0.0520	mg/L	0.00050	104	70	130			
Uranium		0.0531	mg/L	0.00030	105	70	130			
Zinc		0.208	mg/L	0.010	79	70	130			
<b>Lab ID:</b>	<b>B16031913-002AMSD</b>	18	Sample Matrix Spike Duplicate							
Arsenic		0.0545	mg/L	0.0010	107	70	130	5.7	20	
Barium		0.0852	mg/L	0.050	109	70	130	1.2	20	
Beryllium		0.0469	mg/L	0.0010	94	70	130	1.9	20	
Cadmium		0.0551	mg/L	0.0010	103	70	130	2.2	20	
Calcium		122	mg/L	1.0	105	70	130	2.5	20	
Chromium		0.0520	mg/L	0.0050	104	70	130	2.8	20	
Copper		0.0519	mg/L	0.0050	104	70	130	3.7	20	
Iron		5.05	mg/L	0.020	101	70	130	1.3	20	
Lead		0.0530	mg/L	0.0010	106	70	130	1.5	20	
Magnesium		68.8	mg/L	1.0	97	70	130	0.4	20	
Manganese		0.745	mg/L	0.0010		70	130	0.6	20	A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 04/01/16

Project: 3767-01 WK:40

Work Order: B16031893

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R258503</span>										
<b>Lab ID: B16031913-002AMSD</b>	18	Sample Matrix Spike Duplicate			Run: ICPMS206-B_160324A				03/24/16 13:22	
Nickel		0.0701	mg/L	0.0050	99	70	130	0.8	20	
Selenium		0.0566	mg/L	0.0010	111	70	130	4.5	20	
Silicon		11.8	mg/L	0.10		70	130	3.3	20	A
Silver		0.0229	mg/L	0.0010	114	70	130	8.8	20	
Thallium		0.0533	mg/L	0.00050	107	70	130	2.5	20	
Uranium		0.0541	mg/L	0.00030	107	70	130	1.9	20	
Zinc		0.208	mg/L	0.010	79	70	130	0.1	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS206-B_160325A</span>										
<b>Lab ID: QCS</b>	5	Initial Calibration Verification Standard			Run: ICPMS206-B_160325A				03/25/16 11:10	
Aluminum		0.251	mg/L	0.10	101	90	110			
Antimony		0.0534	mg/L	0.050	107	90	110			
Manganese		0.249	mg/L	0.010	100	90	110			
Silver		0.0249	mg/L	0.0050	99	90	110			
Strontium		0.0499	mg/L	0.10	100	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R258578</span>										
<b>Lab ID: LFB</b>	5	Laboratory Fortified Blank			Run: ICPMS206-B_160325A				03/25/16 10:19	
Aluminum		0.0555	mg/L	0.10	111	85	115			
Antimony		0.0521	mg/L	0.050	104	85	115			
Manganese		0.0549	mg/L	0.010	110	85	115			
Silver		0.0218	mg/L	0.0050	109	85	115			
Strontium		0.0557	mg/L	0.10	111	85	115			
<b>Lab ID: LRB</b>	5	Method Blank			Run: ICPMS206-B_160325A				03/25/16 10:31	
Aluminum		0.004	mg/L	0.0001						
Antimony		0.0003	mg/L	8E-05						
Manganese		ND	mg/L	4E-05						
Silver		5E-05	mg/L	2E-05						
Strontium		ND	mg/L	1E-05						
<b>Lab ID: B16032014-001BMS</b>	5	Sample Matrix Spike			Run: ICPMS206-B_160325A				03/25/16 14:25	
Aluminum		0.140	mg/L	0.030	104	70	130			
Antimony		0.0584	mg/L	0.0010	116	70	130			
Manganese		0.0530	mg/L	0.0010	105	70	130			
Silver		0.0196	mg/L	0.0010	98	70	130			
Strontium		0.175	mg/L	0.010	106	70	130			
<b>Lab ID: B16032014-001BMSD</b>	5	Sample Matrix Spike Duplicate			Run: ICPMS206-B_160325A				03/25/16 14:28	
Aluminum		0.142	mg/L	0.030	109	70	130	1.8	20	
Antimony		0.0591	mg/L	0.0010	117	70	130	1.3	20	
Manganese		0.0548	mg/L	0.0010	109	70	130	3.4	20	
Silver		0.0198	mg/L	0.0010	99	70	130	1.0	20	
Strontium		0.176	mg/L	0.010	108	70	130	0.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 04/01/16

Project: 3767-01 WK:40

Work Order: B16031893

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E245.1</b> Analytical Run: HGCV202-B_160325A										
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Mercury		0.000202	mg/L	1.0E-05	101	90	110			03/25/16 12:17
<b>Method: E245.1</b> Batch: 97879										
<b>Lab ID: MB-97879</b>	Method Blank									
Mercury		3E-06	mg/L							Run: HGCV202-B_160325A 03/25/16 12:25
<b>Lab ID: LCS-97879</b>	Laboratory Control Sample									
Mercury		0.000203	mg/L	1.0E-05	100	85	115			Run: HGCV202-B_160325A 03/25/16 12:27
<b>Lab ID: B16031896-002BMS</b>	Sample Matrix Spike									
Mercury		0.000229	mg/L	1.0E-05	109	70	130			Run: HGCV202-B_160325A 03/25/16 13:23
<b>Lab ID: B16031896-002BMSD</b>	Sample Matrix Spike Duplicate									
Mercury		0.000226	mg/L	1.0E-05	108	70	130	1.2	30	Run: HGCV202-B_160325A 03/25/16 13:26
<b>Method: E245.1</b> Analytical Run: HGCV203-B_160328A										
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Mercury		0.000208	mg/L	1.0E-05	104	90	110			03/28/16 14:31
<b>Method: E245.1</b> Batch: 97969										
<b>Lab ID: MB-97969</b>	Method Blank									
Mercury		1E-06	mg/L	1E-06						Run: HGCV203-B_160328A 03/28/16 14:53
<b>Lab ID: LCS-97969</b>	Laboratory Control Sample									
Mercury		0.000197	mg/L	1.0E-05	98	85	115			Run: HGCV203-B_160328A 03/28/16 14:55
<b>Lab ID: B16032073-007BMS</b>	Sample Matrix Spike									
Mercury		0.000194	mg/L	1.0E-05	96	70	130			Run: HGCV203-B_160328A 03/28/16 15:29
<b>Lab ID: B16032073-007BMSD</b>	Sample Matrix Spike Duplicate									
Mercury		0.000201	mg/L	1.0E-05	100	70	130	3.5	30	Run: HGCV203-B_160328A 03/28/16 15:31

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 04/01/16

**Project:** 3767-01 WK:40

**Work Order:** B16031893

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1 <span style="float: right;">Analytical Run: HGCV203-B_160331A</span>										
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard <span style="float: right;">03/31/16 12:51</span>									
Mercury	0.000193	mg/L	0.00010	97	90	110				
<b>Method:</b> E245.1 <span style="float: right;">Batch: 98040</span>										
<b>Lab ID:</b> MB-98040	Method Blank <span style="float: right;">Run: HGCV203-B_160331A 03/31/16 14:43</span>									
Mercury	ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-98040	Laboratory Control Sample <span style="float: right;">Run: HGCV203-B_160331A 03/31/16 14:46</span>									
Mercury	0.000207	mg/L	1.0E-05	104	85	115				
<b>Lab ID:</b> B16032209-001BMS	Sample Matrix Spike <span style="float: right;">Run: HGCV203-B_160331A 03/31/16 14:56</span>									
Mercury	0.000205	mg/L	1.0E-05	102	70	130				
<b>Lab ID:</b> B16032209-001BMSD	Sample Matrix Spike Duplicate <span style="float: right;">Run: HGCV203-B_160331A 03/31/16 14:59</span>									
Mercury	0.000210	mg/L	1.0E-05	104	70	130	2.4	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16031893

Login completed by: Tabitha Edwards

Date Received: 3/23/2016

Reviewed by: BL2000\jmueller

Received by: src

Reviewed Date: 3/23/2016

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	10.1°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

None





**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

April 13, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16040426      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:40

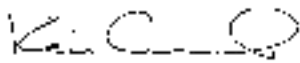
Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Montana Inc on 4/6/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16040426-001	LZ FW Comp	04/05/16 9:00	04/06/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.04.13 14:00:56 -06:00



**LABORATORY ANALYTICAL REPORT**

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:40  
**Lab ID:** B16040426-001  
**Client Sample ID:** LZ FW Comp

**Report Date:** 04/13/16  
**Collection Date:** 04/05/16 09:00  
**Date Received:** 04/06/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	91	mg/L		1		E300.0	04/08/16 14:35 / cmb
Fluoride	0.1	mg/L	L	0.1		A4500-F C	04/08/16 14:24 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.006	mg/L	L	0.005		E365.1	04/11/16 11:29 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	0.011	mg/L		0.009		E200.8	04/07/16 13:42 / mas
Antimony	0.0019	mg/L		0.0005		E200.8	04/11/16 17:21 / mas
Arsenic	0.051	mg/L		0.001		E200.8	04/07/16 13:42 / mas
Barium	0.022	mg/L		0.003		E200.7	04/07/16 13:34 / r/h
Beryllium	ND	mg/L		0.0008		E200.7	04/07/16 13:34 / r/h
Cadmium	ND	mg/L		0.00003		E200.8	04/07/16 13:42 / mas
Calcium	24	mg/L		1		E200.7	04/07/16 13:34 / r/h
Chromium	ND	mg/L		0.01		E200.7	04/07/16 13:34 / r/h
Copper	ND	mg/L		0.002		E200.8	04/07/16 13:42 / mas
Iron	ND	mg/L		0.02		E200.7	04/07/16 13:34 / r/h
Lead	0.0005	mg/L		0.0003		E200.8	04/07/16 13:42 / mas
Magnesium	15	mg/L		1		E200.7	04/07/16 13:34 / r/h
Manganese	0.006	mg/L		0.005		E200.7	04/07/16 13:34 / r/h
Mercury	ND	mg/L		5E-06		E245.1	04/12/16 14:58 / ser
Nickel	0.005	mg/L		0.002		E200.8	04/07/16 13:42 / mas
Selenium	ND	mg/L		0.001		E200.8	04/07/16 13:42 / mas
Silicon	4.59	mg/L		0.05		E200.7	04/07/16 13:34 / r/h
Silver	ND	mg/L		0.0002		E200.8	04/07/16 13:42 / mas
Strontium	0.11	mg/L		0.02		E200.7	04/07/16 13:34 / r/h
Thallium	ND	mg/L		0.0002		E200.8	04/07/16 13:42 / mas
Uranium	0.0976	mg/L		0.0002		E200.8	04/07/16 13:42 / mas
Zinc	ND	mg/L		0.008		E200.7	04/07/16 13:34 / r/h

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 04/13/16

**Project:** 3767-01 WK:40

**Work Order:** B16040426

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_160408A		
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								04/08/16 14:22
Fluoride		1.03	mg/L	0.10	103	90	110			
<b>Method:</b> A4500-F C										Batch: R259269
<b>Lab ID:</b> MBLK		Method Blank						Run: MAN-TECH_160408A		04/08/16 14:17
Fluoride		0.03	mg/L	0.03						
<b>Lab ID:</b> LFB		Laboratory Fortified Blank						Run: MAN-TECH_160408A		04/08/16 14:19
Fluoride		0.950	mg/L	0.10	92	90	110			
<b>Lab ID:</b> B16040426-001AMS		Sample Matrix Spike						Run: MAN-TECH_160408A		04/08/16 14:27
Fluoride		1.24	mg/L	0.10	111	80	120			
<b>Lab ID:</b> B16040426-001AMSD		Sample Matrix Spike Duplicate						Run: MAN-TECH_160408A		04/08/16 14:30
Fluoride		1.15	mg/L	0.10	102	80	120	7.5	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 04/13/16

Project: 3767-01 WK:40

Work Order: B16040426

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>						Analytical Run: IC METROHM 2_160408A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate	8.89	mg/L	1.0	99	90	110				04/08/16 09:39
<b>Method: E300.0</b>						Batch: R259254				
<b>Lab ID: ICB</b>	Method Blank									
Sulfate	ND	mg/L	0.2				Run: IC METROHM 2_160408A			04/08/16 09:53
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate	30.2	mg/L	1.0	101	90	110	Run: IC METROHM 2_160408A			04/08/16 10:06
<b>Lab ID: B16040419-001AMS</b>	Sample Matrix Spike									
Sulfate	1300	mg/L	3.7	104	90	110	Run: IC METROHM 2_160408A			04/08/16 14:08
<b>Lab ID: B16040419-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate	1280	mg/L	3.7	101	90	110	1.5			04/08/16 14:22

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 04/13/16

**Project:** 3767-01 WK:40

**Work Order:** B16040426

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_160411A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.523	mg/L	0.0050	105	90	110			04/11/16 11:14
<b>Method: E365.1</b>								Batch: 98265		
<b>Lab ID: MB-98265</b>	Method Blank									
Phosphorus, Total as P		ND	mg/L	0.002				Run: FIA202-B_160411A		04/11/16 11:17
<b>Lab ID: LCS-98265</b>	Laboratory Control Sample									
Phosphorus, Total as P		0.195	mg/L	0.0050	96	90	110	Run: FIA202-B_160411A		04/11/16 11:18
<b>Lab ID: MB-98325</b>	Method Blank									
Phosphorus, Total Dissolved as P		ND	mg/L	0.005				Run: FIA202-B_160411A		04/11/16 11:19
<b>Lab ID: B16040426-001CMS</b>	Sample Matrix Spike									
Phosphorus, Total Dissolved as P		0.204	mg/L	0.0050	99	90	110	Run: FIA202-B_160411A		04/11/16 11:30
<b>Lab ID: B16040426-001CMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P		0.199	mg/L	0.0050	96	90	110	Run: FIA202-B_160411A		04/11/16 11:31

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 04/13/16

Project: 3767-01 WK:40

Work Order: B16040426

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160407A			
<b>Lab ID: ICV</b>	10	Continuing Calibration Verification Standard								04/07/16 09:05	
Barium		2.49	mg/L	0.10	100	95	105				
Beryllium		1.25	mg/L	0.010	100	95	105				
Calcium		26.2	mg/L	1.0	105	95	105				
Chromium		2.44	mg/L	0.050	98	95	105				
Iron		2.55	mg/L	0.020	102	95	105				
Magnesium		26.2	mg/L	1.0	105	95	105				
Manganese		2.45	mg/L	0.010	98	95	105				
Silicon		5.03	mg/L	0.10	101	95	105				
Strontium		2.51	mg/L	0.10	100	95	105				
Zinc		2.47	mg/L	0.010	99	95	105				
<b>Method: E200.7</b>								Batch: R259170			
<b>Lab ID: MB-6500DIS160407A</b>	10	Method Blank								Run: ICP203-B_160407A 04/07/16 09:12	
Barium		ND	mg/L	0.0003							
Beryllium		ND	mg/L	0.0002							
Calcium		ND	mg/L	0.02							
Chromium		ND	mg/L	0.003							
Iron		ND	mg/L	0.002							
Magnesium		ND	mg/L	0.003							
Manganese		ND	mg/L	0.0006							
Silicon		ND	mg/L	0.02							
Strontium		ND	mg/L	0.0002							
Zinc		ND	mg/L	0.002							
<b>Lab ID: LFB-6500DIS160407A</b>	10	Laboratory Fortified Blank								Run: ICP203-B_160407A 04/07/16 09:19	
Barium		0.983	mg/L	0.10	98	85	115				
Beryllium		0.502	mg/L	0.010	100	85	115				
Calcium		50.9	mg/L	1.0	102	85	115				
Chromium		0.947	mg/L	0.050	95	85	115				
Iron		4.89	mg/L	0.020	98	85	115				
Magnesium		52.4	mg/L	1.0	105	85	115				
Manganese		4.74	mg/L	0.010	95	85	115				
Silicon		9.83	mg/L	0.10	98	85	115				
Strontium		1.02	mg/L	0.10	102	85	115				
Zinc		0.978	mg/L	0.010	98	85	115				
<b>Lab ID: B16040430-002BMS2</b>	10	Sample Matrix Spike								Run: ICP203-B_160407A 04/07/16 13:51	
Barium		1.07	mg/L	0.050	102	70	130				
Beryllium		0.522	mg/L	0.0010	104	70	130				
Calcium		59.8	mg/L	1.0	103	70	130				
Chromium		1.01	mg/L	0.0050	101	70	130				
Iron		5.23	mg/L	0.020	104	70	130				
Magnesium		53.3	mg/L	1.0	103	70	130				
Manganese		5.11	mg/L	0.0010	102	70	130				
Silicon		12.9	mg/L	0.10	101	70	130				

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 04/13/16

**Project:** 3767-01 WK:40

**Work Order:** B16040426

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R259170</span>										
<b>Lab ID:</b> B16040430-002BMS2	10	Sample Matrix Spike				Run: ICP203-B_160407A			04/07/16 13:51	
Strontium		1.06	mg/L	0.010	103	70	130			
Zinc		1.01	mg/L	0.010	101	70	130			
<b>Lab ID: B16040430-002BMSD</b> 10 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICP203-B_160407A 04/07/16 13:55</span>										
Barium		1.08	mg/L	0.050	102	70	130	0.6	20	
Beryllium		0.517	mg/L	0.0010	103	70	130	1.0	20	
Calcium		60.2	mg/L	1.0	104	70	130	0.6	20	
Chromium		1.01	mg/L	0.0050	101	70	130	0.2	20	
Iron		5.21	mg/L	0.020	104	70	130	0.2	20	
Magnesium		53.9	mg/L	1.0	104	70	130	1.0	20	
Manganese		5.10	mg/L	0.0010	102	70	130	0.3	20	
Silicon		12.9	mg/L	0.10	101	70	130	0.1	20	
Strontium		1.06	mg/L	0.010	103	70	130	0.4	20	
Zinc		1.02	mg/L	0.010	102	70	130	0.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 04/13/16

Project: 3767-01 WK:40

Work Order: B16040426

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_160407A			
<b>Lab ID: QCS</b>	10	Initial Calibration Verification Standard								04/07/16 12:32	
Aluminum		0.257	mg/L	0.10	103	90	110				
Arsenic		0.0481	mg/L	0.0050	96	90	110				
Cadmium		0.0251	mg/L	0.0010	100	90	110				
Copper		0.0489	mg/L	0.010	98	90	110				
Lead		0.0464	mg/L	0.010	93	90	110				
Nickel		0.0492	mg/L	0.010	99	90	110				
Selenium		0.0489	mg/L	0.0050	98	90	110				
Silver		0.0250	mg/L	0.0050	100	90	110				
Thallium		0.0458	mg/L	0.10	92	90	110				
Uranium		0.0183	mg/L	0.0010	91	90	110				
<b>Method: E200.8</b>								Batch: R259188			
<b>Lab ID: LFB</b>	10	Laboratory Fortified Blank						Run: ICPMS202-B_160407A		04/07/16 10:59	
Aluminum		0.0443	mg/L	0.10	89	85	115				
Arsenic		0.0451	mg/L	0.0050	90	85	115				
Cadmium		0.0449	mg/L	0.0010	90	85	115				
Copper		0.0457	mg/L	0.010	91	85	115				
Lead		0.0469	mg/L	0.010	94	85	115				
Nickel		0.0451	mg/L	0.010	90	85	115				
Selenium		0.0441	mg/L	0.0050	88	85	115				
Silver		0.0184	mg/L	0.0050	92	85	115				
Thallium		0.0480	mg/L	0.10	96	85	115				
Uranium		0.0477	mg/L	0.0010	95	85	115				
<b>Lab ID: LRB</b>	10	Method Blank						Run: ICPMS202-B_160407A		04/07/16 11:20	
Aluminum		ND	mg/L	0.0004							
Arsenic		ND	mg/L	9E-05							
Cadmium		ND	mg/L	9E-06							
Copper		ND	mg/L	9E-05							
Lead		ND	mg/L	2E-05							
Nickel		ND	mg/L	9E-05							
Selenium		ND	mg/L	0.0002							
Silver		ND	mg/L	4E-05							
Thallium		2E-05	mg/L	1E-05							
Uranium		ND	mg/L	1E-05							
<b>Lab ID: B16040308-001BMS</b>	10	Sample Matrix Spike						Run: ICPMS202-B_160407A		04/07/16 13:02	
Aluminum		0.0790	mg/L	0.030	95	70	130				
Arsenic		0.0564	mg/L	0.0010	110	70	130				
Cadmium		0.0497	mg/L	0.0010	99	70	130				
Copper		0.0955	mg/L	0.0050	99	70	130				
Lead		0.0497	mg/L	0.0010	99	70	130				
Nickel		0.0518	mg/L	0.0050	98	70	130				
Selenium		0.0592	mg/L	0.0010	117	70	130				
Silver		0.0133	mg/L	0.0010	66	70	130			S	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 04/13/16

**Project:** 3767-01 WK:40

**Work Order:** B16040426

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R259188</span>										
<b>Lab ID:</b> B16040308-001BMS	10	Sample Matrix Spike								
										Run: ICPMS202-B_160407A <span style="float: right;">04/07/16 13:02</span>
Thallium		0.0481	mg/L	0.00050	96	70	130			
Uranium		0.0535	mg/L	0.00030	104	70	130			
<b>Lab ID: B16040308-001BMSD</b> 10 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICPMS202-B_160407A <span style="float: right;">04/07/16 13:05</span></span>										
Aluminum		0.0780	mg/L	0.030	93	70	130	1.3	20	
Arsenic		0.0539	mg/L	0.0010	105	70	130	4.6	20	
Cadmium		0.0479	mg/L	0.0010	96	70	130	3.7	20	
Copper		0.0925	mg/L	0.0050	93	70	130	3.2	20	
Lead		0.0486	mg/L	0.0010	97	70	130	2.2	20	
Nickel		0.0492	mg/L	0.0050	93	70	130	5.1	20	
Selenium		0.0553	mg/L	0.0010	109	70	130	6.8	20	
Silver		0.0159	mg/L	0.0010	79	70	130	18	20	
Thallium		0.0469	mg/L	0.00050	94	70	130	2.5	20	
Uranium		0.0530	mg/L	0.00030	103	70	130	1.1	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS202-B_160411A</span>										
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								04/11/16 16:16
Antimony		0.0476	mg/L	0.050	95	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R259303</span>										
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: ICPMS202-B_160411A <span style="float: right;">04/11/16 12:56</span>
Antimony		0.0466	mg/L	0.050	93	85	115			
<b>Lab ID:</b> LRB		Method Blank								Run: ICPMS202-B_160411A <span style="float: right;">04/11/16 13:58</span>
Antimony		ND	mg/L	4E-05						
<b>Lab ID:</b> B16040419-001BMS		Sample Matrix Spike								Run: ICPMS202-B_160411A <span style="float: right;">04/11/16 17:13</span>
Antimony		0.0504	mg/L	0.0010	99	70	130			
<b>Lab ID:</b> B16040419-001BMSD		Sample Matrix Spike Duplicate								Run: ICPMS202-B_160411A <span style="float: right;">04/11/16 17:16</span>
Antimony		0.0515	mg/L	0.0010	101	70	130	2.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 04/13/16

**Project:** 3767-01 WK:40

**Work Order:** B16040426

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160412A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								04/12/16 14:43	
Mercury		0.000195	mg/L	1.0E-05	98	90	110				
<b>Method:</b> E245.1										Batch: 98356	
<b>Lab ID:</b> MB-98356		Method Blank								Run: HGCV203-B_160412A	04/12/16 14:52
Mercury		1.0E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-98356		Laboratory Control Sample								Run: HGCV203-B_160412A	04/12/16 14:55
Mercury		0.000194	mg/L	1.0E-05	97	85	115				
<b>Lab ID:</b> B16040430-001BMS		Sample Matrix Spike								Run: HGCV203-B_160412A	04/12/16 15:08
Mercury		0.000192	mg/L	1.0E-05	96	70	130				
<b>Lab ID:</b> B16040430-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160412A	04/12/16 15:11
Mercury		0.000193	mg/L	1.0E-05	97	70	130	0.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16040426

Login completed by: Brittaney R. Garza

Date Received: 4/6/2016

Reviewed by: BL2000\lcardreau

Received by: qej

Reviewed Date: 4/7/2016

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	9.4°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT - Provide as much information as possible.

Company Name: <b>McClelland Lab</b>		Project Name, PWS, Permit, Etc. <b>3767-01 WK:40</b>		Sample Origin State: <b>NV</b>		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: <b>Mike Medina</b>		Phone/Fax: <b>775-356-1300</b>		Email: <b>MLI@METTEST.COM</b>	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: <b>Mr Bob Jacko</b>		Phone/Fax: <b>604-628-1162</b>		Purchase Order:	
Special Report/Formats - ELI must be notified prior to sample submittal for the following:  <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: <input type="checkbox"/> Other: <input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) Format: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		Number of Containers Sample Type: AWS B O Air Water Biosolids Vegetation Bioassay Other		Normal Turnaround (TAT)		Shipped by: <b>Robert</b> Cooler ID(s): <b>YPS VDA</b>	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)		Collection Date		Collection Time		Comments:	
1 LZ FW Comp		4/5/16		09:00		<b>R U S H</b> Contact ELI prior to RUSH sample submittal for charges and scheduling - See instruction Page Please Copy results to: <b>MLI@METTEST.COM</b> hold remaining preserved samples (frozen) until further notice.	
2						Receipt Temp <b>9.4 °C</b>	
3						On Ice: <input checked="" type="radio"/> Yes <input type="radio"/> No	
4						Custody Seal Intact <input checked="" type="radio"/> Y <input type="radio"/> N	
5						Signature Match <input checked="" type="radio"/> Y <input type="radio"/> N	
6						LABORATORY USE ONLY <b>3160-10120 - 001</b>	
7							
8							
9							
10							
Relinquished by (print): <b>JOE CHANEY</b>		Date/Time: <b>4/9/16 9AM</b>		Received by (print): 		Date/Time:	
Relinquished by (print):		Date/Time:		Received by (print):		Date/Time:	
<b>Custody Record MUST be Signed</b>		Sample Disposal:		Return to Client:		Signature:	
		Lab Disposal:		Date/Time: <b>4/6/16 6:15</b>		Signature: <b>Walter Jones</b>	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.enervlab.com](http://www.enervlab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

April 29, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16041643      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:44

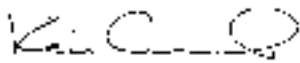
Energy Laboratories Inc Billings MT received the following 3 samples for Tintina Montana Inc on 4/20/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16041643-001	USZ Comp	04/19/16 9:00	04/20/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B16041643-002	Tailings	04/19/16 9:00	04/20/16	Aqueous	Same As Above
B16041643-003	Tailings (Saturated)	04/19/16 9:00	04/20/16	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.04.29 17:17:45 -06:00





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:44  
**Lab ID:** B16041643-001  
**Client Sample ID:** USZ Comp

**Report Date:** 04/29/16  
**Collection Date:** 04/19/16 09:00  
**Date Received:** 04/20/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	1910	mg/L	D	9		E300.0	04/22/16 14:37 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	04/25/16 13:08 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.006	mg/L	L	0.005		E365.1	04/22/16 14:42 / jmg
<b>METALS, DISSOLVED</b>							
Aluminum	0.036	mg/L		0.009		E200.8	04/22/16 16:29 / mas
Antimony	ND	mg/L		0.0005		E200.8	04/21/16 15:43 / mas
Arsenic	0.008	mg/L		0.001		E200.8	04/21/16 15:43 / mas
Barium	0.014	mg/L		0.003		E200.8	04/21/16 15:43 / mas
Beryllium	ND	mg/L		0.0008		E200.7	04/21/16 17:18 / rlh
Cadmium	0.00089	mg/L	D	0.00005		E200.8	04/21/16 15:43 / mas
Calcium	402	mg/L		1		E200.7	04/21/16 17:18 / rlh
Chromium	ND	mg/L		0.01		E200.8	04/21/16 15:43 / mas
Copper	4.04	mg/L		0.002		E200.8	04/21/16 15:43 / mas
Iron	0.33	mg/L		0.02		E200.7	04/21/16 17:18 / rlh
Lead	0.0199	mg/L		0.0003		E200.8	04/21/16 15:43 / mas
Magnesium	207	mg/L		1		E200.7	04/21/16 17:18 / rlh
Manganese	2.98	mg/L		0.005		E200.7	04/21/16 17:18 / rlh
Mercury	ND	mg/L		5E-06		E245.1	04/26/16 16:30 / ser
Nickel	0.128	mg/L		0.002		E200.8	04/21/16 15:43 / mas
Selenium	ND	mg/L		0.001		E200.8	04/21/16 15:43 / mas
Silicon	3.23	mg/L		0.05		E200.7	04/21/16 17:18 / rlh
Silver	ND	mg/L		0.0002		E200.8	04/21/16 15:43 / mas
Strontium	18.3	mg/L		0.02		E200.7	04/21/16 17:18 / rlh
Thallium	0.0463	mg/L		0.0002		E200.8	04/21/16 15:43 / mas
Uranium	0.0002	mg/L		0.0002		E200.8	04/21/16 15:43 / mas
Zinc	0.213	mg/L		0.008		E200.8	04/21/16 15:43 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:44  
**Lab ID:** B16041643-002  
**Client Sample ID:** Tailings

**Report Date:** 04/29/16  
**Collection Date:** 04/19/16 09:00  
**Date Received:** 04/20/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	771	mg/L	D	4		E300.0	04/21/16 23:24 / cmb
Fluoride	0.8	mg/L		0.2		A4500-F C	04/25/16 13:21 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	2.82	mg/L	D	0.05		E365.1	04/22/16 14:45 / jmg
<b>METALS, DISSOLVED</b>							
Aluminum	3.27	mg/L	D	0.05		E200.7	04/21/16 17:29 / rlh
Antimony	0.0053	mg/L		0.0005		E200.8	04/21/16 15:46 / mas
Arsenic	17.0	mg/L		0.001		E200.8	04/21/16 15:46 / mas
Barium	0.029	mg/L		0.003		E200.8	04/21/16 15:46 / mas
Beryllium	ND	mg/L		0.0008		E200.7	04/21/16 17:29 / rlh
Cadmium	0.00053	mg/L		0.00003		E200.8	04/21/16 15:46 / mas
Calcium	4	mg/L		1		E200.7	04/21/16 17:29 / rlh
Chromium	0.11	mg/L		0.01		E200.8	04/21/16 15:46 / mas
Copper	0.420	mg/L		0.002		E200.8	04/21/16 15:46 / mas
Iron	342	mg/L		0.02		E200.7	04/21/16 17:29 / rlh
Lead	0.150	mg/L		0.0003		E200.8	04/21/16 15:46 / mas
Magnesium	ND	mg/L		1		E200.7	04/21/16 17:29 / rlh
Manganese	0.184	mg/L		0.005		E200.7	04/21/16 17:29 / rlh
Mercury	ND	mg/L		5E-06		E245.1	04/26/16 16:42 / ser
Nickel	0.306	mg/L		0.002		E200.8	04/21/16 15:46 / mas
Selenium	ND	mg/L		0.001		E200.8	04/21/16 15:46 / mas
Silicon	9.68	mg/L		0.05		E200.7	04/21/16 17:29 / rlh
Silver	ND	mg/L		0.0002		E200.8	04/21/16 15:46 / mas
Strontium	0.36	mg/L		0.02		E200.8	04/21/16 15:46 / mas
Thallium	0.270	mg/L		0.0002		E200.8	04/21/16 15:46 / mas
Uranium	ND	mg/L		0.0002		E200.8	04/21/16 15:46 / mas
Zinc	0.205	mg/L		0.008		E200.8	04/21/16 15:46 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:44  
**Lab ID:** B16041643-003  
**Client Sample ID:** Tailings (Saturated)

**Report Date:** 04/29/16  
**Collection Date:** 04/19/16 09:00  
**Date Received:** 04/20/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	146	mg/L		1		E300.0	04/21/16 23:37 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	04/25/16 13:25 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.010	mg/L	L	0.005		E365.1	04/22/16 14:46 / jmg
<b>METALS, DISSOLVED</b>							
Aluminum	0.105	mg/L		0.009		E200.8	04/25/16 12:21 / mas
Antimony	ND	mg/L		0.0005		E200.8	04/21/16 15:49 / mas
Arsenic	0.006	mg/L		0.001		E200.8	04/22/16 16:31 / mas
Barium	0.035	mg/L		0.003		E200.7	04/21/16 17:32 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	04/21/16 17:32 / rlh
Cadmium	0.00005	mg/L		0.00003		E200.8	04/21/16 15:49 / mas
Calcium	17	mg/L		1		E200.7	04/21/16 17:32 / rlh
Chromium	0.01	mg/L		0.01		E200.8	04/21/16 15:49 / mas
Copper	0.679	mg/L		0.002		E200.8	04/21/16 15:49 / mas
Iron	23.1	mg/L		0.02		E200.7	04/21/16 17:32 / rlh
Lead	0.0149	mg/L		0.0003		E200.8	04/21/16 15:49 / mas
Magnesium	8	mg/L		1		E200.7	04/21/16 17:32 / rlh
Manganese	2.82	mg/L		0.005		E200.7	04/21/16 17:32 / rlh
Mercury	ND	mg/L		5E-06		E245.1	04/26/16 16:44 / ser
Nickel	0.882	mg/L		0.002		E200.8	04/21/16 15:49 / mas
Selenium	ND	mg/L		0.001		E200.8	04/21/16 15:49 / mas
Silicon	9.38	mg/L		0.05		E200.7	04/21/16 17:32 / rlh
Silver	ND	mg/L		0.0002		E200.8	04/28/16 17:24 / mas
Strontium	0.63	mg/L		0.02		E200.8	04/21/16 15:49 / mas
Thallium	0.0072	mg/L		0.0002		E200.8	04/21/16 15:49 / mas
Uranium	0.0004	mg/L		0.0002		E200.8	04/21/16 15:49 / mas
Zinc	0.026	mg/L		0.008		E200.8	04/21/16 15:49 / mas

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 04/29/16

Project: 3767-01 WK:44

Work Order: B16041643

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_160425A		
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								04/25/16 12:46
Fluoride		1.00	mg/L	0.10	100	90	110			
<b>Method:</b> A4500-F C										Batch: R260035
<b>Lab ID:</b> MBLK		Method Blank						Run: MAN-TECH_160425A		04/25/16 12:41
Fluoride		ND	mg/L	0.03						
<b>Lab ID:</b> LFB		Laboratory Fortified Blank						Run: MAN-TECH_160425A		04/25/16 12:44
Fluoride		1.10	mg/L	0.10	110	90	110			
<b>Lab ID:</b> LFB		Laboratory Fortified Blank						Run: MAN-TECH_160425A		04/25/16 12:57
Fluoride		0.970	mg/L	0.10	97	90	110			
<b>Lab ID:</b> B16041626-002AMS		Sample Matrix Spike						Run: MAN-TECH_160425A		04/25/16 13:13
Fluoride		2.83	mg/L	0.10	103	80	120			
<b>Lab ID:</b> B16041626-002AMSD		Sample Matrix Spike Duplicate						Run: MAN-TECH_160425A		04/25/16 13:16
Fluoride		2.81	mg/L	0.10	101	80	120	0.7	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 04/29/16

**Project:** 3767-01 WK:44

**Work Order:** B16041643

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>						Analytical Run: IC METROHM 1_160421A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		8.81	mg/L	1.0	98	90	110			04/21/16 17:17
<b>Method: E300.0</b>						Batch: R259926				
<b>Lab ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.01						Run: IC METROHM 1_160421A 04/21/16 17:30
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		30.5	mg/L	1.0	102	90	110			Run: IC METROHM 1_160421A 04/21/16 17:51
<b>Lab ID: B16041653-001AMS</b>	Sample Matrix Spike									
Sulfate		1340	mg/L	3.7	104	90	110			Run: IC METROHM 1_160421A 04/22/16 00:04
<b>Lab ID: B16041653-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		1340	mg/L	3.7	104	90	110	0.3	20	Run: IC METROHM 1_160421A 04/22/16 00:45
<b>Method: E300.0</b>						Analytical Run: IC METROHM 1_160422A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		8.86	mg/L	1.0	98	90	110			04/22/16 13:43
<b>Method: E300.0</b>						Batch: R259972				
<b>Lab ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.01						Run: IC METROHM 1_160422A 04/22/16 13:56
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		30.1	mg/L	1.0	100	90	110			Run: IC METROHM 1_160422A 04/22/16 14:10
<b>Lab ID: B16041670-001AMS</b>	Sample Matrix Spike									
Sulfate		157	mg/L	1.0	103	90	110			Run: IC METROHM 1_160422A 04/22/16 15:17
<b>Lab ID: B16041670-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		159	mg/L	1.0	104	90	110	1.0	20	Run: IC METROHM 1_160422A 04/22/16 15:30

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 04/29/16

**Project:** 3767-01 WK:44

**Work Order:** B16041643

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b> <span style="float: right;">Batch: 98609</span>										
<b>Lab ID: MB-98609</b>		Method Blank						Run: FIA202-B_160422A		04/22/16 14:00
Phosphorus, Total as P		0.003	mg/L	0.002						
<b>Lab ID: LCS-98609</b>		Laboratory Control Sample						Run: FIA202-B_160422A		04/22/16 14:01
Phosphorus, Total as P		0.189	mg/L	0.0050	93	90	110			
<b>Lab ID: B16041643-001CMS</b>		Sample Matrix Spike						Run: FIA202-B_160422A		04/22/16 14:43
Phosphorus, Total Dissolved as P		0.203	mg/L	0.0050	99	90	110			
<b>Lab ID: B16041643-001CMSD</b>		Sample Matrix Spike Duplicate						Run: FIA202-B_160422A		04/22/16 14:44
Phosphorus, Total Dissolved as P		0.188	mg/L	0.0050	91	90	110			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 04/29/16

Project: 3767-01 WK:44

Work Order: B16041643

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160421A			
<b>Lab ID: ICV</b>	9	Continuing Calibration Verification Standard						04/21/16 10:34			
Aluminum		2.54	mg/L	0.10	102	95	105				
Barium		2.51	mg/L	0.10	100	95	105				
Beryllium		1.28	mg/L	0.010	103	95	105				
Calcium		25.6	mg/L	1.0	103	95	105				
Iron		2.54	mg/L	0.020	102	95	105				
Magnesium		25.6	mg/L	1.0	102	95	105				
Manganese		2.52	mg/L	0.010	101	95	105				
Silicon		5.10	mg/L	0.10	102	95	105				
Strontium		2.59	mg/L	0.10	104	95	105				
<b>Method: E200.7</b>								Batch: R259863			
<b>Lab ID: MB-6500DIS160421A</b>	9	Method Blank						Run: ICP203-B_160421A 04/21/16 10:41			
Aluminum		ND	mg/L	0.02							
Barium		ND	mg/L	0.0003							
Beryllium		ND	mg/L	0.0002							
Calcium		ND	mg/L	0.02							
Iron		ND	mg/L	0.002							
Magnesium		ND	mg/L	0.003							
Manganese		0.0007	mg/L	0.0006							
Silicon		ND	mg/L	0.02							
Strontium		ND	mg/L	0.0002							
<b>Lab ID: LFB-6500DIS160421A</b>	9	Laboratory Fortified Blank						Run: ICP203-B_160421A 04/21/16 10:48			
Aluminum		4.94	mg/L	0.10	99	85	115				
Barium		0.998	mg/L	0.10	100	85	115				
Beryllium		0.508	mg/L	0.010	102	85	115				
Calcium		50.9	mg/L	1.0	102	85	115				
Iron		5.07	mg/L	0.020	101	85	115				
Magnesium		50.8	mg/L	1.0	102	85	115				
Manganese		4.99	mg/L	0.010	100	85	115				
Silicon		9.95	mg/L	0.10	100	85	115				
Strontium		1.02	mg/L	0.10	102	85	115				
<b>Lab ID: B16041616-001BMS2</b>	9	Sample Matrix Spike						Run: ICP203-B_160421A 04/21/16 16:53			
Aluminum		25.2	mg/L	0.12	101	70	130				
Barium		5.75	mg/L	0.050	105	70	130				
Beryllium		2.66	mg/L	0.0010	106	70	130				
Calcium		269	mg/L	1.0	104	70	130				
Iron		26.2	mg/L	0.020	104	70	130				
Magnesium		264	mg/L	1.0	103	70	130				
Manganese		25.8	mg/L	0.0029	103	70	130				
Silicon		56.2	mg/L	0.10	100	70	130				
Strontium		5.42	mg/L	0.010	108	70	130				

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 04/29/16

**Project:** 3767-01 WK:44

**Work Order:** B16041643

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										Batch: R259863
<b>Lab ID:</b>	<b>B16041616-001BMSD</b>	9 Sample Matrix Spike Duplicate			Run: ICP203-B_160421A				04/21/16 16:57	
Aluminum		24.2	mg/L	0.12	97	70	130	4.2	20	
Barium		5.64	mg/L	0.050	103	70	130	1.9	20	
Beryllium		2.56	mg/L	0.0010	103	70	130	3.7	20	
Calcium		264	mg/L	1.0	102	70	130	2.0	20	
Iron		25.7	mg/L	0.020	102	70	130	1.7	20	
Magnesium		259	mg/L	1.0	101	70	130	1.8	20	
Manganese		25.3	mg/L	0.0029	101	70	130	1.8	20	
Silicon		54.0	mg/L	0.10	95	70	130	4.1	20	
Strontium		5.23	mg/L	0.010	104	70	130	3.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 04/29/16

**Project:** 3767-01 WK:44

**Work Order:** B16041643

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_160425A				
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard										
Aluminum		0.247	mg/L	0.10	99	90	110			04/25/16 11:17	
<b>Method: E200.8</b>							Batch: R260019				
<b>Lab ID: LRB</b>	Method Blank										
Aluminum		ND	mg/L	0.0002						Run: ICPMS203-B_160425A 04/25/16 11:41	
<b>Lab ID: LFB</b>	Laboratory Fortified Blank										
Aluminum		0.0480	mg/L	0.10	96	85	115			Run: ICPMS203-B_160425A 04/25/16 11:45	
<b>Lab ID: B16041638-001BMS</b>	Sample Matrix Spike										
Aluminum		0.0541	mg/L	0.030	101	70	130			Run: ICPMS203-B_160425A 04/25/16 12:45	
<b>Lab ID: B16041638-001BMSD</b>	Sample Matrix Spike Duplicate										
Aluminum		0.0574	mg/L	0.030	108	70	130	5.8	20	Run: ICPMS203-B_160425A 04/25/16 12:49	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 04/29/16

Project: 3767-01 WK:44

Work Order: B16041643

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_160421A	
<b>Lab ID: QCS</b>	14	Initial Calibration Verification Standard							04/21/16 13:29		
Antimony		0.0500	mg/L	0.050	100	90	110				
Arsenic		0.0507	mg/L	0.0050	101	90	110				
Barium		0.0501	mg/L	0.10	100	90	110				
Cadmium		0.0261	mg/L	0.0010	104	90	110				
Chromium		0.0501	mg/L	0.010	100	90	110				
Copper		0.0499	mg/L	0.010	100	90	110				
Lead		0.0506	mg/L	0.010	101	90	110				
Nickel		0.0511	mg/L	0.010	102	90	110				
Selenium		0.0493	mg/L	0.0050	99	90	110				
Silver		0.0261	mg/L	0.0050	104	90	110				
Strontium		0.0501	mg/L	0.10	100	90	110				
Thallium		0.0520	mg/L	0.10	104	90	110				
Uranium		0.0199	mg/L	0.0010	99	90	110				
Zinc		0.0502	mg/L	0.010	100	90	110				

<b>Method: E200.8</b>										Batch: R259888	
<b>Lab ID: LFB</b>	14	Laboratory Fortified Blank							Run: ICPMS206-B_160421A 04/21/16 13:14		
Antimony		0.0465	mg/L	0.050	93	85	115				
Arsenic		0.0494	mg/L	0.0050	99	85	115				
Barium		0.0496	mg/L	0.10	99	85	115				
Cadmium		0.0499	mg/L	0.0010	100	85	115				
Chromium		0.0486	mg/L	0.010	97	85	115				
Copper		0.0484	mg/L	0.010	97	85	115				
Lead		0.0507	mg/L	0.010	101	85	115				
Nickel		0.0493	mg/L	0.010	99	85	115				
Selenium		0.0458	mg/L	0.0050	92	85	115				
Silver		0.0198	mg/L	0.0050	99	85	115				
Strontium		0.0478	mg/L	0.10	96	85	115				
Thallium		0.0505	mg/L	0.10	101	85	115				
Uranium		0.0505	mg/L	0.0010	101	85	115				
Zinc		0.0498	mg/L	0.010	100	85	115				

<b>Lab ID: LRB</b>	14	Method Blank							Run: ICPMS206-B_160421A 04/21/16 13:51		
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Barium		ND	mg/L	0.0004							
Cadmium		ND	mg/L	3E-05							
Chromium		ND	mg/L	4E-05							
Copper		ND	mg/L	6E-05							
Lead		ND	mg/L	5E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Strontium		ND	mg/L	1E-05							

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 04/29/16

Project: 3767-01 WK:44

Work Order: B16041643

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R259888</span>										
<b>Lab ID: LRB</b>	14	Method Blank								
						Run: ICPMS206-B_160421A				04/21/16 13:51
Thallium		ND	mg/L	7E-05						
Uranium		ND	mg/L	5E-05						
Zinc		ND	mg/L	0.0001						
<b>Lab ID: B16041643-003BMS</b>	14	Sample Matrix Spike								
						Run: ICPMS206-B_160421A				04/21/16 16:25
Antimony		0.0477	mg/L	0.0010	95	70	130			
Arsenic		0.0554	mg/L	0.0010	66	70	130			S
Barium		0.0857	mg/L	0.050	99	70	130			
Cadmium		0.0465	mg/L	0.0010	93	70	130			
Chromium		0.0633	mg/L	0.0050	98	70	130			
Copper		0.640	mg/L	0.0050		70	130			A
Lead		0.0644	mg/L	0.0010	99	70	130			
Nickel		0.832	mg/L	0.0050		70	130			A
Selenium		0.0518	mg/L	0.0010	104	70	130			
Silver		0.0100	mg/L	0.0010	48	70	130			S
Strontium		0.644	mg/L	0.010		70	130			A
Thallium		0.0568	mg/L	0.00050	99	70	130			
Uranium		0.0521	mg/L	0.00030	103	70	130			
Zinc		0.0720	mg/L	0.010	91	70	130			
<b>Lab ID: B16041643-003BMSD</b>	14	Sample Matrix Spike Duplicate								
						Run: ICPMS206-B_160421A				04/21/16 16:28
Antimony		0.0479	mg/L	0.0010	96	70	130	0.4	20	
Arsenic		0.0542	mg/L	0.0010	64	70	130	2.2	20	S
Barium		0.0845	mg/L	0.050	96	70	130	1.4	20	
Cadmium		0.0470	mg/L	0.0010	94	70	130	1.1	20	
Chromium		0.0626	mg/L	0.0050	97	70	130	1.2	20	
Copper		0.622	mg/L	0.0050		70	130	2.8	20	A
Lead		0.0658	mg/L	0.0010	102	70	130	2.2	20	
Nickel		0.828	mg/L	0.0050		70	130	0.5	20	A
Selenium		0.0491	mg/L	0.0010	98	70	130	5.2	20	
Silver		0.0113	mg/L	0.0010	54	70	130	12	20	S
Strontium		0.628	mg/L	0.010		70	130	2.4	20	A
Thallium		0.0581	mg/L	0.00050	102	70	130	2.4	20	
Uranium		0.0526	mg/L	0.00030	104	70	130	0.9	20	
Zinc		0.0695	mg/L	0.010	86	70	130	3.5	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 04/29/16

**Project:** 3767-01 WK:44

**Work Order:** B16041643

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_160422A			
<b>Lab ID: QCS</b>	3	Initial Calibration Verification Standard								04/22/16 14:53	
Aluminum		0.249	mg/L	0.10	100	90	110				
Arsenic		0.0497	mg/L	0.0050	99	90	110				
Silver		0.0253	mg/L	0.0050	101	90	110				
<b>Method: E200.8</b>								Batch: R259936			
<b>Lab ID: LFB</b>	3	Laboratory Fortified Blank						Run: ICPMS206-B_160422A		04/22/16 12:30	
Aluminum		0.0552	mg/L	0.10	110	85	115				
Arsenic		0.0494	mg/L	0.0050	99	85	115				
Silver		0.0198	mg/L	0.0050	99	85	115				
<b>Lab ID: LRB</b>	3	Method Blank						Run: ICPMS206-B_160422A		04/22/16 12:50	
Aluminum		ND	mg/L	0.0001							
Arsenic		ND	mg/L	6E-05							
Silver		ND	mg/L	2E-05							
<b>Lab ID: B16041638-001BMS</b>	3	Sample Matrix Spike						Run: ICPMS206-B_160422A		04/22/16 16:08	
Aluminum		0.0520	mg/L	0.030	96	70	130				
Arsenic		0.0545	mg/L	0.0010	106	70	130				
Silver		0.0130	mg/L	0.0010	65	70	130			S	
<b>Lab ID: B16041638-001BMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICPMS206-B_160422A		04/22/16 16:11	
Aluminum		0.0501	mg/L	0.030	92	70	130	3.8	20		
Arsenic		0.0532	mg/L	0.0010	104	70	130	2.4	20		
Silver		0.0119	mg/L	0.0010	60	70	130	8.6	20	S	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 04/29/16

**Project:** 3767-01 WK:44

**Work Order:** B16041643

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160426A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								04/26/16 15:08	
Mercury		0.000211	mg/L	1.0E-05	106	90	110				
<b>Method:</b> E245.1										Batch: 98656	
<b>Lab ID:</b> MB-98656		Method Blank								Run: HGCV203-B_160426A	04/26/16 16:14
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-98656		Laboratory Control Sample								Run: HGCV203-B_160426A	04/26/16 16:17
Mercury		0.000205	mg/L	1.0E-05	102	85	115				
<b>Lab ID:</b> B16041643-001BMS		Sample Matrix Spike								Run: HGCV203-B_160426A	04/26/16 16:37
Mercury		0.000210	mg/L	1.0E-05	103	70	130				
<b>Lab ID:</b> B16041643-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160426A	04/26/16 16:39
Mercury		0.000210	mg/L	1.0E-05	103	70	130	0.0	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16041643

Login completed by: Brittaney R. Garza

Date Received: 4/20/2016

Reviewed by: BL2000\lcardreau

Received by: shc

Reviewed Date: 4/21/2016

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 7.6°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012





# ANALYTICAL SUMMARY REPORT

May 11, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16050324      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK: 44

Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Montana Inc on 5/4/2016 for analysis.

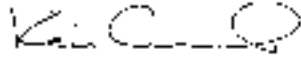
Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16050324-001	LZ FW Comp	05/03/16 9:00	05/04/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.05.11 13:20:20 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 44  
**Lab ID:** B16050324-001  
**Client Sample ID:** LZ FW Comp

**Report Date:** 05/11/16  
**Collection Date:** 05/03/16 09:00  
**Date Received:** 05/04/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	87	mg/L		1		E300.0	05/05/16 21:52 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	05/06/16 12:59 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.007	mg/L	L	0.005		E365.1	05/06/16 15:51 / jmg
<b>METALS, DISSOLVED</b>							
Aluminum	0.018	mg/L		0.009		E200.8	05/09/16 14:47 / mas
Antimony	0.0015	mg/L		0.0005		E200.8	05/05/16 18:35 / mas
Arsenic	0.035	mg/L		0.001		E200.8	05/05/16 18:35 / mas
Barium	0.021	mg/L		0.003		E200.7	05/05/16 14:55 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	05/05/16 14:55 / rlh
Cadmium	ND	mg/L		0.00003		E200.8	05/05/16 18:35 / mas
Calcium	22	mg/L		1		E200.7	05/05/16 14:55 / rlh
Chromium	ND	mg/L		0.01		E200.7	05/05/16 14:55 / rlh
Copper	ND	mg/L		0.002		E200.8	05/05/16 18:35 / mas
Iron	ND	mg/L		0.02		E200.7	05/05/16 14:55 / rlh
Lead	0.0013	mg/L		0.0003		E200.8	05/05/16 18:35 / mas
Magnesium	14	mg/L		1		E200.7	05/05/16 14:55 / rlh
Manganese	ND	mg/L		0.005		E200.7	05/05/16 14:55 / rlh
Mercury	ND	mg/L		5E-06		E245.1	05/06/16 16:38 / ser
Nickel	0.004	mg/L		0.002		E200.8	05/05/16 18:35 / mas
Selenium	0.001	mg/L		0.001		E200.8	05/05/16 18:35 / mas
Silicon	3.32	mg/L		0.05		E200.7	05/05/16 14:55 / rlh
Silver	ND	mg/L		0.0002		E200.8	05/05/16 18:35 / mas
Strontium	0.10	mg/L		0.02		E200.7	05/05/16 14:55 / rlh
Thallium	ND	mg/L		0.0002		E200.8	05/05/16 18:35 / mas
Uranium	0.0770	mg/L		0.0002		E200.8	05/05/16 18:35 / mas
Zinc	ND	mg/L		0.008		E200.7	05/05/16 14:55 / rlh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/11/16

**Project:** 3767-01 WK: 44

**Work Order:** B16050324

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>								Analytical Run: MAN-TECH_160506A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Fluoride		1.00	mg/L	0.10	100	90	110			05/06/16 11:44
<b>Method: A4500-F C</b>								Batch: R260636		
<b>Lab ID: MBLK</b>	Method Blank									
Fluoride		ND	mg/L	0.03						Run: MAN-TECH_160506A 05/06/16 11:38
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Fluoride		0.970	mg/L	0.10	97	90	110			Run: MAN-TECH_160506A 05/06/16 11:41
<b>Lab ID: B16050319-003AMS</b>	Sample Matrix Spike									
Fluoride		1.88	mg/L	0.10	105	80	120			Run: MAN-TECH_160506A 05/06/16 12:53
<b>Lab ID: B16050319-003AMSD</b>	Sample Matrix Spike Duplicate									
Fluoride		1.85	mg/L	0.10	102	80	120	1.6	10	Run: MAN-TECH_160506A 05/06/16 12:56

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/11/16

**Project:** 3767-01 WK: 44

**Work Order:** B16050324

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>						Analytical Run: IC METROHM 1_160505A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate	9.06	mg/L	1.0	101	90	110				05/05/16 13:32
<b>Method: E300.0</b>						Batch: R260575				
<b>Lab ID: ICB</b>	Method Blank									
Sulfate	ND	mg/L	0.01				Run: IC METROHM 1_160505A			05/05/16 13:46
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate	30.7	mg/L	1.0	102	90	110	Run: IC METROHM 1_160505A			05/05/16 13:59
<b>Lab ID: B16050318-001AMS</b>	Sample Matrix Spike									
Sulfate	623	mg/L	1.8	101	90	110	Run: IC METROHM 1_160505A			05/05/16 21:11
<b>Lab ID: B16050318-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate	623	mg/L	1.8	101	90	110	0.1	20	Run: IC METROHM 1_160505A	05/05/16 21:25

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/11/16

**Project:** 3767-01 WK: 44

**Work Order:** B16050324

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E365.1</b>								Analytical Run: FIA202-B_160506B			
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard										
Phosphorus, Total as P		0.519	mg/L	0.0050	104	90	110			05/06/16 15:22	
<b>Method: E365.1</b>								Batch: 99029			
<b>Lab ID: MB-99029</b>	Method Blank										
Phosphorus, Total as P		0.004	mg/L	0.002				Run: FIA202-B_160506B		05/06/16 15:25	
<b>Lab ID: LCS-99029</b>	Laboratory Control Sample										
Phosphorus, Total as P		0.198	mg/L	0.0050	97	90	110	Run: FIA202-B_160506B		05/06/16 15:26	
<b>Lab ID: B16050324-001CMS</b>	Sample Matrix Spike										
Phosphorus, Total Dissolved as P		0.198	mg/L	0.0050	95	90	110	Run: FIA202-B_160506B		05/06/16 15:52	
<b>Lab ID: B16050324-001CMSD</b>	Sample Matrix Spike Duplicate										
Phosphorus, Total Dissolved as P		0.206	mg/L	0.0050	99	90	110	Run: FIA202-B_160506B		05/06/16 15:53	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 05/11/16

Project: 3767-01 WK: 44

Work Order: B16050324

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160505A		
<b>Lab ID: ICV</b>	10 Continuing Calibration Verification Standard							05/05/16 09:04		
Barium		2.54	mg/L	0.10	102	95	105			
Beryllium		1.28	mg/L	0.010	102	95	105			
Calcium		25.7	mg/L	1.0	103	95	105			
Chromium		2.52	mg/L	0.050	101	95	105			
Iron		2.55	mg/L	0.020	102	95	105			
Magnesium		25.6	mg/L	1.0	102	95	105			
Manganese		2.53	mg/L	0.010	101	95	105			
Silicon		5.17	mg/L	0.10	103	95	105			
Strontium		2.57	mg/L	0.10	103	95	105			
Zinc		2.53	mg/L	0.010	101	95	105			
<b>Method: E200.7</b>								Batch: R260526		
<b>Lab ID: MB-6500DIS160505A</b>	10 Method Blank							Run: ICP203-B_160505A 05/05/16 09:11		
Barium		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Calcium		ND	mg/L	0.02						
Chromium		ND	mg/L	0.003						
Iron		ND	mg/L	0.002						
Magnesium		0.004	mg/L	0.003						
Manganese		ND	mg/L	0.0006						
Silicon		ND	mg/L	0.02						
Strontium		ND	mg/L	0.0002						
Zinc		ND	mg/L	0.002						
<b>Lab ID: LFB-6500DIS160505A</b>	10 Laboratory Fortified Blank							Run: ICP203-B_160505A 05/05/16 09:18		
Barium		1.01	mg/L	0.10	101	85	115			
Beryllium		0.519	mg/L	0.010	104	85	115			
Calcium		50.7	mg/L	1.0	101	85	115			
Chromium		1.00	mg/L	0.050	100	85	115			
Iron		5.02	mg/L	0.020	100	85	115			
Magnesium		50.8	mg/L	1.0	102	85	115			
Manganese		5.06	mg/L	0.010	101	85	115			
Silicon		10.1	mg/L	0.10	101	85	115			
Strontium		1.04	mg/L	0.10	104	85	115			
Zinc		0.983	mg/L	0.010	98	85	115			
<b>Lab ID: B16050315-001BMS2</b>	10 Sample Matrix Spike							Run: ICP203-B_160505A 05/05/16 14:37		
Barium		1.99	mg/L	0.050	99	70	130			
Beryllium		1.04	mg/L	0.0010	104	70	130			
Calcium		181	mg/L	1.0	100	70	130			
Chromium		1.95	mg/L	0.0071	98	70	130			
Iron		10.0	mg/L	0.020	100	70	130			
Magnesium		127	mg/L	1.0	101	70	130			
Manganese		9.93	mg/L	0.0012	99	70	130			
Silicon		27.1	mg/L	0.10	103	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/11/16

**Project:** 3767-01 WK: 44

**Work Order:** B16050324

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R260526</span>										
<b>Lab ID: B16050315-001BMS2</b>	10	Sample Matrix Spike								
										Run: ICP203-B_160505A 05/05/16 14:37
Strontium		2.55	mg/L	0.010	107	70	130			
Zinc		1.99	mg/L	0.010	99	70	130			
<b>Lab ID: B16050315-001BMSD</b> 10 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICP203-B_160505A 05/05/16 14:41</span>										
Barium		1.95	mg/L	0.050	97	70	130	1.8	20	
Beryllium		1.03	mg/L	0.0010	103	70	130	1.2	20	
Calcium		178	mg/L	1.0	97	70	130	1.5	20	
Chromium		1.92	mg/L	0.0071	96	70	130	1.5	20	
Iron		9.84	mg/L	0.020	98	70	130	1.7	20	
Magnesium		125	mg/L	1.0	99	70	130	1.3	20	
Manganese		9.74	mg/L	0.0012	97	70	130	1.9	20	
Silicon		26.4	mg/L	0.10	99	70	130	2.6	20	
Strontium		2.52	mg/L	0.010	105	70	130	1.4	20	
Zinc		1.99	mg/L	0.010	100	70	130	0.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/11/16

**Project:** 3767-01 WK: 44

**Work Order:** B16050324

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS203-B_160509A			
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard										
Aluminum		0.235	mg/L	0.10	94	90	110			05/09/16 14:00	
<b>Method: E200.8</b>								Batch: R260689			
<b>Lab ID: LRB</b>	Method Blank										
Aluminum		ND	mg/L	0.0002						Run: ICPMS203-B_160509A 05/09/16 14:15	
<b>Lab ID: LFB</b>	Laboratory Fortified Blank										
Aluminum		0.0486	mg/L	0.10	97	85	115			Run: ICPMS203-B_160509A 05/09/16 14:19	
<b>Lab ID: B16050324-001BMS</b>	Sample Matrix Spike										
Aluminum		0.0772	mg/L	0.030	119	70	130			Run: ICPMS203-B_160509A 05/09/16 14:55	
<b>Lab ID: B16050324-001BMSD</b>	Sample Matrix Spike Duplicate										
Aluminum		0.0754	mg/L	0.030	116	70	130	2.4	20	Run: ICPMS203-B_160509A 05/09/16 14:59	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 05/11/16

Project: 3767-01 WK: 44

Work Order: B16050324

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_160505A		
<b>Lab ID: QCS</b>	10	Initial Calibration Verification Standard								05/05/16 17:52
Antimony		0.0504	mg/L	0.050	101	90	110			
Arsenic		0.0512	mg/L	0.0050	102	90	110			
Cadmium		0.0263	mg/L	0.0010	105	90	110			
Copper		0.0508	mg/L	0.010	102	90	110			
Lead		0.0481	mg/L	0.010	96	90	110			
Nickel		0.0510	mg/L	0.010	102	90	110			
Selenium		0.0483	mg/L	0.0050	97	90	110			
Silver		0.0266	mg/L	0.0050	107	90	110			
Thallium		0.0485	mg/L	0.10	97	90	110			
Uranium		0.0197	mg/L	0.0010	98	90	110			
<b>Method: E200.8</b>								Batch: R260565		
<b>Lab ID: LFB</b>	10	Laboratory Fortified Blank						Run: ICPMS206-B_160505A		05/05/16 12:47
Antimony		0.0472	mg/L	0.050	94	85	115			
Arsenic		0.0504	mg/L	0.0050	101	85	115			
Cadmium		0.0502	mg/L	0.0010	100	85	115			
Copper		0.0482	mg/L	0.010	96	85	115			
Lead		0.0540	mg/L	0.010	108	85	115			
Nickel		0.0483	mg/L	0.010	97	85	115			
Selenium		0.0487	mg/L	0.0050	97	85	115			
Silver		0.0205	mg/L	0.0050	103	85	115			
Thallium		0.0546	mg/L	0.10	109	85	115			
Uranium		0.0550	mg/L	0.0010	110	85	115			
<b>Lab ID: LRB</b>	10	Method Blank						Run: ICPMS206-B_160505A		05/05/16 14:31
Antimony		ND	mg/L	8E-05						
Arsenic		ND	mg/L	6E-05						
Cadmium		ND	mg/L	3E-05						
Copper		ND	mg/L	6E-05						
Lead		ND	mg/L	5E-05						
Nickel		ND	mg/L	6E-05						
Selenium		ND	mg/L	0.0001						
Silver		ND	mg/L	2E-05						
Thallium		ND	mg/L	7E-05						
Uranium		ND	mg/L	5E-05						
<b>Lab ID: B16050328-001BMS</b>	10	Sample Matrix Spike						Run: ICPMS206-B_160505A		05/05/16 18:53
Antimony		0.0970	mg/L	0.0010	96	70	130			
Arsenic		0.103	mg/L	0.0010	102	70	130			
Cadmium		0.0982	mg/L	0.0010	98	70	130			
Copper		0.102	mg/L	0.0050	101	70	130			
Lead		0.102	mg/L	0.0010	101	70	130			
Nickel		0.100	mg/L	0.0050	98	70	130			
Selenium		0.102	mg/L	0.0010	102	70	130			
Silver		0.0380	mg/L	0.0010	95	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/11/16

**Project:** 3767-01 WK: 44

**Work Order:** B16050324

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R260565</span>										
<b>Lab ID:</b> B16050328-001BMS	10	Sample Matrix Spike				Run: ICPMS206-B_160505A		05/05/16 18:53		
Thallium		0.101	mg/L	0.00050	101	70	130			
Uranium		0.107	mg/L	0.00030	105	70	130			
<b>Lab ID: B16050328-001BMSD</b> 10 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICPMS206-B_160505A 05/05/16 18:56</span>										
Antimony		0.101	mg/L	0.0010	100	70	130	4.1	20	
Arsenic		0.102	mg/L	0.0010	101	70	130	1.1	20	
Cadmium		0.101	mg/L	0.0010	101	70	130	3.2	20	
Copper		0.0989	mg/L	0.0050	98	70	130	3.0	20	
Lead		0.103	mg/L	0.0010	103	70	130	1.8	20	
Nickel		0.0994	mg/L	0.0050	98	70	130	0.6	20	
Selenium		0.105	mg/L	0.0010	105	70	130	3.0	20	
Silver		0.0391	mg/L	0.0010	98	70	130	2.9	20	
Thallium		0.103	mg/L	0.00050	103	70	130	1.2	20	
Uranium		0.107	mg/L	0.00030	105	70	130	0.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/11/16

**Project:** 3767-01 WK: 44

**Work Order:** B16050324

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160506A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								05/06/16 15:17	
Mercury		0.000126	mg/L	1.0E-05	105	90	110				
<b>Method:</b> E245.1										Batch: 99042	
<b>Lab ID:</b> MB-99042		Method Blank								Run: HGCV203-B_160506A	05/06/16 16:28
Mercury		9E-07	mg/L	1E-06							
<b>Lab ID:</b> LCS-99042		Laboratory Control Sample								Run: HGCV203-B_160506A	05/06/16 16:31
Mercury		0.000122	mg/L	1.0E-05	101	85	115				
<b>Lab ID:</b> B16050459-001BMS		Sample Matrix Spike								Run: HGCV203-B_160506A	05/06/16 16:46
Mercury		0.000130	mg/L	1.0E-05	97	70	130				
<b>Lab ID:</b> B16050459-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160506A	05/06/16 16:49
Mercury		0.000138	mg/L	1.0E-05	103	70	130	6.0	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16050324

Login completed by: Brittaney R. Garza

Date Received: 5/4/2016

Reviewed by: BL2000\lcardreau

Received by: qej

Reviewed Date: 5/5/2016

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	5.8°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

**PLEASE PRINT. Provide as much information as possible.**

Project Name, PWS, Permit, Etc.  
3767-01 WK:44

Sample Origin: NV  
State:  Yes  No

EPA/State Compliance:  Yes  No

Sampler: (Please Print)  
Robert Johnson

Contact Name: Mike Medina  
Phone/Fax: 775-356-1300  
Email: MLI@METTEST.COM

Invoice Contact & Phone: Mr Bob Jacko  
604-628-1162

Quote/Bottle Order:

Shipped by: Robert UPENDA  
Cooler ID(s):

Receipt Temp: 5.8 °C  
On Ice:  Yes  No

Custody Seal:  Intact  Broken  
Signature Match:  Yes  No

Comments: RUSH

Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page

Comments: Please Copy results to: MLI@METTEST.COM

hold remaining preserved samples (frozen) until further notice.

LABORATORY USE ONLY

Received by (print): Signature: Date/Time: 5/3/16 9AM

Received by (print): Signature: Date/Time: 5/11/16 09:15

Received by Laboratory: Signature: Date/Time: 5/11/16 09:15

Sample Disposal: Return to Client: Lab Disposal:

Custody Record MUST be Signed

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.enervlab.com](http://www.enervlab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

June 02, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16051110      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK: 47

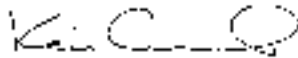
Energy Laboratories Inc Billings MT received the following 2 samples for Tintina Montana Inc on 5/13/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16051110-001	Tailings	05/10/16 9:00	05/13/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved
B16051110-002	Tailings (Saturated)	05/10/16 9:00	05/13/16	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.06.02 10:30:24 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 47  
**Lab ID:** B16051110-001  
**Client Sample ID:** Tailings

**Report Date:** 06/02/16  
**Collection Date:** 05/10/16 09:00  
**Date Received:** 05/13/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	3710	mg/L	D	20		E300.0	05/16/16 21:42 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	05/17/16 14:14 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	17.0	mg/L	D	0.5		E365.1	05/16/16 14:17 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	7.32	mg/L		0.009		E200.8	05/16/16 16:19 / mas
Antimony	0.0894	mg/L		0.0005		E200.8	05/16/16 16:19 / mas
Arsenic	75.5	mg/L	D	0.2		E200.7	05/16/16 14:26 / rlh
Barium	0.033	mg/L		0.003		E200.8	05/16/16 16:19 / mas
Beryllium	ND	mg/L		0.0008		E200.8	05/16/16 16:19 / mas
Cadmium	0.0020	mg/L	D	0.0001		E200.8	05/16/16 16:19 / mas
Calcium	2	mg/L		1		E200.7	05/16/16 14:26 / rlh
Chromium	0.76	mg/L	D	0.02		E200.7	05/16/16 14:26 / rlh
Copper	109	mg/L	D	0.05		E200.7	05/16/16 14:26 / rlh
Iron	1220	mg/L		0.02		E200.7	05/16/16 14:26 / rlh
Lead	0.924	mg/L		0.0003		E200.8	05/16/16 16:19 / mas
Magnesium	ND	mg/L		1		E200.7	05/16/16 14:26 / rlh
Manganese	0.546	mg/L	D	0.006		E200.7	05/16/16 14:26 / rlh
Mercury	5.7E-06	mg/L		5E-06		E245.1	05/17/16 13:58 / ser
Nickel	0.89	mg/L	D	0.03		E200.7	05/16/16 14:26 / rlh
Selenium	0.004	mg/L		0.001		E200.8	05/16/16 16:19 / mas
Silicon	11.7	mg/L	D	0.2		E200.7	05/16/16 14:26 / rlh
Silver	ND	mg/L		0.0002		E200.8	05/18/16 15:58 / mas
Strontium	0.32	mg/L		0.02		E200.7	05/16/16 14:26 / rlh
Thallium	0.677	mg/L	D	0.0003		E200.8	05/16/16 16:19 / mas
Uranium	0.0018	mg/L	D	0.0003		E200.8	05/16/16 16:19 / mas
Zinc	0.94	mg/L	D	0.02		E200.7	05/16/16 14:26 / rlh

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 47  
**Lab ID:** B16051110-002  
**Client Sample ID:** Tailings (Saturated)

**Report Date:** 06/02/16  
**Collection Date:** 05/10/16 09:00  
**Date Received:** 05/13/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	92	mg/L		1		E300.0	05/17/16 12:18 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	05/17/16 14:18 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.009	mg/L	L	0.005		E365.1	05/16/16 14:05 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	0.028	mg/L		0.009		E200.8	05/17/16 18:06 / mas
Antimony	ND	mg/L		0.0005		E200.8	05/16/16 16:22 / mas
Arsenic	0.016	mg/L		0.001		E200.8	05/16/16 16:22 / mas
Barium	0.041	mg/L		0.003		E200.7	05/16/16 14:30 / r/h
Beryllium	ND	mg/L		0.0008		E200.7	05/16/16 14:30 / r/h
Cadmium	0.00005	mg/L		0.00003		E200.8	05/16/16 16:22 / mas
Calcium	15	mg/L		1		E200.7	05/16/16 14:30 / r/h
Chromium	ND	mg/L		0.01		E200.7	05/16/16 14:30 / r/h
Copper	0.196	mg/L		0.002		E200.8	05/16/16 16:22 / mas
Iron	7.59	mg/L		0.02		E200.7	05/16/16 14:30 / r/h
Lead	0.0017	mg/L		0.0003		E200.8	05/16/16 16:22 / mas
Magnesium	7	mg/L		1		E200.7	05/16/16 14:30 / r/h
Manganese	2.77	mg/L		0.005		E200.7	05/16/16 14:30 / r/h
Mercury	ND	mg/L		5E-06		E245.1	05/17/16 14:03 / ser
Nickel	0.880	mg/L	L	0.003		E200.7	05/16/16 14:30 / r/h
Selenium	ND	mg/L		0.001		E200.8	05/16/16 16:22 / mas
Silicon	9.36	mg/L		0.05		E200.7	05/16/16 14:30 / r/h
Silver	ND	mg/L		0.0002		E200.8	05/18/16 16:09 / mas
Strontium	0.67	mg/L		0.02		E200.7	05/16/16 14:30 / r/h
Thallium	0.0053	mg/L		0.0002		E200.8	05/16/16 16:22 / mas
Uranium	ND	mg/L		0.0002		E200.8	05/16/16 16:22 / mas
Zinc	0.022	mg/L		0.008		E200.7	05/16/16 14:30 / r/h

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/23/16

**Project:** 3767-01 WK: 47

**Work Order:** B16051110

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_160517A		
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								05/17/16 11:48
Fluoride		1.00	mg/L	0.10	100	90	110			
<b>Method:</b> A4500-F C										Batch: R261104
<b>Lab ID:</b> MBLK		Method Blank						Run: MAN-TECH_160517A		05/17/16 11:43
Fluoride		0.03	mg/L	0.03						
<b>Lab ID:</b> LFB		Laboratory Fortified Blank						Run: MAN-TECH_160517A		05/17/16 11:46
Fluoride		0.950	mg/L	0.10	92	90	110			
<b>Lab ID:</b> B16051100-003AMS		Sample Matrix Spike						Run: MAN-TECH_160517A		05/17/16 14:03
Fluoride		1.24	mg/L	0.10	101	80	120			
<b>Lab ID:</b> B16051100-003AMSD		Sample Matrix Spike Duplicate						Run: MAN-TECH_160517A		05/17/16 14:06
Fluoride		1.27	mg/L	0.10	104	80	120	2.4	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 05/23/16

Project: 3767-01 WK: 47

Work Order: B16051110

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160516A			
<b>Lab ID: ICV</b>	13 Continuing Calibration Verification Standard								05/16/16 10:10		
Arsenic		2.49	mg/L	0.10	99	95	105				
Barium		2.46	mg/L	0.10	99	95	105				
Beryllium		1.24	mg/L	0.010	99	95	105				
Calcium		24.4	mg/L	1.0	98	95	105				
Chromium		2.41	mg/L	0.050	96	95	105				
Copper		2.43	mg/L	0.010	97	95	105				
Iron		2.40	mg/L	0.020	96	95	105				
Magnesium		24.4	mg/L	1.0	98	95	105				
Manganese		2.44	mg/L	0.010	98	95	105				
Nickel		2.40	mg/L	0.050	96	95	105				
Silicon		5.16	mg/L	0.10	103	95	105				
Strontium		2.56	mg/L	0.10	102	95	105				
Zinc		2.47	mg/L	0.010	99	95	105				
<b>Method: E200.7</b>								Batch: R261008			
<b>Lab ID: MB-6500DIS160516A</b>	13 Method Blank								Run: ICP203-B_160516A 05/16/16 09:33		
Arsenic		ND	mg/L	0.02							
Barium		ND	mg/L	0.0003							
Beryllium		ND	mg/L	0.0002							
Calcium		ND	mg/L	0.02							
Chromium		ND	mg/L	0.003							
Copper		ND	mg/L	0.005							
Iron		0.003	mg/L	0.002							
Magnesium		0.003	mg/L	0.003							
Manganese		ND	mg/L	0.0006							
Nickel		ND	mg/L	0.003							
Silicon		ND	mg/L	0.02							
Strontium		ND	mg/L	0.0002							
Zinc		ND	mg/L	0.002							
<b>Lab ID: LFB-6500DIS160516A</b>	13 Laboratory Fortified Blank								Run: ICP203-B_160516A 05/16/16 09:41		
Arsenic		1.01	mg/L	0.10	101	85	115				
Barium		0.966	mg/L	0.10	97	85	115				
Beryllium		0.498	mg/L	0.010	100	85	115				
Calcium		48.1	mg/L	1.0	96	85	115				
Chromium		0.938	mg/L	0.050	94	85	115				
Copper		0.949	mg/L	0.010	95	85	115				
Iron		4.74	mg/L	0.020	95	85	115				
Magnesium		48.1	mg/L	1.0	96	85	115				
Manganese		4.82	mg/L	0.010	96	85	115				
Nickel		0.943	mg/L	0.050	94	85	115				
Silicon		10.0	mg/L	0.10	100	85	115				
Strontium		1.01	mg/L	0.10	101	85	115				
Zinc		0.976	mg/L	0.010	98	85	115				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 05/23/16

Project: 3767-01 WK: 47

Work Order: B16051110

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R261008</span>										
<b>Lab ID:</b>	<b>B16051048-001BMS2</b>	13	Sample Matrix Spike			Run: ICP203-B_160516A				05/16/16 14:37
Arsenic		1.09	mg/L	0.016	105	70	130			
Barium		1.18	mg/L	0.050	110	70	130			
Beryllium		0.520	mg/L	0.0010	104	70	130			
Calcium		165	mg/L	1.0	114	70	130			
Chromium		1.02	mg/L	0.0050	102	70	130			
Copper		1.07	mg/L	0.0053	107	70	130			
Iron		5.31	mg/L	0.020	106	70	130			
Magnesium		84.3	mg/L	1.0	108	70	130			
Manganese		5.43	mg/L	0.0010	106	70	130			
Nickel		1.01	mg/L	0.0050	100	70	130			
Silicon		24.1	mg/L	0.10	111	70	130			
Strontium		1.70	mg/L	0.010	106	70	130			
Zinc		1.05	mg/L	0.010	105	70	130			
<b>Lab ID:</b>	<b>B16051048-001BMSD</b>	13	Sample Matrix Spike Duplicate			Run: ICP203-B_160516A				05/16/16 14:40
Arsenic		1.09	mg/L	0.016	105	70	130	0.0	20	
Barium		1.16	mg/L	0.050	109	70	130	1.0	20	
Beryllium		0.511	mg/L	0.0010	102	70	130	1.7	20	
Calcium		163	mg/L	1.0	110	70	130	1.1	20	
Chromium		1.00	mg/L	0.0050	100	70	130	1.4	20	
Copper		1.05	mg/L	0.0053	105	70	130	1.4	20	
Iron		5.29	mg/L	0.020	106	70	130	0.5	20	
Magnesium		83.5	mg/L	1.0	107	70	130	0.9	20	
Manganese		5.40	mg/L	0.0010	105	70	130	0.6	20	
Nickel		0.993	mg/L	0.0050	99	70	130	1.6	20	
Silicon		23.9	mg/L	0.10	108	70	130	1.1	20	
Strontium		1.67	mg/L	0.010	103	70	130	1.8	20	
Zinc		1.04	mg/L	0.010	104	70	130	0.9	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/23/16

**Project:** 3767-01 WK: 47

**Work Order:** B16051110

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>						Analytical Run: ICPMS202-B_160518B				
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard									
Silver	0.0259	mg/L	0.0050	104	90	110	05/18/16 13:44			
<b>Method: E200.8</b>						Batch: R261163				
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Silver	0.0175	mg/L	0.0050	87	85	115	Run: ICPMS202-B_160518B 05/18/16 13:50			
<b>Lab ID: LRB</b>	Method Blank									
Silver	ND	mg/L	4E-05	Run: ICPMS202-B_160518B			05/18/16 14:11			
<b>Lab ID: B16051110-001BMS</b>	Sample Matrix Spike									
Silver	0.0836	mg/L	0.0010	84	70	130	Run: ICPMS202-B_160518B 05/18/16 16:01			
<b>Lab ID: B16051110-001BMSD</b>	Sample Matrix Spike Duplicate									
Silver	0.0821	mg/L	0.0010	82	70	130	1.8	20		
<b>Lab ID: B16051231-001AMS</b>	Sample Matrix Spike									
Silver	0.0175	mg/L	0.0010	88	70	130	Run: ICPMS202-B_160518B 05/18/16 16:14			
<b>Lab ID: B16051231-001AMSD</b>	Sample Matrix Spike Duplicate									
Silver	0.0158	mg/L	0.0010	79	70	130	11	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 05/23/16

Project: 3767-01 WK: 47

Work Order: B16051110

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_160516A		
<b>Lab ID: QCS</b>	11 Initial Calibration Verification Standard							05/16/16 14:46		
Aluminum		0.249	mg/L	0.10	100	90	110			
Antimony		0.0514	mg/L	0.050	103	90	110			
Arsenic		0.0490	mg/L	0.0050	98	90	110			
Barium		0.0500	mg/L	0.10	100	90	110			
Beryllium		0.0247	mg/L	0.0010	99	90	110			
Cadmium		0.0251	mg/L	0.0010	101	90	110			
Copper		0.0501	mg/L	0.010	100	90	110			
Lead		0.0490	mg/L	0.010	98	90	110			
Selenium		0.0525	mg/L	0.0050	105	90	110			
Thallium		0.0494	mg/L	0.10	99	90	110			
Uranium		0.0201	mg/L	0.0010	101	90	110			
<hr/>										
<b>Method: E200.8</b>								Batch: R261029		
<b>Lab ID: LFB</b>	11 Laboratory Fortified Blank							Run: ICPMS206-B_160516A 05/16/16 14:55		
Aluminum		0.0466	mg/L	0.10	93	85	115			
Antimony		0.0452	mg/L	0.050	90	85	115			
Arsenic		0.0474	mg/L	0.0050	95	85	115			
Barium		0.0467	mg/L	0.10	93	85	115			
Beryllium		0.0458	mg/L	0.0010	92	85	115			
Cadmium		0.0468	mg/L	0.0010	94	85	115			
Copper		0.0469	mg/L	0.010	94	85	115			
Lead		0.0473	mg/L	0.010	95	85	115			
Selenium		0.0467	mg/L	0.0050	93	85	115			
Thallium		0.0468	mg/L	0.10	94	85	115			
Uranium		0.0483	mg/L	0.0010	97	85	115			
<hr/>										
<b>Lab ID: LRB</b>	11 Method Blank							Run: ICPMS206-B_160516A 05/16/16 15:24		
Aluminum		ND	mg/L	0.0001						
Antimony		ND	mg/L	8E-05						
Arsenic		ND	mg/L	6E-05						
Barium		ND	mg/L	0.0004						
Beryllium		ND	mg/L	1E-05						
Cadmium		ND	mg/L	3E-05						
Copper		ND	mg/L	6E-05						
Lead		ND	mg/L	5E-05						
Selenium		ND	mg/L	0.0001						
Thallium		ND	mg/L	7E-05						
Uranium		ND	mg/L	5E-05						
<hr/>										
<b>Lab ID: B16051110-002BMS</b>	11 Sample Matrix Spike							Run: ICPMS206-B_160516A 05/16/16 16:24		
Aluminum		0.0776	mg/L	0.030	98	70	130			
Antimony		0.0532	mg/L	0.0010	106	70	130			
Arsenic		0.0607	mg/L	0.0010	89	70	130			
Barium		0.0968	mg/L	0.050	118	70	130			
Beryllium		0.0464	mg/L	0.0010	93	70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/23/16

**Project:** 3767-01 WK: 47

**Work Order:** B16051110

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b> <span style="float: right;">Batch: R261029</span>											
<b>Lab ID:</b> B16051110-002BMS	11	Sample Matrix Spike			Run: ICPMS206-B_160516A			05/16/16 16:24			
Cadmium		0.0547	mg/L	0.0010	109	70	130				
Copper		0.224	mg/L	0.0050	57	70	130			S	
Lead		0.0572	mg/L	0.0010	111	70	130				
Selenium		0.0512	mg/L	0.0010	102	70	130				
Thallium		0.0604	mg/L	0.00050	110	70	130				
Uranium		0.0566	mg/L	0.00030	113	70	130				
<b>Lab ID: B16051110-002BMSD</b> 11 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICPMS206-B_160516A 05/16/16 16:27</span>											
Aluminum		0.0763	mg/L	0.030	96	70	130	1.6	20		
Antimony		0.0517	mg/L	0.0010	103	70	130	2.8	20		
Arsenic		0.0558	mg/L	0.0010	80	70	130	8.4	20		
Barium		0.0921	mg/L	0.050	109	70	130	4.9	20		
Beryllium		0.0458	mg/L	0.0010	92	70	130	1.4	20		
Cadmium		0.0517	mg/L	0.0010	103	70	130	5.7	20		
Copper		0.219	mg/L	0.0050	46	70	130	2.5	20	S	
Lead		0.0533	mg/L	0.0010	103	70	130	7.1	20		
Selenium		0.0514	mg/L	0.0010	103	70	130	0.4	20		
Thallium		0.0569	mg/L	0.00050	103	70	130	5.9	20		
Uranium		0.0530	mg/L	0.00030	106	70	130	6.5	20		
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS206-B_160517A</span>											
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								05/17/16 17:34	
Aluminum		0.240	mg/L	0.10	96	90	110				
<b>Method: E200.8</b> <span style="float: right;">Batch: R261083</span>											
<b>Lab ID:</b> LFB		Laboratory Fortified Blank			Run: ICPMS206-B_160517A			05/17/16 12:54			
Aluminum		0.0454	mg/L	0.10	91	85	115				
<b>Lab ID:</b> LRB		Method Blank			Run: ICPMS206-B_160517A			05/17/16 13:19			
Aluminum		ND	mg/L	0.0001							
<b>Lab ID:</b> B16051160-004BMS		Sample Matrix Spike			Run: ICPMS206-B_160517A			05/17/16 18:21			
Aluminum		0.244	mg/L	0.030	96	70	130				
<b>Lab ID:</b> B16051160-004BMSD		Sample Matrix Spike Duplicate			Run: ICPMS206-B_160517A			05/17/16 18:33			
Aluminum		0.241	mg/L	0.030	94	70	130	1.5	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/23/16

**Project:** 3767-01 WK: 47

**Work Order:** B16051110

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E245.1</b> Analytical Run: HGCV203-B_160517A										
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Mercury	0.000199	mg/L	1.0E-05	100	90	110				05/17/16 13:08
<b>Method: E245.1</b> Batch: 99256										
<b>Lab ID: MB-99256</b>	Method Blank									
Mercury	ND	mg/L	1E-06				Run: HGCV203-B_160517A			05/17/16 13:53
<b>Lab ID: LCS-99256</b>	Laboratory Control Sample									
Mercury	0.000207	mg/L	1.0E-05	104	85	115	Run: HGCV203-B_160517A			05/17/16 13:55
<b>Lab ID: B16051110-002BMS</b>	Sample Matrix Spike									
Mercury	0.000215	mg/L	1.0E-05	106	70	130	Run: HGCV203-B_160517A			05/17/16 14:05
<b>Lab ID: B16051110-002BMSD</b>	Sample Matrix Spike Duplicate									
Mercury	0.000207	mg/L	1.0E-05	102	70	130	3.8			05/17/16 14:08

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/23/16

**Project:** 3767-01 WK: 47

**Work Order:** B16051110

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>						Analytical Run: IC METROHM 1_160516A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		8.82	mg/L	1.0	98	90	110			05/16/16 11:48
<b>Method: E300.0</b>						Batch: R261027				
<b>Lab ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.01						Run: IC METROHM 1_160516A 05/16/16 12:02
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		30.1	mg/L	1.0	100	90	110			Run: IC METROHM 1_160516A 05/16/16 12:15
<b>Lab ID: B16051139-001AMS</b>	Sample Matrix Spike									
Sulfate		426	mg/L	1.8	106	90	110			Run: IC METROHM 1_160516A 05/16/16 23:43
<b>Lab ID: B16051139-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		427	mg/L	1.8	107	90	110	0.4	20	Run: IC METROHM 1_160516A 05/16/16 23:56
<b>Method: E300.0</b>						Analytical Run: IC METROHM 2_160517A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		8.97	mg/L	1.0	100	90	110			05/17/16 11:24
<b>Method: E300.0</b>						Batch: R261111				
<b>Lab ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.02						Run: IC METROHM 2_160517A 05/17/16 11:38
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		30.3	mg/L	1.0	101	90	110			Run: IC METROHM 2_160517A 05/17/16 11:51
<b>Lab ID: B16051090-013AMS</b>	Sample Matrix Spike									
Sulfate		34800	mg/L	91	101	90	110			Run: IC METROHM 2_160517A 05/17/16 12:45
<b>Lab ID: B16051090-013AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		34800	mg/L	91	101	90	110	0.0	20	Run: IC METROHM 2_160517A 05/17/16 12:59

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/23/16

**Project:** 3767-01 WK: 47

**Work Order:** B16051110

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_160516A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.523	mg/L	0.0050	105	90	110			05/16/16 11:19
<b>Method: E365.1</b>								Batch: 99237		
<b>Lab ID: MB-99237</b>	Method Blank									
Phosphorus, Total as P		0.004	mg/L	0.002				Run: FIA202-B_160516A		05/16/16 13:40
<b>Lab ID: LCS-99237</b>	Laboratory Control Sample									
Phosphorus, Total as P		0.189	mg/L	0.0050	93	90	110	Run: FIA202-B_160516A		05/16/16 13:42
<b>Lab ID: B16051110-001CMS</b>	Sample Matrix Spike									
Phosphorus, Total Dissolved as P		19.0	mg/L	0.50	100	90	110	Run: FIA202-B_160516A		05/16/16 14:18
<b>Lab ID: B16051110-001CMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P		18.8	mg/L	0.50	90	90	110	Run: FIA202-B_160516A		05/16/16 14:19

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16051110

Login completed by: Brittaney R. Garza

Date Received: 5/13/2016

Reviewed by: BL2000\lcardreau

Received by: jrz

Reviewed Date: 5/16/2016

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 5.9°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: McClelland Lab		Project Name, PWS, Permit, Etc. 3767-01 WK: 47		Sample Origin NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Phone/Fax: 775-356-1300		Email: MLI@METTEST.COM	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko		Purchase Order: 604-628-1162		Quote/Bottle Order:	
Special Report/Formats - ELI must be notified prior to sample submittal for the following: <input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> GSA <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/MWTP    Format: _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC		Number of Containers Air/Water/Soils/Solids Vegetation/Biossay/Other		ANALYSIS REQUESTED <input checked="" type="checkbox"/> SEE ATTACHED		Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page <b>R U S H</b> Comments:	
Shipped by: Robert WPS Cooler ID(s):		Receipt Temp: 5.9 °C On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Custody Seal Intact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Signature Match: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N		Shipped by: Robert WPS Cooler ID(s):	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) 1 Tailings    Collection Date: 5/10/16    Collection Time: 09:00    Matrix: Water 2 Tailings (Saturated)    ↓    ↓    ↓ 3 4 5 6 7 8 9 10		Date/Time: 5/12/16 9AM Signature: Joe Chaney		Date/Time: 5/13/16 0910 Signature: Joe Chaney		Date/Time: 5/13/16 0910 Signature: Joe Chaney	
Relinquished by (print): JOE CHANEY Relinquished by (print):		Received by (print): Received by (print):		Received by Laboratory: JOE CHANEY Date/Time: 5/13/16 0910		Received by Laboratory: JOE CHANEY Date/Time: 5/13/16 0910	
<b>Custody Record MUST be Signed</b>		Sample Disposal:    Return to Client:    Lab Disposal:		Received by Laboratory: JOE CHANEY Date/Time: 5/13/16 0910		Received by Laboratory: JOE CHANEY Date/Time: 5/13/16 0910	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

May 26, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16051430      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK: 48

Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Montana Inc on 5/18/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16051430-001	USZ Comp	05/17/16 9:00	05/18/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Technical Data Reviewer

Digitally signed by  
Jillian B. Miller  
Date: 2016.05.26 16:01:54 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 48  
**Lab ID:** B16051430-001  
**Client Sample ID:** USZ Comp

**Report Date:** 05/26/16  
**Collection Date:** 05/17/16 09:00  
**Date Received:** 05/18/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	2040	mg/L	D	9		E300.0	05/19/16 21:28 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	05/20/16 13:41 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.011	mg/L	L	0.005		E365.1	05/24/16 09:47 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	0.104	mg/L		0.009		E200.8	05/23/16 14:18 / mas
Antimony	ND	mg/L		0.0005		E200.8	05/19/16 16:58 / mas
Arsenic	0.002	mg/L		0.001		E200.8	05/19/16 16:58 / mas
Barium	0.016	mg/L		0.003		E200.8	05/19/16 16:58 / mas
Beryllium	0.0021	mg/L		0.0008		E200.7	05/20/16 12:21 / rlh
Cadmium	0.00142	mg/L	D	0.00005		E200.8	05/19/16 16:58 / mas
Calcium	408	mg/L		1		E200.7	05/20/16 12:21 / rlh
Chromium	ND	mg/L		0.01		E200.8	05/19/16 16:58 / mas
Copper	7.79	mg/L		0.002		E200.8	05/19/16 16:58 / mas
Iron	0.82	mg/L		0.02		E200.7	05/20/16 12:21 / rlh
Lead	0.0313	mg/L		0.0003		E200.8	05/20/16 17:37 / mas
Magnesium	223	mg/L		1		E200.7	05/20/16 12:21 / rlh
Manganese	4.08	mg/L		0.005		E200.8	05/19/16 16:58 / mas
Mercury	ND	mg/L		5E-06		E245.1	05/20/16 13:04 / ser
Nickel	0.203	mg/L		0.002		E200.8	05/19/16 16:58 / mas
Selenium	ND	mg/L		0.001		E200.8	05/19/16 16:58 / mas
Silicon	4.32	mg/L		0.05		E200.7	05/20/16 12:21 / rlh
Silver	ND	mg/L		0.0002		E200.8	05/20/16 17:37 / mas
Strontium	16.8	mg/L		0.02		E200.8	05/19/16 16:58 / mas
Thallium	0.0505	mg/L		0.0002		E200.8	05/23/16 14:18 / mas
Uranium	0.0006	mg/L		0.0002		E200.8	05/20/16 17:37 / mas
Zinc	0.373	mg/L		0.008		E200.8	05/19/16 16:58 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/26/16

**Project:** 3767-01 WK: 48

**Work Order:** B16051430

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b> Analytical Run: MAN-TECH_160520A										
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Fluoride		0.990	mg/L	0.10	99	90	110			05/20/16 12:18
<b>Method: A4500-F C</b> Batch: R261300										
<b>Lab ID: MBLK</b>	Method Blank									
Fluoride		ND	mg/L	0.03						Run: MAN-TECH_160520A 05/20/16 12:13
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Fluoride		0.940	mg/L	0.10	94	90	110			Run: MAN-TECH_160520A 05/20/16 12:15
<b>Lab ID: B16051398-001AMS</b>	Sample Matrix Spike									
Fluoride		1.39	mg/L	0.10	98	80	120			Run: MAN-TECH_160520A 05/20/16 13:23
<b>Lab ID: B16051398-001AMSD</b>	Sample Matrix Spike Duplicate									
Fluoride		1.40	mg/L	0.10	99	80	120	0.7	10	Run: MAN-TECH_160520A 05/20/16 13:26

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/26/16

**Project:** 3767-01 WK: 48

**Work Order:** B16051430

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160520A			
<b>Lab ID: ICV</b>	5	Continuing Calibration Verification Standard								05/20/16 10:07	
Beryllium		1.24	mg/L	0.010	99	95	105				
Calcium		25.1	mg/L	1.0	100	95	105				
Iron		2.56	mg/L	0.020	103	95	105				
Magnesium		24.0	mg/L	1.0	96	95	105				
Silicon		5.09	mg/L	0.10	102	95	105				
<b>Method: E200.7</b>								Batch: R261277			
<b>Lab ID: MB-6500DIS160520A</b>	5	Method Blank						Run: ICP203-B_160520A		05/20/16 10:14	
Beryllium		0.0002	mg/L	0.0002							
Calcium		ND	mg/L	0.02							
Iron		0.005	mg/L	0.002							
Magnesium		ND	mg/L	0.003							
Silicon		ND	mg/L	0.02							
<b>Lab ID: LFB-6500DIS160520A</b>	5	Laboratory Fortified Blank						Run: ICP203-B_160520A		05/20/16 10:21	
Beryllium		0.497	mg/L	0.010	99	85	115				
Calcium		51.0	mg/L	1.0	102	85	115				
Iron		5.20	mg/L	0.020	104	85	115				
Magnesium		48.2	mg/L	1.0	96	85	115				
Silicon		10.1	mg/L	0.10	101	85	115				
<b>Lab ID: B16051430-001BMS2</b>	5	Sample Matrix Spike						Run: ICP203-B_160520A		05/20/16 12:28	
Beryllium		2.16	mg/L	0.0010	86	70	130				
Calcium		639	mg/L	1.0	92	70	130				
Iron		24.6	mg/L	0.020	95	70	130				
Magnesium		455	mg/L	1.0	93	70	130				
Silicon		54.0	mg/L	0.10	99	70	130				
<b>Lab ID: B16051430-001BMSD</b>	5	Sample Matrix Spike Duplicate						Run: ICP203-B_160520A		05/20/16 12:32	
Beryllium		2.22	mg/L	0.0010	89	70	130	2.6	20		
Calcium		652	mg/L	1.0	98	70	130	2.0	20		
Iron		25.5	mg/L	0.020	99	70	130	3.4	20		
Magnesium		464	mg/L	1.0	96	70	130	2.0	20		
Silicon		54.7	mg/L	0.10	101	70	130	1.3	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 05/26/16

Project: 3767-01 WK: 48

Work Order: B16051430

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> Analytical Run: ICPMS202-B_160520A										
<b>Lab ID: QCS</b>	3	Initial Calibration Verification Standard								05/20/16 12:21
Lead		0.0485	mg/L	0.010	97	90	110			
Silver		0.0253	mg/L	0.0050	101	90	110			
Uranium		0.0188	mg/L	0.0010	94	90	110			
<b>Method: E200.8</b> Batch: R261306										
<b>Lab ID: LFB</b>	3	Laboratory Fortified Blank								05/20/16 12:27
Lead		0.0449	mg/L	0.010	90	85	115			
Silver		0.0180	mg/L	0.0050	90	85	115			
Uranium		0.0437	mg/L	0.0010	87	85	115			
<b>Lab ID: LRB</b>	3	Method Blank								05/20/16 12:49
Lead		ND	mg/L	2E-05						
Silver		ND	mg/L	4E-05						
Uranium		ND	mg/L	1E-05						
<b>Lab ID: B16051513-003BMS</b>	3	Sample Matrix Spike								05/20/16 17:48
Lead		0.0511	mg/L	0.0010	102	70	130			
Silver		0.0203	mg/L	0.0010	102	70	130			
Uranium		0.0558	mg/L	0.00030	108	70	130			
<b>Lab ID: B16051513-003BMSD</b>	3	Sample Matrix Spike Duplicate								05/20/16 17:50
Lead		0.0514	mg/L	0.0010	103	70	130	0.5	20	
Silver		0.0207	mg/L	0.0010	104	70	130	2.0	20	
Uranium		0.0549	mg/L	0.00030	106	70	130	1.6	20	
<b>Method: E200.8</b> Analytical Run: ICPMS202-B_160523A										
<b>Lab ID: QCS</b>	2	Initial Calibration Verification Standard								05/23/16 12:30
Aluminum		0.263	mg/L	0.10	105	90	110			
Thallium		0.0469	mg/L	0.10	94	90	110			
<b>Method: E200.8</b> Batch: R261370										
<b>Lab ID: LFB</b>	2	Laboratory Fortified Blank								05/23/16 12:35
Aluminum		0.0505	mg/L	0.10	101	85	115			
Thallium		0.0485	mg/L	0.10	97	85	115			
<b>Lab ID: LRB</b>	2	Method Blank								05/23/16 12:57
Aluminum		ND	mg/L	0.0004						
Thallium		ND	mg/L	1E-05						
<b>Lab ID: B16051430-001BMS</b>	2	Sample Matrix Spike								05/23/16 14:21
Aluminum		0.208	mg/L	0.030	104	70	130			
Thallium		0.164	mg/L	0.00050	113	70	130			
<b>Lab ID: B16051430-001BMSD</b>	2	Sample Matrix Spike Duplicate								05/23/16 14:23
Aluminum		0.209	mg/L	0.030	105	70	130	0.8	20	
Thallium		0.169	mg/L	0.00050	119	70	130	3.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 05/26/16

Project: 3767-01 WK: 48

Work Order: B16051430

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_160519A		
<b>Lab ID: QCS</b>	11 Initial Calibration Verification Standard							05/19/16 11:15		
Antimony		0.0514	mg/L	0.050	103	90	110			
Arsenic		0.0505	mg/L	0.0050	101	90	110			
Barium		0.0494	mg/L	0.10	99	90	110			
Cadmium		0.0250	mg/L	0.0010	100	90	110			
Chromium		0.0496	mg/L	0.010	99	90	110			
Copper		0.0495	mg/L	0.010	99	90	110			
Manganese		0.250	mg/L	0.010	100	90	110			
Nickel		0.0508	mg/L	0.010	102	90	110			
Selenium		0.0482	mg/L	0.0050	96	90	110			
Strontium		0.0500	mg/L	0.10	100	90	110			
Zinc		0.0511	mg/L	0.010	102	90	110			
<hr/>										
<b>Method: E200.8</b>								Batch: R261217		
<b>Lab ID: LFB</b>	11 Laboratory Fortified Blank							Run: ICPMS206-B_160519A 05/19/16 11:31		
Antimony		0.0498	mg/L	0.050	100	85	115			
Arsenic		0.0454	mg/L	0.0050	91	85	115			
Barium		0.0465	mg/L	0.10	93	85	115			
Cadmium		0.0461	mg/L	0.0010	92	85	115			
Chromium		0.0448	mg/L	0.010	90	85	115			
Copper		0.0443	mg/L	0.010	89	85	115			
Manganese		0.0459	mg/L	0.010	92	85	115			
Nickel		0.0448	mg/L	0.010	90	85	115			
Selenium		0.0461	mg/L	0.0050	92	85	115			
Strontium		0.0469	mg/L	0.10	94	85	115			
Zinc		0.0452	mg/L	0.010	90	85	115			
<hr/>										
<b>Lab ID: LRB</b>	11 Method Blank							Run: ICPMS206-B_160519A 05/19/16 11:51		
Antimony		ND	mg/L	8E-05						
Arsenic		ND	mg/L	6E-05						
Barium		ND	mg/L	0.0004						
Cadmium		ND	mg/L	3E-05						
Chromium		ND	mg/L	4E-05						
Copper		ND	mg/L	6E-05						
Manganese		ND	mg/L	4E-05						
Nickel		ND	mg/L	6E-05						
Selenium		ND	mg/L	0.0001						
Strontium		ND	mg/L	1E-05						
Zinc		ND	mg/L	0.0001						
<hr/>										
<b>Lab ID: B16051033-003BMS</b>	11 Sample Matrix Spike							Run: ICPMS206-B_160519A 05/19/16 14:45		
Antimony		0.0529	mg/L	0.0010	105	70	130			
Arsenic		0.0478	mg/L	0.0010	95	70	130			
Barium		0.0733	mg/L	0.050	94	70	130			
Cadmium		0.0528	mg/L	0.0010	92	70	130			
Chromium		0.0477	mg/L	0.0050	95	70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 05/26/16

Project: 3767-01 WK: 48

Work Order: B16051430

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R261217</span>										
<b>Lab ID: B16051033-003BMS</b>	11	Sample Matrix Spike				Run: ICPMS206-B_160519A		05/19/16 14:45		
Copper		0.0466	mg/L	0.0050	93	70	130			
Manganese		3.35	mg/L	0.0010		70	130			A
Nickel		0.0907	mg/L	0.0050	91	70	130			
Selenium		0.0489	mg/L	0.0010	95	70	130			
Strontium		6.28	mg/L	0.010		70	130			A
Zinc		0.203	mg/L	0.010	80	70	130			
<b>Lab ID: B16051033-003BMSD</b>	11	Sample Matrix Spike Duplicate				Run: ICPMS206-B_160519A		05/19/16 14:56		
Antimony		0.0536	mg/L	0.0010	106	70	130	1.3	20	
Arsenic		0.0486	mg/L	0.0010	96	70	130	1.8	20	
Barium		0.0733	mg/L	0.050	95	70	130	0.1	20	
Cadmium		0.0526	mg/L	0.0010	91	70	130	0.4	20	
Chromium		0.0483	mg/L	0.0050	96	70	130	1.1	20	
Copper		0.0467	mg/L	0.0050	93	70	130	0.2	20	
Manganese		3.29	mg/L	0.0010		70	130	1.9	20	A
Nickel		0.0914	mg/L	0.0050	92	70	130	0.8	20	
Selenium		0.0505	mg/L	0.0010	98	70	130	3.1	20	
Strontium		6.25	mg/L	0.010		70	130	0.5	20	A
Zinc		0.198	mg/L	0.010	71	70	130	2.2	20	

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/26/16

**Project:** 3767-01 WK: 48

**Work Order:** B16051430

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160520A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								05/20/16 12:02	
Mercury		0.000202	mg/L	1.0E-05	101	90	110				
<b>Method:</b> E245.1										Batch: 99400	
<b>Lab ID:</b> MB-99400		Method Blank								Run: HGCV203-B_160520A	05/20/16 12:59
Mercury		1E-06	mg/L								
<b>Lab ID:</b> LCS-99400		Laboratory Control Sample								Run: HGCV203-B_160520A	05/20/16 13:02
Mercury		0.000201	mg/L	5.0E-07	100	85	115				
<b>Lab ID:</b> B16051430-001BMS		Sample Matrix Spike								Run: HGCV203-B_160520A	05/20/16 13:07
Mercury		0.000211	mg/L	1.0E-05	104	70	130				
<b>Lab ID:</b> B16051430-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160520A	05/20/16 13:09
Mercury		0.000204	mg/L	1.0E-05	100	70	130	3.4	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/26/16

**Project:** 3767-01 WK: 48

**Work Order:** B16051430

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>						Analytical Run: IC METROHM 2_160519A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		8.85	mg/L	1.0	98	90	110			05/19/16 10:51
<b>Method: E300.0</b>						Batch: R261230				
<b>Lab ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.02						Run: IC METROHM 2_160519A 05/19/16 11:04
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		30.4	mg/L	1.0	101	90	110			Run: IC METROHM 2_160519A 05/19/16 11:18
<b>Lab ID: B16051448-001AMS</b>	Sample Matrix Spike									
Sulfate		3420	mg/L	9.1	100	90	110			Run: IC METROHM 2_160519A 05/19/16 21:01
<b>Lab ID: B16051448-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		3420	mg/L	9.1	100	90	110	0.2	20	Run: IC METROHM 2_160519A 05/19/16 21:15

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 05/26/16

**Project:** 3767-01 WK: 48

**Work Order:** B16051430

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_160524B		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.516	mg/L	0.0050	103	90	110			05/24/16 09:37
<b>Method: E365.1</b>								Batch: 99412		
<b>Lab ID: MB-99412</b>	Method Blank									
Phosphorus, Total as P		0.003	mg/L	0.002				Run: FIA202-B_160524B		05/24/16 09:40
<b>Lab ID: LCS-99412</b>	Laboratory Control Sample									
Phosphorus, Total as P		0.186	mg/L	0.0050	91	90	110	Run: FIA202-B_160524B		05/24/16 09:41
<b>Lab ID: B16051430-001CMS</b>	Sample Matrix Spike									
Phosphorus, Total Dissolved as P		0.194	mg/L	0.0050	91	90	110	Run: FIA202-B_160524B		05/24/16 09:49
<b>Lab ID: B16051430-001CMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P		0.196	mg/L	0.0050	93	90	110	Run: FIA202-B_160524B		05/24/16 09:50

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16051430

Login completed by: Gina McCartney

Date Received: 5/18/2016

Reviewed by: BL2000\tedwards

Received by: shc

Reviewed Date: 5/19/2016

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 5.6°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None





# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: McClelland Lab		Project Name, PWS, Permit, Etc. 3767-01 WK: 48		Sample Origin State: NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Timina Resources 200 Granville St, Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Phone/Fax: 775-356-1300		Email: MLI@METTEST.COM	
Invoice Address: Timina Resources 200 Granville St, Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko		604-628-1162		Purchase Order:	
Special Report/Formats - ELI must be notified prior to sample submittal for the following:		Number of Containers Sample Type: AWS B O Air Water Soils/Solids Vegetation Bioassay Other		ANALYSIS REQUESTED		Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	
<input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: <input type="checkbox"/> Other:		<input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) Format: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		SEE ATTACHED		R U S H Comments: Receipt Temp: 5.6 °C On Ice: <input checked="" type="radio"/> Yes <input type="radio"/> No Custody Seal Intact: <input checked="" type="radio"/> Y <input type="radio"/> N Signature Match: <input checked="" type="radio"/> Y <input type="radio"/> N	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) 1 USZ Comp 2 3 4 5 6 7 8 9 10		Collection Date 5/17/16 Collection Time 09:00 MATRIX Water		Normal Turnaround (TAT) SEE ATTACHED X X X X X X X X X		Shipped by: Robert UPS NDA Cooler ID(s): Please Copy results to: MLI@METTEST.COM hold remaining preserved samples (frozen) until further notice.	
Relinquished by (print): JOE CHANEY 5/17/16 JAC		Signature: 		Received by (print):		Date/Time: 05/18/16 09:15	
Relinquished by (print):		Signature:		Received by (print):		Date/Time:	
Sample Disposal:		Return to Client:		Received by Laboratory: 		Date/Time: 05/18/16 09:15	

**Custody Record MUST be Signed**

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

June 10, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16060096      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:48

Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Montana Inc on 6/1/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16060096-001	LZ FW Comp	05/31/16 9:00	06/01/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Technical Data Reviewer

Digitally signed by  
Jillian B. Miller  
Date: 2016.06.10 14:06:19 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:48  
**Lab ID:** B16060096-001  
**Client Sample ID:** LZ FW Comp

**Report Date:** 06/10/16  
**Collection Date:** 05/31/16 09:00  
**Date Received:** 06/01/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	85	mg/L		1		E300.0	06/06/16 21:17 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	06/08/16 13:43 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.007	mg/L	L	0.005		E365.1	06/06/16 09:08 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	0.017	mg/L		0.009		E200.8	06/02/16 19:01 / rlh
Antimony	0.0014	mg/L		0.0005		E200.8	06/02/16 19:01 / rlh
Arsenic	0.025	mg/L		0.001		E200.8	06/02/16 19:01 / rlh
Barium	0.014	mg/L		0.003		E200.7	06/02/16 18:45 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	06/02/16 18:45 / rlh
Cadmium	ND	mg/L		0.00003		E200.8	06/02/16 19:01 / rlh
Calcium	24	mg/L		1		E200.7	06/02/16 18:45 / rlh
Chromium	ND	mg/L		0.01		E200.7	06/02/16 18:45 / rlh
Copper	ND	mg/L		0.002		E200.8	06/02/16 19:01 / rlh
Iron	ND	mg/L		0.02		E200.7	06/02/16 18:45 / rlh
Lead	0.0017	mg/L		0.0003		E200.8	06/02/16 19:01 / rlh
Magnesium	14	mg/L		1		E200.7	06/02/16 18:45 / rlh
Manganese	ND	mg/L		0.005		E200.7	06/02/16 18:45 / rlh
Mercury	ND	mg/L		5E-06		E245.1	06/07/16 15:18 / ser
Nickel	0.006	mg/L		0.002		E200.8	06/02/16 19:01 / rlh
Selenium	ND	mg/L		0.001		E200.8	06/02/16 19:01 / rlh
Silicon	3.24	mg/L		0.05		E200.7	06/02/16 18:45 / rlh
Silver	ND	mg/L		0.0002		E200.8	06/03/16 18:26 / rlh
Strontium	0.09	mg/L		0.02		E200.7	06/02/16 18:45 / rlh
Thallium	0.0002	mg/L		0.0002		E200.8	06/03/16 18:26 / rlh
Uranium	0.132	mg/L		0.0002		E200.8	06/02/16 19:01 / rlh
Zinc	ND	mg/L		0.008		E200.7	06/02/16 18:45 / rlh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:48

**Report Date:** 06/09/16  
**Work Order:** B16060096

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C									Analytical Run: MAN-TECH_160608A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								06/08/16 13:22
Fluoride	1.01	mg/L	0.10	101	90	110			
<b>Method:</b> A4500-F C									Batch: R262166
<b>Lab ID:</b> MBLK	Method Blank								06/08/16 13:17
Fluoride	0.03	mg/L	0.03						Run: MAN-TECH_160608A
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								06/08/16 13:19
Fluoride	0.960	mg/L	0.10	93	90	110			Run: MAN-TECH_160608A
<b>Lab ID:</b> B16060211-010AMS	Sample Matrix Spike								06/08/16 13:35
Fluoride	1.32	mg/L	0.10	87	80	120			Run: MAN-TECH_160608A
<b>Lab ID:</b> B16060211-010AMSD	Sample Matrix Spike Duplicate								06/08/16 13:37
Fluoride	1.34	mg/L	0.10	89	80	120	1.5	10	Run: MAN-TECH_160608A

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:48

**Report Date:** 06/09/16  
**Work Order:** B16060096

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E300.0	Analytical Run: IC METROHM 1_160606A								
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								06/06/16 10:03
Sulfate	8.84	mg/L	1.0	98	90	110			
<b>Method:</b> E300.0	Batch: R262026								
<b>Lab ID:</b> ICB	Method Blank								06/06/16 10:17
Sulfate	ND	mg/L	0.06						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								06/06/16 10:30
Sulfate	30.4	mg/L	1.0	101	90	110			
<b>Lab ID:</b> B16060103-001AMS	Sample Matrix Spike								06/06/16 22:11
Sulfate	6340	mg/L	37	105	90	110			
<b>Lab ID:</b> B16060103-001AMSD	Sample Matrix Spike Duplicate								06/06/16 22:25
Sulfate	6350	mg/L	37	105	90	110	0.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:48

**Report Date:** 06/09/16  
**Work Order:** B16060096

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E365.1									Analytical Run: FIA202-B_160606A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								06/06/16 08:58
Phosphorus, Total as P	0.529	mg/L	0.0050	106	90	110			
<b>Method:</b> E365.1									Batch: 99753
<b>Lab ID:</b> MB-99753	Method Blank								06/06/16 09:00
Phosphorus, Total as P	0.003	mg/L	0.002				Run: FIA202-B_160606A		
<b>Lab ID:</b> LCS-99753	Laboratory Control Sample								06/06/16 09:01
Phosphorus, Total as P	0.201	mg/L	0.0050	99	90	110	Run: FIA202-B_160606A		
<b>Lab ID:</b> B16060096-001CMS	Sample Matrix Spike								06/06/16 09:09
Phosphorus, Total Dissolved as P	0.212	mg/L	0.0050	103	90	110	Run: FIA202-B_160606A		
<b>Lab ID:</b> B16060096-001CMSD	Sample Matrix Spike Duplicate								06/06/16 09:10
Phosphorus, Total Dissolved as P	0.213	mg/L	0.0050	103	90	110	Run: FIA202-B_160606A		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 06/10/16

Project: 3767-01 WK:48

Work Order: B16060096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160602A		
<b>Lab ID: ICV</b>	10	Continuing Calibration Verification Standard								06/02/16 14:03
Barium		2.49	mg/L	0.10	99	95	105			
Beryllium		1.23	mg/L	0.010	98	95	105			
Calcium		24.8	mg/L	1.0	99	95	105			
Chromium		2.48	mg/L	0.050	99	95	105			
Iron		2.50	mg/L	0.020	100	95	105			
Magnesium		24.7	mg/L	1.0	99	95	105			
Manganese		2.42	mg/L	0.010	97	95	105			
Silicon		4.99	mg/L	0.10	100	95	105			
Strontium		2.47	mg/L	0.10	99	95	105			
Zinc		2.44	mg/L	0.010	98	95	105			
<b>Method: E200.7</b>								Batch: R261855		
<b>Lab ID: MB-6500DIS160602A</b>	10	Method Blank						Run: ICP203-B_160602A		06/02/16 14:10
Barium		ND	mg/L	0.0003						
Beryllium		ND	mg/L	0.0002						
Calcium		ND	mg/L	0.02						
Chromium		ND	mg/L	0.003						
Iron		ND	mg/L	0.002						
Magnesium		0.005	mg/L	0.003						
Manganese		0.0008	mg/L	0.0006						
Silicon		0.03	mg/L	0.02						
Strontium		0.0004	mg/L	0.0002						
Zinc		ND	mg/L	0.002						
<b>Lab ID: LFB-6500DIS160602A</b>	10	Laboratory Fortified Blank						Run: ICP203-B_160602A		06/02/16 14:17
Barium		0.997	mg/L	0.10	100	85	115			
Beryllium		0.497	mg/L	0.010	99	85	115			
Calcium		49.6	mg/L	1.0	99	85	115			
Chromium		0.979	mg/L	0.050	98	85	115			
Iron		5.02	mg/L	0.020	100	85	115			
Magnesium		49.7	mg/L	1.0	99	85	115			
Manganese		4.85	mg/L	0.010	97	85	115			
Silicon		9.83	mg/L	0.10	98	85	115			
Strontium		1.00	mg/L	0.10	100	85	115			
Zinc		0.989	mg/L	0.010	99	85	115			
<b>Lab ID: B16060069-003BMS2</b>	10	Sample Matrix Spike						Run: ICP203-B_160602A		06/02/16 18:21
Barium		1.10	mg/L	0.050	107	70	130			
Beryllium		0.515	mg/L	0.0010	103	70	130			
Calcium		143	mg/L	1.0	108	70	130			
Chromium		1.05	mg/L	0.0050	105	70	130			
Iron		5.33	mg/L	0.020	106	70	130			
Magnesium		75.3	mg/L	1.0	106	70	130			
Manganese		5.29	mg/L	0.0010	105	70	130			
Silicon		17.1	mg/L	0.10	106	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 06/10/16

**Project:** 3767-01 WK:48

**Work Order:** B16060096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R261855</span>										
<b>Lab ID: B16060069-003BMS2</b>	10	Sample Matrix Spike								
						Run: ICP203-B_160602A				06/02/16 18:21
Strontium		1.62	mg/L	0.010	102	70	130			
Zinc		1.06	mg/L	0.010	104	70	130			
<b>Lab ID: B16060069-003BMSD</b> 10 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICP203-B_160602A 06/02/16 18:24</span>										
Barium		1.09	mg/L	0.050	106	70	130	0.9	20	
Beryllium		0.502	mg/L	0.0010	100	70	130	2.6	20	
Calcium		139	mg/L	1.0	99	70	130	3.0	20	
Chromium		1.04	mg/L	0.0050	104	70	130	1.3	20	
Iron		5.26	mg/L	0.020	105	70	130	1.5	20	
Magnesium		73.3	mg/L	1.0	102	70	130	2.6	20	
Manganese		5.20	mg/L	0.0010	103	70	130	1.8	20	
Silicon		16.8	mg/L	0.10	103	70	130	1.8	20	
Strontium		1.58	mg/L	0.010	98	70	130	2.3	20	
Zinc		1.07	mg/L	0.010	105	70	130	1.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 06/10/16

Project: 3767-01 WK:48

Work Order: B16060096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS202-B_160602A	
<b>Lab ID: QCS</b>	9	Initial Calibration Verification Standard							06/02/16 17:39		
Aluminum		0.261	mg/L	0.10	104	90	110				
Antimony		0.0517	mg/L	0.050	103	90	110				
Arsenic		0.0502	mg/L	0.0050	100	90	110				
Cadmium		0.0256	mg/L	0.0010	102	90	110				
Copper		0.0534	mg/L	0.010	107	90	110				
Lead		0.0488	mg/L	0.010	98	90	110				
Nickel		0.0493	mg/L	0.010	99	90	110				
Selenium		0.0492	mg/L	0.0050	98	90	110				
Uranium		0.0186	mg/L	0.0010	93	90	110				
<b>Method: E200.8</b>										Batch: R261861	
<b>Lab ID: LRB</b>	9	Method Blank							Run: ICPMS202-B_160602A 06/02/16 11:53		
Aluminum		ND	mg/L	0.0004							
Antimony		0.0001	mg/L	4E-05							
Arsenic		0.0002	mg/L	9E-05							
Cadmium		2E-05	mg/L	9E-06							
Copper		ND	mg/L	9E-05							
Lead		3E-05	mg/L	2E-05							
Nickel		ND	mg/L	9E-05							
Selenium		ND	mg/L	0.0002							
Uranium		3E-05	mg/L	1E-05							
<b>Lab ID: LFB</b>	9	Laboratory Fortified Blank							Run: ICPMS202-B_160602A 06/02/16 11:56		
Aluminum		0.0487	mg/L	0.10	97	85	115				
Antimony		0.0471	mg/L	0.050	94	85	115				
Arsenic		0.0482	mg/L	0.0050	96	85	115				
Cadmium		0.0478	mg/L	0.0010	96	85	115				
Copper		0.0489	mg/L	0.010	98	85	115				
Lead		0.0474	mg/L	0.010	95	85	115				
Nickel		0.0496	mg/L	0.010	99	85	115				
Selenium		0.0467	mg/L	0.0050	93	85	115				
Uranium		0.0501	mg/L	0.0010	100	85	115				
<b>Lab ID: B16060083-001CMS</b>	9	Sample Matrix Spike							Run: ICPMS202-B_160602A 06/02/16 18:39		
Aluminum		0.530	mg/L	0.030	103	70	130				
Antimony		0.545	mg/L	0.0010	109	70	130				
Arsenic		0.537	mg/L	0.0010	107	70	130				
Cadmium		0.508	mg/L	0.0010	102	70	130				
Copper		0.510	mg/L	0.0050	102	70	130				
Lead		0.500	mg/L	0.0010	100	70	130				
Nickel		0.495	mg/L	0.0050	99	70	130				
Selenium		0.543	mg/L	0.0025	109	70	130				
Uranium		0.540	mg/L	0.00030	108	70	130				

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 06/10/16

**Project:** 3767-01 WK:48

**Work Order:** B16060096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R261861</span>										
<b>Lab ID:</b> B16060083-001CMSD	9	Sample Matrix Spike Duplicate					Run: ICPMS202-B_160602A			06/02/16 18:42
Aluminum		0.526	mg/L	0.030	102	70	130	0.7	20	
Antimony		0.539	mg/L	0.0010	108	70	130	1.0	20	
Arsenic		0.513	mg/L	0.0010	103	70	130	4.5	20	
Cadmium		0.502	mg/L	0.0010	100	70	130	1.0	20	
Copper		0.495	mg/L	0.0050	99	70	130	3.1	20	
Lead		0.490	mg/L	0.0010	98	70	130	2.1	20	
Nickel		0.482	mg/L	0.0050	96	70	130	2.7	20	
Selenium		0.524	mg/L	0.0025	105	70	130	3.6	20	
Uranium		0.523	mg/L	0.00030	105	70	130	3.2	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS203-B_160603A</span>										
<b>Lab ID:</b> QCS	2	Initial Calibration Verification Standard								06/03/16 12:58
Silver		0.0250	mg/L	0.0050	100	90	110			
Thallium		0.0485	mg/L	0.10	97	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R261916</span>										
<b>Lab ID:</b> LRB	2	Method Blank					Run: ICPMS203-B_160603A			06/03/16 13:19
Silver		2E-05	mg/L	2E-05						
Thallium		ND	mg/L	1E-05						
<b>Lab ID:</b> LFB	2	Laboratory Fortified Blank					Run: ICPMS203-B_160603A			06/03/16 13:25
Silver		0.0173	mg/L	0.0050	86	85	115			
Thallium		0.0484	mg/L	0.10	97	85	115			
<b>Lab ID:</b> B16060096-001BMS	2	Sample Matrix Spike					Run: ICPMS203-B_160603A			06/03/16 18:32
Silver		0.0173	mg/L	0.0010	87	70	130			
Thallium		0.0522	mg/L	0.00050	104	70	130			
<b>Lab ID:</b> B16060096-001BMSD	2	Sample Matrix Spike Duplicate					Run: ICPMS203-B_160603A			06/03/16 18:37
Silver		0.0178	mg/L	0.0010	89	70	130	2.5	20	
Thallium		0.0524	mg/L	0.00050	104	70	130	0.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 06/10/16

**Project:** 3767-01 WK:48

**Work Order:** B16060096

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E245.1</b>								Analytical Run: HGCV203-B_160607A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Mercury	0.000199	mg/L	1.0E-05	100	90	110				06/07/16 14:57
<b>Method: E245.1</b>								Batch: 99848		
<b>Lab ID: MB-99848</b>	Method Blank									
Mercury	ND	mg/L	1E-06				Run: HGCV203-B_160607A			06/07/16 15:05
<b>Lab ID: LCS-99848</b>	Laboratory Control Sample									
Mercury	0.000199	mg/L	1.0E-05	100	85	115	Run: HGCV203-B_160607A			06/07/16 15:08
<b>Lab ID: B16060048-001CMS</b>	Sample Matrix Spike									
Mercury	0.000204	mg/L	1.0E-05	102	70	130	Run: HGCV203-B_160607A			06/07/16 15:13
<b>Lab ID: B16060048-001CMSD</b>	Sample Matrix Spike Duplicate									
Mercury	0.000200	mg/L	1.0E-05	100	70	130	2.0			06/07/16 15:16

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16060096

Login completed by: Ladonna Weis

Date Received: 6/1/2016

Reviewed by: BL2000\tedwards

Received by: src

Reviewed Date: 6/3/2016

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 10.2°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

June 22, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16061332      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 Wk:52

Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Montana Inc on 6/15/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16061332-001	USZ Comp	06/14/16 9:00	06/15/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Technical Data Reviewer

Digitally signed by  
Jillian B. Miller  
Date: 2016.06.22 14:57:15 -06:00





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 Wk:52  
**Lab ID:** B16061332-001  
**Client Sample ID:** USZ Comp

**Report Date:** 06/22/16  
**Collection Date:** 06/14/16 09:00  
**Date Received:** 06/15/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	1680	mg/L	D	4		E300.0	06/17/16 11:18 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	06/16/16 14:59 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	06/21/16 09:52 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	0.037	mg/L		0.009		E200.8	06/17/16 16:44 / mas
Antimony	ND	mg/L		0.0005		E200.8	06/17/16 16:44 / mas
Arsenic	0.001	mg/L		0.001		E200.8	06/17/16 16:44 / mas
Barium	0.021	mg/L		0.003		E200.7	06/17/16 13:36 / rlh
Beryllium	ND	mg/L		0.0008		E200.7	06/17/16 13:36 / rlh
Cadmium	0.0004	mg/L	D	0.0002		E200.8	06/17/16 16:44 / mas
Calcium	388	mg/L		1		E200.7	06/17/16 13:36 / rlh
Chromium	ND	mg/L		0.01		E200.8	06/17/16 16:44 / mas
Copper	3.05	mg/L	D	0.03		E200.7	06/17/16 13:36 / rlh
Iron	0.28	mg/L		0.02		E200.7	06/17/16 13:36 / rlh
Lead	0.0166	mg/L		0.0003		E200.8	06/17/16 16:44 / mas
Magnesium	158	mg/L		1		E200.7	06/17/16 13:36 / rlh
Manganese	2.54	mg/L		0.005		E200.7	06/17/16 13:36 / rlh
Mercury	ND	mg/L		5E-06		E245.1	06/16/16 15:45 / ser
Nickel	0.092	mg/L		0.002		E200.8	06/17/16 16:44 / mas
Selenium	ND	mg/L		0.001		E200.8	06/20/16 14:10 / mas
Silicon	1.97	mg/L		0.05		E200.7	06/17/16 13:36 / rlh
Silver	ND	mg/L		0.0002		E200.8	06/17/16 16:44 / mas
Strontium	17.0	mg/L		0.02		E200.7	06/17/16 13:36 / rlh
Thallium	0.0375	mg/L		0.0002		E200.8	06/17/16 16:44 / mas
Uranium	0.0002	mg/L		0.0002		E200.8	06/17/16 16:44 / mas
Zinc	0.143	mg/L		0.008		E200.7	06/17/16 13:36 / rlh

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 Wk:52

**Report Date:** 06/22/16  
**Work Order:** B16061332

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_160616A			
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								06/16/16 14:32	
Fluoride		0.980	mg/L	0.10	98	90	110				
<b>Method:</b> A4500-F C										Batch: R262539	
<b>Lab ID:</b> MBLK		Method Blank								Run: MAN-TECH_160616A	06/16/16 14:27
Fluoride		ND	mg/L	0.03							
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: MAN-TECH_160616A	06/16/16 14:30
Fluoride		0.930	mg/L	0.10	93	90	110				
<b>Lab ID:</b> B16061250-001AMS		Sample Matrix Spike								Run: MAN-TECH_160616A	06/16/16 14:43
Fluoride		1.05	mg/L	0.10	94	80	120				
<b>Lab ID:</b> B16061250-001AMSD		Sample Matrix Spike Duplicate								Run: MAN-TECH_160616A	06/16/16 14:45
Fluoride		1.05	mg/L	0.10	94	80	120	0.0	10		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 Wk:52

**Report Date:** 06/22/16  
**Work Order:** B16061332

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>		Analytical Run: ICP203-B_160617A									
<b>Lab ID: ICV</b>	10	Continuing Calibration Verification Standard							06/17/16 10:18		
Barium		2.45	mg/L	0.10	98	95	105				
Beryllium		1.24	mg/L	0.010	99	95	105				
Calcium		23.7	mg/L	1.0	95	95	105				
Copper		2.46	mg/L	0.010	98	95	105				
Iron		2.37	mg/L	0.020	95	95	105				
Magnesium		24.3	mg/L	1.0	97	95	105				
Manganese		2.43	mg/L	0.010	97	95	105				
Silicon		4.92	mg/L	0.10	98	95	105				
Strontium		2.54	mg/L	0.10	101	95	105				
Zinc		2.44	mg/L	0.010	98	95	105				
<b>Method: E200.7</b>		Batch: R262586									
<b>Lab ID: MB-6500DIS160617A</b>	10	Method Blank							Run: ICP203-B_160617A		06/17/16 10:25
Barium		0.0004	mg/L	0.0003							
Beryllium		ND	mg/L	0.0002							
Calcium		ND	mg/L	0.02							
Copper		ND	mg/L	0.005							
Iron		ND	mg/L	0.002							
Magnesium		ND	mg/L	0.003							
Manganese		0.001	mg/L	0.0006							
Silicon		ND	mg/L	0.02							
Strontium		0.0002	mg/L	0.0002							
Zinc		ND	mg/L	0.002							
<b>Lab ID: LFB-6500DIS160617A</b>	10	Laboratory Fortified Blank							Run: ICP203-B_160617A		06/17/16 10:32
Barium		1.04	mg/L	0.10	104	85	115				
Beryllium		0.525	mg/L	0.010	105	85	115				
Calcium		50.2	mg/L	1.0	100	85	115				
Copper		1.03	mg/L	0.010	103	85	115				
Iron		5.01	mg/L	0.020	100	85	115				
Magnesium		50.9	mg/L	1.0	102	85	115				
Manganese		5.14	mg/L	0.010	103	85	115				
Silicon		10.4	mg/L	0.10	104	85	115				
Strontium		1.06	mg/L	0.10	106	85	115				
Zinc		1.01	mg/L	0.010	101	85	115				
<b>Lab ID: B16061284-001BMS2</b>	10	Sample Matrix Spike							Run: ICP203-B_160617A		06/17/16 13:05
Barium		1.12	mg/L	0.050	104	70	130				
Beryllium		0.507	mg/L	0.0010	101	70	130				
Calcium		97.8	mg/L	1.0	95	70	130				
Copper		1.03	mg/L	0.0053	103	70	130				
Iron		4.97	mg/L	0.020	99	70	130				
Magnesium		59.8	mg/L	1.0	98	70	130				
Manganese		5.14	mg/L	0.0010	103	70	130				
Silicon		15.2	mg/L	0.10	101	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 Wk:52

**Report Date:** 06/22/16  
**Work Order:** B16061332

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Batch: R262586		
<b>Lab ID: B16061284-001BMS2</b>	10	Sample Matrix Spike			Run: ICP203-B_160617A			06/17/16 13:05		
Strontium		1.11	mg/L	0.010	104	70	130			
Zinc		1.03	mg/L	0.010	102	70	130			
<b>Lab ID: B16061284-001BMSD</b>	10	Sample Matrix Spike Duplicate			Run: ICP203-B_160617A			06/17/16 13:15		
Barium		1.15	mg/L	0.050	107	70	130	2.6	20	
Beryllium		0.526	mg/L	0.0010	105	70	130	3.7	20	
Calcium		100	mg/L	1.0	101	70	130	2.6	20	
Copper		1.05	mg/L	0.0053	105	70	130	2.3	20	
Iron		5.12	mg/L	0.020	102	70	130	2.9	20	
Magnesium		61.6	mg/L	1.0	102	70	130	3.1	20	
Manganese		5.26	mg/L	0.0010	105	70	130	2.3	20	
Silicon		15.5	mg/L	0.10	104	70	130	1.9	20	
Strontium		1.15	mg/L	0.010	107	70	130	3.0	20	
Zinc		1.06	mg/L	0.010	106	70	130	3.3	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 Wk:52

**Report Date:** 06/22/16  
**Work Order:** B16061332

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_160617A			
<b>Lab ID: QCS</b>	10	Initial Calibration Verification Standard							06/17/16 12:41		
Aluminum		0.247	mg/L	0.10	99	90	110				
Antimony		0.0487	mg/L	0.050	97	90	110				
Arsenic		0.0510	mg/L	0.0050	102	90	110				
Cadmium		0.0245	mg/L	0.0010	98	90	110				
Chromium		0.0538	mg/L	0.010	108	90	110				
Lead		0.0495	mg/L	0.010	99	90	110				
Nickel		0.0543	mg/L	0.010	109	90	110				
Silver		0.0243	mg/L	0.0050	97	90	110				
Thallium		0.0493	mg/L	0.10	99	90	110				
Uranium		0.0200	mg/L	0.0010	100	90	110				
<b>Method: E200.8</b>								Batch: R262590			
<b>Lab ID: LRB</b>	10	Method Blank							Run: ICPMS206-B_160617A		06/17/16 12:53
Aluminum		ND	mg/L	0.0001							
Antimony		9E-05	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Chromium		ND	mg/L	4E-05							
Lead		ND	mg/L	5E-05							
Nickel		ND	mg/L	6E-05							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	10	Laboratory Fortified Blank							Run: ICPMS206-B_160617A		06/17/16 12:55
Aluminum		0.0534	mg/L	0.10	107	85	115				
Antimony		0.0513	mg/L	0.050	102	85	115				
Arsenic		0.0516	mg/L	0.0050	103	85	115				
Cadmium		0.0539	mg/L	0.0010	108	85	115				
Chromium		0.0533	mg/L	0.010	107	85	115				
Lead		0.0541	mg/L	0.010	108	85	115				
Nickel		0.0522	mg/L	0.010	104	85	115				
Silver		0.0208	mg/L	0.0050	104	85	115				
Thallium		0.0536	mg/L	0.10	107	85	115				
Uranium		0.0546	mg/L	0.0010	109	85	115				
<b>Lab ID: B16061346-005BMS</b>	10	Sample Matrix Spike							Run: ICPMS206-B_160617A		06/17/16 17:09
Aluminum		0.0539	mg/L	0.030	108	70	130				
Antimony		0.0581	mg/L	0.0010	116	70	130				
Arsenic		0.0548	mg/L	0.0010	107	70	130				
Cadmium		0.0538	mg/L	0.0010	108	70	130				
Chromium		0.0566	mg/L	0.0050	110	70	130				
Lead		0.0532	mg/L	0.0010	106	70	130				
Nickel		0.0529	mg/L	0.0050	106	70	130				
Silver		0.0237	mg/L	0.0010	118	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 Wk:52

**Report Date:** 06/22/16  
**Work Order:** B16061332

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R262590</span>										
<b>Lab ID: B16061346-005BMS</b>	10	Sample Matrix Spike					Run: ICPMS206-B_160617A			06/17/16 17:09
Thallium		0.0525	mg/L	0.00050	105	70	130			
Uranium		0.0558	mg/L	0.00030	110	70	130			
<b>Lab ID: B16061346-005BMSD</b> 10 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICPMS206-B_160617A 06/17/16 17:12</span>										
Aluminum		0.0574	mg/L	0.030	115	70	130	6.3	20	
Antimony		0.0601	mg/L	0.0010	120	70	130	3.4	20	
Arsenic		0.0590	mg/L	0.0010	115	70	130	7.4	20	
Cadmium		0.0565	mg/L	0.0010	113	70	130	4.9	20	
Chromium		0.0590	mg/L	0.0050	115	70	130	4.1	20	
Lead		0.0561	mg/L	0.0010	112	70	130	5.3	20	
Nickel		0.0551	mg/L	0.0050	110	70	130	4.0	20	
Silver		0.0217	mg/L	0.0010	109	70	130	8.5	20	
Thallium		0.0561	mg/L	0.00050	112	70	130	6.6	20	
Uranium		0.0587	mg/L	0.00030	115	70	130	5.1	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS206-B_160620A</span>										
<b>Lab ID: QCS</b>		Initial Calibration Verification Standard								06/20/16 11:48
Selenium		0.0507	mg/L	0.0050	101	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R262680</span>										
<b>Lab ID: LRB</b>		Method Blank					Run: ICPMS206-B_160620A			06/20/16 12:00
Selenium		ND	mg/L	0.0001						
<b>Lab ID: LFB</b>		Laboratory Fortified Blank					Run: ICPMS206-B_160620A			06/20/16 12:06
Selenium		0.0521	mg/L	0.0050	104	85	115			
<b>Lab ID: B16061332-001BMS</b>		Sample Matrix Spike					Run: ICPMS206-B_160620A			06/20/16 14:13
Selenium		0.0996	mg/L	0.0010	100	70	130			
<b>Lab ID: B16061332-001BMSD</b>		Sample Matrix Spike Duplicate					Run: ICPMS206-B_160620A			06/20/16 14:16
Selenium		0.101	mg/L	0.0010	101	70	130	1.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 Wk:52

**Report Date:** 06/22/16  
**Work Order:** B16061332

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160616A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								06/16/16 15:15	
Mercury		0.000200	mg/L	1.0E-05	100	90	110				
<b>Method:</b> E245.1										Batch: 100124	
<b>Lab ID:</b> MB-100124		Method Blank								Run: HGCV203-B_160616A	06/16/16 15:24
Mercury		5E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-100124		Laboratory Control Sample								Run: HGCV203-B_160616A	06/16/16 15:26
Mercury		0.000202	mg/L	1.0E-05	99	85	115				
<b>Lab ID:</b> B16061332-001BMS		Sample Matrix Spike								Run: HGCV203-B_160616A	06/16/16 15:47
Mercury		0.000207	mg/L	1.0E-05	101	70	130				
<b>Lab ID:</b> B16061332-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160616A	06/16/16 15:50
Mercury		0.000196	mg/L	1.0E-05	96	70	130	5.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 Wk:52

**Report Date:** 06/22/16  
**Work Order:** B16061332

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E300.0								Analytical Run: IC METROHM 1_160616A			
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								06/16/16 15:32	
Sulfate		8.92	mg/L	1.0	99	90	110				
<b>Method:</b> E300.0								Batch: R262559			
<b>Lab ID:</b> ICB		Method Blank								Run: IC METROHM 1_160616A	06/16/16 15:45
Sulfate		ND	mg/L	0.06							
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: IC METROHM 1_160616A	06/16/16 15:58
Sulfate		31.1	mg/L	1.0	104	90	110				
<b>Lab ID:</b> B16061322-003AMS		Sample Matrix Spike								Run: IC METROHM 1_160616A	06/17/16 09:57
Sulfate		2840	mg/L	9.1	106	90	110				
<b>Lab ID:</b> B16061322-003AMSD		Sample Matrix Spike Duplicate								Run: IC METROHM 1_160616A	06/17/16 10:11
Sulfate		2840	mg/L	9.1	105	90	110	0.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 Wk:52

**Report Date:** 06/22/16  
**Work Order:** B16061332

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_160621A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.538	mg/L	0.0050	108	90	110			06/21/16 09:32
<b>Method: E365.1</b>								Batch: 100187		
<b>Lab ID: MB-100187</b>	Method Blank									
Phosphorus, Total as P		ND	mg/L	0.002						Run: FIA202-B_160621A 06/21/16 09:34
<b>Lab ID: LCS-100187</b>	Laboratory Control Sample									
Phosphorus, Total as P		0.207	mg/L	0.0050	103	90	110			Run: FIA202-B_160621A 06/21/16 09:35
<b>Lab ID: B16061332-001CMS</b>	Sample Matrix Spike									
Phosphorus, Total Dissolved as P		0.185	mg/L	0.0050	93	90	110			Run: FIA202-B_160621A 06/21/16 09:53
<b>Lab ID: B16061332-001CMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P		0.192	mg/L	0.0050	96	90	110			Run: FIA202-B_160621A 06/21/16 09:54

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16061332

Login completed by: Cindy Rohrer

Date Received: 6/15/2016

Reviewed by: BL2000\lcardreau

Received by: mme

Reviewed Date: 6/19/2016

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	10.6°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company Name: McClelland Lab		Project Name, PWS, Permit, Etc. 3767-01 WK: 52		Sample Origin State: NV		EPA/State Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>	
Report Mail Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Contact Name: Mike Medina		Phone/Fax: 775-356-1300		Email: MLI@METTEST.COM	
Invoice Address: Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		Invoice Contact & Phone: Mr Bob Jacko		Purchase Order: 604-628-1162		Quote/Bottle Order:	
Special Report/Formats - ELI must be notified prior to sample submittal for the following:  <input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> GSA <input type="checkbox"/> EDD/EDT (Electronic Data) <input type="checkbox"/> POTW/WWTP      Format: _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC		Number of Containers Sample Type: A W S V B O Vegetation Bioassay Other SEE ATTACHED		ANALYSIS REQUESTED SEE ATTACHED		Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page Comments: R U S H Please Copy results to: MLI@METTEST.COM	
SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) 1 USZ Comp      Collection Date: 6/14/16      Collection Time: 09:00      MATRIX: Water		2 3 4 5 6 7 8 9 10		Shipped by: Robert US NPA Cooler ID(s): Receipt Temp: 10.6 °C On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Signature Match: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N BLD 61332-001		Shipped by: Robert US NPA Cooler ID(s): Receipt Temp: 10.6 °C On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Signature Match: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N BLD 61332-001	
Relinquished by (print): JOE CHANEY Relinquished by (print):		Date/Time: 6/14/16 9A Date/Time:		Received by (print): Received by (print):		Date/Time: Date/Time:	
Signature: Signature:		Signature: Signature:		Signature: Signature:		Signature: Signature:	
Custody Record MUST be Signed		Sample Disposal: Return to Client:		Lab Disposal:		Date/Time: 09:30	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

July 13, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16062414      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:52

Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Montana Inc on 6/29/2016 for analysis.


Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16062414-001	LZ FW Comp	06/28/16 9:00	06/29/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.07.13 10:22:52 -06:00



**CLIENT:** Tintina Montana Inc  
**Project:** 3767-01 WK:52  
**Work Order:** B16062414

**Report Date:** 07/13/16

## **CASE NARRATIVE**

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Tests associated with analyst identified as ELI-H were subcontracted to Energy Laboratories, 3161 East Lyndale Ave, Helena, MT, EPA Number MT00945.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:52  
**Lab ID:** B16062414-001  
**Client Sample ID:** LZ FW Comp

**Report Date:** 07/13/16  
**Collection Date:** 06/28/16 09:00  
**Date Received:** 06/29/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	63	mg/L		1		E300.0	07/01/16 06:58 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	06/30/16 14:19 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.010	mg/L	L	0.005		E365.1	07/06/16 13:39 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	0.019	mg/L		0.009		E200.8	06/30/16 18:51 / rlh
Antimony	0.0011	mg/L		0.0005		E200.8	06/30/16 18:51 / rlh
Arsenic	0.028	mg/L		0.001		E200.8	06/30/16 18:51 / rlh
Barium	0.010	mg/L		0.003		E200.7	06/30/16 17:34 / rlh
Beryllium	ND	mg/L		0.0008		E200.8	06/30/16 18:51 / rlh
Cadmium	ND	mg/L		0.00003		E200.8	06/30/16 18:51 / rlh
Calcium	16	mg/L		1		E200.7	06/30/16 17:34 / rlh
Chromium	ND	mg/L		0.01		E200.7	06/30/16 17:34 / rlh
Copper	ND	mg/L		0.002		E200.8	06/30/16 18:51 / rlh
Iron	ND	mg/L		0.02		E200.7	06/30/16 17:34 / rlh
Lead	ND	mg/L		0.0003		E200.8	06/30/16 18:51 / rlh
Magnesium	10	mg/L		1		E200.7	06/30/16 17:34 / rlh
Manganese	ND	mg/L		0.005		E200.7	06/30/16 17:34 / rlh
Mercury	ND	mg/L		5E-06		E245.1	07/12/16 16:17 / eli-h
Nickel	0.002	mg/L		0.002		E200.8	06/30/16 18:51 / rlh
Selenium	ND	mg/L		0.001		E200.8	06/30/16 18:51 / rlh
Silicon	2.15	mg/L		0.05		E200.7	06/30/16 17:34 / rlh
Silver	ND	mg/L		0.0002		E200.8	07/08/16 15:47 / mas
Strontium	0.06	mg/L		0.02		E200.7	06/30/16 17:34 / rlh
Thallium	ND	mg/L		0.0002		E200.8	06/30/16 18:51 / rlh
Uranium	0.0301	mg/L		0.0002		E200.8	06/30/16 18:51 / rlh
Zinc	ND	mg/L		0.008		E200.7	06/30/16 17:34 / rlh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Helena, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:52

**Report Date:** 07/13/16  
**Work Order:** B16062414

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV202-H_160712C
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								07/12/16 14:38
Mercury	0.000200	mg/L	0.00010	100	90	110			
<b>Lab ID:</b> CCV1	Continuing Calibration Verification Standard								07/12/16 14:40
Mercury	0.000198	mg/L	0.00010	99	90	110			
<b>Method:</b> E245.1									Batch: 33593
<b>Lab ID:</b> MB-33593	Method Blank								Run: HGCV202-H_160712C
Mercury	ND	mg/L	1E-06						07/12/16 16:11
<b>Lab ID:</b> LCS-33593	Laboratory Control Sample								Run: HGCV202-H_160712C
Mercury	0.000155	mg/L	1.0E-05	103	85	115			07/12/16 16:14
<b>Lab ID:</b> H16070062-001DMS	Sample Matrix Spike								Run: HGCV202-H_160712C
Mercury	0.000156	mg/L	1.0E-05	104	70	130			07/12/16 16:28
<b>Lab ID:</b> H16070062-001DMSD	Sample Matrix Spike Duplicate								Run: HGCV202-H_160712C
Mercury	0.000162	mg/L	1.0E-05	108	70	130	3.7	30	07/12/16 16:30

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/08/16

**Project:** 3767-01 WK:52

**Work Order:** B16062414

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_160630A		
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								06/30/16 13:23
Fluoride		0.980	mg/L	0.10	98	90	110			
<b>Method:</b> A4500-F C										Batch: R263213
<b>Lab ID:</b> MBLK		Method Blank						Run: MAN-TECH_160630A		06/30/16 13:15
Fluoride		ND	mg/L	0.03						
<b>Lab ID:</b> LFB		Laboratory Fortified Blank						Run: MAN-TECH_160630A		06/30/16 13:21
Fluoride		0.950	mg/L	0.10	95	90	110			
<b>Lab ID:</b> B16062411-001AMS		Sample Matrix Spike						Run: MAN-TECH_160630A		06/30/16 14:11
Fluoride		1.53	mg/L	0.10	100	80	120			
<b>Lab ID:</b> B16062411-001AMSD		Sample Matrix Spike Duplicate						Run: MAN-TECH_160630A		06/30/16 14:13
Fluoride		1.52	mg/L	0.10	99	80	120	0.7	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/08/16

Project: 3767-01 WK:52

Work Order: B16062414

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>						Analytical Run: IC METROHM 2_160630A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		8.76	mg/L	1.0	97	90	110			06/30/16 15:29
<b>Method: E300.0</b>						Batch: R263240				
<b>Lab ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.02						Run: IC METROHM 2_160630A 06/30/16 15:42
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		30.8	mg/L	1.0	103	90	110			Run: IC METROHM 2_160630A 06/30/16 15:55
<b>Lab ID: B16062409-001AMS</b>	Sample Matrix Spike									
Sulfate		1520	mg/L	3.7	103	90	110			Run: IC METROHM 2_160630A 07/01/16 05:51
<b>Lab ID: B16062409-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		1520	mg/L	3.7	102	90	110	0.1	20	Run: IC METROHM 2_160630A 07/01/16 06:04

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/08/16

**Project:** 3767-01 WK:52

**Work Order:** B16062414

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_160706A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.499	mg/L	0.0050	100	90	110			07/06/16 13:24
<b>Method: E365.1</b>								Batch: 100535		
<b>Lab ID: MB-100535</b>	Method Blank									
Phosphorus, Total as P		0.003	mg/L	0.002				Run: FIA202-B_160706A		07/06/16 13:26
<b>Lab ID: LCS-100535</b>	Laboratory Control Sample									
Phosphorus, Total as P		0.191	mg/L	0.0050	94	90	110	Run: FIA202-B_160706A		07/06/16 13:27
<b>Lab ID: B16062414-001CMS</b>	Sample Matrix Spike									
Phosphorus, Total Dissolved as P		0.193	mg/L	0.0050	91	90	110	Run: FIA202-B_160706A		07/06/16 13:40
<b>Lab ID: B16062414-001CMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P		0.196	mg/L	0.0050	93	90	110	Run: FIA202-B_160706A		07/06/16 13:41

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/11/16

Project: 3767-01 WK:52

Work Order: B16062414

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160630A		
<b>Lab ID: ICV</b>	9	Continuing Calibration Verification Standard								06/30/16 10:32
Barium		2.47	mg/L	0.10	99	95	105			
Calcium		24.9	mg/L	1.0	100	95	105			
Chromium		2.45	mg/L	0.050	98	95	105			
Iron		2.49	mg/L	0.020	100	95	105			
Magnesium		25.1	mg/L	1.0	100	95	105			
Manganese		2.49	mg/L	0.010	100	95	105			
Silicon		5.05	mg/L	0.10	101	95	105			
Strontium		2.63	mg/L	0.10	105	95	105			
Zinc		2.46	mg/L	0.010	98	95	105			
<b>Method: E200.7</b>								Batch: R263196		
<b>Lab ID: MB-6500DIS160630A</b>	9	Method Blank						Run: ICP203-B_160630A		06/30/16 10:39
Barium		ND	mg/L	0.0003						
Calcium		ND	mg/L	0.02						
Chromium		ND	mg/L	0.003						
Iron		ND	mg/L	0.002						
Magnesium		0.004	mg/L	0.003						
Manganese		0.0009	mg/L	0.0006						
Silicon		0.03	mg/L	0.02						
Strontium		0.0003	mg/L	0.0002						
Zinc		ND	mg/L	0.002						
<b>Lab ID: LFB-6500DIS160630A</b>	9	Laboratory Fortified Blank						Run: ICP203-B_160630A		06/30/16 10:46
Barium		0.984	mg/L	0.10	98	85	115			
Calcium		49.6	mg/L	1.0	99	85	115			
Chromium		0.963	mg/L	0.050	96	85	115			
Iron		4.95	mg/L	0.020	99	85	115			
Magnesium		50.1	mg/L	1.0	100	85	115			
Manganese		4.94	mg/L	0.010	99	85	115			
Silicon		10.1	mg/L	0.10	101	85	115			
Strontium		1.05	mg/L	0.10	105	85	115			
Zinc		0.998	mg/L	0.010	100	85	115			
<b>Lab ID: B16062411-001BMS2</b>	9	Sample Matrix Spike						Run: ICP203-B_160630A		06/30/16 17:23
Barium		0.943	mg/L	0.050	92	70	130			
Calcium		109	mg/L	1.0	89	70	130			
Chromium		0.922	mg/L	0.0050	92	70	130			
Iron		4.68	mg/L	0.020	94	70	130			
Magnesium		78.4	mg/L	1.0	93	70	130			
Manganese		4.59	mg/L	0.0010	92	70	130			
Silicon		12.3	mg/L	0.10	91	70	130			
Strontium		1.05	mg/L	0.010	90	70	130			
Zinc		0.935	mg/L	0.010	93	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/11/16

**Project:** 3767-01 WK:52

**Work Order:** B16062414

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>											
Batch: R263196											
<b>Lab ID:</b>	<b>B16062411-001BMSD</b>	9 Sample Matrix Spike Duplicate		Run: ICP203-B_160630A				06/30/16 17:27			
Barium		1.00	mg/L	0.050	98	70	130	6.2	20		
Calcium		114	mg/L	1.0	100	70	130	5.0	20		
Chromium		0.965	mg/L	0.0050	97	70	130	4.5	20		
Iron		4.94	mg/L	0.020	99	70	130	5.4	20		
Magnesium		82.6	mg/L	1.0	102	70	130	5.2	20		
Manganese		4.85	mg/L	0.0010	97	70	130	5.5	20		
Silicon		13.1	mg/L	0.10	98	70	130	5.7	20		
Strontium		1.12	mg/L	0.010	97	70	130	6.1	20		
Zinc		0.990	mg/L	0.010	99	70	130	5.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/11/16

**Project:** 3767-01 WK:52

**Work Order:** B16062414

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_160630A			
<b>Lab ID: QCS</b>	11	Initial Calibration Verification Standard								06/30/16 16:22	
Aluminum		0.247	mg/L	0.10	99	90	110				
Antimony		0.0505	mg/L	0.050	101	90	110				
Arsenic		0.0503	mg/L	0.0050	101	90	110				
Beryllium		0.0244	mg/L	0.0010	98	90	110				
Cadmium		0.0257	mg/L	0.0010	103	90	110				
Copper		0.0511	mg/L	0.010	102	90	110				
Lead		0.0489	mg/L	0.010	98	90	110				
Nickel		0.0511	mg/L	0.010	102	90	110				
Selenium		0.0476	mg/L	0.0050	95	90	110				
Thallium		0.0487	mg/L	0.10	97	90	110				
Uranium		0.0199	mg/L	0.0010	99	90	110				
<b>Method: E200.8</b>								Batch: R263215			
<b>Lab ID: LRB</b>	11	Method Blank								Run: ICPMS206-B_160630A 06/30/16 10:16	
Aluminum		ND	mg/L	0.0001							
Antimony		0.0001	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Beryllium		ND	mg/L	1E-05							
Cadmium		ND	mg/L	3E-05							
Copper		ND	mg/L	6E-05							
Lead		0.0002	mg/L	5E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	11	Laboratory Fortified Blank								Run: ICPMS206-B_160630A 06/30/16 11:30	
Aluminum		0.0521	mg/L	0.10	104	85	115				
Antimony		0.0491	mg/L	0.050	98	85	115				
Arsenic		0.0504	mg/L	0.0050	101	85	115				
Beryllium		0.0495	mg/L	0.0010	99	85	115				
Cadmium		0.0507	mg/L	0.0010	101	85	115				
Copper		0.0498	mg/L	0.010	100	85	115				
Lead		0.0510	mg/L	0.010	102	85	115				
Nickel		0.0494	mg/L	0.010	99	85	115				
Selenium		0.0490	mg/L	0.0050	98	85	115				
Thallium		0.0517	mg/L	0.10	103	85	115				
Uranium		0.0511	mg/L	0.0010	102	85	115				
<b>Lab ID: B16062346-004BMS</b>	11	Sample Matrix Spike								Run: ICPMS206-B_160630A 06/30/16 18:20	
Aluminum		0.106	mg/L	0.030	101	70	130				
Antimony		0.100	mg/L	0.0010	100	70	130				
Arsenic		0.107	mg/L	0.0010	104	70	130				
Beryllium		0.0986	mg/L	0.0010	99	70	130				
Cadmium		0.1000	mg/L	0.0010	100	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/11/16

Project: 3767-01 WK:52

Work Order: B16062414

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b> <span style="float: right;">Batch: R263215</span>											
<b>Lab ID: B16062346-004BMS</b>	11	Sample Matrix Spike			Run: ICPMS206-B_160630A			06/30/16 18:20			
Copper		0.115	mg/L	0.0050	97	70	130				
Lead		0.103	mg/L	0.0010	103	70	130				
Nickel		0.101	mg/L	0.0050	95	70	130				
Selenium		0.106	mg/L	0.0010	104	70	130				
Thallium		0.101	mg/L	0.00050	101	70	130				
Uranium		0.114	mg/L	0.00030	103	70	130				
<b>Lab ID: B16062346-004BMSD</b>	11	Sample Matrix Spike Duplicate			Run: ICPMS206-B_160630A			06/30/16 18:23			
Aluminum		0.107	mg/L	0.030	102	70	130	1.3	20		
Antimony		0.103	mg/L	0.0010	103	70	130	3.1	20		
Arsenic		0.108	mg/L	0.0010	105	70	130	0.8	20		
Beryllium		0.0991	mg/L	0.0010	99	70	130	0.5	20		
Cadmium		0.101	mg/L	0.0010	101	70	130	0.9	20		
Copper		0.115	mg/L	0.0050	98	70	130	0.1	20		
Lead		0.104	mg/L	0.0010	104	70	130	1.0	20		
Nickel		0.102	mg/L	0.0050	96	70	130	1.1	20		
Selenium		0.107	mg/L	0.0010	104	70	130	0.7	20		
Thallium		0.103	mg/L	0.00050	103	70	130	1.7	20		
Uranium		0.116	mg/L	0.00030	106	70	130	2.2	20		
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS206-B_160708A</span>											
<b>Lab ID: QCS</b>		Initial Calibration Verification Standard								07/08/16 14:57	
Silver		0.0257	mg/L	0.0050	103	90	110				
<b>Method: E200.8</b> <span style="float: right;">Batch: R263533</span>											
<b>Lab ID: LRB</b>		Method Blank			Run: ICPMS206-B_160708A			07/08/16 11:25			
Silver		0.0004	mg/L	2E-05							
<b>Lab ID: LFB</b>		Laboratory Fortified Blank			Run: ICPMS206-B_160708A			07/08/16 11:28			
Silver		0.0189	mg/L	0.0050	93	85	115				
<b>Lab ID: B16070275-001BMS</b>		Sample Matrix Spike			Run: ICPMS206-B_160708A			07/08/16 12:24			
Silver		0.0218	mg/L	0.0010	109	70	130				
<b>Lab ID: B16070275-001BMSD</b>		Sample Matrix Spike Duplicate			Run: ICPMS206-B_160708A			07/08/16 12:27			
Silver		0.0192	mg/L	0.0010	95	70	130	13	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16062414

Login completed by: Cindy Rohrer

Date Received: 6/29/2016

Reviewed by: BL2000\lcardreau

Received by: dlf

Reviewed Date: 7/2/2016

Carrier name: Return-UPS NDA N/C

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	1.6°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None





# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

Company: **McClelland Lab**

Report Mail Address: **Tintina Resources  
200 Granville St. Suite 2560  
Vancouver, BC V6C 1S4 Canada**

Invoice Address: **Tintina Resources  
200 Granville St. Suite 2560  
Vancouver, BC V6C 1S4 Canada**

Special Report/Formats - ELI must be notified prior to sample submittal for the following:

DW  A2LA  
 GSA  EDD/EDT (Electronic Data)  
 POTW/MWTP **Format:**  
 State:  LEVEL IV  
 Other:  NELAC

Project Name: **3767-01 WK:52**

Contact Name: **Mike Medina** Phone/Fax: **775-356-1300**

Sample Origin: **NV** State: **NV**

Email: **MLI@METTEST.COM**

Shipped by: **Robert UPS NDA**

Shipped by: **Robert UPS NDA**

Receipt Temp: **1.6 °C**

On Ice:  Yes  No **C**

Custody Seal:  Y  N  
 Intact:  Y  N  
 Signature Match:  Y  N

Shipped by: **Robert UPS NDA**

Cooler ID(s): **10062414-005**

EPA/State Compliance: Yes  No

Sampler: (Please Print) **Robert Johnson**

Quote/Bottle Order: **Robert Johnson**

Purchase Order: **604-628-1162**

Contact ELI prior to **RUSH** sample submittal for charges and scheduling - See instruction Page

Comments: **SEE ATTACHED**

Normal Turnaround (TAT)

Please Copy results to: **MLI@METTEST.COM**

hold remaining preserved samples (frozen) until further notice.

LABORATORY USE ONLY

Number of Containers	Sample Type: AWS VB O	Vegetation	Boassay	Other	MATRIX	Collection Date	Collection Time
<input checked="" type="checkbox"/>	Water				Water	6/28/16	09:00

Received by Laboratory: **Joe Chaney** Date/Time: **6/29/16 9AM**

Signature: *Joe Chaney*

Received by Laboratory: **W/29/16 0915** Date/Time: **6/29/16 0915**

Signature: *W/29/16 0915*

Sample Disposal: **Return to Client:** Lab Disposal:

**Custody Record MUST be Signed**

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

July 21, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16070910      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:56

Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Montana Inc on 7/13/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16070910-001	USZ Comp	07/12/16 9:00	07/13/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Technical Data Reviewer

Digitally signed by  
Jillian B. Miller  
Date: 2016.07.21 11:47:21 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:56  
**Lab ID:** B16070910-001  
**Client Sample ID:** USZ Comp

**Report Date:** 07/21/16  
**Collection Date:** 07/12/16 09:00  
**Date Received:** 07/13/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	1500	mg/L	D	4		E300.0	07/18/16 22:25 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	07/15/16 13:45 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	07/15/16 15:52 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	07/14/16 16:30 / mas
Antimony	ND	mg/L		0.0005		E200.8	07/14/16 16:30 / mas
Arsenic	0.001	mg/L		0.001		E200.8	07/14/16 16:30 / mas
Barium	0.018	mg/L		0.003		E200.8	07/14/16 16:30 / mas
Beryllium	ND	mg/L		0.0008		E200.8	07/14/16 16:30 / mas
Cadmium	0.00031	mg/L		0.00003		E200.8	07/14/16 16:30 / mas
Calcium	398	mg/L		1		E200.7	07/15/16 11:58 / mas
Chromium	ND	mg/L		0.01		E200.8	07/14/16 16:30 / mas
Copper	0.359	mg/L		0.002		E200.8	07/14/16 16:30 / mas
Iron	ND	mg/L		0.02		E200.7	07/15/16 11:58 / mas
Lead	0.0059	mg/L		0.0003		E200.8	07/14/16 16:30 / mas
Magnesium	137	mg/L		1		E200.7	07/15/16 11:58 / mas
Manganese	1.49	mg/L		0.005		E200.8	07/14/16 16:30 / mas
Mercury	0.0000261	mg/L		5E-06		E245.1	07/20/16 15:29 / ser
Nickel	0.047	mg/L		0.002		E200.8	07/14/16 16:30 / mas
Selenium	0.002	mg/L		0.001		E200.8	07/14/16 16:30 / mas
Silicon	1.3	mg/L	D	0.1		E200.7	07/15/16 11:58 / mas
Silver	ND	mg/L		0.0002		E200.8	07/14/16 16:30 / mas
Strontium	15.3	mg/L		0.02		E200.8	07/14/16 16:30 / mas
Thallium	0.0251	mg/L		0.0002		E200.8	07/14/16 16:30 / mas
Uranium	ND	mg/L		0.0002		E200.8	07/14/16 16:30 / mas
Zinc	0.059	mg/L		0.008		E200.8	07/14/16 16:30 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/21/16

**Project:** 3767-01 WK:56

**Work Order:** B16070910

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: A4500-F C</b>								Analytical Run: MAN-TECH_160715A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Fluoride		0.990	mg/L	0.10	99	90	110			07/15/16 12:53
<b>Method: A4500-F C</b>								Batch: R263899		
<b>Lab ID: MBLK</b>	Method Blank									
Fluoride		ND	mg/L	0.03						Run: MAN-TECH_160715A 07/15/16 12:48
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Fluoride		0.960	mg/L	0.10	96	90	110			Run: MAN-TECH_160715A 07/15/16 12:51
<b>Lab ID: B16070587-004AMS</b>	Sample Matrix Spike									
Fluoride		1.93	mg/L	0.10	95	80	120			Run: MAN-TECH_160715A 07/15/16 12:59
<b>Lab ID: B16070587-004AMSD</b>	Sample Matrix Spike Duplicate									
Fluoride		1.95	mg/L	0.10	97	80	120	1.0	10	Run: MAN-TECH_160715A 07/15/16 13:01

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/21/16

Project: 3767-01 WK:56

Work Order: B16070910

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160715A			
<b>Lab ID: ICV</b>	4	Continuing Calibration Verification Standard									07/15/16 10:44
Calcium		24.5	mg/L	1.0	98	95	105				
Iron		2.46	mg/L	0.020	98	95	105				
Magnesium		24.9	mg/L	1.0	100	95	105				
Silicon		5.02	mg/L	0.10	100	95	105				
<b>Method: E200.7</b>								Batch: R263870			
<b>Lab ID: MB-6500DIS160715A</b>	4	Method Blank						Run: ICP203-B_160715A			07/15/16 10:51
Calcium		ND	mg/L	0.06							
Iron		ND	mg/L	0.002							
Magnesium		ND	mg/L	0.002							
Silicon		ND	mg/L	0.02							
<b>Lab ID: LFB-6500DIS160715A</b>	4	Laboratory Fortified Blank						Run: ICP203-B_160715A			07/15/16 10:58
Calcium		48.8	mg/L	1.0	98	85	115				
Iron		4.85	mg/L	0.020	97	85	115				
Magnesium		48.8	mg/L	1.0	98	85	115				
Silicon		9.21	mg/L	0.10	92	85	115				
<b>Lab ID: B16070587-030AMS2</b>	4	Sample Matrix Spike						Run: ICP203-B_160715A			07/15/16 11:41
Calcium		50.4	mg/L	1.0	101	70	130				
Iron		5.01	mg/L	0.020	100	70	130				
Magnesium		50.4	mg/L	1.0	101	70	130				
Silicon		68.7	mg/L	0.10		70	130			A	
<b>Lab ID: B16070587-030AMSD</b>	4	Sample Matrix Spike Duplicate						Run: ICP203-B_160715A			07/15/16 11:44
Calcium		50.8	mg/L	1.0	102	70	130	0.8	20		
Iron		5.02	mg/L	0.020	100	70	130	0.3	20		
Magnesium		50.5	mg/L	1.0	101	70	130	0.3	20		
Silicon		68.0	mg/L	0.10		70	130	1.1	20	A	

### Qualifiers:

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/21/16

Project: 3767-01 WK:56

Work Order: B16070910

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS202-B_160714A	
<b>Lab ID: QCS</b>	17	Initial Calibration Verification Standard							07/14/16 14:55		
Aluminum		0.243	mg/L	0.10	97	90	110				
Antimony		0.0505	mg/L	0.050	101	90	110				
Arsenic		0.0465	mg/L	0.0050	93	90	110				
Barium		0.0493	mg/L	0.10	99	90	110				
Beryllium		0.0238	mg/L	0.0010	95	90	110				
Cadmium		0.0257	mg/L	0.0010	103	90	110				
Chromium		0.0504	mg/L	0.010	101	90	110				
Copper		0.0519	mg/L	0.010	104	90	110				
Lead		0.0506	mg/L	0.010	101	90	110				
Manganese		0.253	mg/L	0.010	101	90	110				
Nickel		0.0494	mg/L	0.010	99	90	110				
Selenium		0.0510	mg/L	0.0050	102	90	110				
Silver		0.0260	mg/L	0.0050	104	90	110				
Strontium		0.0512	mg/L	0.10	102	90	110				
Thallium		0.0503	mg/L	0.10	101	90	110				
Uranium		0.0204	mg/L	0.0010	102	90	110				
Zinc		0.0468	mg/L	0.010	94	90	110				

<b>Method: E200.8</b>										Batch: R263812	
<b>Lab ID: LRB</b>	17	Method Blank							Run: ICPMS202-B_160714A		07/14/16 11:52
Aluminum		ND	mg/L	0.0004							
Antimony		ND	mg/L	4E-05							
Arsenic		ND	mg/L	9E-05							
Barium		ND	mg/L	0.0003							
Beryllium		0.00010	mg/L	5E-05							
Cadmium		1E-05	mg/L	9E-06							
Chromium		0.0009	mg/L	8E-05							
Copper		ND	mg/L	9E-05							
Lead		2E-05	mg/L	2E-05							
Manganese		ND	mg/L	6E-05							
Nickel		0.001	mg/L	9E-05							
Selenium		ND	mg/L	0.0002							
Silver		ND	mg/L	4E-05							
Strontium		ND	mg/L	0.0001							
Thallium		0.0002	mg/L	1E-05							
Uranium		6E-05	mg/L	1E-05							
Zinc		ND	mg/L	0.0002							

<b>Lab ID: LFB</b>	17	Laboratory Fortified Blank							Run: ICPMS202-B_160714A		07/14/16 12:33
Aluminum		0.0508	mg/L	0.10	102	85	115				
Antimony		0.0478	mg/L	0.050	96	85	115				
Arsenic		0.0449	mg/L	0.0050	90	85	115				
Barium		0.0467	mg/L	0.10	93	85	115				
Beryllium		0.0456	mg/L	0.0010	91	85	115				

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 07/21/16

Project: 3767-01 WK:56

Work Order: B16070910

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Batch: R263812	
<b>Lab ID: LFB</b>	17 Laboratory Fortified Blank				Run: ICPMS202-B_160714A				07/14/16 12:33		
Cadmium		0.0510	mg/L	0.0010	102	85	115				
Chromium		0.0497	mg/L	0.010	98	85	115				
Copper		0.0515	mg/L	0.010	103	85	115				
Lead		0.0489	mg/L	0.010	98	85	115				
Manganese		0.0509	mg/L	0.010	102	85	115				
Nickel		0.0522	mg/L	0.010	102	85	115				
Selenium		0.0503	mg/L	0.0050	101	85	115				
Silver		0.0200	mg/L	0.0050	100	85	115				
Strontium		0.0490	mg/L	0.10	98	85	115				
Thallium		0.0492	mg/L	0.10	98	85	115				
Uranium		0.0466	mg/L	0.0010	93	85	115				
Zinc		0.0476	mg/L	0.010	95	85	115				
<b>Lab ID: B16070793-001AMS</b>	17 Sample Matrix Spike				Run: ICPMS202-B_160714A				07/14/16 16:36		
Aluminum		0.0574	mg/L	0.030	115	70	130				
Antimony		0.0601	mg/L	0.0010	120	70	130				
Arsenic		0.0565	mg/L	0.0010	111	70	130				
Barium		0.146	mg/L	0.050	137	70	130			S	
Beryllium		0.0547	mg/L	0.0010	109	70	130				
Cadmium		0.0559	mg/L	0.0010	112	70	130				
Chromium		0.0658	mg/L	0.0050	111	70	130				
Copper		0.0736	mg/L	0.0050	130	70	130				
Lead		0.0523	mg/L	0.0010	104	70	130				
Manganese		0.0563	mg/L	0.0010	112	70	130				
Nickel		0.0546	mg/L	0.0050	108	70	130				
Selenium		0.0658	mg/L	0.0010	125	70	130				
Silver		0.0143	mg/L	0.0010	72	70	130				
Strontium		0.393	mg/L	0.010		70	130			A	
Thallium		0.0549	mg/L	0.00050	110	70	130				
Uranium		0.0679	mg/L	0.00030	120	70	130				
Zinc		0.0571	mg/L	0.010	110	70	130				
<b>Lab ID: B16070793-001AMSD</b>	17 Sample Matrix Spike Duplicate				Run: ICPMS202-B_160714A				07/14/16 16:47		
Aluminum		0.0527	mg/L	0.030	105	70	130	8.5	20		
Antimony		0.0563	mg/L	0.0010	112	70	130	6.4	20		
Arsenic		0.0552	mg/L	0.0010	108	70	130	2.3	20		
Barium		0.142	mg/L	0.050	129	70	130	2.5	20		
Beryllium		0.0527	mg/L	0.0010	105	70	130	3.8	20		
Cadmium		0.0496	mg/L	0.0010	99	70	130	12	20		
Chromium		0.0630	mg/L	0.0050	106	70	130	4.4	20		
Copper		0.0747	mg/L	0.0050	132	70	130	1.4	20	S	
Lead		0.0506	mg/L	0.0010	101	70	130	3.3	20		
Manganese		0.0557	mg/L	0.0010	111	70	130	1.2	20		
Nickel		0.0527	mg/L	0.0050	104	70	130	3.4	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/21/16

**Project:** 3767-01 WK:56

**Work Order:** B16070910

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Batch: R263812			
<b>Lab ID: B16070793-001AMSD</b>				17 Sample Matrix Spike Duplicate				Run: ICPMS202-B_160714A		07/14/16 16:47	
Selenium		0.0648	mg/L	0.0010	123	70	130	1.4	20		
Silver		0.0157	mg/L	0.0010	78	70	130	9.2	20		
Strontium		0.396	mg/L	0.010		70	130	0.8	20	A	
Thallium		0.0530	mg/L	0.00050	106	70	130	3.5	20		
Uranium		0.0665	mg/L	0.00030	117	70	130	2.2	20		
Zinc		0.0555	mg/L	0.010	107	70	130	2.9	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/21/16

**Project:** 3767-01 WK:56

**Work Order:** B16070910

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160720A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								07/20/16 15:07	
Mercury		0.000205	mg/L	1.0E-05	103	90	110				
<b>Method:</b> E245.1										Batch: 101008	
<b>Lab ID:</b> MB-101008		Method Blank								Run: HGCV203-B_160720A	07/20/16 15:16
Mercury		4E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-101008		Laboratory Control Sample								Run: HGCV203-B_160720A	07/20/16 15:18
Mercury		0.000202	mg/L	1.0E-05	99	85	115				
<b>Lab ID:</b> B16070910-001BMS		Sample Matrix Spike								Run: HGCV203-B_160720A	07/20/16 15:31
Mercury		0.000225	mg/L	1.0E-05	99	70	130				
<b>Lab ID:</b> B16070910-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160720A	07/20/16 15:34
Mercury		0.000244	mg/L	1.0E-05	109	70	130	8.1	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/21/16

**Project:** 3767-01 WK:56

**Work Order:** B16070910

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>						Analytical Run: IC METROHM 2_160718A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate	8.88	mg/L	1.0	99	90	110				07/18/16 13:25
<b>Method: E300.0</b>						Batch: R263986				
<b>Lab ID: ICB</b>	Method Blank									
Sulfate	ND	mg/L	0.02				Run: IC METROHM 2_160718A			07/18/16 13:39
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate	30.5	mg/L	1.0	102	90	110	Run: IC METROHM 2_160718A			07/18/16 13:52
<b>Lab ID: B16070960-005AMS</b>	Sample Matrix Spike									
Sulfate	560	mg/L	1.8	102	90	110	Run: IC METROHM 2_160718A			07/18/16 23:45
<b>Lab ID: B16070960-005AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate	559	mg/L	1.8	102	90	110	0.2	20	Run: IC METROHM 2_160718A	07/18/16 23:59

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 07/21/16

**Project:** 3767-01 WK:56

**Work Order:** B16070910

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_160715A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.499	mg/L	0.0050	100	90	110			07/15/16 14:20
<b>Method: E365.1</b>								Batch: 100897		
<b>Lab ID: MB-100897</b>	Method Blank									
Phosphorus, Total as P		0.003	mg/L	0.002				Run: FIA202-B_160715A		07/15/16 15:42
<b>Lab ID: LCS-100897</b>	Laboratory Control Sample									
Phosphorus, Total as P		0.191	mg/L	0.0050	94	90	110	Run: FIA202-B_160715A		07/15/16 15:43
<b>Lab ID: B16070910-001CMS</b>	Sample Matrix Spike									
Phosphorus, Total Dissolved as P		0.200	mg/L	0.0050	100	90	110	Run: FIA202-B_160715A		07/15/16 15:53
<b>Lab ID: B16070910-001CMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P		0.197	mg/L	0.0050	99	90	110	Run: FIA202-B_160715A		07/15/16 15:54

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16070910

Login completed by: Leslie S. Cadreau

Date Received: 7/13/2016

Reviewed by: BL2000\tedwards

Received by: Isc

Reviewed Date: 7/15/2016

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 2.6°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab		<b>Project Name, PWS, Permit, Etc.</b> 3767-01 WK: 56		<b>Sample Origin</b> State: NV		<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Report Mail Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Contact Name:</b> Mike Medina		<b>Email:</b> MLI@METTEST.COM		<b>Sampler: (Please Print)</b> Robert Johnson	
<b>Invoice Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko 604-628-1162		<b>Purchase Order:</b>		<b>Quote/Bottle Order:</b>	
<b>Special Report/Formats - ELI must be notified prior to sample submittal for the following:</b> <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: <input type="checkbox"/> Other:		<input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT (Electronic Data) <b>Format:</b> <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		<b>ANALYSIS REQUESTED</b>		<b>Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page</b>	
<b>Number of Containers</b> Air Water Soils/Solids Vegetation Bioassay Other		<b>MATRIX</b> Water		<b>Comments:</b> R U S H 316670910 Please Copy results to: MLI@METTEST.COM		<b>Shipped by:</b> Robert Johnson <b>Cooler ID(s):</b> 2-4 °C On Ice: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Custody Seal Intact: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Signature Match: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
<b>SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)</b> 1 USZ Comp 7/12/16 09:00		SEE ATTACHED		SEE ATTACHED		SEE ATTACHED	
2 3 4 5 6 7 8 9 10						hold remaining preserved samples (frozen) until further notice.	
<b>Relinquished by (print):</b> JOE CHANEY		<b>Date/Time:</b> 7/12/16 7AM		<b>Received by (print):</b> [Signature]		<b>Date/Time:</b>	
<b>Relinquished by (print):</b>		<b>Date/Time:</b>		<b>Received by (print):</b>		<b>Date/Time:</b>	
<b>Signature Disposal:</b>		<b>Return to Client:</b>		<b>Signature:</b>		<b>Date/Time:</b>	
<b>Signature Disposal:</b>		<b>Return to Client:</b>		<b>Signature:</b>		<b>Date/Time:</b>	
<b>Signature Disposal:</b>		<b>Return to Client:</b>		<b>Signature:</b>		<b>Date/Time:</b>	

**Custody Record MUST be Signed**

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

August 03, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16072122      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK:56

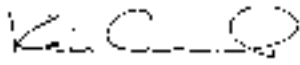
Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Montana Inc on 7/27/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16072122-001	LZ FW Comp	07/26/16 9:00	07/27/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:   
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.08.03 13:25:27 -06:00





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK:56  
**Lab ID:** B16072122-001  
**Client Sample ID:** LZ FW Comp

**Report Date:** 08/03/16  
**Collection Date:** 07/26/16 09:00  
**Date Received:** 07/27/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	68	mg/L		1		E300.0	07/29/16 01:50 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	07/28/16 15:38 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.008	mg/L	L	0.005		E365.1	08/01/16 15:40 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	0.012	mg/L		0.009		E200.7	07/29/16 10:47 / jh
Antimony	0.0011	mg/L		0.0005		E200.8	07/29/16 18:04 / mas
Arsenic	0.029	mg/L		0.001		E200.8	07/29/16 18:04 / mas
Barium	0.012	mg/L		0.003		E200.7	07/29/16 10:47 / jh
Beryllium	ND	mg/L		0.0008		E200.7	07/29/16 10:47 / jh
Cadmium	ND	mg/L		0.00003		E200.8	07/29/16 18:04 / mas
Calcium	17	mg/L		1		E200.7	07/29/16 10:47 / jh
Chromium	ND	mg/L		0.01		E200.7	07/29/16 10:47 / jh
Copper	ND	mg/L		0.002		E200.8	07/29/16 18:04 / mas
Iron	ND	mg/L		0.02		E200.7	07/29/16 10:47 / jh
Lead	0.0020	mg/L		0.0003		E200.8	07/29/16 18:04 / mas
Magnesium	10	mg/L		1		E200.7	07/29/16 10:47 / jh
Manganese	ND	mg/L		0.005		E200.7	07/29/16 10:47 / jh
Mercury	ND	mg/L		5E-06		E245.1	07/28/16 16:43 / ser
Nickel	0.002	mg/L		0.002		E200.8	07/29/16 18:04 / mas
Selenium	ND	mg/L		0.001		E200.8	07/29/16 18:04 / mas
Silicon	2.00	mg/L		0.05		E200.7	07/29/16 10:47 / jh
Silver	ND	mg/L		0.0002		E200.8	07/29/16 18:04 / mas
Strontium	0.06	mg/L		0.02		E200.7	07/29/16 10:47 / jh
Thallium	ND	mg/L		0.0002		E200.8	07/29/16 18:04 / mas
Uranium	0.0356	mg/L		0.0002		E200.8	07/29/16 18:04 / mas
Zinc	ND	mg/L		0.008		E200.7	07/29/16 10:47 / jh

**Report Definitions:**  
 RL - Analyte reporting limit.  
 QCL - Quality control limit.  
 L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/03/16

**Project:** 3767-01 WK:56

**Work Order:** B16072122

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> A4500-F C								Analytical Run: MAN-TECH_160728A		
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								07/28/16 15:13
Fluoride		1.00	mg/L	0.10	100	90	110			
<b>Method:</b> A4500-F C										Batch: R264602
<b>Lab ID:</b> MBLK		Method Blank						Run: MAN-TECH_160728A		07/28/16 15:08
Fluoride		ND	mg/L	0.03						
<b>Lab ID:</b> LFB		Laboratory Fortified Blank						Run: MAN-TECH_160728A		07/28/16 15:11
Fluoride		0.970	mg/L	0.10	97	90	110			
<b>Lab ID:</b> B16071898-001AMS		Sample Matrix Spike						Run: MAN-TECH_160728A		07/28/16 15:18
Fluoride		1.30	mg/L	0.10	100	80	120			
<b>Lab ID:</b> B16071898-001AMSD		Sample Matrix Spike Duplicate						Run: MAN-TECH_160728A		07/28/16 15:21
Fluoride		1.32	mg/L	0.10	102	80	120	1.5	10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 08/03/16

Project: 3767-01 WK:56

Work Order: B16072122

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E300.0</b>								Analytical Run: IC METROHM 1_160728A			
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard										
Sulfate	9.06	mg/L	1.0	101	90	110				07/28/16 12:08	
<b>Method: E300.0</b>								Batch: R264563			
<b>Lab ID: ICB</b>	Method Blank										
Sulfate	ND	mg/L	0.06				Run: IC METROHM 1_160728A			07/28/16 12:22	
<b>Lab ID: LFB</b>	Laboratory Fortified Blank										
Sulfate	30.8	mg/L	1.0	103	90	110	Run: IC METROHM 1_160728A			07/28/16 12:35	
<b>Lab ID: B16072116-006AMS</b>	Sample Matrix Spike										
Sulfate	209	mg/L	1.0	105	90	110	Run: IC METROHM 1_160728A			07/29/16 00:57	
<b>Lab ID: B16072116-006AMSD</b>	Sample Matrix Spike Duplicate										
Sulfate	209	mg/L	1.0	105	90	110	0.2	20	Run: IC METROHM 1_160728A	07/29/16 01:10	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/03/16

**Project:** 3767-01 WK:56

**Work Order:** B16072122

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E365.1</b>								Analytical Run: FIA202-B_160801B			
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard										
Phosphorus, Total as P		0.529	mg/L	0.0050	106	90	110			08/01/16 14:56	
<b>Method: E365.1</b>								Batch: 101308			
<b>Lab ID: MB-101308</b>	Method Blank										
Phosphorus, Total as P		ND	mg/L	0.002				Run: FIA202-B_160801B		08/01/16 15:33	
<b>Lab ID: LCS-101308</b>	Laboratory Control Sample										
Phosphorus, Total as P		0.196	mg/L	0.0050	98	90	110	Run: FIA202-B_160801B		08/01/16 15:34	
<b>Lab ID: B16072123-002CMSD</b>	Sample Matrix Spike Duplicate										
Phosphorus, Total Dissolved as P		0.209	mg/L	0.0050	99	90	110	Run: FIA202-B_160801B		08/01/16 15:44	
<b>Lab ID: B16072123-002CMS</b>	Sample Matrix Spike										
Phosphorus, Total Dissolved as P		0.207	mg/L	0.0050	98	90	110	Run: FIA202-B_160801B		08/01/16 16:23	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 08/03/16

Project: 3767-01 WK:56

Work Order: B16072122

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160729A		
<b>Lab ID: ICV</b>	11 Continuing Calibration Verification Standard							07/29/16 09:06		
Aluminum		2.50	mg/L	0.10	100	95	105			
Barium		2.43	mg/L	0.10	97	95	105			
Beryllium		1.24	mg/L	0.010	100	95	105			
Calcium		25.1	mg/L	1.0	100	95	105			
Chromium		2.45	mg/L	0.050	98	95	105			
Iron		2.50	mg/L	0.020	100	95	105			
Magnesium		25.3	mg/L	1.0	101	95	105			
Manganese		2.47	mg/L	0.010	99	95	105			
Silicon		4.98	mg/L	0.10	100	95	105			
Strontium		2.41	mg/L	0.10	97	95	105			
Zinc		2.51	mg/L	0.010	100	95	105			
<b>Method: E200.7</b>								Batch: R264609		
<b>Lab ID: MB-6500DIS160729A</b>	11 Method Blank							Run: ICP203-B_160729A 07/29/16 09:13		
Aluminum		ND	mg/L	0.004						
Barium		ND	mg/L	0.0005						
Beryllium		ND	mg/L	0.0001						
Calcium		ND	mg/L	0.06						
Chromium		ND	mg/L	0.006						
Iron		ND	mg/L	0.002						
Magnesium		ND	mg/L	0.002						
Manganese		ND	mg/L	0.0005						
Silicon		ND	mg/L	0.02						
Strontium		ND	mg/L	0.0001						
Zinc		ND	mg/L	0.0007						
<b>Lab ID: LFB-6500DIS160729A</b>	11 Laboratory Fortified Blank							Run: ICP203-B_160729A 07/29/16 09:20		
Aluminum		4.91	mg/L	0.10	98	85	115			
Barium		0.929	mg/L	0.10	93	85	115			
Beryllium		0.475	mg/L	0.010	95	85	115			
Calcium		48.1	mg/L	1.0	96	85	115			
Chromium		0.941	mg/L	0.050	94	85	115			
Iron		4.77	mg/L	0.020	95	85	115			
Magnesium		49.7	mg/L	1.0	99	85	115			
Manganese		4.70	mg/L	0.010	94	85	115			
Silicon		9.62	mg/L	0.10	96	85	115			
Strontium		0.947	mg/L	0.10	95	85	115			
Zinc		0.981	mg/L	0.010	98	85	115			
<b>Lab ID: B16072059-003BMS2</b>	11 Sample Matrix Spike							Run: ICP203-B_160729A 07/29/16 10:40		
Aluminum		24.8	mg/L	0.030	99	70	130			
Barium		5.25	mg/L	0.050	93	70	130			
Beryllium		2.37	mg/L	0.0010	95	70	130			
Calcium		258	mg/L	1.0	96	70	130			
Chromium		4.68	mg/L	0.029	94	70	130			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 08/03/16

Project: 3767-01 WK:56

Work Order: B16072122

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> <span style="float: right;">Batch: R264609</span>										
<b>Lab ID: B16072059-003BMS2</b>	11	Sample Matrix Spike								
										Run: ICP203-B_160729A <span style="float: right;">07/29/16 10:40</span>
Iron		24.0	mg/L	0.020	95	70	130			
Magnesium		250	mg/L	1.0	95	70	130			
Manganese		23.4	mg/L	0.0025	94	70	130			
Silicon		53.9	mg/L	0.13	96	70	130			
Strontium		5.29	mg/L	0.010	95	70	130			
Zinc		4.92	mg/L	0.010	98	70	130			
<b>Lab ID: B16072059-003BMSD</b>	11	Sample Matrix Spike Duplicate								
										Run: ICP203-B_160729A <span style="float: right;">07/29/16 10:44</span>
Aluminum		24.6	mg/L	0.030	98	70	130	1.1	20	
Barium		5.37	mg/L	0.050	96	70	130	2.4	20	
Beryllium		2.43	mg/L	0.0010	97	70	130	2.4	20	
Calcium		263	mg/L	1.0	98	70	130	1.7	20	
Chromium		4.79	mg/L	0.029	96	70	130	2.4	20	
Iron		24.6	mg/L	0.020	98	70	130	2.5	20	
Magnesium		256	mg/L	1.0	98	70	130	2.2	20	
Manganese		24.0	mg/L	0.0025	96	70	130	2.4	20	
Silicon		53.5	mg/L	0.13	95	70	130	0.9	20	
Strontium		5.41	mg/L	0.010	97	70	130	2.2	20	
Zinc		4.86	mg/L	0.010	97	70	130	1.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/03/16

**Project:** 3767-01 WK:56

**Work Order:** B16072122

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_160729A			
<b>Lab ID: QCS</b>	10	Initial Calibration Verification Standard								07/29/16 10:27	
Antimony		0.0460	mg/L	0.050	92	90	110				
Arsenic		0.0514	mg/L	0.0050	103	90	110				
Cadmium		0.0250	mg/L	0.0010	100	90	110				
Copper		0.0528	mg/L	0.010	106	90	110				
Lead		0.0489	mg/L	0.010	98	90	110				
Nickel		0.0535	mg/L	0.010	107	90	110				
Selenium		0.0501	mg/L	0.0050	100	90	110				
Silver		0.0253	mg/L	0.0050	101	90	110				
Thallium		0.0486	mg/L	0.10	97	90	110				
Uranium		0.0201	mg/L	0.0010	100	90	110				
<b>Method: E200.8</b>								Batch: R264618			
<b>Lab ID: LRB</b>	10	Method Blank								07/29/16 10:39	
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Copper		ND	mg/L	6E-05							
Lead		ND	mg/L	5E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Silver		5E-05	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	10	Laboratory Fortified Blank								07/29/16 10:41	
Antimony		0.0476	mg/L	0.050	95	85	115				
Arsenic		0.0526	mg/L	0.0050	105	85	115				
Cadmium		0.0523	mg/L	0.0010	105	85	115				
Copper		0.0513	mg/L	0.010	103	85	115				
Lead		0.0526	mg/L	0.010	105	85	115				
Nickel		0.0519	mg/L	0.010	104	85	115				
Selenium		0.0512	mg/L	0.0050	102	85	115				
Silver		0.0200	mg/L	0.0050	100	85	115				
Thallium		0.0528	mg/L	0.10	106	85	115				
Uranium		0.0534	mg/L	0.0010	107	85	115				
<b>Lab ID: B16072169-001BMS</b>	10	Sample Matrix Spike								07/29/16 19:07	
Antimony		0.0513	mg/L	0.0010	102	70	130				
Arsenic		0.0585	mg/L	0.0010	108	70	130				
Cadmium		0.0512	mg/L	0.0010	102	70	130				
Copper		0.0546	mg/L	0.0050	107	70	130				
Lead		0.0524	mg/L	0.0010	105	70	130				
Nickel		0.0529	mg/L	0.0050	106	70	130				
Selenium		0.0547	mg/L	0.0010	108	70	130				
Silver		0.0230	mg/L	0.0010	115	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/03/16

**Project:** 3767-01 WK:56

**Work Order:** B16072122

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R264618</span>										
<b>Lab ID:</b> B16072169-001BMS	10	Sample Matrix Spike								
										Run: ICPMS206-B_160729A <span style="float: right;">07/29/16 19:07</span>
Thallium		0.0529	mg/L	0.00050	106	70	130			
Uranium		0.0549	mg/L	0.00030	106	70	130			
<b>Lab ID: B16072169-001BMSD</b> <span style="float: right;">07/29/16 19:10</span>										
	10	Sample Matrix Spike Duplicate								Run: ICPMS206-B_160729A
Antimony		0.0540	mg/L	0.0010	108	70	130	5.2	20	
Arsenic		0.0609	mg/L	0.0010	113	70	130	3.9	20	
Cadmium		0.0550	mg/L	0.0010	110	70	130	7.3	20	
Copper		0.0573	mg/L	0.0050	113	70	130	4.7	20	
Lead		0.0560	mg/L	0.0010	112	70	130	6.7	20	
Nickel		0.0559	mg/L	0.0050	111	70	130	5.4	20	
Selenium		0.0567	mg/L	0.0010	112	70	130	3.6	20	
Silver		0.0194	mg/L	0.0010	97	70	130	17	20	
Thallium		0.0562	mg/L	0.00050	112	70	130	6.1	20	
Uranium		0.0587	mg/L	0.00030	114	70	130	6.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/03/16

**Project:** 3767-01 WK:56

**Work Order:** B16072122

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160728A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								07/28/16 14:56	
Mercury		0.000208	mg/L	1.0E-05	104	90	110				
<b>Method:</b> E245.1										Batch: 101244	
<b>Lab ID:</b> MB-101244		Method Blank								Run: HGCV203-B_160728A	07/28/16 16:12
Mercury		2E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-101244		Laboratory Control Sample								Run: HGCV203-B_160728A	07/28/16 16:15
Mercury		0.000208	mg/L	1.0E-05	103	85	115				
<b>Lab ID:</b> B16072123-002BMS		Sample Matrix Spike								Run: HGCV203-B_160728A	07/28/16 16:51
Mercury		0.000213	mg/L	1.0E-05	105	70	130				
<b>Lab ID:</b> B16072123-002BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160728A	07/28/16 16:54
Mercury		0.000216	mg/L	1.0E-05	106	70	130	1.4	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16072122

Login completed by: Gina McCartney

Date Received: 7/27/2016

Reviewed by: BL2000\tedwards

Received by: mme

Reviewed Date: 7/29/2016

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 7.8°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab		<b>Project Name, PWS, Permit, Etc.</b> 3767-01 WK:56		<b>Sample Origin</b> State: NV		<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>			
<b>Report Mail Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Contact Name:</b> Mike Medina		<b>Phone/Fax:</b> 775-356-1300		<b>Email:</b> MLI@METTEST.COM			
<b>Invoice Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko 604-628-1162		<b>Purchase Order:</b>		<b>Quote/Bottle Order:</b>			
<b>Special Report/Formats - ELI must be notified prior to sample submittal for the following:</b> <input type="checkbox"/> DW <input type="checkbox"/> GSA <input type="checkbox"/> POTW/WWTP <input type="checkbox"/> State: <input type="checkbox"/> Other:		<input type="checkbox"/> A2LA <input type="checkbox"/> EDD/EDT(Electronic Data) <b>Format:</b> <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC		<b>ANALYSIS REQUESTED</b>				<b>Shipped by:</b> Robert <i>PS MJA</i> <b>Cooler ID(#):</b>	
<b>Number of Containers</b> Sample Type: A W S V B O Air Water Soils/Solids Vegetation Bioassay Other		<input checked="" type="checkbox"/> SEE ATTACHED		<input checked="" type="checkbox"/> SEE ATTACHED		<b>Comments:</b> R U S H			
<b>MATRIX</b> Water		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<b>Receipt Temp</b> 7.8 °C On Keep: <input checked="" type="radio"/> Yes <input type="radio"/> No			
<b>SAMPLE IDENTIFICATION</b> (Name, Location, Interval, etc.)		<b>Collection Date</b> 7/26/16		<b>Collection Time</b> 09:00		<b>Custody Seal</b> Intact <input checked="" type="radio"/> Y <input type="radio"/> N Signature Match <input checked="" type="radio"/> Y <input type="radio"/> N			
1 LZ FW Comp		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<b>Receipt Temp</b> 7.8 °C			
2		<input type="checkbox"/>		<input type="checkbox"/>		<b>On Keep:</b> <input checked="" type="radio"/> Yes <input type="radio"/> No			
3		<input type="checkbox"/>		<input type="checkbox"/>		<b>Custody Seal</b> Intact <input checked="" type="radio"/> Y <input type="radio"/> N Signature Match <input checked="" type="radio"/> Y <input type="radio"/> N			
4		<input type="checkbox"/>		<input type="checkbox"/>		<b>Comments:</b> Please Copy results to: MLI@METTEST.COM			
5		<input type="checkbox"/>		<input type="checkbox"/>		hold remaining preserved samples (frozen) until further notice.			
6		<input type="checkbox"/>		<input type="checkbox"/>					
7		<input type="checkbox"/>		<input type="checkbox"/>					
8		<input type="checkbox"/>		<input type="checkbox"/>					
9		<input type="checkbox"/>		<input type="checkbox"/>					
10		<input type="checkbox"/>		<input type="checkbox"/>					
<b>Custody Record MUST be Signed</b>		<b>Relinquished by (print):</b> JOE CHANEY		<b>Date/Time:</b> 7/26/16 9 AM		<b>Signature:</b>			
<b>Sample Disposal:</b> Return to Client:		<b>Relinquished by (print):</b>		<b>Date/Time:</b>		<b>Signature:</b>			
<b>Lab Disposal:</b>		<b>Received by (print):</b> <i>Margaret...</i>		<b>Date/Time:</b> 7/27/16		<b>Signature:</b> 0920			

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.enerviah.com](http://www.enerviah.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

August 17, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16081032      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK: 60

Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Montana Inc on 8/10/2016 for analysis.


Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16081032-001	USZ Comp	08/09/16 9:00	08/10/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.08.17 14:55:42 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 60  
**Lab ID:** B16081032-001  
**Client Sample ID:** USZ Comp

**Report Date:** 08/17/16  
**Collection Date:** 08/09/16 09:00  
**Date Received:** 08/10/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	1780	mg/L	D	4		E300.0	08/12/16 00:39 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	08/11/16 13:07 / cnm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	ND	mg/L	L	0.005		E365.1	08/15/16 15:54 / jpv
<b>METALS, DISSOLVED</b>							
Aluminum	0.017	mg/L		0.009		E200.8	08/11/16 11:58 / mas
Antimony	ND	mg/L		0.0005		E200.8	08/11/16 11:58 / mas
Arsenic	0.001	mg/L		0.001		E200.8	08/11/16 11:58 / mas
Barium	0.016	mg/L		0.003		E200.7	08/11/16 13:01 / jh
Beryllium	ND	mg/L		0.0008		E200.7	08/11/16 13:01 / jh
Cadmium	0.00051	mg/L	D	0.00005		E200.8	08/11/16 11:58 / mas
Calcium	399	mg/L		1		E200.7	08/11/16 13:01 / jh
Chromium	ND	mg/L		0.01		E200.7	08/11/16 13:01 / jh
Copper	2.50	mg/L		0.002		E200.8	08/11/16 11:58 / mas
Iron	0.32	mg/L		0.02		E200.7	08/11/16 13:01 / jh
Lead	0.0121	mg/L		0.0003		E200.8	08/11/16 11:58 / mas
Magnesium	173	mg/L		1		E200.7	08/11/16 13:01 / jh
Manganese	2.41	mg/L		0.005		E200.7	08/11/16 13:01 / jh
Mercury	8.3E-06	mg/L		5E-06		E245.1	08/16/16 15:45 / ser
Nickel	0.079	mg/L		0.002		E200.8	08/11/16 11:58 / mas
Selenium	ND	mg/L		0.001		E200.8	08/11/16 11:58 / mas
Silicon	1.77	mg/L		0.05		E200.8	08/11/16 11:58 / mas
Silver	ND	mg/L		0.0002		E200.8	08/11/16 11:58 / mas
Strontium	15.2	mg/L		0.02		E200.7	08/11/16 13:01 / jh
Thallium	0.0351	mg/L		0.0002		E200.8	08/11/16 11:58 / mas
Uranium	0.0002	mg/L		0.0002		E200.8	08/11/16 11:58 / mas
Zinc	0.220	mg/L		0.008		E200.7	08/11/16 13:01 / jh

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/17/16

**Project:** 3767-01 WK: 60

**Work Order:** B16081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: A4500-F C</b>								Analytical Run: AR50_160811A			
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard										
Fluoride		0.978	mg/L	0.20	98	90	110			08/11/16 11:03	
<b>Method: A4500-F C</b>								Batch: 160811A			
<b>Lab ID: MBLK</b>	Method Blank										
Fluoride		ND	mg/L	0.06						Run: AR50_160811A 08/11/16 11:00	
<b>Lab ID: LFB</b>	Laboratory Fortified Blank										
Fluoride		0.958	mg/L	0.20	96	90	110			Run: AR50_160811A 08/11/16 11:12	
<b>Lab ID: B16080855-001AMS</b>	Sample Matrix Spike										
Fluoride		1.21	mg/L	0.20	85	80	120			Run: AR50_160811A 08/11/16 12:24	
<b>Lab ID: B16080855-001AMSD</b>	Sample Matrix Spike Duplicate										
Fluoride		1.21	mg/L	0.20	85	80	120	0.0	10	Run: AR50_160811A 08/11/16 12:29	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 08/17/16

Project: 3767-01 WK: 60

Work Order: B16081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160811A			
<b>Lab ID: ICV</b>	9	Continuing Calibration Verification Standard						08/11/16 10:33			
Barium		2.54	mg/L	0.10	102	95	105				
Beryllium		1.22	mg/L	0.010	98	95	105				
Calcium		24.2	mg/L	1.0	97	95	105				
Chromium		2.54	mg/L	0.050	102	95	105				
Iron		2.42	mg/L	0.020	97	95	105				
Magnesium		24.2	mg/L	1.0	97	95	105				
Manganese		2.42	mg/L	0.010	97	95	105				
Strontium		2.45	mg/L	0.10	98	95	105				
Zinc		2.47	mg/L	0.010	99	95	105				
<b>Method: E200.7</b>								Batch: R265313			
<b>Lab ID: MB-6500DIS160811A</b>	9	Method Blank						Run: ICP203-B_160811A 08/11/16 09:57			
Barium		ND	mg/L	0.0005							
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.06							
Chromium		ND	mg/L	0.006							
Iron		ND	mg/L	0.002							
Magnesium		0.003	mg/L	0.002							
Manganese		ND	mg/L	0.0005							
Strontium		ND	mg/L	0.0001							
Zinc		ND	mg/L	0.0007							
<b>Lab ID: LFB-6500DIS160811A</b>	9	Laboratory Fortified Blank						Run: ICP203-B_160811A 08/11/16 10:04			
Barium		1.00	mg/L	0.10	100	85	115				
Beryllium		0.494	mg/L	0.010	99	85	115				
Calcium		47.7	mg/L	1.0	95	85	115				
Chromium		0.998	mg/L	0.050	100	85	115				
Iron		4.75	mg/L	0.020	95	85	115				
Magnesium		48.2	mg/L	1.0	96	85	115				
Manganese		4.81	mg/L	0.010	96	85	115				
Strontium		0.992	mg/L	0.10	99	85	115				
Zinc		0.958	mg/L	0.010	96	85	115				
<b>Lab ID: B16081042-001AMS2</b>	9	Sample Matrix Spike						Run: ICP203-B_160811A 08/11/16 13:08			
Barium		1.01	mg/L	0.050	101	70	130				
Beryllium		0.482	mg/L	0.0010	96	70	130				
Calcium		59.5	mg/L	1.0	94	70	130				
Chromium		0.988	mg/L	0.0057	99	70	130				
Iron		4.70	mg/L	0.020	94	70	130				
Magnesium		48.7	mg/L	1.0	95	70	130				
Manganese		4.77	mg/L	0.0010	95	70	130				
Strontium		1.06	mg/L	0.010	100	70	130				
Zinc		0.985	mg/L	0.010	98	70	130				

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 08/17/16

Project: 3767-01 WK: 60

Work Order: B16081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.7										Batch: R265313
<b>Lab ID:</b> B16081042-001AMSD	9	Sample Matrix Spike Duplicate			Run: ICP203-B_160811A				08/11/16 13:12	
Barium		1.01	mg/L	0.050	100	70	130	0.3	20	
Beryllium		0.484	mg/L	0.0010	97	70	130	0.3	20	
Calcium		59.6	mg/L	1.0	94	70	130	0.1	20	
Chromium		0.990	mg/L	0.0057	99	70	130	0.2	20	
Iron		4.73	mg/L	0.020	94	70	130	0.7	20	
Magnesium		48.8	mg/L	1.0	95	70	130	0.3	20	
Manganese		4.78	mg/L	0.0010	96	70	130	0.2	20	
Strontium		1.06	mg/L	0.010	99	70	130	0.4	20	
Zinc		0.993	mg/L	0.010	99	70	130	0.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 08/17/16

Project: 3767-01 WK: 60

Work Order: B16081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_160811A			
<b>Lab ID: QCS</b>	12	Initial Calibration Verification Standard								08/11/16 10:59	
Aluminum		0.255	mg/L	0.10	102	90	110				
Antimony		0.0491	mg/L	0.050	98	90	110				
Arsenic		0.0512	mg/L	0.0050	102	90	110				
Cadmium		0.0252	mg/L	0.0010	101	90	110				
Copper		0.0526	mg/L	0.010	105	90	110				
Lead		0.0504	mg/L	0.010	101	90	110				
Nickel		0.0511	mg/L	0.010	102	90	110				
Selenium		0.0506	mg/L	0.0050	101	90	110				
Silicon		0.497	mg/L	0.10	99	90	110				
Silver		0.0250	mg/L	0.0050	100	90	110				
Thallium		0.0504	mg/L	0.10	101	90	110				
Uranium		0.0199	mg/L	0.0010	99	90	110				
<b>Method: E200.8</b>								Batch: R265338			
<b>Lab ID: LRB</b>	12	Method Blank								Run: ICPMS206-B_160811A 08/11/16 11:18	
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Copper		ND	mg/L	6E-05							
Lead		ND	mg/L	5E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Silicon		0.003	mg/L	0.002							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		-1E-06	mg/L								
<b>Lab ID: LFB</b>	12	Laboratory Fortified Blank								Run: ICPMS206-B_160811A 08/11/16 11:21	
Aluminum		0.0482	mg/L	0.10	96	85	115				
Antimony		0.0463	mg/L	0.050	93	85	115				
Arsenic		0.0500	mg/L	0.0050	100	85	115				
Cadmium		0.0493	mg/L	0.0010	99	85	115				
Copper		0.0503	mg/L	0.010	101	85	115				
Lead		0.0495	mg/L	0.010	99	85	115				
Nickel		0.0475	mg/L	0.010	95	85	115				
Selenium		0.0501	mg/L	0.0050	100	85	115				
Silicon		0.203	mg/L	0.10	100	85	115				
Silver		0.0180	mg/L	0.0050	90	85	115				
Thallium		0.0495	mg/L	0.10	99	85	115				
Uranium		0.0492	mg/L	0.0010	98	85	115				
<b>Lab ID: B16081032-001BMS</b>	12	Sample Matrix Spike								Run: ICPMS206-B_160811A 08/11/16 12:06	
Aluminum		0.113	mg/L	0.030	97	70	130				
Antimony		0.0938	mg/L	0.0010	94	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/17/16

**Project:** 3767-01 WK: 60

**Work Order:** B16081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										
Batch: R265338										
<b>Lab ID:</b>	<b>B16081032-001BMS</b>	12 Sample Matrix Spike			Run: ICPMS206-B_160811A				08/11/16 12:06	
Arsenic		0.100	mg/L	0.0010	99	70	130			
Cadmium		0.0978	mg/L	0.0010	97	70	130			
Copper		2.38	mg/L	0.0050		70	130			A
Lead		0.108	mg/L	0.0010	95	70	130			
Nickel		0.170	mg/L	0.0050	91	70	130			
Selenium		0.0994	mg/L	0.0010	99	70	130			
Silicon		2.12	mg/L	0.10		70	130			A
Silver		0.0364	mg/L	0.0010	91	70	130			
Thallium		0.128	mg/L	0.00050	93	70	130			
Uranium		0.0949	mg/L	0.00030	95	70	130			
<b>Lab ID:</b>	<b>B16081032-001BMSD</b>	12 Sample Matrix Spike Duplicate			Run: ICPMS206-B_160811A				08/11/16 12:13	
Aluminum		0.115	mg/L	0.030	98	70	130	1.5	20	
Antimony		0.0964	mg/L	0.0010	96	70	130	2.8	20	
Arsenic		0.100	mg/L	0.0010	99	70	130	0.3	20	
Cadmium		0.0969	mg/L	0.0010	96	70	130	0.9	20	
Copper		2.29	mg/L	0.0050		70	130	4.1	20	A
Lead		0.111	mg/L	0.0010	99	70	130	3.3	20	
Nickel		0.168	mg/L	0.0050	89	70	130	1.0	20	
Selenium		0.0950	mg/L	0.0010	95	70	130	4.6	20	
Silicon		2.07	mg/L	0.10		70	130	2.8	20	A
Silver		0.0381	mg/L	0.0010	95	70	130	4.7	20	
Thallium		0.133	mg/L	0.00050	98	70	130	3.3	20	
Uranium		0.0974	mg/L	0.00030	97	70	130	2.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/17/16

**Project:** 3767-01 WK: 60

**Work Order:** B16081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160816A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								08/16/16 15:31	
Mercury		0.000206	mg/L	1.0E-05	103	90	110				
<b>Method:</b> E245.1										Batch: 101788	
<b>Lab ID:</b> MB-101788		Method Blank								Run: HGCV203-B_160816A	08/16/16 15:40
Mercury		3E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-101788		Laboratory Control Sample								Run: HGCV203-B_160816A	08/16/16 15:42
Mercury		0.000210	mg/L	1.0E-05	103	85	115				
<b>Lab ID:</b> B16081032-001BMS		Sample Matrix Spike								Run: HGCV203-B_160816A	08/16/16 15:47
Mercury		0.000217	mg/L	1.0E-05	104	70	130				
<b>Lab ID:</b> B16081032-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160816A	08/16/16 15:50
Mercury		0.000219	mg/L	1.0E-05	105	70	130	0.9	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/17/16

**Project:** 3767-01 WK: 60

**Work Order:** B16081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>						Analytical Run: IC METROHM 1_160811A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate		8.74	mg/L	1.0	97	90	110			08/11/16 14:23
<b>Method: E300.0</b>						Batch: R265370				
<b>Lab ID: ICB</b>	Method Blank									
Sulfate		ND	mg/L	0.06						Run: IC METROHM 1_160811A 08/11/16 14:37
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate		30.2	mg/L	1.0	101	90	110			Run: IC METROHM 1_160811A 08/11/16 14:50
<b>Lab ID: B16081000-001AMS</b>	Sample Matrix Spike									
Sulfate		2280	mg/L	9.1	105	90	110			Run: IC METROHM 1_160811A 08/12/16 00:12
<b>Lab ID: B16081000-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate		2280	mg/L	9.1	106	90	110	0.2	20	Run: IC METROHM 1_160811A 08/12/16 00:25

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 08/17/16

**Project:** 3767-01 WK: 60

**Work Order:** B16081032

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E365.1</b>								Analytical Run: FIA202-B_160815C			
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard										
Phosphorus, Total as P		0.516	mg/L	0.0050	103	90	110			08/15/16 14:58	
<b>Method: E365.1</b>								Batch: 101779			
<b>Lab ID: MB-101779</b>	Method Blank										
Phosphorus, Total as P		0.005	mg/L	0.002				Run: FIA202-B_160815C		08/15/16 15:00	
<b>Lab ID: LCS-101779</b>	Laboratory Control Sample										
Phosphorus, Total as P		0.194	mg/L	0.0050	95	90	110	Run: FIA202-B_160815C		08/15/16 15:01	
<b>Lab ID: B16081032-001CMS</b>	Sample Matrix Spike										
Phosphorus, Total Dissolved as P		0.198	mg/L	0.0050	99	90	110	Run: FIA202-B_160815C		08/15/16 15:19	
<b>Lab ID: B16081032-001CMSD</b>	Sample Matrix Spike Duplicate										
Phosphorus, Total Dissolved as P		0.199	mg/L	0.0050	100	90	110	Run: FIA202-B_160815C		08/15/16 15:20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16081032

Login completed by: Cindy Rohrer

Date Received: 8/10/2016

Reviewed by: BL2000\lcardreau

Received by: hmr

Reviewed Date: 8/14/2016

Carrier name: Return-UPS NDA

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	5.8°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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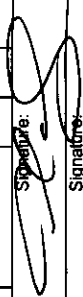
## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

PLEASE PRINT- Provide as much information as possible.

<b>Company Name:</b> McClelland Lab		<b>Project Name, PWS, Permit, Etc.</b> 3767-01 WK: 60		<b>Sample Origin</b> State: NV		<b>EPA/State Compliance:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Report Mail Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Contact Name:</b> Mike Medina		<b>Phone/Fax:</b> 775-356-1300		<b>Email:</b> MLI@METTEST.COM	
<b>Invoice Address:</b> Tintina Resources 200 Granville St. Suite 2560 Vancouver, BC V6C 1S4 Canada		<b>Invoice Contact &amp; Phone:</b> Mr Bob Jacko 604-628-1162		<b>Purchase Order:</b>		<b>Quote/Bottle Order:</b>	
<b>Special Report/Formats - ELI must be notified prior to sample submittal for the following:</b> <input type="checkbox"/> DW <input type="checkbox"/> A2LA <input type="checkbox"/> GSA <input type="checkbox"/> EDD/EDT(Electronic Data) <input type="checkbox"/> POTW/WWTP <b>Format:</b> _____ <input type="checkbox"/> State: _____ <input type="checkbox"/> LEVEL IV <input type="checkbox"/> Other: _____ <input type="checkbox"/> NELAC							
<b>Number of Containers</b> Air Water Soils/Solids Vegetation Bioassay Other		<b>MATRIX</b> Water		<b>ANALYSIS REQUESTED</b> SEE ATTACHED		<b>Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page</b> Comments: R U S H	
<b>SAMPLE IDENTIFICATION</b> (Name, Location, Interval, etc.)		<b>Collection Date</b> 8/9/16	<b>Collection Time</b> 09:00	<input checked="" type="checkbox"/> SEE ATTACHED	<input checked="" type="checkbox"/> SEE ATTACHED	<input checked="" type="checkbox"/> SEE ATTACHED	<b>Shipped by:</b> Robert
1 USZ Comp		8/9/16	09:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Cooler ID(s):</b> _____
2		_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>Receipt Temp</b> _____ °C
3		_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>On Ice:</b> Yes <input type="checkbox"/> No <input type="checkbox"/>
4		_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>Custody Seal</b> Y N Intact Y N Signature Match Y N
5		_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>LABORATORY USE ONLY</b> Please Copy results to: MLI@METTEST.COM
6		_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	hold remaining preserved samples (frozen) until further notice.
7		_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
8		_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
9		_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
10		_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<b>Custody Record MUST be Signed</b>		<b>Relinquished by (print):</b> JOE CHANEY	<b>Date/Time:</b> 8/9/16 9AM	<b>Signature:</b> 	<b>Received by (print):</b>	<b>Date/Time:</b>	<b>Signature:</b>
<b>Sample Disposal:</b>		<b>Relinquished by (print):</b>	<b>Date/Time:</b>	<b>Signature:</b>	<b>Received by (print):</b>	<b>Date/Time:</b>	<b>Signature:</b>
<b>Return to Client:</b>		<b>Relinquished by (print):</b>	<b>Date/Time:</b>	<b>Signature:</b>	<b>Received by (print):</b>	<b>Date/Time:</b>	<b>Signature:</b>
<b>Lab Disposal:</b>		<b>Relinquished by (print):</b>	<b>Date/Time:</b>	<b>Signature:</b>	<b>Received by (print):</b>	<b>Date/Time:</b>	<b>Signature:</b>
<b>HEATHER REYNOLDS 8.10.16 9.10</b>							

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

September 16, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16090514      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK: 64

Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Montana Inc on 9/7/2016 for analysis.

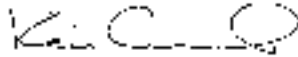
Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16090514-001	USZ Comp	09/06/16 9:00	09/07/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.09.16 15:37:36 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 64  
**Lab ID:** B16090514-001  
**Client Sample ID:** USZ Comp

**Report Date:** 09/16/16  
**Collection Date:** 09/06/16 09:00  
**Date Received:** 09/07/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	2560	mg/L	D	9		E300.0	09/11/16 07:58 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	09/12/16 14:46 / cjm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.03	mg/L	D	0.01		E365.1	09/13/16 10:14 / bas
<b>METALS, DISSOLVED</b>							
Aluminum	1.03	mg/L		0.009		E200.7	09/08/16 19:37 / mas
Antimony	ND	mg/L		0.0005		E200.8	09/08/16 11:53 / mas
Arsenic	0.006	mg/L		0.001		E200.8	09/08/16 11:53 / mas
Barium	0.017	mg/L		0.003		E200.7	09/08/16 19:37 / mas
Beryllium	0.0085	mg/L		0.0008		E200.7	09/08/16 19:37 / mas
Cadmium	0.00474	mg/L		0.00003		E200.8	09/08/16 11:53 / mas
Calcium	392	mg/L		1		E200.7	09/08/16 19:37 / mas
Chromium	ND	mg/L		0.01		E200.7	09/08/16 19:37 / mas
Copper	53.2	mg/L	L	0.004		E200.7	09/08/16 19:37 / mas
Iron	26.0	mg/L		0.02		E200.7	09/08/16 19:37 / mas
Lead	0.211	mg/L		0.0003		E200.8	09/08/16 11:53 / mas
Magnesium	295	mg/L		1		E200.7	09/08/16 19:37 / mas
Manganese	11.0	mg/L		0.005		E200.7	09/08/16 19:37 / mas
Mercury	0.0000124	mg/L		5E-06		E245.1	09/14/16 15:59 / ser
Nickel	0.516	mg/L		0.002		E200.7	09/08/16 19:37 / mas
Selenium	0.003	mg/L		0.001		E200.8	09/08/16 11:53 / mas
Silicon	6.64	mg/L		0.05		E200.7	09/08/16 19:37 / mas
Silver	ND	mg/L		0.0002		E200.8	09/12/16 22:51 / mas
Strontium	13.8	mg/L		0.02		E200.7	09/08/16 19:37 / mas
Thallium	0.0916	mg/L		0.0002		E200.8	09/08/16 11:53 / mas
Uranium	0.0059	mg/L		0.0002		E200.8	09/08/16 11:53 / mas
Zinc	1.38	mg/L		0.008		E200.7	09/08/16 19:37 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 09/16/16

**Project:** 3767-01 WK: 64

**Work Order:** B16090514

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: A4500-F C</b>								Analytical Run: AR50_160912A			
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard										
Fluoride		1.00	mg/L	0.10	100	90	110			09/12/16 07:49	
<b>Method: A4500-F C</b>								Batch: FISE160912			
<b>Lab ID: MBLK</b>	Method Blank										
Fluoride		ND	mg/L	0.06						Run: AR50_160912A 09/12/16 07:48	
<b>Lab ID: LFB</b>	Laboratory Fortified Blank										
Fluoride		0.992	mg/L	0.10	99	90	110			Run: AR50_160912A 09/12/16 07:50	
<b>Lab ID: B16090462-003AMS</b>	Sample Matrix Spike										
Fluoride		1.89	mg/L	0.10	104	80	120			Run: AR50_160912A 09/12/16 14:24	
<b>Lab ID: B16090462-003AMSD</b>	Sample Matrix Spike Duplicate										
Fluoride		1.87	mg/L	0.10	102	80	120	1.1	10	Run: AR50_160912A 09/12/16 14:24	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 09/16/16

**Project:** 3767-01 WK: 64

**Work Order:** B16090514

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>						Analytical Run: IC METROHM 2_160908A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate	9.14	mg/L	1.0	102	90	110				09/08/16 16:16
<b>Method: E300.0</b>						Batch: R266790				
<b>Lab ID: ICB</b>	Method Blank									
Sulfate	ND	mg/L	0.02				Run: IC METROHM 2_160908A			09/08/16 16:29
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate	32.0	mg/L	1.0	107	90	110	Run: IC METROHM 2_160908A			09/08/16 17:09
<b>Lab ID: B16090496-001AMS</b>	Sample Matrix Spike									
Sulfate	3660	mg/L	18	110	90	110	Run: IC METROHM 2_160908A			09/11/16 07:04
<b>Lab ID: B16090496-001AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate	3640	mg/L	18	110	90	110	0.4			09/11/16 07:17

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 09/16/16

**Project:** 3767-01 WK: 64

**Work Order:** B16090514

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_160913A		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.476	mg/L	0.0050	95	90	110			09/13/16 10:20
<b>Method: E365.1</b>								Batch: 102579		
<b>Lab ID: MB-102579</b>	Method Blank									
Phosphorus, Total as P		ND	mg/L	0.002				Run: FIA202-B_160913A		09/13/16 09:59
<b>Lab ID: LCS-102579</b>	Laboratory Control Sample									
Phosphorus, Total as P		0.194	mg/L	0.0050	97	90	110	Run: FIA202-B_160913A		09/13/16 10:00
<b>Lab ID: B16090514-001CMS</b>	Sample Matrix Spike									
Phosphorus, Total Dissolved as P		0.432	mg/L	0.010	100	90	110	Run: FIA202-B_160913A		09/13/16 10:15
<b>Lab ID: B16090514-001CMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total Dissolved as P		0.436	mg/L	0.010	101	90	110	Run: FIA202-B_160913A		09/13/16 10:16

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 64

**Report Date:** 09/16/16  
**Work Order:** B16090514

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>										Analytical Run: ICP203-B_160908A	
<b>Lab ID: ICV</b>	13 Continuing Calibration Verification Standard									09/08/16 09:43	
Aluminum		2.45	mg/L	0.10	98	95	105				
Barium		2.48	mg/L	0.10	99	95	105				
Beryllium		1.21	mg/L	0.010	97	95	105				
Calcium		24.4	mg/L	1.0	97	95	105				
Chromium		2.43	mg/L	0.050	97	95	105				
Copper		2.43	mg/L	0.010	97	95	105				
Iron		2.44	mg/L	0.020	98	95	105				
Magnesium		24.6	mg/L	1.0	99	95	105				
Manganese		2.41	mg/L	0.010	96	95	105				
Nickel		2.38	mg/L	0.050	95	95	105				
Silicon		4.90	mg/L	0.10	98	95	105				
Strontium		2.39	mg/L	0.10	96	95	105				
Zinc		2.42	mg/L	0.010	97	95	105				
<b>Method: E200.7</b>										Batch: R266717	
<b>Lab ID: MB-6500DIS160908A</b>	13 Method Blank									Run: ICP203-B_160908A 09/08/16 09:49	
Aluminum		ND	mg/L	0.004							
Barium		ND	mg/L	0.0005							
Beryllium		ND	mg/L	0.0001							
Calcium		ND	mg/L	0.06							
Chromium		ND	mg/L	0.006							
Copper		0.005	mg/L	0.004							
Iron		ND	mg/L	0.002							
Magnesium		ND	mg/L	0.002							
Manganese		ND	mg/L	0.0005							
Nickel		ND	mg/L	0.002							
Silicon		ND	mg/L	0.02							
Strontium		ND	mg/L	0.0001							
Zinc		0.001	mg/L	0.0007							
<b>Lab ID: LFB-6500DIS160908A</b>	13 Laboratory Fortified Blank									Run: ICP203-B_160908A 09/08/16 09:57	
Aluminum		4.77	mg/L	0.10	95	85	115				
Barium		0.996	mg/L	0.10	100	85	115				
Beryllium		0.492	mg/L	0.010	98	85	115				
Calcium		49.3	mg/L	1.0	99	85	115				
Chromium		0.973	mg/L	0.050	97	85	115				
Copper		0.973	mg/L	0.010	97	85	115				
Iron		4.94	mg/L	0.020	99	85	115				
Magnesium		49.3	mg/L	1.0	99	85	115				
Manganese		4.82	mg/L	0.010	97	85	115				
Nickel		0.932	mg/L	0.050	93	85	115				
Silicon		9.91	mg/L	0.10	99	85	115				
Strontium		0.974	mg/L	0.10	97	85	115				
Zinc		0.972	mg/L	0.010	97	85	115				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 64

**Report Date:** 09/16/16  
**Work Order:** B16090514

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>										Batch: R266717
<b>Lab ID: B16090515-002AMS2</b>	13	Sample Matrix Spike			Run: ICP203-B_160908A				09/08/16 19:59	
Aluminum		5.19	mg/L	0.030	103	70	130			
Barium		1.06	mg/L	0.050	101	70	130			
Beryllium		0.497	mg/L	0.0010	99	70	130			
Calcium		94.8	mg/L	1.0	97	70	130			
Chromium		0.981	mg/L	0.0057	98	70	130			
Copper		1.00	mg/L	0.0050	99	70	130			
Iron		5.02	mg/L	0.020	100	70	130			
Magnesium		66.4	mg/L	1.0	98	70	130			
Manganese		5.61	mg/L	0.0010	98	70	130			
Nickel		1.01	mg/L	0.0050	101	70	130			
Silicon		13.5	mg/L	0.10	99	70	130			
Strontium		1.48	mg/L	0.010	100	70	130			
Zinc		1.01	mg/L	0.010	100	70	130			
<b>Lab ID: B16090515-002AMSD</b>	13	Sample Matrix Spike Duplicate			Run: ICP203-B_160908A				09/08/16 20:02	
Aluminum		5.24	mg/L	0.030	104	70	130	0.9	20	
Barium		1.19	mg/L	0.050	114	70	130	12	20	
Beryllium		0.559	mg/L	0.0010	112	70	130	12	20	
Calcium		101	mg/L	1.0	109	70	130	6.1	20	
Chromium		1.11	mg/L	0.0057	111	70	130	13	20	
Copper		1.14	mg/L	0.0050	112	70	130	12	20	
Iron		5.64	mg/L	0.020	113	70	130	12	20	
Magnesium		73.0	mg/L	1.0	111	70	130	9.4	20	
Manganese		6.18	mg/L	0.0010	109	70	130	9.7	20	
Nickel		1.02	mg/L	0.0050	102	70	130	0.6	20	
Silicon		13.0	mg/L	0.10	94	70	130	4.1	20	
Strontium		1.61	mg/L	0.010	114	70	130	8.8	20	
Zinc		1.00	mg/L	0.010	100	70	130	0.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 64

**Report Date:** 09/16/16  
**Work Order:** B16090514

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>		Analytical Run: ICPMS206-B_160908A								
<b>Lab ID: QCS</b>	7	Initial Calibration Verification Standard								09/08/16 10:27
Antimony		0.0496	mg/L	0.050	99	90	110			
Arsenic		0.0488	mg/L	0.0050	98	90	110			
Cadmium		0.0239	mg/L	0.0010	96	90	110			
Lead		0.0506	mg/L	0.010	101	90	110			
Selenium		0.0485	mg/L	0.0050	97	90	110			
Thallium		0.0507	mg/L	0.10	101	90	110			
Uranium		0.0204	mg/L	0.0010	102	90	110			
<b>Method: E200.8</b>		Batch: R266728								
<b>Lab ID: LRB</b>	7	Method Blank								09/08/16 10:38
Run: ICPMS206-B_160908A										
Antimony		ND	mg/L	8E-05						
Arsenic		ND	mg/L	6E-05						
Cadmium		ND	mg/L	3E-05						
Lead		ND	mg/L	5E-05						
Selenium		ND	mg/L	0.0001						
Thallium		ND	mg/L	7E-05						
Uranium		-2E-05	mg/L							
<b>Lab ID: LFB</b>	7	Laboratory Fortified Blank								09/08/16 10:41
Run: ICPMS206-B_160908A										
Antimony		0.0472	mg/L	0.050	94	85	115			
Arsenic		0.0497	mg/L	0.0050	99	85	115			
Cadmium		0.0478	mg/L	0.0010	96	85	115			
Lead		0.0515	mg/L	0.010	103	85	115			
Selenium		0.0472	mg/L	0.0050	94	85	115			
Thallium		0.0520	mg/L	0.10	104	85	115			
Uranium		0.0515	mg/L	0.0010	103	85	115			
<b>Lab ID: B16090176-014BMS</b>	7	Sample Matrix Spike								09/08/16 11:37
Run: ICPMS206-B_160908A										
Antimony		0.264	mg/L	0.0010	105	70	130			
Arsenic		0.256	mg/L	0.0010	101	70	130			
Cadmium		0.251	mg/L	0.0010	100	70	130			
Lead		0.228	mg/L	0.0010	91	70	130			
Selenium		0.251	mg/L	0.0010	72	70	130			
Thallium		0.233	mg/L	0.00050	93	70	130			
Uranium		0.231	mg/L	0.00030	90	70	130			
<b>Lab ID: B16090176-014BMSD</b>	7	Sample Matrix Spike Duplicate								09/08/16 11:40
Run: ICPMS206-B_160908A										
Antimony		0.300	mg/L	0.0010	120	70	130	13	20	
Arsenic		0.290	mg/L	0.0010	114	70	130	12	20	
Cadmium		0.275	mg/L	0.0010	110	70	130	9.0	20	
Lead		0.306	mg/L	0.0010	122	70	130	29	20	R
Selenium		0.283	mg/L	0.0010	85	70	130	12	20	
Thallium		0.304	mg/L	0.00050	122	70	130	27	20	R
Uranium		0.306	mg/L	0.00030	120	70	130	28	20	R

**Qualifiers:**

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 64

**Report Date:** 09/16/16  
**Work Order:** B16090514

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8										Analytical Run: ICPMS206-B_160912A	
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								09/12/16 22:19	
Silver		0.0244	mg/L	0.0050	97	90	110				
<b>Method:</b> E200.8										Batch: R266894	
<b>Lab ID:</b> LRB		Method Blank								Run: ICPMS206-B_160912A	09/12/16 10:49
Silver		ND	mg/L	2E-05							
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: ICPMS206-B_160912A	09/12/16 10:52
Silver		0.0192	mg/L	0.0050	96	85	115				
<b>Lab ID:</b> B16090690-007AMS		Sample Matrix Spike								Run: ICPMS206-B_160912A	09/12/16 23:13
Silver		0.0348	mg/L	0.0010	87	70	130				
<b>Lab ID:</b> B16090690-007AMSD		Sample Matrix Spike Duplicate								Run: ICPMS206-B_160912A	09/12/16 23:24
Silver		0.0313	mg/L	0.0010	78	70	130	10	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 64

**Report Date:** 09/16/16  
**Work Order:** B16090514

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160914A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/14/16 15:43	
Mercury		0.000198	mg/L	1.0E-05	99	90	110				
<b>Method:</b> E245.1										Batch: 102589	
<b>Lab ID:</b> MB-102589		Method Blank								Run: HGCV203-B_160914A	09/14/16 15:51
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-102589		Laboratory Control Sample								Run: HGCV203-B_160914A	09/14/16 15:54
Mercury		0.000202	mg/L	1.0E-05	100	85	115				
<b>Lab ID:</b> B16090514-001BMS		Sample Matrix Spike								Run: HGCV203-B_160914A	09/14/16 16:01
Mercury		0.000211	mg/L	1.0E-05	100	70	130				
<b>Lab ID:</b> B16090514-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160914A	09/14/16 16:04
Mercury		0.000213	mg/L	1.0E-05	101	70	130	0.9	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16090514

Login completed by: Tabitha Edwards

Date Received: 9/7/2016

Reviewed by: BL2000\lcardreau

Received by: tae

Reviewed Date: 9/11/2016

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 5.4°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

October 14, 2016

Tintina Montana Inc  
PO Box 48736 Bentall  
Vancouver, BC V7X 1A6

Work Order: B16100376      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK: 68

Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Montana Inc on 10/5/2016 for analysis.

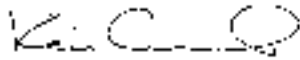
Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16100376-001	USZ Comp	10/04/16 9:00	10/05/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Supervisor, Wet Chemistry

Digitally signed by  
Keri Conter  
Date: 2016.10.14 14:31:13 -06:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 68  
**Lab ID:** B16100376-001  
**Client Sample ID:** USZ Comp

**Report Date:** 10/14/16  
**Collection Date:** 10/04/16 09:00  
**Date Received:** 10/05/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	2250	mg/L	D	9		E300.0	10/06/16 13:38 / cmb
Fluoride	ND	mg/L		0.2		A4500-F C	10/06/16 09:57 / cjm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.013	mg/L	L	0.005		E365.1	10/06/16 16:58 / ks
<b>METALS, DISSOLVED</b>							
Aluminum	0.538	mg/L		0.009		E200.8	10/06/16 13:58 / mas
Antimony	ND	mg/L		0.0005		E200.8	10/06/16 13:58 / mas
Arsenic	0.002	mg/L		0.001		E200.8	10/06/16 13:58 / mas
Barium	0.035	mg/L		0.003		E200.8	10/06/16 13:58 / mas
Beryllium	0.0034	mg/L		0.0008		E200.7	10/06/16 16:01 / jh
Cadmium	0.00445	mg/L		0.00003		E200.8	10/06/16 13:58 / mas
Calcium	409	mg/L		1		E200.7	10/06/16 16:01 / jh
Chromium	ND	mg/L		0.01		E200.8	10/06/16 13:58 / mas
Copper	18.8	mg/L		0.002		E200.8	10/06/16 13:58 / mas
Iron	18.9	mg/L		0.02		E200.8	10/06/16 13:58 / mas
Lead	0.0974	mg/L		0.0003		E200.8	10/06/16 13:58 / mas
Magnesium	272	mg/L		1		E200.8	10/06/16 13:58 / mas
Manganese	6.93	mg/L		0.005		E200.8	10/06/16 13:58 / mas
Mercury	5.3E-06	mg/L		5E-06		E245.1	10/13/16 14:14 / ser
Nickel	0.324	mg/L		0.002		E200.8	10/06/16 13:58 / mas
Selenium	0.001	mg/L		0.001		E200.8	10/06/16 13:58 / mas
Silicon	4.43	mg/L		0.05		E200.8	10/06/16 13:58 / mas
Silver	ND	mg/L		0.0002		E200.8	10/06/16 13:58 / mas
Strontium	15.2	mg/L		0.02		E200.8	10/06/16 13:58 / mas
Thallium	0.0375	mg/L		0.0002		E200.8	10/06/16 13:58 / mas
Uranium	0.0024	mg/L		0.0002		E200.8	10/06/16 13:58 / mas
Zinc	0.716	mg/L		0.008		E200.8	10/06/16 13:58 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 10/14/16

**Project:** 3767-01 WK: 68

**Work Order:** B16100376

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C										Analytical Run: MAN-TECH_161006A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								10/06/16 10:27	
Fluoride		0.980	mg/L	0.10	98	90	110				
<b>Method:</b> A4500-F C										Batch: R268237	
<b>Lab ID:</b> MBLK		Method Blank								Run: MAN-TECH_161006A	10/06/16 09:33
Fluoride		ND	mg/L	0.03							
<b>Lab ID:</b> B16100279-001AMS		Sample Matrix Spike								Run: MAN-TECH_161006A	10/06/16 09:44
Fluoride		1.36	mg/L	0.10	89	80	120				
<b>Lab ID:</b> B16100279-001AMSD		Sample Matrix Spike Duplicate								Run: MAN-TECH_161006A	10/06/16 09:47
Fluoride		1.42	mg/L	0.10	95	80	120	4.3	10		
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: MAN-TECH_161006A	10/06/16 10:25
Fluoride		0.920	mg/L	0.10	92	90	110				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 10/14/16

**Project:** 3767-01 WK: 68

**Work Order:** B16100376

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_161006A			
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard								10/06/16 10:29	
Beryllium		1.27	mg/L	0.010	102	95	105				
Calcium		25.5	mg/L	1.0	102	95	105				
<b>Method: E200.7</b>								Batch: R268235			
<b>Lab ID: MB-6500DIS161005A</b>	2	Method Blank						Run: ICP203-B_161006A		10/06/16 10:36	
Beryllium		ND	mg/L	0.0001							
Calcium		0.07	mg/L	0.06							
<b>Lab ID: LFB-6500DIS161005A</b>	2	Laboratory Fortified Blank						Run: ICP203-B_161006A		10/06/16 10:43	
Beryllium		0.559	mg/L	0.010	112	85	115				
Calcium		55.1	mg/L	1.0	110	85	115				
<b>Lab ID: B16100370-004CMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_161006A		10/06/16 15:47	
Beryllium		0.505	mg/L	0.0010	101	70	130				
Calcium		70.7	mg/L	1.0	101	70	130				
<b>Lab ID: B16100370-004CMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_161006A		10/06/16 15:51	
Beryllium		0.496	mg/L	0.0010	99	70	130	1.9	20		
Calcium		69.3	mg/L	1.0	99	70	130	2.0	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 10/14/16

Project: 3767-01 WK: 68

Work Order: B16100376

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_161006A	
<b>Lab ID: QCS</b>	19	Initial Calibration Verification Standard							10/06/16 13:04		
Aluminum		0.267	mg/L	0.10	107	90	110				
Antimony		0.0509	mg/L	0.050	102	90	110				
Arsenic		0.0547	mg/L	0.0050	109	90	110				
Barium		0.0522	mg/L	0.10	104	90	110				
Cadmium		0.0274	mg/L	0.0010	110	90	110				
Chromium		0.0544	mg/L	0.010	109	90	110				
Copper		0.0548	mg/L	0.010	110	90	110				
Iron		0.268	mg/L	0.020	107	90	110				
Lead		0.0510	mg/L	0.010	102	90	110				
Magnesium		2.69	mg/L	0.50	108	90	110				
Manganese		0.268	mg/L	0.010	107	90	110				
Nickel		0.0543	mg/L	0.010	109	90	110				
Selenium		0.0544	mg/L	0.0050	109	90	110				
Silicon		0.516	mg/L	0.10	103	90	110				
Silver		0.0255	mg/L	0.0050	102	90	110				
Strontium		0.0529	mg/L	0.10	106	90	110				
Thallium		0.0510	mg/L	0.10	102	90	110				
Uranium		0.0210	mg/L	0.0010	105	90	110				
Zinc		0.0535	mg/L	0.010	107	90	110				
<b>Method: E200.8</b>										Batch: R268252	
<b>Lab ID: LRB</b>	19	Method Blank							Run: ICPMS206-B_161006A		10/06/16 13:14
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Barium		ND	mg/L	0.0004							
Cadmium		ND	mg/L	3E-05							
Chromium		ND	mg/L	4E-05							
Copper		ND	mg/L	6E-05							
Iron		ND	mg/L	0.0007							
Lead		ND	mg/L	5E-05							
Magnesium		ND	mg/L	0.005							
Manganese		ND	mg/L	4E-05							
Nickel		ND	mg/L	6E-05							
Selenium		ND	mg/L	0.0001							
Silicon		ND	mg/L	0.002							
Silver		ND	mg/L	2E-05							
Strontium		ND	mg/L	1E-05							
Thallium		ND	mg/L	7E-05							
Uranium		-2E-06	mg/L								
Zinc		ND	mg/L	0.0001							
<b>Lab ID: LFB</b>	19	Laboratory Fortified Blank							Run: ICPMS206-B_161006A		10/06/16 13:17
Aluminum		0.0505	mg/L	0.10	101	85	115				

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 10/14/16

Project: 3767-01 WK: 68

Work Order: B16100376

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Batch: R268252	
<b>Lab ID: LFB</b>	19 Laboratory Fortified Blank				Run: ICPMS206-B_161006A				10/06/16 13:17		
Antimony		0.0458	mg/L	0.050	92	85	115				
Arsenic		0.0484	mg/L	0.0050	97	85	115				
Barium		0.0502	mg/L	0.10	100	85	115				
Cadmium		0.0484	mg/L	0.0010	97	85	115				
Chromium		0.0489	mg/L	0.010	98	85	115				
Copper		0.0480	mg/L	0.010	96	85	115				
Iron		5.11	mg/L	0.020	102	85	115				
Lead		0.0499	mg/L	0.010	100	85	115				
Magnesium		47.9	mg/L	0.50	96	85	115				
Manganese		0.0497	mg/L	0.010	99	85	115				
Nickel		0.0475	mg/L	0.010	95	85	115				
Selenium		0.0524	mg/L	0.0050	105	85	115				
Silicon		0.209	mg/L	0.10	104	85	115				
Silver		0.0191	mg/L	0.0050	96	85	115				
Strontium		0.0498	mg/L	0.10	100	85	115				
Thallium		0.0499	mg/L	0.10	100	85	115				
Uranium		0.0513	mg/L	0.0010	103	85	115				
Zinc		0.0478	mg/L	0.010	96	85	115				
<b>Lab ID: B16100285-001AMS</b>	19 Sample Matrix Spike				Run: ICPMS206-B_161006A				10/06/16 14:03		
Aluminum		0.0492	mg/L	0.030	99	70	130				
Antimony		0.0484	mg/L	0.0010	97	70	130				
Arsenic		0.0558	mg/L	0.0010	110	70	130				
Barium		0.140	mg/L	0.050	101	70	130				
Cadmium		0.0548	mg/L	0.0010	110	70	130				
Chromium		0.0519	mg/L	0.0050	103	70	130				
Copper		0.0897	mg/L	0.0050	160	70	130			S	
Iron		5.28	mg/L	0.020	102	70	130			E	
Lead		0.0546	mg/L	0.0010	108	70	130				
Magnesium		66.6	mg/L	1.0	102	70	130				
Manganese		0.0565	mg/L	0.0010	92	70	130				
Nickel		0.0508	mg/L	0.0050	101	70	130				
Selenium		0.0600	mg/L	0.0010	120	70	130				
Silicon		16.0	mg/L	0.10		70	130			A	
Silver		0.0189	mg/L	0.0010	94	70	130				
Strontium		0.202	mg/L	0.010	77	70	130				
Thallium		0.0546	mg/L	0.00050	109	70	130				
Uranium		0.0590	mg/L	0.00030	116	70	130				
Zinc		0.0562	mg/L	0.010	110	70	130				
<b>Lab ID: B16100285-001AMSD</b>	19 Sample Matrix Spike Duplicate				Run: ICPMS206-B_161006A				10/06/16 14:06		
Aluminum		0.0556	mg/L	0.030	111	70	130	12	20		
Antimony		0.0524	mg/L	0.0010	105	70	130	8.0	20		
Arsenic		0.0585	mg/L	0.0010	115	70	130	4.6	20		

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

E - Estimated value. Result exceeds the instrument upper quantitation limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 10/14/16

Project: 3767-01 WK: 68

Work Order: B16100376

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Batch: R268252		
<b>Lab ID:</b>	<b>B16100285-001AMSD</b>	19 Sample Matrix Spike Duplicate			Run: ICPMS206-B_161006A				10/06/16 14:06	
Barium		0.146	mg/L	0.050	113	70	130	4.3	20	
Cadmium		0.0606	mg/L	0.0010	121	70	130	10.0	20	
Chromium		0.0559	mg/L	0.0050	111	70	130	7.3	20	
Copper		0.0930	mg/L	0.0050	166	70	130	3.6	20	S
Iron		5.55	mg/L	0.020	108	70	130	5.0	20	E
Lead		0.0588	mg/L	0.0010	116	70	130	7.4	20	
Magnesium		73.6	mg/L	1.0	116	70	130	9.9	20	
Manganese		0.0586	mg/L	0.0010	96	70	130	3.6	20	
Nickel		0.0542	mg/L	0.0050	108	70	130	6.4	20	
Selenium		0.0641	mg/L	0.0010	128	70	130	6.7	20	
Silicon		16.7	mg/L	0.10		70	130	4.4	20	A
Silver		0.0201	mg/L	0.0010	101	70	130	6.4	20	
Strontium		0.203	mg/L	0.010	80	70	130	0.8	20	
Thallium		0.0573	mg/L	0.00050	115	70	130	4.7	20	
Uranium		0.0643	mg/L	0.00030	127	70	130	8.7	20	
Zinc		0.0600	mg/L	0.010	118	70	130	6.5	20	

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

E - Estimated value. Result exceeds the instrument upper quantitation limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 10/14/16

**Project:** 3767-01 WK: 68

**Work Order:** B16100376

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_161013A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								10/13/16 13:36	
Mercury		0.000204	mg/L	1.0E-05	102	90	110				
<b>Method:</b> E245.1										Batch: 103529	
<b>Lab ID:</b> MB-103529		Method Blank								Run: HGCV203-B_161013A	10/13/16 13:51
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-103529		Laboratory Control Sample								Run: HGCV203-B_161013A	10/13/16 13:54
Mercury		0.000202	mg/L	1.0E-05	101	85	115				
<b>Lab ID:</b> B16100169-001BMS		Sample Matrix Spike								Run: HGCV203-B_161013A	10/13/16 13:59
Mercury		0.000206	mg/L	1.0E-05	102	70	130				
<b>Lab ID:</b> B16100169-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_161013A	10/13/16 14:01
Mercury		0.000205	mg/L	1.0E-05	102	70	130	0.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 10/14/16

**Project:** 3767-01 WK: 68

**Work Order:** B16100376

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E300.0</b>							Analytical Run: IC METROHM 2_161005A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard										
Sulfate	8.85	mg/L	1.0	98	90	110				10/05/16 14:56	
<b>Method: E300.0</b>							Batch: R268189				
<b>Lab ID: ICB</b>	Method Blank										
Sulfate	ND	mg/L	0.02				Run: IC METROHM 2_161005A			10/05/16 15:10	
<b>Lab ID: LFB</b>	Laboratory Fortified Blank										
Sulfate	30.7	mg/L	1.0	102	90	110	Run: IC METROHM 2_161005A			10/05/16 15:23	
<b>Lab ID: B16100376-001AMS</b>	Sample Matrix Spike										
Sulfate	3690	mg/L	9.1	96	90	110	Run: IC METROHM 2_161005A			10/06/16 13:51	
<b>Lab ID: B16100376-001AMSD</b>	Sample Matrix Spike Duplicate										
Sulfate	3690	mg/L	9.1	97	90	110	0.1	20	Run: IC METROHM 2_161005A	10/06/16 14:05	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 10/14/16

**Project:** 3767-01 WK: 68

**Work Order:** B16100376

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E365.1</b>								Analytical Run: FIA202-B_161006D			
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard										
Phosphorus, Total as P		0.490	mg/L	0.0050	98	90	110			10/06/16 15:54	
<b>Method: E365.1</b>								Batch: 103360			
<b>Lab ID: MB-103360</b>	Method Blank										
Phosphorus, Total as P		0.003	mg/L	0.002				Run: FIA202-B_161006D		10/06/16 16:28	
<b>Lab ID: LCS-103360</b>	Laboratory Control Sample										
Phosphorus, Total as P		0.197	mg/L	0.0050	97	90	110	Run: FIA202-B_161006D		10/06/16 16:29	
<b>Lab ID: B16100376-001CMS</b>	Sample Matrix Spike										
Phosphorus, Total Dissolved as P		0.209	mg/L	0.0050	98	90	110	Run: FIA202-B_161006D		10/06/16 16:59	
<b>Lab ID: B16100376-001CMSD</b>	Sample Matrix Spike Duplicate										
Phosphorus, Total Dissolved as P		0.209	mg/L	0.0050	98	90	110	Run: FIA202-B_161006D		10/06/16 17:01	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# Work Order Receipt Checklist

Tintina Montana Inc

B16100376

Login completed by: Gina McCartney

Date Received: 10/5/2016

Reviewed by: BL2000\cindy

Received by: qej

Reviewed Date: 10/7/2016

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 2.2°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

**Company Name:** McClelland Lab  
**Report Mail Address:** Tintina Resources, 200 Granville St. Suite 2560, Vancouver, BC V6C 1S4 Canada  
**Invoice Address:** Tintina Resources, 200 Granville St. Suite 2560, Vancouver, BC V6C 1S4 Canada

**Project Name, PWS, Permit, Etc.:** 3767-01 WK: 68  
**Sample Origin State:** NV  
**EPA/State Compliance:** Yes  No

**Contact Name:** Mike Medina  
**Phone/Fax:** 775-356-1300  
**Email:** MLI@METTEST.COM  
**Sampler:** (Please Print) Robert Johnson

**Invoice Contact & Phone:** Mr Bob Jacko  
**Phone/Fax:** 604-628-1162  
**Purchase Order:**

**Special Report/Formats - ELI must be notified prior to sample submittal for the following:**

DW  A2LA  
 GSA  EDD/EDT (Electronic Data)  
 POTW/WWTP **Format:** \_\_\_\_\_  
 State: \_\_\_\_\_  
 Other: \_\_\_\_\_

**Number of Containers:** \_\_\_\_\_  
**Sample Type:** A W S V B O  
**Vegetation Bioassay Other:** \_\_\_\_\_

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	SEE ATTACHED	SEE ATTACHED (TAT)	Normal Turnaround (TAT)	Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	Shipped by: Robert
1 USZ Comp	10/4/16	09:00	Water	X	X	X	RUSH	Robert
2								
3								
4								
5								
6								
7								
8								
9								
10								

**Comments:** Please Copy results to: MLI@METTEST.COM

**Receipt Temp:** \_\_\_\_\_ °C  
**On Ice:** Yes  No

**Custody Seal:** Intact  Y  N   
**Signature Match:** Y  N

**LABORATORY USE ONLY**

**Signature:** \_\_\_\_\_  
**Date/Time:** 10/4/16 9AM  
**Signature:** \_\_\_\_\_  
**Date/Time:** \_\_\_\_\_

**Signature:** \_\_\_\_\_  
**Date/Time:** \_\_\_\_\_

**Signature:** \_\_\_\_\_  
**Date/Time:** 10/5/16 09:15

**Lab Disposal:** \_\_\_\_\_

**Custody Record MUST be Signed**

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



# ANALYTICAL SUMMARY REPORT

November 10, 2016

Tintina Montana Inc  
PO Box 431  
White Sulfur Springs, MT 59645-0431

Work Order: B16110233      Quote ID: B2868 - Tintina Project  
Project Name: 3767-01 WK: 72

Energy Laboratories Inc Billings MT received the following 1 sample for Tintina Montana Inc on 11/2/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16110233-001	USZ Comp	11/01/16 9:00	11/02/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Fluoride Anions by Ion Chromatography Digestion, Mercury by CVAA Digestion, Total P Phosphorus, Total Dissolved

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

  
Technical Data Reviewer

Digitally signed by  
Jillian B. Miller  
Date: 2016.11.10 13:56:50 -07:00



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc  
**Project:** 3767-01 WK: 72  
**Lab ID:** B16110233-001  
**Client Sample ID:** USZ Comp

**Report Date:** 11/10/16  
**Collection Date:** 11/01/16 09:00  
**Date Received:** 11/02/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>INORGANICS</b>							
Sulfate	3010	mg/L	D	9		E300.0	11/04/16 14:27 / jpv
Fluoride	ND	mg/L		0.2		A4500-F C	11/03/16 10:52 / cjm
<b>NUTRIENTS, DISSOLVED</b>							
Phosphorus, Total Dissolved as P	0.03	mg/L	D	0.01		E365.1	11/07/16 16:44 / ks
<b>METALS, DISSOLVED</b>							
Aluminum	2.23	mg/L		0.009		E200.8	11/03/16 12:09 / jpv
Antimony	ND	mg/L		0.0005		E200.8	11/03/16 12:09 / jpv
Arsenic	0.011	mg/L		0.001		E200.8	11/03/16 12:09 / jpv
Barium	0.019	mg/L		0.003		E200.8	11/03/16 12:09 / jpv
Beryllium	0.0086	mg/L		0.0008		E200.8	11/03/16 12:09 / jpv
Cadmium	0.00403	mg/L	D	0.00005		E200.8	11/03/16 12:09 / jpv
Calcium	430	mg/L		1		E200.7	11/04/16 12:59 / jh
Chromium	ND	mg/L		0.01		E200.8	11/03/16 12:09 / jpv
Copper	41.1	mg/L		0.002		E200.8	11/03/16 12:09 / jpv
Iron	128	mg/L		0.02		E200.7	11/04/16 12:59 / jh
Lead	0.290	mg/L		0.0003		E200.8	11/03/16 12:09 / jpv
Magnesium	368	mg/L		1		E200.7	11/04/16 12:59 / jh
Manganese	9.35	mg/L		0.005		E200.8	11/03/16 12:09 / jpv
Mercury	0.0000375	mg/L		5E-06		E245.1	11/08/16 16:19 / ser
Nickel	0.494	mg/L		0.002		E200.8	11/03/16 12:09 / jpv
Selenium	0.006	mg/L		0.001		E200.8	11/03/16 12:09 / jpv
Silicon	7.3	mg/L	D	0.1		E200.7	11/04/16 12:59 / jh
Silver	ND	mg/L		0.0002		E200.8	11/03/16 12:09 / jpv
Strontium	12.7	mg/L		0.02		E200.8	11/03/16 12:09 / jpv
Thallium	0.0790	mg/L		0.0002		E200.8	11/03/16 12:09 / jpv
Uranium	0.0060	mg/L		0.0002		E200.8	11/03/16 12:09 / jpv
Zinc	1.19	mg/L		0.008		E200.8	11/03/16 12:09 / jpv

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 11/10/16

**Project:** 3767-01 WK: 72

**Work Order:** B16110233

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> A4500-F C										Analytical Run: MAN-TECH_161103A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								11/03/16 10:19	
Fluoride		0.990	mg/L	0.10	99	90	110				
<b>Method:</b> A4500-F C										Batch: R269785	
<b>Lab ID:</b> MBLK		Method Blank								Run: MAN-TECH_161103A	11/03/16 10:14
Fluoride		ND	mg/L	0.03							
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: MAN-TECH_161103A	11/03/16 10:17
Fluoride		0.990	mg/L	0.10	99	90	110				
<b>Lab ID:</b> B16110166-001BMSD		Sample Matrix Spike Duplicate								Run: MAN-TECH_161103A	11/03/16 10:27
Fluoride		1.75	mg/L	0.10	98	80	120	2.9	10		
<b>Lab ID:</b> B16110166-001BMS		Sample Matrix Spike								Run: MAN-TECH_161103A	11/03/16 11:21
Fluoride		1.70	mg/L	0.10	93	80	120				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 11/10/16

**Project:** 3767-01 WK: 72

**Work Order:** B16110233

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_161104A			
<b>Lab ID: ICV</b>	4	Continuing Calibration Verification Standard								11/04/16 10:30	
Calcium		25.4	mg/L	1.0	101	95	105				
Iron		2.53	mg/L	0.020	101	95	105				
Magnesium		25.7	mg/L	1.0	103	95	105				
Silicon		4.99	mg/L	0.10	100	95	105				
<b>Method: E200.7</b>								Batch: R269868			
<b>Lab ID: MB-6500DIS161104A</b>	4	Method Blank						Run: ICP203-B_161104A		11/04/16 10:37	
Calcium		ND	mg/L	0.06							
Iron		0.005	mg/L	0.002							
Magnesium		0.003	mg/L	0.002							
Silicon		ND	mg/L	0.02							
<b>Lab ID: LFB-6500DIS161104A</b>	4	Laboratory Fortified Blank						Run: ICP203-B_161104A		11/04/16 10:44	
Calcium		52.3	mg/L	1.0	105	85	115				
Iron		5.22	mg/L	0.020	104	85	115				
Magnesium		54.6	mg/L	1.0	109	85	115				
Silicon		9.51	mg/L	0.10	95	85	115				
<b>Lab ID: B16110184-001BMS2</b>	4	Sample Matrix Spike						Run: ICP203-B_161104A		11/04/16 12:48	
Calcium		593	mg/L	1.0	105	70	130				
Iron		53.9	mg/L	0.020	104	70	130				
Magnesium		617	mg/L	1.0	109	70	130				
Silicon		75.9	mg/L	0.25	69	70	130			S	
<b>Lab ID: B16110184-001BMSD</b>	4	Sample Matrix Spike Duplicate						Run: ICP203-B_161104A		11/04/16 12:52	
Calcium		596	mg/L	1.0	106	70	130	0.5	20		
Iron		54.0	mg/L	0.020	104	70	130	0.1	20		
Magnesium		620	mg/L	1.0	109	70	130	0.6	20		
Silicon		83.6	mg/L	0.25	77	70	130	9.7	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 11/10/16

Project: 3767-01 WK: 72

Work Order: B16110233

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_161103A		
<b>Lab ID: QCS</b>	17 Initial Calibration Verification Standard							11/03/16 10:38		
Aluminum		0.242	mg/L	0.10	97	90	110			
Antimony		0.0475	mg/L	0.050	95	90	110			
Arsenic		0.0516	mg/L	0.0050	103	90	110			
Barium		0.0483	mg/L	0.10	97	90	110			
Beryllium		0.0248	mg/L	0.0010	99	90	110			
Cadmium		0.0254	mg/L	0.0010	102	90	110			
Chromium		0.0506	mg/L	0.010	101	90	110			
Copper		0.0517	mg/L	0.010	103	90	110			
Lead		0.0479	mg/L	0.010	96	90	110			
Manganese		0.245	mg/L	0.010	98	90	110			
Nickel		0.0513	mg/L	0.010	103	90	110			
Selenium		0.0520	mg/L	0.0050	104	90	110			
Silver		0.0246	mg/L	0.0050	98	90	110			
Strontium		0.0493	mg/L	0.10	99	90	110			
Thallium		0.0484	mg/L	0.10	97	90	110			
Uranium		0.0198	mg/L	0.0010	99	90	110			
Zinc		0.0510	mg/L	0.010	102	90	110			

<b>Method: E200.8</b>								Batch: R269773		
<b>Lab ID: LRB</b>	17 Method Blank							Run: ICPMS206-B_161103A		11/03/16 10:55
Aluminum		ND	mg/L	0.0001						
Antimony		ND	mg/L	8E-05						
Arsenic		ND	mg/L	6E-05						
Barium		ND	mg/L	0.0004						
Beryllium		ND	mg/L	1E-05						
Cadmium		ND	mg/L	3E-05						
Chromium		ND	mg/L	4E-05						
Copper		ND	mg/L	6E-05						
Lead		ND	mg/L	5E-05						
Manganese		ND	mg/L	4E-05						
Nickel		ND	mg/L	6E-05						
Selenium		ND	mg/L	0.0001						
Silver		3E-05	mg/L	2E-05						
Strontium		ND	mg/L	1E-05						
Thallium		ND	mg/L	7E-05						
Uranium		-4E-05	mg/L							
Zinc		ND	mg/L	0.0001						

<b>Lab ID: LFB</b>	17 Laboratory Fortified Blank							Run: ICPMS206-B_161103A		11/03/16 11:00
Aluminum		0.0510	mg/L	0.10	102	85	115			
Antimony		0.0473	mg/L	0.050	95	85	115			
Arsenic		0.0519	mg/L	0.0050	104	85	115			
Barium		0.0504	mg/L	0.10	101	85	115			
Beryllium		0.0506	mg/L	0.0010	101	85	115			

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Tintina Montana Inc

Report Date: 11/10/16

Project: 3767-01 WK: 72

Work Order: B16110233

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R269773</span>										
<b>Lab ID: LFB</b>	17 Laboratory Fortified Blank				Run: ICPMS206-B_161103A				11/03/16 11:00	
Cadmium		0.0505	mg/L	0.0010	101	85	115			
Chromium		0.0507	mg/L	0.010	101	85	115			
Copper		0.0510	mg/L	0.010	102	85	115			
Lead		0.0514	mg/L	0.010	103	85	115			
Manganese		0.0507	mg/L	0.010	101	85	115			
Nickel		0.0498	mg/L	0.010	100	85	115			
Selenium		0.0510	mg/L	0.0050	102	85	115			
Silver		0.0208	mg/L	0.0050	104	85	115			
Strontium		0.0510	mg/L	0.10	102	85	115			
Thallium		0.0514	mg/L	0.10	103	85	115			
Uranium		0.0522	mg/L	0.0010	104	85	115			
Zinc		0.0511	mg/L	0.010	102	85	115			
<b>Lab ID: B16110049-004BMS</b>	17 Sample Matrix Spike				Run: ICPMS206-B_161103A				11/03/16 11:55	
Aluminum		0.0501	mg/L	0.030	100	70	130			
Antimony		0.0489	mg/L	0.0010	98	70	130			
Arsenic		0.0541	mg/L	0.0010	108	70	130			
Barium		0.0546	mg/L	0.050	104	70	130			
Beryllium		0.0495	mg/L	0.0010	99	70	130			
Cadmium		0.0516	mg/L	0.0010	103	70	130			
Chromium		0.0509	mg/L	0.0050	102	70	130			
Copper		0.0520	mg/L	0.0050	104	70	130			
Lead		0.0520	mg/L	0.0010	104	70	130			
Manganese		0.0520	mg/L	0.0010	104	70	130			
Nickel		0.0507	mg/L	0.0050	101	70	130			
Selenium		0.0502	mg/L	0.0010	100	70	130			
Silver		0.0216	mg/L	0.0010	107	70	130			
Strontium		0.0518	mg/L	0.010	102	70	130			
Thallium		0.0524	mg/L	0.00050	105	70	130			
Uranium		0.0514	mg/L	0.00030	103	70	130			
Zinc		0.0524	mg/L	0.010	86	70	130			
<b>Lab ID: B16110049-004BMSD</b>	17 Sample Matrix Spike Duplicate				Run: ICPMS206-B_161103A				11/03/16 11:58	
Aluminum		0.0517	mg/L	0.030	103	70	130	3.2	20	
Antimony		0.0495	mg/L	0.0010	99	70	130	1.2	20	
Arsenic		0.0541	mg/L	0.0010	108	70	130	0.0	20	
Barium		0.0546	mg/L	0.050	104	70	130	0.0	20	
Beryllium		0.0512	mg/L	0.0010	102	70	130	3.4	20	
Cadmium		0.0518	mg/L	0.0010	104	70	130	0.5	20	
Chromium		0.0514	mg/L	0.0050	103	70	130	1.0	20	
Copper		0.0510	mg/L	0.0050	102	70	130	1.9	20	
Lead		0.0523	mg/L	0.0010	105	70	130	0.6	20	
Manganese		0.0526	mg/L	0.0010	105	70	130	1.1	20	
Nickel		0.0513	mg/L	0.0050	103	70	130	1.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 11/10/16

**Project:** 3767-01 WK: 72

**Work Order:** B16110233

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Batch: R269773			
<b>Lab ID: B16110049-004BMSD</b>				17 Sample Matrix Spike Duplicate				Run: ICPMS206-B_161103A		11/03/16 11:58	
Selenium		0.0552	mg/L	0.0010	110	70	130	9.4	20		
Silver		0.0214	mg/L	0.0010	106	70	130	1.0	20		
Strontium		0.0528	mg/L	0.010	105	70	130	2.0	20		
Thallium		0.0525	mg/L	0.00050	105	70	130	0.0	20		
Uranium		0.0519	mg/L	0.00030	104	70	130	0.9	20		
Zinc		0.0523	mg/L	0.010	86	70	130	0.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 11/10/16

**Project:** 3767-01 WK: 72

**Work Order:** B16110233

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_161108A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								11/08/16 16:06	
Mercury		0.000203	mg/L	1.0E-05	102	90	110				
<b>Method:</b> E245.1										Batch: 104289	
<b>Lab ID:</b> MB-104289		Method Blank								Run: HGCV203-B_161108A	11/08/16 16:14
Mercury		4E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-104289		Laboratory Control Sample								Run: HGCV203-B_161108A	11/08/16 16:17
Mercury		0.000205	mg/L	1.0E-05	100	85	115				
<b>Lab ID:</b> B16110233-001BMS		Sample Matrix Spike								Run: HGCV203-B_161108A	11/08/16 16:24
Mercury		0.000239	mg/L	1.0E-05	101	70	130				
<b>Lab ID:</b> B16110233-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_161108A	11/08/16 16:27
Mercury		0.000239	mg/L	1.0E-05	101	70	130	0.0	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 11/10/16

**Project:** 3767-01 WK: 72

**Work Order:** B16110233

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E300.0</b>						Analytical Run: IC METROHM 1_161104A				
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Sulfate	8.44	mg/L	1.0	94	90	110				11/04/16 10:16
<b>Method: E300.0</b>						Batch: R269919				
<b>Lab ID: ICB</b>	Method Blank									
Sulfate	ND	mg/L	0.06				Run: IC METROHM 1_161104A			11/04/16 10:30
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Sulfate	28.8	mg/L	1.0	96	90	110	Run: IC METROHM 1_161104A			11/04/16 10:43
<b>Lab ID: B16110272-003AMS</b>	Sample Matrix Spike									
Sulfate	1730	mg/L	3.7	103	90	110	Run: IC METROHM 1_161104A			11/04/16 15:23
<b>Lab ID: B16110272-003AMSD</b>	Sample Matrix Spike Duplicate									
Sulfate	1730	mg/L	3.7	102	90	110	0.3	20	Run: IC METROHM 1_161104A	11/04/16 15:37

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Tintina Montana Inc

**Report Date:** 11/10/16

**Project:** 3767-01 WK: 72

**Work Order:** B16110233

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E365.1</b>								Analytical Run: FIA202-B_161107C		
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Phosphorus, Total as P		0.521	mg/L	0.0050	104	90	110			11/07/16 15:58
<b>Method: E365.1</b>								Batch: 104246		
<b>Lab ID: MB-104246</b>	Method Blank									
Phosphorus, Total as P		ND	mg/L	0.002						Run: FIA202-B_161107C 11/07/16 16:32
<b>Lab ID: LCS-104246</b>	Laboratory Control Sample									
Phosphorus, Total as P		0.189	mg/L	0.0050	95	90	110			Run: FIA202-B_161107C 11/07/16 16:34
<b>Lab ID: B16110221-001AMS</b>	Sample Matrix Spike									
Phosphorus, Total as P		2.73	mg/L	0.025	101	90	110			Run: FIA202-B_161107C 11/07/16 16:38
<b>Lab ID: B16110221-001AMSD</b>	Sample Matrix Spike Duplicate									
Phosphorus, Total as P		2.66	mg/L	0.025	94	90	110	2.6	10	Run: FIA202-B_161107C 11/07/16 16:39

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Tintina Montana Inc

B16110233

Login completed by: Gina McCartney

Date Received: 11/2/2016

Reviewed by: BL2000\tedwards

Received by: Isc

Reviewed Date: 11/4/2016

Carrier name: FedEx

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 8.6°C On Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# Chain of Custody and Analytical Request Record

**PLEASE PRINT - Provide as much information as possible.**

Project Name, PWS, Permit, Etc. **3767-01 WK: 72** State: **NV** EPA/State Compliance: Yes  No

Company Name: **McClelland Lab** Report Mail Address: **Tintina Resources, 200 Granville St, Suite 2560, Vancouver, BC V6C 1S4, Canada** Phone/Fax: **775-356-1300** Email: **MLI@METTEST.COM** Sampler: (Please Print) **Robert Johnson**

Invoice Address: **Tintina Resources, 200 Granville St, Suite 2560, Vancouver, BC V6C 1S4, Canada** Invoice Contact & Phone: **Mr Bob Jacko 604-628-1162** Purchase Order: **Quote/Bottle Order:**

Special Report/Formats - ELI must be notified prior to sample submittal for the following:

DW  A2LA  GSA  EDD/EDT (Electronic Data)  POTW/WWTP  State:  LEVEL IV  Other:  NELAC

Number of Containers	Sample Type: A W S V B D Air Water Soils/Solids Vegetation Bioassay Other	MATRIX	Collection Date	Collection Time	ANALYSIS REQUESTED			Contact ELI prior to RUSH sample submittal for charges and scheduling - See Instruction Page	Shipped by: Robert
					SEE ATTACHED	SEE ATTACHED (TAT)	Normal Turnaround (TAT)		
1	USZ Comp	Water	11/1/16	09:00	X	X	X	Comments: <b>RUSH</b>	Robert
2									
3									
4									
5									
6									
7									
8									
9									
10									

Comments: **LABORATORY USE ONLY**  
 Receipt Temp: \_\_\_\_\_ °C  
 On Ice: Yes  No   
 Custody Seal: Y N  
 Intact: Y N  
 Signature Match: Y N  
 Shipped by: **Robert**  
 Cooler ID(s): **81610233001**

Relinquished by (print): **JOE CHANEY** Date/Time: **11/1/16 9AM** Signature: *[Signature]*  
 Relinquished by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_  
 Received by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_  
 Received by (print): \_\_\_\_\_ Date/Time: \_\_\_\_\_ Signature: \_\_\_\_\_  
 Received by Laboratory: **Leah Johnson** Date/Time: **11/2/16** Signature: *[Signature]*  
 Lab Disposal: \_\_\_\_\_ Return to Client: \_\_\_\_\_

**Custody Record MUST be Signed**

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report. Visit our web site at [www.energylab.com](http://www.energylab.com) for additional information, downloadable fee schedule, forms, and links.

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012



**APPENDIX**

**Section 4 - Scanned Sample Receipts**

### SAMPLE RECEIPT FORM

Client Name: Tintina Date: 1-14-16

Contact: \_\_\_\_\_

Phone No(s): \_\_\_\_\_

Project Name: \_\_\_\_\_

**For MLI Use Only.**  
**MLI Project #: 3767-01**

Shipment Received: Hand Delivery  UPS  Fed X  Other

#### SAMPLE INFORMATION

Container #	Identification	Type* (See Code)	Est. Feed Size	Weight, kg
1	220524	4	10m	0.55
2	220526			0.43
3	220578			0.45
4	220585			0.48
5	220572			0.46
6	220694			0.60
7	221088			0.51
8	220826			0.48
9	220865			0.59
10	221113			0.54
11				
12				

\*Sample Type Code: Core = 1; Cuttings = 2; Bulk = 3; Rock = 4; Solution = 5; Other = 6

#### SPECIAL INSTRUCTIONS

One box containing ten samples in paper bags

Signature	Print Name	Date/Time
Relinquished by:		
Received by:		

inventoried by JL/GH 1-14-16  
 MET SampleRecpt.wb2



3767-01

Mineral Division – ALS Chemex  
Reno Branch

Chain of Custody – Pulp and Reject Shipment Form

Client Name \_\_\_\_\_

Client Code Tioxide

Type of sample (circle one)      Pulps                      Rejects                      Raw samples  
   Master   Split                      Entire reject   Split

Work orders or Sample ID's or attach list (circle if list is attached)

<u>16004989 Z1-10</u>	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Requested by Junior & Nick date 1/14/16  
 Relinquished by Debbie Thomas date 1/15/16  
 Received by [Signature] date 1/15/16

Pulp Reject COC form.doc

Revisions 02.01  
April 28, 2009



# LABORATORY FLOW WORKSHEET



TINALEX      Tintina Montana Inc.

Received:      Reno

Date Received: 12-Jan-2016

Sample Type:    Reject

Sheet Printed:  13-Jan-2016

**TINALEX**

**RE**

**16004989 Z 001-010**

METHOD TYPE	SECTION	DONE	AREA	RW	METHOD	WEIGHT
PREP	PULVERIZATION	<input type="checkbox"/>	Prep	<input type="checkbox"/>	PUL-31	
	CRUSH	<input type="checkbox"/>	Prep	<input type="checkbox"/>	SPL-21	
	PREP MISCELLANEOUS	<input type="checkbox"/>	Prep	<input type="checkbox"/>	SPLIT-Z	

Pulp Disposition: Paid Storage after 90 Days

Prep Comments: Rejects From RE15036828, RE15044148, RE15068505, RE15068507, RE13121037 and RE15121040. **\*\*Do not pulverized Z Splits\*\*Send 500 gram Z Splits to McClelland Laboratories\*\***



### SAMPLE RECEIPT FORM

Client Name: TINTINA MONTANA INC. Date: 2/19/16

Contact: \_\_\_\_\_

Phone No(s): \_\_\_\_\_

Project Name: \_\_\_\_\_

**For MLI Use Only.**  
**MLI Project #: 3767-01**

Shipment Received: Hand Delivery  UPS  Fed X  Other

#### SAMPLE INFORMATION

Container #	Identification	Type* (See Code)	Est. Feed Size	Weight, kg
1	221054	6 ↓	-1/4" ↓	296.9g
2	220517			297.3g
3	220556			303.7g
4	220595			302.9g
5	220634			294.1g
6	220678			295.5g
7				
8				
9				
10				
11				
12				

\*Sample Type Code: Core = 1; Cuttings = 2; Bulk = 3; Rock = 4; Solution = 5; Other = 6

#### SPECIAL INSTRUCTIONS

1 Box Containing 6 Samples in pulp envelopes

Signature	Print Name	Date/Time
Relinquished by: _____		
Received by: <u>Jon Lee</u>	<u>Jon Lee</u>	<u>2/19/16 2:15</u>

*5/21/15*

**SAMPLE RECEIPT FORM**

Client Name: Environin Inc. Date: 5/21/15  
 Contact: Lisa Kirk or Lauren Benjamin Mike M.

Phone No(s): 406-581-8261

Project Name: Tintina Black Butte Copper Project.

**For MLI Use Only.**  
**MLI Project #: 3767-01**

Shipment Received: Hand Delivery  UPS  Fed X  Other

**SAMPLE INFORMATION**

Container #	Identification	Type* (See Code)	Est. Feed Size	Weight, kg
1	one sludge sample			
2	delivered via Fed Ex +			
3	42 pulp samples delivered			
4	from ALS Chemex			
5				
6	see attached for			
7	complete inventory.			
8				
9				
10				
11				
12				

\*Sample Type Code: Core = 1; Cuttings = 2; Bulk = 3; Rock = 4; Solution = 5; Other = 6

**SPECIAL INSTRUCTIONS**

*Re: Tintina*

*should have rec'd report on pulp material refer to email dated 5/22/15*

Signature	Print Name	Date/Time
Relinquished by:		
Received by:		



# Sample Inventory

# \_\_\_\_\_

Inventoried By: DA Reviewed By: \_\_\_\_\_ Job #: 3767-01

Date: 5/22/15 Date: \_\_\_\_\_ Project Mgr. Mike

Sample I.D.	Feed Size	Sample Type	Weight, kg (Approx.)	Container Type	Location
220452 ✓	-150	pulp	202.3	envelope	
453 ✓			202.3		
458 ✓			190.6		
220439 ✓			172.0		
440 ✓			197.4		
446 ✓			226.2		
212740 ✓			149.6		
200746 ✓			130.5		
200747 ✓			138.1		
108467			133.4		
107733			121.0		
107743			133.8		
107754			137.8		
107758			117.2		
108480			118.7		
108479			120.7		
108500			99.4		
108453			109.2		
107778			126.6		
108519			118.4		
107797			113.4		
108241			114.8		
108505			126.8		
108506			138.8		
108445 ✓			130.4		

NOTES:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Sample Inventory

# \_\_\_\_\_

Inventoried By: DA Reviewed By: \_\_\_\_\_ Job #: 3767-01

Date: 5/22/15 Date: \_\_\_\_\_ Project Mgr. Mike

Sample I.D.	Feed Size	Sample Type	Weight, kg (Approx.)	Container Type	Location
108441	-150	pulp	104.7	envelope	
108429			103.1		
108427 ✓			117.9		
108407 ✓			138.2		
108406 ✓			90.2		
108428 ✓			108.6		
202114 ✓			138.9		
202098 ✓			127.3		
210789 ✓			118.8		
210788 ✓			129.3		
210785 ✓			119.1		
210784 ✓			99.2		
210786 ✓			110.7		
205924 ✓			133.5		
205947 ✓			105.0		
205950 ✓			113.2		
205951 ✓			114.9		
* Tailings	-	Sludge	4.66 kg	plastic Bag in plastic container	

NOTES:  
 \* Tailings sample is wet and no tare taken for container



**Laurie Hartley**

---

**From:** Laurie Hartley <lhartley@mettest.com>  
**Sent:** Friday, May 22, 2015 12:16 PM  
**To:** 'josh.rhew@alsglobal.com'  
**Cc:** Mike Medina (mmedina@mettest.com)  
**Subject:** Request for samples  
**Attachments:** 3767-01 instr to ALS 5-22-15.pdf

Hi Josh,

In connection with the above-mentioned and pursuant to our telephone conversation, please find attached a copy of instructions dated May 13, 2015, from Enviromin Inc., to ALS Geochemistry, Attention: Chuck Whipple. The instructions ask that weighted splits be taken from the reject mass and forwarded to McClelland Laboratories, Inc. The samples were received at MLI yesterday, however, we received pulps instead of the weighted reject material. Please pull all remaining reject material for the samples listed in the clients instructions and deliver them to MLI or contact the undersigned when they are ready and we will send someone to pick them up.

As per our conversation, this is a rush request and we would appreciate you giving it your immediate attention with the hope that we might be able to get them today. Thank you in advance for your cooperation.

Regards,

*Laurie Hartley*  
Warehouse Supervisor  
McClelland Laboratories, Inc.  
1016 Greg Street, Sparks, Nevada 89431  
(775) 356-1300 Ext 122 - Fax: (775) 356-8917  
[lhartley@mettest.com](mailto:lhartley@mettest.com)  
<http://www.mettest.com>

\*\*\*\*\*  
This message and any of the attached documents contain information from MLI that may be confidential and/or privileged. If you are not the intended recipient, you may not read, copy, distribute, or use this information, and no privilege has been waived by your inadvertent receipt. If you have received this transmission in error, please notify the sender by reply e-mail and then delete this message.  
Thank you.  
\*\*\*\*\*



Josh.rhew@alsglobal.com

1807 W. Dickerson, Suite D  
P.O. Box 1685  
Bozeman, MT 59771  
(406) 581-8261

13 May 2015

To: Chuck Whipple  
ALS Geochemistry  
Reno NV

From: Lisa Kirk, Principal, Geochemist  
Lauren Bozeman, Geologist

XC: Bob Jacko, VP Operations Tintina

RE: Request for Sample Shipment to McClelland Laboratories  
Tintina Black Butte Copper Project

Enviromin, on behalf of Tintina Resources, is requesting the shipment of samples that have been previously tested and archived at ALS Laboratories. **Table 1** on the following page shows the sample IDs, ALS job number, available reject weight from previous testing, and the requested mass for the splits (in grams) for shipment. Please ship the indicated mass of each of the samples listed in **Table 1** on the following page to McClelland Laboratories:

Mr. Mike Medina  
McClelland Laboratories  
1016 Greg Street.  
Sparks, Nevada 89431  
(775) 356-1300

Please confirm the shipment of these samples with Lisa Kirk: [lkirk@montana.com](mailto:lkirk@montana.com).  
Please Cc Lauren Bozeman: [lauren.enviromin@gmail.com](mailto:lauren.enviromin@gmail.com)

Please contact Lauren Bozeman at (406) 600-6086 with any questions regarding these instructions.

Tintina Resources can be billed directly for the preparation and shipment of the samples.

The following pages are lab instructions for McClelland Laboratories to be included with the sample shipment.



1807 W. Dickerson, Suite D  
 P.O. Box 1685  
 Bozeman, MT 59771  
 (406) 581-8261

11 May 2015

To: Mr. Mike Medina  
 McClelland Laboratories  
 1016 Greg Street.  
 Sparks, Nevada 89431  
 (775) 356-1300

From: Lisa Kirk, Principal, Geochemist  
 Lauren Bozeman, Geologist

XC: Bob Jacko, VP Operations Tintina

RE: Request for Initiation of Kinetic Testing for 3 Composite Samples  
 Black Butte Copper Project

Tintina plans to initiate kinetic testing on composited samples from these units: *Yc*, *Ynl B* and the *USZ*. We request that McClelland create these composites with the subsamples listed in **Table 1** upon receiving samples.

Table 1. Samples for HCT Composites for Kinetic Testing						
HCT Test	Lithology	Sample ID	Hole ID	ALS Lab Report Number	Reject Mass Available (Kilograms)	Mass to Ship (grams)
1	<i>Yc</i>	220452 ✓	SC14-171	RE15038040	6.92	350
1	<i>Yc</i>	220453 ✓	SC14-171	RE15038040	6.96	350
1	<i>Yc</i>	220458 ✓	SC14-171	RE15038040	6.5	350
1	<i>Yc</i>	220439 ✓	SC14-169	RE15038040	5.62	350
1	<i>Yc</i>	220440 ✓	SC14-169	RE15038040	5.85	350
1	<i>Yc</i>	220446 ✓	SC14-169	RE15038040	6.31	350
1	<i>Yc</i>	212740 ✓	SC11_036	RE15036597	1.78	350
1	<i>Yc</i>	200746 ✓	SC11_010	RE15036597	2.21	350
1	<i>Yc</i>	200747 ✓	SC11_010	RE15036597	3.64	350
2	<i>Ynl B</i>	108467 ✓	SC10-004	RE15061162	2.26	150
2	<i>Ynl B</i>	107733 ✓	SC10-003	RE15061162	3.44	150
2	<i>Ynl B</i>	107743 ✓	SC10-003	RE15061162	3.73	150
2	<i>Ynl B</i>	107754 ✓	SC10-003	RE15061162	0.97	150
2	<i>Ynl B</i>	107758 ✓	SC10-003	RE15061162	3.33	150

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2	Ynl B	108480 ✓	SC10-004	RE15061162	3.09	150
2	Ynl B	108479 ✓	SC10-004	RE15061162	3.07	150
2	Ynl B	108500 ✓	SC10-004	RE15061162	2.82	150
2	Ynl B	108453 ✓	SC10-004	RE15061162	4.05	150
2	Ynl B	107778 ✓	SC10-003	RE15061162	1.29	150
2	Ynl B	108519 ✓	SC10-004	RE15061162	5.53	150
2	Ynl B	107797 ✓	SC10-003	RE15061162	2.67	150
2	Ynl B	108241 ✓	SC10-003	RE15061162	3.6	150
2	Ynl B	108505 ✓	SC10-004	RE15061162	3.46	150
2	Ynl B	108506 ✓	SC10-004	RE15061162	3.62	150
2	Ynl B	108445 ✓	SC10-004	RE15061162	2.16	150
2	Ynl B	108441 ✓	SC10-004	RE15061162	2.12	150
2	Ynl B	108429 ✓	SC10-004	RE15061162	3.57	150
3	USZ	108427 ✓	SC10-004	RE15036597	3.64	200
3	USZ	108407 ✓	SC10-004	RE15036597	4.1	200
3	USZ	108406 ✓	SC10-004	RE15036597	2.44	200
3	USZ	108428 ✓	SC10-004	RE15036597	3.55	200
3	USZ	202114 ✓	SC11-031	RE15036597	3.31	200
3	USZ	202098 ✓	SC11-031	RE15036597	4.05	200
3	USZ	210789 ✓	SC12-122	RE15036597	4.68	200
3	USZ	210788 ✓	SC12-122	RE15036597	5.48	200
3	USZ	210785 ✓	SC12-122	RE15036597	3.18	200
3	USZ	210784 ✓	SC12-122	RE15036597	2.36	200
3	USZ	210786 ✓	SC12-122	RE15036597	2.96	200
3	USZ	205924 ✓	SC12-137	RE15036597	3.53	200
3	USZ	205947 ✓	SC12-137	RE15036597	3.74	200
3	USZ	205950 ✓	SC12-137	RE15036597	4.69	200
3	USZ	205951 ✓	SC12-137	RE15036597	4.78	200

As we have done previously for Montana projects, due to the need for low level metal analysis in accordance with Montana DEQ 7 (see Table 2), we request that McClelland Laboratories use disposable 0.45µm filters during sample collection in weeks 0, 1, 2, 4, 8, 12, 16, 20 and that samples be shipped for analysis to:

Energy Laboratories  
 1120 South 27th Street (59101)  
 PO Box 30916  
 Billings, MT 59107-0916  
 1-800-735-4489

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

Parameter	Required Reporting Value (mg/L)
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

Based on MT DEQ7 revised 10/2012

#### **Asbestiform Mineral Characterization**

A representative 100 to 200 gram aliquot of the Chamberlain (Yc) composite sample should be sealed in double zip-lock bags and labeled with the composite identification (Yc-Comp). This sample is to be shipped to the RJ Lee Group for analysis of potential asbestiform mineral content. Please ship these samples, under chain-of-custody with the attached analytical request, to the following address:

Mr. Bill Powers, Manager of Optical Group  
 RJ Lee Group  
 350 Hochberg Road  
 Monroeville, PA 151446  
 (724) 325-1776

Tintina Resources should be billed directly for all testing.

All results should be reported to Lisa Kirk of Enviromin: [lkirk@montana.com](mailto:lkirk@montana.com).

Copy Katie Seipel ([seipel.k@gmail.com](mailto:seipel.k@gmail.com)) and Lauren Bozeman ([lauren.enviromin@gmail.com](mailto:lauren.enviromin@gmail.com)) for all results and related correspondence

Enviromin can provide Chain of Custody for the RJ Lee Optical Group to Energy Laboratories if required. Contact Lauren Bozeman ([lauren.enviromin@gmail.com](mailto:lauren.enviromin@gmail.com)) or at 406-600-6086) for access to this document.

If you have any questions about these instructions, please contact Lauren Bozeman at (406) 600-6086.

Please include the following lab instructions upon shipment to RJ Lee Group:



1807 W. Dickerson, Suite D  
 P.O. Box 1685  
 Bozeman, MT 59771  
 (406) 581-8261

11 May 2015

To: Mr. Bill Powers, Manager of Optical Group  
 RJ Lee Group  
 350 Hochberg Road  
 Monroeville, PA 151446  
 (724) 325-1776

From: Lisa Kirk, Principal, Geochemist  
 Lauren Bozeman, Geologist

XC: Bob Jacko, VP Operations Tintina

RE: Analytical Request for PLM/TEM Analyses  
 Tintina Black Butte Copper Project

Please find enclosed 1 composite rock sample of Yc-Comp collected drill core. Please conduct the following analysis for Tintina's Black Butte Geochemical Baseline Study

**PLM Analysis**

The RJ Lee Group will document the relative abundance of the minerals listed in Table 1 using Polarized Light Microscopy (PLM) methods at a 400 point count (0.25 %) level of analysis. Montana Department of Environmental Quality requires that a specific description of the criteria used to define asbestiform fibers, based on the regulations provided in EPA-600/R-93/116, be provided by the PLM analysis.

**Table 1. List of minerals for analysis.**

Asbestiform Minerals	Group	Chemical Formula
Chrysotile	Serpentine	$Mg_3Si_2(OH)_4$
Amosite	Amphibole	$(Mg, Fe)_2Al_4Si_5O_{18} \cdot nH_2O$
Crocidolite	Amphibole	$NaFe_3^{2+}Fe_2^{3+}Si_8O_{22}(OH)_2$
Anthophyllite	Amphibole	$(Mg, Fe)_7Si_8O_{22}(OH)_2$
Tremolite	Amphibole	$Ca_2Mg_5Si_8O_{22}(OH)_2$
Actinolite	Amphibole	$Ca_2(Mg, Fe)_5Si_8O_{22}(OH)_2$

Turnaround time for PLM analysis from receipt of samples should be within 2 weeks. **Prior to any further analysis**, results of PLM analysis are to be submitted (email) to:

Lisa Kirk at [lkirk@montana.com](mailto:lkirk@montana.com)

Copy Katie Seipel ([seipel.k@gmail.com](mailto:seipel.k@gmail.com)) and Lauren Bozeman ([lauren.enviromin@gmail.com](mailto:lauren.enviromin@gmail.com)) for all results and related correspondence

### **TEM Analysis**

Transmission Electron Microscopic (TEM) analysis of samples with uncertain or demonstrated asbestiform mineral content in PLM analyses may be required of the RJ Lee Group. This work should include distinction of mineral cleavage and fibers, and will be supported by element analysis using EDS and phase identification using SAED as appropriate. Detection limits for this analysis may vary depending upon material matrix, between 0.001 and 0.1 weight percent. Detection limit will be documented for each analysis, and will not exceed 0.1 wt percent unless verified with Lisa Kirk (406) 581-8261. Assuming that few if any of the samples will be studied using TEM, two week turnaround from notice to proceed on TEM analysis is expected. **TEM analysis should only proceed on direction of Dr. Kirk**

Please contact Lisa Kirk with questions at (406) 581-8261 or at [lkirk@montana.com](mailto:lkirk@montana.com)

Tintina Resources should be billed directly for all testing.

Please find the Chain of Custody for RJ Lee Group enclosed in the instructions for shipment to RJ Lee Group.



966-60H

**SAMPLE RECEIPT FORM**

Client Name: Environix Inc. Date: 5/27/15

Contact: Lisa Kirk or Lauren Bergeman mike m

Phone No(s): 406-581-8261

Project Name: Tintona Black Butte Copper

For MLI Use Only.  
MLI Project #: 3767-01

Shipment Received: Hand Delivery  UPS  Fed X  Other

**SAMPLE INFORMATION**

Container #	Identification	Type* (See Code)	Est. Feed Size	Weight, kg
1	5 Rice Bags w/ multiple samples and 6 cloth bags each containing a single sample.			
2				
3				
4				
5				
6	see attached for complete inventory.			
7				
8				
9				
10				
11				
12				

\*Sample Type Code: Core = 1; Cuttings = 2; Bulk = 3; Rock = 4; Solution = 5; Other = 6

**SPECIAL INSTRUCTIONS**

Samples 108404, 108407, 108427, 108428  
Rec'd damaged.

Signature	Print Name	Date/Time
Relinquished by:		
Received by:		

# Sample Inventory

# \_\_\_\_\_

Inventoried By: LH/CA

Reviewed By: \_\_\_\_\_

Job #: 3767-01

Date: 5/27/15

Date: \_\_\_\_\_

Project Mgr. Mike M

ALS JOB#	ALS Sample#	Client ID	Feed Size	Sample Type	Weight, kg (Approx.)	Container Type	Location
15012321	15	220452	-1/4"	Reject	5.45		
	16	220453			5.67		
	2	220439			6.75		
	3	220440			6.78		
	9	220446			6.33		
15036597	16	212740			1.31		
	17	200746			1.75		
	18	200747			3.15		
	3	108427			1.57	Rec'd Damaged	
	2	108407			3.95		
	1	108406			3.46		
	4	108428			3.37		
	6	202114			3.87		
	5	202098			3.13		
	11	210789			2.78		
	10	210788			2.18		
	8	210785			5.29		
	7	210784			4.49		
	9	210786			2.99		
	12	205924			3.35		
	13	205947			3.55		
	14	205950			4.50		
	15	205951			4.58		
15036597	19	203496			0.24	Rec'd Not Requested	
	20	—			—	Listed Not Rec'd	

NOTES:

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Mineral Division – ALS Chemex  
Reno Branch

Chain of Custody – Pulp and Reject Shipment Form

Client Name 1

Client Code TINALEX

Type of sample (circle one) Pulps  
Master Split

Rejects  
Entire reject Split

Raw samples

Work orders or Sample ID's or attach list (circle if list is attached)

RE 15012321 # 15

RE 15012321 # 2

RE 15012321 # 9

15036597 # 5-7

RE 15012321 # 21 ✓

15036597 # 8-11

RE 15012321 # 3

15036597 # 12-14

RE 15012321 # 16

15036597 # 15-20 ✓

15036597 # 1-4

#19 Rec'd Not Requested

#20 listed not Rec'd

Requested by

15012321 # 21 Rec'd Not Requested

2M  
date 5/27/15

Relinquished by

date

Received by

date

5/27/15

Pulp Reject COC form.doc

Revisions 02.01  
April 28, 2009



*Laurie Hartley*

---

**From:** Josh Rhew [<mailto:Josh.Rhew@alsglobal.com>]  
**Sent:** Wednesday, May 27, 2015 8:41 AM  
**To:** Laurie Hartley  
**Subject:** RE: samples for Enviromin, Inc.

Still looking for the 18, you can pick up the ones we have available now. as soon as the 18 are available we will let you know. Sorry for the delay. Please feel free to contact me with any questions.

Josh Rhew

---

**From:** Laurie Hartley [<mailto:lhartley@mettest.com>]  
**Sent:** Tuesday, May 26, 2015 2:56 PM  
**To:** Josh Rhew  
**Cc:** Mike Medina  
**Subject:** RE: samples for Enviromin, Inc.

Hi Josh,

Have you located the missing 18 rejects?

*Laurie Hartley*

---

**From:** Josh Rhew [<mailto:Josh.Rhew@alsglobal.com>]  
**Sent:** Friday, May 22, 2015 3:00 PM  
**To:** Laurie Hartley  
**Subject:** RE: samples for Enviromin, Inc.

They are working on them now. i will update you as soon as I have them completed.

---

**From:** Laurie Hartley [<mailto:lhartley@mettest.com>]  
**Sent:** Friday, May 22, 2015 2:57 PM  
**To:** Josh Rhew  
**Subject:** samples for Enviromin, Inc.

Hi Josh,

I'm off at 3:00 P.M. today. Please leave me a voicemail message or send me an email when the rejects are ready to pick up and I will have someone there first thing Monday morning. Thank you.

Regards,

*Laurie Hartley*

Warehouse Supervisor  
McClelland Laboratories, Inc.  
1016 Greg Street, Sparks, Nevada 89431  
(775) 356-1300 Ext 122 - Fax: (775) 356-8917  
[lhartley@mettest.com](mailto:lhartley@mettest.com)



<http://www.mettest.com>

\*\*\*\*\*

This message and any of the attached documents contain information from MLI that may be confidential and/or privileged. If you are not the intended recipient, you may not read, copy, distribute, or use this information, and no privilege has been waived by your inadvertent receipt. If you have received this transmission in error, please notify the sender by reply e-mail and then delete this message.

Thank you.

\*\*\*\*\*

ALS Group: Click [here](#) to report this email as spam.

\*\*\*\*\*

The information contained in this email is confidential. If the reader is not the intended recipient then you must notify the sender immediately by return email and then delete all copies of this email. You must not copy, distribute, print or otherwise use the information. Email may be stored by the Company to support operational activities. All information will be held in accordance with the Company's Privacy Policy which can be found on the Company's website - [www.alsglobal.com](http://www.alsglobal.com).

\*\*\*\*\*

**SAMPLE RECEIPT FORM**

Client Name: Environin Date: 6/19/15

Contact: \_\_\_\_\_

Phone No(s): \_\_\_\_\_

Project Name: \_\_\_\_\_

**For MLI Use Only.**  
**MLI Project #: 3767-01**

Shipment Received: Hand Delivery  UPS  Fed X  **ALS Other**  **Chemex**

**SAMPLE INFORMATION**

Container #	Identification	Type* (See Code)	Est. Feed Size	Weight, kg
1	<i>see attached for complete inventory</i>			
2				
3				
4				
5	<i>1 Box rec'd containing 18 samples in pulp envelopes.</i>			
6				
7				
8				
9				
10				
11				
12				

\*Sample Type Code: Core = 1; Cuttings = 2; Bulk = 3; Rock = 4; Solution = 5; Other = 6

**SPECIAL INSTRUCTIONS**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Signature	Print Name	Date/Time
Relinquished by:		
Received by:		





### SAMPLE RECEIPT FORM

Client Name: Enviromin, Inc. Date: 6-29-15

Contact: \_\_\_\_\_

Phone No(s): \_\_\_\_\_

Project Name: \_\_\_\_\_

**For MLI Use Only.**  
**MLI Project #:** 3767-01

Shipment Received: Chemex Hand Delivery  UPS  Fed X  Other

#### SAMPLE INFORMATION

Container #	Identification	Type* (See Code)	Est. Feed Size	Weight, kg
1	(see attached for inventory)	4	-1/4"	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

\*Sample Type Code: Core = 1; Cuttings = 2; Bulk = 3; Rock = 4; Solution = 5; Other = 6

#### SPECIAL INSTRUCTIONS

One cloth bag and one box with multiple pulp envelopes

Signature	Print Name	Date/Time
Relinquished by: _____		
Received by: <u>[Signature]</u>	<u>Christian Albert</u>	<u>6-29-15 9:00am</u>





10 June 2015

To: Chuck Whipple, ALS Laboratories

Cc: Vince Scartozzi, Jerry Zieg, Allan Kirk

From: Katie Seipel, Sr. Environmental Scientist,  
Lisa Kirk, Ph.D., P.G., Principal Geochemist

Re: Acid-Base Accounting and Net Acid Generation Tests  
Tintina Resources, Black Butte Copper Project

Enviromin is currently preparing to conduct acid-base accounting (ABA) and net acid generation (NAG) tests on 15 samples from one unit (LZ-FW) for Tintina's Black Butte Copper Project. This memo summarizes the specific samples we would like to include, as well as our analysis requests. The samples listed in Table 1 are currently in storage at ALS. Enviromin requests that ALS pull archived coarse reject to conduct these tests.

**Table 1. Sample Identifications and related information**

ALS Work Order Numbers	Sample ID	Hole ID	From	To	Strat Code
VA10144190	108331 ✓	SC10_003	351.69	353.69	LZ50
RE12059765	108340 ✓	SC10_003	362.72	363.27	LZ50
RE12062434	108594 ✓	SC10_004	425.00	427.00	LZ31
RE11216960	200636 ✓	SC11_008	375.33	377.00	LZ20H
EL11108371	200681 ✓	SC11_009	406.00	408.00	LZ31
RE11093500	203867 ✓	SC11_031	451.99	453.36	LZ31
RE12076373	212737 ✓	SC11_036	372.13	373.20	LZ50
VA11075569	202590 ✓	SC11_048	370.32	372.16	LZ50
EL11103611	202592 ✓	SC11_048	374.16	376.16	LZ31
RE12019123	207833 ✓	SC12_100	430.35	432.30	LZ50
RE12019123	207834 ✓	SC12_100	432.30	434.15	LZ50
RE12036893	205670 ✓	SC12_107	449.60	450.38	LZ31
RE12131856	211766 ✓	SC12_123	366.84	368.84	LZ31
RE12165451	214929 ✓	SC12_142	360.50	362.50	LZ33
RE14189263	219900 ✓	SC14_172	378.90	380.90	LZ_FW

The following summarizes Enviromin's requests for processing of these samples:

- 225 gram split (coarse reject) weighted and shipped to McClelland Laboratories
- Preparation package: Prep-31
- ABA package: ABA-PKG03 (Modified)
- NAG package: OA-VOL11
- Reject weights: WEI-25

Please immediately ship splits to McClelland Laboratories at the following address and include the attached memo to McClelland Laboratories in the shipment:

Mr. Mike Medina  
McClelland Laboratories  
1016 Greg Street.  
Sparks, Nevada 89431  
(775) 356-1300

Please confirm the following with Enviromin:

- Receipt and clarity of these instructions;
- Success or difficulties locating samples in ALS Laboratories warehouse; and
- Shipment of splits to McClelland Laboratories

All correspondence should be directed to Kate Seipel at (406) 539-2780 or at [seipel.k@gmail.com](mailto:seipel.k@gmail.com) and should be Cc'ed to Lisa Kirk: [lkirk@montana.com](mailto:lkirk@montana.com) and Lauren Bozeman: [lauren.enviromin@gmail.com](mailto:lauren.enviromin@gmail.com).



10 June 2015

To: Mr. Mike Medina  
McClelland Laboratories  
1016 Greg Street.  
Sparks, Nevada 89431  
(775) 356-1300

Cc: Vince Scartozzi, Jerry Zieg, Allan Kirk

From: Katie Seipel, Sr. Environmental Scientist,  
Lisa Kirk, Ph.D., P.G., Principal Geochemist

RE: Request for Initiation of Kinetic Testing for 1 Composite Sample  
Black Butte Copper Project

Tintina plans to initiate kinetic testing on a composited sample from a newly defined waste unit known as the Lower Zone Footwall (LZ-FW). We request that McClelland create this composite from the subsamples listed in **Table 1**, which are included with this memo.

All correspondence, including confirmation of sample receipt, and results of testing should be directed to Katie Seipel (406-539-2780) at [seipel.k@gmail.com](mailto:seipel.k@gmail.com) and should be copied to Lisa Kirk: [lkirk@montana.com](mailto:lkirk@montana.com) and Lauren Bozeman: [lauren.enviromin@gmail.com](mailto:lauren.enviromin@gmail.com). Tintina Resources should be billed directly for all testing.

**Table 1. Samples for HCT Composites for Kinetic Testing**

HCT Test	Lithology	Sample ID	Hole ID	ALS Lab Report Number	Mass of Subsample (grams)
1	LZFW	108331	SC10_003	VA10144190	225
1	LZFW	108340	SC10_003	RE12059765	225
1	LZFW	108594	SC10_004	RE12062434	225
1	LZFW	200636	SC11_008	RE11216960	225
1	LZFW	200681	SC11_009	EL111108371	225
1	LZFW	203867	SC11_031	RE11093500	225
1	LZFW	212737	SC11_036	RE12076373	225
1	LZFW	202590	SC11_048	VA11075569	225
1	LZFW	202592	SC11_048	EL111103611	225
1	LZFW	207833	SC12_100	RE12019123	225
1	LZFW	207834	SC12_100	RE12019123	225
1	LZFW	205670	SC12_107	RE12036893	225
1	LZFW	211766	SC12_123	RE12131856	225
1	LZFW	214929	SC12_142	RE12165451	225
1	LZFW	219900	SC14_172	RE14189263	225

As we have done previously for Montana projects, due to the need for low level metal analysis in accordance with Montana DEQ 7 (see Table 2), we request that McClelland Laboratories use disposable 0.45µm filters during sample collection in weeks 0, 1, 2, 4, 8, 12, 16, 20 and that samples be shipped for analysis to:

Energy Laboratories  
1120 South 27th Street (59101)  
PO Box 30916  
Billings, MT 59107-0916  
1-800-735-4489

**Table 2. Trace element parameters recommended by DEQ for leachate analysis following proposed humidity cell testing, Tintina project**

<b>Parameter</b>	<b>Required Reporting Value (mg/L)</b>
Aluminum	0.009
Antimony	0.0005
Arsenic	0.001
Barium	0.003
Beryllium	0.0008
Cadmium	0.00003
Calcium	1.0
Chromium	0.01
Copper	0.002
Fluoride	0.2
Iron	0.02
Lead	0.0003
Magnesium	1.0
Manganese	0.005
Mercury	0.000005
Nickel	0.002
Phosphorus	0.001
Selenium	0.001
Silver	0.0002
Strontium	0.02
Sulfate	1.0
Thallium	0.0002
Uranium	0.0002
Zinc	0.008

*Based on MT DEQ7 revised 10/2012*

**Asbestiform Mineral Characterization**

A representative 100 to 200 gram aliquot of the LZFW composite sample should be sealed in double zip-lock bags and labeled with the composite identification (LZFW-Comp). This sample is to be shipped to the RJ Lee Group for analysis of potential asbestiform mineral content. Please ship these samples, under chain-of-custody with the attached analytical request, to the following address:

Mr. Bill Powers, Manager of Optical Group  
RJ Lee Group  
350 Hochberg Road  
Monroeville, PA 151446  
(724) 325-1776

Enviromin can provide Chain of Custody for the RJ Lee Optical Group to Energy Laboratories if required. Contact Lauren Bozeman ([lauren.enviromin@gmail.com](mailto:lauren.enviromin@gmail.com) or at 406-600-6086) for access to this document.

Please include the following lab instructions upon shipment to RJ Lee Group:



10 June 2015

To: Mr. Bill Powers, Manager of Optical Group  
RJ Lee Group  
350 Hochberg Road  
Monroeville, PA 151446  
(724) 325-1776

From: Lisa Kirk, Principal, Geochemist                      XC: Bob Jacko, VP Operations Tintina  
Lauren Bozeman, Geologist

RE: Analytical Request for PLM/TEM Analyses  
Tintina Black Butte Copper Project

Please find enclosed **1** composite rock sample, "LZFW-Comp." Please conduct the following analysis for Tintina's Black Butte Geochemical Baseline Study.

#### PLM Analysis

Please document the relative abundance of the minerals listed in Table 1 using Polarized Light Microscopy (PLM) methods at a 400 point count (0.25 %) level of analysis. Montana Department of Environmental Quality requires that a specific description of the criteria used to define asbestiform fibers, based on the regulations provided in EPA-600\R-93\116, be provided by the PLM analysis.

**Table 1. List of minerals for analysis.**

Asbestiform Minerals	Group	Chemical Formula
Chrysotile	Serpentine	$Mg_3Si_2(OH)_4$
Amosite	Amphibole	$(Mg, Fe)_2Al_4Si_5O_{18} \cdot nH_2O$
Crocidolite	Amphibole	$NaFe_3^{2+}Fe_2^{3+}Si_8O_{22}(OH)_2$
Anthophyllite	Amphibole	$(Mg, Fe)_7Si_8O_{22}(OH)_2$
Tremolite	Amphibole	$Ca_2Mg_5Si_8O_{22}(OH)_2$
Actinolite	Amphibole	$Ca_2(Mg, Fe)_5Si_8O_{22}(OH)_2$

Turnaround time for PLM analysis from receipt of samples should be within 2 weeks. **Prior to any further analysis**, results of PLM analysis are to be submitted (via email) to:

Lisa Kirk: [lkirk@montana.com](mailto:lkirk@montana.com) and should be copied to Katie Seipel ([seipel.k@gmail.com](mailto:seipel.k@gmail.com)) and Lauren Bozeman ([lauren.enviromin@gmail.com](mailto:lauren.enviromin@gmail.com)). All results and related correspondence should be handled in this way.

### **TEM Analysis**

Transmission Electron Microscopic (TEM) analysis of samples with uncertain or demonstrated asbestiform mineral content in PLM analyses may be required of the RJ Lee Group. This work should include distinction of mineral cleavage and fibers, and will be supported by element analysis using EDS and phase identification using SAED as appropriate. Detection limits for this analysis may vary depending upon material matrix, between 0.001 and 0.1 weight percent. Detection limit will be documented for each analysis, and will not exceed 0.1 wt percent unless verified with Lisa Kirk ((406) 581-8261). Assuming that few if any of the samples will be studied using TEM, two week turnaround from notice to proceed on TEM analysis is expected. **TEM analysis should only proceed on direction of Dr. Kirk**

Please contact Lisa Kirk with questions at (406) 581-8261 or at lkirk@montana.com

Tintina Resources should be billed directly for all testing.

Please find the Chain of Custody for RJ Lee Group enclosed in the instructions for shipment to RJ Lee Group.



Mineral Division – ALS Chemex  
Reno Branch

Chain of Custody – Pulp and Reject Shipment Form

Client Name \_\_\_\_\_

Client Code Tinalex

Type of sample (circle one)      Pulps                      Rejects                      Raw samples  
   Master   Split                      Entire reject   Split

Work orders or Sample ID's or attach list (circle if list is attached)

055133 \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Requested by \_\_\_\_\_ date \_\_\_\_\_  
Relinquished by Edward Phillips date 6-29-15  
Received by Christian Albert date 6-29-15

## **Appendix C:**

CAMP Mineralogy Report from 2012 HCTs

**MLA CHARACTERIZATION  
Of  
Tintina Black Butte Humidity Cell Test Material**

**Prepared for**

**Lisa Kirk  
Enviromin**



**THE CENTER FOR ADVANCED  
MINERAL & METALLURGICAL PROCESSING  
Montana Tech of the University of Montana  
Butte, Montana**

**October 6, 2014**

**MLA CHARACTERIZATION  
Of  
Tintina Black Butte Humidity Test Cell Material**

**Prepared for**

**Lisa Kirk**

**Enviromin  
P.O. Box 1685  
Bozeman, MT 59715**

**by**

**Gary F. Wyss  
Laboratory/Equipment Specialist**

**Of**

**The Center for Advanced Mineral & Metallurgical Processing (CAMP)  
Montana Tech of the University of Montana  
Room 124 ELC Building  
1300 West Park Street  
Butte, Montana 59701 USA  
Telephone: 406-496-4145  
Fax: 406-496-4512  
E-mail: [gwys@mttech.edu](mailto:gwys@mttech.edu)**

**October 6, 2014**

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## **EXECUTIVE SUMMARY**

The Center for Advanced Mineral and Metallurgical Processing (CAMP) received four (4) samples for mineralogical characterization on September 19, 2013 from Lisa Kirk of Enviromin, on behalf of Tintina Black Butte Copper. The samples received were material from kinetic humidity cell tests and represented four lithotypes encountered in the Johnny Lee 2012 decline, including:

- Upper Sulfide Zone (*USZ*) – sample collected after 24 weeks of HCT,
- Lower Newland dolomite (*Ynl O*) – sample collected after 24 weeks of HCT,
- Undifferentiated Lower Newland (*Ynl*) – sample collected after 33 weeks of HCT, and
- Lower Newland basal conglomerate (*Ynl B*) – sample collected after 33 weeks of HCT.

The objective of the analysis was to determine the mineralogy of the materials that could explain the elevated metals and/or sulfate release in the humidity cell test effluent observed during the initial weeks of operation (Enviromin, 2013) and to identify mineral(s) that may be responsible for the release of thallium from the *Ynl* humidity cell, which continued to exceed Montana Water Quality Standards throughout the test.

Specimens were prepared from the -100 mesh material, as it was suspected that this size fraction would be the largest contributor of metals to the humidity cell effluent since the finer particles have more surface area; hence, more potential for leaching. Mineral Liberation Analysis (MLA) by scanning electron microscope-electron dispersive spectroscopy (SEM-EDS) was used to determine modal mineralogy.

Mineralogy by MLA determined that the *USZ* was 46% pyrite, 19% quartz, 17% dolomite, 10% K-mica, 5% potassium feldspar, 2% iron oxide, and 2% biotite. The *Ynl B* mineralogy was 41% quartz, 29% dolomite, 20% K-mica, and 4% potassium feldspar. *Ynl O* consisted of 75% dolomite, 19% quartz, 4% K-mica, and 1% potassium feldspar. Finally, *Ynl* contained 31% quartz, 25% mica, 18% dolomite, 11% pyrite, 10% potassium feldspar, 2% biotite, and 1% barite.

Sparse phase liberation (SPL), a trace mineral technique, was used to attempt to locate thallium-containing sulfides and selenides; however, none were encountered. Also, X-ray mapping was implemented on the *Ynl* specimen to determine its feasibility to detect trace amounts of thallium in pyrite and the potassium silicates, but false contrast due to continuum-induced effects prevented detection. Since the thallium-bearing minerals/phases eluded detection by MLA and microanalysis techniques, it seems likely that thallium is present as a trace constituent in one of the major or minor phases. It has been found that thallium can occur as a cationic substitution for potassium in the aluminosilicates (e.g., mica/sericite, K Feldspar) or as a trace impurity in the sulfides (e.g., pyrite, sphalerite) or both. To attempt to answer this question, a sub-task was undertaken involving partitioning particles from an unweathered *Ynl* specimen into two

density fractions using heavy liquid separation (HLS). Analysis of the fractions for trace elements revealed that thallium was enriched in the dense mineral fraction that was composed of nearly 80% pyrite. This finding suggests that thallium may occur at trace levels in pyrite; however, it does not conclusively resolve the source of leachable thallium, as enough thallium was present in the silicate/carbonate fraction to be a potential source in leachates.

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**October 6, 2014**

***Qualifying Statement***

*This confidential report was prepared for Enviromin and is based on information available at the time of the report preparation. It is believed the information, estimates, conclusions and recommendations contained herein are reliable under the conditions and subject to the qualifications set forth. Furthermore, the information, estimates, conclusions and recommendations are based on the experience of CAMP and data supplied by others, but the actual result of the work is dependent, in part, on factors over which CAMP has no control.*

## **Introduction**

As a part of its efforts to permit exploration of the Johnny Lee 2012 Decline, Tintina Black Butte Copper independently initiated kinetic humidity cell testing of the four major lithotypes that would be excavated during this operation including the Upper Sulfide Zone (*USZ*), a massive sulfide ore body: the Lower Newland dolomite (*Ynl O*); Lower Newland basal conglomerate (*Ynl B*); and undifferentiated Lower Newland (*Ynl*).

The humidity cell tests showed relatively high metal release in effluents collected during the early weeks of testing, which tapered off in subsequent weeks; however, thallium, a contaminant of concern due to its high toxicity, persisted in the effluents of the *Ynl* and *USZ* humidity cells (Enviromin, 2013). Therefore, thallium-bearing minerals and/or thallium-substituted phases were of key interest in the study.

Typically, thallium occurs in trace amounts in the natural environment with the two most common thallium-bearing minerals being lorandite ( $\text{TlAsS}_2$ ) and crookesite [ $\text{Cu}_7(\text{Tl,Ag})\text{Se}_4$ ]. Thallium behaves as a lithophile and occurs naturally in soils primarily as  $\text{Tl}^+$  and substitutes for potassium ions ( $\text{K}^+$ ) in feldspars and micas. Thallium also displays chalcophile characteristics and has been found to occur with sulfides such as pyrite, sphalerite, and galena (Madejón, 2013). As a potassium analog, thallium can be readily mobilized during weathering.

## **Experimental Work and Results**

As previously mentioned, the humidity cell tests displayed relatively large metal release during the initial stages of the study. It is likely that the easily leachable metals found in the initial effluents originated from fine particle-sized material (present as a result of material preparation) since the finer particles offer more surface area per unit mass than the larger particles, resulting in higher leaching potential. For this reason, the as-received material from the humidity test cells was dry-sieved through a 100 US mesh screen to separate the fine, -100 mesh, fraction from the coarse, +100 mesh, fraction. Because the fine fraction of the materials likely triggered the elevated metals observed in the early stages testing, the finer, -100 mesh, material was selected for mineralogical characterization.

Non-oriented specimens of the -100 mesh material were prepared by standard cold epoxy mounting methods for SEM-MLA analysis. The MLA method X-ray Backscattered Electron (XBSE) was used to determine mineral content of the prepared specimens, which were subsequently analyzed using the MLA Sparse Phase Liberation (SPL) method to determine additional sulfide/selenide minerals that could potentially contain

thallium-bearing species. The XBSE method relies on the variation in the gray level of the backscattered electrons (BSE) to differentiate (segment) particles and mineral phases, as it is affected by mineral phase compositions. X-rays are acquired for each particle and each individual phase in a multiphase particle. The X-ray spectra are then compared to the mineral X-ray database to identify the minerals present. Modal mineralogical results are determined by an algorithm that utilizes the MLA-determined mineral surface area and corresponding density.

MLA SPL was implemented to identify particles containing phases that have high average atomic numbers. Since thallium ( $z=81$ ) has a high atomic number, phases that contain thallium, as well as any thallium-containing sulfides or selenides that may be present in the specimens, would exhibit high average atomic numbers and would, therefore, be identified by this method. Additionally, since this method ignores minerals with low gray level intensities, mainly silicates and carbonates, many more particles are examined than by MLA XBSE.

All MLA analyses were performed on the LEO 1430 VP Scanning Electron Microscope (SEM) coupled with two energy-dispersive spectroscopy (EDS) detectors [Ametek Apollo 40 silicon drift detectors (SDD)]. Data were acquired automatically using the MLA software, followed by a more detailed examination by manual search with the SEM and collection of EDS spectra on selected particles/phases. The SEM was operated using an accelerating voltage of 25.0 kV at a working distance of 18 mm and a spot size of 600 to 625.

Results from the modal analysis (XBSE) and the trace mineral analysis (SPL) are presented in the following sections.

Additional analyses were performed on the *Ynl* specimen to attempt to determine the potential source of thallium. First, EDS X-ray mapping was investigated as a method for trace metal determination. Secondly, a specimen from unweathered *Ynl material* was separated using heavy liquid separation (HLS), and the fractions were submitted for elemental analysis and subjected to further MLA. An unweathered *Ynl* specimen was chosen for HLS because it would contain soluble thallium that would have been lost in the weathered specimen from HCT, and there was more unweathered material available for the separation. For HLS, a portion of the *Ynl* sample was wet-sieved through 100 and 400 US mesh screens. Approximately 30 grams of the -100/+400 mesh material was subjected to HLS using di-iodomethane (density = 3.3 g/ml), which resulted in 98.3% of the specimen reporting to the “float” fraction and 1.7% remaining in the “sink”. Both HLS fractions were submitted to ACME Labs (Vancouver, BC) for elemental analysis, which uses a multi-acid digestion consisting of HNO<sub>3</sub>, HClO<sub>4</sub>, HF, and HCl that is capable of decomposing most minerals, followed by analysis by ICP-MS. Additionally, HLS fractions were analyzed by MLA to verify the mineralogy following separation.

## **MLA Mineralogy of the -100 Mesh Fraction**

Modal mineralogical results of the -100 mesh sieve fractions from the four lithologies studied are presented below in Table 1. The specimens can be generally described by five major/minor mineral phases: pyrite, quartz, dolomite, mica (muscovite/sericite), and potassium feldspar.

Pyrite was the most prominent phase in the *USZ* (46% modally), which was described as a massive sulfide material. Other major and minor phases in the *USZ* were quartz (19%), dolomite (17%), mica (9.7%), and potassium feldspar (4.9%).

The composition of the *Ynl* was 31% quartz, 25% mica, 18% dolomite, 11% pyrite, and 9.7% potassium feldspar. The *Ynl* also exhibited the highest barite content of the four materials tested, at nearly 1%.

Conglomerate and shale from the basal portion of Lower Newland formation were the primary rock types in the *Ynl B* material, which was found to contain 41% quartz, 29% dolomite, 20% mica, 4% potassium feldspar, and less than 2% each of biotite, pyrite, and albite.

The *Ynl O* material, from the dolomitic interbed of the Lower Newland shale, contained the most dolomite and least pyrite of all four materials. Dolomite was 75% and pyrite was only 0.7%. Quartz and mica were the only other significant phases at 19 and 3.8%, respectively.

No distinct thallium-bearing minerals were encountered during MLA analysis.

**Table 1. Mineral content of the -100 mesh material (Wt.%), by lithotype.**

Mineral	Formula	USZ	Ynl	Ynl B	Ynl 0
<b>Pyrite</b>	<b>FeS<sub>2</sub></b>	<b>45.6</b>	<b>10.8</b>	<b>1.63</b>	<b>0.74</b>
Quartz	SiO <sub>2</sub>	18.6	31.5	41.5	18.7
Dolomite	CaMg(CO <sub>3</sub> ) <sub>2</sub>	16.5	17.6	29.0	74.5
<b>Mica</b>	<b>KAl<sub>2</sub>(AlSi<sub>3</sub>O<sub>10</sub>)(OH)<sub>2</sub></b>	<b>9.71</b>	<b>25.1</b>	<b>19.6</b>	<b>3.80</b>
<b>K_Feldspar</b>	<b>KAlSi<sub>3</sub>O<sub>8</sub></b>	<b>4.85</b>	<b>9.71</b>	<b>3.90</b>	<b>1.04</b>
FeO	Fe <sub>2</sub> O <sub>3</sub>	1.65	0.30	P	0.05
Biotite	K(Mg,Fe) <sub>3</sub> (AlSi <sub>3</sub> O <sub>10</sub> )(OH) <sub>2</sub>	1.60	2.24	1.94	0.55
Barite	BaSO <sub>4</sub>	0.61	0.95	0.02	0.25
Siderite	FeCO <sub>3</sub>	0.33	0.07	0.02	0.02
Albite	NaAlSi <sub>3</sub> O <sub>8</sub>	0.23	0.84	1.47	P
Chlorite	(Mg <sub>3</sub> ,Fe <sub>2</sub> )Al(AlSi <sub>3</sub> O <sub>10</sub> )(OH) <sub>8</sub>	0.12	0.23	0.11	0.02
Galena	PbS	0.05	0.04	0.05	0.01
Apatite	Ca <sub>5</sub> (PO <sub>4</sub> ) <sub>3</sub> F	0.05	0.07	0.09	0.04
Rutile	TiO <sub>2</sub>	0.04	0.09	0.07	0.06
Kaolinite	Al <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> (OH) <sub>4</sub>	0.01	0.05	0.01	P
Goyazite	SrAl <sub>3</sub> (PO <sub>4</sub> )(PO <sub>3</sub> OH)(OH) <sub>6</sub>	0.01	P	P	P
Iron	Fe	P	P	P	P
Zircon	ZrSiO <sub>4</sub>	P	P	0.01	P
Sphalerite	ZnS	P	0.02	0.09	0.02
Monazite	(La,Ce)PO <sub>4</sub>	P	P	P	P
Ilmenite	FeTiO <sub>3</sub>	P	P	P	P
Celsian	BaAl <sub>2</sub> Si <sub>2</sub> O <sub>8</sub>	P	P	ND	P
Calcite	CaCO <sub>3</sub>	P	0.34	0.52	0.18
Chalcopyrite	CuFeS <sub>2</sub>	P	0.01	ND	P
Strontianite	SrCO <sub>3</sub>	ND	ND	ND	ND

No. of particles analyzed	20,089	20,085	20,035	20,030
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P – mineral encountered, found at less than 0.01%

ND – mineral not encountered

## **MLA-Calculated Elemental Composition**

The MLA-calculated composition is a semi-quantitative result and a function of the assigned chemistry as defined in Table 1 and estimated mineral density.. No thallium-bearing minerals were identified; therefore, no results/concentrations for thallium are reported in Table 2.

Sulfur was greatest in the *USZ* specimen, where pyrite was the primary phase. Aside from oxygen, silicon was the primary element in *Ynl* and *Ynl B* specimens, in which quartz and mica are predominant. The elevated calcium and magnesium content observed for the *Ynl 0* specimen is a result of dolomite being the primary phase in that specimen.

**Table 2. MLA-Calculated elemental concentrations, by lithotype.**

<b>Element</b>	<b><i>USZ</i></b>	<b><i>Ynl</i></b>	<b><i>Ynl B</i></b>	<b><i>Ynl 0</i></b>
Oxygen	27.2	44.7	50.4	51.5
Sulfur	24.5	5.91	0.91	0.44
Iron	22.8	5.61	1.05	0.47
Silicon	12.6	23.7	25.6	9.95
Calcium	3.61	3.99	6.55	16.3
Aluminum	2.58	6.31	4.64	0.91
Magnesium	2.28	2.48	3.95	9.86
Carbon	2.18	2.34	3.85	9.73
Potassium	1.78	4.04	2.65	0.57
Barium	0.36	0.56	0.01	0.15
Hydrogen	0.06	0.14	0.11	0.02
Lead	0.04	0.03	0.05	0.01
Titanium	0.02	0.06	0.04	0.04
Sodium	0.02	0.07	0.13	P
Phosphorus	0.01	0.01	0.02	0.01
Fluorine	P	P	P	P
Zinc	P	0.02	0.06	0.01
Strontium	P	P	ND	P
Zirconium	P	P	P	P
Cerium	P	P	P	P
Lanthanum	P	P	P	P
Copper	P	P	ND	P

P – element-containing mineral encountered, calculated at less than 0.01%

ND – mineral, as defined, containing element not encountered

## **MLA Sparse Phase Liberation (SPL) Analysis**

The specimens were re-analyzed by MLA Sparse Phase Liberation (SPL) to attempt to find thallium-containing minerals/phases; however, none were encountered.

As previously mentioned, SPL is a selective technique where the sample is scanned for only “bright” particles. In this study, the SPL method was configured to ignore particles containing phases with BSE grey levels of less than 150, a threshold at which the carbonate and silicate minerals and pyrite gray levels would be eliminated, such that only

the minerals in particles containing phases with high gray level minerals (e.g., barite, galena) would be reported. The relatively “high” pyrite content shown, especially for the *USZ*, is a result of its occurrence in particles containing “bright” phases such as barite and/or galena.

Overall, barite was the most frequently found “bright” mineral in the samples as seen from the results tabulated in Table 3.

**Table 3. Relative mineral abundance from SPL analysis (Wt.%), by lithotype.**

Mineral	Formula	<i>USZ</i>	<i>Ynl</i>	<i>Ynl B</i>	<i>Ynl 0</i>
Pyrite	FeS <sub>2</sub>	57.7	11.4	12.9	0.02
Barite	BaSO <sub>4</sub>	28.6	66.1	7.08	74.4
Quartz	SiO <sub>2</sub>	3.16	8.67	28.2	3.04
FeO	Fe <sub>2</sub> O <sub>3</sub>	3.04	0.07	0.00	2.95
Dolomite	CaMg(CO <sub>3</sub> ) <sub>2</sub>	2.22	1.78	11.4	17.8
K_Feldspar	KAlSi <sub>3</sub> O <sub>8</sub>	1.96	3.06	3.81	0.04
Mica	KAl <sub>2</sub> (AlSi <sub>3</sub> O <sub>10</sub> )(OH) <sub>2</sub>	1.12	3.53	13.0	0.15
Siderite	FeCO <sub>3</sub>	1.05	ND	ND	0.02
Galena	PbS	0.71	4.62	17.4	0.91
Biotite	K(Mg,Fe) <sub>3</sub> (AlSi <sub>3</sub> O <sub>10</sub> )(OH) <sub>2</sub>	0.35	0.08	0.89	0.02
Celsian	BaAl <sub>2</sub> Si <sub>2</sub> O <sub>8</sub>	0.07	0.32	ND	0.10
Iron	Fe	0.04	0.15	0.48	0.33
Monazite	(La,Ce)PO <sub>4</sub>	0.03	0.05	0.72	P
Chlorite	(Mg <sub>3</sub> ,Fe <sub>2</sub> )Al(AlSi <sub>3</sub> O <sub>10</sub> )(OH) <sub>8</sub>	0.02	0.01	0.06	0.22
Strontianite	SrCO <sub>3</sub>	P	P	ND	ND
Rutile	TiO <sub>2</sub>	P	ND	0.07	0.01
Albite	NaAlSi <sub>3</sub> O <sub>8</sub>	P	ND	ND	0.01
Apatite	Ca <sub>5</sub> (PO <sub>4</sub> ) <sub>3</sub> F	ND	ND	0.02	ND
Calcite	CaCO <sub>3</sub>	ND	ND	4.00	ND
Chalcopyrite	CuFeS <sub>2</sub>	ND	0.12	ND	ND
Goyazite	SrAl <sub>3</sub> (PO <sub>4</sub> )(PO <sub>3</sub> OH)(OH) <sub>6</sub>	ND	ND	ND	ND
Ilmenite	FeTiO <sub>3</sub>	ND	ND	ND	ND
Kaolinite	Al <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> (OH) <sub>4</sub>	ND	ND	ND	ND
Sphalerite	ZnS	ND	ND	ND	ND
Zircon	ZrSiO <sub>4</sub>	ND	ND	ND	ND

No. of particles analyzed	210	102	30	48
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P – mineral encountered, found at less than 0.01%

ND – mineral not encountered



# MLA False Color and Backscattered Electron (BSE) Images

In this section, selected MLA false color and backscattered electron images are presented to show the relationship between the classified images and the BSE images, as well as some of the textures encountered in the specimens.

## Undifferentiated Lower Newland Formation (Ynl)

The Lower Newland Formation is a highly carbonaceous, locally sulfidic black shale (Enviromin, 2013). The false color image of the -100 mesh material generated from the MLA (Figure 1) shows the major phases quartz (lt purple), mica (likely sericite) [lavender], dolomite (green), potassium feldspar (lt gray), and pyrite (olive). The second most abundant sulfide found in this specimen, sphalerite (pink), was present as several small inclusions in the highlighted mica particle in Figure 1.

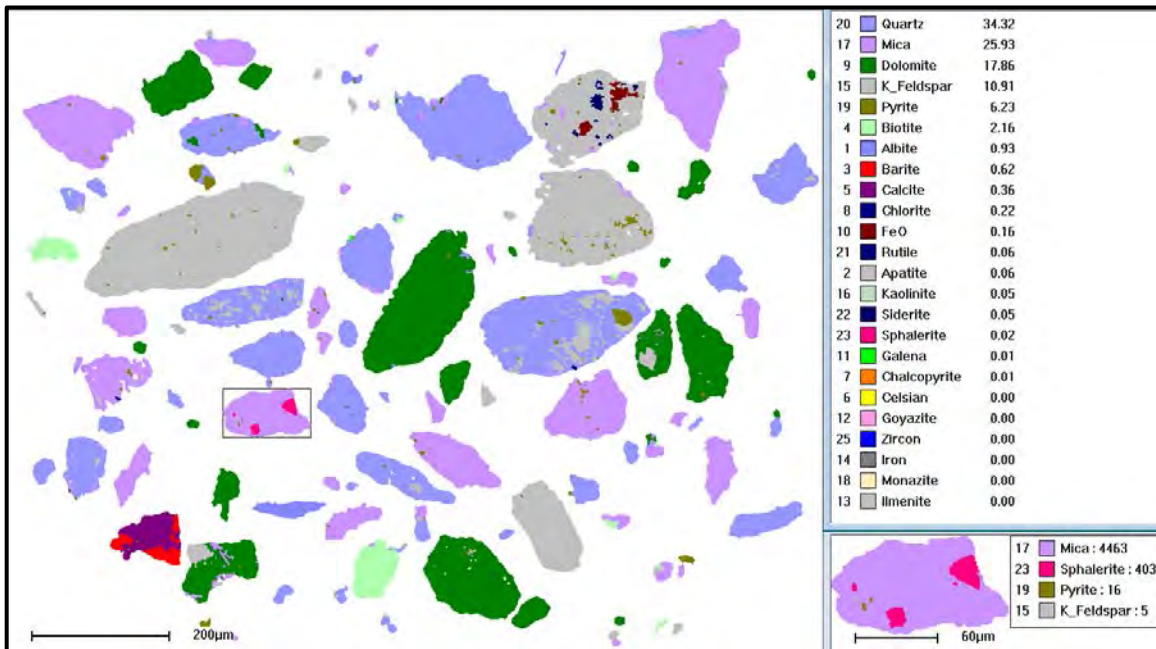


Figure 1. Classified MLA image from Ynl (-100 mesh). Particle inset shows mineral abundance in pixels and concentration palette shows mineral content in area percentage.

In Figure 2, sphalerite ( $z=25.4$ ) is “bright” in contrast to the mica ( $z=11.3$ ) due to its larger average atomic number ( $z$ ). The particles display mottling artifacts that are likely result from weathering in the *Ynl* humidity cell.

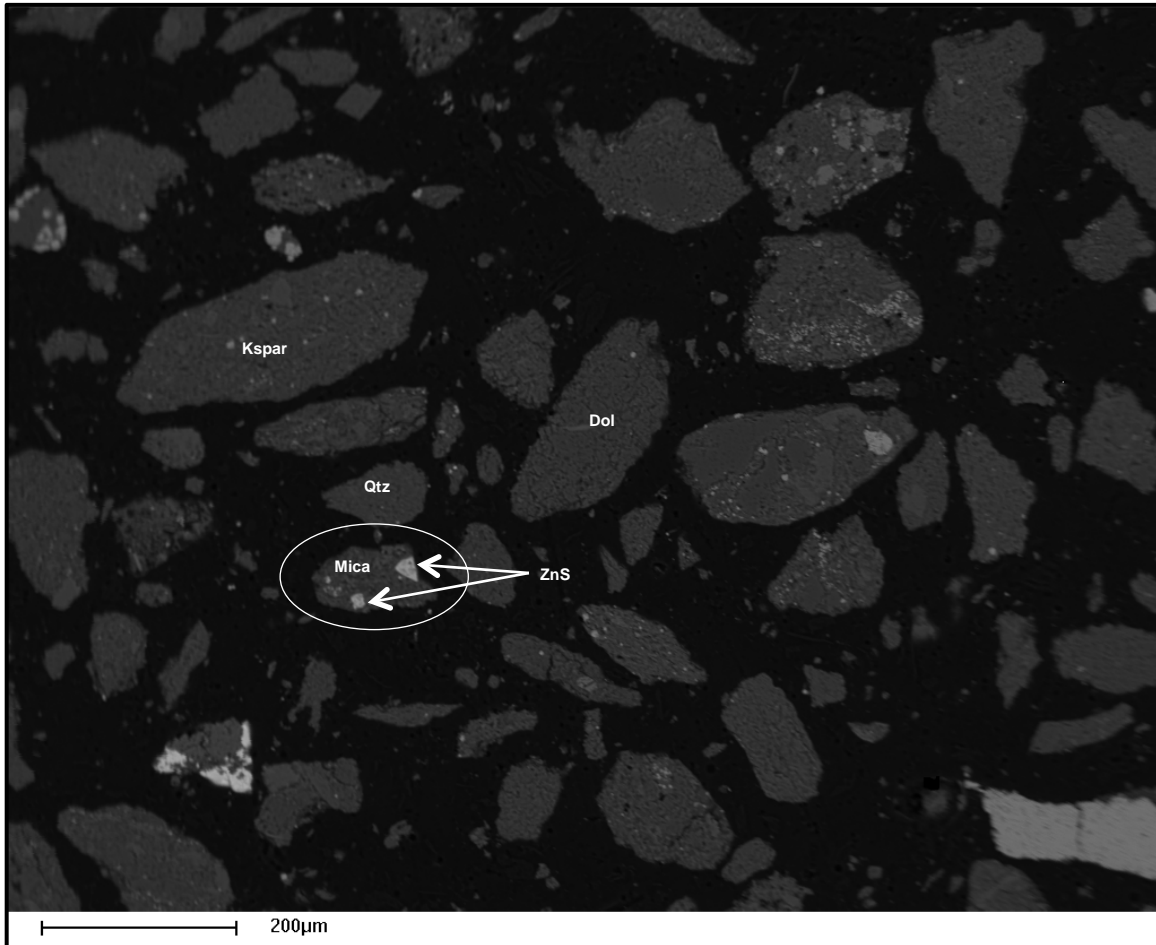
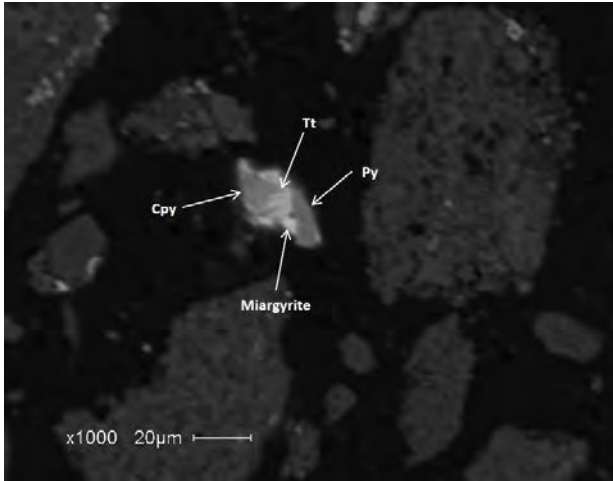


Figure 2. BSE image from *Ynl* (-100 mesh).

A particle composed of a silver-antimony sulfide, miargyrite ( $\text{AgSbS}_2$ ), chalcopyrite (Cpy), silver-bearing tetrahedrite (Tt), and pyrite (Py), was the only precious metal-containing particle encountered in the study (Figure 3), with the exception of trace amounts of silver in bornite, and possibly chalcocite, that were detected in the dense fraction examined during mineralogical determination of the thallium study.



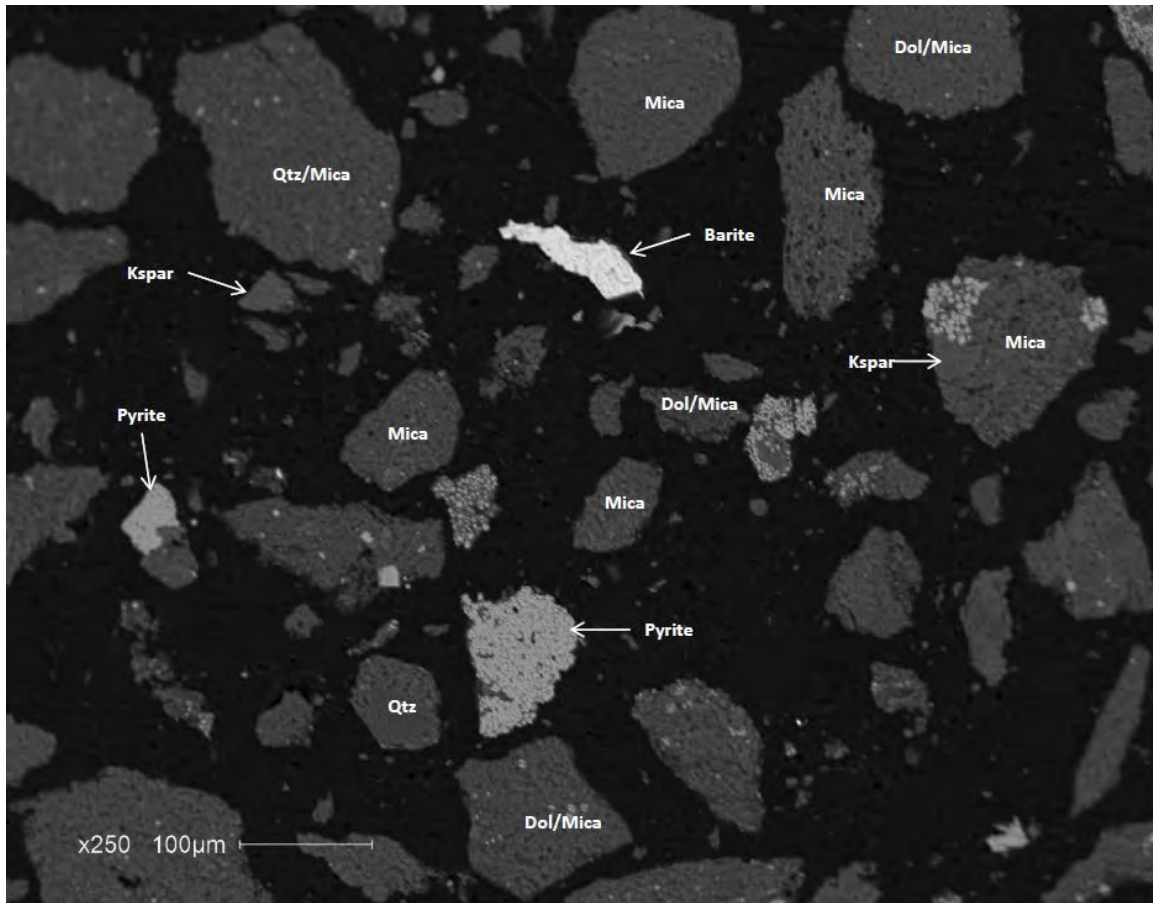
**Figure 3. Sulfide particle containing miargyrite, chalcopyrite, tetrahedrite, and pyrite (Ynl).**

## **Thallium Department**

### ***EDS X-ray Mapping of Ynl***

The *Ynl* material released thallium throughout the duration of kinetic humidity cell testing. One objective of the MLA study was to determine the potential mineralogical source of the thallium. Because no discrete thallium minerals were encountered in the initial MLA, a portion of the *Ynl* specimen was mapped for several elements using EDS in an attempt to determine a candidate thallium-containing phase. EDS mapping is useful in determining major constituents; however, detection of trace elements using mapping can be compromised by artifacts of background continuum effects (Goldstein, 2003). In essence, an area that is being mapped for a trace element may produce a false contrast for that element when the mapping minerals phases of different compositions (i.e., different  $z$ -values). Background correction helps minimize the false contrast effect, but it cannot be entirely eliminated.

The BSE image for the region that was X-ray mapped is shown in Figure 4. The gray levels of the minerals in the BSE image reflect the composition or average atomic number ( $z$ ). In the BSE image below, we observe the following phases from darkest to brightest: the silicates and carbonates, with the lowest  $z$ -value phases ( $z=10.9$  to  $11.3$ ), followed by pyrite ( $z=20.7$ ), and then barite, with the greatest  $z$ -value ( $z=37.3$ ).



**Figure 4. BSE image of EDS mapped area (Ynl).**

The individual elemental X-ray maps for calcium, magnesium, silicon, potassium, sulfur, and thallium are shown below in Figure 5. Calcium indicates the presence of dolomite/calcite; magnesium is less definitive, showing where mica and dolomite occur; silicon appears to be blended with every phase except pyrite and barite; potassium appears to occur with silicon, except in the most pure quartz grains; sulfur is associated with pyrite in the blue region and with barite in the “faded” blue area; and thallium appears to be everywhere, even in the epoxy. The intensity of the aqua color in the thallium map appears to be related to the z-value of the phases, rendering the map suspicious. X-ray spectra were manually collected by EDS on the potassium silicates, pyrite, and barite with no indication of discernable deflections between the background continuum and the energy levels characteristic of thallium. Therefore, it was concluded that EDS X-ray mapping was not sensitive enough for the determination of trace thallium.



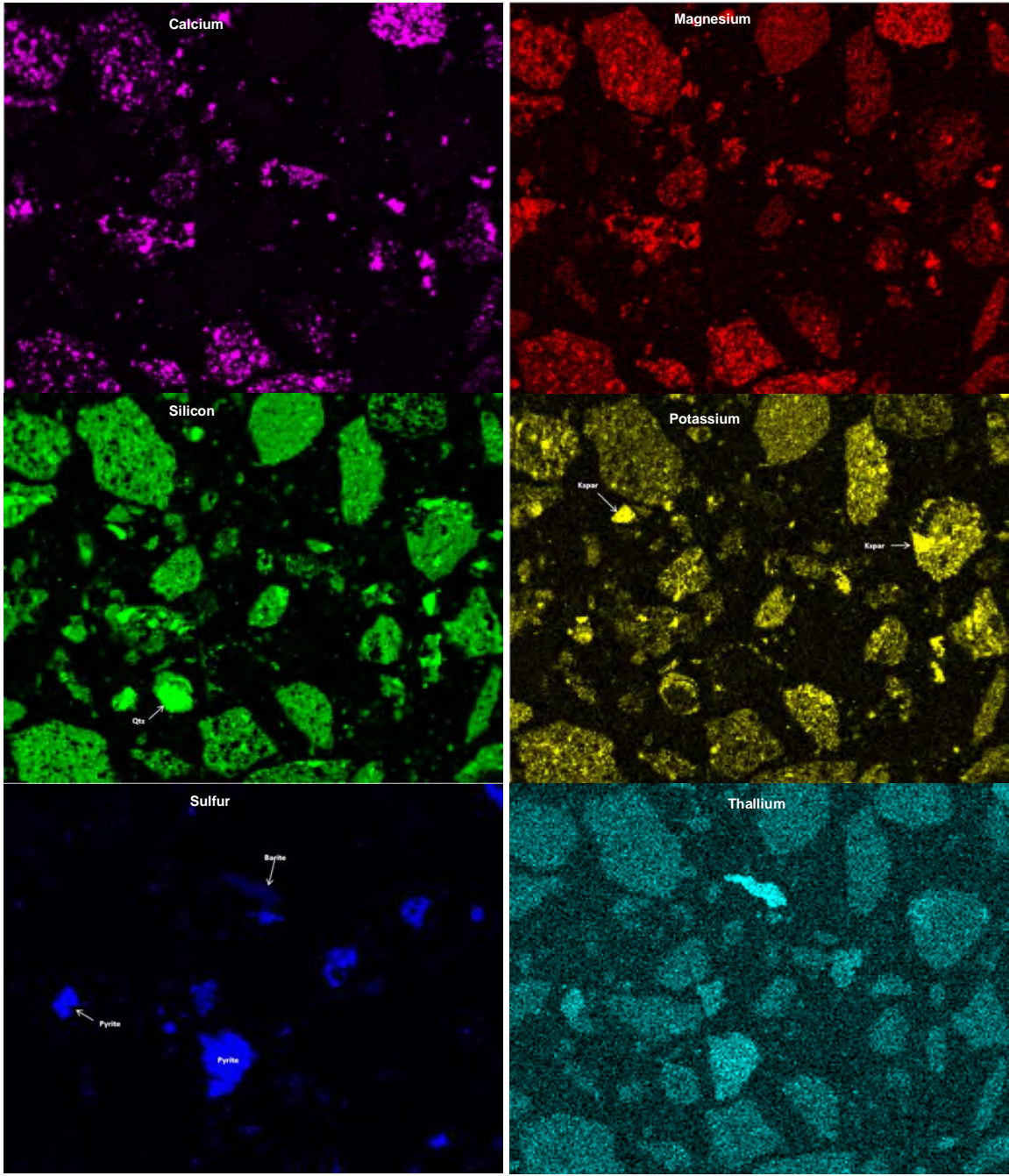


Figure 5. EDS elemental X-ray maps for the *Ynl*.

### ***Elemental Analysis of Fractionated Ynl Material***

Initial MLA studies were not able to identify the source of thallium in the *Ynl* specimen despite clear evidence of thallium in kinetic humidity cell test effluent. Therefore an additional test was performed to further elucidate possible sources of thallium in this material. The initial MLA studies determined that the *Ynl* specimen was approximately 90% combined silicates and carbonates and 10% pyrite. Generally, thallium is thought to behave as a chalcophile, where it is often suspected to exist as a trace metal in sulfide minerals, namely pyrite; however, it also has the ability to occur as a lithophile, substituting for potassium in potassic minerals, such as potassium feldspars and micas. The use of heavy liquids is a common mineral separation technique used to partition sulfide minerals from gangue materials. Conceptually, HLS would separate the *Ynl* specimen into two fractions, a “float” fraction that would contain primarily silicates and carbonates and a “sink” fraction that would contain the dense minerals that would be chiefly pyrite due to the composition of the *Ynl* sample. Subsequent elemental analysis and MLA of the two HLS fractions should provide evidence to the likely mineral host for thallium.

The abbreviated results from elemental analysis are shown below in Table 4. Thallium, the element of key interest, was more concentrated in the HLS “sink” material where it was found at 81.6 ppm, with only 3.91 ppm in the “float” fraction. Other elements that were preferentially concentrated in the “sink” material were arsenic, bismuth, cadmium, copper, iron, lead, and antimony; all of which are considered chalcophiles according to the Goldschmidt classification, with the exception of iron, which is a siderophile.

The complete elemental analysis for *Ynl* HLS fractions is included in the appendix.

**Table 4. ICP-MS results for HLS fractions from the *Ynl*.**

<b>Element</b>	<b><i>Ynl</i> "Float"</b>	<b><i>Ynl</i> "Sink"</b>	<b>Units</b>	<b>MDL</b>
Al	4.9	0.89	%	0.02
As	21.8	288	ppm	0.2
Ba	308	21	ppm	1
Bi	0.53	26.8	ppm	0.04
Ca	4.53	0.2	%	0.02
Cd	0.52	7.31	ppm	0.02
Co	10.1	55.6	ppm	0.2
Cr	35	13	ppm	1
Cu	98.1	>10,000	ppm	0.02
Fe	3	34.5	%	0.02
K	3.26	0.59	%	0.02
Li	92.4	8.9	ppm	0.1
Mg	4.12	0.23	%	0.02
Mn	431	365	ppm	2
Mo	3.23	16.1	ppm	0.05
Na	0.143	0.013	%	0.002
Nb	8.59	0.86	ppm	0.04
Ni	28.5	50.3	ppm	0.1
P	0.042	0.007	%	0.001
Pb	93.4	1931	ppm	0.02
S	1.71	>10	%	0.04
Sb	1.17	11.7	ppm	0.02
Se	0.4	1.2	ppm	0.3
Sr	88	13	ppm	1
Ta	0.6	<0.1	ppm	0.1
Te	1.21	4.99	ppm	0.05
Ti	0.219	0.023	%	0.001
<b>Tl</b>	<b>3.91</b>	<b>81.6</b>	<b>ppm</b>	<b>0.05</b>
Zn	145	1162	ppm	0.2



The mineralogy of the HLS fractions was determined by MLA, and selected major and minor minerals are shown in Table 5. Pyrite was the most abundant phase in the “sink” fraction at 78% with only 2.3% in the “float” fraction. Other minerals that were preferentially partitioned in the “sink” fraction were iron oxide, barite, chalcocite, and galena, all minerals with specific gravities of 4.4 or greater.

**Table 5. MLA mineralogy of the HLS fractions and combined (wt. %) for *Ynl*.**

Mineral	Formula	<i>Ynl</i> “Float”	<i>Ynl</i> “Sink”	<i>Ynl</i> (Combined)
Quartz	SiO <sub>2</sub>	40.7	9.54	40.2
Mica	KAl <sub>2</sub> (AlSi <sub>3</sub> O <sub>10</sub> )(OH) <sub>2</sub>	23.3	0.54	23.0
Dolomite	CaMg(CO <sub>3</sub> ) <sub>2</sub>	21.0	0.64	20.7
K_Feldspar	KAlSi <sub>3</sub> O <sub>8</sub>	8.77	3.41	8.67
<b>Pyrite</b>	<b>FeS<sub>2</sub></b>	<b>2.27</b>	<b>78.3</b>	<b>3.57</b>
Biotite	K(Mg,Fe) <sub>3</sub> (AlSi <sub>3</sub> O <sub>10</sub> )(OH) <sub>2</sub>	2.01	0.17	1.98
Albite	NaAlSi <sub>3</sub> O <sub>8</sub>	0.94	0.00	0.92
Calcite	CaCO <sub>3</sub>	0.24	0.01	0.24
FeO	Fe <sub>2</sub> O <sub>3</sub>	0.12	1.90	0.15
Barite	BaSO <sub>4</sub>	0.09	2.55	0.13
Chalcocite	Cu <sub>2</sub> S	0.02	1.69	0.04
Galena	PbS	0.01	0.50	0.02
Bornite	Cu <sub>3</sub> FeS <sub>4</sub>	<0.01	0.28	<0.01

Since thallium was found at a higher concentration in the dense “sink” fraction than in the “float” fraction, it is likely that it occurs with one or more of the sulfide minerals that are enriched in this fraction, pyrite being the most likely due to its overwhelming content. However, this does not eliminate the possibility of it existing with chalcocite, bornite, or galena. Unfortunately, these findings do not help determine the source of soluble thallium, because over 30% of the *Ynl* is potassium silicates, and even at ultra trace levels these minerals could provide enough soluble thallium to cause elevated levels in humidity cell effluent.

## Upper Sulfide Zone (USZ)

A classified MLA false color image from the *USZ* specimen is shown in Figure 6. Pyrite (olive), quartz (lt purple), dolomite (green), and mica (lavender) were the primary phases in this specimen. A mica particle containing small amounts of pyrite and galena (lime) is highlighted in the MLA image.

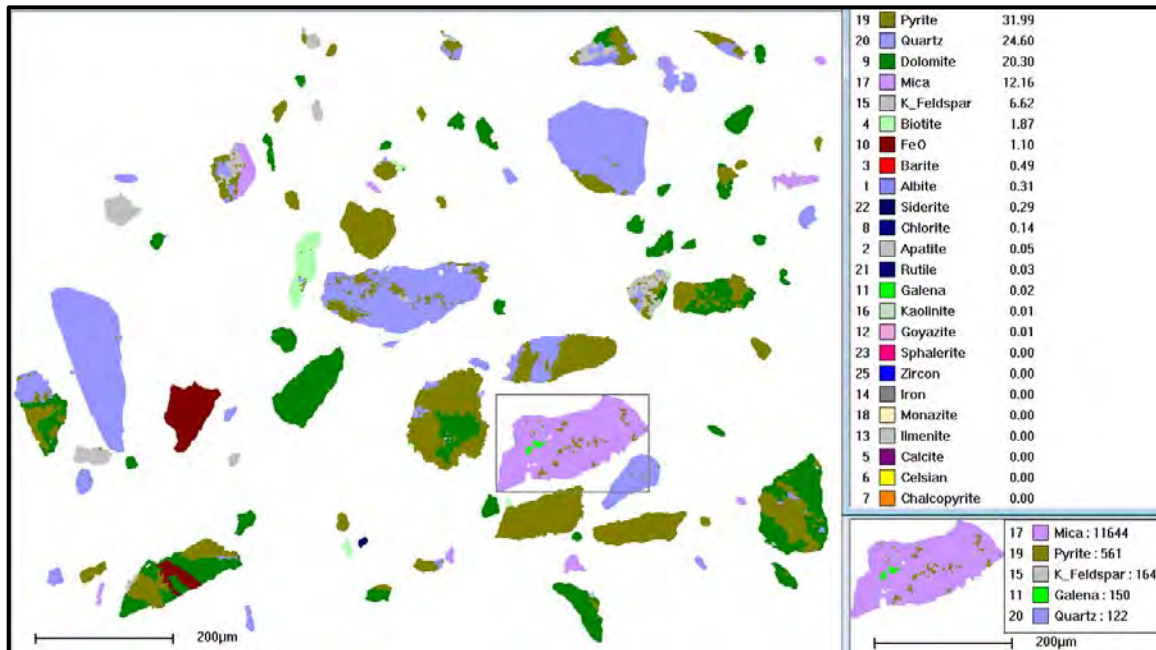


Figure 6. Classified MLA image from the *USZ* (-100 mesh). The particle inset shows the mineral surface area in pixels, concentration palette abundances in surface area percentage.

The BSE image in Figure 7 shows the mineral textures in the *USZ* specimen in greater detail than apparent in the false color image, and it is revealed that the pyrite (Py) occurs as framboids. The circled particle shows that the framboidal pyrite in mica also contained galena (PbS) inclusions. Particles of quartz (Qtz) and dolomite (Dol) had low gray levels and appear as shades of gray in the BSE image.

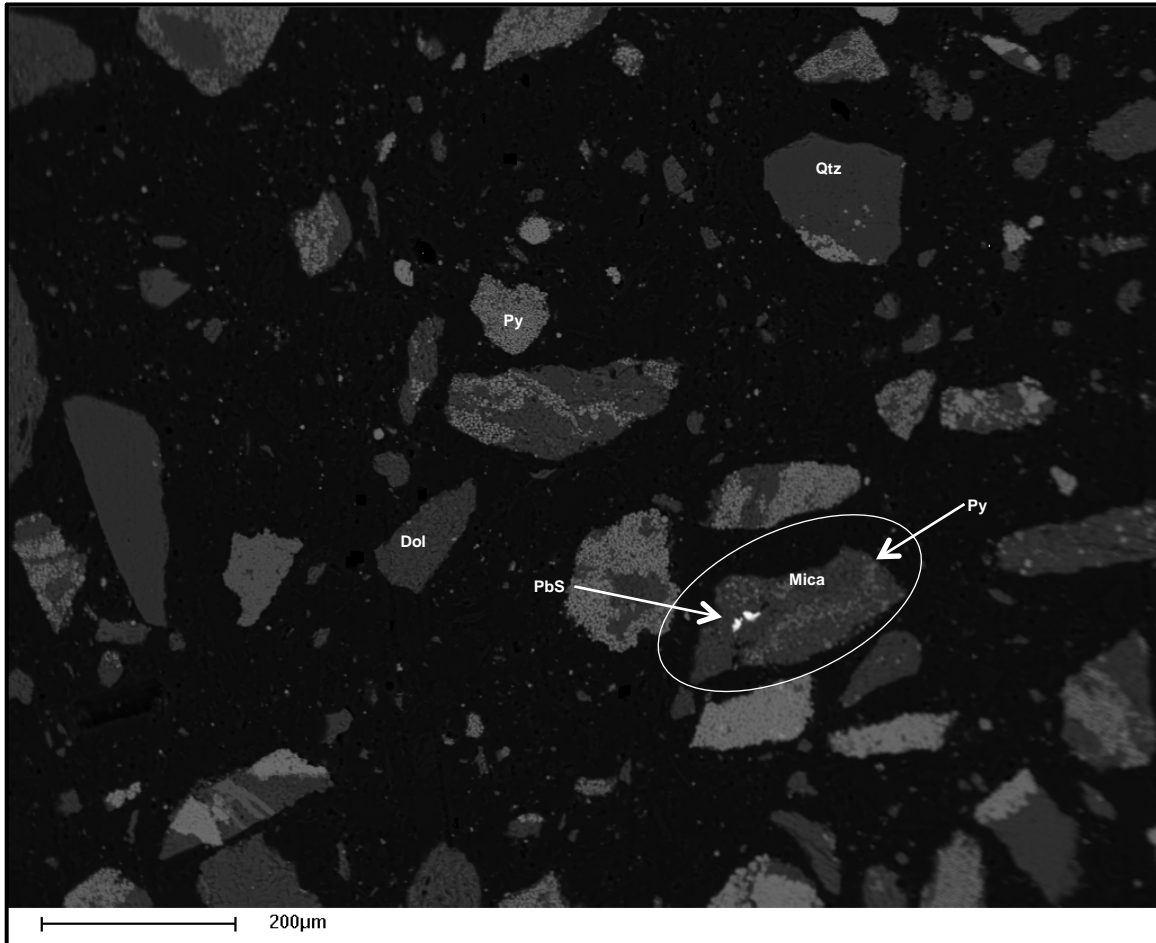
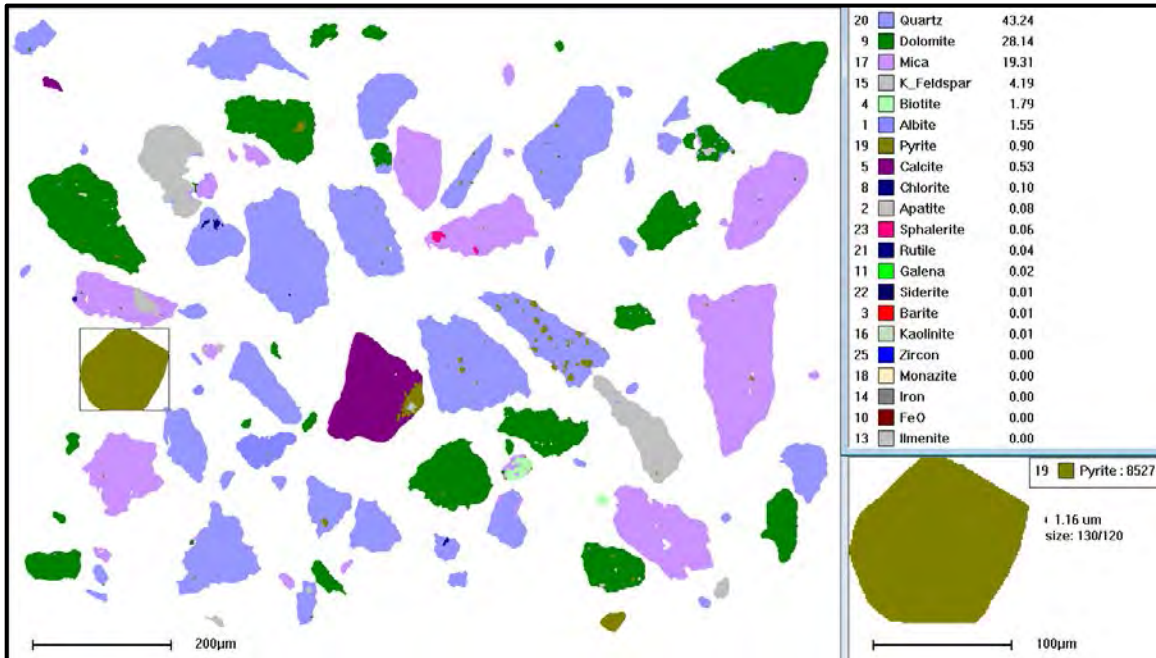


Figure 7. BSE image of the *USZ* sample (-100 mesh).

## ***Lower Newland Conglomerate and Shale (Ynl B)***

A large pyrite particle from the *Ynl B* specimen is highlighted in the false color image in Figure 8. Pyrite was nearly 1%, by surface area, of the minerals encountered in the specimen.



**Figure 8. Classified MLA image of *Ynl B* (-100 mesh). Particle inset shows phase area in pixels and the concentration palette displays concentration as surface area percentage.**

The pyrite particle from *Ynl B* (circled in Figure 9) appears to be massive, rather than framboidal; a contrast to the other samples examined in this study.

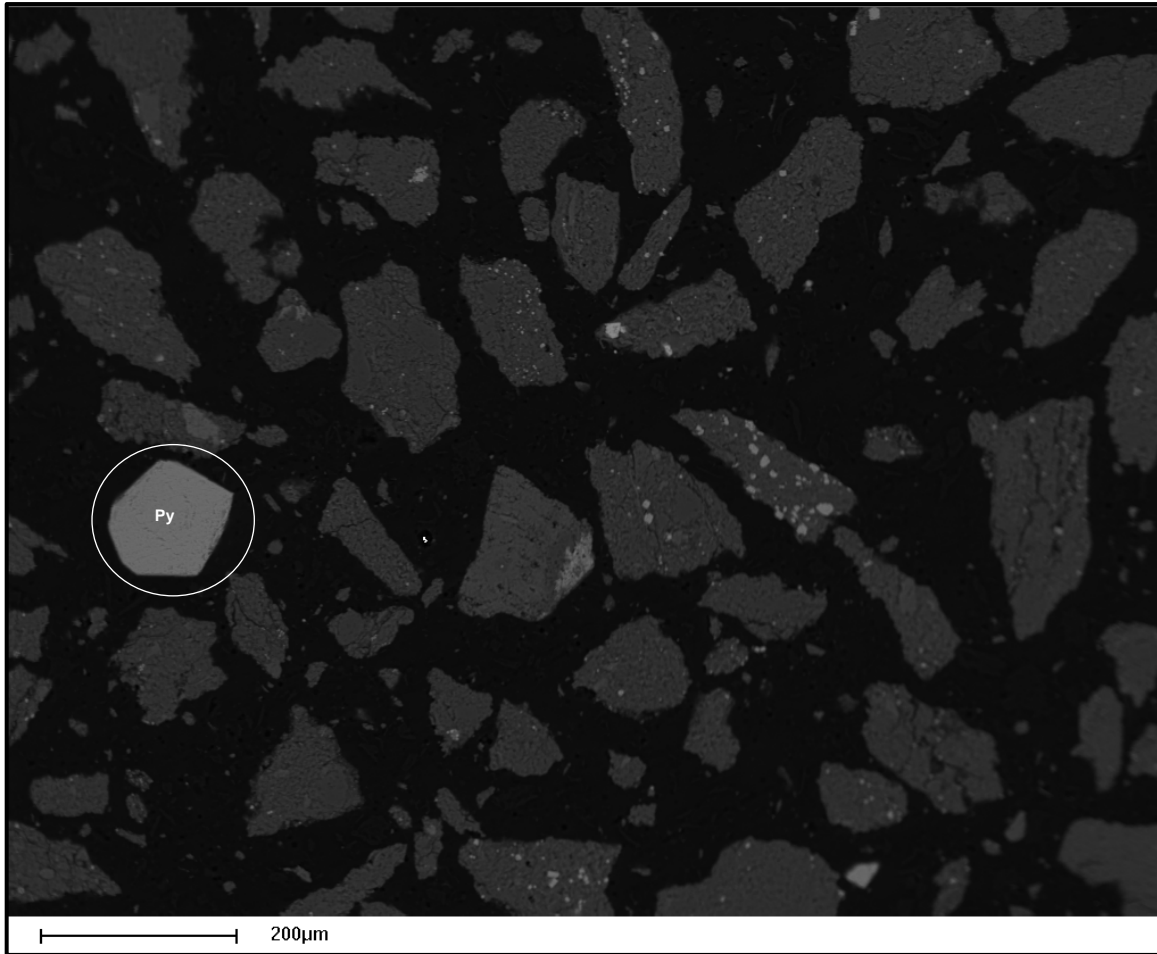
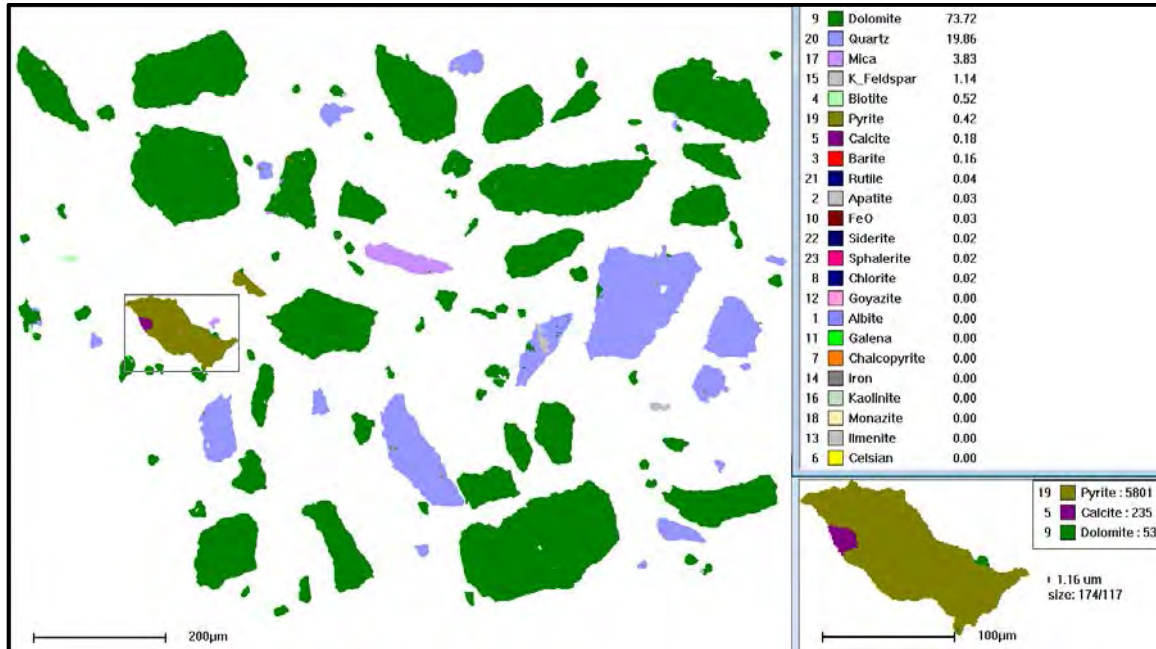


Figure 9. BSE image of *Ynl B* (-100 mesh).

## Dolomite “Nose” of Lower Newland Formation (Ynl 0)

A particle of pyrite from *Ynl 0* specimen is the focus in the Figure 10. Dolomite, shown in green, was the dominant gangue phase in the sample.



**Figure 10. Classified MLA image of *Ynl 0* (-100 mesh). Particle inset shows phase area in pixels and the concentration palette displays concentration as surface area percentage.**

The BSE image of the *Ynl 0* specimen is displayed in Figure 11. While the gray level and the mottled appearance of the gangue mineral phase in this image indicate presence of a single phase, the gangue was classified as dolomite (Dol) and quartz (Qtz). This is likely to due to intimate intermixing of the two as microcrystalline phases. The circled pyrite (Py) particle contains a small calcite inclusion that exhibits a lower gray level than the sulfide.

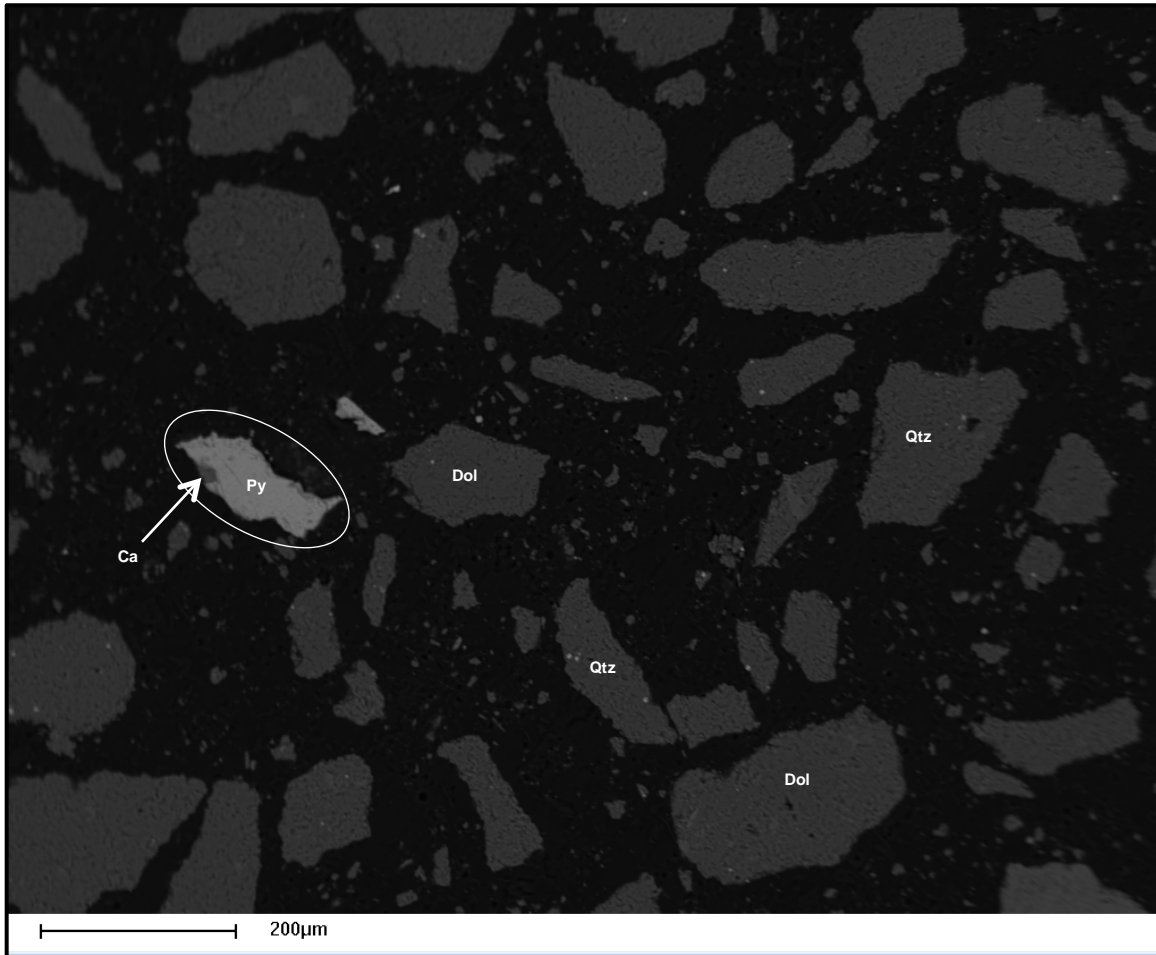


Figure 11. BSE image of *Ynl 0* (-100 mesh).

## **References**

Enviromin, 2013. Memo to MT DEQ, “Tintina Black Butte Copper Geochemistry Study Kinetic Test Update at 20 weeks”.

Goldstein, 2003. “Scanning Electron Microscopy and X-Ray Microanalysis”, Goldstein, J.I., et al, Chapter 10.

Madejón, 2013. “Heavy metals in soils: trace metals and metalloids in soils and their bioavailability”, Alloway, Brian J. (editor), Chapter 23.



# Appendix



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Client: **Montana Tech-CAMP**  
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Butte MT 59701 USA

Submitted By: Gary Wys  
Receiving Lab: Canada-Vancouver  
Received: May 30, 2014  
Report Date: July 07, 2014  
Page: 1 of 2

## CERTIFICATE OF ANALYSIS

VAN14001683.1

### CLIENT JOB INFORMATION

Project: Tintina  
Shipment ID:  
P.O. Number  
Number of Samples: 2

### SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days

### SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
BAT01	1	Batch charge of <20 samples			VAN
SLBHP	2	Sort, label and box pulps			VAN
MA250	2	4 Acid digestion Ultratrace ICP-MS analysis	0.25	Completed	VAN
DRPLP	2	Warehouse handling / disposition of pulps			VAN

### ADDITIONAL COMMENTS

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Montana Tech-CAMP  
1300 West Park Street  
Butte MT 59701  
USA

CC:



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted. \*\*\* asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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Project: Tintina  
 Report Date: July 07, 2014

Page: 2 of 2 Part: 1 of 3

**CERTIFICATE OF ANALYSIS** VAN14001683.1

Method	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250
Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca	P	La				
Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm				
MDL	0.05	0.02	0.02	0.2	20	0.1	0.2	2	0.02	0.2	0.1	0.1	1	0.02	0.02	0.04	1	0.02	0.001	0.1				
Ynl Float Concentrate	3.23	98.14	93.41	145.2	2460	28.5	10.1	431	3.00	21.8	4.3	10.5	88	0.52	1.17	0.53	67	4.53	0.042	29.9				
Ynl Sink Concentrate	16.07	>10000	1931.27	1161.9	>200000	50.3	55.6	365	34.54	287.7	1.0	0.1	13	7.31	11.72	26.82	13	0.20	0.007	0.3				

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Page: 2 of 2 Part: 2 of 3

**CERTIFICATE OF ANALYSIS** VAN14001683.1

Method	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250	MA250
Analyte	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Sn	Be	Sc	S	Y	Ce	Pr	Nd	Sm	Eu	Gd				
Unit	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm				
MDL	1	0.02	1	0.001	0.02	0.002	0.02	0.1	0.2	0.1	1	0.1	0.04	0.1	0.02	0.1	0.1	0.1	0.1	0.1				
Ynl Float Concentrate	35	4.12	308	0.219	4.90	0.143	3.26	1.3	89.3	2.0	2	8.1	1.71	20.7	52.67	7.6	25.2	4.5	0.8	3.5				
Ynl Sink Concentrate	13	0.23	21	0.023	0.89	0.013	0.59	8.1	15.6	0.6	1	2.1	>10	4.3	1.17	0.3	3.4	1.4	0.3	1.4				

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.



# Appendix D

## **Static and Kinetic Tailings Data**

Table D-1	2015 Diffusion Test Results
Table D-2	Weekly Parameters: Tailings HCTs
Table D-3	Periodic Metals: Tailings HCTs

Static Lab Reports (ICP and ABA/NAG, from ALS and SGS)

WETLab Diffusion Test Results

WETLab HCT Results

## **Appendix D:**

Table D-1	2015 Diffusion Test Results
Table D-2	Weekly Parameters: Tailings HCTs
Table D-3	Periodic Metals: Tailings HCTs

Appendix D. Table D-1a Results from Diffusion Tests

Parameter	Reporting Limit	Pull # 1	Pull # 2	Pull # 3	Pull # 4	Pull # 5	Pull # 6	Pull # 7	Pull # 8	Pull # 9	Pull # 10	Pull # 11	Pull # 12	Pull # 13	Pull # 14	
		NA	2	7	24	48	72	96	120	144	168	192	216	240	264	288
<b>Diffusion Test Results C586-15 (4 % Binders)</b>																
pH (s.u.)	NA	6.56	6.94	9.19	8.96	9.43	7.05	9.61	9.62	9.68	9.42	9.38	9.35	8.89	7.15	
Temperature (°C)	NA	22.9	22.9	22.4	22.1	22.2	22.5	23.2	23.2	23.1	23.3	23.3	23.4	21.6	24.4	
Redox Potential (mV)	NA	490	490	460	430	460	460	400	480	480	490	420	480	490	420	
Electrical Cond. (µmhos/cm)	1	89	80	200	100	230	190	160	140	130	120	110	100	89	91	
Ferrous Iron (mg/L)	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Ferric Iron (mg/L)	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
TDS (mg/L)	10	53	48	120	53	130	110	85	78	70	49	48	57	65	63	
WAD Cyanide (mg/L)	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Acidity (Titrimetric) (mg/L as CaCO3)	NA	3	3	-4	3	-5	-5	-3	-4	-4	-2	-2	-2	-1	22	
Total Alkalinity (mg/L as CaCO3)	1	4.0	5.4	13	7.6	16	14	13	13	13	12	10	9.8	7.8	9.4	
Bicarbonate (HCO3) (mg/L as CaCO3)	1	4.0	5.4	4.0	3.2	16	8.4	4.6	4.3	3.5	5.8	5.2	5.2	7.8	9.4	
Carbonate (CO3) (mg/L as CaCO3)	1	<1.0	<1.0	9.4	4.4	<1.0	5.2	8.5	8.6	9.5	5.9	5.0	4.6	<1.0	<1.0	
Hydroxide (OH) (mg/L as CaCO3)	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Chloride (mg/L)	1	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Fluoride (mg/L)	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Sulfate (mg/L)	1	20	17	47	21	56	43	34	31	27	22	19	17	16	15	
Nitrate + Nitrite Nitrogen (mg/L)	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Total Kjeldahl Nitrogen (mg/L)	0.2	<0.20	<0.20	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.30	<0.20	<0.20	<0.20	
Total Nitrogen (mg/L)	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.30	<0.30	<0.30	<0.30	
Anions (meq/L)	0.1	0.5	0.46	1.25	0.59	1.52	1.17	0.97	0.9	0.82	0.69	0.6	0.55	0.49	0.5	
Cations (meq/L)	0.1	0.71	0.6	1.58	0.8	1.72	1.48	1.23	1.22	1.1	0.93	0.84	0.72	0.72	0.72	
Error (%)	1	18	13	12	15	6.4	12	12	15	14	15	17	14	19	18	
<b>Diffusion Test Results C773-15 (4 % Binders + ROM)</b>																
pH (s.u.)	NA	6.01	6.28	6.22	6.20	5.53	6.17	6.68	6.11	6.67	6.52	6.6	6.63	6.44	6.79	
Temperature (°C)	NA	27	28	28	28	21.7	22.8	25.9	26.1	25.8	22.6	26.7	23	23.3	22.1	
Redox Potential (mV)	NA	490	490	480	450	490	490	450	490	500	470	500	510	480	470	
Electrical Cond. (µmhos/cm)	1	270	180	380	190	420	350	280	300	280	210	190	180	170	150	
Ferrous Iron (mg/L)	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Ferric Iron (mg/L)	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
TDS (mg/L)	10	170	130	280	130	300	230	190	170	160	170	120	160	120	92	
WAD Cyanide (mg/L)	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Acidity (Titrimetric) (mg/L as CaCO3)	NA	6	6	5	6	17	22	9	13	11	10	34	6	11	29	
Total Alkalinity (mg/L as CaCO3)	1	1.3	1.9	2.4	2.0	<1.0	2.1	2.9	1.5	3.8	2.8	3.7	3.2	3.2	4.0	
Bicarbonate (HCO3) (mg/L as CaCO3)	1	1.3	1.9	2.4	2.0	<1.0	2.1	2.9	1.5	3.8	2.8	3.7	3.2	3.2	4.0	
Carbonate (CO3) (mg/L as CaCO3)	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Hydroxide (OH) (mg/L as CaCO3)	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Chloride (mg/L)	1	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Fluoride (mg/L)	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Sulfate (mg/L)	1	96	50	99	43	100	82	70	71	68	63	53	51	50	47	
Nitrate + Nitrite Nitrogen (mg/L)	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
Total Kjeldahl Nitrogen (mg/L)	0.2	0.25	<0.20	<0.20	<0.20	0.26	<0.20	<0.20	0.28	<0.20	0.24	<0.20	<0.20	<0.20	<0.20	
Total Nitrogen (mg/L)	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	
Anions (meq/L)	0.1	2.02	1.08	2.14	0.94	2.08	1.75	1.52	1.51	1.49	1.37	1.18	1.13	1.10	1.06	
Cations (meq/L)	0.1	2.54	1.66	3.51	1.69	3.94	3.25	2.63	2.31	2.19	1.91	1.67	1.64	1.58	1.3	
Error (%)	1	11	21	24	29	31	30	27	21	19	17	17	19	18	10	

HT: outside holding time

QD: Failed matrix spike, estimate value

Appendix D. Table D-1b Metals Results from Diffusion Tests

	Dissolved Metals (mg/L)	Reporting Limit	G.W. Std	Pull # 1	Pull # 2	Pull # 3	Pull # 4	Pull # 5	Pull # 6	Pull # 7	Pull # 8	Pull # 9	Pull # 10	Pull # 11	Pull # 12	Pull # 13	Pull # 14
Diffusion Test Results C586-15 (4 % Binders)	Aluminum	0.009	None	0.058	0.225	0.709	0.188	0.603	0.415	0.337	0.329	0.325	0.269	0.246	0.237	0.210	0.200
	Antimony	0.0005	0.006	<0.005	0.0006	0.0017	0.0008	0.0019	0.0014	0.0013	0.0014	0.0013	0.0011	0.0010	0.0011	0.0010	0.0008
	Arsenic	0.001	0.01	0.002	0.005	0.016	0.005	0.028	0.024	0.022	0.022	0.024	0.021	0.020	0.023	0.022	0.019
	Barium	0.01	1	0.023	0.031	0.052	0.039	0.047	0.050	0.055	0.058	0.064	0.058	0.059	0.057	0.058	0.055
	Beryllium	0.001	0.004	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
	Boron	0.1	None	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Cadmium	0.00003	0.005	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	0.00004	<0.00003	<0.00003
	Calcium	0.5	None	11	10	27	14	30	26	22	22	20	17	15	13	13	13
	Chromium	0.005	0.1	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Cobalt	0.01	None	<0.010	<0.0020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Copper	0.005	1.3	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0052	<0.0020	<0.0020	<0.0020	<0.0020	0.0039	<0.0020
	Iron	0.02	None	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	Lead	0.0002	0.015	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	Magnesium	0.5	None	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	Manganese	0.005	None	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0083	<0.0050	<0.0050	<0.0050	<0.0050
	Mercury	5.00E-06	0.002	<b>0.000104</b>	<b>0.0000125</b>	<b>0.00001</b>	<b>2.22E-05</b>	0.0000145	0.0000201	8.6E-06	0.0000565	0.0000437	0.0000189	2.50E-05	0.0000196	2.20E-05	0.0000272
	Molybdenum	0.02	None	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	Nickel	0.01	0.1	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.003	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Phosphorus	0.007	None	<0.007	<0.007	0.018	<0.007	0.17	0.013	0.013	0.015	<0.007	0.020	0.025	0.035	0.026	<0.007
	Potassium	0.5	None	3.2	2.0	4.6	1.9	4.3	2.0	3.7	2.8	2.4	2.00	1.6	1.6	1.3	1.3
	Selenium	0.001	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Silicon	0.05	None	0.12	0.09	0.28	0.14	0.47	0.51	0.40	0.40	0.40	0.35	0.30	0.34	0.33	0.30
	Silver	0.0002	0.1	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	Sodium	0.5	None	1.9	1.2	2.7	1.1	2.7	2.1	1.4	1.4	1.1	0.92	1.1	0.96	0.79	1.0
	Strontium	0.1	4	0.18	0.15	0.40	0.20	0.46	0.39	0.37	0.35	0.32	0.28	0.25	0.22	0.22	0.22
	Thallium	0.0002	0.002	<0.0002	<0.0002	0.0005	0.0004	0.0008	0.0008	0.0005	0.0005	0.0005	0.0003	0.0003	0.0004	0.0003	0.0002
	Uranium	0.0002	0.03	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	Zinc	0.01	2	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	0.011	0.018	<0.0080	<0.0080
Diffusion Test Results C773-15 (4 % Binders + ROM)	Aluminum	0.009	None	0.142	0.220	0.394	0.189	0.298	0.230	0.223	0.210	0.225	0.168	0.143	0.148	0.179	0.100
	Antimony	0.0005	0.006	0.0013	0.0014	0.0029	0.0015	0.0019	0.0031	0.0029	0.0032	0.0033	0.0033	0.0027	0.0028	0.0025	0.0024
	Arsenic	0.001	0.01	<0.001	0.001	0.003	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.002
	Barium	0.003	1	0.049	0.056	0.090	0.079	0.099	0.080	0.078	0.077	0.089	0.089	0.084	0.079	0.092	0.088
	Beryllium	0.0008	0.004	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
	Boron	0.1	None	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Cadmium	0.00003	0.005	<0.00003	<0.00003	<0.00003	<0.00003	0.00007	<0.00003	<0.00003	0.00004	<0.00003	0.00009	<0.00003	<0.00003	0.00005	<0.00003
	Calcium	0.5	None	48	30	64	30	72	60	49	44	42	37	33	30	29	26
	Chromium	0.005	0.1	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Cobalt	0.01	None	<0.010	<0.010	<0.010	<0.010	0.014	0.013	0.011	0.012	0.012	0.012	0.011	0.011	0.010	0.010
	Copper	0.002	1.3	0.11	0.033	0.023	0.010	0.015	0.011	0.0084	0.0099	0.012	0.011	0.010	0.011	0.0087	0.0097
	Iron	0.02	None	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	Lead	0.0002	0.015	0.0003	<0.0002	<0.0002	<0.0002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
	Magnesium	0.5	None	<0.50	<0.50	<0.50	<0.50	0.75	0.61	0.52	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	Manganese	0.005	None	0.0059	<0.0050	0.0085	0.0057	0.012	0.011	0.0084	0.0083	0.0085	0.0074	0.0061	0.0095	0.0060	0.0062
	Mercury	0.000005	0.002	0.000396	0.000269	0.00081	0.000371	0.00087	0.00104	0.000385	0.000445	0.000408	0.000360	0.000416	0.000290	0.000209	0.000220
	Molybdenum	0.02	None	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	Nickel	0.01	0.1	0.003	0.002	0.004	0.002	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.003	0.002	0.003
	Phosphorus	0.007	None	<0.007	0.020	0.013	0.015	0.021	0.026	<0.007	0.013	0.011	0.017	<0.007	<0.007	0.019	0.023
	Potassium	0.5	None	1.6	1.9	4.9	2.3	4.9	3.6	2.4	2.0	1.8	1.4	0.93	0.75	0.63	<0.50
	Selenium	0.001	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Silicon	0.29	None	0.10	0.12	0.29	0.18	0.49	0.48	0.47	0.55	0.67	0.60	0.55	0.60	0.56	0.51
	Silver	0.0002	0.1	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	Sodium	0.5	None	0.78	1.1	3.2	1.6	3.6	2.5	1.8	1.4	1.0	0.74	<0.50	1.4	<0.50	<0.50
	Strontium	0.02	4	0.68	0.63	1.4	0.71	1.6	1.4	1.1	1.1	1.0	0.90	0.76	0.74	0.65	0.58
	Thallium	0.0002	0.002	0.0038	0.0040	0.0096	0.0051	0.0099	0.0092	0.0065	0.0068	0.0066	0.0051	0.0040	0.0036	0.0037	0.0034
	Uranium	0.0002	0.03	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	Zinc	0.008	2	0.016	<0.0080	0.008	0.014	0.013	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	<0.0080	0.011	<0.0080	<0.0080

\*GW standards are from the MT DEQ-7 (2012). Results that exceed respective standards are presented in **BOLD** font.

HT: outside holding time

QD: Failed matrix spike, estimate value



**Table D-2.** Summary of Weekly Data for 2015 Saturated Tailings, Unsaturated Tailings, 2%, 4%, and 4%+ROM Tests

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
Unsaturated Tailings 47 (Weeks)	0	1.423	6.26	254	1044	0.10	0.093	0.093	0.10	0.10	700.0	648	648	11	10.18	10.18	10	9.26	9.26
	1	0.609	3.35	347	8160	333	132	132	22.1	310.8	8500.0	3368	4016	2433	964	974	1	0.396	9.66
	2	0.641	2.59	401	10190	2896	1208	1340	182	2714.	9500.0	3962	7978	7224	3013	3987	1	0.417	10.07
	3	0.569	2.76	420	27900	20812	7705	9045	1365	19447	112000	41465	49444	7640	2829	6816	1	0.370	10.44
	4	0.633	2.22	414	7160	7600	3130	12175	555	7045.	14000.	5766	55210	6201	2554	9370	1	0.412	10.85
	5	0.629	2.98	440	19800	15450	6323	18498	1215	14235	38000.	15552	70762	29131	11922	21292	1	0.409	11.26
	6	0.676	3.17	412	7390	7018	3087	21585	740	6277.	18000.	7917	78679	20618	9069	30361	1	0.440	11.70
	7	0.623	3.04	430	6970	5945	2410	23995	795	5150.	19030.	7714	86393	22200	8999	39360	1	0.405	12.11
	8	0.605	2.84	448	7690	6234	2454	26449	820	5414.	21160.	8330	94723	25100	9881	49240	1	0.394	12.50
	9	0.615	2.28	426	7370	5977	2392	28841	755	5222.	18890.	7559	102282	8052	3222	52462	1	0.400	12.90
	10	0.589	2.46	428	8380	7569	2901	31742	820	6749.	22320.	8554	110836	8041	3082	55544	1	0.383	13.29
	11	0.651	2.43	427	8720	8269	3503	35244	795	7474.	23950.	10145	120980	7954	3369	58913	1	0.424	13.71
	12	0.591	2.43	433	7850	6265	2409	37653	930	5335.	16780.	6453	127433	7148	2749	61662	1	0.385	14.09
	13	0.597	2.39	433	7850	7580	2944	40598	885	6695.	18590.	7221	134654	7503	2914	64576	1	0.388	14.48
	14	0.65	2.34	437	7990	7731	3270	43868	830	6901.	23980.	10142	144796	7633	3228	67805	1	0.423	14.91
	15	0.618	2.2	439	7680	6853	2756	46623	725	6127.	21770.	8754	153550	7244	2913	70718	1	0.402	15.31
	16	0.574	2.21	436	9200	7990	2984	49607	865	7125.	38710.	14457	168007	8663	3235	73953	1	0.373	15.68
	17	0.579	1.99	438	12870	7609	2867	52474	710	6899.	27450.	10341	178349	12755	4805	78758	1	0.377	16.06
	18	0.587	1.84	441	20040	7874	3007	55481	920	6954.	31130.	11890	190238	20911	7987	86745	1	0.382	16.44
	19	0.590	1.98	429	10190	4548	1746	57227	700	3847.	18630.	7152	197390	4846	1860	88605	1	0.384	16.82
	20	0.711	2.61	370	3710	1306	604	57831	315	991.0	1965.0	909	198299	864	400	89005	1	0.463	17.29
	21	0.725	2.79	358	2440	359	169	58001	98	261.1	1443.0	681	198980	727	343	89348	1	0.472	17.76
	22	0.715	2.77	403	1943	321	149	58150	53	268.3	812.0	378	199358	546	254	89602	1	0.465	18.22
	23	0.654	1.75	434	12250	3198	1361	59511	247	2950.	8453.0	3597	202955	7346	3126	92728	1	0.426	18.65
	24	0.740	2.97	280	2310	816	393	59903	179	636.6	2300.0	1107	204062	857	413	93140	1	0.481	19.13
	25	0.701	2.18	415	4230	558	254	60158	134	424.1	2300.0	1049	205111	1359	620	93760	1	0.456	19.59
	26	0.67	1.84	417	8180	2069	902	61060	313	1755.	4900.0	2136	207247	3273	1427	95187	1	0.436	20.02
	27	0.722	2.76	398	2770	806	379	61438	229	577.0	1700.0	799	208046	1132	532	95719	1	0.470	20.49
	28	0.72	2.67	394	1988	290	136	61574	72	218.6	970.0	454	208500	461	216	95935	1	0.468	20.96
	29	0.716	2.53	416	2380	305	142	61716	85	220.3	900.0	419	208920	588	274	96209	1	0.466	21.43
	30	0.621	1.84	413	9220	2316	936	62652	283	2032.	7300.0	2950	211869	3189	1289	97497	1	0.404	21.83
	31	0.709	2.48	380	2360	554	256	62908	131	423.1	1500.0	692	212561	765	353	97850	1	0.461	22.29
	32	0.633	1.46	393	2430	5854	2411	65319	287	5566.	15000.	6178	218739	5323	2192	100043	1	0.412	22.70
	33	0.71	2.65	393	1511	314	145	65464	134	180.1	640.0	296	219035	473	219	100261	1	0.462	23.17
	34	0.721	2.9	347	1286	201	94	65558	70	130.8	38.0	18	219053	395	185	100447	1	0.469	23.63
	35	0.772	3.45	312	549	78	39	65597	36	41.3	180.0	90	219143	149	75	100521	1	0.502	24.14
	36	0.695	2.09	442	7690	1639	741	66339	325	1314.	3500.0	1583	220726	3361	1520	102041	1	0.452	24.59
	37	0.743	2.45	329	3160	877	424	66762	302	575.4	1600.0	774	221499	1576	762	102803	1	0.483	25.07
	38	0.729	2.52	327	2370	625	296	67059	215	410.3	1400.0	664	222164	832	395	103198	1	0.474	25.55
	39	0.734	2.81	294	1875	466	223	67281	204	261.9	790.0	377	222541	864	413	103610	1	0.478	26.02
	40	0.757	3.21	224	1387	379	187	67468	159	220.4	670.0	330	222871	705	347	103958	1	0.493	26.52

**Table D-2.** Summary of Weekly Data for 2015 Saturated Tailings, Unsaturated Tailings, 2%, 4%, and 4%+ROM Tests

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
	41	0.752	3.06	295	1059	229	112	67580	98	132.0	400.0	196	223067	362	177	104135	1	0.489	27.01
	42	0.721	2.33	373	2870	429	201	67782	169	260.1	1100.0	516	223583	1112	522	104656	1	0.469	27.48
	43	0.754	2.95	299	1664	367	180	67962	229	138.7	710.0	348	223931	470	231	104887	1	0.491	27.97
	44	0.75	2.72	312	1818	378	185	68147	130	248.4	750.0	366	224297	752	367	105254	1	0.488	28.45
	45	0.75	2.29	374	3080	497	242	68389	133	363.9	1200.0	586	224883	1087	530	105784	1	0.488	28.94
	46	0.744	2.07	398	5040	736	356	68745	159	576.6	2000.0	968	225851	1564	757	106542	1	0.484	29.43
	47	0.719	1.89	441	7820	1048	490	69235	186	862.1	3900.0	1825	227675	3374	1578	108120	1	0.468	29.89

Red text indicates "less than detection limit" values.

**Table D-2.** Summary of Weekly Data for 2015 Saturated Tailings, Unsaturated Tailings, 2%, 4%, and 4%+ROM Tests

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
Saturated Tailings (47 Weeks)	0	1.370	6.65	250	1167	0.10	0.089	0.089	0.10	0.10	1100	980.35	980	6	5.35	5.35	9	8.02	8.02
	1	0.739	6.49	75	1992	0.10	0.048	0.137	0.10	0.10	1700	817.27	1798	17	8.17	13.5	20	9.61	17.6
	2	0.724	7.02	296	1984	0.10	0.047	0.184	0.10	0.10	1500	706.48	2504	1	0.47	14.0	24	11.30	28.9
	3	0.740	7.02	373	1130	0.10	0.048	0.232	0.10	0.10	800	385.12	2889	1	0.48	14.5	19	9.15	38.1
	4	0.738	6.82	359	972	0.24	0.115	0.348	0.10	0.24	400	192.04	3081	1	0.48	15.0	16	7.68	45.8
	5	0.729	6.89	191	1343	0.10	0.047	0.395	0.10	0.10	950	450.53	3532	2	0.95	15.9	16	7.59	53.4
	6	0.738	6.92	180	1338	0.10	0.048	0.443	0.10	0.10	800	384.07	3916	1	0.48	16.4	16	7.68	61.0
	7	0.733	6.85	238	1206	2.92	1.392	1.835	0.11	2.81	785	374.32	4290	1	0.48	16.9	15	7.15	68.2
	8	0.73	6.91	292	1157	0.89	0.423	2.258	0.10	0.89	627	297.76	4588	10	4.75	21.6	17	8.07	76.3
	9	0.731	6.97	252	1014	0.51	0.243	2.501	0.10	0.51	483	229.69	4818	5	2.38	24.0	18	8.56	84.8
	10	0.729	6.96	386	832	0.49	0.232	2.733	0.10	0.49	387	183.53	5001	6	2.85	26.8	18	8.54	93.4
	11	0.723	6.98	352	733	0.38	0.179	2.912	0.10	0.38	312	146.74	5148	4	1.88	28.7	20	9.41	103
	12	0.725	7.23	348	552	0.69	0.325	3.237	0.10	0.69	253	119.32	5267	1	0.47	29.2	26	12.26	115
	13	0.726	6.99	207	465	0.77	0.364	3.601	0.10	0.77	100	47.23	5314	1	0.47	29.7	19	8.97	124
	14	0.731	7.22	372	286	0.22	0.105	3.705	0.10	0.22	42	19.97	5334	1	0.48	30.1	26	12.36	136
	15	0.723	6.91	318	191.9	2.44	1.148	4.853	0.10	2.44	72	33.86	5368	4	1.88	32.0	12	5.64	142
	16	0.733	6.91	303	270	0.36	0.172	5.025	0.10	0.36	95.0	45.30	5414	1	0.48	32.5	16	7.63	150
	17	0.721	6.91	351	267	0.10	0.047	5.072	0.10	0.10	106.0	49.72	5463	1	0.47	33.0	15	7.04	157
	18	0.725	6.84	315	290	1.13	0.533	5.605	0.10	1.13	121.0	57.07	5520	1	0.47	33.4	16	7.55	164
	19	0.718	6.94	300	293	0.10	0.047	5.651	0.10	0.10	97.0	45.31	5566	4	1.87	35.3	18	8.41	173
	20	0.726	7.09	312	276	0.10	0.047	5.699	0.10	0.10	87.0	41.09	5607	3	1.42	36.7	19	8.97	182
	21	0.728	7.04	326	266	0.10	0.047	5.746	0.10	0.10	81.0	38.36	5645	1	0.47	37.2	18	8.52	190
	22	0.717	7.03	328	251	0.10	0.047	5.793	0.10	0.10	91.0	42.45	5688	1	0.47	37.7	16	7.46	198
	23	0.694	7.11	360	252	0.10	0.045	5.838	0.10	0.13	77.0	34.76	5722	1	0.45	38.1	18	8.13	206
	24	0.710	6.01	144	276	0.95	0.439	6.276	0.14	0.81	130	60.04	5782	1	0.46	38.6	5	2.31	208
	25	0.712	6.5	330	257	0.13	0.060	6.337	0.10	0.10	130	60.21	5843	10	4.63	43.2	9	4.17	212
	26	0.715	6.19	183	269	0.79	0.367	6.704	0.17	0.62	100	46.51	5889	9	4.19	47.4	4	1.86	214
	27	0.686	7.25	350	224	0.10	0.045	6.749	0.10	0.10	90	40.16	5929	8	3.57	51.0	17	7.59	222
	28	0.63	6.29	391	257	0.10	0.041	6.790	0.10	0.10	120	49.18	5978	9	3.69	54.6	5	2.05	224
	29	0.661	5.37	226	343	9.09	3.909	10.698	1.01	8.08	170	73.10	6052	26	11.2	65.8	2	0.86	225
	30	0.674	5.61	194	345	6.42	2.815	13.513	0.88	5.54	130	57.00	6109	19	8.33	74.2	3	1.32	226
	31	0.707	5.37	168	318	15.42	7.092	20.605	1.56	13.86	200	91.99	6201	40	18.4	92.6	2	0.92	227
	32	0.703	5.71	150	227	4.24	1.939	22.545	0.86	3.38	96	43.90	6244	17	7.77	100.3	4	1.83	229
	33	0.684	4.91	226	354	15.86	7.057	29.602	2.07	13.79	140	62.30	6307	55	24.5	124.8	2	0.89	230
	34	0.677	4.78	252	348	17.68	7.786	37.388	2.56	15.12	130	57.25	6364	52	22.9	147.7	2	0.88	230
	35	0.689	5.16	224	322	15.30	6.858	44.246	2.55	12.75	140	62.75	6427	47	21.1	168.8	3	1.34	232
	36	0.638	4.43	308	364	10.50	4.358	48.604	1.61	8.89	130	53.96	6481	36	14.9	183.7	1	0.42	232
	37	0.7	3.33	407	507	27.4	12.47	61.081	3.67	23.73	99	45.08	6526	111	50.5	234.3	1	0.46	233
	38	0.705	3.73	423	277	6.2	2.843	63.924	1.25	4.95	100	45.86	6572	41	18.8	253.1	1	0.46	233
	39	0.712	3.7	407	378	14.87	6.887	70.812	2.31	12.56	140	64.85	6636	73	33.8	286.9	1	0.46	234
40	0.709	3.57	350	454	21.64	9.981	80.793	3.11	18.53	150	69.18	6706	99	45.7	332.5	1	0.46	234	

**Table D-2.** Summary of Weekly Data for 2015 Saturated Tailings, Unsaturated Tailings, 2%, 4%, and 4%+ROM Tests

	Week	Volume L	Effluent pH s.u.	Redox Potential mV (vs Ag/AgCl)	Conductivity µS/cm	Total Fe			Fe <sup>2+</sup> mg/L	Fe <sup>3+</sup> mg/L	SO <sub>4</sub> <sup>-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents		
						mg/L	mg/kg	Cum. mg/kg			mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg
	41	0.662	3.9	349	287	7.76	3.342	84.135	1.85	5.91	100	43.07	6749	44	18.9	351.5	1	0.43	234
	42	0.668	3.51	456	367	14.04	6.101	90.236	2.14	11.9	120	52.15	6801	77	33.5	384.9	1	0.43	235
	43	0.691	3.66	427	402	19.23	8.644	98.880	2.72	16.51	150	67.43	6868	80	36.0	420.9	1	0.45	235
	44	0.667	3.9	339	360	23.59	10.23	109.116	2.78	20.81	150	65.09	6933	84	36.4	457.4	1	0.43	236
	45	0.697	4.68	251	269	16.5	7.481	116.598	1.78	14.72	120	54.41	6988	64	29.0	486.4	1	0.45	236
	46	0.705	6.28	132	226	10.72	4.916	121.514	1.29	9.43	99	45.4	7033	34	15.6	502.0	5	2.29	238
	47	0.73	4.66	291	232	6.17	2.930	124.444	0.58	5.59	96	45.59	7079	28	13.3	515.3	1	0.47	239

Red text indicates "less than detection limit" values.

**Table D-2.** Summary of Weekly Data for 2015 Saturated Tailings, Unsaturated Tailings, 2%, 4%, and 4%+ROM Tests

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents			Bicarbonate	Carbonate	Hydroxide	Nitrate + Nitrite Nitrogen	Total Kjeldahl Nitrogen	Total Nitrogen	Anions	Cations	Error	Calcium	Magnesium
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	mg/L	%	mg/L as CaCO <sub>3</sub>	mg/L as CaCO <sub>3</sub>	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
4% Paste (28 Weeks)	0	2.93	6.55	520	260	0.020	0.043	0.043	0.1	0.1	100	214	214	4	8.55	8.55	2.3	4.91	4.91	2.3	1.0	1.0	0.10	0.20	0.30	2.13	2.38	5.6	46	0.50
	1	3.1	6.56	540	140	0.020	0.045	0.088	0.1	0.1	44	99.5	313	3	6.78	15.33	2.6	5.88	10.8	2.6	1.0	1.0	0.10	0.20	0.30	0.97	1.11	6.9	21	0.50
	2	3.2	6.16	500	110	0.020	0.047	0.135	0.1	0.1	32	74.7	388	6	14.0	29.3	1.0	2.33	13.1	1.0	1.0	1.0	0.10	0.20	0.30	0.67	0.9	15	17	0.50
	3	3.09	6.04	520	130	0.020	0.045	0.180	0.1	0.1	36	81.1	469	6	13.5	42.8	1.4	3.15	16.3	1.4	1.0	1.0	NA	NA	NA	NA	NA	NA	19	0.50
	4	3.08	4.68	510	350	0.020	0.045	0.225	0.1	0.1	68	153	622	9	20.2	63.1	1.0	2.25	18.5	1.0	1.0	1.0	0.10	0.26	0.30	1.47	3.22	37	54	2.6
	5	3.19	4.92	510	250	0.020	0.047	0.271	0.1	0.1	49	114	736	9	20.9	84.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32	4.3
	6	3.07	5.39	500	220	0.020	0.045	0.316	0.1	0.1	54	121	856	10	22.4	106	1.0	2.24	20.8	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	20	11
	7	3.18	5.41	500	400	0.28	0.65	0.97	0.28	0.1	150	348	1204	20	46.4	153	1.0	2.32	23.1	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	23	30
	8	3.2	4.96	550	390	0.16	0.37	1.34	0.13	0.1	160	373	1578	31	72.3	225	1.0	2.33	25.4	1.0	1.0	1.0	0.10	0.20	0.30	3.36	3.35	1	16	28
	9	3.05	4.84	560	560	0.72	1.60	2.94	0.78	0.1	250	556	2133	50	111	336	1.0	2.22	27.6	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	28	38
	10	3.12	4.52	490	720	2.6	5.91	8.85	2.4	0.22	350	796	2930	110	250	587	1.0	2.27	29.9	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	24	54
	11	3.1	4.33	520	570	2.8	6.33	15.2	2.7	0.1	270	610	3540	140	316	903	NA	NA	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	37
	12	3.08	4.13	530	620	4.4	9.88	25.1	4.6	0.1	330	741	4281	140	314	1217	NA	NA	29.9	NA	NA	NA	0.10	0.40	0.50	6.88	6.06	6.4	17	27
	13	3.17	3.84	520	670	9.4	21.7	46.8	10	0.1	390	901	5182	190	439	1657	NA	NA	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	30
	14	3.19	3.45	450	1000	23	53.5	100	7.8	15	510	1186	6369	290	675	2331	NA	NA	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	38
	15	3.19	3.30	430	1000	37	86.1	186	38	0.1	650	1512	7881	330	768	3099	NA	NA	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	32
	16	3.24	3.50	380	1200	120	283	470	120	3.3	680	1606	9487	500	1181	4280	NA	NA	29.9	NA	NA	NA	0.56	0.40	0.88	14.2	17.4	10	15	38
	17	3.17	3.00	450	1500	87	201	671	90	0.1	830	1918	11405	530	1225	5505	NA	NA	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	19	32
	18	3.16	2.94	460	1500	120	276	947	100	12	680	1567	12972	570	1313	6818	NA	NA	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	29
	19	3.16	2.92	460	1400	110	253	1201	100	5	610	1405	14378	530	1221	8039	NA	NA	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	13	21
	20	3.13	2.79	470	2000	170	388	1589	170	3.1	970	2214	16591	780	1780	9819	NA	NA	29.9	NA	NA	NA	0.22	0.40	0.50	20.2	25.4	11	20	23
	21	3.18	2.81	460	1700	160	371	1960	130	33	1000	2319	18910	620	1438	11257	NA	NA	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	17
	22	3.21	2.68	460	1200	360	843	2802	250	110	1300	3043	21953	1000	2341	13597	NA	NA	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	31	24
	23	3.15	2.78	480	3200	190	436	3239	150	34	610	1401	23354	620	1424	15021	NA	NA	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	13
	24	3.19	2.74	500	1500	160	372	3611	140	29	670	1558	24912	550	1279	16301	NA	NA	29.9	NA	NA	NA	0.45	0.51	0.96	14	16.4	8.1	13	10
	25	3.24	2.68	460	2000	260	614	4225	220	32	970	2292	27203	840	1984	18285	NA	NA	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	12
	26	3.15	2.80	480	1800	230	528	4753	190	40	850	1952	29156	700	1608	19893	NA	NA	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	18	9.5
	27	3.16	2.76	460	2000	310	714	5468	220	85	980	2258	31414	840	1935	21828	NA	NA	29.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	22	10
28	3.22	2.67	470	2200	390	916	6383	280	110	1400	3287	34701	1000	2348	24176	NA	NA	29.9	NA	NA	NA	0.27	0.40	0.64	29.2	34.5	8.4	25	11	

Red values indicate values at Non-Detection Limit.

HT: outside holding time

QL: lab control sample outside acceptance criteria. Result is an estimate.



**Table D-2.** Summary of Weekly Data for 2015 Saturated Tailings, Unsaturated Tailings, 2%, 4%, and 4%+ROM Tests

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents			Bicarbonate	Carbonate	Hydroxide	Nitrate + Nitrite Nitrogen	Total Kjeldahl Nitrogen	Total Nitrogen	Anions	Cations	Error	Calcium	Magnesium	
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	mg/L	%	mg/L as CaCO <sub>3</sub>	mg/L as CaCO <sub>3</sub>	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
2% Paste (28 Weeks)	0	2.92	6.60	520	170	0.020	0.04	0.04	0.1	0.1	54	103	103	3	6	6	3.3	6.3	6.3	3.3	1.0	1.0	0.10	0.20	0.30	1.22	1.42	7.5	26	0.50	
	1	2.81	6.47	520	700	0.020	0.04	0.08	0.1	0.1	260	479	582	5	9	15	2.4	4.4	10.7	2.4	1.0	1.0	0.10	0.20	0.30	5.5	7.27	14	140	1.6	
	2	2.78	4.52	490	990	0.18	0.33	0.40	0.15	0.1	300	547	1129	14	26	40	NA	NA	10.7	NA	NA	NA	0.10	0.41	0.41	6.32	10.2	23	160	20	
	3	2.78	4.27	490	1900	6.3	11.5	11.9	0.1	6.3	1000	1823	2952	140	255	296	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	140	120
	4	2.78	3.63	470	2800	69	126	138	0.1	69	2000	3646	6598	950	1732	2027	NA	NA	10.7	NA	NA	NA	0.31	1.0	1.3	41.7	40	2.1	120	160	
	5	2.79	3.12	460	2900	210	384	522	0.12	210	1800	3293	9891	1300	2378	4406	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	81	79	
	6	2.81	2.91	470	2900	390	719	1240	0.30	390	1800	3317	13208	1500	2764	7170	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	68	51	
	7	2.92	2.80	460	3400	800	1532	2772	0.55	800	2300	4404	17612	1800	3447	10616	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	70	36	
	8	2.87	2.77	450	1900	730	1374	4146	0.69	730	2000	3764	21376	1800	3388	14004	NA	NA	10.7	NA	NA	NA	0.41	0.35	0.77	41.7	65.4	22	72	22	
	9	2.77	2.65	450	4100	910	1653	5799	640	270	2200	3996	25372	1900	3451	17455	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	15	
	10	2.9	2.66	450	2000	970	1845	7644	620	350	2000	3803	29175	1900	3613	21068	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	73	12	
	11	2.85	2.67	460	3600	910	1701	9344	580	330	2000	3738	32913	1700	3177	24245	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	76	7.3	
	12	2.91	2.67	470	4000	930	1775	11119	750	180	2800	5343	38256	1700	3244	27489	NA	NA	10.7	NA	NA	NA	0.40	0.40	0.50	58.3	73.4	11	86	5.0	
	13	3.14	2.68	490	3200	690	1421	12540	500	190	2300	4736	42992	1300	2677	30166	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	72	2.4	
	14	3.23	2.73	450	3600	820	1737	14276	720	92	1800	3812	46804	1500	3177	33343	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	72	1.7	
	15	2.73	2.64	440	2000	810	1450	15726	680	130	2600	4654	51459	1500	2685	36028	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	140	1.5	
	16	3.04	2.82	410	3000	800	1595	17321	750	50	1700	3389	54847	1300	2591	38620	NA	NA	10.7	NA	NA	NA	0.10	0.40	0.50	35.4	61.4	27	95	1.4	
	17	2.78	2.62	440	4100	920	1677	18998	640	280	3400	6198	61045	1600	2917	41536	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	140	0.79	
	18	2.78	2.60	440	3800	1200	2188	21186	730	430	2300	4193	65238	1800	3281	44818	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	170	1.5	
	19	2.72	2.61	440	3100	930	1659	22845	670	260	2100	3746	68984	1800	3210	48028	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	160	0.63	
	20	2.68	2.56	450	3700	1100	1933	24778	820	300	2600	4569	73553	1900	3339	51367	NA	NA	10.7	NA	NA	NA	1.4	0.40	1.5	54.2	89.2	24	190	0.72	
	21	2.97	2.74	400	3000	730	1422	26199	660	69	3000	5843	79396	1200	2337	53704	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	110	1.0	
	22	2.73	2.52	440	2000	930	1665	27864	720	210	2400	4296	83692	1700	3043	56747	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	180	0.50	
	23	2.71	2.49	460	5400	830	1475	29339	660	170	2200	3910	87601	1700	3021	59768	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	190	0.50	
	24	2.77	2.45	480	3900	900	1635	30974	630	200	2200	3996	91598	1700	3088	62856	NA	NA	10.7	NA	NA	NA	1.9	0.40	2.0	45.9	74.9	24	180	0.50	
	25	2.78	2.38	440	4600	1100	2005	32979	820	280	2700	4922	96520	2100	3828	66685	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	190	0.50	
	26	2.72	2.44	450	3400	820	1463	34442	590	230	2300	4102	100622	1600	2854	69538	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	200	0.50	
	27	2.83	2.30	450	4600	1000	1856	36298	730	270	2700	5010	105632	2000	3711	73250	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	180	0.50	
28	2.87	2.33	22	3600	450	847	37144	420	25	1800	3388	109020	1100	2070	75320	NA	NA	10.7	NA	NA	NA	0.31	0.40	0.56	37.5	40.6	3.9	100	0.50		

Red values indicate values at Non-Detection Limit.

HT: outside holding time

QL: lab control sample outside acceptance criteria. Result is an estimate

**Table D-2.** Summary of Weekly Data for 2015 Saturated Tailings, Unsaturated Tailings, 2%, 4%, and 4%+ROM Tests

	Week	Volume	Effluent pH	Redox Potential	Conductivity	Total Fe			Fe <sup>2+</sup>	Fe <sup>3+</sup>	SO <sub>4</sub> <sup>2-</sup>			Acidity, CaCO <sub>3</sub> Equivalents			Alkalinity, CaCO <sub>3</sub> Equivalents			Bicarbonate	Carbonate	Hydroxide	Nitrate + Nitrite Nitrogen	Total Kjeldahl Nitrogen	Total Nitrogen	Anions	Cations	Error	Calcium	Magnesium
		L	s.u.	mV (vs Ag/AgCl)	µS/cm	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/L	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	Cum. mg/kg	mg/L	mg/kg	meq/L	%	mg/L as CaCO <sub>3</sub>	mg/L as CaCO <sub>3</sub>	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
4% Paste + ROM (24 Weeks)	0	0.820	6.09	480	290	0.020	0.03	0.03	0.1	0.1	100	174	174	7	12.1	12.1	1.5	2.6	2.6	1.5	1.0	1.0	0.10	0.20	0.30	2.11	2.67	12	51	<0.5
	1	0.820	6.35	470	380	0.020	0.03	0.07	0.1	0.1	160	278	451	-2	-3.47	8.68	4.0	6.9	9.5	4.0	1.0	1.0	0.10	0.20	0.30	3.41	3.68	3.8	71	0.57
	2	0.880	6.32	460	560	0.020	0.04	0.11	0.1	0.1	240	447	898	15	27.9	36.6	4.6	8.6	18.1	4.6	1.0	1.0	0.10	0.20	0.30	5.16	6.03	7.7	110	3.3
	3	0.830	4.73	490	150	0.32	0.56	0.67	0.26	0.1	75	132	1030	19	33.4	70.0	1.0	1.8	19.9	1.0	1.0	1.0	NA	NA	NA	NA	NA	NA	22	2.5
	4	0.860	4.36	500	230	1.2	2.18	2.85	0.20	1.0	90	164	1194	35	63.7	134	NA	NA	19.9	NA	NA	NA	0.10	0.20	0.30	1.87	2.02	3.8	27	4.1
	5	0.860	3.81	470	210	1.8	3.28	6.13	0.15	1.7	76	138	1332	48	87.3	221	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	2.5
	6	0.860	3.87	490	330	4.7	8.55	14.7	4.6	0.10	120	218	1550	68	124	345	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	28	4.1
	7	0.870	3.65	460	440	9.7	17.9	32.5	8.5	1.2	150	276	1826	100	184	529	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	7
	8	0.880	3.59	500	420	8.2	15.3	47.8	1.8	6.4	150	279	2106	120	223	752	NA	NA	19.9	NA	NA	NA	0.10	0.40	0.50	3.12	3.99	12	17	7.3
	9	0.920	3.19	490	1800	60	117	165	60	0.49	1300	2531	4636	660	1285	2037	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	54
	10	0.860	3.27	510	950	28	51.0	216	2.6	25	650	1183	5819	280	510	2547	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	21
	11	0.890	3.16	460	1100	34	64.0	280	2.2	32	480	904	6723	310	584	3130	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	40	22
	12	0.870	3.13	440	1200	43	79.2	359	2.7	41	540	994	7717	360	663	3793	NA	NA	19.9	NA	NA	NA	0.46	0.40	0.76	11.3	13.4	8.7	45	24
	13	0.870	2.92	450	2200	120	221	580	1.5	120	1200	2209	9926	880	1620	5413	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	50	56
	14	0.880	2.86	450	2500	150	279	859	140	17	1500	2793	12719	950	1769	7182	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	84	52
	15	0.880	2.89	450	2100	150	279	1138	130	20	1100	2048	14767	810	1508	8690	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	65	45
	16	0.860	2.90	450	1200	120	218	1357	100	14	1300	2366	17133	690	1256	9946	NA	NA	19.9	NA	NA	NA	0.19	0.40	0.58	27.1	24.6	4.8	60	32
	17	0.870	2.72	450	3000	410	755	2111	290	120	2100	3866	20999	1500	2761	12707	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	150	59
	18	0.860	2.68	440	3300	470	855	2967	350	120	3500	6369	27368	1700	3094	15801	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	150	47
	19	0.890	2.69	450	1600	430	810	3776	330	99	3300	6215	33583	1500	2825	18626	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	120	47
	20	0.850	2.71	470	3000	320	576	4352	240	78	1600	2878	36460	1200	2158	20784	NA	NA	19.9	NA	NA	NA	0.73	0.40	1.1	33.4	41.1	10	86	36
	21	0.900	2.65	490	2800	410	781	5133	270	140	1600	3047	39507	1300	2476	23259	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	69	32
	22	0.850	2.58	450	3700	720	1295	6428	470	250	2600	4676	44183	2000	3597	26857	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	110	45
	23	0.860	2.68	460	3400	670	1219	7647	420	250	2300	4185	48369	1700	3094	29950	NA	NA	19.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	100	39
24	0.870	2.67	450	2800	630	1160	8807	440	190	2300	4234	52603	1600	2945	32896	NA	NA	19.9	NA	NA	NA	0.24	0.76	1.0	47.9	61.8	13	100	30	

Red values indicate values at Non-Detection Limit.

HT: outside holding time

QL: lab control sample outside acceptance criteria. Result is an estimate

**Table D-3.** Summary of metals data for 2015 4%, 2%, and 4% ROM Paste collected in weeks 0,1,2,4, and every fourth week thereafter. These tests are in complete and data are available through week 0-28 for the 4% and 2% and week 0-24 for 4% ROM. All values displayed are mg/L.

MT DEQ Water Quality Standards, 2012	Aluminum	Antimony	Arsenic	Barium	Boron	Beryllium	Cadmium	Chloride	Chromium	Cobalt	Copper	Fluoride	Lead	Manganese	Mercury	Molybdenum	Nickel	Phosphorus	Potassium	Selenium	Silicon	Silver	Sodium	Strontium	Thallium	Uranium	Zinc
<b>GW</b>	None	0.006	0.01	1	None	0.004	0.005	None	0.1	None	1.3	4	0.015	None	0.002	None	0.1	None	None	0.05	None	0.1	None	4	0.002	0.03	2
<b>SW<sup>1</sup></b>	0.087	0.0056	0.01	1	None	0.004	0.00033	None	0.107	None	0.0117	4	0.0044	None	0.00005	None	0.065	None	None	0.005	None	0.00637	None	4	0.00024	0.03	0.15
<b>MDL<sup>2</sup></b>	0.009	0.0005	0.001	0.003	None	0.0008	0.00003	None	0.01	None	0.002	0.2	0.0003	0.005	0.00001 <sup>4</sup>	None	0.002	0.005	None	0.001	None	0.0002	None	0.02	0.0002	0.0002	0.008
<b>4% Paste</b>																											
0	0.042	0.001	0.002	0.08	0.10	0.0008	0.0003	1.0	0.0050	0.010	0.0021	0.1	0.0002	0.0050	0.0000337	0.020	0.002	0.007	1.9	0.001	0.10	0.0002	0.88	0.43	0.0006	0.0002	0.0080
1	0.012	0.0005	0.004	0.03	0.10	0.0008	0.00003	1.0	0.0050	0.010	0.002	0.2	0.0002	0.0050	0.000020	0.020	0.0033	0.018	0.88	0.001	0.09	0.0002	0.97	0.16	0.0006	0.0002	0.0080
2	0.009	0.0005	0.003	0.03	0.10	0.0008	0.00003	1.0	0.0050	0.010	0.002	0.1	0.0002	0.0050	0.000050	0.020	0.0032	0.007	0.89	0.001	0.1	0.0002	0.68	0.15	0.0005	0.0002	0.0080
4	0.009	0.0006	0.005	0.03	0.10	0.0008	0.00004	2	0.0050	0.057	0.0045	0.1	0.0003	0.016	0.000102	0.020	0.022	0.007	4.5	0.001	0.37	0.0002	4.4	0.67	0.0023	0.0002	0.014
8	0.371	0.0008	0.003	0.020	0.10	0.0008	0.00004	1.2	0.0050	4	1.3	0.1	0.0003	0.86	0.000017	0.020	0.81	0.007	1.5	0.001	0.6	0.0002	2.8	0.34	0.0039	0.0002	0.14
12	10.8	0.0005	0.002	0.019	0.10	0.0032	0.001	1.0	0.0050	10	33	0.24	0.0024	0.0050	0.000005	0.020	4.2	0.09	0.50	0.001	1.15	0.0002	0.50	0.32	0.0097	0.005	0.71
16	27.3	0.0005	0.003	0.010	0.22	0.0061	0.0018	10	0.0094	17	55	1	0.0038	4	0.000005	0.020	6.8	0.108	0.50	0.001	2.76	0.0002	0.50	0.27	0.0045	0.01	1.2
20	32.6	0.0008	0.305	0.011	0.10	0.0075	0.0017	10	0.11	14	52	1	0.0039	3.2	0.000005	0.020	5.7	0.07	0.50	0.001	1.64	0.0002	0.50	0.26	0.001	0.0135	0.95
24	20	0.0005	0.087	0.009	0.10	0.0032	0.0007	5.0	0.11	6.6	23	0.50	0.001	1.5	0.000005	0.020	2.8	0.03	0.50	0.001	0.79	0.0002	0.50	0.16	0.0002	0.0052	0.47
28	26.3	0.002	2.01	0.014	0.1	0.0037	0.001	10	0.25	8	26	1.0	0.001	1.7	0.000005	0.10	3.3	0.41	0.50	0.002	1.04	0.0002	0.50	0.22	0.0002	0.006	0.57
<b>2% Paste</b>																											
0	0.036	0.0012	0.011	0.15	0.10	0.0008	0.00003	1	0.0050	0.010	0.005	0.10	0.0002	0.0050	0.000127	0.020	0.01	0.023	2.1	0.001	0.25	0.0002	1.5	0.43	0.0007	0.0002	0.01
1	0.037	0.0019	0.015	0.048	0.10	0.0008	0.00016	1.2	0.0050	0.14	0.0071	0.55	0.0002	0.0077	0.0000684	0.020	0.059	0.075	3	0.001	0.76	0.0002	1.7	1.9	0.0044	0.0002	0.008
2	0.045	0.0012	0.019	0.052	0.10	0.0008	0.00007	2.8	0.0050	3.6	0.14	0.10	0.0017	0.42	0.000339	0.020	1	0.07	6	0.001	1.79	0.0002	4.9	3.1	0.0136	0.0002	0.028
4	69.8	0.0013	0.028	0.016	0.15	0.017	0.0049	10	0.03	91	220	1.4	0.0079	9.2	0.0000051	0.020	30	0.753	0.50	0.006	14.4	0.0002	2.9	2.5	0.0333	0.0314	3
8	31.9	0.007	3.86	0.017	0.17	0.0076	0.00214	50	0.52	19	67	4.0	0.0028	6.2	0.00001	0.10	7	0.267	0.50	0.002	7.71	0.0002	0.50	1.1	0.0002	0.0142	1.1
12	12.1	0.0053	5.760	0.03	1.4	0.0019	0.00101	10	0.6	6.2	21	0.37	0.0025	2	0.0000302	0.020	2.8	0.512	0.50	0.001	5.78	0.0002	0.50	1.4	0.0002	0.0037	0.39
16	7.09	0.0012	0.230	0.031	1.3	0.0008	0.00052	10	0.3	2.8	9	1.0	0.0008	0.53	0.000005	0.020	1.1	0.074	0.50	0.001	9.91	0.0002	0.50	1.5	0.0004	0.0009	0.19
20	8.34	0.0089	10.3	0.032	0.16	0.0008	0.00062	10	0.65	3.8	8	1.0	0.0088	0.32	0.000087	0.10	1.4	0.99	0.50	0.002	5.02	0.0002	0.50	2.4	0.0004	0.0012	0.15
24	5.68	0.01	13.3	0.035	0.10	0.13	<0.0005	5.0	0.46	3	6.2	0.50	0.0075	0.23	0.000092	0.050	1.2	1.84	0.50	0.002	5.57	0.0002	0.50	2.5	0.0015	0.0010	0.14
28	1.83	0.0083	3.92	0.026	0.10	0.001	0.00031	10	0.14	1.6	5.5	0.10	0.0065	0.16	0.00007	0.10	0.68	0.78	0.50	0.002	7.47	0.0002	0.50	1.7	0.0123	0.0005	0.12
<b>4% Paste +ROM</b>																											
0	0.038	0.0028	0.001	0.076	0.10	0.0008	0.00003	1.0	0.0050	0.010	0.051	0.10	0.0003	0.0085	0.000820	0.020	0.0045	0.021	2.5	0.001	0.13	0.0002	1.4	0.85	0.0055	0.0002	0.013
1	0.018	0.0014	0.001	0.073	0.10	0.0008	0.00003	1.0	0.0050	0.039	0.084	0.10	0.0003	0.02	0.0000608	0.020	0.014	0.007	2	0.001	0.37	0.0002	0.73	1.2	0.0084	0.0002	0.037
2	0.009	0.0013	0.001	0.058	0.10	0.0009	0.00004	2.4	0.0050	0.3	0.97	0.12	0.0003	0.17	0.00013	0.020	0.07	0.011	3.5	0.001	1.52	0.0002	3.2	3	0.0211	0.0002	0.078
4	0.53	0.0005	0.001	0.063	0.10	0.0008	0.00013	1.0	0.0050	0.59	7.5	0.10	0.002	0.2	0.000005	0.020	0.13	0.009	0.50	0.001	1.16	0.0002	0.69	1.2	0.0206	0.0007	0.11
8	2.68	0.0005	0.003	0.04	0.10	0.001	0.00032	1.0	0.0050	1.5	27	0.10	0.0017	0.43	0.000005	0.020	0.44	0.112	0.50	0.001	0.58	0.0002	0.50	0.48	0.0011	0.0032	0.24
12	12.4	0.0005	0.009	0.035	0.10	0.0038	0.00111	5.0	0.019	4.9	100	0.10	0.0015	1.4	0.000005	0.020	1.6	0.118	0.50	0.001	0.77	0.0002	0.50	0.86	0.0002	0.0171	0.73
16	27.7	0.0013	0.056	0.025	0.10	0.0061	0.00167	5.0	0.082	6.7	170	5.0	0.0036	1.9	0.000005	0.020	2.2	0.1	0.50	0.001	1.35	0.0002	0.50	1	0.0003	0.0259	1
20	37.2	0.0058	0.496	0.023	0.65	0.0063	0.00188	10	0.21	6.9	140	0.10	0.0022	1.8	0.000005	0.020	2.8	0.36	0.50	0.001	1.81	0.0002	0.50	1.7	0.0002	0.025	1
24	37	0.0123	1.4	0.022	0.12	0.0058	0.00158	10	0.36	7.0	120	0.10	0.0029	1.6	0.000065	0.020	3.1	0.737	0.50	0.002	2.73	0.0211	0.50	1.7	0.0002	0.0201	0.86



**Table D-3.** Summary of metals data for 2015 4%, 2%, and 4% ROM Paste collected in weeks 0,1,2,4, and every fourth week thereafter. These tests are in complete and data are available through week 0-28 for the 4% and 2% and week 0-24 for 4% ROM. All values displayed are mg/L.

MT DEQ Water Quality Standards, 2012	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Copper	Fluoride	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Phosphorus	Selenium	Silicon	Silver	Strontium	Sulfate	Thallium	Uranium	Zinc	
<b>GW</b>	None	0.006	0.01	1	0.004	0.005	None	0.1	1.3	4	None	0.015	None	None	0.002	0.1	None	0.05	None	0.1	4	None	0.002	0.03	2	
<b>SW<sup>1</sup></b>	0.087	0.0056	0.01	1	0.004	0.00033	None	0.107	0.0117	4	1	0.0044	None	None	0.00005	0.065	None	0.005	None	0.00637	4	None	0.00024	0.03	0.15	
<b>MDL<sup>2</sup></b>	0.009	0.0005	0.001	0.003	0.0008	<i>0.00003</i>	None	<i>0.01</i>	0.002	0.2	0.02	0.0003	None	0.005	<i>0.00001<sup>4</sup></i>	0.002	<i>0.005</i>	0.001	None	0.0002	0.02	None	0.0002	<i>0.0002</i>	0.008	
<b>2015 Tails UN (Weeks)</b>	0	0.009	0.0012	0.031	0.027	0.00013	110	<0.01	0.128	<0.2	<0.2	0.0013	82	3.04	0.0000213	1.94	0.091	0.001	1.01	0.0002	0.29	610	0.0326	0.0002	0.037	
	1	26.9	0.005	0.548	0.015	0.0354	400	0.42	402	<0.2	381	0.0194	994	81	0.000005	143	0.292	0.006	26.9	0.0002	2.9	8160	0.326	0.089	10.4	
	2	73.6	0.016	34.7	0.026	0.0636	392	6.06	733	<0.2	2950	0.0175	553	82.4	0.0000479	142	7.4	0.007	40.9	0.0002	1.44	12300	0.0047	0.272	13.1	
	4	21.2	0.0162	50.3	0.013	0.0318	357	3.63	219	<0.2	5060	0.0126	79	54.8	0.0000339	38.4	5.4	0.008	33	0.0002	0.72	11200	0.0006	0.103	5.05	
	8	16.2	0.0386	92.3	0.011	0.0207	0.00803	242	3.66	125	<0.2	7680	0.0241	75	31	0.0000311	15.3	14	0.007	32	0.0002	0.64	12500	0.0017	0.037	3.27
	12	17.1	0.0777	136	0.015	0.0067	0.0048	120	4.93	113	2.4	5940	0.0431	14	9.81	0.0000377	8.83	19.2	0.006	19	0.0002	0.39	12800	0.0095	0.0164	2.2
	16	25.3	0.174	266	0.016	0.0016	0.00588	188	2.11	140	0.2	7250	0.0319	6	1.86	0.00002	3.86	37.6	0.013	40.1	0.0002	0.63	14400	0.0103	0.0099	1.46
	20	6.77	0.0251	3.38	0.015	0.0013	0.0016	281	0.31	21	0.4	1290	0.0082	1	0.561	0.000005	1.4	0.93	0.001	51.2	0.0002	0.69	3120	0.0194	0.0011	1.11
	24	5.05	0.0119	12.9	0.013	0.0009	0.00073	189	0.06	1.8	0.6	746	0.0017	1	0.261	0.0000089	0.702	1.22	0.001	26	0.0002	0.61	2070	0.0381	0.0002	0.498
	28	2.72	0.0087	2.04	0.038	0.0009	0.00048	61	0.11	6.67	1.4	234	0.0114	1	0.147	<0.000005	0.313	0.891	0.001	12.6	0.0002	0.4	706	0.0846	0.0003	0.301
	32	10.4	0.0938	129	0.014	0.0013	0.00204	43	0.73	50.4	0.4	2610	0.0589	1	0.909	0.0000095	1.56	43.4	0.005	49.8	0.0002	0.73	8600	0.479	0.0021	0.67
	36	9.27	0.0799	88.2	0.015	0.001	0.00206	23	0.55	72.7	0.5	1350	0.172	1	0.554	0.0000202	1.19	27	0.003	12.3	0.0007	1.04	3780	0.488	0.0025	1.04
	40	0.979	0.0072	27.9	0.022	0.0008	0.00023	4	0.01	0.045	0.5	382	0.009	1	0.161	0.000005	0.286	5.7	0.001	9.61	0.0002	0.25	705	0.0886	0.0002	0.223
	44	3.27	0.0053	17	0.029	0.0008	0.00053	4	0.11	0.42	0.8	342	0.15	1	0.184	0.000005	0.306	2.82	0.001	9.68	0.0002	0.36	771	0.27	0.0002	0.205
47	7.32	0.0894	75.5	0.033	0.0008	0.0020	2	0.76	109	0.2	1220	0.924	1	0.546	0.0000057	0.89	17.0	0.004	11.7	0.0002	0.32	3710	0.677	0.0018	0.94	
<b>2015 Tails SAT (Weeks)</b>	0	0.009	0.0018	0.034	0.023	0.00013	158	0.01	0.07	0.2	0.2	0.0022	97	2.89	2.58E-05	1.6	0.107	0.001	1.09	0.0002	0.37	771	0.0444	0.0002	0.026	
	1	0.011	0.0016	0.006	0.017	0.00004	233	0.01	0.003	0.3	0.05	0.0102	180	4.36	0.000005	1.6	0.195	0.001	3.14	0.0002	0.45	1380	0.0194	0.0002	0.018	
	2	0.009	0.0014	0.006	0.017	0.00005	268	0.01	0.003	0.3	0.45	0.0007	152	4.8	0.000005	1.44	0.184	0.001	3.64	0.0002	0.53	1370	0.017	0.0002	0.017	
	4	0.009	0.0006	0.012	0.025	0.00008	156	0.01	0.017	0.2	0.21	0.0003	44	2.5	0.000005	0.753	0.061	0.001	2.58	0.0002	0.36	578	0.0131	0.0002	0.013	
	8	0.009	0.0005	0.094	0.017	0.00008	252	0.01	0.006	0.3	0.46	0.0003	14	2.49	0.000005	0.657	0.036	0.001	4.95	0.0002	0.54	656	0.0094	0.0002	0.024	
	12	0.012	0.0007	0.027	0.025	0.00005	96	0.01	0.018	0.4	0.53	0.0075	9	1.12	0.0000913	0.274	0.03	0.001	5.2	0.0002	0.48	265	0.0056	0.0002	0.015	
	16	0.022	0.001	0.014	0.04	0.00006	34	0.01	0.029	0.3	0.2	0.0014	10	0.69	0.000005	0.274	0.019	0.001	4.66	0.0002	0.39	112	0.007	0.0002	0.026	
	20	0.009	0.0006	0.013	0.031	0.00008	31	0.01	0.069	0.2	0.2	0.0021	12	0.516	0.000005	0.173	0.013	0.001	6.73	0.0002	0.46	114	0.005	0.0002	0.017	
	24	0.009	0.0005	0.01	0.028	0.00008	0.0003	26	0.01	1.35	0.2	0.97	0.0003	12	0.533	0.000005	0.253	0.01	0.001	7.6	0.0002	0.44	124	0.0042	0.0002	0.023
	28	0.009	0.0005	0.006	0.035	0.00008	0.0003	24	0.01	1.04	0.2	0.04	0.0003	11	1.05	0.000005	0.272	0.014	0.001	8.35	0.0002	0.52	107	0.0041	0.0002	0.02
	32	0.013	0.0005	0.007	0.035	0.00008	0.0003	20	0.01	0.396	0.2	4.31	0.0006	8	2.22	0.000005	0.567	0.011	0.001	8.99	0.0002	0.54	103	0.0039	0.0002	0.017
	36	0.063	0.0005	0.019	0.029	0.00008	0.00005	24	0.01	0.678	0.2	13.8	0.011	10	2.92	0.000005	0.78	0.007	0.001	12.7	0.0002	0.72	147	0.0085	0.0003	0.028
	40	0.143	0.0005	0.042	0.024	0.00008	0.00006	20	0.01	0.807	0.2	23.1	0.0181	9	2.73	0.000005	0.746	0.011	0.001	9.1	0.0002	0.7	167	0.0088	0.0005	0.033
	44	0.105	0.0005	0.006	0.035	0.00008	0.00005	17	0.01	0.679	0.2	23.1	0.0149	8	2.82	0.000005	0.882	0.01	0.001	9.38	0.0006	0.63	146	0.0072	0.0004	0.026
47	0.028	0.0005	0.016	0.041	0.00008	0.00005	15	0.01	0.196	0.2	7.59	0.0017	7	2.77	0.000005	0.880	0.009	0.001	9.36	0.0002	0.67	92	0.0053	0.0002	0.022	

<sup>1</sup> Surface Water standards are the lowest available, which in most cases in the "chronic aquatic life" criteria. Hardness-dependent criteria have been adjusted for a site hardness of 130 mg/L.

<sup>2</sup> *Italicized* MDL (Method Detection Limit) values indicate that the limit used by the lab differs from the Required Reporting Limit (RRL). Discrepancies between MDLs and RRLs include: Cadmium (MDL=0.0003 mg/L, RLL=0.008 mg/L); Chromium (MDL=0.01 mg/L, RRL=0.002 mg/L); Mercury (MDL=0.00001 mg/L, RRL=0.000005 mg/L); Phosphorus (MDL=0.005 mg/L, RRL=0.001 mg/L); and Uranium (MDL=0.0002 mg/L, RRL=0.00002 mg/L).

GW= Ground water, SW= Surface water, MDL=Required Reporting Limit, **Red text** indicates "less than detection limit" values.

Pink highlighted cells indicate surface water quality exceedances and blue highlighted cells indicate ground water quality exceedances.

## **Appendix D:**

Static Lab Reports (ICP and ABA/NAG, from ALS and SGS)

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

16-June-2015

**AMEC Earth & Environmental Limited**

Attn : Corina Aldea

505 Woodward Avenue, Unit 1, Hamilton  
 , L8H 6N6  
 Phone: (905)312-0700, Fax:(905)312-0771

**Date Rec. :** 04 June 2015  
**LR Report:** CA12185-JUN15  
**Reference:** PO# TB152022\*U

**Copy:** #1

# CERTIFICATE OF ANALYSIS

## Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: TB152022, #S153-15
Sample Date & Time			NA
Paste pH	11-Jun-15	14:22	3.23
Fizz Rate [---]	11-Jun-15	14:22	1
Sample weight [g]	11-Jun-15	14:22	2.01
	11-Jun-15	14:22	20.00
HCl [Normality]	11-Jun-15	14:22	0.10
NaOH [Normality]	11-Jun-15	14:22	0.10
NaOH to pH=8.3 [mL]	11-Jun-15	14:22	19.20
Final pH	11-Jun-15	14:22	1.17
NP [t CaCO3/1000 t]	11-Jun-15	14:22	2.0
AP [t CaCO3/1000 t]	---	---	802
Net NP [t CaCO3/1000 t]	---	---	-799.88
NP/AP [ratio]	---	---	0.00
Sulphur (total) [%]	12-Jun-15	14:56	25.5
Acid Leachable SO4-S [%]	---	---	<0.01
Sulphide [%]	12-Jun-15	14:56	25.7
Carbon (total) [%]	11-Jun-15	14:22	0.372
Carbonate [%]	11-Jun-15	14:22	0.220

\_\_\_\_\_  
 Brian Graham B.Sc.  
 Project Specialist  
 Environmental Services, Analytical

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.  
 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

29-July-2015

**AMEC Earth & Environmental Limited**

Attn : Corina Aldea

505 Woodward Avenue, Unit 1, Hamilton  
 , L8H 6N6  
 Phone: (905)312-0700, Fax:(905)312-0771

**Date Rec. :** 21 July 2015  
**LR Report:** CA12531-JUL15  
**Reference:** PO# TB152022\*U

**Copy:** #1

# CERTIFICATE OF ANALYSIS

## Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: TB152022 #S198-15
Sample Date & Time			NA
Paste pH	29-Jul-15	09:26	3.31
Fizz Rate [---]	29-Jul-15	09:26	1
Sample weight [g]	29-Jul-15	09:26	2.05
HCl Added [mL]	29-Jul-15	09:26	20.00
HCl [Normality]	29-Jul-15	09:26	0.10
NaOH [Normality]	29-Jul-15	09:26	0.10
NaOH to pH=8.3 [mL]	29-Jul-15	09:26	21.13
Final pH	29-Jul-15	09:26	1.31
NP [t CaCO3/1000 t]	29-Jul-15	09:26	-2.8
AP [t CaCO3/1000 t]	---	---	781
Net NP [t CaCO3/1000 t]	---	---	-783.42
NP/AP [ratio]	---	---	-0.00
Sulphur (total) [%]	28-Jul-15	13:26	24.1
Acid Leachable SO4-S [%]	---	---	< 0.01
Sulphide [%]	28-Jul-15	13:26	25.0
Carbon (total) [%]	28-Jul-15	13:20	0.459
Carbonate [%]	28-Jul-15	13:20	0.145

\_\_\_\_\_  
 Brian Graham B.Sc.  
 Project Specialist  
 Environmental Services, Analytical

**SGS Canada Inc.**

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 Lakefield - Ontario - K0L 2H0  
 Phone: 705-652-2000 FAX: 705-652-6365

28-July-2015

**AMEC Earth & Environmental Limited**

Attn : Corina Aldea

505 Woodward Avenue, Unit 1  
 Hamilton, ON  
 L8H 6N6,

**Date Rec. :** 08 July 2015  
**LR Report:** CA15079-JUL15  
**Reference:** PO# TB152022\*U

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Phone: (905)312-0700  
 Fax:(905)312-0771

# CERTIFICATE OF ANALYSIS

## Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: TB152022, #S173-15
Sample Date & Time			NA
Paste pH	24-Jul-15	14:45	3.30
Fizz Rate [---]	24-Jul-15	14:45	1
Sample weight [g]	24-Jul-15	14:45	2.04
HCl Added [mL]	24-Jul-15	14:45	20.00
HCl [Normality]	24-Jul-15	14:45	0.10
NaOH [Normality]	24-Jul-15	14:45	0.10
NaOH to pH=8.3 [mL]	24-Jul-15	14:45	20.97
Final pH	24-Jul-15	14:45	1.04
NP [t CaCO3/1000 t]	24-Jul-15	14:45	-2.4
AP [t CaCO3/1000 t]	---	---	935
Net NP [t CaCO3/1000 t]	---	---	-937.40
NP/AP [ratio]	---	---	-0.00
Sulphur (total) [%]	28-Jul-15	14:42	28.9
Acid Leachable SO4-S [%]	---	---	< 0.01
Sulphide [%]	28-Jul-15	14:42	29.9
Carbon (total) [%]	28-Jul-15	13:23	0.304
Carbonate [%]	28-Jul-15	13:23	0.100

\_\_\_\_\_  
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 Environmental Services, Analytical

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31-August-2015

**AMEC Earth & Environmental Limited**

Attn : Corina Aldea

505 Woodward Avenue, Unit 1, Hamilton  
 , L8H 6N6  
 Phone: (905)312-0700, Fax:(905)312-0771

**Date Rec. :** 19 August 2015  
**LR Report:** CA14523-AUG15  
**Reference:** TB152022\*U

**Copy:** #1

# CERTIFICATE OF ANALYSIS

## Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: TB152022, #S234-15
Sample Date & Time			NA
Paste pH	31-Aug-15	09:27	3.92
Fizz Rate [---]	31-Aug-15	09:27	1
Sample weight [g]	31-Aug-15	09:27	1.98
HCl Added [mL]	31-Aug-15	09:27	39.10
HCl [Normality]	31-Aug-15	09:27	0.10
NaOH [Normality]	31-Aug-15	09:27	0.10
NaOH to pH=8.3 [mL]	31-Aug-15	09:27	14.92
Final pH	31-Aug-15	09:27	1.62
NP [t CaCO3/1000 t]	31-Aug-15	09:27	61.1
AP [t CaCO3/1000 t]	---	---	554
Net NP [t CaCO3/1000 t]	---	---	-493
NP/AP [ratio]	---	---	0.11
Sulphur (total) [%]	25-Aug-15	14:23	21.4
Acid Leachable SO4-S [%]	---	---	3.70
Sulphide [%]	25-Aug-15	14:23	17.7
Carbon (total) [%]	24-Aug-15	14:51	1.19
Carbonate [%]	24-Aug-15	14:51	3.20

\_\_\_\_\_  
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14-August-2015

**AMEC Earth & Environmental Limited**

Attn : Corina Aldea

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**Date Rec. :** 04 August 2015  
**LR Report:** CA15000-AUG15  
**Reference:** TB152022\*U

**Copy:** #1

## CERTIFICATE OF ANALYSIS

### Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: TB152022 #S206-15
Sample Date & Time			NA
Paste pH	13-Aug-15	15:37	3.58
Fizz Rate [---]	13-Aug-15	15:37	1
Sample weight [g]	13-Aug-15	15:37	2.10
HCl Added [mL]	13-Aug-15	15:37	20.00
HCl [Normality]	13-Aug-15	15:37	0.10
NaOH [Normality]	13-Aug-15	15:37	0.10
NaOH to pH=8.3 [mL]	13-Aug-15	15:37	16.07
Final pH	13-Aug-15	15:37	1.29
NP [t CaCO3/1000 t]	13-Aug-15	15:37	9.4
AP [t CaCO3/1000 t]	---	---	845
Net NP [t CaCO3/1000 t]	---	---	-835.60
NP/AP [ratio]	---	---	0.01
Sulphur (total) [%]	07-Aug-15	14:15	28.3
Acid Leachable SO4-S [%]	---	---	1.29
Sulphide [%]	07-Aug-15	14:15	27.0
Carbon (total) [%]	07-Aug-15	14:12	0.406
Carbonate [%]	07-Aug-15	14:12	0.295

\_\_\_\_\_  
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 Project Specialist  
 Environmental Services, Analytical



ALS Canada Ltd.  
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To: **TINTINA MONTANA INC.**  
**17 MAIN ST**  
**WHITE SULPHUR SPRINGS MT 59645**  
**USA**

Page: 1  
 Total # Pages: 2 (A - E)  
 Plus Appendix Pages  
 Finalized Date: 7- AUG- 2015  
 Account: TINALEX

**CERTIFICATE RE15116420**

Project: Tintina Black Butte Copper Pro

This report is for 1 Rock sample submitted to our lab in Reno, NV, USA on 4- AUG- 2015.

The following have access to data associated with this certificate:

JACK COTE KATERINE SEIPEL	LISA KIRK JERRY ZIEG	VINCE SCARTOZZI
------------------------------	-------------------------	-----------------

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
PUL- 31	Pulverize split to 85% < 75 um
WEI- 21	Received Sample Weight

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
S- IR08	Total Sulphur (Leco)	LECO
OA- ELE07	Paste pH	
S- CAL06	Sulfide Sulfur (calculated)	LECO
S- GRA06	Sulfate Sulfur- carbonate leach	WST- SEQ
S- GRA06a	Sulfate Sulfur (HCl leachable)	WST- SEQ
ME- MS61	48 element four acid ICP- MS	
OA- VOL11	Static Net Acid Generation	
OA- VOL08m	Modified NP	

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim 'or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project. Statement required by Nevada State Law NRS 519

To: **TINTINA MONTANA INC.**  
**ATTN: KATERINE SEIPEL**  
**17 MAIN ST**  
**WHITE SULPHUR SPRINGS MT 59645**  
**USA**

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Comments: Full project name: Tintina Black Butte Copper Project

**Signature:**   
 Colin Ramshaw, Vancouver Laboratory Manager





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 WHITE SULPHUR SPRINGS MT 59645  
 USA

Page: 2 - A  
 Total # Pages: 2 (A - E)  
 Plus Appendix Pages  
 Finalized Date: 7- AUG- 2015  
 Account: TINALEX

Project: Tintina Black Butte Copper Pro

**CERTIFICATE OF ANALYSIS RE15116420**

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg	OA- VOL11 NAGpH4.5 kg H2SO4/t	OA- VOL11 NAGpH7.0 kg H2SO4/t	OA- VOL11 pH Unity	OA- VOL08m MPA tCaCO3/1Kt	OA- VOL08m NNP tCaCO3/1Kt	OA- VOL08m FIZZ RAT Unity	OA- VOL08m NP tCaCO3/1Kt	OA- ELE07 pH Unity	OA- VOL08m Ratio (N) Unity	S- IR08 S %	S- GRA06 S %	S- GRA06a S %	S- CAL06 S %	ME- MS61 Ag ppm
1		0.02	0.01	0.01	0.1	0.3	1	1	1	0.1	0.01	0.01	0.01	0.01	0.01	0.01
		0.66	282	406	2.2	775	-780	1	-5	4.0	-0.01	24.8	0.71	0.68	24.1	12.60

Comments: Full project name: Tintina Black Butte Copper Project

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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 17 MAIN ST  
 WHITE SULPHUR SPRINGS MT 59645  
 USA

Page: 2 - B  
 Total # Pages: 2 (A - E)  
 Plus Appendix Pages  
 Finalized Date: 7- AUG- 2015  
 Account: TINALEX

Project: Tintina Black Butte Copper Pro

**CERTIFICATE OF ANALYSIS RE15116420**

Sample Description	Method Analyte Units LOR	ME- MS61 Al %	ME- MS61 As ppm	ME- MS61 Ba ppm	ME- MS61 Be ppm	ME- MS61 Bi ppm	ME- MS61 Ca %	ME- MS61 Cd ppm	ME- MS61 Ce ppm	ME- MS61 Co ppm	ME- MS61 Cr ppm	ME- MS61 Cs ppm	ME- MS61 Cu ppm	ME- MS61 Fe %	ME- MS61 Ga ppm	ME- MS61 Ge ppm
1		0.01	0.2	10	0.05	0.01	0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05
		0.96	2160	20	0.72	218	0.30	0.23	0.63	1580	292	1.45	2620	22.5	5.70	0.16

Comments: Full project name: Tintina Black Butte Copper Project

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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 Finalized Date: 7- AUG- 2015  
 Account: TINALEX

Project: Tintina Black Butte Copper Pro

**CERTIFICATE OF ANALYSIS RE15116420**

Sample Description	Method Analyte Units LOR	ME- MS61 Hf ppm 0.1	ME- MS61 In ppm 0.005	ME- MS61 K % 0.01	ME- MS61 La ppm 0.5	ME- MS61 Li ppm 0.2	ME- MS61 Mg % 0.01	ME- MS61 Mn ppm 5	ME- MS61 Mo ppm 0.05	ME- MS61 Na % 0.01	ME- MS61 Nb ppm 0.1	ME- MS61 Ni ppm 0.2	ME- MS61 P ppm 10	ME- MS61 Pb ppm 0.5	ME- MS61 Rb ppm 0.1	ME- MS61 Re ppm 0.002
1		0.3	0.416	0.68	<0.5	34.5	0.14	330	7.16	0.03	1.3	465	260	751	14.9	0.002

Comments: Full project name: Tintina Black Butte Copper Project

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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 Account: TINALEX

Project: Tintina Black Butte Copper Pro

**CERTIFICATE OF ANALYSIS RE15116420**

Sample Description	Method Analyte Units LOR	ME- MS61 S %	ME- MS61 Sb ppm	ME- MS61 Sc ppm	ME- MS61 Se ppm	ME- MS61 Sn ppm	ME- MS61 Sr ppm	ME- MS61 Ta ppm	ME- MS61 Te ppm	ME- MS61 Th ppm	ME- MS61 Ti %	ME- MS61 Tl ppm	ME- MS61 U ppm	ME- MS61 V ppm	ME- MS61 W ppm	ME- MS61 Y ppm
1		>10.0	23.2	1.5	1	0.9	78.3	0.08	0.06	<0.2	0.032	71.3	1.6	13	1.8	3.1

Comments: Full project name: Tintina Black Butte Copper Project

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



ALS Canada Ltd.  
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 www.alsglobal.com

To: TINTINA MONTANA INC.  
 17 MAIN ST  
 WHITE SULPHUR SPRINGS MT 59645  
 USA

Page: 2 - E  
 Total # Pages: 2 (A - E)  
 Plus Appendix Pages  
 Finalized Date: 7- AUG- 2015  
 Account: TINALEX

Project: Tintina Black Butte Copper Pro

**CERTIFICATE OF ANALYSIS RE15116420**

Sample Description	Method Analyte Units LOR	ME- MS61 Zn ppm 2	ME- MS61 Zr ppm 0.5
1		96	12.5

Comments: Full project name: Tintina Black Butte Copper Project

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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Page: Appendix 1  
 Total # Appendix Pages: 1  
 Finalized Date: 7- AUG- 2015  
 Account: TINALEX

Project: Tintina Black Butte Copper Pro

**CERTIFICATE OF ANALYSIS RE15116420**

	<b>CERTIFICATE COMMENTS</b>								
Applies to Method:	<p style="text-align: center;"><b>ANALYTICAL COMMENTS</b></p> <p>REE's may not be totally soluble in this method.            ME- MS61</p>								
Applies to Method:	<p style="text-align: center;"><b>LABORATORY ADDRESSES</b></p> <p>Processed at ALS Reno located at 4977 Energy Way, Reno, NV, USA.            WEI- 21</p>								
Applies to Method:	<p>Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">ME- MS61</td> <td style="width: 33%;">OA- ELE07</td> <td style="width: 33%;">OA- VOL08m</td> <td style="width: 33%;">OA- VOL11</td> </tr> <tr> <td>S- CAL06</td> <td>S- GRA06</td> <td>S- GRA06a</td> <td>S- IR08</td> </tr> </table>	ME- MS61	OA- ELE07	OA- VOL08m	OA- VOL11	S- CAL06	S- GRA06	S- GRA06a	S- IR08
ME- MS61	OA- ELE07	OA- VOL08m	OA- VOL11						
S- CAL06	S- GRA06	S- GRA06a	S- IR08						



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**17 MAIN ST**  
**WHITE SULPHUR SPRINGS MT 59645**  
**USA**

Page: 1  
 Total # Pages: 2 (A - D)  
 Plus Appendix Pages  
 Finalized Date: 15- OCT- 2015  
 Account: TINALEX

**CERTIFICATE RE15142268**

Project: Black Butte

This report is for 2 Tailings samples submitted to our lab in Reno, NV, USA on 18- SEP- 2015.

The following have access to data associated with this certificate:

JACK COTE KATHARINE SEIPEL	LISA KIRK JERRY ZIEG	VINCE SCARTOZZI
-------------------------------	-------------------------	-----------------

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
PUL- QC	Pulverizing QC Test
LOG- 22	Sample login - Rcd w/o BarCode
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
PUL- 31	Pulverize split to 85% < 75 um
WEI- 21	Received Sample Weight

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
S- IR08	Total Sulphur (Leco)	LECO
OA- ELE07	Paste pH	
S- CAL06	Sulfide Sulfur (calculated)	LECO
S- GRA06	Sulfate Sulfur- carbonate leach	WST- SEQ
S- GRA06a	Sulfate Sulfur (HCl leachable)	WST- SEQ
ME- ICP61a	High Grade Four Acid ICP- AES	ICP- AES
OA- VOL11	Static Net Acid Generation	
OA- VOL08m	Modified NP	

The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim 'or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him/her and based on an evaluation of all engineering data which is available concerning any proposed project. Statement required by Nevada State Law NRS 519

To: **TINTINA MONTANA INC.**  
**ATTN: KATHARINE SEIPEL**  
**17 MAIN ST**  
**WHITE SULPHUR SPRINGS MT 59645**  
**USA**

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Comments: Due to the method limitation of OA- VOL11 (single addition NAG), decomposition of H2O2 may occur prior to the complete oxidation of all reactive sulphide, thus it may only account for the partial acid potential of sample with high S content.

**Signature:**   
 Colin Ramshaw, Vancouver Laboratory Manager



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 USA

Page: 2 - A  
 Total # Pages: 2 (A - D)  
 Plus Appendix Pages  
 Finalized Date: 15- OCT- 2015  
 Account: TINALEX

Project: Black Butte

**CERTIFICATE OF ANALYSIS RE15142268**

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg	OA- VOL11 NAGpH4.5 kg H2SO4/t	OA- VOL11 NAGpH7.0 kg H2SO4/t	OA- VOL11 pH Unity	OA- VOL08m MPA tCaCO3/1Kt	OA- VOL08m NNP tCaCO3/1Kt	OA- VOL08m FIZZ RAT Unity	OA- VOL08m NP tCaCO3/1Kt	OA- ELE07 pH Unity	OA- VOL08m Ratio (N) Unity	S- IR08 S %	S- GRA06 S %	S- GRA06a S %	S- CAL06 S %	ME- ICP61a Ag ppm
		0.02	0.01	0.01	0.1	0.3	1	1	1	0.1	0.01	0.01	0.01	0.01	0.01	1
C601- 15		1.47	131.5	182.0	2.1	741	-749	1	-8	3.8	-0.01	23.7	2.08	1.15	21.6	10
C586- 15		1.60	124.0	179.5	2.3	747	-738	1	9	7.9	0.01	23.9	1.99	1.19	21.9	10

Comments: Due to the method limitation of OA- VOL11 (single addition NAG), decomposition of H2O2 may occur prior to the complete oxidation of all reactive sulphide, thus it may only account for the partial acid potential of sample with high S content.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*





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 USA

Page: 2 - B  
 Total # Pages: 2 (A - D)  
 Plus Appendix Pages  
 Finalized Date: 15- OCT- 2015  
 Account: TINALEX

Project: Black Butte

**CERTIFICATE OF ANALYSIS RE15142268**

Sample Description	Method Analyte Units LOR	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a
		Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	La ppm	Mg %
C601- 15		0.83	1340	4830	<10	160	1.00	<10	1100	290	2980	20.2	<50	0.6	<50	0.18
C586- 15		1.02	1450	5970	<10	170	1.88	<10	1110	290	3170	20.4	<50	0.6	<50	0.22

Comments: Due to the method limitation of OA- VOL11 (single addition NAG), decomposition of H2O2 may occur prior to the complete oxidation of all reactive sulphide, thus it may only account for the partial acid potential of sample with high S content.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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Page: 2 - C  
 Total # Pages: 2 (A - D)  
 Plus Appendix Pages  
 Finalized Date: 15- OCT- 2015  
 Account: TINALEX

Project: Black Butte

**CERTIFICATE OF ANALYSIS RE15142268**

Sample Description	Method Analyte Units LOR	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a	ME- ICP61a
		Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Th ppm	Ti %	Tl ppm	U ppm	V ppm
C601- 15		240	<10	<0.05	550	250	760	>10.0	<50	<10	490	<50	<0.05	70	<50	20
C586- 15		270	<10	<0.05	560	240	780	>10.0	<50	<10	480	<50	<0.05	60	<50	20

Comments: Due to the method limitation of OA- VOL11 (single addition NAG), decomposition of H2O2 may occur prior to the complete oxidation of all reactive sulphide, thus it may only account for the partial acid potential of sample with high S content.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



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 USA

Page: 2 - D  
 Total # Pages: 2 (A - D)  
 Plus Appendix Pages  
 Finalized Date: 15- OCT- 2015  
 Account: TINALEX

Project: Black Butte

**CERTIFICATE OF ANALYSIS RE15142268**

Sample Description	Method Analyte Units LOR	ME- ICP61a W ppm 50	ME- ICP61a Zn ppm 20
C601- 15		<50	140
C586- 15		<50	100

Comments: Due to the method limitation of OA- VOL11 (single addition NAG), decomposition of H2O2 may occur prior to the complete oxidation of all reactive sulphide, thus it may only account for the partial acid potential of sample with high S content.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*



## **Appendix D:**

WETLab Diffusion Test Results

9/30/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509377

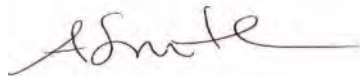
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/14/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

475 E. Greg Street, Suite 119  
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fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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fax (775) 777-9933  
EPA LAB ID: NV00926

**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1509377

---

### Specific Report Comments

The cation/anion balance for sample 1509377-002 was outside WETLAB acceptance criteria; however, reanalysis confirmed the original results.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

Date Printed: 9/30/2015

OrderID: 1509377

Customer Sample ID: C773-15 B,C Pull #1

Collect Date/Time: 9/14/2015 17:00

WETLAB Sample ID: 1509377-001

Receive Date: 9/14/2015 20:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/15/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/22/2015	NV00925
pH	SM 4500-H+ B	6.01	HT pH Units	1		9/24/2015	NV00925
Temperature at pH	NA	27	°C	1		9/24/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	M mg/L	1	0.010	9/22/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		9/15/2015	NV00925
Acidity (Titrimetric)	SM 2310B	6	QD mg/L as CaCO3	1		9/18/2015	NV00925
Total Alkalinity	SM 2320B	1.3	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	1.3	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/22/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	170	mg/L	1	10	9/16/2015	NV00925
Electrical Conductivity	SM 2510B	270	µmhos/cm	1	1	9/15/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/15/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/18/2015	NV00925
Sulfate	EPA 300.0	96	mg/L	1	1.0	9/15/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/21/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	0.25	M mg/L	1	0.20	9/22/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.049	mg/L	1	0.0030	9/22/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/22/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/22/2015	NV00925
Calcium, Dissolved	EPA 200.7	48	mg/L	1	0.50	9/22/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/22/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	9/22/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/22/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/22/2015	NV00925
Manganese, Dissolved	EPA 200.7	0.0059	mg/L	1	0.0050	9/22/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/22/2015	NV00925
Potassium, Dissolved	EPA 200.7	1.6	mg/L	1	0.50	9/22/2015	NV00925
Sodium, Dissolved	EPA 200.7	0.78	mg/L	1	0.50	9/22/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.68	mg/L	1	0.020	9/22/2015	NV00925
Zinc, Dissolved	EPA 200.7	0.016	mg/L	1	0.0080	9/22/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 8

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fax (702) 622-2868  
EPA LAB ID: NV00932



Customer Sample ID: C773-15 B,C Pull #1

Collect Date/Time: 9/14/2015 17:00

WETLAB Sample ID: 1509377-001

Receive Date: 9/14/2015 20:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.11	mg/L	1	0.0020	9/18/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.003	mg/L	1	0.0020	9/27/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	2.02	meq/L	1	0.10		NV00925
Cations	Calculation	2.54	meq/L	1	0.10		NV00925
Error	Calculation	11	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/18/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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**LAS VEGAS**

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C773-15 B,C Pull #2  
 WETLAB Sample ID: 1509377-002

Collect Date/Time: 9/14/2015 20:00

Receive Date: 9/14/2015 20:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/15/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/22/2015	NV00925
pH	SM 4500-H+ B	6.28	HT pH Units	1		9/24/2015	NV00925
Temperature at pH	NA	28	°C	1		9/24/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/22/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		9/15/2015	NV00925
Acidity (Titrimetric)	SM 2310B	6	mg/L as CaCO3	1		9/18/2015	NV00925
Total Alkalinity	SM 2320B	1.9	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	1.9	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/22/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	130	mg/L	1	10	9/16/2015	NV00925
Electrical Conductivity	SM 2510B	180	µmhos/cm	1	1	9/15/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/15/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/18/2015	NV00925
Sulfate	EPA 300.0	50	mg/L	1	1.0	9/15/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/21/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/22/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.056	mg/L	1	0.0030	9/22/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/22/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/22/2015	NV00925
Calcium, Dissolved	EPA 200.7	30	mg/L	1	0.50	9/22/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/22/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	9/22/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/22/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/22/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/22/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/22/2015	NV00925
Potassium, Dissolved	EPA 200.7	1.9	mg/L	1	0.50	9/22/2015	NV00925
Sodium, Dissolved	EPA 200.7	1.1	mg/L	1	0.50	9/22/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.63	mg/L	1	0.020	9/22/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	9/22/2015	NV00925
<b>Trace Metals by ICP-MS</b>							
Copper, Dissolved	EPA 200.8	0.033	mg/L	1	0.0020	9/18/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.002	mg/L	1	0.0020	9/27/2015	NV00925
<b>Ion Balance</b>							
Anions	Calculation	1.08	meq/L	1	0.10		NV00925
Cations	Calculation	1.66	meq/L	1	0.10		NV00925
Error	Calculation	21	%	1	1.0		NV00925
<b>Sample Preparation</b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/18/2015	NV00925
<b>Subcontracted Analyses</b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090561	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15090585	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090592	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090703	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090709	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15090742	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090804	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15090814	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15090828	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090561	LCS 1	Ferrous Iron	SM 3500 Fe B	0.927	1.00	93	mg/L
QC15090563	LCS 1	Redox Potential	ASTM D1498	222	221	100	mV
QC15090585	LCS 1	Electrical Conductivity	SM 2510B	1437	1412	102	µmhos/cm
QC15090592	LCS 1	Chloride	EPA 300.0	10.6	10.0	106	mg/L
		Fluoride	EPA 300.0	2.19	2.00	109	mg/L
		Sulfate	EPA 300.0	25.5	25.0	102	mg/L
QC15090703	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	154	150	103	mg/L
QC15090703	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	146	150	97	mg/L
QC15090709	LCS 1	Copper	EPA 200.8	0.0107	0.010	107	mg/L
		Nickel	EPA 200.8	0.0110	0.010	110	mg/L
QC15090726	LCS 1	Total Alkalinity	SM 2320B	93.7	100	94	mg/L
QC15090742	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.859	0.800	107	mg/L
QC15090804	LCS 1	Barium, Dissolved	EPA 200.7	0.995	1.00	100	mg/L
		Beryllium, Dissolved	EPA 200.7	0.993	1.00	99	mg/L
		Boron, Dissolved	EPA 200.7	0.992	1.00	99	mg/L
		Calcium, Dissolved	EPA 200.7	9.96	10.0	100	mg/L
		Chromium, Dissolved	EPA 200.7	0.990	1.00	99	mg/L
		Cobalt, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Iron, Dissolved	EPA 200.7	0.982	1.00	98	mg/L
		Magnesium, Dissolved	EPA 200.7	9.85	10.0	98	mg/L
		Manganese, Dissolved	EPA 200.7	0.997	1.00	100	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Molybdenum, Dissolved	EPA 200.7	0.992	1.00	99	mg/L
		Potassium, Dissolved	EPA 200.7	10.0	10.0	100	mg/L
		Sodium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Strontium, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
		Zinc, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
QC15090814	LCS 1	WAD Cyanide	SM 4500CN I, E	0.106	0.100	106	mg/L
QC15090828	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.998	1.00	100	mg/L
QC15090940	LCS 1	pH	SM 4500-H+ B	6.91	7.00	99	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090561	Duplicate	Ferrous Iron	SM 3500 Fe B	1509363-001	ND	ND	mg/L	<1%
QC15090561	Duplicate	Ferrous Iron	SM 3500 Fe B	1509365-003	ND	ND	mg/L	<1%
QC15090561	Duplicate	Ferrous Iron	SM 3500 Fe B	1509387-002	ND	ND	mg/L	<1%
QC15090563	Duplicate	Redox Potential	ASTM D1498	1509363-001	516	518	mV	<1%
QC15090563	Duplicate	Redox Potential	ASTM D1498	1509365-003	496	497	mV	<1%
QC15090563	Duplicate	Redox Potential	ASTM D1498	1509387-002	449	452	mV	1 %
QC15090585	Duplicate	Electrical Conductivity	SM 2510B	1509363-001	63.5	63.2	µmhos/cm	<1%
QC15090585	Duplicate	Electrical Conductivity	SM 2510B	1509365-003	100	99.8	µmhos/cm	<1%
QC15090703	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509400-001	730	746	mg/L	2 %
QC15090703	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509400-002	800	822	mg/L	3 %
QC15090724	Duplicate	Acidity (Titrimetric)	SM 2310B	1509377-001	5.71	6.73	mg/L as CaCO3	16 %
QC15090726	Duplicate	Total Alkalinity	SM 2320B	1509377-001	1.34	1.39	mg/L as CaCO3	4 %
		Bicarbonate (HCO3)	SM 2320B	1509377-001	1.34	1.39	mg/L as CaCO3	4 %
		Carbonate (CO3)	SM 2320B	1509377-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509377-001	ND	ND	mg/L as CaCO3	<1%
QC15090940	Duplicate	pH	SM 4500-H+ B	1509377-001	6.01	6.06	pH Units	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090592	MS 1	Chloride	EPA 300.0	1509377-001	ND	5.73	5.71	5.00	mg/L	110	110	<1%
		Fluoride	EPA 300.0	1509377-001	ND	1.83	1.95	2.00	mg/L	89	94	6%
		Sulfate	EPA 300.0	1509377-001	96.4	106	106	10.0	mg/L	92	98	<1%
QC15090592	MS 2	Chloride	EPA 300.0	1509387-001	1.09	6.60	6.65	5.00	mg/L	110	111	1%
		Fluoride	EPA 300.0	1509387-001	ND	2.28	2.29	2.00	mg/L	112	112	<1%
		Sulfate	EPA 300.0	1509387-001	99.4	SC 107	107	10.0	mg/L	NC	NC	NC
QC15090709	MS 1	Copper, Dissolved	EPA 200.8	1509335-005	ND	0.0121	0.0111	0.010	mg/L	104	94	9%
		Nickel, Dissolved	EPA 200.8	1509335-005	ND	0.0141	0.0168	0.010	mg/L	93	119	17%
QC15090742	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509420-001	ND	5.37	5.38	1.00	mg/L	107	108	<1%
QC15090742	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509363-002	ND	5.48	5.44	1.00	mg/L	109	109	1%
QC15090804	MS 1	Barium, Dissolved	EPA 200.7	1509335-005	0.065	1.03	1.03	1.00	mg/L	97	97	<1%
		Beryllium, Dissolved	EPA 200.7	1509335-005	ND	0.997	0.992	1.00	mg/L	100	99	1%
		Boron, Dissolved	EPA 200.7	1509335-005	ND	1.10	1.09	1.00	mg/L	103	102	1%
		Calcium, Dissolved	EPA 200.7	1509335-005	112	SC 116	114	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1509335-005	ND	0.981	0.975	1.00	mg/L	98	97	1%
		Cobalt, Dissolved	EPA 200.7	1509335-005	ND	0.958	0.953	1.00	mg/L	96	95	1%
		Iron, Dissolved	EPA 200.7	1509335-005	0.032	1.02	1.02	1.00	mg/L	99	99	<1%
		Magnesium, Dissolved	EPA 200.7	1509335-005	11.1	20.2	19.9	10.0	mg/L	91	88	1%
		Manganese, Dissolved	EPA 200.7	1509335-005	0.043	1.02	1.02	1.00	mg/L	98	98	<1%
		Molybdenum, Dissolved	EPA 200.7	1509335-005	ND	0.988	1.00	1.00	mg/L	99	100	1%

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Potassium, Dissolved	EPA 200.7	1509335-005	5.82	15.8	15.8	10.0	mg/L	100	100	<1%
		Sodium, Dissolved	EPA 200.7	1509335-005	24.9	33.9	33.8	10.0	mg/L	90	89	<1%
		Strontium, Dissolved	EPA 200.7	1509335-005	0.280	1.26	1.26	1.00	mg/L	98	98	<1%
		Zinc, Dissolved	EPA 200.7	1509335-005	0.019	0.999	0.992	1.00	mg/L	98	97	1%
QC15090814	MS 1	WAD Cyanide	SM 4500CN I,	1509377-001	ND	M 0.062	0.066	0.100	mg/L	NC	NC	NC
QC15090814	MS 2	WAD Cyanide	SM 4500CN I,	1509400-002	ND	0.103	0.106	0.100	mg/L	103	106	3%
QC15090828	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509377-001	0.247	M 1.13	1.04	1.00	mg/L	NC	NC	NC
QC15090828	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509387-001	ND	1.06	0.994	1.00	mg/L	94	88	6%

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# ANALYTICAL SUMMARY REPORT

September 29, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15091780  
Project Name: Job ID 1509377

Energy Laboratories Inc Billings MT received the following 2 samples for Western Environmental Testing Laboratory on 9/21/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15091780-001	C773-15 B,C Pull #1	09/14/15 17:00	09/21/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA
B15091780-002	C773-15 B,C Pull #2	09/14/15 20:00	09/21/15	Waste Water	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509377  
**Lab ID:** B15091780-001  
**Client Sample ID:** C773-15 B,C Pull #1

**Report Date:** 09/29/15  
**Collection Date:** 09/14/15 17:00  
**Date Received:** 09/21/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.142	mg/L		0.009		E200.7	09/22/15 15:36 / mas
Antimony	0.0013	mg/L		0.0005		E200.8	09/22/15 20:43 / mas
Arsenic	ND	mg/L		0.001		E200.8	09/22/15 20:43 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/22/15 20:43 / mas
Lead	0.0003	mg/L		0.0002		E200.8	09/22/15 20:43 / mas
Mercury	0.000396	mg/L		5E-06		E245.1	09/23/15 14:29 / ser
Phosphorus	ND	mg/L	L	0.007		E200.7	09/22/15 15:36 / mas
Selenium	ND	mg/L		0.001		E200.8	09/22/15 20:43 / mas
Silicon	0.10	mg/L		0.05		E200.7	09/22/15 15:36 / mas
Silver	ND	mg/L		0.0002		E200.8	09/25/15 16:29 / mas
Thallium	0.0038	mg/L		0.0002		E200.8	09/22/15 20:43 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/22/15 20:43 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509377  
**Lab ID:** B15091780-002  
**Client Sample ID:** C773-15 B,C Pull #2

**Report Date:** 09/29/15  
**Collection Date:** 09/14/15 20:00  
**Date Received:** 09/21/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.220	mg/L		0.009		E200.7	09/22/15 15:50 / mas
Antimony	0.0014	mg/L		0.0005		E200.8	09/22/15 20:46 / mas
Arsenic	0.001	mg/L		0.001		E200.8	09/22/15 20:46 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/22/15 20:46 / mas
Lead	ND	mg/L		0.0002		E200.8	09/25/15 16:33 / mas
Mercury	0.000269	mg/L		5E-06		E245.1	09/23/15 14:39 / ser
Phosphorus	0.020	mg/L	L	0.007		E200.7	09/22/15 15:50 / mas
Selenium	ND	mg/L		0.001		E200.8	09/22/15 20:46 / mas
Silicon	0.12	mg/L		0.05		E200.7	09/22/15 15:50 / mas
Silver	ND	mg/L		0.0002		E200.8	09/25/15 16:33 / mas
Thallium	0.0040	mg/L		0.0002		E200.8	09/22/15 20:46 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/22/15 20:46 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/29/15

**Project:** Job ID 1509377

**Work Order:** B15091780

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150922A		
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard								09/22/15 11:30
Aluminum		2.49	mg/L	0.10	100	95	105			
Phosphorus		2.50	mg/L	0.10	100	95	105			
Silicon		4.97	mg/L	0.10	99	95	105			
<b>Method: E200.7</b>								Batch: R249724		
<b>Lab ID: MB-6500DIS150922A</b>	3	Method Blank						Run: ICP203-B_150922A		09/22/15 11:59
Aluminum		ND	mg/L	0.007						
Phosphorus		ND	mg/L	0.007						
Silicon		ND	mg/L	0.01						
<b>Lab ID: LFB-6500DIS150922A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_150922A		09/22/15 12:02
Aluminum		4.97	mg/L	0.10	99	85	115			
Phosphorus		10.1	mg/L	0.10	101	85	115			
Silicon		9.95	mg/L	0.10	99	85	115			
<b>Lab ID: B15091780-001AMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_150922A		09/22/15 15:43
Aluminum		5.08	mg/L	0.030	99	70	130			
Phosphorus		10.2	mg/L	0.10	102	70	130			
Silicon		10.1	mg/L	0.10	100	70	130			
<b>Lab ID: B15091780-001AMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_150922A		09/22/15 15:46
Aluminum		5.17	mg/L	0.030	101	70	130	1.7	20	
Phosphorus		10.3	mg/L	0.10	103	70	130	1.4	20	
Silicon		10.2	mg/L	0.10	101	70	130	1.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/29/15

**Project:** Job ID 1509377

**Work Order:** B15091780

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS203-B_150922B	
<b>Lab ID: QCS</b>	7	Initial Calibration Verification Standard							09/22/15 15:40		
Antimony		0.0496	mg/L	0.050	99	90	110				
Arsenic		0.0492	mg/L	0.0050	98	90	110				
Cadmium		0.0251	mg/L	0.0010	100	90	110				
Lead		0.0485	mg/L	0.010	97	90	110				
Selenium		0.0486	mg/L	0.0050	97	90	110				
Thallium		0.0472	mg/L	0.10	94	90	110				
Uranium		0.0189	mg/L	0.0010	95	90	110				
<b>Method: E200.8</b>										Batch: R249797	
<b>Lab ID: LFB</b>	7	Laboratory Fortified Blank							Run: ICPMS203-B_150922B 09/22/15 11:27		
Antimony		0.0448	mg/L	0.0010	90	85	115				
Arsenic		0.0492	mg/L	0.0010	98	85	115				
Cadmium		0.0496	mg/L	0.0010	99	85	115				
Lead		0.0485	mg/L	0.0010	97	85	115				
Selenium		0.0502	mg/L	0.0010	100	85	115				
Thallium		0.0478	mg/L	0.00050	96	85	115				
Uranium		0.0470	mg/L	0.00030	94	85	115				
<b>Lab ID: LRB</b>	7	Method Blank							Run: ICPMS203-B_150922B 09/22/15 11:56		
Antimony		ND	mg/L	1E-05							
Arsenic		ND	mg/L	0.0004							
Cadmium		1E-05	mg/L	5E-06							
Lead		6E-05	mg/L	3E-05							
Selenium		0.0006	mg/L	0.0001							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	3E-06							
<b>Lab ID: B15091691-001AMS</b>	7	Sample Matrix Spike							Run: ICPMS203-B_150922B 09/22/15 20:14		
Antimony		0.0509	mg/L	0.0010	98	70	130				
Arsenic		0.0782	mg/L	0.0010	95	70	130				
Cadmium		0.0481	mg/L	0.0010	96	70	130				
Lead		0.0445	mg/L	0.0010	89	70	130				
Selenium		0.0486	mg/L	0.0010	97	70	130				
Thallium		0.0512	mg/L	0.00050	100	70	130				
Uranium		0.0526	mg/L	0.00030	105	70	130				
<b>Lab ID: B15091691-001AMSD</b>	7	Sample Matrix Spike Duplicate							Run: ICPMS203-B_150922B 09/22/15 20:16		
Antimony		0.0515	mg/L	0.0010	99	70	130	1.2	20		
Arsenic		0.0775	mg/L	0.0010	94	70	130	0.9	20		
Cadmium		0.0478	mg/L	0.0010	96	70	130	0.7	20		
Lead		0.0456	mg/L	0.0010	91	70	130	2.3	20		
Selenium		0.0493	mg/L	0.0010	98	70	130	1.4	20		
Thallium		0.0509	mg/L	0.00050	100	70	130	0.5	20		
Uranium		0.0518	mg/L	0.00030	104	70	130	1.5	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/29/15

**Project:** Job ID 1509377

**Work Order:** B15091780

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Analytical Run: ICPMS203-B_150925B
<b>Lab ID:</b> QCS	2	Initial Calibration Verification Standard								09/25/15 13:08
Lead		0.0491	mg/L	0.010	98	90	110			
Silver		0.0240	mg/L	0.0050	96	90	110			
<b>Method:</b> E200.8										Batch: R249988
<b>Lab ID:</b> LFB	2	Laboratory Fortified Blank								09/25/15 13:36
Lead		0.0464	mg/L	0.010	93	85	115			Run: ICPMS203-B_150925B
Silver		0.0180	mg/L	0.0050	90	85	115			
<b>Lab ID:</b> LRB	2	Method Blank								09/25/15 14:07
Lead		ND	mg/L	3E-05						Run: ICPMS203-B_150925B
Silver		ND	mg/L	2E-05						
<b>Lab ID:</b> B15092027-001AMS	2	Sample Matrix Spike								09/25/15 17:12
Lead		0.0490	mg/L	0.0010	98	70	130			Run: ICPMS203-B_150925B
Silver		0.0163	mg/L	0.0010	81	70	130			
<b>Lab ID:</b> B15092027-001AMSD	2	Sample Matrix Spike Duplicate								09/25/15 17:16
Lead		0.0511	mg/L	0.0010	102	70	130	4.2	20	Run: ICPMS203-B_150925B
Silver		0.0161	mg/L	0.0010	81	70	130	1.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/29/15

**Project:** Job ID 1509377

**Work Order:** B15091780

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150923A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/23/15 13:46	
Mercury		0.000211	mg/L	1.0E-05	106	90	110				
<b>Method:</b> E245.1										Batch: 93363	
<b>Lab ID:</b> MB-93363		Method Blank								Run: HGCV203-B_150923A	09/23/15 14:00
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93363		Laboratory Control Sample								Run: HGCV203-B_150923A	09/23/15 14:03
Mercury		0.000207	mg/L	1.0E-05	103	85	115				
<b>Lab ID:</b> B15091691-001AMS		Sample Matrix Spike								Run: HGCV203-B_150923A	09/23/15 14:08
Mercury		0.000218	mg/L	1.0E-05	102	70	130				
<b>Lab ID:</b> B15091691-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150923A	09/23/15 14:11
Mercury		0.000220	mg/L	1.0E-05	103	70	130	0.9	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15091780

Login completed by: Randa Nees

Date Received: 9/21/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 9/22/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	16.8°C Melted Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# CHAIN OF CUSTODY RECORD

*Energy*

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: _____ System: _____ Job ID: 1509377	All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Samplers Initials: _____ Water System #: _____
Notes: <i>See attached</i>				
SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____				

Set Date	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/14/2015	C773-15 B,C Pull #1 -	Waste Water	Various Metals (Subcontracted)		
5:00 PM					
9/14/2015	C773-15 B,C Pull #2 -	Waste Water	Various Metals (Subcontracted)		
8:00 PM					

*β15091780-004*

*L 002*

Relinquished by:		Date:	Time:	Received by:	Date:	Time:	Sample Type
(Signature)	<i>[Signature]</i>	9-16-15	16:00	(Signature)			Composite
Relinquished by:		Date:	Time:	Received by:	Date:	Time:	Equipment Blank
(Signature)				(Signature)			Composite
Relinquished by:		Date:	Time:	Received by:	Date:	Time:	Equipment Blank
(Signature)				(Signature)			Composite

*UPS*

*Charnee Jones*

*UPS Grnd.  
temp = 16.8. LR-2  
melted ice  
no COC seals*

*9/21/15 09:30*

	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 -sub to Energy Lab	
	Antimony	0.0005 - 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 - 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 - 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 - 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 -sub to Energy Lab	
	Calcium	1.0 - 1.0 WETLAB	EPA 200.7
	Chromium	0.01 - 0.01 WETLAB	EPA 200.7
	Copper	0.002 - 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
	Iron	0.02 - 0.02 WETLAB	EPA 200.7
	Lead	0.0003 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
	Manganese	0.005 - 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 -sub to Energy Lab	
	Nickel	0.002 - 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 -sub to Energy Lab	EPA 200.7
	Selenium	0.001 -sub to Energy Lab	EPA 200.8
	Silicon	0.05 - 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 -sub to Energy Lab	
	Strontium	0.02 - 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
	Thallium	0.0002 -sub to Energy Lab	
Uranium	0.0002 - 0.0002 <del>WETLAB</del>	EPA 200.8	
Zinc	0.008 - 0.008 WETLAB	EPA 200.7	
	Alkalinity, Total (as CaCO <sub>3</sub> )	1	2320B
	pH (standard units)	NA	4500H+B
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO <sub>3</sub> )	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe speciation  
 redox  
 EC





9/30/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509387

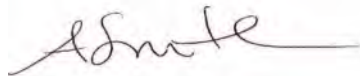
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/15/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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EPA LAB ID: NV00925 - ELAP No: 2523

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509387

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### Specific Report Comments

The cation/anion balance for samples 1509387-001 and 002 was outside WETLAB acceptance criteria; however, reanalysis confirmed the original results.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

Date Printed: 9/30/2015

OrderID: 1509387

Customer Sample ID: C773-15 B,C Pull #3

Collect Date/Time: 9/15/2015 08:00

WETLAB Sample ID: 1509387-001

Receive Date: 9/15/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/15/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/22/2015	NV00925
pH	SM 4500-H+ B	6.22	pH Units	1		9/24/2015	NV00925
Temperature at pH	NA	28	°C	1		9/24/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/22/2015	NV00925
Redox Potential	ASTM D1498	480	mV	1		9/15/2015	NV00925
Acidity (Titrimetric)	SM 2310B	5	mg/L as CaCO3	1		9/18/2015	NV00925
Total Alkalinity	SM 2320B	2.4	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	2.4	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/22/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	280	mg/L	1	10	9/16/2015	NV00925
Electrical Conductivity	SM 2510B	380	µmhos/cm	1	1	9/15/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	1.1	mg/L	1	1.0	9/15/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/15/2015	NV00925
Sulfate	EPA 300.0	99	mg/L	1	1.0	9/15/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/21/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/22/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.090	mg/L	1	0.0030	9/22/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/22/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/22/2015	NV00925
Calcium, Dissolved	EPA 200.7	64	mg/L	1	0.50	9/22/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/22/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	9/22/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/22/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/22/2015	NV00925
Manganese, Dissolved	EPA 200.7	0.0085	mg/L	1	0.0050	9/22/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/22/2015	NV00925
Potassium, Dissolved	EPA 200.7	4.9	mg/L	1	0.50	9/22/2015	NV00925
Sodium, Dissolved	EPA 200.7	3.2	mg/L	1	0.50	9/22/2015	NV00925
Strontium, Dissolved	EPA 200.7	1.4	mg/L	1	0.020	9/22/2015	NV00925
Zinc, Dissolved	EPA 200.7	0.008	mg/L	1	0.0080	9/22/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 8

**SPARKS**

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EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C773-15 B,C Pull #3

Collect Date/Time: 9/15/2015 08:00

WETLAB Sample ID: 1509387-001

Receive Date: 9/15/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.023	mg/L	1	0.0020	9/18/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.004	mg/L	1	0.0020	9/27/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	2.14	meq/L	1	0.10		NV00925
Cations	Calculation	3.51	meq/L	1	0.10		NV00925
Error	Calculation	24	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/18/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C773-15 B,C Pull #4  
 WETLAB Sample ID: 1509387-002

Collect Date/Time: 9/15/2015 15:00

Receive Date: 9/15/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/15/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/22/2015	NV00925
pH	SM 4500-H+ B	6.20	HT pH Units	1		9/24/2015	NV00925
Temperature at pH	NA	28	°C	1		9/24/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/22/2015	NV00925
Redox Potential	ASTM D1498	450	mV	1		9/15/2015	NV00925
Acidity (Titrimetric)	SM 2310B	6	mg/L as CaCO3	1		9/18/2015	NV00925
Total Alkalinity	SM 2320B	2.0	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	2.0	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/18/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/22/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	130	mg/L	1	10	9/16/2015	NV00925
Electrical Conductivity	SM 2510B	190	µmhos/cm	1	1	9/15/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/21/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/21/2015	NV00925
Sulfate	EPA 300.0	43	mg/L	1	1.0	9/21/2015	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/21/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/22/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium, Dissolved	EPA 200.7	0.079	mg/L	1	0.0030	9/22/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/22/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/22/2015	NV00925
Calcium, Dissolved	EPA 200.7	30	mg/L	1	0.50	9/22/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/22/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	9/22/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/22/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/22/2015	NV00925
Manganese, Dissolved	EPA 200.7	0.0057	mg/L	1	0.0050	9/22/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/22/2015	NV00925
Potassium, Dissolved	EPA 200.7	2.3	mg/L	1	0.50	9/22/2015	NV00925
Sodium, Dissolved	EPA 200.7	1.6	mg/L	1	0.50	9/22/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.71	mg/L	1	0.020	9/22/2015	NV00925
Zinc, Dissolved	EPA 200.7	0.014	mg/L	1	0.0080	9/22/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.010	mg/L	1	0.0020	9/18/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.002	mg/L	1	0.0020	9/27/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	0.94	meq/L	1	0.10		NV00925
Cations	Calculation	1.69	meq/L	1	0.10		NV00925
Error	Calculation	29	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/18/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090561	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15090585	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090592	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090703	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090709	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15090742	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090744	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090793	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090804	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15090814	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15090828	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090561	LCS 1	Ferrous Iron	SM 3500 Fe B	0.927	1.00	93	mg/L
QC15090563	LCS 1	Redox Potential	ASTM D1498	222	221	100	mV
QC15090585	LCS 1	Electrical Conductivity	SM 2510B	1437	1412	102	µmhos/cm
QC15090592	LCS 1	Chloride	EPA 300.0	10.6	10.0	106	mg/L
		Fluoride	EPA 300.0	2.19	2.00	109	mg/L
		Sulfate	EPA 300.0	25.5	25.0	102	mg/L
QC15090703	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	154	150	103	mg/L
QC15090703	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	146	150	97	mg/L
QC15090709	LCS 1	Copper	EPA 200.8	0.0107	0.010	107	mg/L
		Nickel	EPA 200.8	0.0110	0.010	110	mg/L
QC15090726	LCS 1	Total Alkalinity	SM 2320B	93.7	100	94	mg/L
QC15090742	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.859	0.800	107	mg/L
QC15090744	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.867	0.800	108	mg/L
QC15090793	LCS 1	Chloride	EPA 300.0	10.5	10.0	105	mg/L
		Fluoride	EPA 300.0	1.85	2.00	93	mg/L
		Sulfate	EPA 300.0	23.4	25.0	94	mg/L
QC15090804	LCS 1	Barium, Dissolved	EPA 200.7	0.995	1.00	100	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Beryllium, Dissolved	EPA 200.7	0.993	1.00	99	mg/L
		Boron, Dissolved	EPA 200.7	0.992	1.00	99	mg/L
		Calcium, Dissolved	EPA 200.7	9.96	10.0	100	mg/L
		Chromium, Dissolved	EPA 200.7	0.990	1.00	99	mg/L
		Cobalt, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Iron, Dissolved	EPA 200.7	0.982	1.00	98	mg/L
		Magnesium, Dissolved	EPA 200.7	9.85	10.0	98	mg/L
		Manganese, Dissolved	EPA 200.7	0.997	1.00	100	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.992	1.00	99	mg/L
		Potassium, Dissolved	EPA 200.7	10.0	10.0	100	mg/L
		Sodium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Strontium, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
		Zinc, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
QC15090814	LCS 1	WAD Cyanide	SM 4500CN I, E	0.106	0.100	106	mg/L
QC15090828	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.998	1.00	100	mg/L
QC15090940	LCS 1	pH	SM 4500-H+ B	6.91	7.00	99	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090561	Duplicate	Ferrous Iron	SM 3500 Fe B	1509363-001	ND	ND	mg/L	<1%
QC15090561	Duplicate	Ferrous Iron	SM 3500 Fe B	1509365-003	ND	ND	mg/L	<1%
QC15090561	Duplicate	Ferrous Iron	SM 3500 Fe B	1509387-002	ND	ND	mg/L	<1%
QC15090563	Duplicate	Redox Potential	ASTM D1498	1509363-001	516	518	mV	<1%
QC15090563	Duplicate	Redox Potential	ASTM D1498	1509365-003	496	497	mV	<1%
QC15090563	Duplicate	Redox Potential	ASTM D1498	1509387-002	449	452	mV	1 %
QC15090585	Duplicate	Electrical Conductivity	SM 2510B	1509363-001	63.5	63.2	µmhos/cm	<1%
QC15090585	Duplicate	Electrical Conductivity	SM 2510B	1509365-003	100	99.8	µmhos/cm	<1%
QC15090703	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509400-001	730	746	mg/L	2 %
QC15090703	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509400-002	800	822	mg/L	3 %
QC15090724	Duplicate	Acidity (Titrimetric)	SM 2310B	1509377-001	5.71	6.73	mg/L as CaCO3	16 %
QC15090726	Duplicate	Total Alkalinity	SM 2320B	1509377-001	1.34	1.39	mg/L as CaCO3	4 %
		Bicarbonate (HCO3)	SM 2320B	1509377-001	1.34	1.39	mg/L as CaCO3	4 %
		Carbonate (CO3)	SM 2320B	1509377-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509377-001	ND	ND	mg/L as CaCO3	<1%
QC15090940	Duplicate	pH	SM 4500-H+ B	1509377-001	6.01	6.06	pH Units	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090592	MS 1	Chloride	EPA 300.0	1509377-001	ND	5.73	5.71	5.00	mg/L	110	110	<1%
		Fluoride	EPA 300.0	1509377-001	ND	1.83	1.95	2.00	mg/L	89	94	6%
		Sulfate	EPA 300.0	1509377-001	96.4	106	106	10.0	mg/L	92	98	<1%
QC15090592	MS 2	Chloride	EPA 300.0	1509387-001	1.09	6.60	6.65	5.00	mg/L	110	111	1%
		Fluoride	EPA 300.0	1509387-001	ND	2.28	2.29	2.00	mg/L	112	112	<1%
		Sulfate	EPA 300.0	1509387-001	99.4	SC 107	107	10.0	mg/L	NC	NC	NC
QC15090709	MS 1	Copper, Dissolved	EPA 200.8	1509335-005	ND	0.0121	0.0111	0.010	mg/L	104	94	9%
		Nickel, Dissolved	EPA 200.8	1509335-005	ND	0.0141	0.0168	0.010	mg/L	93	119	17%
QC15090742	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509420-001	ND	5.37	5.38	1.00	mg/L	107	108	<1%
QC15090742	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509363-002	ND	5.48	5.44	1.00	mg/L	109	109	1%
QC15090744	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509387-002	ND	5.45	5.45	1.00	mg/L	109	109	<1%
QC15090744	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509433-002	5.52	10.3	10.3	1.00	mg/L	96	96	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090793	MS 1	Chloride	EPA 300.0	1509494-001	ND	5.56	5.60	5.00	mg/L	109	110	1%
		Fluoride	EPA 300.0	1509494-001	0.127	2.03	2.04	2.00	mg/L	95	96	<1%
		Sulfate	EPA 300.0	1509494-001	12.7	21.0	21.9	10.0	mg/L	84	93	4%
QC15090793	MS 2	Chloride	EPA 300.0	1509519-001	ND	6.08	6.11	5.00	mg/L	111	112	<1%
		Fluoride	EPA 300.0	1509519-001	ND	2.07	2.16	2.00	mg/L	102	106	4%
		Sulfate	EPA 300.0	1509519-001	70.1	79.9	80.3	10.0	mg/L	98	102	<1%
QC15090804	MS 1	Barium, Dissolved	EPA 200.7	1509335-005	0.065	1.03	1.03	1.00	mg/L	97	97	<1%
		Beryllium, Dissolved	EPA 200.7	1509335-005	ND	0.997	0.992	1.00	mg/L	100	99	1%
		Boron, Dissolved	EPA 200.7	1509335-005	ND	1.10	1.09	1.00	mg/L	103	102	1%
		Calcium, Dissolved	EPA 200.7	1509335-005	112	SC 116	114	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1509335-005	ND	0.981	0.975	1.00	mg/L	98	97	1%
		Cobalt, Dissolved	EPA 200.7	1509335-005	ND	0.958	0.953	1.00	mg/L	96	95	1%
		Iron, Dissolved	EPA 200.7	1509335-005	0.032	1.02	1.02	1.00	mg/L	99	99	<1%
		Magnesium, Dissolved	EPA 200.7	1509335-005	11.1	20.2	19.9	10.0	mg/L	91	88	1%
		Manganese, Dissolved	EPA 200.7	1509335-005	0.043	1.02	1.02	1.00	mg/L	98	98	<1%
		Molybdenum, Dissolved	EPA 200.7	1509335-005	ND	0.988	1.00	1.00	mg/L	99	100	1%
		Potassium, Dissolved	EPA 200.7	1509335-005	5.82	15.8	15.8	10.0	mg/L	100	100	<1%
		Sodium, Dissolved	EPA 200.7	1509335-005	24.9	33.9	33.8	10.0	mg/L	90	89	<1%
		Strontium, Dissolved	EPA 200.7	1509335-005	0.280	1.26	1.26	1.00	mg/L	98	98	<1%
Zinc, Dissolved	EPA 200.7	1509335-005	0.019	0.999	0.992	1.00	mg/L	98	97	1%		
QC15090814	MS 1	WAD Cyanide	SM 4500CN I,	1509377-001	ND	M 0.062	0.066	0.100	mg/L	NC	NC	NC
QC15090814	MS 2	WAD Cyanide	SM 4500CN I,	1509400-002	ND	0.103	0.106	0.100	mg/L	103	106	3%
QC15090828	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509377-001	0.247	M 1.13	1.04	1.00	mg/L	NC	NC	NC
QC15090828	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509387-001	ND	1.06	0.994	1.00	mg/L	94	88	6%

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# ANALYTICAL SUMMARY REPORT

September 29, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15091782  
Project Name: Job ID 1509387

Energy Laboratories Inc Billings MT received the following 2 samples for Western Environmental Testing Laboratory on 9/21/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15091782-001	C773-15 B,C Pull #3	09/15/15 8:00	09/21/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA
B15091782-002	C773-15 B,C Pull #4	09/15/15 15:00	09/21/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509387  
**Lab ID:** B15091782-001  
**Client Sample ID:** C773-15 B,C Pull #3

**Report Date:** 09/29/15  
**Collection Date:** 09/15/15 08:00  
**Date Received:** 09/21/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.394	mg/L		0.009		E200.7	09/22/15 15:57 / mas
Antimony	0.0029	mg/L		0.0005		E200.8	09/22/15 20:52 / mas
Arsenic	0.003	mg/L		0.001		E200.8	09/22/15 20:52 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/22/15 20:52 / mas
Lead	ND	mg/L		0.0002		E200.8	09/22/15 20:52 / mas
Mercury	0.00081	mg/L	D	0.00002		E245.1	09/25/15 15:04 / ser
Phosphorus	0.013	mg/L	L	0.007		E200.7	09/22/15 15:57 / mas
Selenium	ND	mg/L		0.001		E200.8	09/22/15 20:52 / mas
Silicon	0.29	mg/L		0.05		E200.7	09/22/15 15:57 / mas
Silver	ND	mg/L		0.0002		E200.8	09/25/15 16:40 / mas
Thallium	0.0096	mg/L		0.0002		E200.8	09/22/15 20:52 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/22/15 20:52 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509387  
**Lab ID:** B15091782-002  
**Client Sample ID:** C773-15 B,C Pull #4

**Report Date:** 09/29/15  
**Collection Date:** 09/15/15 15:00  
**Date Received:** 09/21/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.189	mg/L		0.009		E200.7	09/22/15 16:00 / mas
Antimony	0.0015	mg/L		0.0005		E200.8	09/22/15 20:55 / mas
Arsenic	0.002	mg/L		0.001		E200.8	09/22/15 20:55 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/22/15 20:55 / mas
Lead	ND	mg/L		0.0002		E200.8	09/25/15 16:44 / mas
Mercury	0.000371	mg/L		5E-06		E245.1	09/25/15 15:07 / ser
Phosphorus	0.015	mg/L	L	0.007		E200.7	09/22/15 16:00 / mas
Selenium	ND	mg/L		0.001		E200.8	09/22/15 20:55 / mas
Silicon	0.18	mg/L		0.05		E200.7	09/22/15 16:00 / mas
Silver	ND	mg/L		0.0002		E200.8	09/25/15 16:44 / mas
Thallium	0.0051	mg/L		0.0002		E200.8	09/22/15 20:55 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/22/15 20:55 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/29/15

**Project:** Job ID 1509387

**Work Order:** B15091782

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150922A		
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard								09/22/15 11:30
Aluminum		2.49	mg/L	0.10	100	95	105			
Phosphorus		2.50	mg/L	0.10	100	95	105			
Silicon		4.97	mg/L	0.10	99	95	105			
<b>Method: E200.7</b>								Batch: R249724		
<b>Lab ID: MB-6500DIS150922A</b>	3	Method Blank						Run: ICP203-B_150922A		09/22/15 11:59
Aluminum		ND	mg/L	0.007						
Phosphorus		ND	mg/L	0.007						
Silicon		ND	mg/L	0.01						
<b>Lab ID: LFB-6500DIS150922A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_150922A		09/22/15 12:02
Aluminum		4.97	mg/L	0.10	99	85	115			
Phosphorus		10.1	mg/L	0.10	101	85	115			
Silicon		9.95	mg/L	0.10	99	85	115			
<b>Lab ID: B15091780-001AMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_150922A		09/22/15 15:43
Aluminum		5.08	mg/L	0.030	99	70	130			
Phosphorus		10.2	mg/L	0.10	102	70	130			
Silicon		10.1	mg/L	0.10	100	70	130			
<b>Lab ID: B15091780-001AMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_150922A		09/22/15 15:46
Aluminum		5.17	mg/L	0.030	101	70	130	1.7	20	
Phosphorus		10.3	mg/L	0.10	103	70	130	1.4	20	
Silicon		10.2	mg/L	0.10	101	70	130	1.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509387

**Report Date:** 09/29/15  
**Work Order:** B15091782

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS203-B_150922B	
<b>Lab ID: QCS</b>	7	Initial Calibration Verification Standard							09/22/15 15:40		
Antimony		0.0496	mg/L	0.050	99	90	110				
Arsenic		0.0492	mg/L	0.0050	98	90	110				
Cadmium		0.0251	mg/L	0.0010	100	90	110				
Lead		0.0485	mg/L	0.010	97	90	110				
Selenium		0.0486	mg/L	0.0050	97	90	110				
Thallium		0.0472	mg/L	0.10	94	90	110				
Uranium		0.0189	mg/L	0.0010	95	90	110				
<b>Method: E200.8</b>										Batch: R249797	
<b>Lab ID: LFB</b>	7	Laboratory Fortified Blank							Run: ICPMS203-B_150922B 09/22/15 11:27		
Antimony		0.0448	mg/L	0.0010	90	85	115				
Arsenic		0.0492	mg/L	0.0010	98	85	115				
Cadmium		0.0496	mg/L	0.0010	99	85	115				
Lead		0.0485	mg/L	0.0010	97	85	115				
Selenium		0.0502	mg/L	0.0010	100	85	115				
Thallium		0.0478	mg/L	0.00050	96	85	115				
Uranium		0.0470	mg/L	0.00030	94	85	115				
<b>Lab ID: LRB</b>	7	Method Blank							Run: ICPMS203-B_150922B 09/22/15 11:56		
Antimony		ND	mg/L	1E-05							
Arsenic		ND	mg/L	0.0004							
Cadmium		1E-05	mg/L	5E-06							
Lead		6E-05	mg/L	3E-05							
Selenium		0.0006	mg/L	0.0001							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	3E-06							
<b>Lab ID: B15091798-001BMS</b>	7	Sample Matrix Spike							Run: ICPMS203-B_150922B 09/22/15 21:10		
Antimony		0.0465	mg/L	0.0010	93	70	130				
Arsenic		0.0509	mg/L	0.0010	102	70	130				
Cadmium		0.0474	mg/L	0.0010	95	70	130				
Lead		0.0471	mg/L	0.0010	94	70	130				
Selenium		0.0489	mg/L	0.0010	98	70	130				
Thallium		0.0511	mg/L	0.00050	102	70	130				
Uranium		0.0558	mg/L	0.00030	109	70	130				
<b>Lab ID: B15091798-001BMSD</b>	7	Sample Matrix Spike Duplicate							Run: ICPMS203-B_150922B 09/22/15 21:13		
Antimony		0.0460	mg/L	0.0010	92	70	130	0.9	20		
Arsenic		0.0496	mg/L	0.0010	99	70	130	2.6	20		
Cadmium		0.0462	mg/L	0.0010	92	70	130	2.6	20		
Lead		0.0463	mg/L	0.0010	92	70	130	1.7	20		
Selenium		0.0477	mg/L	0.0010	95	70	130	2.4	20		
Thallium		0.0503	mg/L	0.00050	101	70	130	1.6	20		
Uranium		0.0544	mg/L	0.00030	106	70	130	2.5	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/29/15

**Project:** Job ID 1509387

**Work Order:** B15091782

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_150925B				
<b>Lab ID: QCS</b>	2	Initial Calibration Verification Standard								09/25/15 13:08	
Lead		0.0491	mg/L	0.010	98	90	110				
Silver		0.0240	mg/L	0.0050	96	90	110				
<b>Method: E200.8</b>							Batch: R249988				
<b>Lab ID: LFB</b>	2	Laboratory Fortified Blank								09/25/15 13:36	
Lead		0.0464	mg/L	0.010	93	85	115				
Silver		0.0180	mg/L	0.0050	90	85	115				
<b>Lab ID: LRB</b>	2	Method Blank								09/25/15 14:07	
Lead		ND	mg/L	3E-05							
Silver		ND	mg/L	2E-05							
<b>Lab ID: B15092027-001AMS</b>	2	Sample Matrix Spike								09/25/15 17:12	
Lead		0.0490	mg/L	0.0010	98	70	130				
Silver		0.0163	mg/L	0.0010	81	70	130				
<b>Lab ID: B15092027-001AMSD</b>	2	Sample Matrix Spike Duplicate								09/25/15 17:16	
Lead		0.0511	mg/L	0.0010	102	70	130	4.2	20		
Silver		0.0161	mg/L	0.0010	81	70	130	1.0	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/29/15

**Project:** Job ID 1509387

**Work Order:** B15091782

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150925A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/25/15 14:30	
Mercury		0.000204	mg/L	1.0E-05	102	90	110				
<b>Method:</b> E245.1										Batch: 93484	
<b>Lab ID:</b> MB-93484		Method Blank								Run: HGCV203-B_150925A	09/25/15 14:46
Mercury		2E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93484		Laboratory Control Sample								Run: HGCV203-B_150925A	09/25/15 14:48
Mercury		0.000203	mg/L	1.0E-05	100	85	115				
<b>Lab ID:</b> B15092061-001BMS		Sample Matrix Spike								Run: HGCV203-B_150925A	09/25/15 15:25
Mercury		0.000203	mg/L	1.0E-05	100	70	130				
<b>Lab ID:</b> B15092061-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150925A	09/25/15 15:28
Mercury		0.000205	mg/L	1.0E-05	101	70	130	1.0	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15091782

Login completed by: Randa Nees

Date Received: 9/21/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 9/22/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	16.8°C Melted Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

None





# CHAIN OF CUSTODY RECORD

<b>Western Environmental Testing Laboratory</b> 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <i>2</i> System: _____ Job ID: 1509387	Samplers Initials: _____ All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N _____ Compliance: Y <input checked="" type="checkbox"/> N _____ CA Write ON: Y <input checked="" type="checkbox"/> N _____ QC: Y <input checked="" type="checkbox"/> N _____ Water System #: _____
Sample Receipt Condition: _____ Temperature: _____		Notes: <i>see attached</i> SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____	

*1782-001*  
*B15097780-004*  
*L P 002*  
*005*

Set Date	Set Time	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/15/2015	8:00 AM	C773-15 B.C Pull #3 -	Waste Water	Various Metals (Subcontracted)		
9/15/2015	3:00 PM	C773-15 B.C Pull #4 -	Waste Water	Various Metals (Subcontracted)		

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Sample Type		
						Trip Blank	Grab	Composite
<i>[Signature]</i>	9/16/15	6:00	<i>UPS</i>			Trip Blank	Grab	Composite
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite

*Winice Jones*  
*9/16/15 09:30*

*UPS Grnd.*  
*temp = 16.8 LR-2*  
*melted ice*  
*NO OX seals*

	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 -sub to Energy Lab	
	Antimony	0.0005 - 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 - 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 - 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 - 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 -sub to Energy Lab	
	Calcium	1.0 - 1.0 WETLAB	EPA 200.7
	Chromium	0.01 - 0.01 WETLAB	EPA 200.7
	Copper	0.002 - 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
	Iron	0.02 - 0.02 WETLAB	EPA 200.7
	Lead	0.0003 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
	Manganese	0.005 - 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 -sub to Energy Lab	
	Nickel	0.002 - 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 -sub to Energy Lab	EPA 200.7
	Selenium	0.001 -sub to Energy Lab	EPA 200.8
	Silicon	0.05 - 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 -sub to Energy Lab	
	Strontium	0.02 - 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
	Thallium	0.0002 -sub to Energy Lab	
Uranium	0.0002 - 0.0002 <del>WETLAB</del>	EPA 200.8	
Zinc	0.008 - 0.008 WETLAB	EPA 200.7	
	Alkalinity, Total (as CaCO3)	1	2320B
	pH (standard units)	NA	4500H+B
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CN1

also please  
acidity  
Fe Special  
redox  
EC



10/6/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509423

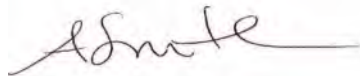
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/16/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

475 E. Greg Street, Suite 119  
Sparks, Nevada 89431  
tel (775) 355-0202  
fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509423

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### Specific Report Comments

The cation/anion balance for sample 1509423-001 was outside WETLAB acceptance criteria. Reanalysis on numerous other samples in this project have confirmed the original results for those samples therefore this sample has not been reanalyzed.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

#### **SPARKS**

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EPA LAB ID: NV00926

#### **LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

Date Printed: 10/6/2015

OrderID: 1509423

Customer Sample ID: C773-15 B,C Pull #5

Collect Date/Time: 9/16/2015 15:00

WETLAB Sample ID: 1509423-001

Receive Date: 9/16/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/18/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/24/2015	NV00925
pH	SM 4500-H+ B	5.53	HT pH Units	1		9/28/2015	NV00925
Temperature at pH	NA	21.7	°C	1		9/28/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/22/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		9/18/2015	NV00925
Acidity (Titrimetric)	SM 2310B	17	mg/L as CaCO3	1		9/28/2015	NV00925
Total Alkalinity	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/28/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/28/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/28/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/28/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/23/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	300	mg/L	1	10	9/17/2015	NV00925
Electrical Conductivity	SM 2510B	420	µmhos/cm	1	1	9/18/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/17/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/17/2015	NV00925
Sulfate	EPA 300.0	100	mg/L	1	1.0	9/17/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/23/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	0.26	M mg/L	1	0.20	9/22/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.099	mg/L	1	0.0030	9/24/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/24/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/24/2015	NV00925
Calcium, Dissolved	EPA 200.7	72	mg/L	1	0.50	9/24/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/24/2015	NV00925
Cobalt, Dissolved	EPA 200.7	0.014	mg/L	1	0.010	9/24/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/24/2015	NV00925
Magnesium, Dissolved	EPA 200.7	0.75	mg/L	1	0.50	9/24/2015	NV00925
Manganese, Dissolved	EPA 200.7	0.012	mg/L	1	0.0050	9/24/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/24/2015	NV00925
Potassium, Dissolved	EPA 200.7	4.9	mg/L	1	0.50	9/24/2015	NV00925
Sodium, Dissolved	EPA 200.7	3.6	mg/L	1	0.50	9/24/2015	NV00925
Strontium, Dissolved	EPA 200.7	1.6	mg/L	1	0.020	9/24/2015	NV00925
Zinc, Dissolved	EPA 200.7	0.013	mg/L	1	0.0080	9/24/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

**SPARKS**

475 E. Greg Street, Suite 119  
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fax (775) 777-9933  
EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C773-15 B,C Pull #5

Collect Date/Time: 9/16/2015 15:00

WETLAB Sample ID: 1509423-001

Receive Date: 9/16/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.015	mg/L	1	0.0020	9/27/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.005	mg/L	1	0.0020	9/27/2015	NV00925
<b><u>Mercury by CVAA</u></b>							
Mercury, Dissolved	EPA 245.1	0.00093	mg/L	1	0.00010	9/25/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	2.08	meq/L	1	0.10		NV00925
Cations	Calculation	3.94	meq/L	1	0.10		NV00925
Error	Calculation	31	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/24/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

**SPARKS**

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 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090675	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090755	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15090776	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090800	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090827	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15090829	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15090890	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090897	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15090926	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15090975	Blank 1	Mercury, Dissolved	EPA 245.1	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090675	LCS 1	Chloride	EPA 300.0	10.7	10.0	107	mg/L
		Fluoride	EPA 300.0	2.16	2.00	108	mg/L
		Sulfate	EPA 300.0	25.6	25.0	103	mg/L
QC15090755	LCS 1	Ferrous Iron	SM 3500 Fe B	0.904	1.00	90	mg/L
QC15090758	LCS 1	Redox Potential	ASTM D1498	221	221	100	mV
QC15090776	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	157	150	105	mg/L
QC15090776	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	154	150	103	mg/L
QC15090800	LCS 1	Electrical Conductivity	SM 2510B	1448	1412	103	µmhos/cm
QC15090827	LCS 1	WAD Cyanide	SM 4500CN I, E	0.110	0.100	110	mg/L
QC15090829	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.04	1.00	104	mg/L
QC15090890	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.834	0.800	104	mg/L
QC15090897	LCS 1	Copper	EPA 200.8	0.0112	0.010	112	mg/L
		Nickel	EPA 200.8	0.0104	0.010	104	mg/L
QC15090926	LCS 1	Barium, Dissolved	EPA 200.7	0.997	1.00	100	mg/L
		Beryllium, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
		Boron, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Calcium, Dissolved	EPA 200.7	9.99	10.0	100	mg/L
		Chromium, Dissolved	EPA 200.7	0.994	1.00	99	mg/L
		Cobalt, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Iron, Dissolved	EPA 200.7	0.992	1.00	99	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Magnesium, Dissolved	EPA 200.7	9.99	10.0	100	mg/L
		Manganese, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Molybdenum, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
		Potassium, Dissolved	EPA 200.7	10.0	10.0	100	mg/L
		Sodium, Dissolved	EPA 200.7	10.1	10.0	101	mg/L
		Strontium, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Zinc, Dissolved	EPA 200.7	1.03	1.00	103	mg/L
QC15090975	LCS 1	Mercury	EPA 245.1	0.004910	0.005	98	mg/L
QC15091103	LCS 1	pH	SM 4500-H+ B	6.96	7.00	99	pH Units
QC15091106	LCS 1	Total Alkalinity	SM 2320B	99.2	100	99	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090755	Duplicate	Ferrous Iron	SM 3500 Fe B	1509494-001	ND	ND	mg/L	12 %
QC15090755	Duplicate	Ferrous Iron	SM 3500 Fe B	1509497-003	ND	ND	mg/L	8 %
QC15090755	Duplicate	Ferrous Iron	SM 3500 Fe B	1509519-001	ND	ND	mg/L	<1%
QC15090758	Duplicate	Redox Potential	ASTM D1498	1509494-001	498	503	mV	1 %
QC15090758	Duplicate	Redox Potential	ASTM D1498	1509497-003	492	490	mV	<1%
QC15090758	Duplicate	Redox Potential	ASTM D1498	1509519-001	455	456	mV	<1%
QC15090776	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509423-001	300	295	mg/L	2 %
QC15090776	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509446-006	256	261	mg/L	2 %
QC15090800	Duplicate	Electrical Conductivity	SM 2510B	1509494-001	52.9	52.9	µmhos/cm	<1%
QC15090800	Duplicate	Electrical Conductivity	SM 2510B	1509497-003	137	136	µmhos/cm	1 %
QC15090800	Duplicate	Electrical Conductivity	SM 2510B	1509519-001	275	275	µmhos/cm	<1%
QC15091097	Duplicate	Acidity (Titrimetric)	SM 2310B	1509423-001	16.9	14.9	mg/L as CaCO3	12 %
QC15091103	Duplicate	pH	SM 4500-H+ B	1509478-013	7.49	7.52	pH Units	<1%
QC15091106	Duplicate	Total Alkalinity	SM 2320B	1509478-013	28.6	28.7	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509478-013	28.6	28.7	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509478-013	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509478-013	ND	ND	mg/L as CaCO3	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090675	MS 1	Chloride	EPA 300.0	1509444-001	14.2	19.4	19.7	5.00	mg/L	103	110	2%
		Fluoride	EPA 300.0	1509444-001	0.191	2.31	2.39	2.00	mg/L	106	110	3%
		Sulfate	EPA 300.0	1509444-001	36.3	46.2	46.9	10.0	mg/L	98	106	2%
QC15090675	MS 2	Chloride	EPA 300.0	1509457-004	18.6	23.6	23.7	5.00	mg/L	102	103	<1%
		Fluoride	EPA 300.0	1509457-004	0.400	2.46	2.49	2.00	mg/L	103	104	1%
		Sulfate	EPA 300.0	1509457-004	53.1	62.8	62.8	10.0	mg/L	98	97	<1%
QC15090827	MS 1	WAD Cyanide	SM 4500CN I,	1509423-001	ND	0.090	0.092	0.100	mg/L	90	92	2%
QC15090829	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509423-001	0.263	M 1.05	1.07	1.00	mg/L	NC	NC	NC
QC15090829	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509478-004	ND	M 0.939	1.02	1.00	mg/L	NC	NC	NC
QC15090890	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509423-001	ND	5.16	5.19	1.00	mg/L	103	104	1%
QC15090890	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509478-019	2.73	7.93	7.91	1.00	mg/L	104	103	<1%
QC15090897	MS 1	Copper, Dissolved	EPA 200.8	1509400-003	0.0629	SC 0.0677	0.0734	0.010	mg/L	NC	NC	NC
		Nickel, Dissolved	EPA 200.8	1509400-003	0.0803	SC 0.0834	0.0927	0.010	mg/L	NC	NC	NC
QC15090926	MS 1	Barium, Dissolved	EPA 200.7	1509400-003	0.041	1.03	1.03	1.00	mg/L	99	99	<1%
		Beryllium, Dissolved	EPA 200.7	1509400-003	ND	D 1.08	1.06	1.00	mg/L	108	106	2%
		Boron, Dissolved	EPA 200.7	1509400-003	1.76	2.90	2.96	1.00	mg/L	114	120	2%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Calcium, Dissolved	EPA 200.7	1509400-003	924	SC 955	972	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1509400-003	0.024	1.05	1.05	1.00	mg/L	103	103	<1%
		Cobalt, Dissolved	EPA 200.7	1509400-003	1.23	2.25	2.26	1.00	mg/L	102	103	<1%
		Iron, Dissolved	EPA 200.7	1509400-003	0.990	2.10	2.09	1.00	mg/L	111	110	<1%
		Magnesium, Dissolved	EPA 200.7	1509400-003	82.1	SC 95.2	94.6	10.0	mg/L	NC	NC	NC
		Manganese, Dissolved	EPA 200.7	1509400-003	0.015	1.03	1.03	1.00	mg/L	102	102	<1%
		Molybdenum, Dissolved	EPA 200.7	1509400-003	0.145	1.22	1.21	1.00	mg/L	108	106	1%
		Potassium, Dissolved	EPA 200.7	1509400-003	18.0	30.6	31.0	10.0	mg/L	126	130	1%
		Sodium, Dissolved	EPA 200.7	1509400-003	1335	SC 1445	1390	10.0	mg/L	NC	NC	NC
		Strontium, Dissolved	EPA 200.7	1509400-003	7.45	SC 8.78	8.77	1.00	mg/L	NC	NC	NC
		Zinc, Dissolved	EPA 200.7	1509400-003	0.089	1.17	1.15	1.00	mg/L	108	106	2%
QC15090975	MS 1	Mercury, Dissolved	EPA 245.1	1509423-001	0.000930	0.005800	0.005750	0.005	mg/L	97	96	1%

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# ANALYTICAL SUMMARY REPORT

October 05, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15092152                      Quote ID: B3679  
Project Name: 1509423

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/24/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15092152-001	C773-15 B,C Pull #5	09/16/15 15:00	09/24/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1509423  
**Lab ID:** B15092152-001  
**Client Sample ID:** C773-15 B,C Pull #5

**Report Date:** 10/05/15  
**Collection Date:** 09/16/15 15:00  
**Date Received:** 09/24/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.298	mg/L		0.009		E200.7	09/25/15 20:24 / rjh
Antimony	0.0019	mg/L		0.0005		E200.8	10/03/15 00:47 / mas
Arsenic	0.003	mg/L		0.001		E200.8	10/03/15 00:47 / mas
Cadmium	0.00007	mg/L		0.00003		E200.8	09/29/15 20:31 / amm
Lead	ND	mg/L		0.0003		E200.8	10/03/15 00:47 / mas
Mercury	0.00087	mg/L	D	0.00002		E245.1	09/25/15 16:20 / ser
Phosphorus	0.021	mg/L	L	0.007		E200.7	09/25/15 20:24 / rjh
Selenium	ND	mg/L		0.001		E200.8	10/03/15 00:47 / mas
Silicon	0.49	mg/L		0.05		E200.7	09/25/15 20:24 / rjh
Silver	ND	mg/L		0.0002		E200.8	09/29/15 20:31 / amm
Thallium	0.0099	mg/L		0.0002		E200.8	10/03/15 00:47 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/29/15 20:31 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/05/15

**Project:** 1509423

**Work Order:** B15092152

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150925A			
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard									09/25/15 11:59
Aluminum		2.48	mg/L	0.10	99	95	105				
Phosphorus		2.56	mg/L	0.10	102	95	105				
Silicon		4.93	mg/L	0.10	99	95	105				
<b>Method: E200.7</b>								Batch: R249963			
<b>Lab ID: MB-6500DIS150925A</b>	3	Method Blank						Run: ICP203-B_150925A			09/25/15 12:27
Aluminum		ND	mg/L	0.01							
Phosphorus		ND	mg/L	0.007							
Silicon		0.03	mg/L	0.01							
<b>Lab ID: LFB-6500DIS150925A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_150925A			09/25/15 12:31
Aluminum		5.39	mg/L	0.10	108	85	115				
Phosphorus		10.5	mg/L	0.10	105	85	115				
Silicon		10.1	mg/L	0.10	100	85	115				
<b>Lab ID: B15092157-001AMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_150925A			09/25/15 20:53
Aluminum		5.54	mg/L	0.030	107	70	130				
Phosphorus		11.3	mg/L	0.10	113	70	130				
Silicon		10.8	mg/L	0.10	102	70	130				
<b>Lab ID: B15092157-001AMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_150925A			09/25/15 20:56
Aluminum		5.61	mg/L	0.030	108	70	130	1.3	20		
Phosphorus		11.7	mg/L	0.10	117	70	130	3.5	20		
Silicon		11.2	mg/L	0.10	107	70	130	4.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/05/15

**Project:** 1509423

**Work Order:** B15092152

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS206-B_150929A				
<b>Lab ID: QCS</b>	3	Initial Calibration Verification Standard								09/29/15 14:53	
Cadmium		0.0248	mg/L	0.0010	99	90	110				
Silver		0.0237	mg/L	0.0050	95	90	110				
Uranium		0.0193	mg/L	0.0010	97	90	110				
<b>Method: E200.8</b>							Batch: R250119				
<b>Lab ID: LRB</b>	3	Method Blank								09/29/15 11:45	
Cadmium		ND	mg/L	3E-05							
Silver		ND	mg/L	2E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	3	Laboratory Fortified Blank								09/29/15 11:50	
Cadmium		0.0482	mg/L	0.0010	96	85	115				
Silver		0.0200	mg/L	0.0050	100	85	115				
Uranium		0.0511	mg/L	0.0010	102	85	115				
<b>Lab ID: B15092155-001AMS</b>	3	Sample Matrix Spike								09/29/15 20:50	
Cadmium		0.0492	mg/L	0.0010	98	70	130				
Silver		0.0180	mg/L	0.0010	89	70	130				
Uranium		0.0491	mg/L	0.00030	98	70	130				
<b>Lab ID: B15092155-001AMSD</b>	3	Sample Matrix Spike Duplicate								09/29/15 20:55	
Cadmium		0.0486	mg/L	0.0010	97	70	130	1.2	20		
Silver		0.0104	mg/L	0.0010	51	70	130	53	20	SR	
Uranium		0.0484	mg/L	0.00030	97	70	130	1.4	20		

**Qualifiers:**

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/05/15

**Project:** 1509423

**Work Order:** B15092152

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>		Analytical Run: ICPMS206-B_151002A								
<b>Lab ID: QCS</b>	5	Initial Calibration Verification Standard							10/02/15 10:32	
Antimony		0.0526	mg/L	0.050	105	90	110			
Arsenic		0.0519	mg/L	0.0050	104	90	110			
Lead		0.0489	mg/L	0.010	98	90	110			
Selenium		0.0494	mg/L	0.0050	99	90	110			
Thallium		0.0488	mg/L	0.10	98	90	110			
<b>Method: E200.8</b>		Batch: R250337								
<b>Lab ID: LRB</b>	5	Method Blank							Run: ICPMS206-B_151002A 10/02/15 11:40	
Antimony		ND	mg/L	8E-05						
Arsenic		6E-05	mg/L	6E-05						
Lead		ND	mg/L	5E-05						
Selenium		ND	mg/L	0.0001						
Thallium		ND	mg/L	7E-05						
<b>Lab ID: LFB</b>	5	Laboratory Fortified Blank							Run: ICPMS206-B_151002A 10/02/15 11:44	
Antimony		0.0492	mg/L	0.050	98	85	115			
Arsenic		0.0513	mg/L	0.0050	103	85	115			
Lead		0.0488	mg/L	0.010	98	85	115			
Selenium		0.0489	mg/L	0.0050	98	85	115			
Thallium		0.0495	mg/L	0.10	99	85	115			
<b>Lab ID: B15092392-011BMS</b>	5	Sample Matrix Spike							Run: ICPMS206-B_151002A 10/03/15 00:09	
Antimony		0.0503	mg/L	0.0010	101	70	130			
Arsenic		0.0528	mg/L	0.0010	105	70	130			
Lead		0.0518	mg/L	0.0010	104	70	130			
Selenium		0.0505	mg/L	0.0010	101	70	130			
Thallium		0.0513	mg/L	0.00050	103	70	130			
<b>Lab ID: B15092392-011BMSD</b>	5	Sample Matrix Spike Duplicate							Run: ICPMS206-B_151002A 10/03/15 00:14	
Antimony		0.0507	mg/L	0.0010	101	70	130	0.8	20	
Arsenic		0.0507	mg/L	0.0010	101	70	130	4.1	20	
Lead		0.0501	mg/L	0.0010	100	70	130	3.3	20	
Selenium		0.0493	mg/L	0.0010	99	70	130	2.4	20	
Thallium		0.0501	mg/L	0.00050	100	70	130	2.4	20	
<b>Lab ID: B15100098-002BMS</b>	5	Sample Matrix Spike							Run: ICPMS206-B_151002A 10/03/15 01:25	
Antimony		0.0504	mg/L	0.0010	101	70	130			
Arsenic		0.0522	mg/L	0.0010	104	70	130			
Lead		0.0500	mg/L	0.0010	100	70	130			
Selenium		0.0483	mg/L	0.0010	96	70	130			
Thallium		0.0495	mg/L	0.00050	99	70	130			
<b>Lab ID: B15100098-002BMSD</b>	5	Sample Matrix Spike Duplicate							Run: ICPMS206-B_151002A 10/03/15 01:30	
Antimony		0.0503	mg/L	0.0010	101	70	130	0.2	20	
Arsenic		0.0507	mg/L	0.0010	101	70	130	2.9	20	
Lead		0.0486	mg/L	0.0010	97	70	130	2.7	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/05/15

**Project:** 1509423

**Work Order:** B15092152

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R250337
<b>Lab ID:</b> B15100098-002BMSD	5	Sample Matrix Spike Duplicate								Run: ICPMS206-B_151002A 10/03/15 01:30
Selenium		0.0478	mg/L	0.0010	95	70	130	1.1	20	
Thallium		0.0487	mg/L	0.00050	97	70	130	1.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/05/15

**Project:** 1509423

**Work Order:** B15092152

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150925A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/25/15 14:30	
Mercury		0.000204	mg/L	1.0E-05	102	90	110				
<b>Method:</b> E245.1										Batch: 93484	
<b>Lab ID:</b> MB-93484		Method Blank								Run: HGCV203-B_150925A	09/25/15 14:46
Mercury		2E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93484		Laboratory Control Sample								Run: HGCV203-B_150925A	09/25/15 14:48
Mercury		0.000203	mg/L	1.0E-05	100	85	115				
<b>Lab ID:</b> B15092135-005BMS		Sample Matrix Spike								Run: HGCV203-B_150925A	09/25/15 15:59
Mercury		0.000207	mg/L	1.0E-05	102	70	130				
<b>Lab ID:</b> B15092135-005BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150925A	09/25/15 16:01
Mercury		0.000232	mg/L	1.0E-05	115	70	130	11	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/05/15

**Project:** 1509423

**Work Order:** B15092152

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150925A			
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard								09/25/15 11:59	
Aluminum		2.48	mg/L	0.10	99	95	105				
Phosphorus		2.56	mg/L	0.10	102	95	105				
Silicon		4.93	mg/L	0.10	99	95	105				
<b>Method: E200.7</b>								Batch: R249963			
<b>Lab ID: MB-6500DIS150925A</b>	3	Method Blank						Run: ICP203-B_150925A		09/25/15 12:27	
Aluminum		ND	mg/L	0.01							
Phosphorus		ND	mg/L	0.007							
Silicon		0.03	mg/L	0.01							
<b>Lab ID: LFB-6500DIS150925A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_150925A		09/25/15 12:31	
Aluminum		5.39	mg/L	0.10	108	85	115				
Phosphorus		10.5	mg/L	0.10	105	85	115				
Silicon		10.1	mg/L	0.10	100	85	115				
<b>Lab ID: B15092157-001AMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_150925A		09/25/15 20:53	
Aluminum		5.54	mg/L	0.030	107	70	130				
Phosphorus		11.3	mg/L	0.10	113	70	130				
Silicon		10.8	mg/L	0.10	102	70	130				
<b>Lab ID: B15092157-001AMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_150925A		09/25/15 20:56	
Aluminum		5.61	mg/L	0.030	108	70	130	1.3	20		
Phosphorus		11.7	mg/L	0.10	117	70	130	3.5	20		
Silicon		11.2	mg/L	0.10	107	70	130	4.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/05/15

**Project:** 1509423

**Work Order:** B15092152

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_150929A			
<b>Lab ID: QCS</b>	3	Initial Calibration Verification Standard						09/29/15 14:53			
Cadmium		0.0248	mg/L	0.0010	99	90	110				
Silver		0.0237	mg/L	0.0050	95	90	110				
Uranium		0.0193	mg/L	0.0010	97	90	110				
<b>Method: E200.8</b>								Batch: R250119			
<b>Lab ID: LRB</b>	3	Method Blank						Run: ICPMS206-B_150929A 09/29/15 11:45			
Cadmium		ND	mg/L	3E-05							
Silver		ND	mg/L	2E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	3	Laboratory Fortified Blank						Run: ICPMS206-B_150929A 09/29/15 11:50			
Cadmium		0.0482	mg/L	0.0010	96	85	115				
Silver		0.0200	mg/L	0.0050	100	85	115				
Uranium		0.0511	mg/L	0.0010	102	85	115				
<b>Lab ID: B15092155-001AMS</b>	3	Sample Matrix Spike						Run: ICPMS206-B_150929A 09/29/15 20:50			
Cadmium		0.0492	mg/L	0.0010	98	70	130				
Silver		0.0180	mg/L	0.0010	89	70	130				
Uranium		0.0491	mg/L	0.00030	98	70	130				
<b>Lab ID: B15092155-001AMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICPMS206-B_150929A 09/29/15 20:55			
Cadmium		0.0486	mg/L	0.0010	97	70	130	1.2	20		
Silver		0.0104	mg/L	0.0010	51	70	130	53	20	SR	
Uranium		0.0484	mg/L	0.00030	97	70	130	1.4	20		

**Qualifiers:**

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/05/15

**Project:** 1509423

**Work Order:** B15092152

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS206-B_151002A				
<b>Lab ID: QCS</b>	5	Initial Calibration Verification Standard									10/02/15 10:32
Antimony		0.0526	mg/L	0.050	105	90	110				
Arsenic		0.0519	mg/L	0.0050	104	90	110				
Lead		0.0489	mg/L	0.010	98	90	110				
Selenium		0.0494	mg/L	0.0050	99	90	110				
Thallium		0.0488	mg/L	0.10	98	90	110				
<b>Method: E200.8</b>							Batch: R250337				
<b>Lab ID: LRB</b>	5	Method Blank									10/02/15 11:40
Antimony		ND	mg/L	8E-05							
Arsenic		6E-05	mg/L	6E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Thallium		ND	mg/L	7E-05							
<b>Lab ID: LFB</b>	5	Laboratory Fortified Blank									10/02/15 11:44
Antimony		0.0492	mg/L	0.050	98	85	115				
Arsenic		0.0513	mg/L	0.0050	103	85	115				
Lead		0.0488	mg/L	0.010	98	85	115				
Selenium		0.0489	mg/L	0.0050	98	85	115				
Thallium		0.0495	mg/L	0.10	99	85	115				
<b>Lab ID: B15092392-011BMS</b>	5	Sample Matrix Spike									10/03/15 00:09
Antimony		0.0503	mg/L	0.0010	101	70	130				
Arsenic		0.0528	mg/L	0.0010	105	70	130				
Lead		0.0518	mg/L	0.0010	104	70	130				
Selenium		0.0505	mg/L	0.0010	101	70	130				
Thallium		0.0513	mg/L	0.00050	103	70	130				
<b>Lab ID: B15092392-011BMSD</b>	5	Sample Matrix Spike Duplicate									10/03/15 00:14
Antimony		0.0507	mg/L	0.0010	101	70	130	0.8	20		
Arsenic		0.0507	mg/L	0.0010	101	70	130	4.1	20		
Lead		0.0501	mg/L	0.0010	100	70	130	3.3	20		
Selenium		0.0493	mg/L	0.0010	99	70	130	2.4	20		
Thallium		0.0501	mg/L	0.00050	100	70	130	2.4	20		
<b>Lab ID: B15100098-002BMS</b>	5	Sample Matrix Spike									10/03/15 01:25
Antimony		0.0504	mg/L	0.0010	101	70	130				
Arsenic		0.0522	mg/L	0.0010	104	70	130				
Lead		0.0500	mg/L	0.0010	100	70	130				
Selenium		0.0483	mg/L	0.0010	96	70	130				
Thallium		0.0495	mg/L	0.00050	99	70	130				
<b>Lab ID: B15100098-002BMSD</b>	5	Sample Matrix Spike Duplicate									10/03/15 01:30
Antimony		0.0503	mg/L	0.0010	101	70	130	0.2	20		
Arsenic		0.0507	mg/L	0.0010	101	70	130	2.9	20		
Lead		0.0486	mg/L	0.0010	97	70	130	2.7	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/05/15

**Project:** 1509423

**Work Order:** B15092152

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R250337
<b>Lab ID:</b> B15100098-002BMSD	5	Sample Matrix Spike Duplicate					Run: ICPMS206-B_151002A			10/03/15 01:30
Selenium		0.0478	mg/L	0.0010	95	70	130	1.1	20	
Thallium		0.0487	mg/L	0.00050	97	70	130	1.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/05/15

**Project:** 1509423

**Work Order:** B15092152

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150925A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/25/15 14:30	
Mercury		0.000204	mg/L	1.0E-05	102	90	110				
<b>Method:</b> E245.1										Batch: 93484	
<b>Lab ID:</b> MB-93484		Method Blank								Run: HGCV203-B_150925A	09/25/15 14:46
Mercury		2E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93484		Laboratory Control Sample								Run: HGCV203-B_150925A	09/25/15 14:48
Mercury		0.000203	mg/L	1.0E-05	100	85	115				
<b>Lab ID:</b> B15092135-005BMS		Sample Matrix Spike								Run: HGCV203-B_150925A	09/25/15 15:59
Mercury		0.000207	mg/L	1.0E-05	102	70	130				
<b>Lab ID:</b> B15092135-005BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150925A	09/25/15 16:01
Mercury		0.000232	mg/L	1.0E-05	115	70	130	11	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15092152

Login completed by: Randa Nees

Date Received: 9/24/2015

Reviewed by: BL2000\jmueller

Received by: Ig

Reviewed Date: 9/24/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	5.7°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

None


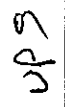
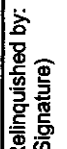





# CHAIN OF CUSTODY RECORD

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson kurtc@WETLaboratory.com		Total # of sample containers: <u>1</u> System: _____ Job ID: 1509423		All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
Sample Receipt Condition: Temperature: _____		Samplers Initials: _____ Notes: <i>See attached</i>		Date: _____ Time: _____	
SIGNATURE OF COMPANY REPRESENTATIVE:					

Set Date	Set Time	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/16/2015	3:00 PM	C773-15 B.C Pull #5 -	Waste Water	Various Metals (Subcontracted)		

*B15092152-001*

Relinquished by:		Date:	Time:	Received by:	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
 (Signature)		9/21/15	16:00	 UPS						
 (Signature)				 (Signature)						
 (Signature)				 (Signature)	9/24/15	9:30				

*URGENT.  
5.70 ON/LL  
ON/LL / NOSEAL*



	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 -sub to Energy Lab	
	Antimony	0.0005 - 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 - 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 - 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 - 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 -sub to Energy Lab	
	Calcium	1.0 - 1.0 WETLAB	EPA 200.7
	Chromium	0.01 - 0.01 WETLAB	EPA 200.7
	Copper	0.002 - 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
	Iron	0.02 - 0.02 WETLAB	EPA 200.7
	Lead	0.0003 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
	Manganese	0.005 - 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 -sub to Energy Lab	
	Nickel	0.002 - 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 -sub to Energy Lab	EPA 200.7
	Selenium	0.001 -sub to Energy Lab	EPA 200.8
	Silicon	0.05 - 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 -sub to Energy Lab	
	Strontium	0.02 - 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
	Tin	0.0002 -sub to Energy Lab	
Uranium	0.0002 - 0.0002 <del>WETLAB</del>	EPA 200.8	
Zinc	0.008 - 0.008 WETLAB	EPA 200.7	
	Alkalinity, Total (as CaCO3)	1	2320B
	pH (standard units)	NA	4500H+B
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	-
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe speciation  
 redox  
 EC



10/2/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509469

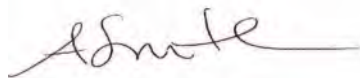
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/17/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

475 E. Greg Street, Suite 119  
Sparks, Nevada 89431  
tel (775) 355-0202  
fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

1084 Lamoille Hwy  
Elko, Nevada 89801  
tel (775) 777-9933  
fax (775) 777-9933  
EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509469

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### Specific Report Comments

The cation/anion balance for sample 1509469-001 was outside WETLAB acceptance criteria. Reanalysis on numerous other samples in this project have confirmed the original results for those samples therefore this sample has not been reanalyzed.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

Date Printed: 10/2/2015

OrderID: 1509469

Customer Sample ID: C773-15 B,C Pull #6

Collect Date/Time: 9/17/2015 15:00

WETLAB Sample ID: 1509469-001

Receive Date: 9/17/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/18/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/24/2015	NV00925
pH	SM 4500-H+ B	6.17	HT,QD pH Units	1		9/24/2015	NV00925
Temperature at pH	NA	22.8	°C	1		9/24/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/23/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		9/18/2015	NV00925
Acidity (Titrimetric)	SM 2310B	22	QD mg/L as CaCO3	1		9/29/2015	NV00925
Total Alkalinity	SM 2320B	2.1	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	2.1	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/23/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	230	QD mg/L	1	10	9/22/2015	NV00925
Electrical Conductivity	SM 2510B	350	µmhos/cm	1	1	9/18/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/18/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/18/2015	NV00925
Sulfate	EPA 300.0	82	mg/L	1	1.0	9/18/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/23/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/23/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.080	mg/L	1	0.0030	9/24/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/24/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/24/2015	NV00925
Calcium, Dissolved	EPA 200.7	60	mg/L	1	0.50	9/24/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/24/2015	NV00925
Cobalt, Dissolved	EPA 200.7	0.013	mg/L	1	0.010	9/24/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/24/2015	NV00925
Magnesium, Dissolved	EPA 200.7	0.61	mg/L	1	0.50	9/24/2015	NV00925
Manganese, Dissolved	EPA 200.7	0.011	mg/L	1	0.0050	9/24/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/24/2015	NV00925
Potassium, Dissolved	EPA 200.7	3.6	mg/L	1	0.50	9/24/2015	NV00925
Sodium, Dissolved	EPA 200.7	2.5	mg/L	1	0.50	9/24/2015	NV00925
Strontium, Dissolved	EPA 200.7	1.4	mg/L	1	0.020	9/24/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	9/24/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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Customer Sample ID: C773-15 B,C Pull #6

Collect Date/Time: 9/17/2015 15:00

WETLAB Sample ID: 1509469-001

Receive Date: 9/17/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.011	mg/L	1	0.0020	9/27/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.005	mg/L	1	0.0020	9/27/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.75	meq/L	1	0.10		NV00925
Cations	Calculation	3.25	meq/L	1	0.10		NV00925
Error	Calculation	30	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/24/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090735	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090755	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15090800	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090870	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15090881	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15090890	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090898	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15090928	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15090944	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090735	LCS 1	Chloride	EPA 300.0	10.4	10.0	104	mg/L
		Fluoride	EPA 300.0	1.86	2.00	93	mg/L
		Sulfate	EPA 300.0	23.2	25.0	93	mg/L
QC15090755	LCS 1	Ferrous Iron	SM 3500 Fe B	0.904	1.00	90	mg/L
QC15090758	LCS 1	Redox Potential	ASTM D1498	221	221	100	mV
QC15090800	LCS 1	Electrical Conductivity	SM 2510B	1448	1412	103	µmhos/cm
QC15090870	LCS 1	WAD Cyanide	SM 4500CN I, E	0.104	0.100	104	mg/L
QC15090881	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.981	1.00	98	mg/L
QC15090890	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.834	0.800	104	mg/L
QC15090898	LCS 1	Copper	EPA 200.8	0.0112	0.010	112	mg/L
		Nickel	EPA 200.8	0.0104	0.010	104	mg/L
QC15090928	LCS 1	Barium, Dissolved	EPA 200.7	0.997	1.00	100	mg/L
		Beryllium, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
		Boron, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Calcium, Dissolved	EPA 200.7	9.99	10.0	100	mg/L
		Chromium, Dissolved	EPA 200.7	0.994	1.00	99	mg/L
		Cobalt, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Iron, Dissolved	EPA 200.7	0.992	1.00	99	mg/L
		Magnesium, Dissolved	EPA 200.7	9.99	10.0	100	mg/L
		Manganese, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Molybdenum, Dissolved	EPA 200.7	1.02	1.00	102	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Potassium, Dissolved	EPA 200.7	10.0	10.0	100	mg/L
		Sodium, Dissolved	EPA 200.7	10.1	10.0	101	mg/L
		Strontium, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Zinc, Dissolved	EPA 200.7	1.03	1.00	103	mg/L
QC15090944	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	138	150	92	mg/L
QC15090944	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	138	150	92	mg/L
QC15090993	LCS 1	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090993	LCS 2	Total Alkalinity	SM 2320B	100.0	100	100	mg/L
QC15090993	LCS 3	Total Alkalinity	SM 2320B	101	100	101	mg/L
QC15090993	LCS 4	Total Alkalinity	SM 2320B	101	100	101	mg/L
QC15090994	LCS 1	pH	SM 4500-H+ B	6.95	7.00	99	pH Units
QC15090994	LCS 2	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC15090994	LCS 3	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC15090994	LCS 4	pH	SM 4500-H+ B	6.97	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090755	Duplicate	Ferrous Iron	SM 3500 Fe B	1509494-001	ND	ND	mg/L	12 %
QC15090755	Duplicate	Ferrous Iron	SM 3500 Fe B	1509497-003	ND	ND	mg/L	8 %
QC15090755	Duplicate	Ferrous Iron	SM 3500 Fe B	1509519-001	ND	ND	mg/L	<1%
QC15090758	Duplicate	Redox Potential	ASTM D1498	1509494-001	498	503	mV	1 %
QC15090758	Duplicate	Redox Potential	ASTM D1498	1509497-003	492	490	mV	<1%
QC15090758	Duplicate	Redox Potential	ASTM D1498	1509519-001	455	456	mV	<1%
QC15090800	Duplicate	Electrical Conductivity	SM 2510B	1509494-001	52.9	52.9	µmhos/cm	<1%
QC15090800	Duplicate	Electrical Conductivity	SM 2510B	1509497-003	137	136	µmhos/cm	1 %
QC15090800	Duplicate	Electrical Conductivity	SM 2510B	1509519-001	275	275	µmhos/cm	<1%
QC15090944	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509469-001	231	249	mg/L	8 %
QC15090944	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509541-003	582	589	mg/L	1 %
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509469-001	2.10	1.96	mg/L as CaCO3	7 %
		Bicarbonate (HCO3)	SM 2320B	1509469-001	2.10	1.96	mg/L as CaCO3	7 %
		Carbonate (CO3)	SM 2320B	1509469-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509469-001	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509512-005	90.8	90.6	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509512-005	90.8	90.6	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509512-005	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509512-005	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509536-004	107	108	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509536-004	107	108	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509536-004	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509536-004	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509542-004	11.5	10.6	mg/L as CaCO3	9 %
		Bicarbonate (HCO3)	SM 2320B	1509542-004	11.5	10.6	mg/L as CaCO3	9 %
		Carbonate (CO3)	SM 2320B	1509542-004	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509542-004	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509633-001	182	181	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509633-001	182	181	mg/L as CaCO3	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090993	Duplicate	Carbonate (CO3)	SM 2320B	1509633-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509633-001	ND	ND	mg/L as CaCO3	<1%
		Total Alkalinity	SM 2320B	1509567-003	46.2	45.7	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509567-003	46.2	45.7	mg/L as CaCO3	1 %
QC15090993	Duplicate	Carbonate (CO3)	SM 2320B	1509567-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509567-003	ND	ND	mg/L as CaCO3	<1%
		Total Alkalinity	SM 2320B	1509586-006	ND	ND	QD mg/L as CaCO3	40 %
		Bicarbonate (HCO3)	SM 2320B	1509586-006	ND	ND	QD mg/L as CaCO3	40 %
QC15090994	Duplicate	Carbonate (CO3)	SM 2320B	1509586-006	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509586-006	ND	ND	mg/L as CaCO3	<1%
		pH	SM 4500-H+ B	1509469-001	6.17	6.30	HT,Q pH Units	2 %
		pH	SM 4500-H+ B	1509512-005	7.58	7.51	HT pH Units	1 %
QC15090994	Duplicate	pH	SM 4500-H+ B	1509536-004	7.57	7.57	HT pH Units	<1%
QC15090994	Duplicate	pH	SM 4500-H+ B	1509542-004	6.59	6.50	HT pH Units	1 %
QC15090994	Duplicate	pH	SM 4500-H+ B	1509633-001	7.91	7.88	HT pH Units	<1%
QC15090994	Duplicate	pH	SM 4500-H+ B	1509567-003	7.24	7.16	HT pH Units	1 %
QC15090994	Duplicate	pH	SM 4500-H+ B	1509586-006	5.97	6.01	HT pH Units	1 %
QC15091137	Duplicate	Acidity (Titrimetric)	SM 2310B	1509469-001	22.4	13.7	QD mg/L as CaCO3	48 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090735	MS 1	Chloride	EPA 300.0	1509469-001	ND	6.10	6.14	5.00	mg/L	109	110	1%
		Fluoride	EPA 300.0	1509469-001	ND	1.95	2.01	2.00	mg/L	96	99	3%
		Sulfate	EPA 300.0	1509469-001	81.9	91.2	91.3	10.0	mg/L	92	94	<1%
QC15090735	MS 2	Chloride	EPA 300.0	1509512-002	79.8	SC 83.7	83.6	5.00	mg/L	NC	NC	NC
		Fluoride	EPA 300.0	1509512-002	0.303	2.25	2.32	2.00	mg/L	97	101	3%
		Sulfate	EPA 300.0	1509512-002	113	123	123	10.0	mg/L	100	99	<1%
QC15090870	MS 1	WAD Cyanide	SM 4500CN I,	1509480-001	ND	0.108	0.106	0.100	mg/L	108	106	2%
QC15090881	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509478-025	0.249	M 0.823	0.732	1.00	mg/L	NC	NC	NC
QC15090890	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509423-001	ND	5.16	5.19	1.00	mg/L	103	104	1%
QC15090890	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509478-019	2.73	7.93	7.91	1.00	mg/L	104	103	<1%
QC15090898	MS 1	Copper, Dissolved	EPA 200.8	1509443-001	0.0057	0.0142	0.0143	0.010	mg/L	85	86	1%
		Nickel, Dissolved	EPA 200.8	1509443-001	0.0113	0.0208	0.0212	0.010	mg/L	95	99	2%
QC15090928	MS 1	Barium, Dissolved	EPA 200.7	1509443-001	1.41	2.49	2.38	1.00	mg/L	108	97	5%
		Beryllium, Dissolved	EPA 200.7	1509443-001	ND	1.06	1.03	1.00	mg/L	106	103	3%
		Boron, Dissolved	EPA 200.7	1509443-001	0.170	1.29	1.24	1.00	mg/L	112	107	4%
		Calcium, Dissolved	EPA 200.7	1509443-001	286	SC 305	295	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1509443-001	ND	1.03	0.996	1.00	mg/L	103	99	3%
		Cobalt, Dissolved	EPA 200.7	1509443-001	ND	0.991	0.953	1.00	mg/L	99	95	4%
		Iron, Dissolved	EPA 200.7	1509443-001	ND	1.02	0.992	1.00	mg/L	101	98	3%
		Magnesium, Dissolved	EPA 200.7	1509443-001	28.2	38.7	36.9	10.0	mg/L	105	87	5%
		Manganese, Dissolved	EPA 200.7	1509443-001	ND	1.01	0.975	1.00	mg/L	101	97	4%
		Molybdenum, Dissolved	EPA 200.7	1509443-001	ND	1.03	1.00	1.00	mg/L	104	101	3%
		Potassium, Dissolved	EPA 200.7	1509443-001	30.6	42.4	41.2	10.0	mg/L	118	106	3%
		Sodium, Dissolved	EPA 200.7	1509443-001	121	SC 135	131	10.0	mg/L	NC	NC	NC
		Strontium, Dissolved	EPA 200.7	1509443-001	2.16	3.23	3.16	1.00	mg/L	107	100	2%
Zinc, Dissolved	EPA 200.7	1509443-001	0.014	1.02	0.976	1.00	mg/L	101	96	4%		

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# ANALYTICAL SUMMARY REPORT

October 01, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15092153                      Quote ID: B3679

Project Name: Job ID 1509469

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/24/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15092153-001	C773-15 B,C Pull #6	09/17/15 15:00	09/24/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509469  
**Lab ID:** B15092153-001  
**Client Sample ID:** C773-15 B,C Pull #6

**Report Date:** 10/01/15  
**Collection Date:** 09/17/15 15:00  
**Date Received:** 09/24/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.230	mg/L		0.009		E200.7	09/25/15 20:28 / rjh
Antimony	0.0031	mg/L		0.0005		E200.8	09/26/15 06:10 / mas
Arsenic	0.004	mg/L		0.001		E200.8	09/26/15 06:10 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/29/15 20:36 / amm
Lead	ND	mg/L		0.0003		E200.8	09/26/15 06:10 / mas
Mercury	0.00104	mg/L	D	0.00002		E245.1	09/25/15 16:38 / ser
Phosphorus	0.026	mg/L	L	0.007		E200.7	09/25/15 20:28 / rjh
Selenium	ND	mg/L		0.001		E200.8	09/26/15 06:10 / mas
Silicon	0.48	mg/L		0.05		E200.7	09/25/15 20:28 / rjh
Silver	ND	mg/L		0.0002		E200.8	09/29/15 20:36 / amm
Thallium	0.0092	mg/L		0.0002		E200.8	09/26/15 06:10 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/29/15 20:36 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509469

**Work Order:** B15092153

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>							Analytical Run: ICP203-B_150925A			
<b>Lab ID: ICV</b>	Continuing Calibration Verification Standard						09/25/15 11:59			
Aluminum	2.48	mg/L	0.10	99	95	105				
Phosphorus	2.56	mg/L	0.10	102	95	105				
Silicon	4.93	mg/L	0.10	99	95	105				
<b>Method: E200.7</b>							Batch: R249963			
<b>Lab ID: MB-6500DIS150925A</b>	Method Blank						Run: ICP203-B_150925A 09/25/15 12:27			
Aluminum	ND	mg/L	0.01							
Phosphorus	ND	mg/L	0.007							
Silicon	0.03	mg/L	0.01							
<b>Lab ID: LFB-6500DIS150925A</b>	Laboratory Fortified Blank						Run: ICP203-B_150925A 09/25/15 12:31			
Aluminum	5.39	mg/L	0.10	108	85	115				
Phosphorus	10.5	mg/L	0.10	105	85	115				
Silicon	10.1	mg/L	0.10	100	85	115				
<b>Lab ID: B15092157-001AMS2</b>	Sample Matrix Spike						Run: ICP203-B_150925A 09/25/15 20:53			
Aluminum	5.54	mg/L	0.030	107	70	130				
Phosphorus	11.3	mg/L	0.10	113	70	130				
Silicon	10.8	mg/L	0.10	102	70	130				
<b>Lab ID: B15092157-001AMSD2</b>	Sample Matrix Spike Duplicate						Run: ICP203-B_150925A 09/25/15 20:56			
Aluminum	5.61	mg/L	0.030	108	70	130	1.3	20		
Phosphorus	11.7	mg/L	0.10	117	70	130	3.5	20		
Silicon	11.2	mg/L	0.10	107	70	130	4.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509469

**Work Order:** B15092153

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>		Analytical Run: ICPMS203-B_150925B							
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard							09/26/15 02:05	
Antimony	0.0501	mg/L	0.050	100	90	110			
Arsenic	0.0484	mg/L	0.0050	97	90	110			
Lead	0.0493	mg/L	0.010	99	90	110			
Selenium	0.0510	mg/L	0.0050	102	90	110			
Thallium	0.0485	mg/L	0.10	97	90	110			
<b>Method: E200.8</b>		Batch: R249988							
<b>Lab ID: LFB</b>	Laboratory Fortified Blank					Run: ICPMS203-B_150925B		09/25/15 13:36	
Antimony	0.0442	mg/L	0.050	88	85	115			
Arsenic	0.0450	mg/L	0.0050	90	85	115			
Lead	0.0464	mg/L	0.010	93	85	115			
Selenium	0.0426	mg/L	0.0050	85	85	115			
Thallium	0.0465	mg/L	0.10	93	85	115			
<b>Lab ID: LRB</b>	Method Blank					Run: ICPMS203-B_150925B		09/25/15 14:07	
Antimony	ND	mg/L	1E-05						
Arsenic	ND	mg/L	5E-05						
Lead	ND	mg/L	3E-05						
Selenium	ND	mg/L	7E-05						
Thallium	ND	mg/L	1E-05						
<b>Lab ID: B15092061-005BMS</b>	Sample Matrix Spike					Run: ICPMS203-B_150925B		09/26/15 05:38	
Antimony	0.0944	mg/L	0.0010	94	70	130			
Arsenic	0.0976	mg/L	0.0010	94	70	130			
Lead	0.0934	mg/L	0.0010	93	70	130			
Selenium	0.0963	mg/L	0.0010	91	70	130			
Thallium	0.0948	mg/L	0.00050	95	70	130			
<b>Lab ID: B15092061-005BMSD</b>	Sample Matrix Spike Duplicate					Run: ICPMS203-B_150925B		09/26/15 05:42	
Antimony	0.0943	mg/L	0.0010	94	70	130	0.1	20	
Arsenic	0.0988	mg/L	0.0010	96	70	130	1.3	20	
Lead	0.0963	mg/L	0.0010	96	70	130	3.0	20	
Selenium	0.101	mg/L	0.0010	96	70	130	4.9	20	
Thallium	0.0960	mg/L	0.00050	96	70	130	1.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509469

**Work Order:** B15092153

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8							Analytical Run: ICPMS206-B_150929A			
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard						09/29/15 14:53			
Cadmium	0.0248	mg/L	0.0010	99	90	110				
Silver	0.0237	mg/L	0.0050	95	90	110				
Uranium	0.0193	mg/L	0.0010	97	90	110				
<b>Method:</b> E200.8							Batch: R250119			
<b>Lab ID:</b> LRB	Method Blank						Run: ICPMS206-B_150929A 09/29/15 11:45			
Cadmium	ND	mg/L	3E-05							
Silver	ND	mg/L	2E-05							
Uranium	ND	mg/L	5E-05							
<b>Lab ID:</b> LFB	Laboratory Fortified Blank						Run: ICPMS206-B_150929A 09/29/15 11:50			
Cadmium	0.0482	mg/L	0.0010	96	85	115				
Silver	0.0200	mg/L	0.0050	100	85	115				
Uranium	0.0511	mg/L	0.0010	102	85	115				
<b>Lab ID:</b> B15092155-001AMS	Sample Matrix Spike						Run: ICPMS206-B_150929A 09/29/15 20:50			
Cadmium	0.0492	mg/L	0.0010	98	70	130				
Silver	0.0180	mg/L	0.0010	89	70	130				
Uranium	0.0491	mg/L	0.00030	98	70	130				
<b>Lab ID:</b> B15092155-001AMSD	Sample Matrix Spike Duplicate						Run: ICPMS206-B_150929A 09/29/15 20:55			
Cadmium	0.0486	mg/L	0.0010	97	70	130	1.2	20		
Silver	0.0104	mg/L	0.0010	51	70	130	53	20	SR	
Uranium	0.0484	mg/L	0.00030	97	70	130	1.4	20		

**Qualifiers:**

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509469

**Work Order:** B15092153

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV203-B_150925A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Mercury	0.000204	mg/L	1.0E-05	102	90	110			09/25/15 14:30
<b>Method:</b> E245.1									Batch: 93485
<b>Lab ID:</b> MB-93485	Method Blank								
Mercury	3E-06	mg/L	1E-06						Run: HGCV203-B_150925A 09/25/15 16:25
<b>Lab ID:</b> LCS-93485	Laboratory Control Sample								
Mercury	0.000203	mg/L	1.0E-05	100	85	115			Run: HGCV203-B_150925A 09/25/15 16:27
<b>Lab ID:</b> B15092154-001AMS	Sample Matrix Spike								
Mercury	0.000545	mg/L	2.5E-05	80	70	130			Run: HGCV203-B_150925A 09/25/15 16:48
<b>Lab ID:</b> B15092154-001AMSD	Sample Matrix Spike Duplicate								
Mercury	0.000560	mg/L	2.5E-05	87	70	130	2.7	30	Run: HGCV203-B_150925A 09/25/15 16:54

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15092153

Login completed by: Randa Nees

Date Received: 9/24/2015

Reviewed by: BL2000\jmueller

Received by: Ig

Reviewed Date: 9/24/2015

Carrier name: UPS Ground

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 5.7°C On Ice
- Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None




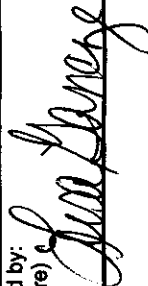
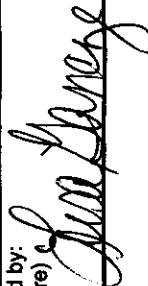


# CHAIN OF CUSTODY RECORD

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <i>Energy</i> 1 System: _____ Job ID: 1509469	Samplers Initials: _____ All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Water System #: _____
Sample Receipt Condition: _____ Temperature: _____		Notes: <i>see attached</i> SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____	

Set Date	Set Time	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/17/2015	3:00 PM	C773-15 B,C Pull #6 -	Waste Water	Various Metals (Subcontracted)		

*B15092153-00*

Relinquished by:		Date:	Time:	Received by:	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
 (Signature)		9-21-15	16:00	<i>UPS</i>						
 (Signature)					9-24-15	9:30				
 (Signature)										

*UPS Blvd  
5.7° on ice / no seal  
attached*

	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 –sub to Energy Lab	
	Antimony	0.0005 – 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 – 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 – 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 – 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 –sub to Energy Lab	
	Calcium	1.0 – 1.0 WETLAB	EPA 200.7
	Chromium	0.01 – 0.01 WETLAB	EPA 200.7
	Copper	0.002 – 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 – 0.2 WETLAB	EPA 300.0
	Iron	0.02 – 0.02 WETLAB	EPA 200.7
	Lead	0.0003 – 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 – 1.0 WETLAB	EPA 200.7
	Manganese	0.005 – 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 –sub to Energy Lab	
	Nickel	0.002 – 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 –sub to Energy Lab	EPA 200.7
	Selenium	0.001 –sub to Energy Lab	EPA 200.8
	Silicon	0.05 – 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 –sub to Energy Lab	
	Strontium	0.02 – 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 – 1.0 WETLAB	EPA 300.0
	Titanium	0.0002 –sub to Energy Lab	
	Uranium	0.0002 – 0.0002 <del>WETLAB</del>	EPA 200.8
	Zinc	0.008 – 0.008 WETLAB	EPA 200.7
Alkalinity, Total (as CaCO3)	1	2320B	
pH (standard units)	NA	4500H+B	
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe speciat  
 redox  
 EC



10/2/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509519

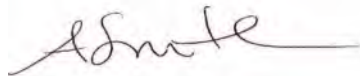
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/18/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

475 E. Greg Street, Suite 119  
Sparks, Nevada 89431  
tel (775) 355-0202  
fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

1084 Lamoille Hwy  
Elko, Nevada 89801  
tel (775) 777-9933  
fax (775) 777-9933  
EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509519

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### Specific Report Comments

The cation/anion balance for sample 1509519-001 was outside WETLAB acceptance criteria. Reanalysis on numerous other samples in this project have confirmed the original results for those samples therefore this sample has not been reanalyzed.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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#### **SPARKS**

475 E. Greg Street, Suite 119  
Sparks, Nevada 89431  
tel (775) 355-0202  
fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

#### **ELKO**

1084 Lamoille Hwy  
Elko, Nevada 89801  
tel (775) 777-9933  
fax (775) 777-9933  
EPA LAB ID: NV00926

#### **LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

Date Printed: 10/2/2015

OrderID: 1509519

Customer Sample ID: C773-15 B,C Pull #7

Collect Date/Time: 9/18/2015 15:00

WETLAB Sample ID: 1509519-001

Receive Date: 9/18/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/18/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/24/2015	NV00925
pH	SM 4500-H+ B	6.68	pH Units	1		9/23/2015	NV00925
Temperature at pH	NA	25.9	°C	1		9/23/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/28/2015	NV00925
Redox Potential	ASTM D1498	450	mV	1		9/18/2015	NV00925
Acidity (Titrimetric)	SM 2310B	9	mg/L as CaCO3	1		9/29/2015	NV00925
Total Alkalinity	SM 2320B	2.9	mg/L as CaCO3	1	1.0	9/23/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	2.9	mg/L as CaCO3	1	1.0	9/23/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/23/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/23/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/25/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	190	mg/L	1	10	9/21/2015	NV00925
Electrical Conductivity	SM 2510B	280	µmhos/cm	1	1	9/18/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/21/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/21/2015	NV00925
Sulfate	EPA 300.0	70	mg/L	1	1.0	9/21/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/23/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/25/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.078	mg/L	1	0.0030	9/24/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/24/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/24/2015	NV00925
Calcium, Dissolved	EPA 200.7	49	mg/L	1	0.50	9/24/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/24/2015	NV00925
Cobalt, Dissolved	EPA 200.7	0.011	mg/L	1	0.010	9/24/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/24/2015	NV00925
Magnesium, Dissolved	EPA 200.7	0.52	mg/L	1	0.50	9/24/2015	NV00925
Manganese, Dissolved	EPA 200.7	0.0084	mg/L	1	0.0050	9/24/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/24/2015	NV00925
Potassium, Dissolved	EPA 200.7	2.4	mg/L	1	0.50	9/24/2015	NV00925
Sodium, Dissolved	EPA 200.7	1.8	mg/L	1	0.50	9/24/2015	NV00925
Strontium, Dissolved	EPA 200.7	1.1	mg/L	1	0.020	9/24/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	9/28/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**SPARKS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C773-15 B,C Pull #7

Collect Date/Time: 9/18/2015 15:00

WETLAB Sample ID: 1509519-001

Receive Date: 9/18/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.0084	mg/L	1	0.0020	10/1/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.004	mg/L	1	0.0020	10/1/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.52	meq/L	1	0.10		NV00925
Cations	Calculation	2.63	meq/L	1	0.10		NV00925
Error	Calculation	27	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/25/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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# Western Environmental Testing Laboratory

## QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090755	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15090793	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090800	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090867	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090894	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090958	Blank 1	Barium	EPA 200.7	ND	mg/L
		Beryllium	EPA 200.7	ND	mg/L
		Boron	EPA 200.7	ND	mg/L
		Calcium	EPA 200.7	ND	mg/L
		Chromium	EPA 200.7	ND	mg/L
		Cobalt	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
		Manganese	EPA 200.7	ND	mg/L
		Molybdenum	EPA 200.7	ND	mg/L
		Potassium	EPA 200.7	ND	mg/L
		Sodium	EPA 200.7	ND	mg/L
		Strontium	EPA 200.7	ND	mg/L
		Zinc	EPA 200.7	0.018	mg/L
QC15090997	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15091087	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15091093	Blank 1	Copper	EPA 200.8	ND	mg/L
		Nickel	EPA 200.8	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090755	LCS 1	Ferrous Iron	SM 3500 Fe B	0.904	1.00	90	mg/L
QC15090758	LCS 1	Redox Potential	ASTM D1498	221	221	100	mV
QC15090793	LCS 1	Chloride	EPA 300.0	10.5	10.0	105	mg/L
		Fluoride	EPA 300.0	1.85	2.00	93	mg/L
		Sulfate	EPA 300.0	23.4	25.0	94	mg/L
QC15090800	LCS 1	Electrical Conductivity	SM 2510B	1448	1412	103	µmhos/cm
QC15090867	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	136	150	91	mg/L
QC15090867	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	142	150	95	mg/L
QC15090894	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.838	0.800	105	mg/L
QC15090915	LCS 1	pH	SM 4500-H+ B	6.95	7.00	99	pH Units
QC15090915	LCS 2	pH	SM 4500-H+ B	6.95	7.00	99	pH Units
QC15090917	LCS 1	Total Alkalinity	SM 2320B	99.9	100	100	mg/L
QC15090917	LCS 2	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090958	LCS 1	Barium	EPA 200.7	1.06	1.00	106	mg/L
		Beryllium	EPA 200.7	1.10	1.00	110	mg/L
		Boron	EPA 200.7	1.07	1.00	107	mg/L
		Calcium	EPA 200.7	10.6	10.0	106	mg/L
		Chromium	EPA 200.7	1.07	1.00	107	mg/L
		Cobalt	EPA 200.7	1.08	1.00	108	mg/L
		Iron	EPA 200.7	1.04	1.00	104	mg/L
		Magnesium	EPA 200.7	10.6	10.0	106	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Manganese	EPA 200.7	1.07	1.00	107	mg/L
		Molybdenum	EPA 200.7	1.08	1.00	108	mg/L
		Potassium	EPA 200.7	10.6	10.0	106	mg/L
		Sodium	EPA 200.7	10.5	10.0	105	mg/L
		Strontium	EPA 200.7	1.03	1.00	103	mg/L
		Zinc	EPA 200.7	1.10	1.00	110	mg/L
QC15090997	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.941	1.00	94	mg/L
QC15091087	LCS 1	WAD Cyanide	SM 4500CN I, E	0.111	0.100	111	mg/L
QC15091093	LCS 1	Copper	EPA 200.8	0.0105	0.010	105	mg/L
		Nickel	EPA 200.8	0.0105	0.010	105	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090755	Duplicate	Ferrous Iron	SM 3500 Fe B	1509494-001	ND	ND	mg/L	12 %
QC15090755	Duplicate	Ferrous Iron	SM 3500 Fe B	1509497-003	ND	ND	mg/L	8 %
QC15090755	Duplicate	Ferrous Iron	SM 3500 Fe B	1509519-001	ND	ND	mg/L	<1%
QC15090758	Duplicate	Redox Potential	ASTM D1498	1509494-001	498	503	mV	1 %
QC15090758	Duplicate	Redox Potential	ASTM D1498	1509497-003	492	490	mV	<1%
QC15090758	Duplicate	Redox Potential	ASTM D1498	1509519-001	455	456	mV	<1%
QC15090800	Duplicate	Electrical Conductivity	SM 2510B	1509494-001	52.9	52.9	µmhos/cm	<1%
QC15090800	Duplicate	Electrical Conductivity	SM 2510B	1509497-003	137	136	µmhos/cm	1 %
QC15090800	Duplicate	Electrical Conductivity	SM 2510B	1509519-001	275	275	µmhos/cm	<1%
QC15090867	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509519-001	190	186	mg/L	2 %
QC15090867	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509533-005	407	412	mg/L	1 %
QC15090915	Duplicate	pH	SM 4500-H+ B	1509482-001	8.11	8.18	HT pH Units	1 %
QC15090915	Duplicate	pH	SM 4500-H+ B	1509512-003	7.88	7.78	HT pH Units	1 %
QC15090915	Duplicate	pH	SM 4500-H+ B	1509533-001	7.66	7.63	HT pH Units	<1%
QC15090915	Duplicate	pH	SM 4500-H+ B	1509533-004	8.14	8.12	HT pH Units	<1%
QC15090917	Duplicate	Total Alkalinity	SM 2320B	1509482-001	91.6	91.8	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509482-001	91.6	91.8	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509482-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509482-001	ND	ND	mg/L as CaCO3	<1%
QC15090917	Duplicate	Total Alkalinity	SM 2320B	1509512-003	155	154	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509512-003	155	154	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509512-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509512-003	ND	ND	mg/L as CaCO3	<1%
QC15090917	Duplicate	Total Alkalinity	SM 2320B	1509533-001	184	184	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509533-001	184	184	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509533-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509533-001	ND	ND	mg/L as CaCO3	<1%
QC15090917	Duplicate	Total Alkalinity	SM 2320B	1509533-004	108	107	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509533-004	108	107	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509533-004	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509533-004	ND	ND	mg/L as CaCO3	<1%
QC15091137	Duplicate	Acidity (Titrimetric)	SM 2310B	1509469-001	22.4	13.7	QD mg/L as CaCO3	48 %

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090793	MS 1	Chloride	EPA 300.0	1509494-001	ND	5.56	5.60	5.00	mg/L	109	110	1%
		Fluoride	EPA 300.0	1509494-001	0.127	2.03	2.04	2.00	mg/L	95	96	<1%
		Sulfate	EPA 300.0	1509494-001	12.7	21.0	21.9	10.0	mg/L	84	93	4%
QC15090793	MS 2	Chloride	EPA 300.0	1509519-001	ND	6.08	6.11	5.00	mg/L	111	112	<1%
		Fluoride	EPA 300.0	1509519-001	ND	2.07	2.16	2.00	mg/L	102	106	4%
		Sulfate	EPA 300.0	1509519-001	70.1	79.9	80.3	10.0	mg/L	98	102	<1%
QC15090894	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509519-001	ND	4.98	4.90	1.00	mg/L	100	98	2%
QC15090894	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509533-008	243	SC 318	320	1.00	mg/L	NC	NC	NC
QC15090958	MS 1	Barium	EPA 200.7	1509526-001	0.026	1.08	1.08	1.00	mg/L	105	105	<1%
		Beryllium	EPA 200.7	1509526-001	ND	1.05	1.06	1.00	mg/L	105	106	1%
		Boron	EPA 200.7	1509526-001	0.539	1.71	1.73	1.00	mg/L	117	119	1%
		Calcium	EPA 200.7	1509526-001	540	SC 570	544	10.0	mg/L	NC	NC	NC
		Chromium	EPA 200.7	1509526-001	ND	1.11	1.11	1.00	mg/L	111	111	<1%
		Cobalt	EPA 200.7	1509526-001	ND	1.11	1.12	1.00	mg/L	111	112	1%
		Iron	EPA 200.7	1509526-001	ND	1.01	1.00	1.00	mg/L	101	100	1%
		Magnesium	EPA 200.7	1509526-001	254	SC 272	262	10.0	mg/L	NC	NC	NC
		Manganese	EPA 200.7	1509526-001	0.006	1.09	1.09	1.00	mg/L	108	108	<1%
		Molybdenum	EPA 200.7	1509526-001	ND	1.13	1.12	1.00	mg/L	113	112	1%
		Potassium	EPA 200.7	1509526-001	13.2	25.5	24.6	10.0	mg/L	123	114	4%
		Sodium	EPA 200.7	1509526-001	129	SC 147	139	10.0	mg/L	NC	NC	NC
		Strontium	EPA 200.7	1509526-001	1.85	2.96	2.79	1.00	mg/L	111	94	6%
		Zinc	EPA 200.7	1509526-001	ND	B 1.03	1.01	1.00	mg/L	102	100	2%
		QC15090997	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509519-001	ND	M 0.996	1.01	1.00	mg/L	NC
QC15091087	MS 1	WAD Cyanide	SM 4500CN I,	1509533-007	ND	0.107	0.104	0.100	mg/L	107	104	3%
QC15091087	MS 2	WAD Cyanide	SM 4500CN I,	1509658-003	ND	0.109	0.113	0.100	mg/L	109	112	4%
QC15091093	MS 1	Copper	EPA 200.8	1509526-001	0.0209	0.0327	0.0321	0.010	mg/L	117	112	2%
		Nickel	EPA 200.8	1509526-001	0.0232	0.0346	0.0346	0.010	mg/L	114	114	<1%

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# ANALYTICAL SUMMARY REPORT

October 01, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15092154                      Quote ID: B3679

Project Name: Job ID 1509519

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/24/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15092154-001	C773-15 B,C Pull #7	09/18/15 15:00	09/24/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509519  
**Lab ID:** B15092154-001  
**Client Sample ID:** C773-15 B,C Pull #7

**Report Date:** 10/01/15  
**Collection Date:** 09/18/15 15:00  
**Date Received:** 09/24/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.223	mg/L		0.009		E200.7	09/25/15 20:38 / r/h
Antimony	0.0029	mg/L		0.0005		E200.8	09/26/15 06:14 / mas
Arsenic	0.004	mg/L		0.001		E200.8	09/26/15 06:14 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/26/15 06:14 / mas
Lead	ND	mg/L		0.0003		E200.8	09/26/15 06:14 / mas
Mercury	0.000385	mg/L		5E-06		E245.1	09/25/15 16:40 / ser
Phosphorus	ND	mg/L	L	0.007		E200.7	09/25/15 20:38 / r/h
Selenium	ND	mg/L		0.001		E200.8	09/26/15 06:14 / mas
Silicon	0.47	mg/L		0.05		E200.7	09/25/15 20:38 / r/h
Silver	ND	mg/L		0.0002		E200.8	09/29/15 20:40 / amm
Thallium	0.0065	mg/L		0.0002		E200.8	09/26/15 06:14 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/29/15 20:40 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509519

**Work Order:** B15092154

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>							Analytical Run: ICP203-B_150925A		
<b>Lab ID: ICV</b>	Continuing Calibration Verification Standard						09/25/15 11:59		
Aluminum	2.48	mg/L	0.10	99	95	105			
Phosphorus	2.56	mg/L	0.10	102	95	105			
Silicon	4.93	mg/L	0.10	99	95	105			
<b>Method: E200.7</b>							Batch: R249963		
<b>Lab ID: MB-6500DIS150925A</b>	Method Blank						Run: ICP203-B_150925A 09/25/15 12:27		
Aluminum	ND	mg/L	0.01						
Phosphorus	ND	mg/L	0.007						
Silicon	0.03	mg/L	0.01						
<b>Lab ID: LFB-6500DIS150925A</b>	Laboratory Fortified Blank						Run: ICP203-B_150925A 09/25/15 12:31		
Aluminum	5.39	mg/L	0.10	108	85	115			
Phosphorus	10.5	mg/L	0.10	105	85	115			
Silicon	10.1	mg/L	0.10	100	85	115			
<b>Lab ID: B15092157-001AMS2</b>	Sample Matrix Spike						Run: ICP203-B_150925A 09/25/15 20:53		
Aluminum	5.54	mg/L	0.030	107	70	130			
Phosphorus	11.3	mg/L	0.10	113	70	130			
Silicon	10.8	mg/L	0.10	102	70	130			
<b>Lab ID: B15092157-001AMSD2</b>	Sample Matrix Spike Duplicate						Run: ICP203-B_150925A 09/25/15 20:56		
Aluminum	5.61	mg/L	0.030	108	70	130	1.3	20	
Phosphorus	11.7	mg/L	0.10	117	70	130	3.5	20	
Silicon	11.2	mg/L	0.10	107	70	130	4.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509519

**Work Order:** B15092154

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_150925B			
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard						09/26/15 02:05			
Antimony	0.0501	mg/L	0.050	100	90	110				
Arsenic	0.0484	mg/L	0.0050	97	90	110				
Cadmium	0.0256	mg/L	0.0010	102	90	110				
Lead	0.0493	mg/L	0.010	99	90	110				
Selenium	0.0510	mg/L	0.0050	102	90	110				
Thallium	0.0485	mg/L	0.10	97	90	110				
<b>Method: E200.8</b>							Batch: R24998B			
<b>Lab ID: LFB</b>	Laboratory Fortified Blank						Run: ICPMS203-B_150925B 09/25/15 13:36			
Antimony	0.0442	mg/L	0.050	88	85	115				
Arsenic	0.0450	mg/L	0.0050	90	85	115				
Cadmium	0.0456	mg/L	0.0010	91	85	115				
Lead	0.0464	mg/L	0.010	93	85	115				
Selenium	0.0426	mg/L	0.0050	85	85	115				
Thallium	0.0465	mg/L	0.10	93	85	115				
<b>Lab ID: LRB</b>	Method Blank						Run: ICPMS203-B_150925B 09/25/15 14:07			
Antimony	ND	mg/L	1E-05							
Arsenic	ND	mg/L	5E-05							
Cadmium	ND	mg/L	5E-06							
Lead	ND	mg/L	3E-05							
Selenium	ND	mg/L	7E-05							
Thallium	ND	mg/L	1E-05							
<b>Lab ID: B15092061-005BMS</b>	Sample Matrix Spike						Run: ICPMS203-B_150925B 09/26/15 05:38			
Antimony	0.0944	mg/L	0.0010	94	70	130				
Arsenic	0.0976	mg/L	0.0010	94	70	130				
Cadmium	0.0868	mg/L	0.0010	87	70	130				
Lead	0.0934	mg/L	0.0010	93	70	130				
Selenium	0.0963	mg/L	0.0010	91	70	130				
Thallium	0.0948	mg/L	0.00050	95	70	130				
<b>Lab ID: B15092061-005BMSD</b>	Sample Matrix Spike Duplicate						Run: ICPMS203-B_150925B 09/26/15 05:42			
Antimony	0.0943	mg/L	0.0010	94	70	130	0.1	20		
Arsenic	0.0988	mg/L	0.0010	96	70	130	1.3	20		
Cadmium	0.0885	mg/L	0.0010	88	70	130	2.0	20		
Lead	0.0963	mg/L	0.0010	96	70	130	3.0	20		
Selenium	0.101	mg/L	0.0010	96	70	130	4.9	20		
Thallium	0.0960	mg/L	0.00050	96	70	130	1.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509519

**Work Order:** B15092154

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8									Analytical Run: ICPMS206-B_150929A
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard								09/29/15 14:53
Silver	0.0237	mg/L	0.0050	95	90	110			
Uranium	0.0193	mg/L	0.0010	97	90	110			
<b>Method:</b> E200.8									Batch: R250119
<b>Lab ID:</b> LRB	Method Blank								Run: ICPMS206-B_150929A 09/29/15 11:45
Silver	ND	mg/L	2E-05						
Uranium	ND	mg/L	5E-05						
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: ICPMS206-B_150929A 09/29/15 11:50
Silver	0.0200	mg/L	0.0050	100	85	115			
Uranium	0.0511	mg/L	0.0010	102	85	115			
<b>Lab ID:</b> B15092155-001AMS	Sample Matrix Spike								Run: ICPMS206-B_150929A 09/29/15 20:50
Silver	0.0180	mg/L	0.0010	89	70	130			
Uranium	0.0491	mg/L	0.00030	98	70	130			
<b>Lab ID:</b> B15092155-001AMSD	Sample Matrix Spike Duplicate								Run: ICPMS206-B_150929A 09/29/15 20:55
Silver	0.0104	mg/L	0.0010	51	70	130	53	20	SR
Uranium	0.0484	mg/L	0.00030	97	70	130	1.4	20	

**Qualifiers:**

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509519

**Work Order:** B15092154

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV203-B_150925A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Mercury	0.000204	mg/L	1.0E-05	102	90	110			09/25/15 14:30
<b>Method:</b> E245.1									Batch: 93485
<b>Lab ID:</b> MB-93485	Method Blank								
Mercury	3E-06	mg/L	1E-06						Run: HGCV203-B_150925A 09/25/15 16:25
<b>Lab ID:</b> LCS-93485	Laboratory Control Sample								
Mercury	0.000203	mg/L	1.0E-05	100	85	115			Run: HGCV203-B_150925A 09/25/15 16:27
<b>Lab ID:</b> B15092154-001AMS	Sample Matrix Spike								
Mercury	0.000545	mg/L	2.5E-05	80	70	130			Run: HGCV203-B_150925A 09/25/15 16:48
<b>Lab ID:</b> B15092154-001AMSD	Sample Matrix Spike Duplicate								
Mercury	0.000560	mg/L	2.5E-05	87	70	130	2.7	30	Run: HGCV203-B_150925A 09/25/15 16:54

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15092154

Login completed by: Randa Nees

Date Received: 9/24/2015

Reviewed by: BL2000\jmueller

Received by: Ig

Reviewed Date: 9/24/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	5.7°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# CHAIN OF CUSTODY RECORD

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson kurtc@WETLaboratory.com		All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
Total # of sample containers: <i>Engr 4</i> System: _____		Samplers Initials: _____ Water System #: _____	
Job ID: 1509519		Notes: _____	
SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____			

Set Date	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/18/2015	C773-15 B.C Pull #7 -	Waste Water	Various Metals (Subcontracted)		
3:00 PM					

*B13090154-001*

		Sample Type							
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
<i>[Signature]</i>	9/21/15	6:00	<i>JPS</i>						
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank

*WPS Grab*  
*5.70 ounce / no seal*

*[Signature]*

*9/21/15 9:30*

	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 –sub to Energy Lab	
	Antimony	0.0005 – 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 – 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 – 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 – 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 –sub to Energy Lab	
	Calcium	1.0 – 1.0 WETLAB	EPA 200.7
	Chromium	0.01 – 0.01 WETLAB	EPA 200.7
	Copper	0.002 – 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 – 0.2 WETLAB	EPA 300.0
	Iron	0.02 – 0.02 WETLAB	EPA 200.7
	Lead	0.0003 – 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 – 1.0 WETLAB	EPA 200.7
	Manganese	0.005 – 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 –sub to Energy Lab	
	Nickel	0.002 – 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 –sub to Energy Lab	EPA 200.7
	Selenium	0.001 –sub to Energy Lab	EPA 200.8
	Silicon	0.05 – 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 –sub to Energy Lab	
	Strontium	0.02 – 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 – 1.0 WETLAB	EPA 300.0
	Tantalum	0.0002 –sub to Energy Lab	
	Uranium	0.0002 – 0.0002 <del>WETLAB</del>	EPA 200.8
Zinc	0.008 – 0.008 WETLAB	EPA 200.7	
	Alkalinity, Total (as CaCO <sub>3</sub> )	1	2320B
	pH (standard units)	NA	4500H+B
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO <sub>3</sub> )	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	-
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe speciation  
 redox  
 EC



# WETLAB

WESTERN ENVIRONMENTAL TESTING LABORATORY Specializing in Soil, Hazardous Waste and Water Analysis.

475 E. Greg Street #119 | Sparks, Nevada 89431 | www.WETLaboratory.com  
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1084 Lamoille Highway | Elko, Nevada 89801  
tel (775) 777-9933 | fax (775) 777-9933  
3230 Polaris Ave., Suite 4 | Las Vegas, Nevada 89102  
tel (702) 475-8899 | fax (702) 776-6152

WETLAB Order ID. 1509519

Sparks Control # \_\_\_\_\_

Elko Control # \_\_\_\_\_

LV Control # \_\_\_\_\_

Report Due Date 10-2-15

Page 1 of 1

Client Tintina Resources  
 Address 17 East Main St  
 City, State & Zip White Sulphur Springs, MT 59645  
 Contact Bob Jacko, Katie Seipel, Lisa Kirk  
 Phone (406) 547-3466 Collector's Name WETLAB  
 Fax \_\_\_\_\_ PWS/Project Name \_\_\_\_\_  
 P.O. Number \_\_\_\_\_ PWS/Project Number \_\_\_\_\_

Turnaround Time Requirements  
 Standard    
 5 Day\* (25%)  72 Hour\* (50%)   
 48 Hour\* (100%)  24 Hour\* (200%)   
 \*Surcharges Will Apply

Samples Collected From Which State?  
 NV  CA   
 Other

Report Results Via  
 PDF  EDD

Compliance Monitoring?  
 Yes  No

Report to Regulatory Agency? Standard QC Required?  
 Yes  No  Yes  No

Email bjacko@tintinaresources.com; seipel.k@gmail.com; lkirk@montana.com  
 Billing Address (if different than Client Address)  
 Company Same  
 Address \_\_\_\_\_  
 City, State & Zip \_\_\_\_\_  
 Contact \_\_\_\_\_  
 Phone \_\_\_\_\_ Fax \_\_\_\_\_  
 Email bjacko@tintinaresources.com; seipel.k@gmail.com; lkirk@montana.com

S A M P L E T Y P E **	NO. OF C O N T A I N E R S	NO. CN(W)	Analyses Requested										Spl. No.			
			Profile II w	Acidity, Ferric, Ferrous, Redox, EC	SC_Metals											
WW	5	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											1

SAMPLE ID/LOCATION	DATE	TIME	PRES TYPE	SAMPLE TYP	NO. OF CONTAINERS	NO. CN(W)	Profile II w	Acidity, Ferric, Ferrous, Redox, EC	SC_Metals								Spl. No.
C773-15 B,C Pull # <u>7</u>	<u>9-18-15</u>	<u>15:00</u>		WW	5	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								1

Instructions/Comments/Special Requirements: SC\_Metals to Energy Lab  
 Original ID 1508385

Sample Matrix Key\*\* DW = Drinking Water WW = Wastewater SW = Surface Water MW = Monitoring Well SD = Solid/Sludge SO = Soil HW = Hazardous Waste OTHER: \_\_\_\_\_

\*SAMPLE PRESERVATIVES: 1=Unpreserved 2=H2SO4 3=NaOH 4=HCl 5=HNO3 6=Na2S2O3 7=ZnOAc+NaOH 8=HCl/VOA Vial

Temp	Custody Seal	# of Containers	DATE	TIME	Samples Relinquished By	Samples Received By
<u>22°C</u>	Y N None	<u>5</u>	<u>9-18-15</u>	<u>15:00</u>	In House	<u>[Signature]</u>
°C	Y N None					
°C	Y N None					
°C	Y N None					

WETLAB'S Standard Terms and Conditions apply unless written agreements specify otherwise. Payment terms are Net 30.

Client/Collector attests to the validity and authenticity of this (these) sample(s) and, is (are) aware that tampering with or intentionally mislabeling the sample(s) location, date or time of collection may be considered fraud and subject to legal action (NAC445.0636). \_\_\_\_\_ initial  
 To the maximum extent permitted by law, the Client agrees to limit the liability of WETLAB for the Client's damages to the total compensation received, unless other agreements are made in writing. This limitation shall apply regardless of the cause of action or legal theory pled or asserted. \_\_\_\_\_ initial  
 WETLAB will dispose of samples 90 days from sample receipt. Client may request a longer sample storage time for an additional fee. 301.2E  
 Please contact your Project Manager for details. \_\_\_\_\_ initial

10/2/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509546

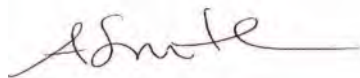
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/19/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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EPA LAB ID: NV00925 - ELAP No: 2523

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**LAS VEGAS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1509546

---

### Specific Report Comments

The cation/anion balance for sample 1509546-001 was outside WETLAB acceptance criteria. Reanalysis on numerous other samples in this project have confirmed the original results for those samples therefore this sample has not been reanalyzed.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

Date Printed: 10/2/2015

OrderID: 1509546

Customer Sample ID: C773-15 B,C Pull #8

Collect Date/Time: 9/19/2015 15:00

WETLAB Sample ID: 1509546-001

Receive Date: 9/19/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/21/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/29/2015	NV00925
pH	SM 4500-H+ B	6.11	HT pH Units	1		9/24/2015	NV00925
Temperature at pH	NA	26.1	°C	1		9/24/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/29/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		9/21/2015	NV00925
Acidity (Titrimetric)	SM 2310B	13	mg/L as CaCO3	1		9/29/2015	NV00925
Total Alkalinity	SM 2320B	1.5	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	1.5	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/29/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	170	mg/L	1	10	9/22/2015	NV00925
Electrical Conductivity	SM 2510B	300	µmhos/cm	1	1	9/21/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/22/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/22/2015	NV00925
Sulfate	EPA 300.0	71	mg/L	1	1.0	9/22/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/23/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	0.28	M mg/L	1	0.20	9/29/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.077	mg/L	1	0.0030	9/29/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/29/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/29/2015	NV00925
Calcium, Dissolved	EPA 200.7	44	mg/L	1	0.50	9/29/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/29/2015	NV00925
Cobalt, Dissolved	EPA 200.7	0.012	mg/L	1	0.010	9/29/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/29/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/29/2015	NV00925
Manganese, Dissolved	EPA 200.7	0.0083	mg/L	1	0.0050	9/29/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/29/2015	NV00925
Potassium, Dissolved	EPA 200.7	2.0	mg/L	1	0.50	9/29/2015	NV00925
Sodium, Dissolved	EPA 200.7	1.4	mg/L	1	0.50	9/30/2015	NV00925
Strontium, Dissolved	EPA 200.7	1.1	mg/L	1	0.020	9/29/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	9/29/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

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Las Vegas, Nevada 89102  
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fax (702) 622-2868  
EPA LAB ID: NV00932



Customer Sample ID: C773-15 B,C Pull #8

Collect Date/Time: 9/19/2015 15:00

WETLAB Sample ID: 1509546-001

Receive Date: 9/19/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.0099	mg/L	1	0.0020	9/30/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.004	mg/L	1	0.0020	10/1/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.51	meq/L	1	0.10		NV00925
Cations	Calculation	2.31	meq/L	1	0.10		NV00925
Error	Calculation	21	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/28/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

**SPARKS**

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090756	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15090801	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090846	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090895	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090944	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15091142	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15091148	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15091157	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15091159	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090756	LCS 1	Ferrous Iron	SM 3500 Fe B	0.966	1.00	97	mg/L
QC15090759	LCS 1	Redox Potential	ASTM D1498	222	221	100	mV
QC15090801	LCS 1	Electrical Conductivity	SM 2510B	1394	1412	99	µmhos/cm
QC15090846	LCS 1	Chloride	EPA 300.0	10.6	10.0	106	mg/L
		Fluoride	EPA 300.0	1.87	2.00	93	mg/L
		Sulfate	EPA 300.0	23.3	25.0	93	mg/L
QC15090895	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.829	0.800	104	mg/L
QC15090944	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	138	150	92	mg/L
QC15090944	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	138	150	92	mg/L
QC15090993	LCS 1	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090993	LCS 2	Total Alkalinity	SM 2320B	100.0	100	100	mg/L
QC15090993	LCS 3	Total Alkalinity	SM 2320B	101	100	101	mg/L
QC15090993	LCS 4	Total Alkalinity	SM 2320B	101	100	101	mg/L
QC15090994	LCS 1	pH	SM 4500-H+ B	6.95	7.00	99	pH Units
QC15090994	LCS 2	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC15090994	LCS 3	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC15090994	LCS 4	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC15091142	LCS 1	Barium, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Beryllium, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Boron, Dissolved	EPA 200.7	0.999	1.00	100	mg/L
		Calcium, Dissolved	EPA 200.7	10.1	10.0	101	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Chromium, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Cobalt, Dissolved	EPA 200.7	1.04	1.00	104	mg/L
		Iron, Dissolved	EPA 200.7	1.05	1.00	105	mg/L
		Magnesium, Dissolved	EPA 200.7	10.8	10.0	108	mg/L
		Manganese, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Molybdenum, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Potassium, Dissolved	EPA 200.7	10.4	10.0	104	mg/L
		Sodium, Dissolved	EPA 200.7	10.1	10.0	101	mg/L
		Strontium, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
		Zinc, Dissolved	EPA 200.7	1.09	1.00	109	mg/L
QC15091148	LCS 1	WAD Cyanide	SM 4500CN I, E	0.111	0.100	111	mg/L
QC15091157	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.972	1.00	97	mg/L
QC15091159	LCS 1	Copper	EPA 200.8	0.0102	0.010	102	mg/L
		Nickel	EPA 200.8	0.0102	0.010	102	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090756	Duplicate	Ferrous Iron	SM 3500 Fe B	1509546-001	ND	ND	mg/L	<1%
QC15090759	Duplicate	Redox Potential	ASTM D1498	1509546-001	490	494	mV	1 %
QC15090801	Duplicate	Electrical Conductivity	SM 2510B	1509546-001	295	295	µmhos/cm	<1%
QC15090944	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509469-001	231	249	mg/L	8 %
QC15090944	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509541-003	582	589	mg/L	1 %
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509469-001	2.10	1.96	mg/L as CaCO3	7 %
		Bicarbonate (HCO3)	SM 2320B	1509469-001	2.10	1.96	mg/L as CaCO3	7 %
		Carbonate (CO3)	SM 2320B	1509469-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509469-001	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509512-005	90.8	90.6	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509512-005	90.8	90.6	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509512-005	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509512-005	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509536-004	107	108	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509536-004	107	108	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509536-004	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509536-004	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509542-004	11.5	10.6	mg/L as CaCO3	9 %
		Bicarbonate (HCO3)	SM 2320B	1509542-004	11.5	10.6	mg/L as CaCO3	9 %
		Carbonate (CO3)	SM 2320B	1509542-004	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509542-004	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509633-001	182	181	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509633-001	182	181	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509633-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509633-001	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509567-003	46.2	45.7	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509567-003	46.2	45.7	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509567-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509567-003	ND	ND	mg/L as CaCO3	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509586-006	ND	ND	QD mg/L as CaCO3	40 %
		Bicarbonate (HCO3)	SM 2320B	1509586-006	ND	ND	QD mg/L as CaCO3	40 %
		Carbonate (CO3)	SM 2320B	1509586-006	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509586-006	ND	ND	mg/L as CaCO3	<1%
QC15090994	Duplicate	pH	SM 4500-H+ B	1509469-001	6.17	6.30	HT,Q pH Units	2 %
QC15090994	Duplicate	pH	SM 4500-H+ B	1509512-005	7.58	7.51	HT pH Units	1 %
QC15090994	Duplicate	pH	SM 4500-H+ B	1509536-004	7.57	7.57	HT pH Units	<1%
QC15090994	Duplicate	pH	SM 4500-H+ B	1509542-004	6.59	6.50	HT pH Units	1 %
QC15090994	Duplicate	pH	SM 4500-H+ B	1509633-001	7.91	7.88	HT pH Units	<1%
QC15090994	Duplicate	pH	SM 4500-H+ B	1509567-003	7.24	7.16	HT pH Units	1 %
QC15090994	Duplicate	pH	SM 4500-H+ B	1509586-006	5.97	6.01	HT pH Units	1 %
QC15091137	Duplicate	Acidity (Titrimetric)	SM 2310B	1509469-001	22.4	13.7	QD mg/L as CaCO3	48 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090846	MS 1	Chloride	EPA 300.0	1509543-002	949	SC 986	984	5.00	mg/L	NC	NC	NC
		Fluoride	EPA 300.0	1509543-002	4.63	23.8	23.8	2.00	mg/L	96	96	<1%
		Sulfate	EPA 300.0	1509543-002	341	440	436	10.0	mg/L	98	95	1%
QC15090846	MS 2	Chloride	EPA 300.0	1509566-004	45.0	49.6	49.7	5.00	mg/L	94	94	<1%
		Fluoride	EPA 300.0	1509566-004	0.309	2.25	2.24	2.00	mg/L	97	97	<1%
		Sulfate	EPA 300.0	1509566-004	41.8	51.6	51.6	10.0	mg/L	98	98	<1%
QC15090895	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509541-004	1.35	6.39	6.46	1.00	mg/L	101	102	1%
QC15090895	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509543-001	1.03	6.26	6.28	1.00	mg/L	105	105	<1%
QC15090895	MS 3	Nitrate + Nitrite Nitrogen	EPA 353.2	1509280-001	0.614	5.86	5.91	1.00	mg/L	105	106	1%
QC15091142	MS 1	Barium, Dissolved	EPA 200.7	1509542-002	0.016	0.979	0.985	1.00	mg/L	96	97	1%
		Beryllium, Dissolved	EPA 200.7	1509542-002	ND	0.993	0.994	1.00	mg/L	99	99	<1%
		Boron, Dissolved	EPA 200.7	1509542-002	ND	1.11	1.11	1.00	mg/L	103	103	<1%
		Calcium, Dissolved	EPA 200.7	1509542-002	81.3	SC 83.3	87.6	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1509542-002	ND	0.981	0.986	1.00	mg/L	98	99	1%
		Cobalt, Dissolved	EPA 200.7	1509542-002	ND	0.943	0.949	1.00	mg/L	94	94	1%
		Iron, Dissolved	EPA 200.7	1509542-002	0.236	1.20	1.26	1.00	mg/L	96	102	5%
		Magnesium, Dissolved	EPA 200.7	1509542-002	31.4	38.5	40.3	10.0	mg/L	71	89	5%
		Manganese, Dissolved	EPA 200.7	1509542-002	1.27	2.22	2.22	1.00	mg/L	95	95	<1%
		Molybdenum, Dissolved	EPA 200.7	1509542-002	ND	1.01	1.03	1.00	mg/L	101	103	2%
		Potassium, Dissolved	EPA 200.7	1509542-002	3.80	13.8	14.7	10.0	mg/L	100	109	6%
		Sodium, Dissolved	EPA 200.7	1509542-002	25.0	33.0	35.2	10.0	mg/L	80	102	6%
		Strontium, Dissolved	EPA 200.7	1509542-002	ND	1.05	1.13	1.00	mg/L	95	103	7%
		Zinc, Dissolved	EPA 200.7	1509542-002	ND	0.988	1.00	1.00	mg/L	98	99	1%
QC15091148	MS 1	WAD Cyanide	SM 4500CN I,	1509542-006	ND	0.111	0.110	0.100	mg/L	111	110	1%
QC15091148	MS 2	WAD Cyanide	SM 4500CN I,	1509566-002	ND	0.106	0.108	0.100	mg/L	106	108	2%
QC15091157	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509542-002	ND	1.02	0.936	1.00	mg/L	90	82	9%
QC15091157	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509546-001	0.277	M 1.16	1.03	1.00	mg/L	NC	NC	NC
QC15091159	MS 1	Copper, Dissolved	EPA 200.8	1509542-002	ND	0.0105	0.0106	0.010	mg/L	102	103	1%
		Nickel, Dissolved	EPA 200.8	1509542-002	0.0254	0.0354	0.0362	0.010	mg/L	100	107	2%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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# ANALYTICAL SUMMARY REPORT

October 01, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15092157                      Quote ID: B3679

Project Name: Job ID 1509546

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/24/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15092157-001	C773-15 B,C Pull #8	09/19/15 15:00	09/24/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509546  
**Lab ID:** B15092157-001  
**Client Sample ID:** C773-15 B,C Pull #8

**Report Date:** 10/01/15  
**Collection Date:** 09/19/15 15:00  
**Date Received:** 09/24/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.210	mg/L		0.009		E200.7	09/25/15 20:45 / r/h
Antimony	0.0032	mg/L		0.0005		E200.8	09/26/15 06:22 / mas
Arsenic	0.004	mg/L		0.001		E200.8	09/26/15 06:22 / mas
Cadmium	0.00004	mg/L		0.00003		E200.8	09/29/15 21:04 / amm
Lead	ND	mg/L		0.0003		E200.8	09/26/15 06:22 / mas
Mercury	0.000445	mg/L		5E-06		E245.1	09/25/15 17:02 / ser
Phosphorus	0.013	mg/L	L	0.007		E200.7	09/25/15 20:45 / r/h
Selenium	ND	mg/L		0.001		E200.8	09/26/15 06:22 / mas
Silicon	0.55	mg/L		0.05		E200.7	09/25/15 20:45 / r/h
Silver	0.0020	mg/L		0.0002		E200.8	09/29/15 21:04 / amm
Thallium	0.0068	mg/L		0.0002		E200.8	09/26/15 06:22 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/29/15 21:04 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509546

**Work Order:** B15092157

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>							Analytical Run: ICP203-B_150925A		
<b>Lab ID: ICV</b>	Continuing Calibration Verification Standard						09/25/15 11:59		
Aluminum	2.48	mg/L	0.10	99	95	105			
Phosphorus	2.56	mg/L	0.10	102	95	105			
Silicon	4.93	mg/L	0.10	99	95	105			
<b>Method: E200.7</b>							Batch: R249963		
<b>Lab ID: MB-6500DIS150925A</b>	Method Blank						Run: ICP203-B_150925A 09/25/15 12:27		
Aluminum	ND	mg/L	0.01						
Phosphorus	ND	mg/L	0.007						
Silicon	0.03	mg/L	0.01						
<b>Lab ID: LFB-6500DIS150925A</b>	Laboratory Fortified Blank						Run: ICP203-B_150925A 09/25/15 12:31		
Aluminum	5.39	mg/L	0.10	108	85	115			
Phosphorus	10.5	mg/L	0.10	105	85	115			
Silicon	10.1	mg/L	0.10	100	85	115			
<b>Lab ID: B15092157-001AMS2</b>	Sample Matrix Spike						Run: ICP203-B_150925A 09/25/15 20:53		
Aluminum	5.54	mg/L	0.030	107	70	130			
Phosphorus	11.3	mg/L	0.10	113	70	130			
Silicon	10.8	mg/L	0.10	102	70	130			
<b>Lab ID: B15092157-001AMSD2</b>	Sample Matrix Spike Duplicate						Run: ICP203-B_150925A 09/25/15 20:56		
Aluminum	5.61	mg/L	0.030	108	70	130	1.3	20	
Phosphorus	11.7	mg/L	0.10	117	70	130	3.5	20	
Silicon	11.2	mg/L	0.10	107	70	130	4.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509546

**Work Order:** B15092157

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8									Analytical Run: ICPMS203-B_150925B
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard								09/26/15 02:05
Antimony	0.0501	mg/L	0.050	100	90	110			
Arsenic	0.0484	mg/L	0.0050	97	90	110			
Lead	0.0493	mg/L	0.010	99	90	110			
Selenium	0.0510	mg/L	0.0050	102	90	110			
Thallium	0.0485	mg/L	0.10	97	90	110			
<b>Method:</b> E200.8									Batch: R249988
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: ICPMS203-B_150925B 09/25/15 13:36
Antimony	0.0442	mg/L	0.050	88	85	115			
Arsenic	0.0450	mg/L	0.0050	90	85	115			
Lead	0.0464	mg/L	0.010	93	85	115			
Selenium	0.0426	mg/L	0.0050	85	85	115			
Thallium	0.0465	mg/L	0.10	93	85	115			
<b>Lab ID:</b> LRB	Method Blank								Run: ICPMS203-B_150925B 09/25/15 14:07
Antimony	ND	mg/L	1E-05						
Arsenic	ND	mg/L	5E-05						
Lead	ND	mg/L	3E-05						
Selenium	ND	mg/L	7E-05						
Thallium	ND	mg/L	1E-05						
<b>Lab ID:</b> B15092061-005BMS	Sample Matrix Spike								Run: ICPMS203-B_150925B 09/26/15 05:38
Antimony	0.0944	mg/L	0.0010	94	70	130			
Arsenic	0.0976	mg/L	0.0010	94	70	130			
Lead	0.0934	mg/L	0.0010	93	70	130			
Selenium	0.0963	mg/L	0.0010	91	70	130			
Thallium	0.0948	mg/L	0.00050	95	70	130			
<b>Lab ID:</b> B15092061-005BMSD	Sample Matrix Spike Duplicate								Run: ICPMS203-B_150925B 09/26/15 05:42
Antimony	0.0943	mg/L	0.0010	94	70	130	0.1	20	
Arsenic	0.0988	mg/L	0.0010	96	70	130	1.3	20	
Lead	0.0963	mg/L	0.0010	96	70	130	3.0	20	
Selenium	0.101	mg/L	0.0010	96	70	130	4.9	20	
Thallium	0.0960	mg/L	0.00050	96	70	130	1.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509546

**Report Date:** 10/01/15  
**Work Order:** B15092157

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8							Analytical Run: ICPMS206-B_150929A			
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard						09/29/15 14:53			
Cadmium	0.0248	mg/L	0.0010	99	90	110				
Silver	0.0237	mg/L	0.0050	95	90	110				
Uranium	0.0193	mg/L	0.0010	97	90	110				
<b>Method:</b> E200.8							Batch: R250119			
<b>Lab ID:</b> LRB	Method Blank						Run: ICPMS206-B_150929A 09/29/15 11:45			
Cadmium	ND	mg/L	3E-05							
Silver	ND	mg/L	2E-05							
Uranium	ND	mg/L	5E-05							
<b>Lab ID:</b> LFB	Laboratory Fortified Blank						Run: ICPMS206-B_150929A 09/29/15 11:50			
Cadmium	0.0482	mg/L	0.0010	96	85	115				
Silver	0.0200	mg/L	0.0050	100	85	115				
Uranium	0.0511	mg/L	0.0010	102	85	115				
<b>Lab ID:</b> B15092155-001AMS	Sample Matrix Spike						Run: ICPMS206-B_150929A 09/29/15 20:50			
Cadmium	0.0492	mg/L	0.0010	98	70	130				
Silver	0.0180	mg/L	0.0010	89	70	130				
Uranium	0.0491	mg/L	0.00030	98	70	130				
<b>Lab ID:</b> B15092155-001AMSD	Sample Matrix Spike Duplicate						Run: ICPMS206-B_150929A 09/29/15 20:55			
Cadmium	0.0486	mg/L	0.0010	97	70	130	1.2	20		
Silver	0.0104	mg/L	0.0010	51	70	130	53	20	SR	
Uranium	0.0484	mg/L	0.00030	97	70	130	1.4	20		

**Qualifiers:**

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509546

**Work Order:** B15092157

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV203-B_150925A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Mercury	0.000204	mg/L	1.0E-05	102	90	110	09/25/15 14:30		
<b>Method:</b> E245.1									Batch: 93485
<b>Lab ID:</b> MB-93485	Method Blank								
Mercury	3E-06	mg/L	1E-06	Run: HGCV203-B_150925A		09/25/15 16:25			
<b>Lab ID:</b> LCS-93485	Laboratory Control Sample								
Mercury	0.000203	mg/L	1.0E-05	100	85	115	09/25/15 16:27		
<b>Lab ID:</b> B15092154-001AMS	Sample Matrix Spike								
Mercury	0.000545	mg/L	2.5E-05	80	70	130	09/25/15 16:48		
<b>Lab ID:</b> B15092154-001AMSD	Sample Matrix Spike Duplicate								
Mercury	0.000560	mg/L	2.5E-05	87	70	130	2.7	30	09/25/15 16:54

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15092157

Login completed by: Randa Nees

Date Received: 9/24/2015

Reviewed by: BL2000\jmueller

Received by: Ig

Reviewed Date: 9/24/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	5.7°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# CHAIN OF CUSTODY RECORD

*Energy*

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson kurtc@WETLaboratory.com Ph: (775) 355-0202 Fax: (775) 355-0817		Total # of sample containers: <i>1</i> System: _____ Job ID: 1509546	All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N _____ Compliance: Y <input checked="" type="checkbox"/> N _____ CA Write ON: Y <input checked="" type="checkbox"/> N _____ QC: Y <input checked="" type="checkbox"/> N _____ Water System #: _____
Samplers Initials: _____ Notes: <i>See attached</i>		SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____	
Set Date: 9/19/2015 Set Time: 3:00 PM	Sample ID - Site ID: C773-15 B,C Pull #8 -	Matrix: Waste Water Parameter: Various Metals (Subcontracted)	Container Type: _____ Preservatives: _____
Temperature: _____ Date: _____ Time: _____			
SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____			

		Sample Type			
		Composite	Grab	Composite	Equipment Blank
Relinquished by: (Signature) <i>[Signature]</i> Date: 09/15/16 10:00 Time: _____	Received by: (Signature) _____ Date: _____ Time: _____	Composite Date: _____ Time: _____	Grab Date: _____ Time: _____	Composite Date: _____ Time: _____	Equipment Blank Date: _____ Time: _____
Relinquished by: (Signature) _____ Date: _____ Time: _____	Received by: (Signature) _____ Date: _____ Time: _____	Composite Date: _____ Time: _____	Grab Date: _____ Time: _____	Composite Date: _____ Time: _____	Equipment Blank Date: _____ Time: _____
Relinquished by: (Signature) _____ Date: _____ Time: _____	Received by: (Signature) <i>[Signature]</i> Date: 09/15/16 9:30 Time: _____	Composite Date: _____ Time: _____	Grab Date: _____ Time: _____	Composite Date: _____ Time: _____	Equipment Blank Date: _____ Time: _____

*UPS 61RD*  
*5.7° on ice / no seal*

Parameter	Required Reporting Value (mg/L)	Method
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	0.001 - 0.001 WETLAB	EPA 200.8
[REDACTED]	0.001 - 0.001 WETLAB	EPA 200.8
[REDACTED]	0.003 - 0.001 WETLAB	EPA 200.8
[REDACTED]	0.0008 - 0.0008 WETLAB	EPA 200.8
[REDACTED]	0.0008 - sub to Energy Lab	
Calcium	1.0 - 1.0 WETLAB	EPA 200.7
Cadmium	0.01 - 0.01 WETLAB	EPA 200.7
[REDACTED]	0.002 - 0.002 WETLAB	EPA 200.8
Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
[REDACTED]	0.02 - 0.02 WETLAB	EPA 200.7
[REDACTED]	0.0003 - 0.0002 WETLAB	EPA 200.8
Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
Manganese	0.005 - 0.005 WETLAB	EPA 200.7
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	0.002 - 0.004 WETLAB	EPA 200.8
[REDACTED]	0.001 - sub to Energy Lab	EPA 200.7
[REDACTED]	0.05 - sub to Energy Lab	EPA 200.8
[REDACTED]	0.05 - 0.05 WETLAB	EPA 200.7
[REDACTED]	0.0002 - sub to Energy Lab	
[REDACTED]	0.02 - 0.02 WETLAB	EPA 200.7
Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
[REDACTED]	0.0002 - sub to Energy Lab	
[REDACTED]	0.0002 - 0.0002 WETLAB	EPA 200.8
[REDACTED]	0.008 - 0.008 WETLAB	EPA 200.7
Alkalinity, Total (as CaCO3)	1	2320B
pH (standard units)	NA	4500H+B
Alkalinity, Bicarbonate (as CaCO3)	1	2320B
Bismuth	0.1	EPA 200.7
[REDACTED]	0.1	EPA 200.7
Chloride	1	EPA 300.0
[REDACTED]	0.01	EPA 200.7
Gallium	0.1	EPA 200.7
Lithium	0.1	EPA 200.7
[REDACTED]	0.01	EPA 200.7
Nitrate-Nitrite, Total (as N)	0.1	EPA 353.2
Nitrogen, Total (as N)	0.3	
[REDACTED]	0.5	EPA 200.7
Scandium	0.1	EPA 200.7
[REDACTED]	0.5	EPA 200.7
Tin	0.1	EPA 200.7
Titanium	0.1	EPA 200.7
Total Dissolved Solids	10	2540C
Vanadium	0.01	EPA 200.7
WAD Cyanide	0.01	4500 CNI

Typical MT Parameters

Additional Profile II Parameters

also please





10/2/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509547

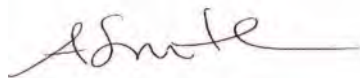
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/20/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

475 E. Greg Street, Suite 119  
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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509547

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### Specific Report Comments

The cation/anion balance for sample 1509547-001 was outside WETLAB acceptance criteria. Reanalysis on numerous other samples in this project have confirmed the original results for those samples therefore this sample has not been reanalyzed.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

Date Printed: 10/2/2015

OrderID: 1509547

Customer Sample ID: C773-15 B,C Pull #9

Collect Date/Time: 9/20/2015 15:00

WETLAB Sample ID: 1509547-001

Receive Date: 9/20/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/21/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/29/2015	NV00925
pH	SM 4500-H+ B	6.67	pH Units	1		9/24/2015	NV00925
Temperature at pH	NA	25.8	°C	1		9/24/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/29/2015	NV00925
Redox Potential	ASTM D1498	500	mV	1		9/21/2015	NV00925
Acidity (Titrimetric)	SM 2310B	11	mg/L as CaCO3	1		9/29/2015	NV00925
Total Alkalinity	SM 2320B	3.8	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	3.8	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/29/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	160	mg/L	1	10	9/22/2015	NV00925
Electrical Conductivity	SM 2510B	280	µmhos/cm	1	1	9/21/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/22/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/22/2015	NV00925
Sulfate	EPA 300.0	68	mg/L	1	1.0	9/22/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/25/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/29/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.089	mg/L	1	0.0030	9/29/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/29/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/29/2015	NV00925
Calcium, Dissolved	EPA 200.7	42	mg/L	1	0.50	9/29/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/29/2015	NV00925
Cobalt, Dissolved	EPA 200.7	0.012	mg/L	1	0.010	9/29/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/29/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/29/2015	NV00925
Manganese, Dissolved	EPA 200.7	0.0085	mg/L	1	0.0050	9/29/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/29/2015	NV00925
Potassium, Dissolved	EPA 200.7	1.8	mg/L	1	0.50	9/29/2015	NV00925
Sodium, Dissolved	EPA 200.7	1.0	mg/L	1	0.50	9/30/2015	NV00925
Strontium, Dissolved	EPA 200.7	1.0	mg/L	1	0.020	9/29/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	9/29/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

**SPARKS**

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**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932



Customer Sample ID: C773-15 B,C Pull #9

Collect Date/Time: 9/20/2015 15:00

WETLAB Sample ID: 1509547-001

Receive Date: 9/20/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.012	mg/L	1	0.0020	9/30/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.004	mg/L	1	0.0020	10/1/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.49	meq/L	1	0.10		NV00925
Cations	Calculation	2.19	meq/L	1	0.10		NV00925
Error	Calculation	19	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/28/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090756	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15090801	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090846	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090944	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090998	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15091142	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15091148	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15091157	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15091159	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090756	LCS 1	Ferrous Iron	SM 3500 Fe B	0.966	1.00	97	mg/L
QC15090759	LCS 1	Redox Potential	ASTM D1498	222	221	100	mV
QC15090801	LCS 1	Electrical Conductivity	SM 2510B	1394	1412	99	µmhos/cm
QC15090846	LCS 1	Chloride	EPA 300.0	10.6	10.0	106	mg/L
		Fluoride	EPA 300.0	1.87	2.00	93	mg/L
		Sulfate	EPA 300.0	23.3	25.0	93	mg/L
QC15090944	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	138	150	92	mg/L
QC15090944	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	138	150	92	mg/L
QC15090993	LCS 1	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090993	LCS 2	Total Alkalinity	SM 2320B	100.0	100	100	mg/L
QC15090993	LCS 3	Total Alkalinity	SM 2320B	101	100	101	mg/L
QC15090993	LCS 4	Total Alkalinity	SM 2320B	101	100	101	mg/L
QC15090994	LCS 1	pH	SM 4500-H+ B	6.95	7.00	99	pH Units
QC15090994	LCS 2	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC15090994	LCS 3	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC15090994	LCS 4	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC15090998	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.766	0.800	96	mg/L
QC15091142	LCS 1	Barium, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Beryllium, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Boron, Dissolved	EPA 200.7	0.999	1.00	100	mg/L
		Calcium, Dissolved	EPA 200.7	10.1	10.0	101	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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fax (702) 622-2868  
EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Chromium, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Cobalt, Dissolved	EPA 200.7	1.04	1.00	104	mg/L
		Iron, Dissolved	EPA 200.7	1.05	1.00	105	mg/L
		Magnesium, Dissolved	EPA 200.7	10.8	10.0	108	mg/L
		Manganese, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Molybdenum, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Potassium, Dissolved	EPA 200.7	10.4	10.0	104	mg/L
		Sodium, Dissolved	EPA 200.7	10.1	10.0	101	mg/L
		Strontium, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
		Zinc, Dissolved	EPA 200.7	1.09	1.00	109	mg/L
QC15091148	LCS 1	WAD Cyanide	SM 4500CN I, E	0.111	0.100	111	mg/L
QC15091157	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.972	1.00	97	mg/L
QC15091159	LCS 1	Copper	EPA 200.8	0.0102	0.010	102	mg/L
		Nickel	EPA 200.8	0.0102	0.010	102	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090756	Duplicate	Ferrous Iron	SM 3500 Fe B	1509546-001	ND	ND	mg/L	<1%
QC15090759	Duplicate	Redox Potential	ASTM D1498	1509546-001	490	494	mV	1 %
QC15090801	Duplicate	Electrical Conductivity	SM 2510B	1509546-001	295	295	µmhos/cm	<1%
QC15090944	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509469-001	231	249	mg/L	8 %
QC15090944	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509541-003	582	589	mg/L	1 %
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509469-001	2.10	1.96	mg/L as CaCO3	7 %
		Bicarbonate (HCO3)	SM 2320B	1509469-001	2.10	1.96	mg/L as CaCO3	7 %
		Carbonate (CO3)	SM 2320B	1509469-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509469-001	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509512-005	90.8	90.6	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509512-005	90.8	90.6	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509512-005	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509512-005	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509536-004	107	108	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509536-004	107	108	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509536-004	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509536-004	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509542-004	11.5	10.6	mg/L as CaCO3	9 %
		Bicarbonate (HCO3)	SM 2320B	1509542-004	11.5	10.6	mg/L as CaCO3	9 %
		Carbonate (CO3)	SM 2320B	1509542-004	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509542-004	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509633-001	182	181	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509633-001	182	181	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509633-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509633-001	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509567-003	46.2	45.7	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509567-003	46.2	45.7	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509567-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509567-003	ND	ND	mg/L as CaCO3	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509586-006	ND	ND	QD mg/L as CaCO3	40 %
		Bicarbonate (HCO3)	SM 2320B	1509586-006	ND	ND	QD mg/L as CaCO3	40 %
		Carbonate (CO3)	SM 2320B	1509586-006	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509586-006	ND	ND	mg/L as CaCO3	<1%
QC15090994	Duplicate	pH	SM 4500-H+ B	1509469-001	6.17	6.30	HT,Q pH Units	2 %
QC15090994	Duplicate	pH	SM 4500-H+ B	1509512-005	7.58	7.51	HT pH Units	1 %
QC15090994	Duplicate	pH	SM 4500-H+ B	1509536-004	7.57	7.57	HT pH Units	<1%
QC15090994	Duplicate	pH	SM 4500-H+ B	1509542-004	6.59	6.50	HT pH Units	1 %
QC15090994	Duplicate	pH	SM 4500-H+ B	1509633-001	7.91	7.88	HT pH Units	<1%
QC15090994	Duplicate	pH	SM 4500-H+ B	1509567-003	7.24	7.16	HT pH Units	1 %
QC15090994	Duplicate	pH	SM 4500-H+ B	1509586-006	5.97	6.01	HT pH Units	1 %
QC15091137	Duplicate	Acidity (Titrimetric)	SM 2310B	1509469-001	22.4	13.7	QD mg/L as CaCO3	48 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090846	MS 1	Chloride	EPA 300.0	1509543-002	949	SC 986	984	5.00	mg/L	NC	NC	NC
		Fluoride	EPA 300.0	1509543-002	4.63	23.8	23.8	2.00	mg/L	96	96	<1%
		Sulfate	EPA 300.0	1509543-002	341	440	436	10.0	mg/L	98	95	1%
QC15090846	MS 2	Chloride	EPA 300.0	1509566-004	45.0	49.6	49.7	5.00	mg/L	94	94	<1%
		Fluoride	EPA 300.0	1509566-004	0.309	2.25	2.24	2.00	mg/L	97	97	<1%
		Sulfate	EPA 300.0	1509566-004	41.8	51.6	51.6	10.0	mg/L	98	98	<1%
QC15090998	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509478-013	ND	4.90	4.97	1.00	mg/L	96	98	1%
QC15090998	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509547-001	ND	5.10	5.13	1.00	mg/L	100	101	1%
QC15091142	MS 1	Barium, Dissolved	EPA 200.7	1509542-002	0.016	0.979	0.985	1.00	mg/L	96	97	1%
		Beryllium, Dissolved	EPA 200.7	1509542-002	ND	0.993	0.994	1.00	mg/L	99	99	<1%
		Boron, Dissolved	EPA 200.7	1509542-002	ND	1.11	1.11	1.00	mg/L	103	103	<1%
		Calcium, Dissolved	EPA 200.7	1509542-002	81.3	SC 83.3	87.6	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1509542-002	ND	0.981	0.986	1.00	mg/L	98	99	1%
		Cobalt, Dissolved	EPA 200.7	1509542-002	ND	0.943	0.949	1.00	mg/L	94	94	1%
		Iron, Dissolved	EPA 200.7	1509542-002	0.236	1.20	1.26	1.00	mg/L	96	102	5%
		Magnesium, Dissolved	EPA 200.7	1509542-002	31.4	38.5	40.3	10.0	mg/L	71	89	5%
		Manganese, Dissolved	EPA 200.7	1509542-002	1.27	2.22	2.22	1.00	mg/L	95	95	<1%
		Molybdenum, Dissolved	EPA 200.7	1509542-002	ND	1.01	1.03	1.00	mg/L	101	103	2%
		Potassium, Dissolved	EPA 200.7	1509542-002	3.80	13.8	14.7	10.0	mg/L	100	109	6%
		Sodium, Dissolved	EPA 200.7	1509542-002	25.0	33.0	35.2	10.0	mg/L	80	102	6%
		Strontium, Dissolved	EPA 200.7	1509542-002	ND	1.05	1.13	1.00	mg/L	95	103	7%
		Zinc, Dissolved	EPA 200.7	1509542-002	ND	0.988	1.00	1.00	mg/L	98	99	1%
QC15091148	MS 1	WAD Cyanide	SM 4500CN I,	1509542-006	ND	0.111	0.110	0.100	mg/L	111	110	1%
QC15091148	MS 2	WAD Cyanide	SM 4500CN I,	1509566-002	ND	0.106	0.108	0.100	mg/L	106	108	2%
QC15091157	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509542-002	ND	1.02	0.936	1.00	mg/L	90	82	9%
QC15091157	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509546-001	0.277	M 1.16	1.03	1.00	mg/L	NC	NC	NC
QC15091159	MS 1	Copper, Dissolved	EPA 200.8	1509542-002	ND	0.0105	0.0106	0.010	mg/L	102	103	1%
		Nickel, Dissolved	EPA 200.8	1509542-002	0.0254	0.0354	0.0362	0.010	mg/L	100	107	2%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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# ANALYTICAL SUMMARY REPORT

October 01, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15092155                      Quote ID: B3679

Project Name: Job ID 1509547

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/24/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15092155-001	C773-15 B,C Pull #9	09/20/15 15:00	09/24/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509547  
**Lab ID:** B15092155-001  
**Client Sample ID:** C773-15 B,C Pull #9

**Report Date:** 10/01/15  
**Collection Date:** 09/20/15 15:00  
**Date Received:** 09/24/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.225	mg/L		0.009		E200.7	09/25/15 20:42 / r/h
Antimony	0.0033	mg/L		0.0005		E200.8	09/26/15 06:18 / mas
Arsenic	0.004	mg/L		0.001		E200.8	09/26/15 06:18 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/29/15 20:45 / amm
Lead	ND	mg/L		0.0003		E200.8	09/26/15 06:18 / mas
Mercury	0.000408	mg/L		5E-06		E245.1	09/25/15 16:56 / ser
Phosphorus	0.011	mg/L	L	0.007		E200.7	09/25/15 20:42 / r/h
Selenium	ND	mg/L		0.001		E200.8	09/26/15 06:18 / mas
Silicon	0.67	mg/L		0.05		E200.7	09/25/15 20:42 / r/h
Silver	ND	mg/L		0.0002		E200.8	09/29/15 20:45 / amm
Thallium	0.0066	mg/L		0.0002		E200.8	09/26/15 06:18 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/29/15 20:45 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509547

**Work Order:** B15092155

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>							Analytical Run: ICP203-B_150925A			
<b>Lab ID: ICV</b>	Continuing Calibration Verification Standard						09/25/15 11:59			
Aluminum	2.48	mg/L	0.10	99	95	105				
Phosphorus	2.56	mg/L	0.10	102	95	105				
Silicon	4.93	mg/L	0.10	99	95	105				
<b>Method: E200.7</b>							Batch: R249963			
<b>Lab ID: MB-6500DIS150925A</b>	Method Blank						Run: ICP203-B_150925A 09/25/15 12:27			
Aluminum	ND	mg/L	0.01							
Phosphorus	ND	mg/L	0.007							
Silicon	0.03	mg/L	0.01							
<b>Lab ID: LFB-6500DIS150925A</b>	Laboratory Fortified Blank						Run: ICP203-B_150925A 09/25/15 12:31			
Aluminum	5.39	mg/L	0.10	108	85	115				
Phosphorus	10.5	mg/L	0.10	105	85	115				
Silicon	10.1	mg/L	0.10	100	85	115				
<b>Lab ID: B15092157-001AMS2</b>	Sample Matrix Spike						Run: ICP203-B_150925A 09/25/15 20:53			
Aluminum	5.54	mg/L	0.030	107	70	130				
Phosphorus	11.3	mg/L	0.10	113	70	130				
Silicon	10.8	mg/L	0.10	102	70	130				
<b>Lab ID: B15092157-001AMSD2</b>	Sample Matrix Spike Duplicate						Run: ICP203-B_150925A 09/25/15 20:56			
Aluminum	5.61	mg/L	0.030	108	70	130	1.3	20		
Phosphorus	11.7	mg/L	0.10	117	70	130	3.5	20		
Silicon	11.2	mg/L	0.10	107	70	130	4.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509547

**Work Order:** B15092155

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8									Analytical Run: ICPMS203-B_150925B
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard								09/26/15 02:05
Antimony	0.0501	mg/L	0.050	100	90	110			
Arsenic	0.0484	mg/L	0.0050	97	90	110			
Lead	0.0493	mg/L	0.010	99	90	110			
Selenium	0.0510	mg/L	0.0050	102	90	110			
Thallium	0.0485	mg/L	0.10	97	90	110			
<b>Method:</b> E200.8									Batch: R249988
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: ICPMS203-B_150925B 09/25/15 13:36
Antimony	0.0442	mg/L	0.050	88	85	115			
Arsenic	0.0450	mg/L	0.0050	90	85	115			
Lead	0.0464	mg/L	0.010	93	85	115			
Selenium	0.0426	mg/L	0.0050	85	85	115			
Thallium	0.0465	mg/L	0.10	93	85	115			
<b>Lab ID:</b> LRB	Method Blank								Run: ICPMS203-B_150925B 09/25/15 14:07
Antimony	ND	mg/L	1E-05						
Arsenic	ND	mg/L	5E-05						
Lead	ND	mg/L	3E-05						
Selenium	ND	mg/L	7E-05						
Thallium	ND	mg/L	1E-05						
<b>Lab ID:</b> B15092061-005BMS	Sample Matrix Spike								Run: ICPMS203-B_150925B 09/26/15 05:38
Antimony	0.0944	mg/L	0.0010	94	70	130			
Arsenic	0.0976	mg/L	0.0010	94	70	130			
Lead	0.0934	mg/L	0.0010	93	70	130			
Selenium	0.0963	mg/L	0.0010	91	70	130			
Thallium	0.0948	mg/L	0.00050	95	70	130			
<b>Lab ID:</b> B15092061-005BMSD	Sample Matrix Spike Duplicate								Run: ICPMS203-B_150925B 09/26/15 05:42
Antimony	0.0943	mg/L	0.0010	94	70	130	0.1	20	
Arsenic	0.0988	mg/L	0.0010	96	70	130	1.3	20	
Lead	0.0963	mg/L	0.0010	96	70	130	3.0	20	
Selenium	0.101	mg/L	0.0010	96	70	130	4.9	20	
Thallium	0.0960	mg/L	0.00050	96	70	130	1.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509547

**Work Order:** B15092155

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8							Analytical Run: ICPMS206-B_150929A			
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard						09/29/15 14:53			
Cadmium	0.0248	mg/L	0.0010	99	90	110				
Silver	0.0237	mg/L	0.0050	95	90	110				
Uranium	0.0193	mg/L	0.0010	97	90	110				
<b>Method:</b> E200.8							Batch: R250119			
<b>Lab ID:</b> LRB	Method Blank						Run: ICPMS206-B_150929A 09/29/15 11:45			
Cadmium	ND	mg/L	3E-05							
Silver	ND	mg/L	2E-05							
Uranium	ND	mg/L	5E-05							
<b>Lab ID:</b> LFB	Laboratory Fortified Blank						Run: ICPMS206-B_150929A 09/29/15 11:50			
Cadmium	0.0482	mg/L	0.0010	96	85	115				
Silver	0.0200	mg/L	0.0050	100	85	115				
Uranium	0.0511	mg/L	0.0010	102	85	115				
<b>Lab ID:</b> B15092155-001AMS	Sample Matrix Spike						Run: ICPMS206-B_150929A 09/29/15 20:50			
Cadmium	0.0492	mg/L	0.0010	98	70	130				
Silver	0.0180	mg/L	0.0010	89	70	130				
Uranium	0.0491	mg/L	0.00030	98	70	130				
<b>Lab ID:</b> B15092155-001AMSD	Sample Matrix Spike Duplicate						Run: ICPMS206-B_150929A 09/29/15 20:55			
Cadmium	0.0486	mg/L	0.0010	97	70	130	1.2	20		
Silver	0.0104	mg/L	0.0010	51	70	130	53	20	SR	
Uranium	0.0484	mg/L	0.00030	97	70	130	1.4	20		

**Qualifiers:**

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/01/15

**Project:** Job ID 1509547

**Work Order:** B15092155

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV203-B_150925A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Mercury	0.000204	mg/L	1.0E-05	102	90	110			09/25/15 14:30
<b>Method:</b> E245.1									Batch: 93485
<b>Lab ID:</b> MB-93485	Method Blank								
Mercury	3E-06	mg/L	1E-06						Run: HGCV203-B_150925A 09/25/15 16:25
<b>Lab ID:</b> LCS-93485	Laboratory Control Sample								
Mercury	0.000203	mg/L	1.0E-05	100	85	115			Run: HGCV203-B_150925A 09/25/15 16:27
<b>Lab ID:</b> B15092154-001AMS	Sample Matrix Spike								
Mercury	0.000545	mg/L	2.5E-05	80	70	130			Run: HGCV203-B_150925A 09/25/15 16:48
<b>Lab ID:</b> B15092154-001AMSD	Sample Matrix Spike Duplicate								
Mercury	0.000560	mg/L	2.5E-05	87	70	130	2.7	30	Run: HGCV203-B_150925A 09/25/15 16:54

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15092155

Login completed by: Randa Nees

Date Received: 9/24/2015

Reviewed by: BL2000\jmueller

Received by: Ig

Reviewed Date: 9/24/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	5.7°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# CHAIN OF CUSTODY RECORD

<b>Western Environmental Testing Laboratory</b> 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson kurtc@WETLaboratory.com    Ph: (775) 355-0202    Fax: (775) 355-0817		Total # of sample containers: <u>1</u> System: _____ Job ID: 1509547	All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N _____ Compliance: Y <input checked="" type="checkbox"/> N _____ CA Write ON: Y <input checked="" type="checkbox"/> N _____ QC: Y <input checked="" type="checkbox"/> N _____ Water System #: _____
Samplers Initials: _____ Notes: <u>See attached</u>		Date: _____ Time: _____	
<b>SIGNATURE OF COMPANY REPRESENTATIVE:</b> _____			

Set Date	Set Time	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/20/2015	3:00 PM	C773-15 B.C Pull #9 -	Waste Water	Various Metals (Subcontracted)		

B15092/55-001

		Sample Type	
Relinquished by: (Signature)	Date: <u>9-21-15 16:00</u>	Time: _____	Received by: (Signature) <u>UPS</u>
[Signature]			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
[Signature]			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature) <u>Jim Lamy</u>
[Signature]			
			<u>9-24-15 9:30</u> <u>UPS Grab</u> <u>5:7° on ice / no seal</u>

Parameter	Required Reporting Value (mg/L)	Method
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	0.0001 - 0.0007 WETLAB	EPA 200.8
[REDACTED]	0.001 - 0.001 WETLAB	EPA 200.8
[REDACTED]	0.003 - 0.001 WETLAB	EPA 200.8
[REDACTED]	0.0008 - 0.0008 WETLAB	EPA 200.8
[REDACTED]	0.0003 - sub to Energy Lab	
Calcium	1.0 - 1.0 WETLAB	EPA 200.7
[REDACTED]	0.01 - 0.01 WETLAB	EPA 200.7
[REDACTED]	0.002 - 0.002 WETLAB	EPA 200.8
Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
[REDACTED]	0.02 - 0.02 WETLAB	EPA 200.7
[REDACTED]	0.0003 - 0.0002 WETLAB	EPA 200.8
Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
[REDACTED]	0.005 - 0.005 WETLAB	EPA 200.7
[REDACTED]	0.0003 - sub to Energy Lab	
[REDACTED]	0.002 - 0.0004 WETLAB	EPA 200.8
[REDACTED]	0.001 - sub to Energy Lab	EPA 200.7
[REDACTED]	0.001 - sub to Energy Lab	EPA 200.8
[REDACTED]	0.05 - 0.05 WETLAB	EPA 200.7
[REDACTED]	0.0002 - sub to Energy Lab	
[REDACTED]	0.02 - 0.02 WETLAB	EPA 200.7
Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
[REDACTED]	0.0002 - sub to Energy Lab	
[REDACTED]	0.0002 - 0.0002 WETLAB	EPA 200.8
[REDACTED]	0.008 - 0.008 WETLAB	EPA 200.7
Alkalinity, Total (as CaCO3)	1	2320B
pH (standard units)	NA	4500H+B
Alkalinity, Bicarbonate (as CaCO3)	1	2320B
Bismuth	0.1	EPA 200.7
[REDACTED]	0.1	EPA 200.7
Chloride	1	EPA 300.0
[REDACTED]	0.01	EPA 200.7
Gallium	0.1	EPA 200.7
Lithium	0.1	EPA 200.7
[REDACTED]	0.01	EPA 200.7
Nitrate-Nitrite, Total (as N)	0.1	EPA 353.2
Nitrogen, Total (as N)	0.3	
Potassium	0.5	EPA 200.7
Scandium	0.1	EPA 200.7
[REDACTED]	0.5	EPA 200.7
Tin	0.1	EPA 200.7
Titanium	0.1	EPA 200.7
Total Dissolved Solids	10	2540C
Vanadium	0.01	EPA 200.7
WAD Cyanide	0.01	4500 CNI

Typical MT Parameters

Additional Profile II Parameters

also please





10/7/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509555

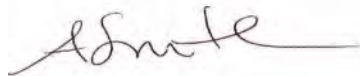
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/21/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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Las Vegas, Nevada 89102  
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fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509555

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### Specific Report Comments

The cation/anion balance for sample 1509555-001 was outside WETLAB acceptance criteria. Reanalysis on numerous other samples in this project have confirmed the original results for those samples therefore this sample has not been reanalyzed.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

Date Printed: 10/7/2015

OrderID: 1509555

Customer Sample ID: C773-15 B,C Pull #10

Collect Date/Time: 9/21/2015 15:00

WETLAB Sample ID: 1509555-001

Receive Date: 9/21/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/22/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/29/2015	NV00925
pH	SM 4500-H+ B	6.52	HT pH Units	1		10/2/2015	NV00925
Temperature at pH	NA	22.6	°C	1		10/2/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/29/2015	NV00925
Redox Potential	ASTM D1498	470	mV	1		9/22/2015	NV00925
Acidity (Titrimetric)	SM 2310B	10	mg/L as CaCO3	1		10/2/2015	NV00925
Total Alkalinity	SM 2320B	2.8	mg/L as CaCO3	1	1.0	10/2/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	2.8	mg/L as CaCO3	1	1.0	10/2/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/2/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/2/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/30/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	170	mg/L	1	10	9/23/2015	NV00925
Electrical Conductivity	SM 2510B	210	µmhos/cm	1	1	9/22/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/22/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/22/2015	NV00925
Sulfate	EPA 300.0	63	mg/L	1	1.0	9/22/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/25/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	0.24	M mg/L	1	0.20	9/30/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.089	mg/L	1	0.0030	9/29/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/29/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/29/2015	NV00925
Calcium, Dissolved	EPA 200.7	37	mg/L	1	0.50	9/29/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/29/2015	NV00925
Cobalt, Dissolved	EPA 200.7	0.012	mg/L	1	0.010	9/29/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/29/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/29/2015	NV00925
Manganese, Dissolved	EPA 200.7	0.0074	mg/L	1	0.0050	9/29/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/29/2015	NV00925
Potassium, Dissolved	EPA 200.7	1.4	mg/L	1	0.50	9/29/2015	NV00925
Sodium, Dissolved	EPA 200.7	0.74	mg/L	1	0.50	9/30/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.90	mg/L	1	0.020	9/29/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	9/29/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

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**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C773-15 B,C Pull #10

Collect Date/Time: 9/21/2015 15:00

WETLAB Sample ID: 1509555-001

Receive Date: 9/21/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.011	mg/L	1	0.0020	9/30/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.004	mg/L	1	0.0020	10/1/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.37	meq/L	1	0.10		NV00925
Cations	Calculation	1.91	meq/L	1	0.10		NV00925
Error	Calculation	17	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/28/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090846	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090998	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15091035	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15091118	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15091142	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15091148	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15091159	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15091176	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15091192	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090846	LCS 1	Chloride	EPA 300.0	10.6	10.0	106	mg/L
		Fluoride	EPA 300.0	1.87	2.00	93	mg/L
		Sulfate	EPA 300.0	23.3	25.0	93	mg/L
QC15090998	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.766	0.800	96	mg/L
QC15091035	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	150	150	100	mg/L
QC15091035	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	149	150	99	mg/L
QC15091118	LCS 1	Ferrous Iron	SM 3500 Fe B	0.944	1.00	94	mg/L
QC15091142	LCS 1	Barium, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Beryllium, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Boron, Dissolved	EPA 200.7	0.999	1.00	100	mg/L
		Calcium, Dissolved	EPA 200.7	10.1	10.0	101	mg/L
		Chromium, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Cobalt, Dissolved	EPA 200.7	1.04	1.00	104	mg/L
		Iron, Dissolved	EPA 200.7	1.05	1.00	105	mg/L
		Magnesium, Dissolved	EPA 200.7	10.8	10.0	108	mg/L
		Manganese, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Molybdenum, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Potassium, Dissolved	EPA 200.7	10.4	10.0	104	mg/L
		Sodium, Dissolved	EPA 200.7	10.1	10.0	101	mg/L
		Strontium, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
		Zinc, Dissolved	EPA 200.7	1.09	1.00	109	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 7

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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15091148	LCS 1	WAD Cyanide	SM 4500CN I, E	0.111	0.100	111	mg/L
QC15091159	LCS 1	Copper	EPA 200.8	0.0102	0.010	102	mg/L
		Nickel	EPA 200.8	0.0102	0.010	102	mg/L
QC15091176	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.03	1.00	103	mg/L
QC15091192	LCS 1	Electrical Conductivity	SM 2510B	1376	1412	97	µmhos/cm
QC15091196	LCS 1	Redox Potential	ASTM D1498	221	221	100	mV
QC15100137	LCS 1	Total Alkalinity	SM 2320B	105	100	105	mg/L
QC15100147	LCS 1	pH	SM 4500-H+ B	6.94	7.00	99	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15091035	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509573-002	276	291	mg/L	5 %
QC15091035	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509586-005	271	279	mg/L	3 %
QC15091118	Duplicate	Ferrous Iron	SM 3500 Fe B	1509575-001	ND	ND	mg/L	<1%
QC15091118	Duplicate	Ferrous Iron	SM 3500 Fe B	1509577-003	ND	ND	mg/L	<1%
QC15091118	Duplicate	Ferrous Iron	SM 3500 Fe B	1509580-001	ND	ND	mg/L	<1%
QC15091192	Duplicate	Electrical Conductivity	SM 2510B	1509575-001	71.3	70.8	µmhos/cm	1 %
QC15091192	Duplicate	Electrical Conductivity	SM 2510B	1509577-003	94.8	96.4	µmhos/cm	2 %
QC15091196	Duplicate	Redox Potential	ASTM D1498	1509575-001	497	500	mV	1 %
QC15091196	Duplicate	Redox Potential	ASTM D1498	1509577-003	491	495	mV	1 %
QC15100137	Duplicate	Total Alkalinity	SM 2320B	1509555-001	2.75	2.82	mg/L as CaCO3	3 %
		Bicarbonate (HCO3)	SM 2320B	1509555-001	2.75	2.82	mg/L as CaCO3	3 %
		Carbonate (CO3)	SM 2320B	1509555-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509555-001	ND	ND	mg/L as CaCO3	<1%
QC15100138	Duplicate	Acidity (Titrimetric)	SM 2310B	1509555-001	10.4	9.11	mg/L as CaCO3	14 %
QC15100147	Duplicate	pH	SM 4500-H+ B	1509795-001	6.69	6.84	pH Units	2 %
QC15100147	Duplicate	pH	SM 4500-H+ B	1509797-003	7.06	7.26	pH Units	3 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090846	MS 1	Chloride	EPA 300.0	1509543-002	949	SC 986	984	5.00	mg/L	NC	NC	NC
		Fluoride	EPA 300.0	1509543-002	4.63	23.8	23.8	2.00	mg/L	96	96	<1%
		Sulfate	EPA 300.0	1509543-002	341	440	436	10.0	mg/L	98	95	1%
QC15090846	MS 2	Chloride	EPA 300.0	1509566-004	45.0	49.6	49.7	5.00	mg/L	94	94	<1%
		Fluoride	EPA 300.0	1509566-004	0.309	2.25	2.24	2.00	mg/L	97	97	<1%
		Sulfate	EPA 300.0	1509566-004	41.8	51.6	51.6	10.0	mg/L	98	98	<1%
QC15090998	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509478-013	ND	4.90	4.97	1.00	mg/L	96	98	1%
QC15090998	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509547-001	ND	5.10	5.13	1.00	mg/L	100	101	1%
QC15091142	MS 1	Barium, Dissolved	EPA 200.7	1509542-002	0.016	0.979	0.985	1.00	mg/L	96	97	1%
		Beryllium, Dissolved	EPA 200.7	1509542-002	ND	0.993	0.994	1.00	mg/L	99	99	<1%
		Boron, Dissolved	EPA 200.7	1509542-002	ND	1.11	1.11	1.00	mg/L	103	103	<1%
		Calcium, Dissolved	EPA 200.7	1509542-002	81.3	SC 83.3	87.6	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1509542-002	ND	0.981	0.986	1.00	mg/L	98	99	1%
		Cobalt, Dissolved	EPA 200.7	1509542-002	ND	0.943	0.949	1.00	mg/L	94	94	1%
		Iron, Dissolved	EPA 200.7	1509542-002	0.236	1.20	1.26	1.00	mg/L	96	102	5%
		Magnesium, Dissolved	EPA 200.7	1509542-002	31.4	38.5	40.3	10.0	mg/L	71	89	5%
		Manganese, Dissolved	EPA 200.7	1509542-002	1.27	2.22	2.22	1.00	mg/L	95	95	<1%
		Molybdenum, Dissolved	EPA 200.7	1509542-002	ND	1.01	1.03	1.00	mg/L	101	103	2%
		Potassium, Dissolved	EPA 200.7	1509542-002	3.80	13.8	14.7	10.0	mg/L	100	109	6%
		Sodium, Dissolved	EPA 200.7	1509542-002	25.0	33.0	35.2	10.0	mg/L	80	102	6%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 6 of 7

**SPARKS**

475 E. Greg Street, Suite 119  
 Sparks, Nevada 89431  
 tel (775) 355-0202  
 fax (775) 355-0817  
 EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

1084 Lamoille Hwy  
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 tel (775) 777-9933  
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 EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Strontium, Dissolved	EPA 200.7	1509542-002	ND	1.05	1.13	1.00	mg/L	95	103	7%
		Zinc, Dissolved	EPA 200.7	1509542-002	ND	0.988	1.00	1.00	mg/L	98	99	1%
QC15091148	MS 1	WAD Cyanide	SM 4500CN I,	1509542-006	ND	0.111	0.110	0.100	mg/L	111	110	1%
QC15091148	MS 2	WAD Cyanide	SM 4500CN I,	1509566-002	ND	0.106	0.108	0.100	mg/L	106	108	2%
QC15091159	MS 1	Copper, Dissolved	EPA 200.8	1509542-002	ND	0.0105	0.0106	0.010	mg/L	102	103	1%
		Nickel, Dissolved	EPA 200.8	1509542-002	0.0254	0.0354	0.0362	0.010	mg/L	100	107	2%
QC15091176	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509555-001	0.245	M 1.06	1.09	1.00	mg/L	NC	NC	NC
QC15091176	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509567-004	ND	M 0.876	0.813	1.00	mg/L	NC	NC	NC

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 Las Vegas, Nevada 89102  
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 fax (702) 622-2868  
 EPA LAB ID: NV00932



# ANALYTICAL SUMMARY REPORT

October 06, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15092579                      Quote ID: B3679

Project Name: Job ID: 1509555

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/29/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15092579-001	C773-15 B,C Pull #10	09/21/15 15:00	09/29/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID: 1509555  
**Lab ID:** B15092579-001  
**Client Sample ID:** C773-15 B,C Pull #10

**Report Date:** 10/06/15  
**Collection Date:** 09/21/15 15:00  
**Date Received:** 09/29/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.168	mg/L		0.009		E200.7	10/01/15 14:05 / rh
Antimony	0.0033	mg/L		0.0005		E200.8	10/01/15 20:17 / mas
Arsenic	0.004	mg/L		0.001		E200.8	10/01/15 20:17 / mas
Cadmium	0.00009	mg/L		0.00003		E200.8	10/01/15 20:17 / mas
Lead	ND	mg/L		0.0003		E200.8	10/01/15 20:17 / mas
Mercury	0.000360	mg/L		5E-06		E245.1	10/01/15 16:03 / ser
Phosphorus	0.017	mg/L	L	0.007		E200.7	10/01/15 14:05 / rh
Selenium	ND	mg/L		0.001		E200.8	10/01/15 20:17 / mas
Silicon	0.60	mg/L		0.05		E200.7	10/01/15 14:05 / rh
Silver	ND	mg/L		0.0002		E200.8	10/01/15 20:17 / mas
Thallium	0.0051	mg/L		0.0002		E200.8	10/01/15 20:17 / mas
Uranium	ND	mg/L		0.0002		E200.8	10/01/15 20:17 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID: 1509555

**Work Order:** B15092579

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_151001A		
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard								10/01/15 11:35
Aluminum		2.55	mg/L	0.10	102	95	105			
Phosphorus		2.51	mg/L	0.10	101	95	105			
Silicon		5.08	mg/L	0.10	102	95	105			
<b>Method: E200.7</b>								Batch: R250269		
<b>Lab ID: MB-6500DIS151001A</b>	3	Method Blank						Run: ICP203-B_151001A		10/01/15 12:03
Aluminum		ND	mg/L	0.007						
Phosphorus		ND	mg/L	0.007						
Silicon		ND	mg/L	0.01						
<b>Lab ID: LFB-6500DIS151001A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_151001A		10/01/15 12:07
Aluminum		5.12	mg/L	0.10	102	85	115			
Phosphorus		10.4	mg/L	0.10	104	85	115			
Silicon		10.3	mg/L	0.10	103	85	115			
<b>Lab ID: B15092495-005BMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_151001A		10/01/15 13:48
Aluminum		25.5	mg/L	0.035	102	70	130			
Phosphorus		51.4	mg/L	0.10	103	70	130			
Silicon		57.1	mg/L	0.10	101	70	130			
<b>Lab ID: B15092495-005BMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_151001A		10/01/15 13:51
Aluminum		25.3	mg/L	0.035	101	70	130	0.8	20	
Phosphorus		51.4	mg/L	0.10	103	70	130	0.1	20	
Silicon		57.8	mg/L	0.10	102	70	130	1.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID: 1509555

**Work Order:** B15092579

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_151001A				
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard							10/01/15 14:47		
Antimony		0.0527	mg/L	0.050	105	90	110				
Arsenic		0.0508	mg/L	0.0050	102	90	110				
Cadmium		0.0252	mg/L	0.0010	101	90	110				
Lead		0.0505	mg/L	0.010	101	90	110				
Selenium		0.0506	mg/L	0.0050	101	90	110				
Silver		0.0236	mg/L	0.0050	94	90	110				
Thallium		0.0481	mg/L	0.10	96	90	110				
Uranium		0.0199	mg/L	0.0010	99	90	110				
<b>Method: E200.8</b>							Batch: R250260				
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank					Run: ICPMS203-B_151001A		10/01/15 10:23		
Antimony		0.0496	mg/L	0.050	99	85	115				
Arsenic		0.0486	mg/L	0.0050	97	85	115				
Cadmium		0.0494	mg/L	0.0010	99	85	115				
Lead		0.0507	mg/L	0.010	101	85	115				
Selenium		0.0485	mg/L	0.0050	97	85	115				
Silver		0.0183	mg/L	0.0050	92	85	115				
Thallium		0.0515	mg/L	0.10	103	85	115				
Uranium		0.0520	mg/L	0.0010	104	85	115				
<b>Lab ID: LRB</b>	8	Method Blank					Run: ICPMS203-B_151001A		10/01/15 11:43		
Antimony		ND	mg/L	1E-05							
Arsenic		9E-05	mg/L	5E-05							
Cadmium		ND	mg/L	5E-06							
Lead		ND	mg/L	3E-05							
Selenium		ND	mg/L	7E-05							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	3E-06							
<b>Lab ID: B15091901-004BMS</b>	8	Sample Matrix Spike					Run: ICPMS203-B_151001A		10/01/15 17:10		
Antimony		0.0990	mg/L	0.0010	99	70	130				
Arsenic		0.103	mg/L	0.0010	99	70	130				
Cadmium		0.0955	mg/L	0.0010	95	70	130				
Lead		0.101	mg/L	0.0010	100	70	130				
Selenium		0.0993	mg/L	0.0010	98	70	130				
Silver		0.0316	mg/L	0.0010	79	70	130				
Thallium		0.0981	mg/L	0.00050	98	70	130				
Uranium		0.121	mg/L	0.00030	116	70	130				
<b>Lab ID: B15091901-004BMSD</b>	8	Sample Matrix Spike Duplicate					Run: ICPMS203-B_151001A		10/01/15 17:14		
Antimony		0.100	mg/L	0.0010	100	70	130	1.1	20		
Arsenic		0.105	mg/L	0.0010	100	70	130	1.7	20		
Cadmium		0.0959	mg/L	0.0010	96	70	130	0.4	20		
Lead		0.102	mg/L	0.0010	102	70	130	1.7	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID: 1509555

**Work Order:** B15092579

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										Batch: R250260
<b>Lab ID: B15091901-004BMSD</b>	8	Sample Matrix Spike Duplicate					Run: ICPMS203-B_151001A			10/01/15 17:14
Selenium		0.102	mg/L	0.0010	101	70	130	2.9	20	
Silver		0.0298	mg/L	0.0010	75	70	130	5.9	20	
Thallium		0.0981	mg/L	0.00050	98	70	130	0.1	20	
Uranium		0.125	mg/L	0.00030	120	70	130	3.3	20	
<b>Lab ID: B15092383-001AMS</b>	8	Sample Matrix Spike					Run: ICPMS203-B_151001A			10/01/15 20:34
Antimony		0.0499	mg/L	0.0010	100	70	130			
Arsenic		0.0523	mg/L	0.0010	102	70	130			
Cadmium		0.0492	mg/L	0.0010	98	70	130			
Lead		0.0529	mg/L	0.0010	106	70	130			
Selenium		0.0497	mg/L	0.0010	98	70	130			
Silver		0.00861	mg/L	0.0010	43	70	130			S
Thallium		0.0475	mg/L	0.00050	95	70	130			
Uranium		0.0516	mg/L	0.00030	102	70	130			
<b>Lab ID: B15092383-001AMSD</b>	8	Sample Matrix Spike Duplicate					Run: ICPMS203-B_151001A			10/01/15 20:38
Antimony		0.0501	mg/L	0.0010	100	70	130	0.5	20	
Arsenic		0.0540	mg/L	0.0010	106	70	130	3.3	20	
Cadmium		0.0498	mg/L	0.0010	100	70	130	1.2	20	
Lead		0.0526	mg/L	0.0010	105	70	130	0.5	20	
Selenium		0.0565	mg/L	0.0010	112	70	130	13	20	
Silver		0.0178	mg/L	0.0010	89	70	130	70	20	R
Thallium		0.0478	mg/L	0.00050	95	70	130	0.6	20	
Uranium		0.0506	mg/L	0.00030	100	70	130	2.0	20	

**Qualifiers:**

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID: 1509555

**Work Order:** B15092579

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151001A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								10/01/15 15:05	
Mercury		0.000217	mg/L	1.0E-05	108	90	110				
<b>Method:</b> E245.1										Batch: 93632	
<b>Lab ID:</b> MB-93632		Method Blank								Run: HGCV203-B_151001A	10/01/15 15:14
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93632		Laboratory Control Sample								Run: HGCV203-B_151001A	10/01/15 15:16
Mercury		0.000216	mg/L	1.0E-05	107	85	115				
<b>Lab ID:</b> B15092579-001AMS		Sample Matrix Spike								Run: HGCV203-B_151001A	10/01/15 16:33
Mercury		0.000575	mg/L	2.5E-05	107	70	130				
<b>Lab ID:</b> B15092579-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_151001A	10/01/15 16:36
Mercury		0.000560	mg/L	2.5E-05	100	70	130	2.6	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15092579

Login completed by: Randa Nees

Date Received: 9/29/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 10/1/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	16.2°C Melted Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

Per phone call with Mitchell at Western Environmental Testing Laboratory analyze samples per client history.



# CHAIN OF CUSTODY RECORD

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <i>Every 1</i> System: _____ Job ID: 1509555	
All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		Samplers Initials: _____ Water System #: _____ Notes: <i>see attached</i>	
SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____			

Set Date	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/21/2015	C773-15 B.C Pull #10 -	Waste Water	Various Metals (Subcontracted)		
3:00 PM					

*B15092579-001*

		Sample Type			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
<i>[Signature]</i>			<i>UPS Grnd.</i>		

*Quince Jones*  
 miked ice  
 no TB  
 temp = 16.2 C  
 no seals



10/7/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509580

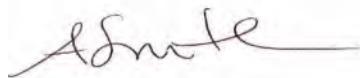
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/22/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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EPA LAB ID: NV00925 - ELAP No: 2523

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fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

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*Tintina Resources - 1509580*

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### **Specific Report Comments**

The cation/anion balance for sample 1509580-001 was outside WETLAB acceptance criteria. Reanalysis on numerous other samples in this project have confirmed the original results for those samples therefore this sample has not been reanalyzed.

### **Subcontracting Comments**

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### **Report Legend**

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### **General Lab Comments**

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

Date Printed: 10/7/2015

OrderID: 1509580

Customer Sample ID: C773-15 B,C Pull #11

Collect Date/Time: 9/22/2015 15:00

WETLAB Sample ID: 1509580-001

Receive Date: 9/22/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/22/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/29/2015	NV00925
pH	SM 4500-H+ B	6.60	pH Units	1		9/24/2015	NV00925
Temperature at pH	NA	26.7	°C	1		9/24/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	10/1/2015	NV00925
Redox Potential	ASTM D1498	500	mV	1		9/24/2015	NV00925
Acidity (Titrimetric)	SM 2310B	34	mg/L as CaCO3	1		10/5/2015	NV00925
Total Alkalinity	SM 2320B	3.7	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	3.7	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/30/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	120	mg/L	1	10	9/23/2015	NV00925
Electrical Conductivity	SM 2510B	190	µmhos/cm	1	1	9/24/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/24/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/23/2015	NV00925
Sulfate	EPA 300.0	53	mg/L	1	1.0	9/23/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/30/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	M mg/L	1	0.20	9/30/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.084	mg/L	1	0.0030	9/29/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/29/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/29/2015	NV00925
Calcium, Dissolved	EPA 200.7	33	mg/L	1	0.50	9/29/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/29/2015	NV00925
Cobalt, Dissolved	EPA 200.7	0.011	mg/L	1	0.010	9/29/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/29/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/29/2015	NV00925
Manganese, Dissolved	EPA 200.7	0.0061	mg/L	1	0.0050	9/29/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/29/2015	NV00925
Potassium, Dissolved	EPA 200.7	0.93	mg/L	1	0.50	9/29/2015	NV00925
Sodium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/29/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.76	mg/L	1	0.020	9/29/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	9/29/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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Customer Sample ID: C773-15 B,C Pull #11

Collect Date/Time: 9/22/2015 15:00

WETLAB Sample ID: 1509580-001

Receive Date: 9/22/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.010	mg/L	1	0.0020	10/1/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.003	mg/L	1	0.0020	10/1/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.18	meq/L	1	0.10		NV00925
Cations	Calculation	1.67	meq/L	1	0.10		NV00925
Error	Calculation	17	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/28/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090910	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15091035	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15091095	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15091102	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15091118	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15091180	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15091193	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15091211	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15100024	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090910	LCS 1	Chloride	EPA 300.0	10.5	10.0	105	mg/L
		Fluoride	EPA 300.0	1.98	2.00	99	mg/L
		Sulfate	EPA 300.0	24.1	25.0	96	mg/L
QC15090993	LCS 1	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090993	LCS 2	Total Alkalinity	SM 2320B	100.0	100	100	mg/L
QC15090993	LCS 3	Total Alkalinity	SM 2320B	101	100	101	mg/L
QC15090993	LCS 4	Total Alkalinity	SM 2320B	101	100	101	mg/L
QC15090994	LCS 1	pH	SM 4500-H+ B	6.95	7.00	99	pH Units
QC15090994	LCS 2	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC15090994	LCS 3	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC15090994	LCS 4	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC15091035	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	150	150	100	mg/L
QC15091035	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	149	150	99	mg/L
QC15091095	LCS 1	Copper	EPA 200.8	0.0102	0.010	102	mg/L
		Nickel	EPA 200.8	0.0100	0.010	100	mg/L
QC15091102	LCS 1	Barium, Dissolved	EPA 200.7	0.977	1.00	98	mg/L
		Beryllium, Dissolved	EPA 200.7	0.973	1.00	97	mg/L
		Boron, Dissolved	EPA 200.7	0.967	1.00	97	mg/L
		Calcium, Dissolved	EPA 200.7	10.0	10.0	100	mg/L
		Chromium, Dissolved	EPA 200.7	0.977	1.00	98	mg/L
		Cobalt, Dissolved	EPA 200.7	1.00	1.00	100	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Iron, Dissolved	EPA 200.7	1.05	1.00	105	mg/L
		Magnesium, Dissolved	EPA 200.7	10.5	10.0	105	mg/L
		Manganese, Dissolved	EPA 200.7	0.980	1.00	98	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.984	1.00	98	mg/L
		Potassium, Dissolved	EPA 200.7	10.5	10.0	105	mg/L
		Sodium, Dissolved	EPA 200.7	10.4	10.0	104	mg/L
		Strontium, Dissolved	EPA 200.7	1.04	1.00	104	mg/L
		Zinc, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
QC15091118	LCS 1	Ferrous Iron	SM 3500 Fe B	0.944	1.00	94	mg/L
QC15091180	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.836	0.800	104	mg/L
QC15091193	LCS 1	Electrical Conductivity	SM 2510B	1440	1412	102	µmhos/cm
QC15091197	LCS 1	Redox Potential	ASTM D1498	222	221	101	mV
QC15091211	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.02	1.00	102	mg/L
QC15100024	LCS 1	WAD Cyanide	SM 4500CN I, E	0.091	0.100	91	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509469-001	2.10	1.96	mg/L as CaCO3	7 %
		Bicarbonate (HCO3)	SM 2320B	1509469-001	2.10	1.96	mg/L as CaCO3	7 %
		Carbonate (CO3)	SM 2320B	1509469-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509469-001	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509512-005	90.8	90.6	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509512-005	90.8	90.6	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509512-005	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509512-005	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509536-004	107	108	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509536-004	107	108	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509536-004	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509536-004	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509542-004	11.5	10.6	mg/L as CaCO3	9 %
		Bicarbonate (HCO3)	SM 2320B	1509542-004	11.5	10.6	mg/L as CaCO3	9 %
		Carbonate (CO3)	SM 2320B	1509542-004	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509542-004	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509633-001	182	181	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509633-001	182	181	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509633-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509633-001	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509567-003	46.2	45.7	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509567-003	46.2	45.7	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509567-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509567-003	ND	ND	mg/L as CaCO3	<1%
QC15090993	Duplicate	Total Alkalinity	SM 2320B	1509586-006	ND	ND	QD mg/L as CaCO3	40 %
		Bicarbonate (HCO3)	SM 2320B	1509586-006	ND	ND	QD mg/L as CaCO3	40 %
		Carbonate (CO3)	SM 2320B	1509586-006	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509586-006	ND	ND	mg/L as CaCO3	<1%
QC15090994	Duplicate	pH	SM 4500-H+ B	1509469-001	6.17	6.30	HT,Q pH Units	2 %

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090994	Duplicate	pH	SM 4500-H+ B	1509512-005	7.58	7.51	HT pH Units	1 %
QC15090994	Duplicate	pH	SM 4500-H+ B	1509536-004	7.57	7.57	HT pH Units	<1%
QC15090994	Duplicate	pH	SM 4500-H+ B	1509542-004	6.59	6.50	HT pH Units	1 %
QC15090994	Duplicate	pH	SM 4500-H+ B	1509633-001	7.91	7.88	HT pH Units	<1%
QC15090994	Duplicate	pH	SM 4500-H+ B	1509567-003	7.24	7.16	HT pH Units	1 %
QC15090994	Duplicate	pH	SM 4500-H+ B	1509586-006	5.97	6.01	HT pH Units	1 %
QC15091035	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509573-002	276	291	QD mg/L	5 %
QC15091035	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509586-005	271	279	mg/L	3 %
QC15091118	Duplicate	Ferrous Iron	SM 3500 Fe B	1509575-001	ND	ND	mg/L	<1%
QC15091118	Duplicate	Ferrous Iron	SM 3500 Fe B	1509577-003	ND	ND	mg/L	<1%
QC15091118	Duplicate	Ferrous Iron	SM 3500 Fe B	1509580-001	ND	ND	mg/L	<1%
QC15091193	Duplicate	Electrical Conductivity	SM 2510B	1509580-001	187	187	µmhos/cm	<1%
QC15091197	Duplicate	Redox Potential	ASTM D1498	1509580-001	500	505	mV	1 %
QC15100176	Duplicate	Acidity (Titrimetric)	SM 2310B	1509580-001	34.0	32.4	mg/L as CaCO3	5 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090910	MS 1	Chloride	EPA 300.0	1509597-001	9.33	14.8	14.9	5.00	mg/L	110	110	1%
		Fluoride	EPA 300.0	1509597-001	0.272	2.22	2.21	2.00	mg/L	97	97	<1%
		Sulfate	EPA 300.0	1509597-001	15.2	24.9	24.7	10.0	mg/L	98	96	1%
QC15090910	MS 2	Chloride	EPA 300.0	1509586-006	ND	5.74	5.41	5.00	mg/L	114	107	6%
		Fluoride	EPA 300.0	1509586-006	ND	1.91	1.89	2.00	mg/L	95	94	1%
		Sulfate	EPA 300.0	1509586-006	ND	9.75	9.63	10.0	mg/L	96	95	1%
QC15091095	MS 1	Copper, Dissolved	EPA 200.8	1509573-001	ND	0.0121	0.0120	0.010	mg/L	103	102	1%
		Nickel, Dissolved	EPA 200.8	1509573-001	ND	0.0197	0.0193	0.010	mg/L	99	95	2%
QC15091102	MS 1	Barium, Dissolved	EPA 200.7	1509573-001	0.058	1.03	1.03	1.00	mg/L	97	97	<1%
		Beryllium, Dissolved	EPA 200.7	1509573-001	ND	1.00	0.977	1.00	mg/L	100	98	2%
		Boron, Dissolved	EPA 200.7	1509573-001	ND	1.08	1.07	1.00	mg/L	106	105	1%
		Calcium, Dissolved	EPA 200.7	1509573-001	161	SC 157	170	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1509573-001	ND	0.988	0.981	1.00	mg/L	99	98	1%
		Cobalt, Dissolved	EPA 200.7	1509573-001	ND	0.936	0.938	1.00	mg/L	94	94	<1%
		Iron, Dissolved	EPA 200.7	1509573-001	0.263	0.997	1.04	1.00	mg/L	73	78	4%
		Magnesium, Dissolved	EPA 200.7	1509573-001	26.4	33.4	35.8	10.0	mg/L	70	94	7%
		Manganese, Dissolved	EPA 200.7	1509573-001	0.156	1.11	1.11	1.00	mg/L	95	95	<1%
		Molybdenum, Dissolved	EPA 200.7	1509573-001	0.037	1.04	1.06	1.00	mg/L	100	102	2%
		Potassium, Dissolved	EPA 200.7	1509573-001	2.86	13.0	13.5	10.0	mg/L	101	106	4%
		Sodium, Dissolved	EPA 200.7	1509573-001	59.0	SC 65.2	68.3	10.0	mg/L	NC	NC	NC
		Strontium, Dissolved	EPA 200.7	1509573-001	0.776	1.73	1.80	1.00	mg/L	95	102	4%
		Zinc, Dissolved	EPA 200.7	1509573-001	ND	0.978	0.996	1.00	mg/L	97	99	2%
QC15091180	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509578-001	ND	5.27	5.28	1.00	mg/L	104	105	<1%
QC15091180	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509605-008	0.680	5.88	5.90	1.00	mg/L	104	104	<1%
QC15091211	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509580-001	ND	M 1.04	1.01	1.00	mg/L	NC	NC	NC
QC15091211	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509605-008	ND	M 0.841	0.838	1.00	mg/L	NC	NC	NC
QC15100024	MS 1	WAD Cyanide	SM 4500CN I,	1509573-001	ND	0.105	0.109	0.100	mg/L	105	109	4%
QC15100024	MS 2	WAD Cyanide	SM 4500CN I,	1509722-003	ND	0.097	0.102	0.100	mg/L	97	103	5%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 7 of 7

**SPARKS**

475 E. Greg Street, Suite 119  
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 EPA LAB ID: NV00925 - ELAP No: 2523

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 EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932



# ANALYTICAL SUMMARY REPORT

October 06, 2015

Western Environmental Testing Laboratory

475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15092578                      Quote ID: B3679

Project Name: Job ID: 1509580

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/29/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15092578-001	C773-15 B,C Pull #11	09/22/15 15:00	09/29/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID: 1509580  
**Lab ID:** B15092578-001  
**Client Sample ID:** C773-15 B,C Pull #11

**Report Date:** 10/06/15  
**Collection Date:** 09/22/15 15:00  
**Date Received:** 09/29/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.143	mg/L		0.009		E200.7	10/01/15 14:02 / rh
Antimony	0.0027	mg/L		0.0005		E200.8	10/01/15 20:02 / mas
Arsenic	0.004	mg/L		0.001		E200.8	10/01/15 20:02 / mas
Cadmium	ND	mg/L		0.00003		E200.8	10/01/15 20:02 / mas
Lead	ND	mg/L		0.0003		E200.8	10/01/15 20:02 / mas
Mercury	0.000416	mg/L		5E-06		E245.1	10/01/15 15:58 / ser
Phosphorus	ND	mg/L	L	0.007		E200.7	10/01/15 14:02 / rh
Selenium	ND	mg/L		0.001		E200.8	10/01/15 20:02 / mas
Silicon	0.55	mg/L		0.05		E200.7	10/01/15 14:02 / rh
Silver	ND	mg/L		0.0002		E200.8	10/01/15 20:02 / mas
Thallium	0.0040	mg/L		0.0002		E200.8	10/01/15 20:02 / mas
Uranium	ND	mg/L		0.0002		E200.8	10/01/15 20:02 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID: 1509580

**Work Order:** B15092578

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_151001A			
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard						10/01/15 11:35			
Aluminum		2.55	mg/L	0.10	102	95	105				
Phosphorus		2.51	mg/L	0.10	101	95	105				
Silicon		5.08	mg/L	0.10	102	95	105				
<b>Method: E200.7</b>								Batch: R250269			
<b>Lab ID: MB-6500DIS151001A</b>	3	Method Blank						Run: ICP203-B_151001A 10/01/15 12:03			
Aluminum		ND	mg/L	0.007							
Phosphorus		ND	mg/L	0.007							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS151001A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_151001A 10/01/15 12:07			
Aluminum		5.12	mg/L	0.10	102	85	115				
Phosphorus		10.4	mg/L	0.10	104	85	115				
Silicon		10.3	mg/L	0.10	103	85	115				
<b>Lab ID: B15092495-005BMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_151001A 10/01/15 13:48			
Aluminum		25.5	mg/L	0.035	102	70	130				
Phosphorus		51.4	mg/L	0.10	103	70	130				
Silicon		57.1	mg/L	0.10	101	70	130				
<b>Lab ID: B15092495-005BMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_151001A 10/01/15 13:51			
Aluminum		25.3	mg/L	0.035	101	70	130	0.8	20		
Phosphorus		51.4	mg/L	0.10	103	70	130	0.1	20		
Silicon		57.8	mg/L	0.10	102	70	130	1.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID: 1509580

**Work Order:** B15092578

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_151001A				
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard						10/01/15 14:47			
Antimony		0.0527	mg/L	0.050	105	90	110				
Arsenic		0.0508	mg/L	0.0050	102	90	110				
Cadmium		0.0252	mg/L	0.0010	101	90	110				
Lead		0.0505	mg/L	0.010	101	90	110				
Selenium		0.0506	mg/L	0.0050	101	90	110				
Silver		0.0236	mg/L	0.0050	94	90	110				
Thallium		0.0481	mg/L	0.10	96	90	110				
Uranium		0.0199	mg/L	0.0010	99	90	110				
<b>Method: E200.8</b>							Batch: R250260				
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank						Run: ICPMS203-B_151001A 10/01/15 10:23			
Antimony		0.0496	mg/L	0.050	99	85	115				
Arsenic		0.0486	mg/L	0.0050	97	85	115				
Cadmium		0.0494	mg/L	0.0010	99	85	115				
Lead		0.0507	mg/L	0.010	101	85	115				
Selenium		0.0485	mg/L	0.0050	97	85	115				
Silver		0.0183	mg/L	0.0050	92	85	115				
Thallium		0.0515	mg/L	0.10	103	85	115				
Uranium		0.0520	mg/L	0.0010	104	85	115				
<b>Lab ID: LRB</b>	8	Method Blank						Run: ICPMS203-B_151001A 10/01/15 11:43			
Antimony		ND	mg/L	1E-05							
Arsenic		9E-05	mg/L	5E-05							
Cadmium		ND	mg/L	5E-06							
Lead		ND	mg/L	3E-05							
Selenium		ND	mg/L	7E-05							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	3E-06							
<b>Lab ID: B15091901-004BMS</b>	8	Sample Matrix Spike						Run: ICPMS203-B_151001A 10/01/15 17:10			
Antimony		0.0990	mg/L	0.0010	99	70	130				
Arsenic		0.103	mg/L	0.0010	99	70	130				
Cadmium		0.0955	mg/L	0.0010	95	70	130				
Lead		0.101	mg/L	0.0010	100	70	130				
Selenium		0.0993	mg/L	0.0010	98	70	130				
Silver		0.0316	mg/L	0.0010	79	70	130				
Thallium		0.0981	mg/L	0.00050	98	70	130				
Uranium		0.121	mg/L	0.00030	116	70	130				
<b>Lab ID: B15091901-004BMSD</b>	8	Sample Matrix Spike Duplicate						Run: ICPMS203-B_151001A 10/01/15 17:14			
Antimony		0.100	mg/L	0.0010	100	70	130	1.1	20		
Arsenic		0.105	mg/L	0.0010	100	70	130	1.7	20		
Cadmium		0.0959	mg/L	0.0010	96	70	130	0.4	20		
Lead		0.102	mg/L	0.0010	102	70	130	1.7	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID: 1509580

**Work Order:** B15092578

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Batch: R250260		
<b>Lab ID: B15091901-004BMSD</b>	8	Sample Matrix Spike Duplicate			Run: ICPMS203-B_151001A				10/01/15 17:14	
Selenium		0.102	mg/L	0.0010	101	70	130	2.9	20	
Silver		0.0298	mg/L	0.0010	75	70	130	5.9	20	
Thallium		0.0981	mg/L	0.00050	98	70	130	0.1	20	
Uranium		0.125	mg/L	0.00030	120	70	130	3.3	20	
<b>Lab ID: B15092496-004BMS</b>	8	Sample Matrix Spike			Run: ICPMS203-B_151001A				10/01/15 19:30	
Antimony		0.0508	mg/L	0.0010	102	70	130			
Arsenic		0.0492	mg/L	0.0010	98	70	130			
Cadmium		0.0493	mg/L	0.0010	99	70	130			
Lead		0.0505	mg/L	0.0010	101	70	130			
Selenium		0.0488	mg/L	0.0010	98	70	130			
Silver		0.0104	mg/L	0.0010	52	70	130			S
Thallium		0.0484	mg/L	0.00050	97	70	130			
Uranium		0.0480	mg/L	0.00030	96	70	130			
<b>Lab ID: B15092496-004BMSD</b>	8	Sample Matrix Spike Duplicate			Run: ICPMS203-B_151001A				10/01/15 19:34	
Antimony		0.0508	mg/L	0.0010	101	70	130	0.1	20	
Arsenic		0.0498	mg/L	0.0010	100	70	130	1.2	20	
Cadmium		0.0496	mg/L	0.0010	99	70	130	0.6	20	
Lead		0.0500	mg/L	0.0010	100	70	130	1.0	20	
Selenium		0.0485	mg/L	0.0010	97	70	130	0.5	20	
Silver		0.0106	mg/L	0.0010	53	70	130	1.6	20	S
Thallium		0.0480	mg/L	0.00050	96	70	130	0.9	20	
Uranium		0.0491	mg/L	0.00030	98	70	130	2.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID: 1509580

**Work Order:** B15092578

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151001A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								10/01/15 15:05	
Mercury		0.000217	mg/L	1.0E-05	108	90	110				
<b>Method:</b> E245.1										Batch: 93632	
<b>Lab ID:</b> MB-93632		Method Blank								Run: HGCV203-B_151001A	10/01/15 15:14
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93632		Laboratory Control Sample								Run: HGCV203-B_151001A	10/01/15 15:16
Mercury		0.000216	mg/L	1.0E-05	107	85	115				
<b>Lab ID:</b> B15092392-007BMS		Sample Matrix Spike								Run: HGCV203-B_151001A	10/01/15 15:22
Mercury		0.000218	mg/L	1.0E-05	108	70	130				
<b>Lab ID:</b> B15092392-007BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_151001A	10/01/15 15:24
Mercury		0.000221	mg/L	1.0E-05	110	70	130	1.4	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15092578

Login completed by: Randa Nees

Date Received: 9/29/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 10/1/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	16.2°C Melted Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

Per phone call with Mitchell at Western Environmental Testing Laboratory analyze samples per client history.



# CHAIN OF CUSTODY RECORD

*E. Long*

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: 1 System: _____ Job ID: 1509580	Samplers Initials: _____ All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N Compliance: Y <input checked="" type="checkbox"/> N CA Write ON: Y <input checked="" type="checkbox"/> N QC: Y <input checked="" type="checkbox"/> N Water System #: _____
Sample Receipt Condition: _____ Temperature: _____		Notes: <i>See attached</i> SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____	

Set Date Set Time	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/22/2015 3:00 PM	C73-15 B,C Pull #11 -	Waste Water	Various Metals (Subcontracted)		

*B/S090578-001*

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Sample Type			
						Trip Blank	Grab	Composite	
<i>[Signature]</i>		7:24/1630	<i>[Signature]</i>						
			<i>[Signature]</i>						

*ofs Grnd.*

*Prince Jones*

*melted ice  
NO TB  
temp = 16.2  
NO SLABS*



10/7/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509634

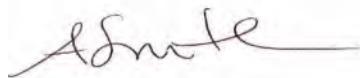
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/23/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509634

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### Specific Report Comments

The cation/anion balance for sample 1509634-001 was outside WETLAB acceptance criteria. Reanalysis on numerous other samples in this project have confirmed the original results for those samples therefore this sample has not been reanalyzed.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

#### **SPARKS**

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fax (775) 355-0817  
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Elko, Nevada 89801  
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fax (775) 777-9933  
EPA LAB ID: NV00926

#### **LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

Date Printed: 10/7/2015

OrderID: 1509634

Customer Sample ID: C773-15 B,C Pull #12

Collect Date/Time: 9/23/2015 15:00

WETLAB Sample ID: 1509634-001

Receive Date: 9/23/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/25/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/30/2015	NV00925
pH	SM 4500-H+ B	6.63	HT pH Units	1		10/7/2015	NV00925
Temperature at pH	NA	23	°C	1		10/7/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	10/1/2015	NV00925
Redox Potential	ASTM D1498	510	mV	1		9/24/2015	NV00925
Acidity (Titrimetric)	SM 2310B	6	mg/L as CaCO3	1		9/24/2015	NV00925
Total Alkalinity	SM 2320B	3.2	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	3.2	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/30/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	160	mg/L	1	10	9/24/2015	NV00925
Electrical Conductivity	SM 2510B	180	µmhos/cm	1	1	9/24/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/24/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/24/2015	NV00925
Sulfate	EPA 300.0	51	mg/L	1	1.0	9/24/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/30/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	M mg/L	1	0.20	9/30/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.079	mg/L	1	0.0030	9/30/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/30/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/30/2015	NV00925
Calcium, Dissolved	EPA 200.7	30	mg/L	1	0.50	9/30/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/30/2015	NV00925
Cobalt, Dissolved	EPA 200.7	0.011	mg/L	1	0.010	9/30/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/30/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/30/2015	NV00925
Manganese, Dissolved	EPA 200.7	0.0095	mg/L	1	0.0050	9/30/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/30/2015	NV00925
Potassium, Dissolved	EPA 200.7	0.75	mg/L	1	0.50	9/30/2015	NV00925
Sodium, Dissolved	EPA 200.7	1.4	mg/L	1	0.50	9/30/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.74	mg/L	1	0.020	9/30/2015	NV00925
Zinc, Dissolved	EPA 200.7	0.011	mg/L	1	0.0080	9/30/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C773-15 B,C Pull #12

Collect Date/Time: 9/23/2015 15:00

WETLAB Sample ID: 1509634-001

Receive Date: 9/23/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.011	mg/L	1	0.0020	9/30/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.003	mg/L	1	0.0020	10/1/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.13	meq/L	1	0.10		NV00925
Cations	Calculation	1.64	meq/L	1	0.10		NV00925
Error	Calculation	19	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/30/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090962	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15091068	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15091119	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15091180	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15091193	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15091214	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15100001	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15100005	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15100024	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090962	LCS 1	Chloride	EPA 300.0	10.6	10.0	106	mg/L
		Fluoride	EPA 300.0	1.99	2.00	99	mg/L
		Sulfate	EPA 300.0	24.5	25.0	98	mg/L
QC15091068	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	155	150	103	mg/L
QC15091068	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	162	150	108	mg/L
QC15091119	LCS 1	Ferrous Iron	SM 3500 Fe B	0.992	1.00	99	mg/L
QC15091145	LCS 1	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15091180	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.836	0.800	104	mg/L
QC15091193	LCS 1	Electrical Conductivity	SM 2510B	1440	1412	102	µmhos/cm
QC15091197	LCS 1	Redox Potential	ASTM D1498	222	221	101	mV
QC15091214	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.09	1.00	109	mg/L
QC15100001	LCS 1	Copper	EPA 200.8	0.0099	0.010	99	mg/L
		Nickel	EPA 200.8	0.0099	0.010	99	mg/L
QC15100005	LCS 1	Barium, Dissolved	EPA 200.7	0.982	1.00	98	mg/L
		Beryllium, Dissolved	EPA 200.7	0.984	1.00	98	mg/L
		Boron, Dissolved	EPA 200.7	0.979	1.00	98	mg/L
		Calcium, Dissolved	EPA 200.7	9.60	10.0	96	mg/L
		Chromium, Dissolved	EPA 200.7	0.978	1.00	98	mg/L
		Cobalt, Dissolved	EPA 200.7	0.972	1.00	97	mg/L
		Iron, Dissolved	EPA 200.7	0.981	1.00	98	mg/L
Magnesium, Dissolved	EPA 200.7	9.43	10.0	94	mg/L		

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Manganese, Dissolved	EPA 200.7	0.974	1.00	97	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.983	1.00	98	mg/L
		Potassium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Sodium, Dissolved	EPA 200.7	10.6	10.0	106	mg/L
		Strontium, Dissolved	EPA 200.7	1.05	1.00	105	mg/L
		Zinc, Dissolved	EPA 200.7	0.959	1.00	96	mg/L
QC15100024	LCS 1	WAD Cyanide	SM 4500CN I, E	0.091	0.100	91	mg/L
QC15100303	LCS 1	pH	SM 4500-H+ B	6.96	7.00	99	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15091068	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509634-001	157	156	mg/L	1 %
QC15091119	Duplicate	Ferrous Iron	SM 3500 Fe B	1509730-001	ND	ND	mg/L	<1%
QC15091119	Duplicate	Ferrous Iron	SM 3500 Fe B	1509733-003	ND	ND	mg/L	<1%
QC15091119	Duplicate	Ferrous Iron	SM 3500 Fe B	1509735-001	ND	ND	mg/L	7 %
QC15091145	Duplicate	Total Alkalinity	SM 2320B	1509575-001	12.4	12.6	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509575-001	12.4	12.6	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509575-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509575-001	ND	ND	mg/L as CaCO3	<1%
QC15091145	Duplicate	Total Alkalinity	SM 2320B	1509577-003	19.5	19.6	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509577-003	19.5	19.6	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509577-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509577-003	ND	ND	mg/L as CaCO3	<1%
QC15091146	Duplicate	Acidity (Titrimetric)	SM 2310B	1509575-001	0.190	ND	mg/L as CaCO3	<1%
QC15091146	Duplicate	Acidity (Titrimetric)	SM 2310B	1509577-003	ND	ND	mg/L as CaCO3	<1%
QC15091193	Duplicate	Electrical Conductivity	SM 2510B	1509580-001	187	187	µmhos/cm	<1%
QC15091197	Duplicate	Redox Potential	ASTM D1498	1509580-001	500	505	mV	1 %
QC15100303	Duplicate	pH	SM 4500-H+ B	1509697-001	7.46	7.46	pH Units	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090962	MS 1	Chloride	EPA 300.0	1509579-001	ND	6.10	6.09	5.00	mg/L	113	113	<1%
		Fluoride	EPA 300.0	1509579-001	ND	2.13	2.10	2.00	mg/L	104	103	1%
		Sulfate	EPA 300.0	1509579-001	161	169	171	10.0	mg/L	84	98	1%
QC15090962	MS 2	Chloride	EPA 300.0	1509654-001	18.4	23.6	23.5	5.00	mg/L	103	102	<1%
		Fluoride	EPA 300.0	1509654-001	1.33	3.15	3.11	2.00	mg/L	91	89	1%
		Sulfate	EPA 300.0	1509654-001	109	117	117	10.0	mg/L	84	85	<1%
QC15091180	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509578-001	ND	5.27	5.28	1.00	mg/L	104	105	<1%
QC15091180	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509605-008	0.680	5.88	5.90	1.00	mg/L	104	104	<1%
QC15091214	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509634-001	ND	M 0.920	0.900	1.00	mg/L	NC	NC	NC
QC15091214	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509644-001	1.14	M 1.82	1.68	1.00	mg/L	NC	NC	NC
QC15100001	MS 1	Copper, Dissolved	EPA 200.8	1509684-001	ND	0.0119	0.0119	0.010	mg/L	94	94	<1%
		Nickel, Dissolved	EPA 200.8	1509684-001	ND	0.0134	0.0135	0.010	mg/L	101	102	1%
QC15100005	MS 1	Barium, Dissolved	EPA 200.7	1509684-001	0.121	1.10	1.09	1.00	mg/L	98	97	1%
		Beryllium, Dissolved	EPA 200.7	1509684-001	ND	0.999	0.991	1.00	mg/L	100	99	1%
		Boron, Dissolved	EPA 200.7	1509684-001	0.200	1.23	1.22	1.00	mg/L	103	102	1%
		Calcium, Dissolved	EPA 200.7	1509684-001	71.8	SC 75.3	73.4	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1509684-001	ND	0.981	0.972	1.00	mg/L	98	97	1%
		Cobalt, Dissolved	EPA 200.7	1509684-001	ND	0.952	0.936	1.00	mg/L	95	94	2%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Iron, Dissolved	EPA 200.7	1509684-001	ND	1.00	0.992	1.00	mg/L	98	97	1%
		Magnesium, Dissolved	EPA 200.7	1509684-001	12.3	20.6	20.3	10.0	mg/L	83	80	1%
		Manganese, Dissolved	EPA 200.7	1509684-001	0.226	1.18	1.18	1.00	mg/L	95	95	<1%
		Molybdenum, Dissolved	EPA 200.7	1509684-001	ND	1.01	0.999	1.00	mg/L	100	99	1%
		Potassium, Dissolved	EPA 200.7	1509684-001	9.27	18.7	18.5	10.0	mg/L	94	92	1%
		Sodium, Dissolved	EPA 200.7	1509684-001	50.7	58.0	57.5	10.0	mg/L	73	68	1%
		Strontium, Dissolved	EPA 200.7	1509684-001	0.298	1.31	1.30	1.00	mg/L	101	100	1%
		Zinc, Dissolved	EPA 200.7	1509684-001	ND	0.980	0.960	1.00	mg/L	97	95	2%
QC15100024	MS 1	WAD Cyanide	SM 4500CN I,	1509573-001	ND	0.105	0.109	0.100	mg/L	105	109	4%
QC15100024	MS 2	WAD Cyanide	SM 4500CN I,	1509722-003	ND	0.097	0.102	0.100	mg/L	97	103	5%

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# ANALYTICAL SUMMARY REPORT

October 06, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15092575                      Quote ID: B3679

Project Name: Job ID : 1509634

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/29/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15092575-001	C773-15 B,C Pull #12	09/23/15 15:00	09/29/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID : 1509634  
**Lab ID:** B15092575-001  
**Client Sample ID:** C773-15 B,C Pull #12

**Report Date:** 10/06/15  
**Collection Date:** 09/23/15 15:00  
**DateReceived:** 09/29/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.148	mg/L		0.009		E200.7	10/01/15 13:55 / rh
Antimony	0.0028	mg/L		0.0005		E200.8	10/01/15 19:54 / mas
Arsenic	0.003	mg/L		0.001		E200.8	10/01/15 19:54 / mas
Cadmium	ND	mg/L		0.00003		E200.8	10/01/15 19:54 / mas
Lead	ND	mg/L		0.0003		E200.8	10/01/15 19:54 / mas
Mercury	0.000290	mg/L		5E-06		E245.1	10/01/15 15:40 / ser
Phosphorus	ND	mg/L	L	0.007		E200.7	10/01/15 13:55 / rh
Selenium	ND	mg/L		0.001		E200.8	10/01/15 19:54 / mas
Silicon	0.60	mg/L		0.05		E200.7	10/01/15 13:55 / rh
Silver	ND	mg/L		0.0002		E200.8	10/01/15 19:54 / mas
Thallium	0.0036	mg/L		0.0002		E200.8	10/01/15 19:54 / mas
Uranium	ND	mg/L		0.0002		E200.8	10/01/15 19:54 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID : 1509634

**Work Order:** B15092575

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_151001A			
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard						10/01/15 11:35			
Aluminum		2.55	mg/L	0.10	102	95	105				
Phosphorus		2.51	mg/L	0.10	101	95	105				
Silicon		5.08	mg/L	0.10	102	95	105				
<b>Method: E200.7</b>								Batch: R250269			
<b>Lab ID: MB-6500DIS151001A</b>	3	Method Blank						Run: ICP203-B_151001A 10/01/15 12:03			
Aluminum		ND	mg/L	0.007							
Phosphorus		ND	mg/L	0.007							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS151001A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_151001A 10/01/15 12:07			
Aluminum		5.12	mg/L	0.10	102	85	115				
Phosphorus		10.4	mg/L	0.10	104	85	115				
Silicon		10.3	mg/L	0.10	103	85	115				
<b>Lab ID: B15092495-005BMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_151001A 10/01/15 13:48			
Aluminum		25.5	mg/L	0.035	102	70	130				
Phosphorus		51.4	mg/L	0.10	103	70	130				
Silicon		57.1	mg/L	0.10	101	70	130				
<b>Lab ID: B15092495-005BMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_151001A 10/01/15 13:51			
Aluminum		25.3	mg/L	0.035	101	70	130	0.8	20		
Phosphorus		51.4	mg/L	0.10	103	70	130	0.1	20		
Silicon		57.8	mg/L	0.10	102	70	130	1.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID : 1509634

**Work Order:** B15092575

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_151001A				
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard							10/01/15 14:47		
Antimony		0.0527	mg/L	0.050	105	90	110				
Arsenic		0.0508	mg/L	0.0050	102	90	110				
Cadmium		0.0252	mg/L	0.0010	101	90	110				
Lead		0.0505	mg/L	0.010	101	90	110				
Selenium		0.0506	mg/L	0.0050	101	90	110				
Silver		0.0236	mg/L	0.0050	94	90	110				
Thallium		0.0481	mg/L	0.10	96	90	110				
Uranium		0.0199	mg/L	0.0010	99	90	110				
<b>Method: E200.8</b>							Batch: R250260				
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank					Run: ICPMS203-B_151001A		10/01/15 10:23		
Antimony		0.0496	mg/L	0.050	99	85	115				
Arsenic		0.0486	mg/L	0.0050	97	85	115				
Cadmium		0.0494	mg/L	0.0010	99	85	115				
Lead		0.0507	mg/L	0.010	101	85	115				
Selenium		0.0485	mg/L	0.0050	97	85	115				
Silver		0.0183	mg/L	0.0050	92	85	115				
Thallium		0.0515	mg/L	0.10	103	85	115				
Uranium		0.0520	mg/L	0.0010	104	85	115				
<b>Lab ID: LRB</b>	8	Method Blank					Run: ICPMS203-B_151001A		10/01/15 11:43		
Antimony		ND	mg/L	1E-05							
Arsenic		9E-05	mg/L	5E-05							
Cadmium		ND	mg/L	5E-06							
Lead		ND	mg/L	3E-05							
Selenium		ND	mg/L	7E-05							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	3E-06							
<b>Lab ID: B15091901-004BMS</b>	8	Sample Matrix Spike					Run: ICPMS203-B_151001A		10/01/15 17:10		
Antimony		0.0990	mg/L	0.0010	99	70	130				
Arsenic		0.103	mg/L	0.0010	99	70	130				
Cadmium		0.0955	mg/L	0.0010	95	70	130				
Lead		0.101	mg/L	0.0010	100	70	130				
Selenium		0.0993	mg/L	0.0010	98	70	130				
Silver		0.0316	mg/L	0.0010	79	70	130				
Thallium		0.0981	mg/L	0.00050	98	70	130				
Uranium		0.121	mg/L	0.00030	116	70	130				
<b>Lab ID: B15091901-004BMSD</b>	8	Sample Matrix Spike Duplicate					Run: ICPMS203-B_151001A		10/01/15 17:14		
Antimony		0.100	mg/L	0.0010	100	70	130	1.1	20		
Arsenic		0.105	mg/L	0.0010	100	70	130	1.7	20		
Cadmium		0.0959	mg/L	0.0010	96	70	130	0.4	20		
Lead		0.102	mg/L	0.0010	102	70	130	1.7	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID : 1509634

**Work Order:** B15092575

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R250260</span>										
<b>Lab ID: B15091901-004BMSD</b> 8 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICPMS203-B_151001A 10/01/15 17:14</span>										
Selenium		0.102	mg/L	0.0010	101	70	130	2.9	20	
Silver		0.0298	mg/L	0.0010	75	70	130	5.9	20	
Thallium		0.0981	mg/L	0.00050	98	70	130	0.1	20	
Uranium		0.125	mg/L	0.00030	120	70	130	3.3	20	
<b>Lab ID: B15092496-004BMS</b> 8 Sample Matrix Spike <span style="float: right;">Run: ICPMS203-B_151001A 10/01/15 19:30</span>										
Antimony		0.0508	mg/L	0.0010	102	70	130			
Arsenic		0.0492	mg/L	0.0010	98	70	130			
Cadmium		0.0493	mg/L	0.0010	99	70	130			
Lead		0.0505	mg/L	0.0010	101	70	130			
Selenium		0.0488	mg/L	0.0010	98	70	130			
Silver		0.0104	mg/L	0.0010	52	70	130			S
Thallium		0.0484	mg/L	0.00050	97	70	130			
Uranium		0.0480	mg/L	0.00030	96	70	130			
<b>Lab ID: B15092496-004BMSD</b> 8 Sample Matrix Spike Duplicate <span style="float: right;">Run: ICPMS203-B_151001A 10/01/15 19:34</span>										
Antimony		0.0508	mg/L	0.0010	101	70	130	0.1	20	
Arsenic		0.0498	mg/L	0.0010	100	70	130	1.2	20	
Cadmium		0.0496	mg/L	0.0010	99	70	130	0.6	20	
Lead		0.0500	mg/L	0.0010	100	70	130	1.0	20	
Selenium		0.0485	mg/L	0.0010	97	70	130	0.5	20	
Silver		0.0106	mg/L	0.0010	53	70	130	1.6	20	S
Thallium		0.0480	mg/L	0.00050	96	70	130	0.9	20	
Uranium		0.0491	mg/L	0.00030	98	70	130	2.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID : 1509634

**Work Order:** B15092575

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151001A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								10/01/15 15:05	
Mercury		0.000217	mg/L	1.0E-05	108	90	110				
<b>Method:</b> E245.1										Batch: 93632	
<b>Lab ID:</b> MB-93632		Method Blank								Run: HGCV203-B_151001A	10/01/15 15:14
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93632		Laboratory Control Sample								Run: HGCV203-B_151001A	10/01/15 15:16
Mercury		0.000216	mg/L	1.0E-05	107	85	115				
<b>Lab ID:</b> B15092392-007BMS		Sample Matrix Spike								Run: HGCV203-B_151001A	10/01/15 15:22
Mercury		0.000218	mg/L	1.0E-05	108	70	130				
<b>Lab ID:</b> B15092392-007BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_151001A	10/01/15 15:24
Mercury		0.000221	mg/L	1.0E-05	110	70	130	1.4	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15092575

Login completed by: Randa Nees

Date Received: 9/29/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 10/1/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	16.2°C Melted Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

Per phone call with Mitchell at Western Environmental Testing Laboratory analyze samples per client history.



# CHAIN OF CUSTODY RECORD

<b>Western Environmental Testing Laboratory</b> 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <u>1</u> System: _____	All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Samplers Initials: _____ Notes: <u>See attached</u>	Date: _____ Time: _____
Sample Receipt Condition: _____ Temperature: _____		Job ID: 1509634	SIGNATURE OF COMPANY REPRESENTATIVE: _____		
Set Date: 9/23/2015 Set Time: 3:00 PM	Sample ID - Site ID: C73-15 B,C Pull #12 -	Matrix: Waste Water	Parameter: Various Metals (Subcontracted)	Container Type: _____	Preservatives: _____
<i>615092575-001</i>					
Relinquished by: (Signature)	Date: 9/21/15 Time: 14:00	Received by: (Signature) <u>C.P.S. Grand</u>	Date: _____ Time: _____	Date: _____ Time: _____	Sample Type: Composite
Relinquished by: (Signature) _____	Date: _____ Time: _____	Received by: (Signature) <u>Quince Jones</u>	Date: _____ Time: _____	Date: _____ Time: _____	Sample Type: Composite
Relinquished by: (Signature) _____	Date: _____ Time: _____	Received by: (Signature) _____	Date: _____ Time: _____	Date: _____ Time: _____	Sample Type: Composite

Melted ice  
 NO TB  
 Temp = 16.2  
 NO SEALS



10/12/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509666

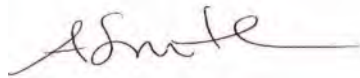
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/24/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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EPA LAB ID: NV00925 - ELAP No: 2523

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**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509666

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### Specific Report Comments

The cation/anion balance for sample 1509666-001 was outside WETLAB acceptance criteria. Reanalysis on numerous other samples in this project have confirmed the original results for those samples therefore this sample has not been reanalyzed.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

Date Printed: 10/12/2015

OrderID: 1509666

Customer Sample ID: C773-15 B,C Pull #13

Collect Date/Time: 9/24/2015 15:00

WETLAB Sample ID: 1509666-001

Receive Date: 9/24/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/25/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	10/1/2015	NV00925
pH	SM 4500-H+ B	6.44	HT pH Units	1		10/6/2015	NV00925
Temperature at pH	NA	23.3	°C	1		10/6/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	10/1/2015	NV00925
Redox Potential	ASTM D1498	480	mV	1		9/25/2015	NV00925
Acidity (Titrimetric)	SM 2310B	11	mg/L as CaCO3	1		9/30/2015	NV00925
Total Alkalinity	SM 2320B	3.2	mg/L as CaCO3	1	1.0	9/30/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	3.2	mg/L as CaCO3	1	1.0	9/30/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/30/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/30/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	10/1/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	120	mg/L	1	10	9/30/2015	NV00925
Electrical Conductivity	SM 2510B	170	µmhos/cm	1	1	9/25/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/29/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/26/2015	NV00925
Sulfate	EPA 300.0	50	mg/L	1	1.0	9/26/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/30/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	10/1/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.092	mg/L	1	0.0030	10/1/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	10/1/2015	NV00925
Bismuth, Dissolved	EPA 200.7	ND	mg/L	1	0.10	10/1/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	10/1/2015	NV00925
Calcium, Dissolved	EPA 200.7	29	mg/L	1	0.50	10/1/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	10/1/2015	NV00925
Cobalt, Dissolved	EPA 200.7	0.010	mg/L	1	0.010	10/1/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	10/1/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	10/1/2015	NV00925
Manganese, Dissolved	EPA 200.7	0.0060	mg/L	1	0.0050	10/1/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	10/1/2015	NV00925
Potassium, Dissolved	EPA 200.7	0.63	mg/L	1	0.50	10/2/2015	NV00925
Sodium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	10/1/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.65	mg/L	1	0.020	10/1/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

**SPARKS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C773-15 B,C Pull #13

Collect Date/Time: 9/24/2015 15:00

WETLAB Sample ID: 1509666-001

Receive Date: 9/24/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	10/1/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.0087	mg/L	1	0.0020	10/6/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.002	mg/L	1	0.0020	10/6/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.10	meq/L	1	0.10		NV00925
Cations	Calculation	1.58	meq/L	1	0.10		NV00925
Error	Calculation	18	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		10/1/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15091050	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15091119	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15091180	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15091194	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15100025	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15100029	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15100074	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Bismuth, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15100122	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15100139	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15091050	LCS 1	Chloride	EPA 300.0	10.8	10.0	108	mg/L
		Fluoride	EPA 300.0	1.84	2.00	92	mg/L
		Sulfate	EPA 300.0	23.8	25.0	95	mg/L
QC15091119	LCS 1	Ferrous Iron	SM 3500 Fe B	0.992	1.00	99	mg/L
QC15091180	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.836	0.800	104	mg/L
QC15091194	LCS 1	Electrical Conductivity	SM 2510B	1439	1412	102	µmhos/cm
QC15091198	LCS 1	Redox Potential	ASTM D1498	222	221	100	mV
QC15100025	LCS 1	WAD Cyanide	SM 4500CN I, E	0.106	0.100	106	mg/L
QC15100029	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.942	1.00	94	mg/L
QC15100074	LCS 1	Barium, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
		Beryllium, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
		Bismuth, Dissolved	EPA 200.7	1.04	1.00	104	mg/L
		Boron, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Calcium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Chromium, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
		Cobalt, Dissolved	EPA 200.7	1.03	1.00	103	mg/L
		Iron, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Magnesium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Manganese, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
		Molybdenum, Dissolved	EPA 200.7	1.03	1.00	103	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Potassium, Dissolved	EPA 200.7	10.1	10.0	101	mg/L
		Sodium, Dissolved	EPA 200.7	9.96	10.0	100	mg/L
		Strontium, Dissolved	EPA 200.7	0.985	1.00	98	mg/L
		Zinc, Dissolved	EPA 200.7	1.07	1.00	107	mg/L
QC15100082	LCS 1	Total Alkalinity	SM 2320B	102	100	102	mg/L
QC15100122	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	161	150	107	mg/L
QC15100122	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	151	150	101	mg/L
QC15100139	LCS 1	Copper	EPA 200.8	0.0096	0.010	96	mg/L
		Nickel	EPA 200.8	0.0104	0.010	104	mg/L
QC15100258	LCS 1	pH	SM 4500-H+ B	6.95	7.00	99	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15091119	Duplicate	Ferrous Iron	SM 3500 Fe B	1509730-001	ND	ND	mg/L	<1%
QC15091119	Duplicate	Ferrous Iron	SM 3500 Fe B	1509733-003	ND	ND	mg/L	<1%
QC15091119	Duplicate	Ferrous Iron	SM 3500 Fe B	1509735-001	ND	ND	mg/L	7 %
QC15091194	Duplicate	Electrical Conductivity	SM 2510B	1509730-001	70.9	70.8	µmhos/cm	<1%
QC15091194	Duplicate	Electrical Conductivity	SM 2510B	1509733-003	141	141	µmhos/cm	<1%
QC15091198	Duplicate	Redox Potential	ASTM D1498	1509730-001	510	511	mV	<1%
QC15091198	Duplicate	Redox Potential	ASTM D1498	1509733-003	499	498	mV	<1%
QC15100082	Duplicate	Total Alkalinity	SM 2320B	1509666-001	3.15	3.15	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509666-001	3.15	3.15	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509666-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509666-001	ND	ND	mg/L as CaCO3	<1%
QC15100082	Duplicate	Total Alkalinity	SM 2320B	1509797-002	10.4	10.3	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509797-002	10.4	10.3	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509797-002	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509797-002	ND	ND	mg/L as CaCO3	<1%
QC15100083	Duplicate	Acidity (Titrimetric)	SM 2310B	1509666-001	11.2	11.9	mg/L as CaCO3	6 %
QC15100083	Duplicate	Acidity (Titrimetric)	SM 2310B	1509797-002	3.45	2.66	QD mg/L as CaCO3	26 %
QC15100122	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509699-001	53.0	54.0	mg/L	2 %
QC15100122	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509721-005	193	184	mg/L	5 %
QC15100258	Duplicate	pH	SM 4500-H+ B	1509727-001	7.83	7.87	HT pH Units	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15091050	MS 1	Chloride	EPA 300.0	1509666-001	ND	5.62	5.64	5.00	mg/L	110	111	<1%
		Fluoride	EPA 300.0	1509666-001	ND	2.01	2.06	2.00	mg/L	99	102	2%
		Sulfate	EPA 300.0	1509666-001	49.6	58.9	59.3	10.0	mg/L	92	97	1%
QC15091050	MS 2	Chloride	EPA 300.0	1509675-001	ND	6.22	6.20	5.00	mg/L	112	112	<1%
		Fluoride	EPA 300.0	1509675-001	ND	1.96	1.95	2.00	mg/L	96	96	1%
		Sulfate	EPA 300.0	1509675-001	1.25	11.0	10.9	10.0	mg/L	97	97	1%
QC15091180	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509578-001	ND	5.27	5.28	1.00	mg/L	104	105	<1%
QC15091180	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509605-008	0.680	5.88	5.90	1.00	mg/L	104	104	<1%
QC15100025	MS 1	WAD Cyanide	SM 4500CN I,	1509576-001	ND	0.102	0.099	0.100	mg/L	102	100	3%
QC15100025	MS 2	WAD Cyanide	SM 4500CN I,	1509722-001	ND	0.097	0.102	0.100	mg/L	96	101	5%
QC15100029	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509644-004	ND	M 0.797	0.798	1.00	mg/L	NC	NC	NC
QC15100074	MS 1	Barium, Dissolved	EPA 200.7	1509684-002	0.014	1.03	1.01	1.00	mg/L	102	100	2%
		Beryllium, Dissolved	EPA 200.7	1509684-002	ND	1.02	1.02	1.00	mg/L	102	102	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Bismuth, Dissolved	EPA 200.7	1509684-002	ND	1.00	1.01	1.00	mg/L	100	101	1%
		Boron, Dissolved	EPA 200.7	1509684-002	0.108	1.14	1.15	1.00	mg/L	103	104	1%
		Calcium, Dissolved	EPA 200.7	1509684-002	43.7	SC 49.9	50.0	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1509684-002	ND	1.00	1.00	1.00	mg/L	100	100	<1%
		Cobalt, Dissolved	EPA 200.7	1509684-002	ND	0.984	0.989	1.00	mg/L	98	99	1%
		Iron, Dissolved	EPA 200.7	1509684-002	ND	0.991	0.992	1.00	mg/L	99	99	<1%
		Magnesium, Dissolved	EPA 200.7	1509684-002	8.99	18.5	18.3	10.0	mg/L	95	93	1%
		Manganese, Dissolved	EPA 200.7	1509684-002	ND	0.998	0.999	1.00	mg/L	100	100	<1%
		Molybdenum, Dissolved	EPA 200.7	1509684-002	ND	1.02	1.02	1.00	mg/L	102	102	<1%
		Potassium, Dissolved	EPA 200.7	1509684-002	3.21	13.5	13.5	10.0	mg/L	103	103	<1%
		Sodium, Dissolved	EPA 200.7	1509684-002	38.1	46.7	46.3	10.0	mg/L	86	82	1%
		Strontium, Dissolved	EPA 200.7	1509684-002	0.175	1.16	1.16	1.00	mg/L	98	98	<1%
		Zinc, Dissolved	EPA 200.7	1509684-002	0.019	1.06	1.05	1.00	mg/L	104	103	1%
QC15100139	MS 1	Copper, Dissolved	EPA 200.8	1509684-002	ND	0.0097	0.0096	0.010	mg/L	95	94	1%
		Nickel, Dissolved	EPA 200.8	1509684-002	ND	0.0113	0.0112	0.010	mg/L	104	103	1%

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# ANALYTICAL SUMMARY REPORT

October 09, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15100206                      Quote ID: B3679

Project Name: Job ID: 1509666

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 10/2/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15100206-001	C773-15 B,C Pull #13	09/24/15 15:00	10/02/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID: 1509666  
**Lab ID:** B15100206-001  
**Client Sample ID:** C773-15 B,C Pull #13

**Report Date:** 10/09/15  
**Collection Date:** 09/24/15 15:00  
**Date Received:** 10/02/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.179	mg/L		0.009		E200.7	10/05/15 18:03 / mas
Antimony	0.0025	mg/L		0.0005		E200.8	10/05/15 20:08 / amm
Arsenic	0.003	mg/L		0.001		E200.8	10/05/15 20:08 / amm
Cadmium	0.00005	mg/L		0.00003		E200.8	10/05/15 20:08 / amm
Lead	ND	mg/L		0.0003		E200.8	10/05/15 20:08 / amm
Mercury	0.000209	mg/L		5E-06		E245.1	10/08/15 14:17 / ser
Phosphorus	0.019	mg/L	L	0.007		E200.7	10/05/15 18:03 / mas
Selenium	ND	mg/L		0.001		E200.8	10/05/15 20:08 / amm
Silicon	0.56	mg/L		0.05		E200.7	10/05/15 18:03 / mas
Silver	ND	mg/L		0.0002		E200.8	10/05/15 20:08 / amm
Thallium	0.0037	mg/L		0.0002		E200.8	10/05/15 20:08 / amm
Uranium	ND	mg/L		0.0002		E200.8	10/05/15 20:08 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/09/15

**Project:** Job ID: 1509666

**Work Order:** B15100206

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_151005A			
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard						10/05/15 11:07			
Aluminum		2.55	mg/L	0.10	102	95	105				
Phosphorus		2.60	mg/L	0.10	104	95	105				
Silicon		5.08	mg/L	0.10	102	95	105				
<b>Method: E200.7</b>								Batch: R250430			
<b>Lab ID: MB-6500DIS151005A</b>	3	Method Blank						Run: ICP203-B_151005A 10/05/15 11:36			
Aluminum		ND	mg/L	0.007							
Phosphorus		ND	mg/L	0.007							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS151005A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_151005A 10/05/15 11:39			
Aluminum		5.05	mg/L	0.10	101	85	115				
Phosphorus		10.5	mg/L	0.10	105	85	115				
Silicon		10.4	mg/L	0.10	104	85	115				
<b>Lab ID: B15100206-001AMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_151005A 10/05/15 18:10			
Aluminum		5.52	mg/L	0.030	107	70	130				
Phosphorus		10.5	mg/L	0.10	105	70	130				
Silicon		11.0	mg/L	0.10	104	70	130				
<b>Lab ID: B15100206-001AMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_151005A 10/05/15 18:13			
Aluminum		5.60	mg/L	0.030	108	70	130	1.4	20		
Phosphorus		10.6	mg/L	0.10	106	70	130	1.1	20		
Silicon		11.0	mg/L	0.10	105	70	130	0.4	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/09/15

**Project:** Job ID: 1509666

**Work Order:** B15100206

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>		Analytical Run: ICPMS206-B_151005A									
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard							10/05/15 14:58		
Antimony		0.0512	mg/L	0.050	102	90	110				
Arsenic		0.0493	mg/L	0.0050	99	90	110				
Cadmium		0.0248	mg/L	0.0010	99	90	110				
Lead		0.0488	mg/L	0.010	98	90	110				
Selenium		0.0506	mg/L	0.0050	101	90	110				
Silver		0.0237	mg/L	0.0050	95	90	110				
Thallium		0.0486	mg/L	0.10	97	90	110				
Uranium		0.0194	mg/L	0.0010	97	90	110				
<b>Method: E200.8</b>		Batch: R250423									
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank							Run: ICPMS206-B_151005A 10/05/15 15:07		
Antimony		0.0442	mg/L	0.050	88	85	115				
Arsenic		0.0469	mg/L	0.0050	94	85	115				
Cadmium		0.0459	mg/L	0.0010	92	85	115				
Lead		0.0475	mg/L	0.010	95	85	115				
Selenium		0.0469	mg/L	0.0050	94	85	115				
Silver		0.0180	mg/L	0.0050	90	85	115				
Thallium		0.0478	mg/L	0.10	96	85	115				
Uranium		0.0484	mg/L	0.0010	97	85	115				
<b>Lab ID: LRB</b>	8	Method Blank							Run: ICPMS206-B_151005A 10/05/15 15:17		
Antimony		0.0004	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Silver		3E-05	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: B15100126-001AMS</b>	8	Sample Matrix Spike							Run: ICPMS206-B_151005A 10/05/15 20:41		
Antimony		0.0489	mg/L	0.0010	98	70	130				
Arsenic		0.0508	mg/L	0.0010	95	70	130				
Cadmium		0.0450	mg/L	0.0010	90	70	130				
Lead		0.0466	mg/L	0.0010	93	70	130				
Selenium		0.0470	mg/L	0.0010	93	70	130				
Silver		0.0174	mg/L	0.0010	87	70	130				
Thallium		0.0462	mg/L	0.00050	92	70	130				
Uranium		0.0514	mg/L	0.00030	100	70	130				
<b>Lab ID: B15100126-001AMSD</b>	8	Sample Matrix Spike Duplicate							Run: ICPMS206-B_151005A 10/05/15 20:46		
Antimony		0.0488	mg/L	0.0010	97	70	130	0.4	20		
Arsenic		0.0519	mg/L	0.0010	97	70	130	2.2	20		
Cadmium		0.0458	mg/L	0.0010	92	70	130	1.7	20		
Lead		0.0468	mg/L	0.0010	94	70	130	0.5	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/09/15

**Project:** Job ID: 1509666

**Work Order:** B15100206

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R250423
<b>Lab ID:</b> B15100126-001AMSD	8	Sample Matrix Spike Duplicate			Run: ICPMS206-B_151005A				10/05/15 20:46	
Selenium		0.0479	mg/L	0.0010	95	70	130	2.0	20	
Silver		0.0173	mg/L	0.0010	87	70	130	0.6	20	
Thallium		0.0471	mg/L	0.00050	94	70	130	1.8	20	
Uranium		0.0513	mg/L	0.00030	99	70	130	0.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/09/15

**Project:** Job ID: 1509666

**Work Order:** B15100206

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151008A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								10/08/15 12:02	
Mercury		0.000203	mg/L	1.0E-05	102	90	110				
<b>Method:</b> E245.1										Batch: 93777	
<b>Lab ID:</b> MB-93777		Method Blank								Run: HGCV203-B_151008A	10/08/15 13:56
Mercury		2E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93777		Laboratory Control Sample								Run: HGCV203-B_151008A	10/08/15 13:59
Mercury		0.000196	mg/L	1.0E-05	97	85	115				
<b>Lab ID:</b> B15092429-001BMS		Sample Matrix Spike								Run: HGCV203-B_151008A	10/08/15 14:04
Mercury		0.000196	mg/L	1.0E-05	96	70	130				
<b>Lab ID:</b> B15092429-001BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_151008A	10/08/15 14:07
Mercury		0.000193	mg/L	1.0E-05	95	70	130	1.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15100206

Login completed by: Randa Nees

Date Received: 10/2/2015

Reviewed by: BL2000\jmueller

Received by: jwc

Reviewed Date: 10/5/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	14.8°C Melted Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

None

# CHAIN OF CUSTODY RECORD

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson kurtc@WETLaboratory.com Ph: (775) 355-0202 Fax: (775) 355-0817		Total # of sample containers System Job ID 1509666	Samplers Initials _____ Notes: <i>See attached</i>	All Samples Refrigerated?: Y N X Compliance: Y X N CA Write ON: Y N X QC: Y N Water System #:	Date: _____ Time: _____
SIGNATURE OF COMPANY REPRESENTATIVE: _____					
Set Date 9/24/2015 3:00 PM	Sample ID - Site ID C773-15 B.C Pull #13	Matrix Waste Water	Parameter Various Metals (Subcontracted)	Container Type _____	Preservatives _____ <i>B15/00206-001</i>
Sample Type Composite    Grab    Equipment Blank					
Relinquished by: (Signature)	Date: 9-29-15	Time: 14:08	Received by: (Signature)	Date: _____	Time: _____
Relinquished by: (Signature)	Date: _____	Time: _____	Received by: (Signature)	Date: _____	Time: _____
Relinquished by: (Signature)	Date: _____	Time: _____	Received by: (Signature)	Date: 10/2/15	Time: 9:15

meltdie 14.8°C NOTB  
 UPS ground  
 Custody Seal N.P.



10/13/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509735

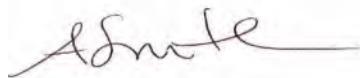
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/25/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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EPA LAB ID: NV00926

**LAS VEGAS**

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509735

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

Date Printed: 10/13/2015

OrderID: 1509735

Customer Sample ID: C773-15 B,C Pull #14

Collect Date/Time: 9/25/2015 15:00

WETLAB Sample ID: 1509735-001

Receive Date: 9/25/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/25/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	10/2/2015	NV00925
pH	SM 4500-H+ B	6.79	HT pH Units	1		10/5/2015	NV00925
Temperature at pH	NA	22.1	°C	1		10/5/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	10/5/2015	NV00925
Redox Potential	ASTM D1498	470	mV	1		9/25/2015	NV00925
Acidity (Titrimetric)	SM 2310B	29	mg/L as CaCO3	1		10/6/2015	NV00925
Total Alkalinity	SM 2320B	4.0	mg/L as CaCO3	1	1.0	10/5/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	4.0	mg/L as CaCO3	1	1.0	10/5/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/5/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/5/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	10/5/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	92	mg/L	1	10	10/1/2015	NV00925
Electrical Conductivity	SM 2510B	150	µmhos/cm	1	1	9/25/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/28/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/28/2015	NV00925
Sulfate	EPA 300.0	47	mg/L	1	1.0	9/28/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/30/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	M mg/L	1	0.20	10/5/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.088	mg/L	1	0.0030	10/1/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	10/1/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	10/1/2015	NV00925
Calcium, Dissolved	EPA 200.7	26	mg/L	1	0.50	10/1/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	10/1/2015	NV00925
Cobalt, Dissolved	EPA 200.7	0.010	mg/L	1	0.010	10/1/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	10/2/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	10/1/2015	NV00925
Manganese, Dissolved	EPA 200.7	0.0062	mg/L	1	0.0050	10/1/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	10/1/2015	NV00925
Potassium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	10/1/2015	NV00925
Sodium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	10/1/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.58	mg/L	1	0.020	10/1/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	10/1/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C773-15 B,C Pull #14

Collect Date/Time: 9/25/2015 15:00

WETLAB Sample ID: 1509735-001

Receive Date: 9/25/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.0097	mg/L	1	0.0020	10/2/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.003	mg/L	1	0.0020	10/6/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.06	meq/L	1	0.10		NV00925
Cations	Calculation	1.30	meq/L	1	0.10		NV00925
Error	Calculation	10	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		10/1/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15091107	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15091119	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15091194	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15091208	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15100070	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15100143	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15100194	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15100203	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15100215	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15091107	LCS 1	Chloride	EPA 300.0	10.00	10.0	100	mg/L
		Fluoride	EPA 300.0	2.02	2.00	101	mg/L
		Sulfate	EPA 300.0	24.2	25.0	97	mg/L
QC15091119	LCS 1	Ferrous Iron	SM 3500 Fe B	0.992	1.00	99	mg/L
QC15091194	LCS 1	Electrical Conductivity	SM 2510B	1439	1412	102	µmhos/cm
QC15091198	LCS 1	Redox Potential	ASTM D1498	222	221	100	mV
QC15091208	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.828	0.800	103	mg/L
QC15100070	LCS 1	Barium, Dissolved	EPA 200.7	1.04	1.00	104	mg/L
		Beryllium, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Boron, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Calcium, Dissolved	EPA 200.7	10.3	10.0	103	mg/L
		Chromium, Dissolved	EPA 200.7	0.997	1.00	100	mg/L
		Cobalt, Dissolved	EPA 200.7	0.995	1.00	100	mg/L
		Iron, Dissolved	EPA 200.7	1.06	1.00	106	mg/L
		Magnesium, Dissolved	EPA 200.7	10.3	10.0	103	mg/L
		Manganese, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Molybdenum, Dissolved	EPA 200.7	1.04	1.00	104	mg/L
		Potassium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Sodium, Dissolved	EPA 200.7	10.4	10.0	104	mg/L
		Strontium, Dissolved	EPA 200.7	1.03	1.00	103	mg/L
		Zinc, Dissolved	EPA 200.7	1.06	1.00	106	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15100143	LCS 1	Copper	EPA 200.8	0.0099	0.010	98	mg/L
		Nickel	EPA 200.8	0.0107	0.010	107	mg/L
QC15100194	LCS 1	WAD Cyanide	SM 4500CN I, E	0.106	0.100	106	mg/L
QC15100203	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	145	150	97	mg/L
QC15100203	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	140	150	93	mg/L
QC15100215	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.04	1.00	104	mg/L
QC15100227	LCS 1	pH	SM 4500-H+ B	6.96	7.00	99	pH Units
QC15100227	LCS 2	pH	SM 4500-H+ B	6.96	7.00	99	pH Units
QC15100229	LCS 1	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15100229	LCS 2	Total Alkalinity	SM 2320B	101	100	101	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15091119	Duplicate	Ferrous Iron	SM 3500 Fe B	1509730-001	ND	ND	mg/L	<1%
QC15091119	Duplicate	Ferrous Iron	SM 3500 Fe B	1509733-003	ND	ND	mg/L	<1%
QC15091119	Duplicate	Ferrous Iron	SM 3500 Fe B	1509735-001	ND	ND	mg/L	7 %
QC15091194	Duplicate	Electrical Conductivity	SM 2510B	1509730-001	70.9	70.8	µmhos/cm	<1%
QC15091194	Duplicate	Electrical Conductivity	SM 2510B	1509733-003	141	141	µmhos/cm	<1%
QC15091198	Duplicate	Redox Potential	ASTM D1498	1509730-001	510	511	mV	<1%
QC15091198	Duplicate	Redox Potential	ASTM D1498	1509733-003	499	498	mV	<1%
QC15100203	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509735-001	92.0	91.0	mg/L	1 %
QC15100203	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509768-009	154	155	mg/L	1 %
QC15100227	Duplicate	pH	SM 4500-H+ B	1509712-004	6.92	6.92	HT pH Units	<1%
QC15100227	Duplicate	pH	SM 4500-H+ B	1509735-001	6.79	6.76	HT pH Units	<1%
QC15100227	Duplicate	pH	SM 4500-H+ B	1509764-008	8.63	8.62	HT pH Units	<1%
QC15100227	Duplicate	pH	SM 4500-H+ B	1509777-002	7.54	7.51	pH Units	<1%
QC15100229	Duplicate	Total Alkalinity	SM 2320B	1509712-004	29.7	29.4	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509712-004	29.7	29.4	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509712-004	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509712-004	ND	ND	mg/L as CaCO3	<1%
QC15100229	Duplicate	Total Alkalinity	SM 2320B	1509735-001	4.04	3.57	mg/L as CaCO3	12 %
		Bicarbonate (HCO3)	SM 2320B	1509735-001	4.04	3.57	mg/L as CaCO3	12 %
		Carbonate (CO3)	SM 2320B	1509735-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509735-001	ND	ND	mg/L as CaCO3	<1%
QC15100229	Duplicate	Total Alkalinity	SM 2320B	1509764-008	151	151	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509764-008	138	139	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509764-008	12.9	12.2	mg/L as CaCO3	6 %
		Hydroxide (OH)	SM 2320B	1509764-008	ND	ND	mg/L as CaCO3	<1%
QC15100229	Duplicate	Total Alkalinity	SM 2320B	1509777-002	30.6	30.0	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509777-002	30.6	30.0	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509777-002	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509777-002	ND	ND	mg/L as CaCO3	<1%
QC15100230	Duplicate	Acidity (Titrimetric)	SM 2310B	1509735-001	28.6	25.6	mg/L as CaCO3	11 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
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DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15091107	MS 1	Chloride	EPA 300.0	1509731-002	ND	5.19	5.19	5.00	mg/L	101	101	<1%
		Fluoride	EPA 300.0	1509731-002	0.190	2.25	2.24	2.00	mg/L	103	103	<1%
		Sulfate	EPA 300.0	1509731-002	45.9	55.5	55.1	10.0	mg/L	95	92	1%
QC15091107	MS 2	Chloride	EPA 300.0	1509735-001	ND	5.25	5.24	5.00	mg/L	102	102	<1%
		Fluoride	EPA 300.0	1509735-001	ND	2.11	2.10	2.00	mg/L	104	104	<1%
		Sulfate	EPA 300.0	1509735-001	46.8	56.5	56.5	10.0	mg/L	97	97	<1%
QC15091208	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509735-001	ND	5.22	5.26	1.00	mg/L	103	104	1%
QC15091208	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509764-002	ND	5.19	5.16	1.00	mg/L	103	103	1%
QC15100070	MS 1	Barium, Dissolved	EPA 200.7	1509712-001	0.038	1.13	1.11	1.00	mg/L	109	107	2%
		Beryllium, Dissolved	EPA 200.7	1509712-001	ND	1.01	1.01	1.00	mg/L	101	101	<1%
		Boron, Dissolved	EPA 200.7	1509712-001	ND	1.06	1.05	1.00	mg/L	101	100	1%
		Calcium, Dissolved	EPA 200.7	1509712-001	2.14	12.8	12.7	10.0	mg/L	107	106	1%
		Chromium, Dissolved	EPA 200.7	1509712-001	ND	1.03	1.01	1.00	mg/L	103	101	2%
		Cobalt, Dissolved	EPA 200.7	1509712-001	ND	1.01	0.992	1.00	mg/L	101	99	2%
		Iron, Dissolved	EPA 200.7	1509712-001	0.189	1.21	1.19	1.00	mg/L	102	100	2%
		Magnesium, Dissolved	EPA 200.7	1509712-001	0.750	11.3	11.3	10.0	mg/L	106	106	<1%
		Manganese, Dissolved	EPA 200.7	1509712-001	ND	1.02	0.999	1.00	mg/L	102	100	2%
		Molybdenum, Dissolved	EPA 200.7	1509712-001	ND	1.05	1.04	1.00	mg/L	105	104	1%
		Potassium, Dissolved	EPA 200.7	1509712-001	1.72	12.0	12.1	10.0	mg/L	103	104	1%
		Sodium, Dissolved	EPA 200.7	1509712-001	3.24	13.3	13.3	10.0	mg/L	101	101	<1%
		Strontium, Dissolved	EPA 200.7	1509712-001	ND	1.03	1.03	1.00	mg/L	102	102	<1%
		Zinc, Dissolved	EPA 200.7	1509712-001	0.021	1.11	1.10	1.00	mg/L	109	108	1%
		QC15100143	MS 1	Copper, Dissolved	EPA 200.8	1509712-001	ND	0.0117	0.0116	0.010	mg/L	102
Nickel, Dissolved	EPA 200.8			1509712-001	ND	0.0112	0.0114	0.010	mg/L	105	107	2%
QC15100194	MS 1	WAD Cyanide	SM 4500CN I,	1509765-004	ND	0.090	0.100	0.100	mg/L	90	100	11%
QC15100194	MS 2	WAD Cyanide	SM 4500CN I,	1509771-002	ND	0.100	0.091	0.100	mg/L	95	86	9%
QC15100215	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509735-001	ND	M 1.16	0.992	1.00	mg/L	NC	NC	NC
QC15100215	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509774-001	0.714	M 1.31	1.41	1.00	mg/L	NC	NC	NC

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 7 of 7

**SPARKS**

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 EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932



# ANALYTICAL SUMMARY REPORT

October 13, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15100211                      Quote ID: B3679

Project Name: Job ID: 1509735

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 10/2/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15100211-001	C773-15 B,C Pull #14	09/25/15 15:00	10/02/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID: 1509735  
**Lab ID:** B15100211-001  
**Client Sample ID:** C773-15 B,C Pull #14

**Report Date:** 10/13/15  
**Collection Date:** 09/25/15 15:00  
**Date Received:** 10/02/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.100	mg/L		0.009		E200.8	10/05/15 20:13 / amm
Antimony	0.0024	mg/L		0.0005		E200.8	10/05/15 20:13 / amm
Arsenic	0.002	mg/L		0.001		E200.8	10/05/15 20:13 / amm
Cadmium	ND	mg/L		0.00003		E200.8	10/05/15 20:13 / amm
Lead	ND	mg/L		0.0003		E200.8	10/05/15 20:13 / amm
Mercury	0.000220	mg/L		5E-06		E245.1	10/12/15 14:59 / ser
Phosphorus	0.023	mg/L	L	0.007		E200.7	10/05/15 18:16 / mas
Selenium	ND	mg/L		0.001		E200.8	10/05/15 20:13 / amm
Silicon	0.51	mg/L		0.05		E200.7	10/05/15 18:16 / mas
Silver	ND	mg/L		0.0002		E200.8	10/05/15 20:13 / amm
Thallium	0.0034	mg/L		0.0002		E200.8	10/05/15 20:13 / amm
Uranium	ND	mg/L		0.0002		E200.8	10/05/15 20:13 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/13/15

**Project:** Job ID: 1509735

**Work Order:** B15100211

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_151005A			
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard								10/05/15 11:07	
Phosphorus		2.60	mg/L	0.10	104	95	105				
Silicon		5.08	mg/L	0.10	102	95	105				
<b>Method: E200.7</b>								Batch: R250430			
<b>Lab ID: MB-6500DIS151005A</b>	2	Method Blank						Run: ICP203-B_151005A		10/05/15 11:36	
Phosphorus		ND	mg/L	0.007							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS151005A</b>	2	Laboratory Fortified Blank						Run: ICP203-B_151005A		10/05/15 11:39	
Phosphorus		10.5	mg/L	0.10	105	85	115				
Silicon		10.4	mg/L	0.10	104	85	115				
<b>Lab ID: B15100206-001AMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_151005A		10/05/15 18:10	
Phosphorus		10.5	mg/L	0.10	105	70	130				
Silicon		11.0	mg/L	0.10	104	70	130				
<b>Lab ID: B15100206-001AMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_151005A		10/05/15 18:13	
Phosphorus		10.6	mg/L	0.10	106	70	130	1.1	20		
Silicon		11.0	mg/L	0.10	105	70	130	0.4	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/13/15

**Project:** Job ID: 1509735

**Work Order:** B15100211

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_151005A	
<b>Lab ID: QCS</b>	9	Initial Calibration Verification Standard							10/05/15 14:58		
Aluminum		0.238	mg/L	0.10	95	90	110				
Antimony		0.0512	mg/L	0.050	102	90	110				
Arsenic		0.0493	mg/L	0.0050	99	90	110				
Cadmium		0.0248	mg/L	0.0010	99	90	110				
Lead		0.0488	mg/L	0.010	98	90	110				
Selenium		0.0506	mg/L	0.0050	101	90	110				
Silver		0.0237	mg/L	0.0050	95	90	110				
Thallium		0.0486	mg/L	0.10	97	90	110				
Uranium		0.0194	mg/L	0.0010	97	90	110				
<b>Method: E200.8</b>										Batch: R250423	
<b>Lab ID: LFB</b>	9	Laboratory Fortified Blank							Run: ICPMS206-B_151005A 10/05/15 15:07		
Aluminum		0.0442	mg/L	0.10	75	85	115			S	
Antimony		0.0442	mg/L	0.050	88	85	115				
Arsenic		0.0469	mg/L	0.0050	94	85	115				
Cadmium		0.0459	mg/L	0.0010	92	85	115				
Lead		0.0475	mg/L	0.010	95	85	115				
Selenium		0.0469	mg/L	0.0050	94	85	115				
Silver		0.0180	mg/L	0.0050	90	85	115				
Thallium		0.0478	mg/L	0.10	96	85	115				
Uranium		0.0484	mg/L	0.0010	97	85	115				
<b>Lab ID: LRB</b>	9	Method Blank							Run: ICPMS206-B_151005A 10/05/15 15:17		
Aluminum		ND	mg/L	0.0001							
Antimony		0.0004	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Silver		3E-05	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: B15100126-001AMS</b>	9	Sample Matrix Spike							Run: ICPMS206-B_151005A 10/05/15 20:41		
Aluminum		0.0510	mg/L	0.030	85	70	130				
Antimony		0.0489	mg/L	0.0010	98	70	130				
Arsenic		0.0508	mg/L	0.0010	95	70	130				
Cadmium		0.0450	mg/L	0.0010	90	70	130				
Lead		0.0466	mg/L	0.0010	93	70	130				
Selenium		0.0470	mg/L	0.0010	93	70	130				
Silver		0.0174	mg/L	0.0010	87	70	130				
Thallium		0.0462	mg/L	0.00050	92	70	130				
Uranium		0.0514	mg/L	0.00030	100	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/13/15

**Project:** Job ID: 1509735

**Work Order:** B15100211

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R250423
<b>Lab ID:</b> B15100126-001AMSD	9	Sample Matrix Spike Duplicate								Run: ICPMS206-B_151005A
										10/05/15 20:46
Aluminum		0.0506	mg/L	0.030	85	70	130	0.9	20	
Antimony		0.0488	mg/L	0.0010	97	70	130	0.4	20	
Arsenic		0.0519	mg/L	0.0010	97	70	130	2.2	20	
Cadmium		0.0458	mg/L	0.0010	92	70	130	1.7	20	
Lead		0.0468	mg/L	0.0010	94	70	130	0.5	20	
Selenium		0.0479	mg/L	0.0010	95	70	130	2.0	20	
Silver		0.0173	mg/L	0.0010	87	70	130	0.6	20	
Thallium		0.0471	mg/L	0.00050	94	70	130	1.8	20	
Uranium		0.0513	mg/L	0.00030	99	70	130	0.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/13/15

**Project:** Job ID: 1509735

**Work Order:** B15100211

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151012A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								10/12/15 14:26	
Mercury		0.000199	mg/L	1.0E-05	100	90	110				
<b>Method:</b> E245.1										Batch: 93835	
<b>Lab ID:</b> MB-93835		Method Blank								Run: HGCV203-B_151012A	10/12/15 14:38
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-93835		Laboratory Control Sample								Run: HGCV203-B_151012A	10/12/15 14:40
Mercury		0.000204	mg/L	1.0E-05	102	85	115				
<b>Lab ID:</b> B15100471-003BMS		Sample Matrix Spike								Run: HGCV203-B_151012A	10/12/15 15:04
Mercury		0.000205	mg/L	1.0E-05	97	70	130				
<b>Lab ID:</b> B15100471-003BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_151012A	10/12/15 15:06
Mercury		0.000212	mg/L	1.0E-05	101	70	130	3.4	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15100211

Login completed by: Randa Nees

Date Received: 10/2/2015

Reviewed by: BL2000\jmueller

Received by: jwc

Reviewed Date: 10/5/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	14.8°C Melted Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# CHAIN OF CUSTODY RECORD

<b>Western Environmental Testing Laboratory</b> 475 E. Greg Street #119 Sparks, NV 89431 Logan Greenwood Ph: (775) 355-0202 LoganG@wetlaboratory.com Fax: (775) 355-0817		Total # of sample containers: <u>1</u> System: _____ Job ID: 1509735	Samplers Initials: _____ All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Water System #: _____ Notes: <i>see attached</i>
SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____				

Set Date	Set Time	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/25/2015	3:00 PM	C773-15 B.C Pull #14 -	Waste Water	Various Metals (Subcontracted)		

*B15700211-001*

Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
<i>[Signature]</i>		9/25/15	14:00	<i>[Signature]</i>						
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
				<i>Jodi W Crawford</i>	10/2/15	9:15				

*Melted @ 14.8°C NO TB*  
*UPS ground*  
*Custody Seal N/P*



9/29/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1508605

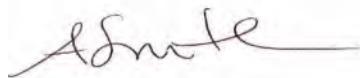
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 8/24/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1508605

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### General Comments

None

### Specific Comments

The cation/anion balance for sample 1508605-002 was outside WETLAB acceptance criteria; however, reanalysis confirmed the original results.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

---

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fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: Black Butte Copper Diffusion Project

Date Printed: 9/29/2015

OrderID: 1508605

Customer Sample ID: C586-15 P, Q Pull #1

Collect Date/Time: 8/24/2015 17:00

WETLAB Sample ID: 1508605-002

Receive Date: 8/24/2015 17:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/25/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/26/2015	NV00925
pH	SM 4500-H+ B	6.56	HT,QD pH Units	1		9/2/2015	NV00925
Temperature at pH	NA	22.9	°C	1		9/2/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	8/28/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		8/25/2015	NV00925
Acidity (Titrimetric)	SM 2310B	3	mg/L as CaCO3	1		9/2/2015	NV00925
Total Alkalinity	SM 2320B	4.0	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	4.0	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	8/29/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	53	mg/L	1	10	8/25/2015	NV00925
Electrical Conductivity	SM 2510B	89	µmhos/cm	1	1	8/25/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	8/26/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	8/26/2015	NV00925
Sulfate	EPA 300.0	20	mg/L	1	1.0	8/26/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	8/25/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	8/29/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.023	mg/L	1	0.0030	8/26/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	8/26/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	8/26/2015	NV00925
Calcium, Dissolved	EPA 200.7	11	mg/L	1	0.50	8/26/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/26/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	8/26/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/26/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	8/26/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/26/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/26/2015	NV00925
Phosphorus, Dissolved	EPA 200.7	ND	mg/L	1	0.50	8/26/2015	NV00925
Potassium, Dissolved	EPA 200.7	3.2	mg/L	1	0.50	8/26/2015	NV00925
Sodium, Dissolved	EPA 200.7	1.9	mg/L	1	0.50	8/26/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.18	mg/L	1	0.020	8/26/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	8/26/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**SPARKS**

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**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C586-15 P, Q Pull #1

Collect Date/Time: 8/24/2015 17:00

WETLAB Sample ID: 1508605-002

Receive Date: 8/24/2015 17:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	8/26/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.002	mg/L	1	0.0020	9/8/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	0.50	meq/L	1	0.10		NV00925
Cations	Calculation	0.71	meq/L	1	0.10		NV00925
Error	Calculation	18	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		8/27/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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 EPA LAB ID: NV00932

Customer Sample ID: C586-15 P, Q Pull #2  
 WETLAB Sample ID: 1508605-003

Collect Date/Time: 8/24/2015 20:00

Receive Date: 8/24/2015 17:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/25/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/26/2015	NV00925
pH	SM 4500-H+ B	6.94	HT pH Units	1		9/2/2015	NV00925
Temperature at pH	NA	22.9	°C	1		9/2/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	8/28/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		8/25/2015	NV00925
Acidity (Titrimetric)	SM 2310B	3	mg/L as CaCO3	1		9/2/2015	NV00925
Total Alkalinity	SM 2320B	5.4	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	5.4	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	8/29/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	48	mg/L	1	10	8/25/2015	NV00925
Electrical Conductivity	SM 2510B	80	µmhos/cm	1	1	8/25/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	8/26/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	8/26/2015	NV00925
Sulfate	EPA 300.0	17	mg/L	1	1.0	8/26/2015	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	8/27/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	8/29/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium, Dissolved	EPA 200.7	0.031	mg/L	1	0.0030	8/26/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	8/26/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	8/26/2015	NV00925
Calcium, Dissolved	EPA 200.7	10	mg/L	1	0.50	8/26/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/26/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	8/26/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/26/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	8/26/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/26/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/26/2015	NV00925
Phosphorus, Dissolved	EPA 200.7	ND	mg/L	1	0.50	8/26/2015	NV00925
Potassium, Dissolved	EPA 200.7	2.0	mg/L	1	0.50	8/26/2015	NV00925
Sodium, Dissolved	EPA 200.7	1.2	mg/L	1	0.50	8/26/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.15	mg/L	1	0.020	8/26/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	8/26/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	8/26/2015	NV00925
Nickel, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/8/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	0.46	meq/L	1	0.10		NV00925
Cations	Calculation	0.60	meq/L	1	0.10		NV00925
Error	Calculation	13	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		8/27/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**SPARKS**

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**LAS VEGAS**

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C586-15 P, Q Pull #2  
WETLAB Sample ID: 1508605-003

Collect Date/Time: 8/24/2015 20:00  
Receive Date: 8/24/2015 17:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>Subcontracted Analyses</b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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EPA LAB ID: NV00932

Customer Sample ID: C586-15 P, Q Pull #3  
 WETLAB Sample ID: 1508605-004

Collect Date/Time: 8/25/2015 08:00

Receive Date: 8/24/2015 17:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/25/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/26/2015	NV00925
pH	SM 4500-H+ B	9.19	pH Units	1		8/27/2015	NV00925
Temperature at pH	NA	22.4	°C	1		8/27/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	8/28/2015	NV00925
Redox Potential	ASTM D1498	460	mV	1		8/25/2015	NV00925
Acidity (Titrimetric)	SM 2310B	-4	mg/L as CaCO3	1		9/2/2015	NV00925
Total Alkalinity	SM 2320B	13	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	4.0	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Carbonate (CO3)	SM 2320B	9.4	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	8/29/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	120	mg/L	1	10	8/25/2015	NV00925
Electrical Conductivity	SM 2510B	200	µmhos/cm	1	1	8/25/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	8/26/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	8/26/2015	NV00925
Sulfate	EPA 300.0	47	mg/L	1	1.0	8/26/2015	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	8/27/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	0.20	mg/L	1	0.20	8/29/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium, Dissolved	EPA 200.7	0.052	mg/L	1	0.0030	8/26/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	8/26/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	8/26/2015	NV00925
Calcium, Dissolved	EPA 200.7	27	mg/L	1	0.50	8/26/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/26/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	8/26/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/26/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	8/26/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/26/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/26/2015	NV00925
Phosphorus, Dissolved	EPA 200.7	ND	mg/L	1	0.50	8/26/2015	NV00925
Potassium, Dissolved	EPA 200.7	4.6	mg/L	1	0.50	8/26/2015	NV00925
Sodium, Dissolved	EPA 200.7	2.7	mg/L	1	0.50	8/26/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.40	mg/L	1	0.020	8/26/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	8/26/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	8/26/2015	NV00925
Nickel, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/8/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.25	meq/L	1	0.10		NV00925
Cations	Calculation	1.58	meq/L	1	0.10		NV00925
Error	Calculation	12	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		8/27/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**LAS VEGAS**

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C586-15 P, Q Pull #3  
WETLAB Sample ID: 1508605-004

Collect Date/Time: 8/25/2015 08:00  
Receive Date: 8/24/2015 17:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>Subcontracted Analyses</b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15081062	Blank 1	Ferrous Iron	3500 Fe D	ND	mg/L
QC15081065	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15081093	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15081094	Blank 1	Copper	EPA 200.8	ND	mg/L
		Nickel	EPA 200.8	ND	mg/L
QC15081103	Blank 1	Barium	EPA 200.7	ND	mg/L
		Beryllium	EPA 200.7	ND	mg/L
		Boron	EPA 200.7	ND	mg/L
		Calcium	EPA 200.7	ND	mg/L
		Chromium	EPA 200.7	ND	mg/L
		Cobalt	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
		Manganese	EPA 200.7	ND	mg/L
		Molybdenum	EPA 200.7	ND	mg/L
		Phosphorus	EPA 200.7	ND	mg/L
		Potassium	EPA 200.7	ND	mg/L
		Sodium	EPA 200.7	ND	mg/L
		Strontium	EPA 200.7	ND	mg/L
		Zinc	EPA 200.7	ND	mg/L
QC15081116	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15081130	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15081189	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15081191	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15081204	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15081062	LCS 1	Ferrous Iron	3500 Fe D	0.858	1.00	86	mg/L
QC15081065	LCS 1	Electrical Conductivity	SM 2510B	1425	1412	101	µmhos/cm
QC15081067	LCS 1	Redox Potential	ASTM D1498	221	221	100	mV
QC15081093	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.779	0.800	97	mg/L
QC15081094	LCS 1	Copper	EPA 200.8	0.0097	0.010	97	mg/L
		Nickel	EPA 200.8	0.0102	0.010	102	mg/L
QC15081103	LCS 1	Barium	EPA 200.7	0.970	1.00	97	mg/L
		Beryllium	EPA 200.7	0.971	1.00	97	mg/L
		Boron	EPA 200.7	0.961	1.00	96	mg/L
		Calcium	EPA 200.7	9.73	10.0	97	mg/L
		Chromium	EPA 200.7	0.966	1.00	97	mg/L
		Cobalt	EPA 200.7	0.972	1.00	97	mg/L
		Iron	EPA 200.7	1.01	1.00	101	mg/L
		Magnesium	EPA 200.7	10.2	10.0	102	mg/L
		Manganese	EPA 200.7	0.964	1.00	96	mg/L
		Molybdenum	EPA 200.7	0.974	1.00	97	mg/L
		Phosphorus	EPA 200.7	4.93	5.00	99	mg/L
		Potassium	EPA 200.7	9.87	10.0	99	mg/L
		Sodium	EPA 200.7	10.2	10.0	102	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15081116	LCS 1	Strontium	EPA 200.7	1.00	1.00	100	mg/L
		Zinc	EPA 200.7	1.00	1.00	100	mg/L
		Chloride	EPA 300.0	9.76	10.0	98	mg/L
		Fluoride	EPA 300.0	1.90	2.00	95	mg/L
		Sulfate	EPA 300.0	23.4	25.0	94	mg/L
QC15081130	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.825	0.800	103	mg/L
QC15081177	LCS 1	pH	SM 4500-H+ B	6.94	7.00	99	pH Units
QC15081177	LCS 2	pH	SM 4500-H+ B	6.93	7.00	99	pH Units
QC15081189	LCS 1	WAD Cyanide	SM 4500CN I, E	0.100	0.100	100	mg/L
QC15081191	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	144	150	96	mg/L
QC15081191	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	148	150	99	mg/L
QC15081204	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.926	1.00	93	mg/L
QC15090154	LCS 1	Total Alkalinity	SM 2320B	97.3	100	97	mg/L
QC15090154	LCS 2	Total Alkalinity	SM 2320B	88.7	100	89	mg/L
QC15090155	LCS 1	pH	SM 4500-H+ B	6.94	7.00	99	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15081062	Duplicate	Ferrous Iron	3500 Fe D	1508602-001	ND	ND	mg/L	<1%
QC15081062	Duplicate	Ferrous Iron	3500 Fe D	1508604-003	ND	ND	mg/L	7 %
QC15081065	Duplicate	Electrical Conductivity	SM 2510B	1508602-001	66.9	66.6	µmhos/cm	<1%
QC15081065	Duplicate	Electrical Conductivity	SM 2510B	1508604-003	98.7	98.6	µmhos/cm	<1%
QC15081065	Duplicate	Electrical Conductivity	SM 2510B	1508606-001	105	104	µmhos/cm	1 %
QC15081067	Duplicate	Redox Potential	ASTM D1498	1508602-001	523	523	mV	<1%
QC15081067	Duplicate	Redox Potential	ASTM D1498	1508604-003	504	506	mV	<1%
QC15081067	Duplicate	Redox Potential	ASTM D1498	1508606-001	434	429	mV	1 %
QC15081177	Duplicate	pH	SM 4500-H+ B	1508521-001	6.75	6.84	pH Units	1 %
QC15081177	Duplicate	pH	SM 4500-H+ B	1508524-003	7.30	7.46	QD pH Units	2 %
QC15081177	Duplicate	pH	SM 4500-H+ B	1508602-001	6.76	6.83	pH Units	1 %
QC15081191	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508587-001	1306	1336	mg/L	2 %
QC15081191	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508605-004	117	118	mg/L	1 %
QC15090152	Duplicate	Acidity (Titrimetric)	SM 2310B	1508602-001	ND	ND	QD mg/L as CaCO3	<1%
QC15090152	Duplicate	Acidity (Titrimetric)	SM 2310B	1508604-003	ND	ND	QD mg/L as CaCO3	<1%
QC15090152	Duplicate	Acidity (Titrimetric)	SM 2310B	1508694-002	ND	ND	mg/L as CaCO3	<1%
QC15090154	Duplicate	Total Alkalinity	SM 2320B	1508602-001	10.2	10.4	mg/L as CaCO3	2 %
QC15090154	Duplicate	Bicarbonate (HCO3)	SM 2320B	1508602-001	10.2	10.4	mg/L as CaCO3	2 %
		Carbonate (CO3)	SM 2320B	1508602-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1508602-001	ND	ND	mg/L as CaCO3	<1%
		Total Alkalinity	SM 2320B	1508604-003	16.1	16.1	mg/L as CaCO3	<1%
QC15090154	Duplicate	Bicarbonate (HCO3)	SM 2320B	1508604-003	16.1	16.1	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1508604-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1508604-003	ND	ND	mg/L as CaCO3	<1%
		Total Alkalinity	SM 2320B	1508694-002	35.2	35.3	mg/L as CaCO3	<1%
QC15090154	Duplicate	Bicarbonate (HCO3)	SM 2320B	1508694-002	35.2	35.3	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1508694-002	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1508694-002	ND	ND	mg/L as CaCO3	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**SPARKS**

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 EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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**LAS VEGAS**

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 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932



QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD				
QC15090155	Duplicate	pH	SM 4500-H+ B	1508605-002	6.56	6.67	HT,Q pH Units	2 %				
QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15081093	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1508531-017	3.46	M 9.15	9.12	1.00	mg/L	NC	NC	NC
QC15081093	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1508561-002	1.49	M 7.49	7.39	1.00	mg/L	NC	NC	NC
QC15081094	MS 1	Copper	EPA 200.8	1508531-008	ND	0.0118	0.0116	0.010	mg/L	100	98	2%
		Nickel	EPA 200.8	1508531-008	0.0865	0.0946	0.0935	0.010	mg/L	81	70	1%
QC15081103	MS 1	Barium	EPA 200.7	1508531-008	0.027	0.968	0.976	1.00	mg/L	94	95	1%
		Beryllium	EPA 200.7	1508531-008	ND	0.938	0.932	1.00	mg/L	94	93	1%
		Boron	EPA 200.7	1508531-008	ND	0.974	0.976	1.00	mg/L	95	95	<1%
		Calcium	EPA 200.7	1508531-008	451	SC 439	433	10.0	mg/L	NC	NC	NC
		Chromium	EPA 200.7	1508531-008	ND	0.943	0.947	1.00	mg/L	94	95	<1%
		Cobalt	EPA 200.7	1508531-008	ND	0.899	0.900	1.00	mg/L	90	90	<1%
		Iron	EPA 200.7	1508531-008	0.651	1.70	1.87	1.00	mg/L	105	122	10%
		Magnesium	EPA 200.7	1508531-008	244	251	251	10.0	mg/L	70	70	<1%
		Manganese	EPA 200.7	1508531-008	0.115	1.04	1.04	1.00	mg/L	92	92	<1%
		Molybdenum	EPA 200.7	1508531-008	ND	0.976	0.975	1.00	mg/L	97	97	<1%
		Phosphorus	EPA 200.7	1508531-008	ND	5.34	5.39	5.00	mg/L	106	107	1%
		Potassium	EPA 200.7	1508531-008	4.73	15.7	15.6	10.0	mg/L	110	109	1%
		Sodium	EPA 200.7	1508531-008	6.08	17.0	16.8	10.0	mg/L	109	107	1%
		Strontium	EPA 200.7	1508531-008	0.971	1.84	1.81	1.00	mg/L	87	84	2%
		Zinc	EPA 200.7	1508531-008	0.018	0.936	0.948	1.00	mg/L	92	93	1%
QC15081116	MS 1	Chloride	EPA 300.0	1508603-004	ND	5.23	5.35	5.00	mg/L	99	101	2%
		Fluoride	EPA 300.0	1508603-004	ND	1.84	1.91	2.00	mg/L	89	93	4%
		Sulfate	EPA 300.0	1508603-004	ND	9.19	9.48	10.0	mg/L	87	90	3%
QC15081116	MS 2	Chloride	EPA 300.0	1508605-002	ND	5.79	5.73	5.00	mg/L	103	102	1%
		Fluoride	EPA 300.0	1508605-002	ND	1.88	1.85	2.00	mg/L	91	90	2%
		Sulfate	EPA 300.0	1508605-002	20.5	29.9	29.7	10.0	mg/L	94	92	1%
QC15081130	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1508605-003	ND	5.03	5.04	1.00	mg/L	101	101	<1%
QC15081130	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1508613-002	5.48	10.5	10.5	1.00	mg/L	100	101	<1%
QC15081189	MS 1	WAD Cyanide	SM 4500CN I,	1508433-001	ND	0.104	0.102	0.100	mg/L	104	102	2%
QC15081204	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1508587-002	ND	1.15	1.06	1.00	mg/L	96	87	8%
QC15081204	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1508624-001	ND	M 0.728	0.615	1.00	mg/L	NC	NC	NC

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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 EPA LAB ID: NV00932



# ANALYTICAL SUMMARY REPORT

September 28, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15091694  
Project Name: Job ID 1508605

Energy Laboratories Inc Billings MT received the following 3 samples for Western Environmental Testing Laboratory on 9/18/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15091694-001	C586-15 P, Q Pull #1-	08/24/15 17:00	09/18/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA
B15091694-002	C586-15 P, Q Pull #2-	08/24/15 20:00	09/18/15	Waste Water	Same As Above
B15091694-003	C586-15 P, Q Pull #3-	08/25/15 8:00	09/18/15	Waste Water	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



**CLIENT:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508605  
**Work Order:** B15091694

**Report Date:** 09/28/15

## CASE NARRATIVE

---

Prep Comments for Sample B15091694-001A, Test VOC-5035: The prep hold time was exceeded by 13.7 days.  
Prep Comments for Sample B15091694-001A, Test PRP-HG-245.1-LL: The prep hold time was exceeded by 0.724 days.  
Prep Comments for Sample B15091694-002A, Test PRP-HG-245.1-LL: The prep hold time was exceeded by 0.599 days.  
Prep Comments for Sample B15091694-003A, Test PRP-HG-245.1-LL: The prep hold time was exceeded by 0.0995 days.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508605  
**Lab ID:** B15091694-001  
**Client Sample ID:** C586-15 P, Q Pull #1-

**Report Date:** 09/28/15  
**Collection Date:** 08/24/15 17:00  
**Date Received:** 09/18/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.058	mg/L		0.009		E200.8	09/22/15 03:56 / amm
Antimony	ND	mg/L		0.0005		E200.8	09/22/15 03:56 / amm
Arsenic	0.002	mg/L		0.001		E200.8	09/22/15 03:56 / amm
Cadmium	ND	mg/L		0.00003		E200.8	09/22/15 03:56 / amm
Lead	0.0002	mg/L		0.0002		E200.8	09/22/15 03:56 / amm
Mercury	0.000104	mg/L	H	5E-06		E245.1	09/23/15 14:21 / ser
Phosphorus	ND	mg/L	L	0.007		E200.7	09/21/15 22:58 / rlh
Selenium	ND	mg/L		0.001		E200.8	09/22/15 03:56 / amm
Silicon	0.12	mg/L		0.05		E200.7	09/21/15 22:58 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/22/15 03:56 / amm
Thallium	ND	mg/L		0.0002		E200.8	09/22/15 03:56 / amm
Uranium	ND	mg/L		0.0002		E200.8	09/22/15 03:56 / amm

**Report Definitions:**

RL - Analyte reporting limit.	MCL - Maximum contaminant level.
QCL - Quality control limit.	ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.	L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508605  
**Lab ID:** B15091694-002  
**Client Sample ID:** C586-15 P, Q Pull #2-

**Report Date:** 09/28/15  
**Collection Date:** 08/24/15 20:00  
**Date Received:** 09/18/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.225	mg/L		0.009		E200.8	09/22/15 04:29 / amm
Antimony	0.0006	mg/L		0.0005		E200.8	09/22/15 20:37 / mas
Arsenic	0.005	mg/L		0.001		E200.8	09/22/15 04:29 / amm
Cadmium	ND	mg/L		0.00003		E200.8	09/22/15 04:29 / amm
Lead	ND	mg/L		0.0002		E200.8	09/22/15 04:29 / amm
Mercury	0.0000125	mg/L	H	5E-06		E245.1	09/23/15 14:24 / ser
Phosphorus	ND	mg/L	L	0.007		E200.7	09/21/15 23:02 / rlh
Selenium	ND	mg/L		0.001		E200.8	09/22/15 04:29 / amm
Silicon	0.09	mg/L		0.05		E200.7	09/21/15 23:02 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/25/15 16:20 / mas
Thallium	ND	mg/L		0.0002		E200.8	09/22/15 04:29 / amm
Uranium	ND	mg/L		0.0002		E200.8	09/22/15 04:29 / amm

**Report Definitions:**

RL - Analyte reporting limit.	MCL - Maximum contaminant level.
QCL - Quality control limit.	ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.	L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508605  
**Lab ID:** B15091694-003  
**Client Sample ID:** C586-15 P, Q Pull #3-

**Report Date:** 09/28/15  
**Collection Date:** 08/25/15 08:00  
**Date Received:** 09/18/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.709	mg/L		0.009		E200.8	09/22/15 04:34 / amm
Antimony	0.0017	mg/L		0.0005		E200.8	09/22/15 04:34 / amm
Arsenic	0.016	mg/L		0.001		E200.8	09/22/15 04:34 / amm
Cadmium	ND	mg/L		0.00003		E200.8	09/22/15 04:34 / amm
Lead	ND	mg/L		0.0002		E200.8	09/22/15 04:34 / amm
Mercury	0.0000100	mg/L	H	5E-06		E245.1	09/23/15 14:26 / ser
Phosphorus	0.018	mg/L	L	0.007		E200.7	09/21/15 23:05 / rlh
Selenium	ND	mg/L		0.001		E200.8	09/22/15 04:34 / amm
Silicon	0.28	mg/L		0.05		E200.7	09/21/15 23:05 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/25/15 16:24 / mas
Thallium	0.0005	mg/L		0.0002		E200.8	09/22/15 04:34 / amm
Uranium	ND	mg/L		0.0002		E200.8	09/22/15 04:34 / amm

**Report Definitions:**

RL - Analyte reporting limit.	MCL - Maximum contaminant level.
QCL - Quality control limit.	ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.	L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508605

**Work Order:** B15091694

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150921A			
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard									09/21/15 11:43
Phosphorus		2.57	mg/L	0.10	103	95	105				
Silicon		5.05	mg/L	0.10	101	95	105				
<b>Method: E200.7</b>								Batch: R249641			
<b>Lab ID: MB-6500DIS150921A</b>	2	Method Blank					Run: ICP203-B_150921A				09/21/15 10:47
Phosphorus		ND	mg/L	0.007							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS150921A</b>	2	Laboratory Fortified Blank					Run: ICP203-B_150921A				09/21/15 10:51
Phosphorus		9.74	mg/L	0.10	97	85	115				
Silicon		9.76	mg/L	0.10	98	85	115				
<b>Lab ID: B15091694-003AMS2</b>	2	Sample Matrix Spike					Run: ICP203-B_150921A				09/21/15 23:13
Phosphorus		10.6	mg/L	0.10	106	70	130				
Silicon		10.5	mg/L	0.10	102	70	130				
<b>Lab ID: B15091694-003AMSD</b>	2	Sample Matrix Spike Duplicate					Run: ICP203-B_150921A				09/21/15 23:16
Phosphorus		10.2	mg/L	0.10	102	70	130	3.9	20		
Silicon		10.5	mg/L	0.10	102	70	130	0.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508605

**Work Order:** B15091694

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> Analytical Run: ICPMS203-B_150922B										
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard									
Antimony		0.0496	mg/L	0.050	99	90	110			09/22/15 15:40
<b>Method: E200.8</b> Batch: R249797										
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Antimony		0.0448	mg/L	0.0010	90	85	115			09/22/15 11:27
<b>Lab ID: LRB</b>	Method Blank									
Antimony		ND	mg/L	1E-05						09/22/15 11:56
<b>Lab ID: B15091691-001AMS</b>	Sample Matrix Spike									
Antimony		0.0509	mg/L	0.0010	98	70	130			09/22/15 20:14
<b>Lab ID: B15091691-001AMSD</b>	Sample Matrix Spike Duplicate									
Antimony		0.0515	mg/L	0.0010	99	70	130	1.2	20	09/22/15 20:16
<b>Method: E200.8</b> Analytical Run: ICPMS203-B_150925B										
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard									
Silver		0.0230	mg/L	0.0050	92	90	110			09/26/15 02:05
<b>Method: E200.8</b> Batch: R249988										
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Silver		0.0180	mg/L	0.0050	90	85	115			09/25/15 13:36
<b>Lab ID: LRB</b>	Method Blank									
Silver		ND	mg/L	2E-05						09/25/15 14:07
<b>Lab ID: B15091730-004BMS</b>	Sample Matrix Spike									
Silver		0.0170	mg/L	0.0010	85	70	130			09/25/15 15:48
<b>Lab ID: B15091730-004BMSD</b>	Sample Matrix Spike Duplicate									
Silver		0.0160	mg/L	0.0010	80	70	130	6.2	20	09/25/15 15:52
<b>Lab ID: B15092027-001AMS</b>	Sample Matrix Spike									
Silver		0.0163	mg/L	0.0010	81	70	130			09/25/15 17:12
<b>Lab ID: B15092027-001AMSD</b>	Sample Matrix Spike Duplicate									
Silver		0.0161	mg/L	0.0010	81	70	130	1.0	20	09/25/15 17:16

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508605

**Work Order:** B15091694

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_150921A			
<b>Lab ID: QCS</b>	9	Initial Calibration Verification Standard									09/21/15 12:39
Aluminum		0.258	mg/L	0.10	103	90	110				
Antimony		0.0491	mg/L	0.050	98	90	110				
Arsenic		0.0506	mg/L	0.0050	101	90	110				
Cadmium		0.0249	mg/L	0.0010	99	90	110				
Lead		0.0497	mg/L	0.010	99	90	110				
Selenium		0.0493	mg/L	0.0050	99	90	110				
Silver		0.0235	mg/L	0.0050	94	90	110				
Thallium		0.0494	mg/L	0.10	99	90	110				
Uranium		0.0196	mg/L	0.0010	98	90	110				
<b>Method: E200.8</b>								Batch: R249665			
<b>Lab ID: LRB</b>	9	Method Blank									09/21/15 10:30
					Run: ICPMS206-B_150921A						
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	9	Laboratory Fortified Blank									09/21/15 10:35
					Run: ICPMS206-B_150921A						
Aluminum		0.0523	mg/L	0.10	105	85	115				
Antimony		0.0479	mg/L	0.050	96	85	115				
Arsenic		0.0537	mg/L	0.0050	107	85	115				
Cadmium		0.0512	mg/L	0.0010	102	85	115				
Lead		0.0519	mg/L	0.010	104	85	115				
Selenium		0.0509	mg/L	0.0050	102	85	115				
Silver		0.0209	mg/L	0.0050	104	85	115				
Thallium		0.0523	mg/L	0.10	105	85	115				
Uranium		0.0535	mg/L	0.0010	107	85	115				
<b>Lab ID: B15091694-001AMS</b>	9	Sample Matrix Spike									09/22/15 04:15
					Run: ICPMS206-B_150921A						
Aluminum		0.103	mg/L	0.030	89	70	130				
Antimony		0.0513	mg/L	0.0010	102	70	130				
Arsenic		0.0533	mg/L	0.0010	103	70	130				
Cadmium		0.0477	mg/L	0.0010	95	70	130				
Lead		0.0496	mg/L	0.0010	99	70	130				
Selenium		0.0477	mg/L	0.0010	95	70	130				
Silver		0.0102	mg/L	0.0010	51	70	130			S	
Thallium		0.0497	mg/L	0.00050	99	70	130				
Uranium		0.0482	mg/L	0.00030	96	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508605

**Work Order:** B15091694

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Batch: R249665		
<b>Lab ID: B15091694-001AMSD</b>				9 Sample Matrix Spike Duplicate		Run: ICPMS206-B_150921A			09/22/15 04:20	
Aluminum		0.102	mg/L	0.030	88	70	130	0.6	20	
Antimony		0.0514	mg/L	0.0010	102	70	130	0.2	20	
Arsenic		0.0490	mg/L	0.0010	95	70	130	8.4	20	
Cadmium		0.0476	mg/L	0.0010	95	70	130	0.2	20	
Lead		0.0485	mg/L	0.0010	97	70	130	2.2	20	
Selenium		0.0488	mg/L	0.0010	98	70	130	2.2	20	
Silver		0.00951	mg/L	0.0010	48	70	130	6.7	20	S
Thallium		0.0488	mg/L	0.00050	97	70	130	1.9	20	
Uranium		0.0470	mg/L	0.00030	94	70	130	2.5	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508605

**Work Order:** B15091694

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150923A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/23/15 13:46	
Mercury		0.000211	mg/L	1.0E-05	106	90	110				
<b>Method:</b> E245.1										Batch: 93363	
<b>Lab ID:</b> MB-93363		Method Blank								Run: HGCV203-B_150923A	09/23/15 14:00
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93363		Laboratory Control Sample								Run: HGCV203-B_150923A	09/23/15 14:03
Mercury		0.000207	mg/L	1.0E-05	103	85	115				
<b>Lab ID:</b> B15091691-001AMS		Sample Matrix Spike								Run: HGCV203-B_150923A	09/23/15 14:08
Mercury		0.000218	mg/L	1.0E-05	102	70	130				
<b>Lab ID:</b> B15091691-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150923A	09/23/15 14:11
Mercury		0.000220	mg/L	1.0E-05	103	70	130	0.9	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15091694

Login completed by: Tabitha Edwards

Date Received: 9/18/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 9/21/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	12.0°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

Did not receive an attachment with highlighted metals. Gina McCartney, Energy Laboratories Project Manager, contacted Holly who indicated to use the same metals list as per history.



# CHAIN OF CUSTODY RECORD

**Western Environmental Testing Laboratory**  
 475 E. Greg Street #119 Sparks, NV 89431  
 Kurt Clarkson Ph: (775) 355-0202  
 kurtc@WETLaboratory.com Fax: (775) 355-0817

**Energy**  
 Total # of sample containers: 3  
 System: \_\_\_\_\_  
 Job ID: 1508605

Samplers Initials: \_\_\_\_\_  
 All Samples Refrigerated?: Y  N   
 Compliance: Y  N   
 CA Write ON: Y  N   
 QC: Y  N   
 Water System #: \_\_\_\_\_

Notes: \_\_\_\_\_  
 SIGNATURE OF COMPANY REPRESENTATIVE: \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_

Set Date	Set Time	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
8/24/2015	5:00 PM	C586-15 P, Q Pull #1 -	Waste Water	Various Metals (Subcontracted)		
8/24/2015	8:00 PM	C586-15 P, Q Pull #2 -	Waste Water	Various Metals (Subcontracted)		
8/25/2015	8:00 AM	C586-15 P, Q Pull #3 -	Waste Water	Various Metals (Subcontracted)		

B15091694-001  
002  
003

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
[Signature]	8-24-15	7:00	[Signature]						
[Signature]	8-16-15	7:00	[Signature]						
[Signature]			[Signature]	9/18/14	09:15				

UPS  
UPS  
Quince James

UPS NDA  
 rec'd. on ice  
 temp = 12.0 LR3



	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 -sub to Energy Lab	
	Antimony	0.0005 - 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 - 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 - 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 - 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 -sub to Energy Lab	
	Calcium	1.0 - 1.0 WETLAB	EPA 200.7
	Chromium	0.01 - 0.01 WETLAB	EPA 200.7
	Copper	0.002 - 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
	Iron	0.02 - 0.02 WETLAB	EPA 200.7
	Lead	0.0003 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
	Manganese	0.005 - 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 -sub to Energy Lab	
	Nickel	0.002 - 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 -sub to Energy Lab	EPA 200.7
	Selenium	0.001 -sub to Energy Lab	EPA 200.8
	Silicon	0.05 - 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 -sub to Energy Lab	
	Strontium	0.02 - 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
	Thallium	0.0002 -sub to Energy Lab	
	Uranium	0.0002 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Zinc	0.008 - 0.008 WETLAB	EPA 200.7
	Alkalinity, Total (as CaCO3)	1	2320B
	pH (standard units)	NA	4500H+B
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	-
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe speciat  
 redox  
 EC





# WETLAB

WESTERN ENVIRONMENTAL TESTING LABORATORY

Specializing in Soil, Hazardous Waste and Water Analysis.

475 E. Greg Street #119 | Sparks, Nevada 89431 | www.WETLaboratory.com  
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1084 Lamoille Highway | Elko, Nevada 89801  
tel (775) 777-9933 | fax (775) 777-9933

3230 Polaris Ave., Suite 4 | Las Vegas, Nevada 89102  
tel (702) 475-8899 | fax (702) 776-6152

WETLAB Order ID. 1908605

Sparks Control # \_\_\_\_\_

Elko Control # \_\_\_\_\_

LV Control # \_\_\_\_\_

Report \_\_\_\_\_

Due Date 9-7-15

Page 1 of 1

Client Tintina Resources

Address 17 East Main St

City, State & Zip White Sulphur Springs, MT 59645

Contact Bob Jacko, Katie Seipel, and Lisa Kirk

Phone (406) 547-3466

Collector's Name WETLAB

Fax \_\_\_\_\_

PWS/Project Name \_\_\_\_\_

P.O. Number \_\_\_\_\_

PWS/Project Number Black Butte Copper Diffusion Project

Turnaround Time Requirements			
Standard	<input checked="" type="checkbox"/>	5 Day* (25%)	<input type="checkbox"/>
72 Hour* (50%)	<input type="checkbox"/>	48 Hour* (100%)	<input type="checkbox"/>
24 Hour* (200%)	<input type="checkbox"/>	*Surcharges Will Apply	

Samples Collected From Which State?	Report Results Via
NV <input type="checkbox"/> CA <input type="checkbox"/> Other <input checked="" type="checkbox"/>	PDF <input checked="" type="checkbox"/> EDD <input checked="" type="checkbox"/>
Compliance Monitoring? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Other _____
Report to Regulatory Agency? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Standard QC Required? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Email bjacko@tintinaresources.com; seipel.k@gmail.com; lkirk@montana.com

**Billing Address (if different than Client Address)**

Company Same

Address \_\_\_\_\_

City, State & Zip \_\_\_\_\_

Contact \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

Email \_\_\_\_\_

SAMPLE ID/LOCATION	DATE	TIME	PRES TYPE	NO. OF CONTAINERS	SAMPLER TYPE	Analyses Requested										Sp. No.		
						Profile II w CN (W)	Acidity, Ferric, Ferrous, Redox, EC	SC Metals										
C501-15 O,Q Pull # 1	8/24/2015	17:00				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										1
C586-15 P,Q Pull # 1	8/24/2015	17:00				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										2
C586-15 P,Q Pull # 2	8/24/2015	20:00				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										3
C586-15 P,Q Pull # 3	8/25/2015	08:00				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										4

Instructions/Comments/Special Requirements: SC\_Metals to Energy Lab

Sample Matrix Key\*\* DW = Drinking Water WW = Wastewater SW = Surface Water MW = Monitoring Well SID = Solid/Silt/dge SO = Soil HW = Hazardous Waste OTHER: \_\_\_\_\_

\*SAMPLE PRESERVATIVES: 1=Unpreserved 2=H2SO4 3=NaOH 4=HCl 5=HNO3 6=Na2S2O3 7=ZnOAc+NaOH 8=HCl/VOA Vial

Temp	Custody Seal	# of Containers	DATE	TIME	Samples Relinquished By	Samples Received By
22°C	Y N None		8/24/15	17:00	In House	
°C	Y N None					
°C	Y N None					
°C	Y N None					

WETLAB'S Standard Terms and Conditions apply unless written agreements specify otherwise. Payment terms are Net 30.

Client/Collector attests to the validity and authenticity of this (these) sample(s) and, is (are) aware that tampering with or intentionally mislabeling the sample(s) location, date or time of collection may be considered fraud and subject to legal action (NAC445.0636). \_\_\_\_\_ initial

To the maximum extent permitted by law, the Client agrees to limit the liability of WETLAB for the Client's damages to the total compensation received, unless other agreements are made in writing. This limitation shall apply regardless of the cause of action or legal theory pled or asserted. \_\_\_\_\_ initial

WETLAB will dispose of samples 90 days from sample receipt. Client may request a longer sample storage time for an additional fee. 301.2E

Please contact your Project Manager for details. \_\_\_\_\_ initial

4/27/2017

Tintina Resources/Tintina Montana  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1508606  
*Amended*

Dear: Bob Jacko/Katie Seipel/Lisa Kirk

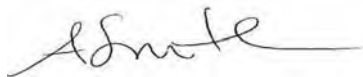
This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 8/25/2015. Additional comments are located on page 2 of this report.

This is an amended report that includes the corrected Sample ID for 1508606-001.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources/Tintina Montana - 1508606 Amended

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### Specific Report Comments

The cation/anion balance for sample 1508606-001 was outside WETLAB acceptance criteria; however, reanalysis confirmed the original results.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the accepted holding time
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits
- SC -- Spike recovery not calculated. Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

Per federal regulation the holding time for the following parameters in aqueous/water samples is 15 minutes: Residual Chlorine, pH, Dissolved Oxygen, Sulfite.

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources/Tintina Montana

Date Printed: 4/27/2017

17 East Main Street

OrderID: 1508606

White Sulphur Springs, MT 59645

Amended

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

PO\Project: Black Butte Copper Diffusion Project

Customer Sample ID: C586-15 O,Q Pull #4

Collect Date/Time: 8/25/2015 15:00

WETLAB Sample ID: 1508606-001

Receive Date: 8/25/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/25/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/26/2015	NV00925
pH	SM 4500-H+ B	8.96	pH Units	1		8/27/2015	NV00925
Temperature at pH	NA	22.1	°C	1		8/27/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	8/28/2015	NV00925
Redox Potential	ASTM D1498	430	mV	1		8/25/2015	NV00925
Acidity (Titrimetric)	SM 2310B	3 QD	mg/L as CaCO3	1		9/8/2015	NV00925
Total Alkalinity	SM 2320B	7.6	mg/L as CaCO3	1	1.0	9/8/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	3.2	mg/L as CaCO3	1	1.0	9/8/2015	NV00925
Carbonate (CO3)	SM 2320B	4.4	mg/L as CaCO3	1	1.0	9/8/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/8/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	8/29/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	53	mg/L	1	10	8/26/2015	NV00925
Electrical Conductivity	SM 2510B	100	µmhos/cm	1	1	8/25/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	8/26/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	8/26/2015	NV00925
Sulfate	EPA 300.0	21	mg/L	1	1.0	8/26/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	8/27/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	8/29/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.039	mg/L	1	0.0030	8/26/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	8/26/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	8/26/2015	NV00925
Calcium, Dissolved	EPA 200.7	14	mg/L	1	0.50	8/26/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/26/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	8/26/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/26/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	8/26/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/26/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/26/2015	NV00925
Phosphorus, Dissolved	EPA 200.7	ND	mg/L	1	0.50	8/26/2015	NV00925
Potassium, Dissolved	EPA 200.7	1.9	mg/L	1	0.50	8/26/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

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tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C586-15 O,Q Pull #4

Collect Date/Time: 8/25/2015 15:00

WETLAB Sample ID: 1508606-001

Receive Date: 8/25/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Sodium, Dissolved	EPA 200.7	1.1	mg/L	1	0.50	8/26/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.20	mg/L	1	0.020	8/26/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	8/26/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	8/26/2015	NV00925
Nickel, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/8/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	0.59	meq/L	1	0.10		NV00925
Cations	Calculation	0.80	meq/L	1	0.10		NV00925
Error	Calculation	14.8	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		8/27/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

**SPARKS**

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Actual	% Rec	Units
QC15081062	Blank 1	Ferrous Iron	3500 Fe D	ND			mg/L
QC15081065	Blank 1	Electrical Conductivity	SM 2510B	ND			µmhos/cm
QC15081095	Blank 1	Copper, Dissolved	EPA 200.8	ND			mg/L
		Nickel, Dissolved	EPA 200.8	ND			mg/L
QC15081105	Blank 1	Barium, Dissolved	EPA 200.7	ND			mg/L
		Beryllium, Dissolved	EPA 200.7	ND			mg/L
		Boron, Dissolved	EPA 200.7	ND			mg/L
		Calcium, Dissolved	EPA 200.7	ND			mg/L
		Chromium, Dissolved	EPA 200.7	ND			mg/L
		Cobalt, Dissolved	EPA 200.7	ND			mg/L
		Iron, Dissolved	EPA 200.7	ND			mg/L
		Magnesium, Dissolved	EPA 200.7	ND			mg/L
		Manganese, Dissolved	EPA 200.7	ND			mg/L
		Molybdenum, Dissolved	EPA 200.7	ND			mg/L
		Phosphorus, Dissolved	EPA 200.7	ND			mg/L
		Potassium, Dissolved	EPA 200.7	ND			mg/L
		Sodium, Dissolved	EPA 200.7	ND			mg/L
		Strontium, Dissolved	EPA 200.7	ND			mg/L
		Zinc, Dissolved	EPA 200.7	ND			mg/L
QC15081116	Blank 1	Chloride	EPA 300.0	ND			mg/L
		Fluoride	EPA 300.0	ND			mg/L
		Sulfate	EPA 300.0	ND			mg/L
QC15081130	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND			mg/L
QC15081189	Blank 1	WAD Cyanide	SM 4500CN I,	ND			mg/L
QC15081194	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND			mg/L
QC15081215	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND			mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Rec	Units
QC15081062	LCS 1	Ferrous Iron	3500 Fe D	0.858	1.00	86	mg/L
QC15081065	LCS 1	Electrical Conductivity	SM 2510B	1425	1412	101	µmhos/cm
QC15081067	LCS 1	Redox Potential	ASTM D1498	221	221	100	mV
QC15081095	LCS 1	Copper, Dissolved	EPA 200.8	0.0097	0.010	97	mg/L
		Nickel, Dissolved	EPA 200.8	0.0102	0.010	102	mg/L
QC15081105	LCS 1	Barium, Dissolved	EPA 200.7	0.970	1.00	97	mg/L
		Beryllium, Dissolved	EPA 200.7	0.971	1.00	97	mg/L
		Boron, Dissolved	EPA 200.7	0.961	1.00	96	mg/L
		Calcium, Dissolved	EPA 200.7	9.73	10.0	97	mg/L
		Chromium, Dissolved	EPA 200.7	0.966	1.00	97	mg/L
		Cobalt, Dissolved	EPA 200.7	0.972	1.00	97	mg/L
		Iron, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Magnesium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Manganese, Dissolved	EPA 200.7	0.964	1.00	96	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.974	1.00	97	mg/L
		Phosphorus, Dissolved	EPA 200.7	4.93	5.00	99	mg/L
		Potassium, Dissolved	EPA 200.7	9.87	10.0	99	mg/L
		Sodium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Strontium, Dissolved	EPA 200.7	1.00	1.00	100	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Rec	Units
QC15081116	LCS 1	Zinc, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Chloride	EPA 300.0	9.76	10.0	98	mg/L
		Fluoride	EPA 300.0	1.90	2.00	95	mg/L
		Sulfate	EPA 300.0	23.4	25.0	94	mg/L
QC15081130	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.825	0.800	103	mg/L
QC15081137	LCS 1	pH	SM 4500-H+ B	6.94	7.00	99	pH Units
QC15081137	LCS 2	pH	SM 4500-H+ B	7.03	7.00	100	pH Units
QC15081189	LCS 1	WAD Cyanide	SM 4500CN I, E	0.100	0.100	100	mg/L
QC15081194	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	151	150	101	mg/L
QC15081194	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	141	150	94	mg/L
QC15081215	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.04	1.00	104	mg/L
QC15090290	LCS 1	Total Alkalinity	SM 2320B	98.4	100	98	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15081062	Duplicate 1	Ferrous Iron	3500 Fe D	1508602-001	ND	ND	mg/L	<1%
QC15081062	Duplicate 2	Ferrous Iron	3500 Fe D	1508604-003	ND	ND	mg/L	7 %
QC15081065	Duplicate 1	Electrical Conductivity	SM 2510B	1508602-001	66.9	66.6	µmhos/cm	<1%
QC15081065	Duplicate 2	Electrical Conductivity	SM 2510B	1508604-003	98.7	98.6	µmhos/cm	<1%
QC15081065	Duplicate 3	Electrical Conductivity	SM 2510B	1508606-001	105	104	µmhos/cm	1 %
QC15081067	Duplicate 1	Redox Potential	ASTM D1498	1508602-001	523	523	mV	<1%
QC15081067	Duplicate 2	Redox Potential	ASTM D1498	1508604-003	504	506	mV	<1%
QC15081067	Duplicate 3	Redox Potential	ASTM D1498	1508606-001	434	429	mV	1 %
QC15081137	Duplicate 1	pH	SM 4500-H+ B	1508411-001	7.07	7.20	QD pH Units	2 %
QC15081137	Duplicate 2	pH	SM 4500-H+ B	1508413-003	6.91	7.10	QD pH Units	3 %
QC15081137	Duplicate 3	pH	SM 4500-H+ B	1508357-001	6.65	6.77	QD pH Units	2 %
QC15081194	Duplicate 1	Total Dissolved Solids (TDS)	SM 2540C	1508606-001	53.0	45.0	mg/L	16 %
QC15081194	Duplicate 2	Total Dissolved Solids (TDS)	SM 2540C	1508621-001	535	557	mg/L	4 %
QC15090290	Duplicate 1	Total Alkalinity	SM 2320B	1508606-001	7.60	7.55	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1508606-001	3.24	3.09	mg/L as CaCO3	5 %
		Carbonate (CO3)	SM 2320B	1508606-001	4.36	4.36	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1508606-001	ND	ND	mg/L as CaCO3	<1%
QC15090290	Duplicate 2	Total Alkalinity	SM 2320B	1509118-002	12.0	12.2	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509118-002	12.0	12.2	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509118-002	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509118-002	ND	ND	mg/L as CaCO3	<1%
QC15090291	Duplicate 1	Acidity (Titrimetric)	SM 2310B	1508606-001	3.18	2.41	QD mg/L as CaCO3	28 %
QC15090291	Duplicate 2	Acidity (Titrimetric)	SM 2310B	1509118-002	-1.9	-2	QD mg/L as CaCO3	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS %Rec	MSD %Rec	RPD %
QC15081095	MS 1	Copper, Dissolved	EPA 200.8	1508606-001	ND	0.0102	0.0100	0.01	mg/L	93	91	2
		Nickel, Dissolved	EPA 200.8	1508606-001	ND	0.0105	0.0107	0.01	mg/L	99	101	2
QC15081105	MS 1	Barium, Dissolved	EPA 200.7	1508606-001	0.039	1.01	1.00	1	mg/L	97	96	1
		Beryllium, Dissolved	EPA 200.7	1508606-001	ND	0.977	0.967	1	mg/L	98	97	1
		Boron, Dissolved	EPA 200.7	1508606-001	ND	0.923	0.915	1	mg/L	93	92	<1
		Calcium, Dissolved	EPA 200.7	1508606-001	13.5	22.2	22.2	10	mg/L	87	87	<1

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS %Rec	MSD %Rec	RPD %
		Chromium, Dissolved	EPA 200.7	1508606-001	ND	0.913	0.961	1	mg/L	91	96	5
		Cobalt, Dissolved	EPA 200.7	1508606-001	ND	0.973	0.963	1	mg/L	97	96	1
		Iron, Dissolved	EPA 200.7	1508606-001	ND	0.987	0.977	1	mg/L	98	97	1
		Magnesium, Dissolved	EPA 200.7	1508606-001	ND	9.95	9.81	10	mg/L	99	98	1
		Manganese, Dissolved	EPA 200.7	1508606-001	ND	0.964	0.955	1	mg/L	96	96	<1
		Molybdenum, Dissolved	EPA 200.7	1508606-001	ND	0.968	0.978	1	mg/L	96	97	1
		Phosphorus, Dissolved	EPA 200.7	1508606-001	ND	5.07	5.00	5	mg/L	101	99	1
		Potassium, Dissolved	EPA 200.7	1508606-001	1.89	11.8	11.7	10	mg/L	99	98	<1
		Sodium, Dissolved	EPA 200.7	1508606-001	1.11	11.0	10.9	10	mg/L	99	98	<1
		Strontium, Dissolved	EPA 200.7	1508606-001	0.196	1.13	1.13	1	mg/L	93	93	<1
		Zinc, Dissolved	EPA 200.7	1508606-001	ND	1.02	1.01	1	mg/L	102	101	1
QC15081116	MS 1	Chloride	EPA 300.0	1508603-004	ND	5.23	5.35	5	mg/L	99	101	2
		Fluoride	EPA 300.0	1508603-004	ND	1.84	1.91	2	mg/L	89	93	4
		Sulfate	EPA 300.0	1508603-004	ND	9.19	9.48	10	mg/L	87	90	3
QC15081116	MS 2	Chloride	EPA 300.0	1508605-002	ND	5.79	5.73	5	mg/L	103	102	1
		Fluoride	EPA 300.0	1508605-002	ND	1.88	1.85	2	mg/L	91	90	2
		Sulfate	EPA 300.0	1508605-002	20.5	29.9	29.7	10	mg/L	94	92	<1
QC15081130	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1508605-003	ND	5.03	5.04	1	mg/L	101	101	<1
QC15081130	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1508613-002	5.48	10.5	10.5	1	mg/L	100	101	<1
QC15081189	MS 1	WAD Cyanide	SM 4500CN I, E	1508433-001	ND	0.104	0.102	0.1	mg/L	104	102	2
QC15081215	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1508606-001	ND	1.01	1.02	1	mg/L	92	93	1
QC15081215	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1508574-001	ND	1.08	0.975	1	mg/L	108	97	10

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# ANALYTICAL SUMMARY REPORT

April 28, 2017

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15091693  
Project Name: Job ID 1508606

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/18/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15091693-001	C586-15 O,Q Pull #4	08/25/15 15:00	09/18/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:





**CLIENT:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508606  
**Work Order:** B15091693

**Revised Date:** 04/28/17

**Report Date:** 09/28/15

## CASE NARRATIVE

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Revised 4/28/2017:

Per request from the client on 4/27/2017, change the sample ID on B15091693-001 from C601-15 O,Q Pull #4 to C586-15 O,Q Pull #4.

The report has been revised and replaces any previously issued report in its entirety.





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508606  
**Lab ID:** B15091693-001  
**Client Sample ID:** C586-15 O,Q Pull #4

**Revised Date:** 04/28/17  
**Report Date:** 09/28/15  
**Collection Date:** 08/25/15 15:00  
**DateReceived:** 09/18/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.188	mg/L		0.009		E200.8	09/22/15 03:51 / amm
Antimony	0.0008	mg/L		0.0005		E200.8	09/22/15 03:51 / amm
Arsenic	0.005	mg/L		0.001		E200.8	09/22/15 03:51 / amm
Cadmium	ND	mg/L		0.00003		E200.8	09/22/15 03:51 / amm
Lead	ND	mg/L		0.0002		E200.8	09/22/15 03:51 / amm
Mercury	0.0000222	mg/L	H	5E-06		E245.1	09/23/15 14:19 / ser
Phosphorus	ND	mg/L	L	0.007		E200.7	09/21/15 22:55 / rlh
Selenium	ND	mg/L		0.001		E200.8	09/22/15 03:51 / amm
Silicon	0.14	mg/L		0.05		E200.7	09/21/15 22:55 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/22/15 03:51 / amm
Thallium	0.0004	mg/L		0.0002		E200.8	09/22/15 03:51 / amm
Uranium	ND	mg/L		0.0002		E200.8	09/22/15 03:51 / amm

**Report Definitions:**

RL - Analyte reporting limit.	MCL - Maximum contaminant level.
QCL - Quality control limit.	ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.	L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508606

**Work Order:** B15091693

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>							Analytical Run: ICP203-B_150921A			
<b>Lab ID: ICV</b>	Continuing Calibration Verification Standard								09/21/15 11:43	
Phosphorus	2.57	mg/L	0.10	103	95	105				
Silicon	5.05	mg/L	0.10	101	95	105				
<b>Method: E200.7</b>							Batch: R249641			
<b>Lab ID: MB-6500DIS150921A</b>	Method Blank								Run: ICP203-B_150921A	09/21/15 10:47
Phosphorus	ND	mg/L	0.007							
Silicon	ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS150921A</b>	Laboratory Fortified Blank								Run: ICP203-B_150921A	09/21/15 10:51
Phosphorus	9.74	mg/L	0.10	97	85	115				
Silicon	9.76	mg/L	0.10	98	85	115				
<b>Lab ID: B15091694-003AMS2</b>	Sample Matrix Spike								Run: ICP203-B_150921A	09/21/15 23:13
Phosphorus	10.6	mg/L	0.10	106	70	130				
Silicon	10.5	mg/L	0.10	102	70	130				
<b>Lab ID: B15091694-003AMSD2</b>	Sample Matrix Spike Duplicate								Run: ICP203-B_150921A	09/21/15 23:16
Phosphorus	10.2	mg/L	0.10	102	70	130	3.9	20		
Silicon	10.5	mg/L	0.10	102	70	130	0.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508606

**Work Order:** B15091693

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS206-B_150921A			
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard						09/21/15 12:39			
Aluminum	0.258	mg/L	0.10	103	90	110				
Antimony	0.0491	mg/L	0.050	98	90	110				
Arsenic	0.0506	mg/L	0.0050	101	90	110				
Cadmium	0.0249	mg/L	0.0010	99	90	110				
Lead	0.0497	mg/L	0.010	99	90	110				
Selenium	0.0493	mg/L	0.0050	99	90	110				
Silver	0.0235	mg/L	0.0050	94	90	110				
Thallium	0.0494	mg/L	0.10	99	90	110				
Uranium	0.0196	mg/L	0.0010	98	90	110				
<b>Method: E200.8</b>							Batch: R249665			
<b>Lab ID: LRB</b>	Method Blank						Run: ICPMS206-B_150921A 09/21/15 10:30			
Aluminum	ND	mg/L	0.0001							
Antimony	ND	mg/L	8E-05							
Arsenic	ND	mg/L	6E-05							
Cadmium	ND	mg/L	3E-05							
Lead	ND	mg/L	5E-05							
Selenium	ND	mg/L	0.0001							
Silver	ND	mg/L	2E-05							
Thallium	ND	mg/L	7E-05							
Uranium	ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	Laboratory Fortified Blank						Run: ICPMS206-B_150921A 09/21/15 10:35			
Aluminum	0.0523	mg/L	0.10	105	85	115				
Antimony	0.0479	mg/L	0.050	96	85	115				
Arsenic	0.0537	mg/L	0.0050	107	85	115				
Cadmium	0.0512	mg/L	0.0010	102	85	115				
Lead	0.0519	mg/L	0.010	104	85	115				
Selenium	0.0509	mg/L	0.0050	102	85	115				
Silver	0.0209	mg/L	0.0050	104	85	115				
Thallium	0.0523	mg/L	0.10	105	85	115				
Uranium	0.0535	mg/L	0.0010	107	85	115				
<b>Lab ID: B15091694-001AMS</b>	Sample Matrix Spike						Run: ICPMS206-B_150921A 09/22/15 04:15			
Aluminum	0.103	mg/L	0.030	89	70	130				
Antimony	0.0513	mg/L	0.0010	102	70	130				
Arsenic	0.0533	mg/L	0.0010	103	70	130				
Cadmium	0.0477	mg/L	0.0010	95	70	130				
Lead	0.0496	mg/L	0.0010	99	70	130				
Selenium	0.0477	mg/L	0.0010	95	70	130				
Silver	0.0102	mg/L	0.0010	51	70	130			S	
Thallium	0.0497	mg/L	0.00050	99	70	130				
Uranium	0.0482	mg/L	0.00030	96	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508606

**Work Order:** B15091693

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8									Batch: R249665
<b>Lab ID:</b> B15091694-001AMSD	Sample Matrix Spike Duplicate				Run: ICPMS206-B_150921A			09/22/15 04:20	
Aluminum	0.102	mg/L	0.030	88	70	130	0.6	20	
Antimony	0.0514	mg/L	0.0010	102	70	130	0.2	20	
Arsenic	0.0490	mg/L	0.0010	95	70	130	8.4	20	
Cadmium	0.0476	mg/L	0.0010	95	70	130	0.2	20	
Lead	0.0485	mg/L	0.0010	97	70	130	2.2	20	
Selenium	0.0488	mg/L	0.0010	98	70	130	2.2	20	
Silver	0.00951	mg/L	0.0010	48	70	130	6.7	20	S
Thallium	0.0488	mg/L	0.00050	97	70	130	1.9	20	
Uranium	0.0470	mg/L	0.00030	94	70	130	2.5	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508606

**Report Date:** 09/28/15  
**Work Order:** B15091693

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV203-B_150923A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								09/23/15 13:46
Mercury	0.000211	mg/L	1.0E-05	106	90	110			
<b>Method:</b> E245.1									Batch: 93363
<b>Lab ID:</b> MB-93363	Method Blank								09/23/15 14:00
Mercury	1E-06	mg/L	1E-06	Run: HGCV203-B_150923A					
<b>Lab ID:</b> LCS-93363	Laboratory Control Sample								09/23/15 14:03
Mercury	0.000207	mg/L	1.0E-05	103	85	115			
<b>Lab ID:</b> B15091691-001AMS	Sample Matrix Spike								09/23/15 14:08
Mercury	0.000218	mg/L	1.0E-05	102	70	130			
<b>Lab ID:</b> B15091691-001AMSD	Sample Matrix Spike Duplicate								09/23/15 14:11
Mercury	0.000220	mg/L	1.0E-05	103	70	130	0.9	30	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15091693

Login completed by: Tabitha Edwards

Date Received: 9/18/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 9/21/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	12.0°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

Did not receive an attachment with highlighted metals. Gina McCartney, Energy Laboratories Project Manager, contacted Holly who indicated to use the same highlight metals list as per history.



# CHAIN OF CUSTODY RECORD

<b>Western Environmental Testing Laboratory</b> 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <i>Emergency</i> 1 System: _____ Job ID: 1508606		All Samples Refrigerated?: Y ___ N <input checked="" type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N ___ CA Write ON: Y ___ N <input checked="" type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N ___ Water System #: _____	
Sample Receipt Condition: _____ Temperature: _____		Samplers Initials: _____ Notes: _____		Date: _____ Time: _____	
SIGNATURE OF COMPANY REPRESENTATIVE: _____					
Set Date	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
8/25/2015	C801-15 O,Q Pull #4 -	Waste Water	Various Metals (Subcontracted)		
3:00 PM					<i>8/29/09 3:00</i>

		Sample Type			
		Trip Blank	Grab	Composite	Equipment Blank
Relinquished by: (Signature)	<i>[Signature]</i>	Date: <i>8/25/09</i>	Time: <i>14:00</i>	Received by: (Signature) <i>UPS</i>	
Relinquished by: (Signature)	<i>[Signature]</i>	Date: <i>9/15/09</i>	Time: <i>14:00</i>	Received by: (Signature) <i>UPS</i>	
Relinquished by: (Signature)	<i>[Signature]</i>	Date: _____	Time: _____	Received by: (Signature) <i>Quincee Jones</i>	
		Date: <i>9/18/09</i>	Time: <i>09:15</i>		

*UPS NOA*  
*REC'D. on ice*  
*temp = 12.0 LRB*



	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 -sub to Energy Lab	
	Antimony	0.0005 - 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 - 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 - 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 - 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 -sub to Energy Lab	
	Calcium	1.0 - 1.0 WETLAB	EPA 200.7
	Chromium	0.01 - 0.01 WETLAB	EPA 200.7
	Copper	0.002 - 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
	Iron	0.02 - 0.02 WETLAB	EPA 200.7
	Lead	0.0003 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
	Manganese	0.005 - 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 -sub to Energy Lab	
	Nickel	0.002 - 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 -sub to Energy Lab	EPA 200.7
	Selenium	0.001 -sub to Energy Lab	EPA 200.8
	Silicon	0.05 - 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 -sub to Energy Lab	
	Strontium	0.02 - 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
	Thallium	0.0002 -sub to Energy Lab	
	Uranium	0.0002 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Zinc	0.008 - 0.008 WETLAB	EPA 200.7
	Alkalinity, Total (as CaCO3)	1	2320B
	pH (standard units)	NA	4500H+B
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	-
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe speciat  
 redox  
 EC





9/29/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1508644

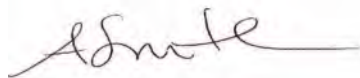
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 8/26/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1508644

### General Comments

None

### Specific Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: Black Butte Copper Diffusion Project

Date Printed: 9/29/2015

OrderID: 1508644

Customer Sample ID: C586-15 P,Q Pull #5

Collect Date/Time: 8/26/2015 15:00

WETLAB Sample ID: 1508644-001

Receive Date: 8/26/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/28/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/28/2015	NV00925
pH	SM 4500-H+ B	9.43	pH Units	1		8/27/2015	NV00925
Temperature at pH	NA	22.2	°C	1		8/27/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	8/31/2015	NV00925
Redox Potential	ASTM D1498	460	mV	1		8/26/2015	NV00925
Acidity (Titrimetric)	SM 2310B	-5	mg/L as CaCO3	1		9/4/2015	NV00925
Total Alkalinity	SM 2320B	16	mg/L as CaCO3	1	1.0	8/31/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	16	mg/L as CaCO3	1	1.0	8/31/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	8/31/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	8/31/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/2/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	130	mg/L	1	10	8/27/2015	NV00925
Electrical Conductivity	SM 2510B	230	µmhos/cm	1	1	8/26/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	1.1	mg/L	1	1.0	8/27/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	8/31/2015	NV00925
Sulfate	EPA 300.0	56	mg/L	1	1.0	8/27/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	8/27/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/2/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.047	mg/L	1	0.0030	8/28/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	8/28/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	8/28/2015	NV00925
Calcium, Dissolved	EPA 200.7	30	mg/L	1	0.50	8/28/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/28/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	8/28/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/28/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	8/28/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/28/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/28/2015	NV00925
Phosphorus, Dissolved	EPA 200.7	ND	mg/L	1	0.50	8/28/2015	NV00925
Potassium, Dissolved	EPA 200.7	4.3	mg/L	1	0.50	8/28/2015	NV00925
Sodium, Dissolved	EPA 200.7	2.7	mg/L	1	0.50	8/28/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.46	mg/L	1	0.020	8/28/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	8/28/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

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**LAS VEGAS**

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 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C586-15 P,Q Pull #5

Collect Date/Time: 8/26/2015 15:00

WETLAB Sample ID: 1508644-001

Receive Date: 8/26/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	8/28/2015	NV00925
Nickel, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	8/31/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.52	meq/L	1	0.10		NV00925
Cations	Calculation	1.72	meq/L	1	0.10		NV00925
Error	Calculation	6.4	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		8/27/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15081075	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15081143	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15081147	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15081169	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Phosphorus, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15081213	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15081244	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15081247	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15081261	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090135	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15081072	LCS 1	Redox Potential	ASTM D1498	224	221	101	mV
QC15081075	LCS 1	Electrical Conductivity	SM 2510B	1432	1412	101	µmhos/cm
QC15081137	LCS 1	pH	SM 4500-H+ B	6.94	7.00	99	pH Units
QC15081137	LCS 2	pH	SM 4500-H+ B	7.03	7.00	100	pH Units
QC15081143	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.834	0.800	104	mg/L
QC15081147	LCS 1	Chloride	EPA 300.0	10.5	10.0	105	mg/L
		Fluoride	EPA 300.0	2.06	2.00	103	mg/L
		Sulfate	EPA 300.0	24.3	25.0	97	mg/L
QC15081169	LCS 1	Barium, Dissolved	EPA 200.7	0.912	1.00	91	mg/L
		Beryllium, Dissolved	EPA 200.7	0.911	1.00	91	mg/L
		Boron, Dissolved	EPA 200.7	0.900	1.00	90	mg/L
		Calcium, Dissolved	EPA 200.7	9.69	10.0	97	mg/L
		Chromium, Dissolved	EPA 200.7	0.964	1.00	96	mg/L
		Cobalt, Dissolved	EPA 200.7	0.905	1.00	90	mg/L
		Iron, Dissolved	EPA 200.7	0.973	1.00	97	mg/L
		Magnesium, Dissolved	EPA 200.7	9.74	10.0	97	mg/L
		Manganese, Dissolved	EPA 200.7	0.904	1.00	90	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.902	1.00	90	mg/L
		Phosphorus, Dissolved	EPA 200.7	4.58	5.00	92	mg/L
		Potassium, Dissolved	EPA 200.7	9.71	10.0	97	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 7

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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15081213	LCS 1	Sodium, Dissolved	EPA 200.7	9.72	10.0	97	mg/L
		Strontium, Dissolved	EPA 200.7	0.946	1.00	95	mg/L
		Zinc, Dissolved	EPA 200.7	0.941	1.00	94	mg/L
		Copper, Dissolved	EPA 200.8	0.0093	0.010	93	mg/L
		Nickel, Dissolved	EPA 200.8	0.009565	0.010	96	mg/L
QC15081244	LCS 1	Ferrous Iron	SM 3500 Fe B	0.885	1.00	88	mg/L
QC15081247	LCS 1	WAD Cyanide	SM 4500CN I, E	0.104	0.100	104	mg/L
QC15081261	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	143	150	95	mg/L
QC15081261	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	135	150	90	mg/L
QC15090072	LCS 1	Total Alkalinity	SM 2320B	99.3	100	99	mg/L
QC15090135	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.985	1.00	98	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15081072	Duplicate	Redox Potential	ASTM D1498	1508644-001	460	460	mV	<1%
QC15081075	Duplicate	Electrical Conductivity	SM 2510B	1508644-001	232	235	µmhos/cm	1 %
QC15081137	Duplicate	pH	SM 4500-H+ B	1508411-001	7.07	7.20	QD pH Units	2 %
QC15081137	Duplicate	pH	SM 4500-H+ B	1508413-003	6.91	7.10	QD pH Units	3 %
QC15081137	Duplicate	pH	SM 4500-H+ B	1508357-001	6.65	6.77	QD pH Units	2 %
QC15081244	Duplicate	Ferrous Iron	SM 3500 Fe B	1508693-001	ND	ND	mg/L	<1%
QC15081244	Duplicate	Ferrous Iron	SM 3500 Fe B	1508696-003	ND	ND	mg/L	<1%
QC15081244	Duplicate	Ferrous Iron	SM 3500 Fe B	1508751-001	ND	ND	mg/L	<1%
QC15081261	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508644-001	129	112	QD mg/L	14 %
QC15081261	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508650-004	ND	ND	HT mg/L	<1%
QC15090072	Duplicate	Total Alkalinity	SM 2320B	1508713-001	98.2	98.6	mg/L as CaCO3	<1%
QC15090072	Duplicate	Bicarbonate (HCO3)	SM 2320B	1508713-001	98.2	98.6	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1508713-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1508713-001	ND	ND	mg/L as CaCO3	<1%
		Total Alkalinity	SM 2320B	1508713-002	145	144	mg/L as CaCO3	1 %
QC15090072	Duplicate	Bicarbonate (HCO3)	SM 2320B	1508713-002	145	144	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1508713-002	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1508713-002	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508761-001	ND	ND	QD mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508763-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508757-001	ND	ND	QD mg/L as CaCO3	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15081143	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1508632-002	4.82	9.84	9.84	1.00	mg/L	100	100	<1%
QC15081143	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1508654-002	1.03	6.15	6.16	1.00	mg/L	102	103	<1%
QC15081147	MS 1	Chloride	EPA 300.0	1508644-001	1.10	6.63	6.62	5.00	mg/L	111	110	<1%
Fluoride		EPA 300.0	1508644-001	ND	1.90	1.92	2.00	mg/L	92	93	1%	
Sulfate		EPA 300.0	1508644-001	56.0	64.7	64.9	10.0	mg/L	88	89	<1%	
QC15081147	MS 2	Chloride	EPA 300.0	1508654-004	25.9	30.9	30.9	5.00	mg/L	99	99	<1%
Fluoride		EPA 300.0	1508654-004	ND	2.02	2.02	2.00	mg/L	96	96	<1%	
Sulfate		EPA 300.0	1508654-004	52.1	61.3	61.3	10.0	mg/L	92	92	<1%	
QC15081169	MS 1	Barium, Dissolved	EPA 200.7	1508644-001	0.047	0.953	0.969	1.00	mg/L	91	92	2%
Beryllium, Dissolved		EPA 200.7	1508644-001	ND	0.911	0.917	1.00	mg/L	91	92	1%	

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**SPARKS**

475 E. Greg Street, Suite 119  
 Sparks, Nevada 89431  
 tel (775) 355-0202  
 fax (775) 355-0817  
 EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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 EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932



QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Boron, Dissolved	EPA 200.7	1508644-001	ND	0.926	0.937	1.00	mg/L	92	93	1%
		Calcium, Dissolved	EPA 200.7	1508644-001	30.0	37.7	37.5	10.0	mg/L	77	75	1%
		Chromium, Dissolved	EPA 200.7	1508644-001	ND	0.950	0.959	1.00	mg/L	95	96	1%
		Cobalt, Dissolved	EPA 200.7	1508644-001	ND	0.890	0.897	1.00	mg/L	89	90	1%
		Iron, Dissolved	EPA 200.7	1508644-001	ND	0.928	0.933	1.00	mg/L	92	92	1%
		Magnesium, Dissolved	EPA 200.7	1508644-001	ND	9.08	9.13	10.0	mg/L	90	91	1%
		Manganese, Dissolved	EPA 200.7	1508644-001	ND	0.894	0.900	1.00	mg/L	89	90	1%
		Molybdenum, Dissolved	EPA 200.7	1508644-001	ND	0.913	0.922	1.00	mg/L	90	91	1%
		Phosphorus, Dissolved	EPA 200.7	1508644-001	ND	4.67	4.67	5.00	mg/L	93	93	<1%
		Potassium, Dissolved	EPA 200.7	1508644-001	4.34	13.9	13.9	10.0	mg/L	96	96	<1%
		Sodium, Dissolved	EPA 200.7	1508644-001	2.67	12.4	12.6	10.0	mg/L	97	99	2%
		Strontium, Dissolved	EPA 200.7	1508644-001	0.460	1.37	1.38	1.00	mg/L	91	92	1%
		Zinc, Dissolved	EPA 200.7	1508644-001	ND	0.929	0.946	1.00	mg/L	93	94	2%
QC15081213	MS 1	Copper, Dissolved	EPA 200.8	1508644-001	ND	0.0099	0.0098	0.010	mg/L	99	98	1%
		Nickel, Dissolved	EPA 200.8	1508644-001	ND	0.0101	0.0102	0.010	mg/L	96	97	1%
QC15081247	MS 1	WAD Cyanide	SM 4500CN I,	1508624-003	ND	0.099	0.108	0.100	mg/L	100	108	9%
QC15081247	MS 2	WAD Cyanide	SM 4500CN I,	1508653-004	ND	0.103	0.102	0.100	mg/L	103	102	1%
QC15090135	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1508654-005	0.715	M 1.41	1.54	1.00	mg/L	NC	NC	NC

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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 EPA LAB ID: NV00932





# ANALYTICAL SUMMARY REPORT

September 28, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15091691

Project Name: Job ID 1508644

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/18/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15091691-001	C586-15 P, Q Pull #5	08/26/15 15:00	09/18/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508644  
**Lab ID:** B15091691-001  
**Client Sample ID:** C586-15 P, Q Pull #5

**Report Date:** 09/28/15  
**Collection Date:** 08/26/15 15:00  
**Date Received:** 09/18/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.603	mg/L		0.009		E200.8	09/22/15 03:37 / amm
Antimony	0.0019	mg/L		0.0005		E200.8	09/22/15 03:37 / amm
Arsenic	0.028	mg/L		0.001		E200.8	09/22/15 03:37 / amm
Cadmium	ND	mg/L		0.00003		E200.8	09/22/15 20:11 / mas
Lead	ND	mg/L		0.0002		E200.8	09/22/15 03:37 / amm
Mercury	0.0000145	mg/L		5E-06		E245.1	09/23/15 14:06 / ser
Phosphorus	0.017	mg/L	L	0.007		E200.7	09/21/15 22:37 / rlh
Selenium	ND	mg/L		0.001		E200.8	09/22/15 03:37 / amm
Silicon	0.47	mg/L		0.05		E200.7	09/21/15 22:37 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/22/15 03:37 / amm
Thallium	0.0008	mg/L		0.0002		E200.8	09/22/15 03:37 / amm
Uranium	ND	mg/L		0.0002		E200.8	09/22/15 20:11 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508644

**Work Order:** B15091691

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.7								Analytical Run: ICP203-B_150921A		
<b>Lab ID:</b> ICV	Continuing Calibration Verification Standard							09/21/15 11:43		
Phosphorus	2.57	mg/L	0.10	103	95	105				
Silicon	5.05	mg/L	0.10	101	95	105				
<b>Method:</b> E200.7								Batch: R249641		
<b>Lab ID:</b> MB-6500DIS150921A	Method Blank							Run: ICP203-B_150921A 09/21/15 10:47		
Phosphorus	ND	mg/L	0.007							
Silicon	ND	mg/L	0.01							
<b>Lab ID:</b> LFB-6500DIS150921A	Laboratory Fortified Blank							Run: ICP203-B_150921A 09/21/15 10:51		
Phosphorus	9.74	mg/L	0.10	97	85	115				
Silicon	9.76	mg/L	0.10	98	85	115				
<b>Lab ID:</b> B15091681-006BMS2	Sample Matrix Spike							Run: ICP203-B_150921A 09/21/15 22:20		
Phosphorus	50.1	mg/L	0.10	100	70	130				
Silicon	53.9	mg/L	0.10	99	70	130				
<b>Lab ID:</b> B15091681-006BMDS2	Sample Matrix Spike Duplicate							Run: ICP203-B_150921A 09/21/15 22:23		
Phosphorus	48.7	mg/L	0.10	97	70	130	2.9	20		
Silicon	55.0	mg/L	0.10	101	70	130	2.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508644

**Work Order:** B15091691

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8							Analytical Run: ICPMS203-B_150922B			
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard						09/22/15 15:40			
Cadmium	0.0251	mg/L	0.0010	100	90	110				
Uranium	0.0189	mg/L	0.0010	95	90	110				
<b>Method:</b> E200.8							Batch: R249797			
<b>Lab ID:</b> LFB	Laboratory Fortified Blank						Run: ICPMS203-B_150922B 09/22/15 11:27			
Cadmium	0.0496	mg/L	0.0010	99	85	115				
Uranium	0.0470	mg/L	0.00030	94	85	115				
<b>Lab ID:</b> LRB	Method Blank						Run: ICPMS203-B_150922B 09/22/15 11:56			
Cadmium	1E-05	mg/L	5E-06							
Uranium	ND	mg/L	3E-06							
<b>Lab ID:</b> B15091691-001AMS	Sample Matrix Spike						Run: ICPMS203-B_150922B 09/22/15 20:14			
Cadmium	0.0481	mg/L	0.0010	96	70	130				
Uranium	0.0526	mg/L	0.00030	105	70	130				
<b>Lab ID:</b> B15091691-001AMSD	Sample Matrix Spike Duplicate						Run: ICPMS203-B_150922B 09/22/15 20:16			
Cadmium	0.0478	mg/L	0.0010	96	70	130	0.7	20		
Uranium	0.0518	mg/L	0.00030	104	70	130	1.5	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508644

**Work Order:** B15091691

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS206-B_150921A			
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard						09/21/15 12:39			
Aluminum	0.258	mg/L	0.10	103	90	110				
Antimony	0.0491	mg/L	0.050	98	90	110				
Arsenic	0.0506	mg/L	0.0050	101	90	110				
Lead	0.0497	mg/L	0.010	99	90	110				
Selenium	0.0493	mg/L	0.0050	99	90	110				
Silver	0.0235	mg/L	0.0050	94	90	110				
Thallium	0.0494	mg/L	0.10	99	90	110				
<b>Method: E200.8</b>							Batch: R249665			
<b>Lab ID: LRB</b>	Method Blank						Run: ICPMS206-B_150921A 09/21/15 10:30			
Aluminum	ND	mg/L	0.0001							
Antimony	ND	mg/L	8E-05							
Arsenic	ND	mg/L	6E-05							
Lead	ND	mg/L	5E-05							
Selenium	ND	mg/L	0.0001							
Silver	ND	mg/L	2E-05							
Thallium	ND	mg/L	7E-05							
<b>Lab ID: LFB</b>	Laboratory Fortified Blank						Run: ICPMS206-B_150921A 09/21/15 10:35			
Aluminum	0.0523	mg/L	0.10	105	85	115				
Antimony	0.0479	mg/L	0.050	96	85	115				
Arsenic	0.0537	mg/L	0.0050	107	85	115				
Lead	0.0519	mg/L	0.010	104	85	115				
Selenium	0.0509	mg/L	0.0050	102	85	115				
Silver	0.0209	mg/L	0.0050	104	85	115				
Thallium	0.0523	mg/L	0.10	105	85	115				
<b>Lab ID: B15091694-001AMS</b>	Sample Matrix Spike						Run: ICPMS206-B_150921A 09/22/15 04:15			
Aluminum	0.103	mg/L	0.030	89	70	130				
Antimony	0.0513	mg/L	0.0010	102	70	130				
Arsenic	0.0533	mg/L	0.0010	103	70	130				
Lead	0.0496	mg/L	0.0010	99	70	130				
Selenium	0.0477	mg/L	0.0010	95	70	130				
Silver	0.0102	mg/L	0.0010	51	70	130			S	
Thallium	0.0497	mg/L	0.00050	99	70	130				
<b>Lab ID: B15091694-001AMSD</b>	Sample Matrix Spike Duplicate						Run: ICPMS206-B_150921A 09/22/15 04:20			
Aluminum	0.102	mg/L	0.030	88	70	130	0.6	20		
Antimony	0.0514	mg/L	0.0010	102	70	130	0.2	20		
Arsenic	0.0490	mg/L	0.0010	95	70	130	8.4	20		
Lead	0.0485	mg/L	0.0010	97	70	130	2.2	20		
Selenium	0.0488	mg/L	0.0010	98	70	130	2.2	20		
Silver	0.00951	mg/L	0.0010	48	70	130	6.7	20	S	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508644

**Work Order:** B15091691

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8									Batch: R249665
<b>Lab ID:</b> B15091694-001AMSD	Sample Matrix Spike Duplicate				Run: ICPMS206-B_150921A			09/22/15 04:20	
Thallium	0.0488	mg/L	0.00050	97	70	130	1.9	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508644

**Work Order:** B15091691

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV203-B_150923A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								09/23/15 13:46
Mercury	0.000211	mg/L	1.0E-05	106	90	110			
<b>Method:</b> E245.1									Batch: 93363
<b>Lab ID:</b> MB-93363	Method Blank								09/23/15 14:00
Mercury	1E-06	mg/L	1E-06	Run: HGCV203-B_150923A					
<b>Lab ID:</b> LCS-93363	Laboratory Control Sample								09/23/15 14:03
Mercury	0.000207	mg/L	1.0E-05	103	85	115			
<b>Lab ID:</b> B15091691-001AMS	Sample Matrix Spike								09/23/15 14:08
Mercury	0.000218	mg/L	1.0E-05	102	70	130			
<b>Lab ID:</b> B15091691-001AMSD	Sample Matrix Spike Duplicate								09/23/15 14:11
Mercury	0.000220	mg/L	1.0E-05	103	70	130	0.9	30	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15091691

Login completed by: Tabitha Edwards

Date Received: 9/18/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 9/21/2015

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 12.0°C On Ice
- Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

Did not receive an attachment with highlighted metals. Gina McCartney, Energy Laboratories Project Manager, contacted Holly who indicated to use the same highlight metals list as per history.





# CHAIN OF CUSTODY RECORD

Western Environmental Testing Laboratory  
 475 E. Greg Street #119 Sparks, NV 89431  
 Kurt Clarkson Ph: (775) 355-0202  
 kurte@WETLaboratory.com Fax: (775) 355-0817

Total # of sample containers: 1  
 System: \_\_\_\_\_  
 Job ID: 1508644

All Samples Refrigerated?: Y X N \_\_\_\_\_  
 Compliance: Y X N \_\_\_\_\_  
 CA Write ON: Y X N \_\_\_\_\_  
 QC: Y X N \_\_\_\_\_  
 Water System #: \_\_\_\_\_

Samplers Initials: \_\_\_\_\_  
 Notes: \_\_\_\_\_  
 SIGNATURE OF COMPANY REPRESENTATIVE: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Set Date	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
8/26/2015	C586-15 P.Q Pull #5 -	Waste Water	Various Metals (Subcontracted)		
3:00 PM					

B15091691-001

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Sample Type		
						Trip Blank	Grab	Composite
	8-26-15	11:00	<u>UPS</u>			Trip Blank	Grab	Composite
	9-16-15	14:00	<u>UPS</u>			Trip Blank	Grab	Composite
			<u>Quince Jones</u>	9/18/15	09:15	Trip Blank	Grab	Composite

UPS NDA  
 recd. on ice  
 temp = 12.0 LR3

	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 -sub to Energy Lab	
	Antimony	0.0005 - 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 - 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 - 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 - 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 -sub to Energy Lab	
	Calcium	1.0 - 1.0 WETLAB	EPA 200.7
	Chromium	0.01 - 0.01 WETLAB	EPA 200.7
	Copper	0.002 - 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
	Iron	0.02 - 0.02 WETLAB	EPA 200.7
	Lead	0.0003 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
	Manganese	0.005 - 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 -sub to Energy Lab	
	Nickel	0.002 - 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 -sub to Energy Lab	EPA 200.7
	Selenium	0.001 -sub to Energy Lab	EPA 200.8
	Silicon	0.05 - 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 -sub to Energy Lab	
	Strontium	0.02 - 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
	Thallium	0.0002 -sub to Energy Lab	
	Uranium	0.0002 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Zinc	0.008 - 0.008 WETLAB	EPA 200.7
	Alkalinity, Total (as CaCO3)	1	2320B
	pH (standard units)	NA	4500H+B
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	-
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe speciat  
 redox  
 EC





9/22/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1508697

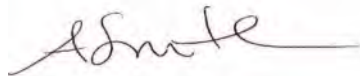
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 8/27/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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EPA LAB ID: NV00925 - ELAP No: 2523

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Las Vegas, Nevada 89102  
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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1508697

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: Black Butte Copper Diffusion Project

Date Printed: 9/22/2015

OrderID: 1508697

Customer Sample ID: C586-15 P,Q Pull #6

Collect Date/Time: 8/27/2015 15:00

WETLAB Sample ID: 1508697-001

Receive Date: 8/27/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/28/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/31/2015	NV00925
pH	SM 4500-H+ B	7.05	pH Units	1		8/27/2015	NV00925
Temperature at pH	NA	22.5	°C	1		8/27/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/1/2015	NV00925
Redox Potential	ASTM D1498	460	mV	1		8/28/2015	NV00925
Acidity (Titrimetric)	SM 2310B	-5	mg/L as CaCO3	1		9/4/2015	NV00925
Total Alkalinity	SM 2320B	14	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	8.4	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Carbonate (CO3)	SM 2320B	5.2	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/2/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	110	mg/L	1	10	9/1/2015	NV00925
Electrical Conductivity	SM 2510B	190	µmhos/cm	1	1	8/28/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	8/28/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	8/28/2015	NV00925
Sulfate	EPA 300.0	43	mg/L	1	1.0	8/28/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	8/28/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/2/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.050	mg/L	1	0.0030	8/31/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	8/31/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	8/31/2015	NV00925
Calcium, Dissolved	EPA 200.7	26	mg/L	1	0.50	8/31/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/31/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	8/31/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/31/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	8/31/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/31/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/31/2015	NV00925
Potassium, Dissolved	EPA 200.7	3.7	mg/L	1	0.50	8/31/2015	NV00925
Sodium, Dissolved	EPA 200.7	2.1	mg/L	1	0.50	8/31/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.39	mg/L	1	0.020	8/31/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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EPA LAB ID: NV00932

Customer Sample ID: C586-15 P,Q Pull #6

Collect Date/Time: 8/27/2015 15:00

WETLAB Sample ID: 1508697-001

Receive Date: 8/27/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	8/31/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	8/31/2015	NV00925
Nickel, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/8/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.17	meq/L	1	0.10		NV00925
Cations	Calculation	1.48	meq/L	1	0.10		NV00925
Error	Calculation	12	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		8/31/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15081210	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15081222	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15081244	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15081254	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090005	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15090009	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15090043	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15090137	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15090179	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15081137	LCS 1	pH	SM 4500-H+ B	6.94	7.00	99	pH Units
QC15081137	LCS 2	pH	SM 4500-H+ B	7.03	7.00	100	pH Units
QC15081210	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.841	0.800	105	mg/L
QC15081222	LCS 1	Chloride	EPA 300.0	10.5	10.0	105	mg/L
		Fluoride	EPA 300.0	2.11	2.00	105	mg/L
		Sulfate	EPA 300.0	25.3	25.0	101	mg/L
QC15081244	LCS 1	Ferrous Iron	SM 3500 Fe B	0.885	1.00	88	mg/L
QC15081254	LCS 1	Electrical Conductivity	SM 2510B	1400	1412	99	µmhos/cm
QC15081257	LCS 1	Redox Potential	ASTM D1498	224	221	101	mV
QC15090005	LCS 1	Copper, Dissolved	EPA 200.8	0.0101	0.010	101	mg/L
		Nickel, Dissolved	EPA 200.8	0.0103	0.010	103	mg/L
QC15090009	LCS 1	Barium, Dissolved	EPA 200.7	0.967	1.00	97	mg/L
		Beryllium, Dissolved	EPA 200.7	0.983	1.00	98	mg/L
		Boron, Dissolved	EPA 200.7	0.976	1.00	98	mg/L
		Calcium, Dissolved	EPA 200.7	9.78	10.0	98	mg/L
		Chromium, Dissolved	EPA 200.7	0.971	1.00	97	mg/L
		Cobalt, Dissolved	EPA 200.7	0.981	1.00	98	mg/L
		Iron, Dissolved	EPA 200.7	0.976	1.00	98	mg/L
		Magnesium, Dissolved	EPA 200.7	9.83	10.0	98	mg/L
		Manganese, Dissolved	EPA 200.7	0.973	1.00	97	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.977	1.00	98	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Potassium, Dissolved	EPA 200.7	9.93	10.0	99	mg/L
		Sodium, Dissolved	EPA 200.7	9.89	10.0	99	mg/L
		Strontium, Dissolved	EPA 200.7	0.976	1.00	98	mg/L
		Zinc, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
QC15090043	LCS 1	WAD Cyanide	SM 4500CN I, E	0.104	0.100	104	mg/L
QC15090137	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.952	1.00	95	mg/L
QC15090179	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	156	150	104	mg/L
QC15090179	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	155	150	103	mg/L
QC15090244	LCS 1	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090244	LCS 2	Total Alkalinity	SM 2320B	100	100	100	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15081137	Duplicate	pH	SM 4500-H+ B	1508411-001	7.07	7.20	QD pH Units	2 %
QC15081137	Duplicate	pH	SM 4500-H+ B	1508413-003	6.91	7.10	QD pH Units	3 %
QC15081137	Duplicate	pH	SM 4500-H+ B	1508357-001	6.65	6.77	QD pH Units	2 %
QC15081244	Duplicate	Ferrous Iron	SM 3500 Fe B	1508693-001	ND	ND	mg/L	<1%
QC15081244	Duplicate	Ferrous Iron	SM 3500 Fe B	1508696-003	ND	ND	mg/L	<1%
QC15081244	Duplicate	Ferrous Iron	SM 3500 Fe B	1508751-001	ND	ND	mg/L	<1%
QC15081254	Duplicate	Electrical Conductivity	SM 2510B	1508693-001	131	131	µmhos/cm	<1%
QC15081254	Duplicate	Electrical Conductivity	SM 2510B	1508696-003	137	137	µmhos/cm	<1%
QC15081254	Duplicate	Electrical Conductivity	SM 2510B	1508751-001	157	157	µmhos/cm	<1%
QC15081257	Duplicate	Redox Potential	ASTM D1498	1508693-001	520	522	mV	<1%
QC15081257	Duplicate	Redox Potential	ASTM D1498	1508696-003	505	508	mV	1 %
QC15081257	Duplicate	Redox Potential	ASTM D1498	1508751-001	404	410	mV	1 %
QC15090179	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508697-001	107	102	mg/L	5 %
QC15090179	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508711-002	630	622	mg/L	1 %
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509009-001	242	242	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509009-001	242	242	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509009-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509009-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509012-001	192	193	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509012-001	192	193	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509012-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509012-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509059-001	391	391	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509059-001	391	391	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509059-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509059-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509086-001	66.5	66.3	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509086-001	66.5	66.3	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509086-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509086-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509059-003	423	422	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509059-003	423	422	mg/L as CaCO3	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
		Carbonate (CO3)	SM 2320B	1509059-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509059-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508761-001	ND	ND	QD mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508763-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508757-001	ND	ND	QD mg/L as CaCO3	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15081210	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1508687-001	0.114	M 6.11	6.43	1.00	mg/L	NC	NC	NC
QC15081210	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1508688-002	357	SC 357	352	1.00	mg/L	NC	NC	NC
QC15081222	MS 1	Chloride	EPA 300.0	1508697-001	ND	6.08	6.23	5.00	mg/L	108	111	2%
		Fluoride	EPA 300.0	1508697-001	ND	2.10	2.15	2.00	mg/L	102	105	2%
		Sulfate	EPA 300.0	1508697-001	43.1	52.8	53.3	10.0	mg/L	97	102	1%
QC15081222	MS 2	Chloride	EPA 300.0	1508739-001	157	206	205	5.00	mg/L	99	95	<1%
		Fluoride	EPA 300.0	1508739-001	ND	D 19.6	19.6	2.00	mg/L	95	95	<1%
		Sulfate	EPA 300.0	1508739-001	109	206	205	10.0	mg/L	98	96	<1%
QC15090005	MS 1	Copper, Dissolved	EPA 200.8	1508697-001	ND	0.0107	0.0107	0.010	mg/L	103	103	<1%
		Nickel, Dissolved	EPA 200.8	1508697-001	ND	0.0111	0.0111	0.010	mg/L	100	100	<1%
QC15090009	MS 1	Barium, Dissolved	EPA 200.7	1508697-001	0.050	1.02	1.01	1.00	mg/L	97	96	1%
		Beryllium, Dissolved	EPA 200.7	1508697-001	ND	0.990	0.984	1.00	mg/L	99	98	1%
		Boron, Dissolved	EPA 200.7	1508697-001	ND	0.999	0.993	1.00	mg/L	99	99	1%
		Calcium, Dissolved	EPA 200.7	1508697-001	25.7	34.4	34.7	10.0	mg/L	87	90	1%
		Chromium, Dissolved	EPA 200.7	1508697-001	ND	0.976	0.970	1.00	mg/L	98	97	1%
		Cobalt, Dissolved	EPA 200.7	1508697-001	ND	0.983	0.977	1.00	mg/L	98	98	1%
		Iron, Dissolved	EPA 200.7	1508697-001	ND	0.974	0.972	1.00	mg/L	97	97	<1%
		Magnesium, Dissolved	EPA 200.7	1508697-001	ND	9.64	9.62	10.0	mg/L	96	96	<1%
		Manganese, Dissolved	EPA 200.7	1508697-001	ND	0.978	0.972	1.00	mg/L	98	97	1%
		Molybdenum, Dissolved	EPA 200.7	1508697-001	ND	0.992	0.982	1.00	mg/L	98	97	1%
		Potassium, Dissolved	EPA 200.7	1508697-001	3.66	13.3	13.4	10.0	mg/L	96	97	1%
		Sodium, Dissolved	EPA 200.7	1508697-001	2.08	11.9	12.0	10.0	mg/L	98	99	1%
		Strontium, Dissolved	EPA 200.7	1508697-001	0.394	1.35	1.36	1.00	mg/L	96	97	1%
		Zinc, Dissolved	EPA 200.7	1508697-001	ND	1.00	0.999	1.00	mg/L	100	100	<1%
QC15090043	MS 1	WAD Cyanide	SM 4500CN I,	1508688-002	ND	0.098	0.098	0.100	mg/L	98	98	<1%
QC15090137	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1508678-003	ND	1.00	0.948	1.00	mg/L	99	94	5%
QC15090137	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1508687-002	0.442	M 0.528	0.414	1.00	mg/L	NC	NC	NC

**SPARKS**

475 E. Greg Street, Suite 119  
 Sparks, Nevada 89431  
 tel (775) 355-0202  
 fax (775) 355-0817  
 EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

1084 Lamoille Hwy  
 Elko, Nevada 89801  
 tel (775) 777-9933  
 fax (775) 777-9933  
 EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932



# ANALYTICAL SUMMARY REPORT

September 14, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15090447  
Project Name: Job ID 1508697

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/3/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15090447-001	C586-15 P,Q Pull #6	08/27/15 15:00	09/03/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508697  
**Lab ID:** B15090447-001  
**Client Sample ID:** C586-15 P,Q Pull #6

**Report Date:** 09/14/15  
**Collection Date:** 08/27/15 15:00  
**Date Received:** 09/03/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.415	mg/L		0.009		E200.8	09/04/15 19:06 / mas
Antimony	0.0014	mg/L		0.0005		E200.8	09/04/15 19:06 / mas
Arsenic	0.024	mg/L		0.001		E200.8	09/04/15 19:06 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/04/15 19:06 / mas
Lead	ND	mg/L		0.0002		E200.8	09/04/15 19:06 / mas
Mercury	0.0000201	mg/L		5E-06		E245.1	09/09/15 15:14 / ser
Phosphorus	0.013	mg/L	L	0.007		E200.7	09/09/15 11:56 / rh
Selenium	ND	mg/L		0.001		E200.8	09/04/15 19:06 / mas
Silicon	0.51	mg/L	D	0.07		E200.7	09/04/15 13:12 / prw
Silver	ND	mg/L		0.0002		E200.8	09/09/15 11:33 / amm
Thallium	0.0008	mg/L		0.0002		E200.8	09/04/15 19:06 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/04/15 19:06 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508697

**Work Order:** B15090447

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b> Analytical Run: ICP203-B_150904A										
<b>Lab ID:</b> ICV	Continuing Calibration Verification Standard									
Silicon		5.06	mg/L	0.10	101	95	105			09/04/15 10:48
<b>Method: E200.7</b> Batch: R248883										
<b>Lab ID:</b> MB-6500DIS150904A	Method Blank									
Silicon		0.04	mg/L	0.01						09/04/15 11:17
<b>Lab ID:</b> LFB-6500DIS150904A	Laboratory Fortified Blank									
Silicon		10.4	mg/L	0.10	104	85	115			09/04/15 11:20
<b>Lab ID:</b> B15090333-002BMS2	Sample Matrix Spike									
Silicon		63.2	mg/L	0.10	103	70	130			09/04/15 12:47
<b>Lab ID:</b> B15090333-002BMSD	Sample Matrix Spike Duplicate									
Silicon		65.4	mg/L	0.10	107	70	130	3.5	20	09/04/15 12:51
<b>Method: E200.7</b> Analytical Run: ICP203-B_150909A										
<b>Lab ID:</b> ICV	Continuing Calibration Verification Standard									
Phosphorus		2.58	mg/L	0.10	103	95	105			09/09/15 11:17
<b>Method: E200.7</b> Batch: R249034										
<b>Lab ID:</b> MB-6500DIS150909A	Method Blank									
Phosphorus		ND	mg/L	0.007						09/09/15 11:45
<b>Lab ID:</b> LFB-6500DIS150909A	Laboratory Fortified Blank									
Phosphorus		10.9	mg/L	0.10	109	85	115			09/09/15 11:49
<b>Lab ID:</b> B15090447-001AMS2	Sample Matrix Spike									
Phosphorus		11.0	mg/L	0.10	110	70	130			09/09/15 12:10
<b>Lab ID:</b> B15090447-001AMSD	Sample Matrix Spike Duplicate									
Phosphorus		11.1	mg/L	0.10	111	70	130	0.6	20	09/09/15 12:13

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508697

**Work Order:** B15090447

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_150904A	
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard							09/04/15 14:54		
Aluminum		0.249	mg/L	0.10	100	90	110				
Antimony		0.0512	mg/L	0.050	102	90	110				
Arsenic		0.0494	mg/L	0.0050	99	90	110				
Cadmium		0.0250	mg/L	0.0010	100	90	110				
Lead		0.0508	mg/L	0.010	102	90	110				
Selenium		0.0501	mg/L	0.0050	100	90	110				
Thallium		0.0503	mg/L	0.10	101	90	110				
Uranium		0.0202	mg/L	0.0010	101	90	110				
<b>Method: E200.8</b>										Batch: R248886	
<b>Lab ID: LRB</b>	8	Method Blank							Run: ICPMS206-B_150904A 09/04/15 12:16		
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Thallium		0.0001	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank							Run: ICPMS206-B_150904A 09/04/15 12:21		
Aluminum		0.0495	mg/L	0.10	99	85	115				
Antimony		0.0465	mg/L	0.050	93	85	115				
Arsenic		0.0495	mg/L	0.0050	99	85	115				
Cadmium		0.0484	mg/L	0.0010	97	85	115				
Lead		0.0490	mg/L	0.010	98	85	115				
Selenium		0.0493	mg/L	0.0050	99	85	115				
Thallium		0.0491	mg/L	0.10	98	85	115				
Uranium		0.0498	mg/L	0.0010	100	85	115				
<b>Lab ID: B15090455-001AMS</b>	8	Sample Matrix Spike							Run: ICPMS206-B_150904A 09/04/15 19:25		
Aluminum		0.301	mg/L	0.030		70	130			A	
Antimony		0.0540	mg/L	0.0010	106	70	130				
Arsenic		0.0679	mg/L	0.0010	93	70	130				
Cadmium		0.0499	mg/L	0.0010	100	70	130				
Lead		0.0502	mg/L	0.0010	100	70	130				
Selenium		0.0513	mg/L	0.0010	103	70	130				
Thallium		0.0509	mg/L	0.00050	101	70	130				
Uranium		0.0499	mg/L	0.00030	100	70	130				
<b>Lab ID: B15090455-001AMSD</b>	8	Sample Matrix Spike Duplicate							Run: ICPMS206-B_150904A 09/04/15 19:30		
Aluminum		0.300	mg/L	0.030		70	130	0.2	20	A	
Antimony		0.0530	mg/L	0.0010	104	70	130	1.8	20		
Arsenic		0.0669	mg/L	0.0010	91	70	130	1.6	20		
Cadmium		0.0485	mg/L	0.0010	97	70	130	2.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508697

**Work Order:** B15090447

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R248886</span>										
<b>Lab ID:</b> B15090455-001AMSD	8	Sample Matrix Spike Duplicate					Run: ICPMS206-B_150904A			09/04/15 19:30
Lead		0.0492	mg/L	0.0010	98	70	130	2.1	20	
Selenium		0.0478	mg/L	0.0010	96	70	130	7.0	20	
Thallium		0.0496	mg/L	0.00050	98	70	130	2.7	20	
Uranium		0.0484	mg/L	0.00030	97	70	130	3.1	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS206-B_150909A</span>										
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								09/09/15 10:40
Silver		0.0267	mg/L	0.0050	107	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R249023</span>										
<b>Lab ID:</b> LRB		Method Blank					Run: ICPMS206-B_150909A			09/09/15 11:18
Silver		ND	mg/L	2E-05						
<b>Lab ID:</b> LFB		Laboratory Fortified Blank					Run: ICPMS206-B_150909A			09/09/15 11:23
Silver		0.0205	mg/L	0.0050	103	85	115			
<b>Lab ID:</b> B15090447-001AMS		Sample Matrix Spike					Run: ICPMS206-B_150909A			09/09/15 11:37
Silver		0.0179	mg/L	0.0010	89	70	130			
<b>Lab ID:</b> B15090447-001AMSD		Sample Matrix Spike Duplicate					Run: ICPMS206-B_150909A			09/09/15 11:42
Silver		0.0153	mg/L	0.0010	77	70	130	15	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508697

**Work Order:** B15090447

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150909A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/09/15 13:59	
Mercury		0.000214	mg/L	1.0E-05	107	90	110				
<b>Method:</b> E245.1										Batch: 92989	
<b>Lab ID:</b> MB-92989		Method Blank								Run: HGCV203-B_150909A	09/09/15 15:08
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-92989		Laboratory Control Sample								Run: HGCV203-B_150909A	09/09/15 15:11
Mercury		0.000211	mg/L	1.0E-05	105	85	115				
<b>Lab ID:</b> B15090456-001AMS		Sample Matrix Spike								Run: HGCV203-B_150909A	09/09/15 15:48
Mercury		0.000222	mg/L	1.0E-05	107	70	130				
<b>Lab ID:</b> B15090456-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150909A	09/09/15 15:51
Mercury		0.000221	mg/L	1.0E-05	106	70	130	0.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15090447

Login completed by: Randa Nees

Date Received: 9/3/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 9/3/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	20.6°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# CHAIN OF CUSTODY RECORD

<b>Western Environmental Testing Laboratory</b> 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <u>1</u> System: _____ Job ID: <u>1508697</u>		Samplers Initials: _____ All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Water System #: _____	
Sample Receipt Condition: Temperature: _____		Notes: <u>analyze attached sheet</u> SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____			
Set Date Set Time 8/27/2015 3:00 PM	Sample ID - Site ID C586-15 P,Q Pull #6 -	Matrix Waste Water	Parameter Various Metals (Subcontracted)	Container Type _____	Preservatives _____
Relinquished by: _____ (Signature)		Date: 8/15/15 Time: 11:00	Received by: _____ (Signature)	Date: _____ Time: _____	Sample Type Composite
Relinquished by: _____ (Signature)		Date: _____ Time: _____	Received by: _____ (Signature)	Date: _____ Time: _____	Sample Type Composite
Relinquished by: _____ (Signature)		Date: _____ Time: _____	Received by: <u>Therence Jones</u> (Signature)	Date: 9/15/15 Time: 09:30	Sample Type Composite

no TB  
 temp = 20.6 (IR-3)  
 no ice  
 UPS Ground.

please analyze highlighted samples

	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 -sub to Energy Lab	
	Antimony	0.0005 - 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 - 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 - 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 - 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 -sub to Energy Lab	
	Calcium	1.0 - 1.0 WETLAB	EPA 200.7
	Chromium	0.01 - 0.01 WETLAB	EPA 200.7
	Copper	0.002 - 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
	Iron	0.02 - 0.02 WETLAB	EPA 200.7
	Lead	0.0003 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
	Manganese	0.005 - 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 -sub to Energy Lab	
	Nickel	0.002 - 0.0004 WETLAB	EPA 200.8
	Platinum	0.001 -sub to Energy Lab	EPA 200.7
	Selenium	0.001 -sub to Energy Lab	EPA 200.8
	Silver	0.05 - 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 -sub to Energy Lab	
	Strontium	0.02 - 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
	Tellurium	0.0002 -sub to Energy Lab	
	Uranium	0.0002 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Zinc	0.008 - 0.008 WETLAB	EPA 200.7
Alkalinity, Total (as CaCO3)	1	2320B	
pH (standard units)	NA	4500H+B	
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	-
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please acidity Fe speciat redox EC



# WETLAB

WESTERN ENVIRONMENTAL TESTING LABORATORY

Specializing in Soil, Hazardous Waste and Water Analysis.

475 E. Greg Street #119 | Sparks, Nevada 89431 | www.WETLaboratory.com  
tel (775) 355-0202 | fax (775) 355-0817

1084 Lamoille Highway | Elko, Nevada 89801  
tel (775) 777-9933 | fax (775) 777-9933

3230 Polaris Ave., Suite 4 | Las Vegas, Nevada 89102  
tel (702) 475-8899 | fax (702) 776-6152

WETLAB Order ID. 1508697

Sparks Control # \_\_\_\_\_

Elko Control # \_\_\_\_\_

LV Control # \_\_\_\_\_

Report Due Date 9-11-15

Page 1 of 1

Client **Tintina Resources**

Address **17 East Main St**

City, State & Zip **White Sulphur Springs, MT 59645**

Contact **Bob Jacko, Katie Seipel, and Lisa Kirk**

Phone **(406) 547-3466**

Collector's Name **WETLAB**

Fax \_\_\_\_\_

PWS/Project Name \_\_\_\_\_

P.O. Number \_\_\_\_\_

PWS/Project Number **Black Butte Copper Diffusion Project**

Email **bjacko@tintinaresources.com; seipel.k@gmail.com; lkirk@montana.com**

### Billing Address (if different than Client Address)

Company Same  
Address \_\_\_\_\_  
City, State & Zip \_\_\_\_\_  
Contact \_\_\_\_\_  
Phone \_\_\_\_\_ Fax \_\_\_\_\_  
Email \_\_\_\_\_

### Turnaround Time Requirements

Standard   
5 Day\* (25%)  72 Hour\* (50%)   
48 Hour\* (100%)  24 Hour\* (200%)   
\*Surcharges Will Apply

Samples Collected From Which State?

NV  CA   
Other

Report Results Via

PDF  EDD

Compliance Monitoring?

Yes  No

Other \_\_\_\_\_

Report to Regulatory Agency?

Yes  No

Standard QC Required?

Yes  No

### Analyses Requested

S  
A  
M  
P  
L  
E  
S  
O  
F  
C  
O  
N  
T  
A  
I  
N  
E  
R  
S  
T  
Y  
P  
E  
S

Profile II w CN (W)

Acidity, Ferric, Ferrrous, Redox, EC

SC\_Metals

Spl. No.

SAMPLE ID/LOCATION

DATE TIME

PRES TYPE

C586-15 P,Q Pull # 6

8-27-15 15:00

W

5

1

Instructions/Comments/Special Requirements:

**SC\_Metals to Energy Lab**

Sample Matrix Key\*\* DW = Drinking Water WW = Wastewater SW = Surface Water MW = Monitoring Well SD = Solid/Sludge SO = Soil HW = Hazardous Waste OTHER: \_\_\_\_\_

\*SAMPLE PRESERVATIVES: 1=Unpreserved 2=H2SO4 3=NaOH 4=HCl 5=HNO3 6=Na2S2O3 7=ZnOAc+NaOH 8=HCl/VOA Vial

Temp	Custody Seal	# of Containers	DATE	TIME	Samples Relinquished By	Samples Received By
<u>7°C</u>	Y N <u>None</u>	<u>5</u>	<u>8-27-15</u>	<u>15:00</u>	In House	
°C	Y N None					
°C	Y N None					
°C	Y N None					

WETLAB'S Standard Terms and Conditions apply unless written agreements specify otherwise. Payment terms are Net 30.

Client/Collector attests to the validity and authenticity of this (these) sample(s) and, is (are) aware that tampering with or intentionally mislabeling the sample(s) location, date or time of collection may be considered fraud and subject to legal action (NAC445.0636). \_\_\_\_\_ initial  
To the maximum extent permitted by law, the Client agrees to limit the liability of WETLAB for the Client's damages to the total compensation received, unless other agreements are made in writing. This limitation shall apply regardless of the cause of action or legal theory pled or asserted. \_\_\_\_\_ initial  
WETLAB will dispose of samples 90 days from sample receipt. Client may request a longer sample storage time for an additional fee. 301.2E  
Please contact your Project Manager for details. \_\_\_\_\_ initial

9/16/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1508751

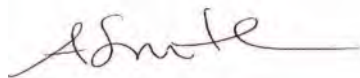
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 8/28/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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**LAS VEGAS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1508751

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: Black Butte Copper Diffusion Project

Date Printed: 9/16/2015

OrderID: 1508751

Customer Sample ID: C586-15 P,Q Pull #7

Collect Date/Time: 8/28/2015 15:00

WETLAB Sample ID: 1508751-001

Receive Date: 8/28/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/28/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/1/2015	NV00925
pH	SM 4500-H+ B	9.61	HT pH Units	1		9/4/2015	NV00925
Temperature at pH	NA	23.2	°C	1		9/4/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/4/2015	NV00925
Redox Potential	ASTM D1498	400	mV	1		8/28/2015	NV00925
Acidity (Titrimetric)	SM 2310B	-3	mg/L as CaCO3	1		9/4/2015	NV00925
Total Alkalinity	SM 2320B	13	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	4.6	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Carbonate (CO3)	SM 2320B	8.5	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/4/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	85	mg/L	1	10	9/1/2015	NV00925
Electrical Conductivity	SM 2510B	160	µmhos/cm	1	1	8/28/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	8/31/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	8/31/2015	NV00925
Sulfate	EPA 300.0	34	mg/L	1	1.0	8/31/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	8/31/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/4/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.055	mg/L	1	0.0030	9/1/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/1/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/1/2015	NV00925
Calcium, Dissolved	EPA 200.7	22	mg/L	1	0.50	9/1/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/1/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	9/1/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/1/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/1/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/1/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/1/2015	NV00925
Potassium, Dissolved	EPA 200.7	2.8	mg/L	1	0.50	9/1/2015	NV00925
Sodium, Dissolved	EPA 200.7	1.4	mg/L	1	0.50	9/1/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.37	mg/L	1	0.020	9/1/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C586-15 P,Q Pull #7

Collect Date/Time: 8/28/2015 15:00

WETLAB Sample ID: 1508751-001

Receive Date: 8/28/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	9/1/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.0052	mg/L	1	0.0020	9/1/2015	NV00925
Nickel, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/8/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	0.97	meq/L	1	0.10		NV00925
Cations	Calculation	1.23	meq/L	1	0.10		NV00925
Error	Calculation	12	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		8/31/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15081244	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15081254	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090003	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090008	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15090020	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090036	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15090180	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090200	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15090229	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15081244	LCS 1	Ferrous Iron	SM 3500 Fe B	0.885	1.00	88	mg/L
QC15081254	LCS 1	Electrical Conductivity	SM 2510B	1400	1412	99	µmhos/cm
QC15081257	LCS 1	Redox Potential	ASTM D1498	224	221	101	mV
QC15090003	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.808	0.800	101	mg/L
QC15090008	LCS 1	Copper, Dissolved	EPA 200.8	0.0101	0.010	101	mg/L
		Nickel, Dissolved	EPA 200.8	0.0104	0.010	104	mg/L
QC15090020	LCS 1	Chloride	EPA 300.0	9.77	10.0	98	mg/L
		Fluoride	EPA 300.0	1.90	2.00	95	mg/L
		Sulfate	EPA 300.0	23.7	25.0	95	mg/L
QC15090036	LCS 1	Barium, Dissolved	EPA 200.7	0.970	1.00	97	mg/L
		Beryllium, Dissolved	EPA 200.7	0.962	1.00	96	mg/L
		Boron, Dissolved	EPA 200.7	0.965	1.00	96	mg/L
		Calcium, Dissolved	EPA 200.7	9.69	10.0	97	mg/L
		Chromium, Dissolved	EPA 200.7	0.965	1.00	96	mg/L
		Cobalt, Dissolved	EPA 200.7	0.960	1.00	96	mg/L
		Iron, Dissolved	EPA 200.7	0.977	1.00	98	mg/L
		Magnesium, Dissolved	EPA 200.7	9.66	10.0	97	mg/L
		Manganese, Dissolved	EPA 200.7	0.968	1.00	97	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.935	1.00	94	mg/L
		Potassium, Dissolved	EPA 200.7	9.74	10.0	97	mg/L
		Sodium, Dissolved	EPA 200.7	9.52	10.0	95	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Strontium, Dissolved	EPA 200.7	0.970	1.00	97	mg/L
		Zinc, Dissolved	EPA 200.7	0.987	1.00	99	mg/L
QC15090180	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	148	150	99	mg/L
QC15090180	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	155	150	103	mg/L
QC15090200	LCS 1	WAD Cyanide	SM 4500CN I, E	0.104	0.100	104	mg/L
QC15090229	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.902	1.00	90	mg/L
QC15090240	LCS 1	pH	SM 4500-H+ B	7.01	7.00	100	pH Units
QC15090240	LCS 2	pH	SM 4500-H+ B	7.02	7.00	100	pH Units
QC15090240	LCS 3	pH	SM 4500-H+ B	7.02	7.00	100	pH Units
QC15090244	LCS 1	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090244	LCS 2	Total Alkalinity	SM 2320B	100	100	100	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15081244	Duplicate	Ferrous Iron	SM 3500 Fe B	1508693-001	ND	ND	mg/L	<1%
QC15081244	Duplicate	Ferrous Iron	SM 3500 Fe B	1508696-003	ND	ND	mg/L	<1%
QC15081244	Duplicate	Ferrous Iron	SM 3500 Fe B	1508751-001	ND	ND	mg/L	<1%
QC15081254	Duplicate	Electrical Conductivity	SM 2510B	1508693-001	131	131	µmhos/cm	<1%
QC15081254	Duplicate	Electrical Conductivity	SM 2510B	1508696-003	137	137	µmhos/cm	<1%
QC15081254	Duplicate	Electrical Conductivity	SM 2510B	1508751-001	157	157	µmhos/cm	<1%
QC15081257	Duplicate	Redox Potential	ASTM D1498	1508693-001	520	522	mV	<1%
QC15081257	Duplicate	Redox Potential	ASTM D1498	1508696-003	505	508	mV	1 %
QC15081257	Duplicate	Redox Potential	ASTM D1498	1508751-001	404	410	mV	1 %
QC15090180	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508747-001	377	370	mg/L	2 %
QC15090180	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508753-008	621	603	mg/L	3 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509009-001	7.92	7.90	HT pH Units	<1%
QC15090240	Duplicate	pH	SM 4500-H+ B	1509012-001	7.83	7.81	HT pH Units	<1%
QC15090240	Duplicate	pH	SM 4500-H+ B	1509059-001	7.45	7.41	HT pH Units	1 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509086-001	7.90	7.85	HT pH Units	1 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509059-003	7.45	7.39	HT pH Units	1 %
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509009-001	242	242	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509009-001	242	242	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509009-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509009-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509012-001	192	193	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509012-001	192	193	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509012-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509012-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509059-001	391	391	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509059-001	391	391	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509059-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509059-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509086-001	66.5	66.3	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509086-001	66.5	66.3	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509086-001	ND	ND	mg/L as CaCO3	<1%

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QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090244	Duplicate	Hydroxide (OH)	SM 2320B	1509086-001	ND	ND	mg/L as CaCO3	<1%
		Total Alkalinity	SM 2320B	1509059-003	423	422	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509059-003	423	422	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509059-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Hydroxide (OH)	SM 2320B	1509059-003	ND	ND	mg/L as CaCO3	<1%
		Acidity (Titrimetric)	SM 2310B	1508761-001	ND	ND	QD mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508763-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508757-001	ND	ND	QD mg/L as CaCO3	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090003	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1508744-001	ND	5.09	5.01	1.00	mg/L	102	100	2%
QC15090003	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1508753-002	ND	M 5.78	5.43	1.00	mg/L	NC	NC	NC
QC15090008	MS 1	Copper, Dissolved	EPA 200.8	1508751-001	0.0052	0.0151	0.0142	0.010	mg/L	98	90	6%
		Nickel, Dissolved	EPA 200.8	1508751-001	ND	0.0112	0.0111	0.010	mg/L	104	103	1%
QC15090020	MS 1	Chloride	EPA 300.0	1508713-003	5.80	11.0	11.1	5.00	mg/L	104	106	1%
		Fluoride	EPA 300.0	1508713-003	ND	2.05	2.09	2.00	mg/L	98	100	2%
		Sulfate	EPA 300.0	1508713-003	50.7	59.5	60.2	10.0	mg/L	88	95	1%
QC15090020	MS 2	Chloride	EPA 300.0	1508744-006	26.5	80.9	81.0	5.00	mg/L	109	109	<1%
		Fluoride	EPA 300.0	1508744-006	ND	D 19.9	19.9	2.00	mg/L	96	97	<1%
		Sulfate	EPA 300.0	1508744-006	1008	1102	1103	10.0	mg/L	95	95	<1%
QC15090036	MS 1	Barium, Dissolved	EPA 200.7	1508751-001	0.055	1.02	1.04	1.00	mg/L	96	98	2%
		Beryllium, Dissolved	EPA 200.7	1508751-001	ND	0.970	1.01	1.00	mg/L	97	101	4%
		Boron, Dissolved	EPA 200.7	1508751-001	ND	1.01	1.03	1.00	mg/L	98	100	2%
		Calcium, Dissolved	EPA 200.7	1508751-001	22.2	30.0	30.1	10.0	mg/L	78	79	<1%
		Chromium, Dissolved	EPA 200.7	1508751-001	ND	0.960	0.986	1.00	mg/L	96	99	3%
		Cobalt, Dissolved	EPA 200.7	1508751-001	ND	0.972	0.995	1.00	mg/L	97	99	2%
		Iron, Dissolved	EPA 200.7	1508751-001	ND	0.952	0.962	1.00	mg/L	94	95	1%
		Magnesium, Dissolved	EPA 200.7	1508751-001	ND	9.55	9.62	10.0	mg/L	95	96	1%
		Manganese, Dissolved	EPA 200.7	1508751-001	ND	0.959	0.983	1.00	mg/L	96	98	2%
		Molybdenum, Dissolved	EPA 200.7	1508751-001	ND	0.983	1.00	1.00	mg/L	97	99	2%
		Potassium, Dissolved	EPA 200.7	1508751-001	2.75	12.6	12.8	10.0	mg/L	98	100	2%
		Sodium, Dissolved	EPA 200.7	1508751-001	1.35	11.2	11.1	10.0	mg/L	98	98	1%
		Strontium, Dissolved	EPA 200.7	1508751-001	0.371	1.35	1.35	1.00	mg/L	98	98	<1%
Zinc, Dissolved	EPA 200.7	1508751-001	ND	1.01	1.04	1.00	mg/L	101	104	3%		
QC15090200	MS 1	WAD Cyanide	SM 4500CN I,	1508747-001	ND	0.105	0.101	0.100	mg/L	104	101	4%
QC15090200	MS 2	WAD Cyanide	SM 4500CN I,	1508753-004	ND	0.105	0.100	0.100	mg/L	105	100	5%
QC15090229	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1508747-001	ND	M 1.72	0.888	1.00	mg/L	NC	NC	NC

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**SPARKS**

475 E. Greg Street, Suite 119  
 Sparks, Nevada 89431  
 tel (775) 355-0202  
 fax (775) 355-0817  
 EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

1084 Lamoille Hwy  
 Elko, Nevada 89801  
 tel (775) 777-9933  
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 EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932



# ANALYTICAL SUMMARY REPORT

September 14, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15090456  
Project Name: Job ID 1508751

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/3/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15090456-001	C586-15 P,Q Pull #7	08/28/15 15:00	09/03/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508751  
**Lab ID:** B15090456-001  
**Client Sample ID:** C586-15 P,Q Pull #7

**Report Date:** 09/14/15  
**Collection Date:** 08/28/15 15:00  
**Date Received:** 09/03/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.337	mg/L		0.009		E200.8	09/04/15 19:54 / mas
Antimony	0.0013	mg/L		0.0005		E200.8	09/04/15 19:54 / mas
Arsenic	0.022	mg/L		0.001		E200.8	09/04/15 19:54 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/04/15 19:54 / mas
Lead	ND	mg/L		0.0002		E200.8	09/04/15 19:54 / mas
Mercury	8.6E-06	mg/L		5E-06		E245.1	09/09/15 15:43 / ser
Phosphorus	0.013	mg/L	L	0.007		E200.7	09/09/15 12:27 / rlh
Selenium	ND	mg/L		0.001		E200.8	09/04/15 19:54 / mas
Silicon	0.40	mg/L		0.05		E200.7	09/09/15 12:27 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/09/15 12:30 / amm
Thallium	0.0005	mg/L		0.0002		E200.8	09/04/15 19:54 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/04/15 19:54 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508751

**Work Order:** B15090456

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150909A		
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard								09/09/15 11:17
Phosphorus		2.58	mg/L	0.10	103	95	105			
Silicon		4.79	mg/L	0.10	96	95	105			
<b>Method: E200.7</b>								Batch: R249034		
<b>Lab ID: MB-6500DIS150909A</b>	2	Method Blank						Run: ICP203-B_150909A		09/09/15 11:45
Phosphorus		ND	mg/L	0.007						
Silicon		ND	mg/L	0.01						
<b>Lab ID: LFB-6500DIS150909A</b>	2	Laboratory Fortified Blank						Run: ICP203-B_150909A		09/09/15 11:49
Phosphorus		10.9	mg/L	0.10	109	85	115			
Silicon		9.74	mg/L	0.10	97	85	115			
<b>Lab ID: B15090447-001AMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_150909A		09/09/15 12:10
Phosphorus		11.0	mg/L	0.10	110	70	130			
Silicon		10.1	mg/L	0.10	97	70	130			
<b>Lab ID: B15090447-001AMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_150909A		09/09/15 12:13
Phosphorus		11.1	mg/L	0.10	111	70	130	0.6	20	
Silicon		10.5	mg/L	0.10	101	70	130	3.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508751

**Report Date:** 09/14/15  
**Work Order:** B15090456

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>		Analytical Run: ICPMS206-B_150904A									
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard							09/04/15 14:54		
Aluminum		0.249	mg/L	0.10	100	90	110				
Antimony		0.0512	mg/L	0.050	102	90	110				
Arsenic		0.0494	mg/L	0.0050	99	90	110				
Cadmium		0.0250	mg/L	0.0010	100	90	110				
Lead		0.0508	mg/L	0.010	102	90	110				
Selenium		0.0501	mg/L	0.0050	100	90	110				
Thallium		0.0503	mg/L	0.10	101	90	110				
Uranium		0.0202	mg/L	0.0010	101	90	110				
<b>Method: E200.8</b>		Batch: R248886									
<b>Lab ID: LRB</b>	8	Method Blank							Run: ICPMS206-B_150904A 09/04/15 12:16		
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Thallium		0.0001	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank							Run: ICPMS206-B_150904A 09/04/15 12:21		
Aluminum		0.0495	mg/L	0.10	99	85	115				
Antimony		0.0465	mg/L	0.050	93	85	115				
Arsenic		0.0495	mg/L	0.0050	99	85	115				
Cadmium		0.0484	mg/L	0.0010	97	85	115				
Lead		0.0490	mg/L	0.010	98	85	115				
Selenium		0.0493	mg/L	0.0050	99	85	115				
Thallium		0.0491	mg/L	0.10	98	85	115				
Uranium		0.0498	mg/L	0.0010	100	85	115				
<b>Lab ID: B15090153-001AMS</b>	8	Sample Matrix Spike							Run: ICPMS206-B_150904A 09/04/15 20:17		
Aluminum		0.114	mg/L	0.030	102	70	130				
Antimony		0.0958	mg/L	0.0010	96	70	130				
Arsenic		0.0941	mg/L	0.0010	93	70	130				
Cadmium		0.0956	mg/L	0.0010	96	70	130				
Lead		0.0981	mg/L	0.0010	98	70	130				
Selenium		0.0954	mg/L	0.0010	95	70	130				
Thallium		0.0969	mg/L	0.00050	97	70	130				
Uranium		0.102	mg/L	0.00030	96	70	130				
<b>Lab ID: B15090153-001AMSD</b>	8	Sample Matrix Spike Duplicate							Run: ICPMS206-B_150904A 09/04/15 20:22		
Aluminum		0.110	mg/L	0.030	98	70	130	3.7	20		
Antimony		0.0974	mg/L	0.0010	97	70	130	1.7	20		
Arsenic		0.0937	mg/L	0.0010	93	70	130	0.4	20		
Cadmium		0.0960	mg/L	0.0010	96	70	130	0.4	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508751

**Report Date:** 09/14/15  
**Work Order:** B15090456

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R248886</span>										
<b>Lab ID: B15090153-001AMSD</b>	8	Sample Matrix Spike Duplicate					Run: ICPMS206-B_150904A	09/04/15 20:22		
Lead		0.0983	mg/L	0.0010	98	70	130	0.2	20	
Selenium		0.0961	mg/L	0.0010	96	70	130	0.7	20	
Thallium		0.0976	mg/L	0.00050	98	70	130	0.7	20	
Uranium		0.102	mg/L	0.00030	96	70	130	0.4	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS206-B_150909A</span>										
<b>Lab ID: QCS</b>		Initial Calibration Verification Standard						09/09/15 10:40		
Silver		0.0267	mg/L	0.0050	107	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R249023</span>										
<b>Lab ID: LRB</b>		Method Blank					Run: ICPMS206-B_150909A	09/09/15 11:18		
Silver		ND	mg/L	2E-05						
<b>Lab ID: LFB</b>		Laboratory Fortified Blank					Run: ICPMS206-B_150909A	09/09/15 11:23		
Silver		0.0205	mg/L	0.0050	103	85	115			
<b>Lab ID: B15090485-006BMS</b>		Sample Matrix Spike					Run: ICPMS206-B_150909A	09/09/15 13:03		
Silver		0.0353	mg/L	0.0010	88	70	130			
<b>Lab ID: B15090485-006BMSD</b>		Sample Matrix Spike Duplicate					Run: ICPMS206-B_150909A	09/09/15 13:08		
Silver		0.0359	mg/L	0.0010	90	70	130	1.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508751

**Work Order:** B15090456

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150909A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/09/15 13:59	
Mercury		0.000214	mg/L	1.0E-05	107	90	110				
<b>Method:</b> E245.1										Batch: 92989	
<b>Lab ID:</b> MB-92989		Method Blank								Run: HGCV203-B_150909A	09/09/15 15:08
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-92989		Laboratory Control Sample								Run: HGCV203-B_150909A	09/09/15 15:11
Mercury		0.000211	mg/L	1.0E-05	105	85	115				
<b>Lab ID:</b> B15090456-001AMS		Sample Matrix Spike								Run: HGCV203-B_150909A	09/09/15 15:48
Mercury		0.000222	mg/L	1.0E-05	107	70	130				
<b>Lab ID:</b> B15090456-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150909A	09/09/15 15:51
Mercury		0.000221	mg/L	1.0E-05	106	70	130	0.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15090456

Login completed by: Randa Nees

Date Received: 9/3/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 9/3/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	20.6°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# CHAIN OF CUSTODY RECORD

<b>Western Environmental Testing Laboratory</b> 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <u>1</u> System: _____ Job ID: <u>1508751</u>	Samplers Initials: _____ Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Water System #: _____
Sample Receipt Condition: _____ Temperature: _____		Notes: _____ SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____		

*Page 4*

Set Date	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
8/28/2015	C586-15 P,Q Pull #7 -	Waste Water	Various Metals (Subcontracted)		
3:00 PM					

*B15DR0450-001*

Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
		8/15	14:00	<i>WPS</i>						
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
					9/15	09:30				
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
				<i>Quince Jones</i>						

*20.6°C - 1 to TB - 1 to Joe  
WPS Blvd*

	Parameter	Required Reporting Value (mg/L)	Method	
Typical MT Parameters	Aluminum	0.009 -sub to Energy Lab		
	Antimony	0.0005 - 0.00097 <del>WETLAB</del>	EPA 200.8	
	Arsenic	0.001 - 0.001 <del>WETLAB</del>	EPA 200.8	
	Barium	0.003 - 0.001 WETLAB	EPA 200.8	
	Beryllium	0.0008 - 0.0008 WETLAB	EPA 200.8	
	Cadmium	0.00003 -sub to Energy Lab		
	Calcium	1.0 - 1.0 WETLAB	EPA 200.7	
	Chromium	0.01 - 0.01 WETLAB	EPA 200.7	
	Copper	0.002 - 0.002 WETLAB	EPA 200.8	
	Fluoride	0.2 - 0.2 WETLAB	EPA 300.0	
	Iron	0.02 - 0.02 WETLAB	EPA 200.7	
	Lead	0.0003 - 0.0002 <del>WETLAB</del>	EPA 200.8	
	Magnesium	1.0 - 1.0 WETLAB	EPA 200.7	
	Manganese	0.005 - 0.005 WETLAB	EPA 200.7	
	Mercury	0.000005 -sub to Energy Lab		
	Nickel	0.002 - 0.0004 WETLAB	EPA 200.8	
	Phosphorus	0.001 -sub to Energy Lab	EPA 200.7	
	Selenium	0.001 -sub to Energy Lab	EPA 200.8	
	Silicon	0.05 - 0.05 <del>WETLAB</del>	EPA 200.7	
	Silver	0.0002 -sub to Energy Lab		
	Strontium	0.02 - 0.02 WETLAB	EPA 200.7	
	Sulfate	1.0 - 1.0 WETLAB	EPA 300.0	
	Titanium	0.0002 -sub to Energy Lab		
	Uranium	0.0002 - 0.0002 <del>WETLAB</del>	EPA 200.8	
	Zinc	0.008 - 0.008 WETLAB	EPA 200.7	
		Alkalinity, Total (as CaCO3)	1	2320B
	pH (standard units)	NA	4500H+B	
Additional Profile II Parameters		Alkalinity, Bicarbonate (as CaCO3)	1	2320B
		Bismuth	0.1	EPA 200.7
		Boron	0.1	EPA 200.7
		Chloride	1	EPA 300.0
		Cobalt	0.01	EPA 200.7
		Gallium	0.1	EPA 200.7
		Lithium	0.1	EPA 200.7
		Molybdenum	0.01	EPA 200.7
		Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
		Nitrogen, Total (as N)	0.3	
		Potassium	0.5	EPA 200.7
		Scandium	0.1	EPA 200.7
		Sodium	0.5	EPA 200.7
		Tin	0.1	EPA 200.7
		Titanium	0.1	EPA 200.7
		Total Dissolved Solids	10	2540C
		Vanadium	0.01	EPA 200.7
		WAD Cyanide	0.01	4500 CNI

please analyze highlighted samples

also please acidity Fe speciation redox EC



# WETLAB

WESTERN ENVIRONMENTAL TESTING LABORATORY

Specializing in Soil, Hazardous Waste and Water Analysis.

475 E. Greg Street #119 | Sparks, Nevada 89431 | www.WETLaboratory.com  
tel (775) 355-0202 | fax (775) 355-0817

1084 Lamoille Highway | Elko, Nevada 89801  
tel (775) 777-9933 | fax (775) 777-9933

3230 Polaris Ave., Suite 4 | Las Vegas, Nevada 89102  
tel (702) 475-8899 | fax (702) 776-6152

WETLAB Order ID 1508751

Sparks Control # \_\_\_\_\_

Elko Control # \_\_\_\_\_

LV Control # \_\_\_\_\_

Report Due Date 9-14-15

Page 1 of 1

Client **Tintina Resources**

Address **17 East Main St**

City, State & Zip **White Sulphur Springs, MT 59645**

Contact **Bob Jacko, Katie Seipel, and Lisa Kirk**

Phone **(406) 547-3466** Collector's Name **WETLAB**

Fax \_\_\_\_\_ PWS/Project Name \_\_\_\_\_

P.O. Number \_\_\_\_\_ PWS/Project Number **Black Butte Copper Diffusion Project**

Email **bjacko@tintinaresources.com; seipel.k@gmail.com; lkirk@montana.com**

Billing Address (if different than Client Address)

Company Name \_\_\_\_\_  
Address \_\_\_\_\_  
City, State & Zip \_\_\_\_\_  
Contact \_\_\_\_\_  
Phone \_\_\_\_\_ Fax \_\_\_\_\_  
Email \_\_\_\_\_

### Turnaround Time Requirements

Standard   
5 Day\* (25%)  72 Hour\* (50%)   
48 Hour\* (100%)  24 Hour\* (200%)   
\*Surcharges Will Apply

Samples Collected From Which State?

NV  CA   
Other

Compliance Monitoring?  
Yes  No  Other \_\_\_\_\_

Report to Regulatory Agency? Standard QC Required?  
Yes  No  Yes  No

### Analyses Requested

SAMPLE ID/LOCATION	DATE	TIME	PRES TYPE	S	NO.	ANALYSES REQUESTED										Spl. No.			
						AM	OF	CONTAINERS	Profile II w CN (W)	Acidity, Ferric, Ferrrous, Redox, EC	SC_Metals								
C586-15 P,Q Pull # <u>7</u>	<u>8-28-15</u>	<u>15:00</u>		<u>W/S</u>	<u>5</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>											

Instructions/Comments/Special Requirements: **SC\_Metals to Energy Lab**

Sample Matrix Key\*\* DW = Drinking Water WW = Wastewater SW = Surface Water MW = Monitoring Well SD = Solid/Sludge SO = Soil HW = Hazardous Waste OTHER: \_\_\_\_\_

\*SAMPLE PRESERVATIVES: 1=Unpreserved 2=H2SO4 3=NaOH 4=HCl 5=HNO3 6=Na2S2O3 7=ZnOAc+NaOH 8=HCl/VOA Vial

Temp	Custody Seal	# of Containers	DATE	TIME	Samples Relinquished By	Samples Received By
<u>22C</u>	Y N <u>(None)</u>	<u>5</u>	<u>8-28-15</u>	<u>15:00</u>	In House	<u>[Signature]</u>
°C	Y N None					
°C	Y N None					
°C	Y N None					

WETLAB'S Standard Terms and Conditions apply unless written agreements specify otherwise. Payment terms are Net 30.

Client/Collector attests to the validity and authenticity of this (these) sample(s) and, is (are) aware that tampering with or intentionally mislabeling the sample(s) location, date or time of collection may be considered fraud and subject to legal action (NAC445.0636). \_\_\_\_\_ initial  
To the maximum extent permitted by law, the Client agrees to limit the liability of WETLAB for the Client's damages to the total compensation received, unless other agreements are made in writing. This limitation shall apply regardless of the cause of action or legal theory pled or asserted. \_\_\_\_\_ initial  
WETLAB will dispose of samples 90 days from sample receipt. Client may request a longer sample storage time for an additional fee. 301.2E  
Please contact your Project Manager for details. \_\_\_\_\_ initial

9/16/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1508754

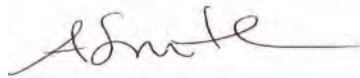
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 8/29/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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**LAS VEGAS**

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Las Vegas, Nevada 89102  
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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1508754

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: Black Butte Copper Diffusion Project

Date Printed: 9/16/2015

OrderID: 1508754

Customer Sample ID: C586-15 P,Q Pull #8

Collect Date/Time: 8/29/2015 15:00

WETLAB Sample ID: 1508754-001

Receive Date: 8/29/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/31/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/2/2015	NV00925
pH	SM 4500-H+ B	9.62	HT pH Units	1		9/4/2015	NV00925
Temperature at pH	NA	23.2	°C	1		9/4/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/4/2015	NV00925
Redox Potential	ASTM D1498	480	mV	1		8/31/2015	NV00925
Acidity (Titrimetric)	SM 2310B	-4	mg/L as CaCO3	1		9/4/2015	NV00925
Total Alkalinity	SM 2320B	13	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	4.3	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Carbonate (CO3)	SM 2320B	8.6	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/4/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	78	mg/L	1	10	9/1/2015	NV00925
Electrical Conductivity	SM 2510B	140	µmhos/cm	1	1	8/31/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/1/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/1/2015	NV00925
Sulfate	EPA 300.0	31	mg/L	1	1.0	9/1/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/4/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/4/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.058	mg/L	1	0.0030	9/2/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/2/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/2/2015	NV00925
Calcium, Dissolved	EPA 200.7	22	mg/L	1	0.50	9/2/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/2/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	9/2/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/2/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/2/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/2/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/2/2015	NV00925
Potassium, Dissolved	EPA 200.7	2.4	mg/L	1	0.50	9/2/2015	NV00925
Sodium, Dissolved	EPA 200.7	1.4	mg/L	1	0.50	9/2/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.35	mg/L	1	0.020	9/2/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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EPA LAB ID: NV00932



Customer Sample ID: C586-15 P,Q Pull #8

Collect Date/Time: 8/29/2015 15:00

WETLAB Sample ID: 1508754-001

Receive Date: 8/29/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	9/2/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/8/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.003	mg/L	1	0.0020	9/8/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	0.90	meq/L	1	0.10		NV00925
Cations	Calculation	1.22	meq/L	1	0.10		NV00925
Error	Calculation	15	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/2/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15081245	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15081256	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090021	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090127	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15090131	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15090180	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090200	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15090230	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15090264	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15081245	LCS 1	Ferrous Iron	SM 3500 Fe B	0.951	1.00	95	mg/L
QC15081256	LCS 1	Electrical Conductivity	SM 2510B	1405	1412	100	µmhos/cm
QC15081258	LCS 1	Redox Potential	ASTM D1498	223	221	101	mV
QC15090021	LCS 1	Chloride	EPA 300.0	9.77	10.0	98	mg/L
		Fluoride	EPA 300.0	1.90	2.00	95	mg/L
		Sulfate	EPA 300.0	23.7	25.0	95	mg/L
QC15090127	LCS 1	Copper, Dissolved	EPA 200.8	0.0092	0.010	92	mg/L
		Nickel	EPA 200.8	0.0102	1.00	1	mg/L
QC15090131	LCS 1	Barium, Dissolved	EPA 200.7	0.973	1.00	97	mg/L
		Beryllium, Dissolved	EPA 200.7	0.977	1.00	98	mg/L
		Boron, Dissolved	EPA 200.7	0.958	1.00	96	mg/L
		Calcium, Dissolved	EPA 200.7	10.4	10.0	104	mg/L
		Chromium, Dissolved	EPA 200.7	0.966	1.00	97	mg/L
		Cobalt, Dissolved	EPA 200.7	0.982	1.00	98	mg/L
		Iron, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Magnesium, Dissolved	EPA 200.7	10.3	10.0	103	mg/L
		Manganese, Dissolved	EPA 200.7	0.970	1.00	97	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.968	1.00	97	mg/L
		Potassium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Sodium, Dissolved	EPA 200.7	10.1	10.0	101	mg/L
		Strontium, Dissolved	EPA 200.7	1.01	1.00	101	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Zinc, Dissolved	EPA 200.7	0.963	1.00	96	mg/L
QC15090180	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	148	150	99	mg/L
QC15090180	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	155	150	103	mg/L
QC15090200	LCS 1	WAD Cyanide	SM 4500CN I, E	0.104	0.100	104	mg/L
QC15090230	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.928	1.00	93	mg/L
QC15090240	LCS 1	pH	SM 4500-H+ B	7.01	7.00	100	pH Units
QC15090240	LCS 2	pH	SM 4500-H+ B	7.02	7.00	100	pH Units
QC15090240	LCS 3	pH	SM 4500-H+ B	7.02	7.00	100	pH Units
QC15090244	LCS 1	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090244	LCS 2	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090264	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.800	0.800	100	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15081245	Duplicate	Ferrous Iron	SM 3500 Fe B	1508695-001	ND	ND	mg/L	<1%
QC15081256	Duplicate	Electrical Conductivity	SM 2510B	1508755-001	132	132	µmhos/cm	1 %
QC15081258	Duplicate	Redox Potential	ASTM D1498	1508755-001	483	485	mV	<1%
QC15090180	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508747-001	377	370	mg/L	2 %
QC15090180	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508753-008	621	603	mg/L	3 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509009-001	7.92	7.90	HT pH Units	<1%
QC15090240	Duplicate	pH	SM 4500-H+ B	1509012-001	7.83	7.81	HT pH Units	<1%
QC15090240	Duplicate	pH	SM 4500-H+ B	1509059-001	7.45	7.41	HT pH Units	1 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509086-001	7.90	7.85	HT pH Units	1 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509059-003	7.45	7.39	HT pH Units	1 %
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509009-001	242	242	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509009-001	242	242	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509009-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509009-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509012-001	192	193	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509012-001	192	193	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509012-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509012-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509059-001	391	391	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509059-001	391	391	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509059-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509059-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509086-001	66.5	66.3	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509086-001	66.5	66.3	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509086-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509086-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509059-003	423	422	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509059-003	423	422	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509059-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509059-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508761-001	ND	ND	QD mg/L as CaCO3	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508763-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508757-001	ND	ND	QD mg/L as CaCO3	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090021	MS 1	Chloride	EPA 300.0	1508754-001	ND	5.53	5.70	5.00	mg/L	103	107	3%
		Fluoride	EPA 300.0	1508754-001	ND	1.97	2.03	2.00	mg/L	96	98	3%
		Sulfate	EPA 300.0	1508754-001	30.8	40.4	40.6	10.0	mg/L	96	98	<1%
QC15090021	MS 2	Chloride	EPA 300.0	1508758-001	15.0	68.1	69.3	5.00	mg/L	106	109	2%
		Fluoride	EPA 300.0	1508758-001	ND	D 19.7	20.1	2.00	mg/L	95	97	2%
		Sulfate	EPA 300.0	1508758-001	473	566	571	10.0	mg/L	93	98	1%
QC15090127	MS 1	Copper, Dissolved	EPA 200.8	1508753-008	ND	0.0109	0.0111	0.010	mg/L	88	90	2%
		Nickel, Dissolved	EPA 200.8	1508753-008	ND	0.0131	0.0133	0.010	mg/L	101	103	2%
QC15090131	MS 1	Barium, Dissolved	EPA 200.7	1508753-008	0.049	0.985	0.987	1.00	mg/L	94	94	<1%
		Beryllium, Dissolved	EPA 200.7	1508753-008	ND	1.00	0.975	1.00	mg/L	100	98	3%
		Boron, Dissolved	EPA 200.7	1508753-008	0.128	1.13	1.14	1.00	mg/L	100	101	1%
		Calcium, Dissolved	EPA 200.7	1508753-008	90.7	SC 110	111	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1508753-008	ND	0.954	0.952	1.00	mg/L	95	95	<1%
		Cobalt, Dissolved	EPA 200.7	1508753-008	ND	0.909	0.912	1.00	mg/L	91	91	<1%
		Iron, Dissolved	EPA 200.7	1508753-008	ND	0.948	0.964	1.00	mg/L	94	96	2%
		Magnesium, Dissolved	EPA 200.7	1508753-008	16.9	26.0	26.5	10.0	mg/L	91	96	2%
		Manganese, Dissolved	EPA 200.7	1508753-008	ND	0.943	0.940	1.00	mg/L	95	94	<1%
		Molybdenum, Dissolved	EPA 200.7	1508753-008	ND	0.980	0.972	1.00	mg/L	98	97	1%
		Potassium, Dissolved	EPA 200.7	1508753-008	1.99	12.0	12.0	10.0	mg/L	100	100	<1%
		Sodium, Dissolved	EPA 200.7	1508753-008	58.2	71.2	72.1	10.0	mg/L	130	139	1%
		Strontium, Dissolved	EPA 200.7	1508753-008	0.582	1.59	1.61	1.00	mg/L	101	103	1%
		Zinc, Dissolved	EPA 200.7	1508753-008	ND	0.944	0.956	1.00	mg/L	94	95	1%
QC15090200	MS 1	WAD Cyanide	SM 4500CN I,	1508747-001	ND	0.105	0.101	0.100	mg/L	104	101	4%
QC15090200	MS 2	WAD Cyanide	SM 4500CN I,	1508753-004	ND	0.105	0.100	0.100	mg/L	105	100	5%
QC15090230	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1508753-008	ND	M 0.705	0.616	1.00	mg/L	NC	NC	NC
QC15090264	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1508754-001	ND	5.01	5.01	1.00	mg/L	100	100	<1%
QC15090264	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509002-001	ND	4.87	4.88	1.00	mg/L	97	98	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 7 of 7

**SPARKS**

475 E. Greg Street, Suite 119  
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**LAS VEGAS**

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 Las Vegas, Nevada 89102  
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 fax (702) 622-2868  
 EPA LAB ID: NV00932



# ANALYTICAL SUMMARY REPORT

September 14, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15090454

Project Name: Job ID 1508754

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/3/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15090454-001	C586-15 P,Q Pull #8	08/29/15 15:00	09/03/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508754  
**Lab ID:** B15090454-001  
**Client Sample ID:** C586-15 P,Q Pull #8

**Report Date:** 09/14/15  
**Collection Date:** 08/29/15 15:00  
**Date Received:** 09/03/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.329	mg/L		0.009		E200.8	09/04/15 19:16 / mas
Antimony	0.0014	mg/L		0.0005		E200.8	09/04/15 19:16 / mas
Arsenic	0.022	mg/L		0.001		E200.8	09/04/15 19:16 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/04/15 19:16 / mas
Lead	ND	mg/L		0.0002		E200.8	09/04/15 19:16 / mas
Mercury	0.0000565	mg/L		5E-06		E245.1	09/09/15 15:28 / ser
Phosphorus	0.015	mg/L	L	0.007		E200.7	09/09/15 12:20 / rlh
Selenium	ND	mg/L		0.001		E200.8	09/04/15 19:16 / mas
Silicon	0.40	mg/L		0.05		E200.7	09/09/15 12:20 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/09/15 11:56 / amm
Thallium	0.0005	mg/L		0.0002		E200.8	09/04/15 19:16 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/04/15 19:16 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508754

**Work Order:** B15090454

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150909A			
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard								09/09/15 11:17	
Phosphorus		2.58	mg/L	0.10	103	95	105				
Silicon		4.79	mg/L	0.10	96	95	105				
<b>Method: E200.7</b>								Batch: R249034			
<b>Lab ID: MB-6500DIS150909A</b>	2	Method Blank						Run: ICP203-B_150909A		09/09/15 11:45	
Phosphorus		ND	mg/L	0.007							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS150909A</b>	2	Laboratory Fortified Blank						Run: ICP203-B_150909A		09/09/15 11:49	
Phosphorus		10.9	mg/L	0.10	109	85	115				
Silicon		9.74	mg/L	0.10	97	85	115				
<b>Lab ID: B15090447-001AMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_150909A		09/09/15 12:10	
Phosphorus		11.0	mg/L	0.10	110	70	130				
Silicon		10.1	mg/L	0.10	97	70	130				
<b>Lab ID: B15090447-001AMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_150909A		09/09/15 12:13	
Phosphorus		11.1	mg/L	0.10	111	70	130	0.6	20		
Silicon		10.5	mg/L	0.10	101	70	130	3.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508754

**Work Order:** B15090454

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_150904A	
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard							09/04/15 14:54		
Aluminum		0.249	mg/L	0.10	100	90	110				
Antimony		0.0512	mg/L	0.050	102	90	110				
Arsenic		0.0494	mg/L	0.0050	99	90	110				
Cadmium		0.0250	mg/L	0.0010	100	90	110				
Lead		0.0508	mg/L	0.010	102	90	110				
Selenium		0.0501	mg/L	0.0050	100	90	110				
Thallium		0.0503	mg/L	0.10	101	90	110				
Uranium		0.0202	mg/L	0.0010	101	90	110				
<b>Method: E200.8</b>										Batch: R248886	
<b>Lab ID: LRB</b>	8	Method Blank							Run: ICPMS206-B_150904A 09/04/15 12:16		
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Thallium		0.0001	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank							Run: ICPMS206-B_150904A 09/04/15 12:21		
Aluminum		0.0495	mg/L	0.10	99	85	115				
Antimony		0.0465	mg/L	0.050	93	85	115				
Arsenic		0.0495	mg/L	0.0050	99	85	115				
Cadmium		0.0484	mg/L	0.0010	97	85	115				
Lead		0.0490	mg/L	0.010	98	85	115				
Selenium		0.0493	mg/L	0.0050	99	85	115				
Thallium		0.0491	mg/L	0.10	98	85	115				
Uranium		0.0498	mg/L	0.0010	100	85	115				
<b>Lab ID: B15090455-001AMS</b>	8	Sample Matrix Spike							Run: ICPMS206-B_150904A 09/04/15 19:25		
Aluminum		0.301	mg/L	0.030		70	130			A	
Antimony		0.0540	mg/L	0.0010	106	70	130				
Arsenic		0.0679	mg/L	0.0010	93	70	130				
Cadmium		0.0499	mg/L	0.0010	100	70	130				
Lead		0.0502	mg/L	0.0010	100	70	130				
Selenium		0.0513	mg/L	0.0010	103	70	130				
Thallium		0.0509	mg/L	0.00050	101	70	130				
Uranium		0.0499	mg/L	0.00030	100	70	130				
<b>Lab ID: B15090455-001AMSD</b>	8	Sample Matrix Spike Duplicate							Run: ICPMS206-B_150904A 09/04/15 19:30		
Aluminum		0.300	mg/L	0.030		70	130	0.2	20	A	
Antimony		0.0530	mg/L	0.0010	104	70	130	1.8	20		
Arsenic		0.0669	mg/L	0.0010	91	70	130	1.6	20		
Cadmium		0.0485	mg/L	0.0010	97	70	130	2.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508754

**Work Order:** B15090454

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R248886</span>										
<b>Lab ID: B15090455-001AMSD</b>	8	Sample Matrix Spike Duplicate					Run: ICPMS206-B_150904A	09/04/15 19:30		
Lead		0.0492	mg/L	0.0010	98	70	130	2.1	20	
Selenium		0.0478	mg/L	0.0010	96	70	130	7.0	20	
Thallium		0.0496	mg/L	0.00050	98	70	130	2.7	20	
Uranium		0.0484	mg/L	0.00030	97	70	130	3.1	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS206-B_150909A</span>										
<b>Lab ID: QCS</b>		Initial Calibration Verification Standard						09/09/15 10:40		
Silver		0.0267	mg/L	0.0050	107	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R249023</span>										
<b>Lab ID: LRB</b>		Method Blank					Run: ICPMS206-B_150909A	09/09/15 11:18		
Silver		ND	mg/L	2E-05						
<b>Lab ID: LFB</b>		Laboratory Fortified Blank					Run: ICPMS206-B_150909A	09/09/15 11:23		
Silver		0.0205	mg/L	0.0050	103	85	115			
<b>Lab ID: B15090447-001AMS</b>		Sample Matrix Spike					Run: ICPMS206-B_150909A	09/09/15 11:37		
Silver		0.0179	mg/L	0.0010	89	70	130			
<b>Lab ID: B15090447-001AMSD</b>		Sample Matrix Spike Duplicate					Run: ICPMS206-B_150909A	09/09/15 11:42		
Silver		0.0153	mg/L	0.0010	77	70	130	15	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508754

**Work Order:** B15090454

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150909A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/09/15 13:59	
Mercury		0.000214	mg/L	1.0E-05	107	90	110				
<b>Method:</b> E245.1										Batch: 92989	
<b>Lab ID:</b> MB-92989		Method Blank								Run: HGCV203-B_150909A	09/09/15 15:08
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-92989		Laboratory Control Sample								Run: HGCV203-B_150909A	09/09/15 15:11
Mercury		0.000211	mg/L	1.0E-05	105	85	115				
<b>Lab ID:</b> B15090456-001AMS		Sample Matrix Spike								Run: HGCV203-B_150909A	09/09/15 15:48
Mercury		0.000222	mg/L	1.0E-05	107	70	130				
<b>Lab ID:</b> B15090456-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150909A	09/09/15 15:51
Mercury		0.000221	mg/L	1.0E-05	106	70	130	0.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15090454

Login completed by: Randa Nees

Date Received: 9/3/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 9/3/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	20.6°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

The sample label does not indicate if the sample has been filtered. Per phone call with Mitchell at Western Environmental Testing Laboratory this sample is filtered.



# CHAIN OF CUSTODY RECORD

<b>Western Environmental Testing Laboratory</b> 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <u>1</u> System: _____ Job ID: <u>1508754</u>		Samplers Initials: _____ All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		Date: _____ Time: _____ Water System #: _____	
Sample Receipt Condition: _____ Temperature: _____				Notes: _____ SIGNATURE OF COMPANY REPRESENTATIVE: _____			
Set Date Set Time		Sample ID - Site ID C586-15 P.Q Pull #8 -		Container Type Preservatives		Date: _____ Time: _____	
8/29/2015 3:00 PM		Matrix Waste Water		Parameter Various Metals (Subcontracted)		B15090454-001	

		Sample Type		
		Composite	Grab	Equipment Blank
Relinquished by: (Signature)	Date: <u>8-15</u>	Time: <u>14:00</u>	Received by: (Signature) <u>UPS</u>	Date: _____ Time: _____
Relinquished by: (Signature)	Date: _____	Time: _____	Received by: (Signature)	Date: _____ Time: _____
Relinquished by: (Signature)	Date: _____	Time: _____	Received by: (Signature) <u>Quince James</u>	Date: <u>9/15/15</u> Time: <u>09:30</u>

20.1°C - Y to TB-10. Sec  
 UPS End

please analyze highlighted samples

	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 -sub to Energy Lab	
	Antimony	0.0005 - 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 - 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 - 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 - 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 -sub to Energy Lab	
	Calcium	1.0 - 1.0 WETLAB	EPA 200.7
	Chromium	0.01 - 0.01 WETLAB	EPA 200.7
	Copper	0.002 - 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
	Iron	0.02 - 0.02 WETLAB	EPA 200.7
	Lead	0.0003 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
	Manganese	0.005 - 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 -sub to Energy Lab	
	Nickel	0.002 - 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 -sub to Energy Lab	EPA 200.7
	Selenium	0.001 -sub to Energy Lab	EPA 200.8
	Silicon	0.05 - 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 -sub to Energy Lab	
	Strontium	0.02 - 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
	Tin	0.0002 -sub to Energy Lab	
	Uranium	0.0002 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Zinc	0.008 - 0.008 WETLAB	EPA 200.7
Alkalinity, Total (as CaCO3)	1	2320B	
pH (standard units)	NA	4500H+B	
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please acidity Fe speciation redox EC



9/16/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1508755

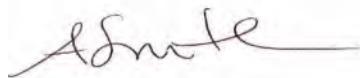
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 8/30/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

475 E. Greg Street, Suite 119  
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fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

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**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1508755

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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#### **SPARKS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: Black Butte Copper Diffusion Project

Date Printed: 9/16/2015

OrderID: 1508755

Customer Sample ID: C586-15 P,Q Pull #9

Collect Date/Time: 8/30/2015 15:00

WETLAB Sample ID: 1508755-001

Receive Date: 8/30/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/31/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/2/2015	NV00925
pH	SM 4500-H+ B	9.68	HT pH Units	1		9/4/2015	NV00925
Temperature at pH	NA	23.1	°C	1		9/4/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/4/2015	NV00925
Redox Potential	ASTM D1498	480	mV	1		8/31/2015	NV00925
Acidity (Titrimetric)	SM 2310B	-4	mg/L as CaCO3	1		9/4/2015	NV00925
Total Alkalinity	SM 2320B	13	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	3.5	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Carbonate (CO3)	SM 2320B	9.5	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/4/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	70	mg/L	1	10	9/1/2015	NV00925
Electrical Conductivity	SM 2510B	130	µmhos/cm	1	1	8/31/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/1/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/1/2015	NV00925
Sulfate	EPA 300.0	27	mg/L	1	1.0	9/1/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/4/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/4/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.064	mg/L	1	0.0030	9/2/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/2/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/2/2015	NV00925
Calcium, Dissolved	EPA 200.7	20	mg/L	1	0.50	9/2/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/2/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	9/2/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/2/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/2/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/2/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/2/2015	NV00925
Potassium, Dissolved	EPA 200.7	2.0	mg/L	1	0.50	9/2/2015	NV00925
Sodium, Dissolved	EPA 200.7	1.1	mg/L	1	0.50	9/2/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.32	mg/L	1	0.020	9/2/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**SPARKS**

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Customer Sample ID: C586-15 P,Q Pull #9

Collect Date/Time: 8/30/2015 15:00

WETLAB Sample ID: 1508755-001

Receive Date: 8/30/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	9/2/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/8/2015	NV00925
Nickel, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/8/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	0.82	meq/L	1	0.10		NV00925
Cations	Calculation	1.10	meq/L	1	0.10		NV00925
Error	Calculation	14	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/2/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15081245	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15081256	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090021	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090127	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15090131	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15090180	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090200	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15090230	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15090264	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15081245	LCS 1	Ferrous Iron	SM 3500 Fe B	0.951	1.00	95	mg/L
QC15081256	LCS 1	Electrical Conductivity	SM 2510B	1405	1412	100	µmhos/cm
QC15081258	LCS 1	Redox Potential	ASTM D1498	223	221	101	mV
QC15090021	LCS 1	Chloride	EPA 300.0	9.77	10.0	98	mg/L
		Fluoride	EPA 300.0	1.90	2.00	95	mg/L
		Sulfate	EPA 300.0	23.7	25.0	95	mg/L
QC15090127	LCS 1	Copper, Dissolved	EPA 200.8	0.0092	0.010	92	mg/L
		Nickel	EPA 200.8	0.0102	1.00	1	mg/L
QC15090131	LCS 1	Barium, Dissolved	EPA 200.7	0.973	1.00	97	mg/L
		Beryllium, Dissolved	EPA 200.7	0.977	1.00	98	mg/L
		Boron, Dissolved	EPA 200.7	0.958	1.00	96	mg/L
		Calcium, Dissolved	EPA 200.7	10.4	10.0	104	mg/L
		Chromium, Dissolved	EPA 200.7	0.966	1.00	97	mg/L
		Cobalt, Dissolved	EPA 200.7	0.982	1.00	98	mg/L
		Iron, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Magnesium, Dissolved	EPA 200.7	10.3	10.0	103	mg/L
		Manganese, Dissolved	EPA 200.7	0.970	1.00	97	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.968	1.00	97	mg/L
		Potassium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Sodium, Dissolved	EPA 200.7	10.1	10.0	101	mg/L
		Strontium, Dissolved	EPA 200.7	1.01	1.00	101	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Zinc, Dissolved	EPA 200.7	0.963	1.00	96	mg/L
QC15090180	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	148	150	99	mg/L
QC15090180	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	155	150	103	mg/L
QC15090200	LCS 1	WAD Cyanide	SM 4500CN I, E	0.104	0.100	104	mg/L
QC15090230	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.928	1.00	93	mg/L
QC15090240	LCS 1	pH	SM 4500-H+ B	7.01	7.00	100	pH Units
QC15090240	LCS 2	pH	SM 4500-H+ B	7.02	7.00	100	pH Units
QC15090240	LCS 3	pH	SM 4500-H+ B	7.02	7.00	100	pH Units
QC15090244	LCS 1	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090244	LCS 2	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090264	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.800	0.800	100	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15081245	Duplicate	Ferrous Iron	SM 3500 Fe B	1508695-001	ND	ND	mg/L	<1%
QC15081256	Duplicate	Electrical Conductivity	SM 2510B	1508755-001	132	132	µmhos/cm	1 %
QC15081258	Duplicate	Redox Potential	ASTM D1498	1508755-001	483	485	mV	<1%
QC15090180	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508747-001	377	370	mg/L	2 %
QC15090180	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508753-008	621	603	mg/L	3 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509009-001	7.92	7.90	HT pH Units	<1%
QC15090240	Duplicate	pH	SM 4500-H+ B	1509012-001	7.83	7.81	HT pH Units	<1%
QC15090240	Duplicate	pH	SM 4500-H+ B	1509059-001	7.45	7.41	HT pH Units	1 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509086-001	7.90	7.85	HT pH Units	1 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509059-003	7.45	7.39	HT pH Units	1 %
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509009-001	242	242	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509009-001	242	242	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509009-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509009-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509012-001	192	193	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509012-001	192	193	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509012-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509012-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509059-001	391	391	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509059-001	391	391	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509059-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509059-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509086-001	66.5	66.3	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509086-001	66.5	66.3	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509086-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509086-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509059-003	423	422	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509059-003	423	422	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509059-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509059-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508761-001	ND	ND	QD mg/L as CaCO3	<1%

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QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508763-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508757-001	ND	ND	QD mg/L as CaCO3	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090021	MS 1	Chloride	EPA 300.0	1508754-001	ND	5.53	5.70	5.00	mg/L	103	107	3%
		Fluoride	EPA 300.0	1508754-001	ND	1.97	2.03	2.00	mg/L	96	98	3%
		Sulfate	EPA 300.0	1508754-001	30.8	40.4	40.6	10.0	mg/L	96	98	<1%
QC15090021	MS 2	Chloride	EPA 300.0	1508758-001	15.0	68.1	69.3	5.00	mg/L	106	109	2%
		Fluoride	EPA 300.0	1508758-001	ND	D 19.7	20.1	2.00	mg/L	95	97	2%
		Sulfate	EPA 300.0	1508758-001	473	566	571	10.0	mg/L	93	98	1%
QC15090127	MS 1	Copper, Dissolved	EPA 200.8	1508753-008	ND	0.0109	0.0111	0.010	mg/L	88	90	2%
		Nickel, Dissolved	EPA 200.8	1508753-008	ND	0.0131	0.0133	0.010	mg/L	101	103	2%
QC15090131	MS 1	Barium, Dissolved	EPA 200.7	1508753-008	0.049	0.985	0.987	1.00	mg/L	94	94	<1%
		Beryllium, Dissolved	EPA 200.7	1508753-008	ND	1.00	0.975	1.00	mg/L	100	98	3%
		Boron, Dissolved	EPA 200.7	1508753-008	0.128	1.13	1.14	1.00	mg/L	100	101	1%
		Calcium, Dissolved	EPA 200.7	1508753-008	90.7	SC 110	111	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1508753-008	ND	0.954	0.952	1.00	mg/L	95	95	<1%
		Cobalt, Dissolved	EPA 200.7	1508753-008	ND	0.909	0.912	1.00	mg/L	91	91	<1%
		Iron, Dissolved	EPA 200.7	1508753-008	ND	0.948	0.964	1.00	mg/L	94	96	2%
		Magnesium, Dissolved	EPA 200.7	1508753-008	16.9	26.0	26.5	10.0	mg/L	91	96	2%
		Manganese, Dissolved	EPA 200.7	1508753-008	ND	0.943	0.940	1.00	mg/L	95	94	<1%
		Molybdenum, Dissolved	EPA 200.7	1508753-008	ND	0.980	0.972	1.00	mg/L	98	97	1%
		Potassium, Dissolved	EPA 200.7	1508753-008	1.99	12.0	12.0	10.0	mg/L	100	100	<1%
		Sodium, Dissolved	EPA 200.7	1508753-008	58.2	71.2	72.1	10.0	mg/L	130	139	1%
		Strontium, Dissolved	EPA 200.7	1508753-008	0.582	1.59	1.61	1.00	mg/L	101	103	1%
		Zinc, Dissolved	EPA 200.7	1508753-008	ND	0.944	0.956	1.00	mg/L	94	95	1%
QC15090200	MS 1	WAD Cyanide	SM 4500CN I,	1508747-001	ND	0.105	0.101	0.100	mg/L	104	101	4%
QC15090200	MS 2	WAD Cyanide	SM 4500CN I,	1508753-004	ND	0.105	0.100	0.100	mg/L	105	100	5%
QC15090230	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1508753-008	ND	M 0.705	0.616	1.00	mg/L	NC	NC	NC
QC15090264	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1508754-001	ND	5.01	5.01	1.00	mg/L	100	100	<1%
QC15090264	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509002-001	ND	4.87	4.88	1.00	mg/L	97	98	<1%

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# ANALYTICAL SUMMARY REPORT

September 14, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15090451

Project Name: Job ID 1508755

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/3/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15090451-001	C586-15 P,Q Pull #9	08/30/15 15:00	09/03/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508755  
**Lab ID:** B15090451-001  
**Client Sample ID:** C586-15 P,Q Pull #9

**Report Date:** 09/14/15  
**Collection Date:** 08/30/15 15:00  
**Date Received:** 09/03/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.325	mg/L		0.009		E200.8	09/04/15 19:11 / mas
Antimony	0.0013	mg/L		0.0005		E200.8	09/04/15 19:11 / mas
Arsenic	0.024	mg/L		0.001		E200.8	09/04/15 19:11 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/04/15 19:11 / mas
Lead	ND	mg/L		0.0002		E200.8	09/04/15 19:11 / mas
Mercury	0.0000437	mg/L		5E-06		E245.1	09/09/15 15:20 / ser
Phosphorus	ND	mg/L	L	0.007		E200.7	09/09/15 12:16 / rlh
Selenium	ND	mg/L		0.001		E200.8	09/04/15 19:11 / mas
Silicon	0.40	mg/L		0.05		E200.7	09/09/15 12:16 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/09/15 11:52 / amm
Thallium	0.0005	mg/L		0.0002		E200.8	09/04/15 19:11 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/04/15 19:11 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508755

**Work Order:** B15090451

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150909A		
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard								09/09/15 11:17
Phosphorus		2.58	mg/L	0.10	103	95	105			
Silicon		4.79	mg/L	0.10	96	95	105			
<b>Method: E200.7</b>								Batch: R249034		
<b>Lab ID: MB-6500DIS150909A</b>	2	Method Blank						Run: ICP203-B_150909A		09/09/15 11:45
Phosphorus		ND	mg/L	0.007						
Silicon		ND	mg/L	0.01						
<b>Lab ID: LFB-6500DIS150909A</b>	2	Laboratory Fortified Blank						Run: ICP203-B_150909A		09/09/15 11:49
Phosphorus		10.9	mg/L	0.10	109	85	115			
Silicon		9.74	mg/L	0.10	97	85	115			
<b>Lab ID: B15090447-001AMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_150909A		09/09/15 12:10
Phosphorus		11.0	mg/L	0.10	110	70	130			
Silicon		10.1	mg/L	0.10	97	70	130			
<b>Lab ID: B15090447-001AMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_150909A		09/09/15 12:13
Phosphorus		11.1	mg/L	0.10	111	70	130	0.6	20	
Silicon		10.5	mg/L	0.10	101	70	130	3.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508755

**Work Order:** B15090451

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_150904A	
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard							09/04/15 14:54		
Aluminum		0.249	mg/L	0.10	100	90	110				
Antimony		0.0512	mg/L	0.050	102	90	110				
Arsenic		0.0494	mg/L	0.0050	99	90	110				
Cadmium		0.0250	mg/L	0.0010	100	90	110				
Lead		0.0508	mg/L	0.010	102	90	110				
Selenium		0.0501	mg/L	0.0050	100	90	110				
Thallium		0.0503	mg/L	0.10	101	90	110				
Uranium		0.0202	mg/L	0.0010	101	90	110				
<b>Method: E200.8</b>										Batch: R248886	
<b>Lab ID: LRB</b>	8	Method Blank							Run: ICPMS206-B_150904A 09/04/15 12:16		
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Thallium		0.0001	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank							Run: ICPMS206-B_150904A 09/04/15 12:21		
Aluminum		0.0495	mg/L	0.10	99	85	115				
Antimony		0.0465	mg/L	0.050	93	85	115				
Arsenic		0.0495	mg/L	0.0050	99	85	115				
Cadmium		0.0484	mg/L	0.0010	97	85	115				
Lead		0.0490	mg/L	0.010	98	85	115				
Selenium		0.0493	mg/L	0.0050	99	85	115				
Thallium		0.0491	mg/L	0.10	98	85	115				
Uranium		0.0498	mg/L	0.0010	100	85	115				
<b>Lab ID: B15090455-001AMS</b>	8	Sample Matrix Spike							Run: ICPMS206-B_150904A 09/04/15 19:25		
Aluminum		0.301	mg/L	0.030		70	130			A	
Antimony		0.0540	mg/L	0.0010	106	70	130				
Arsenic		0.0679	mg/L	0.0010	93	70	130				
Cadmium		0.0499	mg/L	0.0010	100	70	130				
Lead		0.0502	mg/L	0.0010	100	70	130				
Selenium		0.0513	mg/L	0.0010	103	70	130				
Thallium		0.0509	mg/L	0.00050	101	70	130				
Uranium		0.0499	mg/L	0.00030	100	70	130				
<b>Lab ID: B15090455-001AMSD</b>	8	Sample Matrix Spike Duplicate							Run: ICPMS206-B_150904A 09/04/15 19:30		
Aluminum		0.300	mg/L	0.030		70	130	0.2	20	A	
Antimony		0.0530	mg/L	0.0010	104	70	130	1.8	20		
Arsenic		0.0669	mg/L	0.0010	91	70	130	1.6	20		
Cadmium		0.0485	mg/L	0.0010	97	70	130	2.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508755

**Work Order:** B15090451

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R248886</span>										
<b>Lab ID: B15090455-001AMSD</b>	8	Sample Matrix Spike Duplicate					Run: ICPMS206-B_150904A	09/04/15 19:30		
Lead		0.0492	mg/L	0.0010	98	70	130	2.1	20	
Selenium		0.0478	mg/L	0.0010	96	70	130	7.0	20	
Thallium		0.0496	mg/L	0.00050	98	70	130	2.7	20	
Uranium		0.0484	mg/L	0.00030	97	70	130	3.1	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS206-B_150909A</span>										
<b>Lab ID: QCS</b>		Initial Calibration Verification Standard						09/09/15 10:40		
Silver		0.0267	mg/L	0.0050	107	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R249023</span>										
<b>Lab ID: LRB</b>		Method Blank					Run: ICPMS206-B_150909A	09/09/15 11:18		
Silver		ND	mg/L	2E-05						
<b>Lab ID: LFB</b>		Laboratory Fortified Blank					Run: ICPMS206-B_150909A	09/09/15 11:23		
Silver		0.0205	mg/L	0.0050	103	85	115			
<b>Lab ID: B15090447-001AMS</b>		Sample Matrix Spike					Run: ICPMS206-B_150909A	09/09/15 11:37		
Silver		0.0179	mg/L	0.0010	89	70	130			
<b>Lab ID: B15090447-001AMSD</b>		Sample Matrix Spike Duplicate					Run: ICPMS206-B_150909A	09/09/15 11:42		
Silver		0.0153	mg/L	0.0010	77	70	130	15	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508755

**Work Order:** B15090451

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150909A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/09/15 13:59	
Mercury		0.000214	mg/L	1.0E-05	107	90	110				
<b>Method:</b> E245.1										Batch: 92989	
<b>Lab ID:</b> MB-92989		Method Blank								Run: HGCV203-B_150909A	09/09/15 15:08
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-92989		Laboratory Control Sample								Run: HGCV203-B_150909A	09/09/15 15:11
Mercury		0.000211	mg/L	1.0E-05	105	85	115				
<b>Lab ID:</b> B15090456-001AMS		Sample Matrix Spike								Run: HGCV203-B_150909A	09/09/15 15:48
Mercury		0.000222	mg/L	1.0E-05	107	70	130				
<b>Lab ID:</b> B15090456-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150909A	09/09/15 15:51
Mercury		0.000221	mg/L	1.0E-05	106	70	130	0.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15090451

Login completed by: Randa Nees  
Reviewed by: BL2000\jmueller  
Reviewed Date: 9/3/2015

Date Received: 9/3/2015  
Received by: qej  
Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	20.6°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

None



# CHAIN OF CUSTODY RECORD

<b>Western Environmental Testing Laboratory</b> 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <i>1</i> System: _____ Job ID: <u>1508755</u>	Samplers Initials: _____ All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Water System #: _____ Notes: _____ SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____
Sample Receipt Condition: _____ Temperature: _____		Container Type: _____ Preservatives: _____		
Set Date Set Time	Sample ID - Site ID C586-15 P,Q Pull #9 -	Matrix Waste Water	Parameter Various Metals (Subcontracted)	Preservatives
8/30/2015 3:00 PM			<i>B15090451-001</i>	

Relinquished by:		Received by:		Sample Type	
(Signature)	Date:	(Signature)	Date:	Trip Blank	Equipment Blank
<i>[Signature]</i>	8/15/15 14:30	<i>W.S.</i>	9/15/15 09:30	Grab	Equipment Blank
Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:	Trip Blank	Equipment Blank
Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:	Trip Blank	Equipment Blank

*Wince Jones*  
*20.6°C - A TP - 1 to 2 sec*  
*W.S. Prod*

please analyze  
highlighted  
samples

Typical MT Parameters

Parameter	Required Reporting Value (mg/L)	Method
Aluminum	0.009 -sub to Energy Lab	
Antimony	0.0005 - 0.00097 <del>WETLAB</del>	EPA 200.8
Arsenic	0.001 - 0.001 <del>WETLAB</del>	EPA 200.8
Barium	0.003 - 0.001 WETLAB	EPA 200.8
Beryllium	0.0008 - 0.0008 WETLAB	EPA 200.8
Cadmium	0.00003 -sub to Energy Lab	
Calcium	1.0 - 1.0 WETLAB	EPA 200.7
Chromium	0.01 - 0.01 WETLAB	EPA 200.7
Copper	0.002 - 0.002 WETLAB	EPA 200.8
Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
Iron	0.02 - 0.02 WETLAB	EPA 200.7
Lead	0.0003 - 0.0002 <del>WETLAB</del>	EPA 200.8
Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
Manganese	0.005 - 0.005 WETLAB	EPA 200.7
Mercury	0.000005 -sub to Energy Lab	
Nickel	0.002 - 0.0004 WETLAB	EPA 200.8
Phosphorus	0.001 -sub to Energy Lab	EPA 200.7
Selenium	0.001 -sub to Energy Lab	EPA 200.8
Silver	0.05 - 0.05 <del>WETLAB</del>	EPA 200.7
Silver	0.0002 -sub to Energy Lab	
Strontium	0.02 - 0.02 WETLAB	EPA 200.7
Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
Thallium	0.0002 -sub to Energy Lab	
Vanadium	0.0002 - 0.0002 <del>WETLAB</del>	EPA 200.8
Zinc	0.008 - 0.008 WETLAB	EPA 200.7
Alkalinity, Total (as CaCO3)	1	2320B
pH (standard units)	NA	4500H+B

Additional Profile II Parameters

Alkalinity, Bicarbonate (as CaCO3)	1	2320B
Bismuth	0.1	EPA 200.7
Boron	0.1	EPA 200.7
Chloride	1	EPA 300.0
Cobalt	0.01	EPA 200.7
Gallium	0.1	EPA 200.7
Lithium	0.1	EPA 200.7
Molybdenum	0.01	EPA 200.7
Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
Nitrogen, Total (as N)	0.3	
Potassium	0.5	EPA 200.7
Scandium	0.1	EPA 200.7
Sodium	0.5	EPA 200.7
Tin	0.1	EPA 200.7
Titanium	0.1	EPA 200.7
Total Dissolved Solids	10	2540C
Vanadium	0.01	EPA 200.7
WAD Cyanide	0.01	4500 CNI

also please  
acidity  
Fe speciation  
redox  
EC



9/16/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1508757

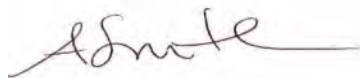
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 8/31/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

475 E. Greg Street, Suite 119  
Sparks, Nevada 89431  
tel (775) 355-0202  
fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

1084 Lamoille Hwy  
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fax (775) 777-9933  
EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1508757

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

#### **SPARKS**

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Sparks, Nevada 89431  
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Elko, Nevada 89801  
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fax (775) 777-9933  
EPA LAB ID: NV00926

#### **LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: Black Butte Copper Diffusion Project

Date Printed: 9/16/2015

OrderID: 1508757

Customer Sample ID: C586-15 P,Q Pull #10

Collect Date/Time: 8/31/2015 15:00

WETLAB Sample ID: 1508757-001

Receive Date: 8/31/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/1/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/2/2015	NV00925
pH	SM 4500-H+ B	9.42	HT pH Units	1		9/4/2015	NV00925
Temperature at pH	NA	23.3	°C	1		9/4/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/4/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		9/1/2015	NV00925
Acidity (Titrimetric)	SM 2310B	-2	QD mg/L as CaCO3	1		9/4/2015	NV00925
Total Alkalinity	SM 2320B	12	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	5.8	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Carbonate (CO3)	SM 2320B	5.9	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/4/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	49	mg/L	1	10	9/2/2015	NV00925
Electrical Conductivity	SM 2510B	120	µmhos/cm	1	1	9/1/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/1/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/1/2015	NV00925
Sulfate	EPA 300.0	22	mg/L	1	1.0	9/1/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/4/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/4/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.058	mg/L	1	0.0030	9/2/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/2/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/2/2015	NV00925
Calcium, Dissolved	EPA 200.7	17	mg/L	1	0.50	9/2/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/2/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	9/2/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/2/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/2/2015	NV00925
Manganese, Dissolved	EPA 200.7	0.0083	mg/L	1	0.0050	9/2/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/2/2015	NV00925
Potassium, Dissolved	EPA 200.7	1.6	mg/L	1	0.50	9/2/2015	NV00925
Sodium, Dissolved	EPA 200.7	0.92	mg/L	1	0.50	9/2/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.28	mg/L	1	0.020	9/2/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

**SPARKS**

475 E. Greg Street, Suite 119  
Sparks, Nevada 89431  
tel (775) 355-0202  
fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C586-15 P,Q Pull #10

Collect Date/Time: 8/31/2015 15:00

WETLAB Sample ID: 1508757-001

Receive Date: 8/31/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	9/2/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/2/2015	NV00925
Nickel, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/8/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	0.69	meq/L	1	0.10		NV00925
Cations	Calculation	0.93	meq/L	1	0.10		NV00925
Error	Calculation	15	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/2/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090023	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090098	Blank 1	Ferrous Iron	3500 Fe D	ND	mg/L
QC15090099	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090127	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15090131	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15090222	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090230	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15090234	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15090264	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090023	LCS 1	Chloride	EPA 300.0	10.6	10.0	106	mg/L
		Fluoride	EPA 300.0	1.99	2.00	99	mg/L
		Sulfate	EPA 300.0	24.1	25.0	96	mg/L
QC15090098	LCS 1	Ferrous Iron	3500 Fe D	0.986	1.00	99	mg/L
QC15090099	LCS 1	Electrical Conductivity	SM 2510B	1410	1412	100	µmhos/cm
QC15090100	LCS 1	Redox Potential	ASTM D1498	223	221	101	mV
QC15090127	LCS 1	Copper, Dissolved	EPA 200.8	0.0092	0.010	92	mg/L
		Nickel	EPA 200.8	0.0102	1.00	1	mg/L
QC15090131	LCS 1	Barium, Dissolved	EPA 200.7	0.973	1.00	97	mg/L
		Beryllium, Dissolved	EPA 200.7	0.977	1.00	98	mg/L
		Boron, Dissolved	EPA 200.7	0.958	1.00	96	mg/L
		Calcium, Dissolved	EPA 200.7	10.4	10.0	104	mg/L
		Chromium, Dissolved	EPA 200.7	0.966	1.00	97	mg/L
		Cobalt, Dissolved	EPA 200.7	0.982	1.00	98	mg/L
		Iron, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Magnesium, Dissolved	EPA 200.7	10.3	10.0	103	mg/L
		Manganese, Dissolved	EPA 200.7	0.970	1.00	97	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.968	1.00	97	mg/L
		Potassium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Sodium, Dissolved	EPA 200.7	10.1	10.0	101	mg/L
		Strontium, Dissolved	EPA 200.7	1.01	1.00	101	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Zinc, Dissolved	EPA 200.7	0.963	1.00	96	mg/L
QC15090222	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	151	150	101	mg/L
QC15090222	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	153	150	102	mg/L
QC15090230	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.928	1.00	93	mg/L
QC15090234	LCS 1	WAD Cyanide	SM 4500CN I, E	0.105	0.100	105	mg/L
QC15090240	LCS 1	pH	SM 4500-H+ B	7.01	7.00	100	pH Units
QC15090240	LCS 2	pH	SM 4500-H+ B	7.02	7.00	100	pH Units
QC15090240	LCS 3	pH	SM 4500-H+ B	7.02	7.00	100	pH Units
QC15090244	LCS 1	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090244	LCS 2	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090264	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.800	0.800	100	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090098	Duplicate	Ferrous Iron	3500 Fe D	1508761-001	ND	ND	mg/L	<1%
QC15090098	Duplicate	Ferrous Iron	3500 Fe D	1508763-003	ND	ND	mg/L	<1%
QC15090099	Duplicate	Electrical Conductivity	SM 2510B	1508761-001	63.3	63.1	µmhos/cm	<1%
QC15090099	Duplicate	Electrical Conductivity	SM 2510B	1508763-003	89.3	88.7	µmhos/cm	1 %
QC15090099	Duplicate	Electrical Conductivity	SM 2510B	1509002-001	106	107	µmhos/cm	<1%
QC15090100	Duplicate	Redox Potential	ASTM D1498	1508761-001	526	531	mV	1 %
QC15090100	Duplicate	Redox Potential	ASTM D1498	1508763-003	525	528	mV	1 %
QC15090100	Duplicate	Redox Potential	ASTM D1498	1509002-001	420	420	mV	<1%
QC15090222	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508712-002	168	163	mg/L	3 %
QC15090222	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509009-003	712	668	QD mg/L	6 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509009-001	7.92	7.90	HT pH Units	<1%
QC15090240	Duplicate	pH	SM 4500-H+ B	1509012-001	7.83	7.81	HT pH Units	<1%
QC15090240	Duplicate	pH	SM 4500-H+ B	1509059-001	7.45	7.41	HT pH Units	1 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509086-001	7.90	7.85	HT pH Units	1 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509059-003	7.45	7.39	HT pH Units	1 %
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509009-001	242	242	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509009-001	242	242	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509009-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509009-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509012-001	192	193	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509012-001	192	193	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509012-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509012-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509059-001	391	391	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509059-001	391	391	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509059-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509059-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509086-001	66.5	66.3	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509086-001	66.5	66.3	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509086-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509086-001	ND	ND	mg/L as CaCO3	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509059-003	423	422	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509059-003	423	422	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509059-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509059-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508761-001	ND	ND	QD mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508763-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508757-001	ND	ND	QD mg/L as CaCO3	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090023	MS 1	Chloride	EPA 300.0	1508696-003	ND	5.92	6.11	5.00	mg/L	117	121	3%
		Fluoride	EPA 300.0	1508696-003	0.243	2.26	2.32	2.00	mg/L	101	104	3%
		Sulfate	EPA 300.0	1508696-003	26.5	36.1	36.4	10.0	mg/L	96	99	1%
QC15090023	MS 2	Chloride	EPA 300.0	1508757-001	ND	5.97	6.01	5.00	mg/L	114	115	1%
		Fluoride	EPA 300.0	1508757-001	ND	1.96	1.96	2.00	mg/L	97	97	<1%
		Sulfate	EPA 300.0	1508757-001	22.2	31.7	31.8	10.0	mg/L	95	96	<1%
QC15090127	MS 1	Copper, Dissolved	EPA 200.8	1508753-008	ND	0.0109	0.0111	0.010	mg/L	88	90	2%
		Nickel, Dissolved	EPA 200.8	1508753-008	ND	0.0131	0.0133	0.010	mg/L	101	103	2%
QC15090131	MS 1	Barium, Dissolved	EPA 200.7	1508753-008	0.049	0.985	0.987	1.00	mg/L	94	94	<1%
		Beryllium, Dissolved	EPA 200.7	1508753-008	ND	1.00	0.975	1.00	mg/L	100	98	3%
		Boron, Dissolved	EPA 200.7	1508753-008	0.128	1.13	1.14	1.00	mg/L	100	101	1%
		Calcium, Dissolved	EPA 200.7	1508753-008	90.7	SC 110	111	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1508753-008	ND	0.954	0.952	1.00	mg/L	95	95	<1%
		Cobalt, Dissolved	EPA 200.7	1508753-008	ND	0.909	0.912	1.00	mg/L	91	91	<1%
		Iron, Dissolved	EPA 200.7	1508753-008	ND	0.948	0.964	1.00	mg/L	94	96	2%
		Magnesium, Dissolved	EPA 200.7	1508753-008	16.9	26.0	26.5	10.0	mg/L	91	96	2%
		Manganese, Dissolved	EPA 200.7	1508753-008	ND	0.943	0.940	1.00	mg/L	95	94	<1%
		Molybdenum, Dissolved	EPA 200.7	1508753-008	ND	0.980	0.972	1.00	mg/L	98	97	1%
		Potassium, Dissolved	EPA 200.7	1508753-008	1.99	12.0	12.0	10.0	mg/L	100	100	<1%
		Sodium, Dissolved	EPA 200.7	1508753-008	58.2	71.2	72.1	10.0	mg/L	130	139	1%
		Strontium, Dissolved	EPA 200.7	1508753-008	0.582	1.59	1.61	1.00	mg/L	101	103	1%
Zinc, Dissolved	EPA 200.7	1508753-008	ND	0.944	0.956	1.00	mg/L	94	95	1%		
QC15090230	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1508753-008	ND	M 0.705	0.616	1.00	mg/L	NC	NC	NC
QC15090234	MS 1	WAD Cyanide	SM 4500CN I,	1508757-001	ND	0.106	0.105	0.100	mg/L	106	106	1%
QC15090234	MS 2	WAD Cyanide	SM 4500CN I,	1509009-005	ND	0.101	0.104	0.100	mg/L	101	104	3%
QC15090264	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1508754-001	ND	5.01	5.01	1.00	mg/L	100	100	<1%
QC15090264	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509002-001	ND	4.87	4.88	1.00	mg/L	97	98	<1%

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# ANALYTICAL SUMMARY REPORT

September 14, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15090455

Project Name: Job ID 1508757

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/3/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15090455-001	C586-15 P,Q Pull #10	08/31/15 15:00	09/03/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508757  
**Lab ID:** B15090455-001  
**Client Sample ID:** C586-15 P,Q Pull #10

**Report Date:** 09/14/15  
**Collection Date:** 08/31/15 15:00  
**Date Received:** 09/03/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.269	mg/L		0.009		E200.8	09/04/15 19:20 / mas
Antimony	0.0011	mg/L		0.0005		E200.8	09/04/15 19:20 / mas
Arsenic	0.021	mg/L		0.001		E200.8	09/04/15 19:20 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/04/15 19:20 / mas
Lead	ND	mg/L		0.0002		E200.8	09/04/15 19:20 / mas
Mercury	0.0000189	mg/L		5E-06		E245.1	09/09/15 15:37 / ser
Phosphorus	0.020	mg/L	L	0.007		E200.7	09/09/15 12:23 / rlh
Selenium	ND	mg/L		0.001		E200.8	09/04/15 19:20 / mas
Silicon	0.35	mg/L		0.05		E200.7	09/09/15 12:23 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/09/15 12:01 / amm
Thallium	0.0003	mg/L		0.0002		E200.8	09/04/15 19:20 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/04/15 19:20 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508757

**Work Order:** B15090455

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150909A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/09/15 13:59	
Mercury		0.000214	mg/L	1.0E-05	107	90	110				
<b>Method:</b> E245.1										Batch: 92989	
<b>Lab ID:</b> MB-92989		Method Blank								Run: HGCV203-B_150909A	09/09/15 15:08
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-92989		Laboratory Control Sample								Run: HGCV203-B_150909A	09/09/15 15:11
Mercury		0.000211	mg/L	1.0E-05	105	85	115				
<b>Lab ID:</b> B15090456-001AMS		Sample Matrix Spike								Run: HGCV203-B_150909A	09/09/15 15:48
Mercury		0.000222	mg/L	1.0E-05	107	70	130				
<b>Lab ID:</b> B15090456-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150909A	09/09/15 15:51
Mercury		0.000221	mg/L	1.0E-05	106	70	130	0.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508757

**Work Order:** B15090455

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150909A			
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard								09/09/15 11:17	
Phosphorus		2.58	mg/L	0.10	103	95	105				
Silicon		4.79	mg/L	0.10	96	95	105				
<b>Method: E200.7</b>								Batch: R249034			
<b>Lab ID: MB-6500DIS150909A</b>	2	Method Blank						Run: ICP203-B_150909A		09/09/15 11:45	
Phosphorus		ND	mg/L	0.007							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS150909A</b>	2	Laboratory Fortified Blank						Run: ICP203-B_150909A		09/09/15 11:49	
Phosphorus		10.9	mg/L	0.10	109	85	115				
Silicon		9.74	mg/L	0.10	97	85	115				
<b>Lab ID: B15090447-001AMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_150909A		09/09/15 12:10	
Phosphorus		11.0	mg/L	0.10	110	70	130				
Silicon		10.1	mg/L	0.10	97	70	130				
<b>Lab ID: B15090447-001AMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_150909A		09/09/15 12:13	
Phosphorus		11.1	mg/L	0.10	111	70	130	0.6	20		
Silicon		10.5	mg/L	0.10	101	70	130	3.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/14/15

**Project:** Job ID 1508757

**Work Order:** B15090455

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_150904A	
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard							09/04/15 14:54		
Aluminum		0.249	mg/L	0.10	100	90	110				
Antimony		0.0512	mg/L	0.050	102	90	110				
Arsenic		0.0494	mg/L	0.0050	99	90	110				
Cadmium		0.0250	mg/L	0.0010	100	90	110				
Lead		0.0508	mg/L	0.010	102	90	110				
Selenium		0.0501	mg/L	0.0050	100	90	110				
Thallium		0.0503	mg/L	0.10	101	90	110				
Uranium		0.0202	mg/L	0.0010	101	90	110				
<b>Method: E200.8</b>										Batch: R248886	
<b>Lab ID: LRB</b>	8	Method Blank							Run: ICPMS206-B_150904A 09/04/15 12:16		
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Thallium		0.0001	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank							Run: ICPMS206-B_150904A 09/04/15 12:21		
Aluminum		0.0495	mg/L	0.10	99	85	115				
Antimony		0.0465	mg/L	0.050	93	85	115				
Arsenic		0.0495	mg/L	0.0050	99	85	115				
Cadmium		0.0484	mg/L	0.0010	97	85	115				
Lead		0.0490	mg/L	0.010	98	85	115				
Selenium		0.0493	mg/L	0.0050	99	85	115				
Thallium		0.0491	mg/L	0.10	98	85	115				
Uranium		0.0498	mg/L	0.0010	100	85	115				
<b>Lab ID: B15090455-001AMS</b>	8	Sample Matrix Spike							Run: ICPMS206-B_150904A 09/04/15 19:25		
Aluminum		0.301	mg/L	0.030		70	130			A	
Antimony		0.0540	mg/L	0.0010	106	70	130				
Arsenic		0.0679	mg/L	0.0010	93	70	130				
Cadmium		0.0499	mg/L	0.0010	100	70	130				
Lead		0.0502	mg/L	0.0010	100	70	130				
Selenium		0.0513	mg/L	0.0010	103	70	130				
Thallium		0.0509	mg/L	0.00050	101	70	130				
Uranium		0.0499	mg/L	0.00030	100	70	130				
<b>Lab ID: B15090455-001AMSD</b>	8	Sample Matrix Spike Duplicate							Run: ICPMS206-B_150904A 09/04/15 19:30		
Aluminum		0.300	mg/L	0.030		70	130	0.2	20	A	
Antimony		0.0530	mg/L	0.0010	104	70	130	1.8	20		
Arsenic		0.0669	mg/L	0.0010	91	70	130	1.6	20		
Cadmium		0.0485	mg/L	0.0010	97	70	130	2.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508757

**Report Date:** 09/14/15  
**Work Order:** B15090455

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R248886</span>										
<b>Lab ID: B15090455-001AMSD</b>	8	Sample Matrix Spike Duplicate					Run: ICPMS206-B_150904A	09/04/15 19:30		
Lead		0.0492	mg/L	0.0010	98	70	130	2.1	20	
Selenium		0.0478	mg/L	0.0010	96	70	130	7.0	20	
Thallium		0.0496	mg/L	0.00050	98	70	130	2.7	20	
Uranium		0.0484	mg/L	0.00030	97	70	130	3.1	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS206-B_150909A</span>										
<b>Lab ID: QCS</b>		Initial Calibration Verification Standard						09/09/15 10:40		
Silver		0.0267	mg/L	0.0050	107	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R249023</span>										
<b>Lab ID: LRB</b>		Method Blank					Run: ICPMS206-B_150909A	09/09/15 11:18		
Silver		ND	mg/L	2E-05						
<b>Lab ID: LFB</b>		Laboratory Fortified Blank					Run: ICPMS206-B_150909A	09/09/15 11:23		
Silver		0.0205	mg/L	0.0050	103	85	115			
<b>Lab ID: B15090447-001AMS</b>		Sample Matrix Spike					Run: ICPMS206-B_150909A	09/09/15 11:37		
Silver		0.0179	mg/L	0.0010	89	70	130			
<b>Lab ID: B15090447-001AMSD</b>		Sample Matrix Spike Duplicate					Run: ICPMS206-B_150909A	09/09/15 11:42		
Silver		0.0153	mg/L	0.0010	77	70	130	15	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15090455

Login completed by: Randa Nees

Date Received: 9/3/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 9/3/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	20.6°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None



# CHAIN OF CUSTODY RECORD

<b>Western Environmental Testing Laboratory</b> 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <i>Every</i> System: _____ Job ID: <u>1508757</u>	Samplers Initials: _____ All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Water System #: _____
Sample Receipt Condition: _____ Temperature: _____ Date: _____ Time: _____		Notes: _____ SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____		

Set Date Set Time	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
8/31/2015 3:00 PM	C586-15 P,Q Pull #10 -	Waste Water	Various Metals (Subcontracted)		

B15090455-001

Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
<i>[Signature]</i>		8/31/15	14:00	<i>[Signature]</i>						
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
				<i>[Signature]</i>	9/13/15	09:30				
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
				<i>[Signature]</i>	9/13/15	09:30				

20.6°C - 14 TB-1 to Sko  
W's Sko

please analyze highlighted samples

	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 - sub to Energy Lab	
	Antimony	0.0005 - 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 - 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 - 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 - 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 - sub to Energy Lab	
	Calcium	1.0 - 1.0 WETLAB	EPA 200.7
	Chromium	0.01 - 0.01 WETLAB	EPA 200.7
	Copper	0.002 - 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
	Iron	0.02 - 0.02 WETLAB	EPA 200.7
	Lead	0.0003 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
	Manganese	0.005 - 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 - sub to Energy Lab	
	Nickel	0.002 - 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 - sub to Energy Lab	EPA 200.7
	Selenium	0.001 - sub to Energy Lab	EPA 200.8
	Silicon	0.05 - 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 - sub to Energy Lab	
	Strontium	0.02 - 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
	Tin	0.0002 - sub to Energy Lab	
	Vanadium	0.0002 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Zinc	0.008 - 0.008 WETLAB	EPA 200.7
	Alkalinity, Total (as CaCO3)	1	2320B
pH (standard units)	NA	4500H+8	
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please acidity Fe speciation redox EC





9/22/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509002

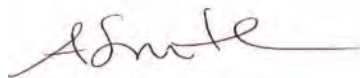
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/1/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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EPA LAB ID: NV00925 - ELAP No: 2523

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**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509002

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### Specific Report Comments

The cation/anion balance for sample 1509002-001 was outside WETLAB acceptance criteria; however, reanalysis confirmed the original results.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: Black Butte Copper Diffusion Project

Date Printed: 9/22/2015

OrderID: 1509002

Customer Sample ID: C586-15 P,Q Pull #11

Collect Date/Time: 9/1/2015 15:00

WETLAB Sample ID: 1509002-001

Receive Date: 9/1/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/1/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/2/2015	NV00925
pH	SM 4500-H+ B	9.38	HT pH Units	1		9/4/2015	NV00925
Temperature at pH	NA	23.3	°C	1		9/4/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/4/2015	NV00925
Redox Potential	ASTM D1498	420	mV	1		9/1/2015	NV00925
Acidity (Titrimetric)	SM 2310B	-2	mg/L as CaCO3	1		9/4/2015	NV00925
Total Alkalinity	SM 2320B	10	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	5.2	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Carbonate (CO3)	SM 2320B	5.0	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Total Nitrogen	Calc.	0.30	mg/L	1	0.30	9/8/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	48	mg/L	1	10	9/2/2015	NV00925
Electrical Conductivity	SM 2510B	110	µmhos/cm	1	1	9/1/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/2/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/2/2015	NV00925
Sulfate	EPA 300.0	19	mg/L	1	1.0	9/2/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/4/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	0.30	mg/L	1	0.20	9/8/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.059	mg/L	1	0.0030	9/2/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/2/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/2/2015	NV00925
Calcium, Dissolved	EPA 200.7	15	mg/L	1	0.50	9/2/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/2/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	9/2/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/2/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/2/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/2/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/2/2015	NV00925
Potassium, Dissolved	EPA 200.7	1.6	mg/L	1	0.50	9/2/2015	NV00925
Sodium, Dissolved	EPA 200.7	1.1	mg/L	1	0.50	9/2/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.25	mg/L	1	0.020	9/2/2015	NV00925
Zinc, Dissolved	EPA 200.7	0.011	mg/L	1	0.0080	9/2/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

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**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C586-15 P,Q Pull #11

Collect Date/Time: 9/1/2015 15:00

WETLAB Sample ID: 1509002-001

Receive Date: 9/1/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/2/2015	NV00925
Nickel, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/3/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	0.60	meq/L	1	0.10		NV00925
Cations	Calculation	0.84	meq/L	1	0.10		NV00925
Error	Calculation	17	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/2/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

**SPARKS**

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 EPA LAB ID: NV00925 - ELAP No: 2523

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090067	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15090099	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090121	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090126	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15090130	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15090222	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090234	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15090264	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090303	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090067	LCS 1	Ferrous Iron	SM 3500 Fe B	1.00	1.00	100	mg/L
QC15090099	LCS 1	Electrical Conductivity	SM 2510B	1410	1412	100	µmhos/cm
QC15090100	LCS 1	Redox Potential	ASTM D1498	223	221	101	mV
QC15090121	LCS 1	Chloride	EPA 300.0	10.1	10.0	101	mg/L
		Fluoride	EPA 300.0	2.01	2.00	100	mg/L
		Sulfate	EPA 300.0	24.6	25.0	99	mg/L
QC15090126	LCS 1	Copper, Dissolved	EPA 200.8	0.0092	0.010	92	mg/L
		Nickel, Dissolved	EPA 200.8	0.0102	0.010	101	mg/L
QC15090130	LCS 1	Barium, Dissolved	EPA 200.7	0.973	1.00	97	mg/L
		Beryllium, Dissolved	EPA 200.7	0.977	1.00	98	mg/L
		Boron, Dissolved	EPA 200.7	0.958	1.00	96	mg/L
		Calcium, Dissolved	EPA 200.7	10.4	10.0	104	mg/L
		Chromium, Dissolved	EPA 200.7	0.966	1.00	97	mg/L
		Cobalt, Dissolved	EPA 200.7	0.982	1.00	98	mg/L
		Iron, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Magnesium, Dissolved	EPA 200.7	10.3	10.0	103	mg/L
		Manganese, Dissolved	EPA 200.7	0.970	1.00	97	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.968	1.00	97	mg/L
		Potassium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Sodium, Dissolved	EPA 200.7	10.1	10.0	101	mg/L
		Strontium, Dissolved	EPA 200.7	1.01	1.00	101	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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### SPARKS

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Zinc, Dissolved	EPA 200.7	0.963	1.00	96	mg/L
QC15090222	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	151	150	101	mg/L
QC15090222	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	153	150	102	mg/L
QC15090234	LCS 1	WAD Cyanide	SM 4500CN I, E	0.105	0.100	105	mg/L
QC15090240	LCS 1	pH	SM 4500-H+ B	7.01	7.00	100	pH Units
QC15090240	LCS 2	pH	SM 4500-H+ B	7.02	7.00	100	pH Units
QC15090240	LCS 3	pH	SM 4500-H+ B	7.02	7.00	100	pH Units
QC15090244	LCS 1	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090244	LCS 2	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090264	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.800	0.800	100	mg/L
QC15090303	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.951	1.00	95	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090067	Duplicate	Ferrous Iron	SM 3500 Fe B	1509002-001	ND	ND	mg/L	<1%
QC15090099	Duplicate	Electrical Conductivity	SM 2510B	1508761-001	63.3	63.1	µmhos/cm	<1%
QC15090099	Duplicate	Electrical Conductivity	SM 2510B	1508763-003	89.3	88.7	µmhos/cm	1 %
QC15090099	Duplicate	Electrical Conductivity	SM 2510B	1509002-001	106	107	µmhos/cm	<1%
QC15090100	Duplicate	Redox Potential	ASTM D1498	1508761-001	526	531	mV	1 %
QC15090100	Duplicate	Redox Potential	ASTM D1498	1508763-003	525	528	mV	1 %
QC15090100	Duplicate	Redox Potential	ASTM D1498	1509002-001	420	420	mV	<1%
QC15090222	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508712-002	168	163	mg/L	3 %
QC15090222	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509009-003	712	668	QD mg/L	6 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509009-001	7.92	7.90	HT pH Units	<1%
QC15090240	Duplicate	pH	SM 4500-H+ B	1509012-001	7.83	7.81	HT pH Units	<1%
QC15090240	Duplicate	pH	SM 4500-H+ B	1509059-001	7.45	7.41	HT pH Units	1 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509086-001	7.90	7.85	HT pH Units	1 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509059-003	7.45	7.39	HT pH Units	1 %
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509009-001	242	242	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509009-001	242	242	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509009-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509009-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509012-001	192	193	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509012-001	192	193	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509012-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509012-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509059-001	391	391	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509059-001	391	391	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509059-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509059-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509086-001	66.5	66.3	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509086-001	66.5	66.3	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509086-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509086-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509059-003	423	422	mg/L as CaCO3	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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 EPA LAB ID: NV00932



QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
		Bicarbonate (HCO3)	SM 2320B	1509059-003	423	422	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509059-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509059-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508761-001	ND	ND	QD mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508763-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508757-001	ND	ND	QD mg/L as CaCO3	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090121	MS 1	Chloride	EPA 300.0	1509037-003	ND	5.11	5.17	5.00	mg/L	98	99	1%
		Fluoride	EPA 300.0	1509037-003	ND	2.12	2.12	2.00	mg/L	101	101	<1%
		Sulfate	EPA 300.0	1509037-003	1.15	11.0	10.9	10.0	mg/L	98	98	1%
QC15090121	MS 2	Chloride	EPA 300.0	1509003-001	19.1	24.3	24.2	5.00	mg/L	105	102	<1%
		Fluoride	EPA 300.0	1509003-001	ND	2.07	2.04	2.00	mg/L	100	99	1%
		Sulfate	EPA 300.0	1509003-001	48.3	57.9	57.6	10.0	mg/L	97	93	1%
QC15090126	MS 1	Copper, Dissolved	EPA 200.8	1509002-001	ND	0.0099	0.0101	0.010	mg/L	99	101	2%
		Nickel, Dissolved	EPA 200.8	1509002-001	ND	0.0107	0.0114	0.010	mg/L	96	102	6%
QC15090130	MS 1	Barium, Dissolved	EPA 200.7	1509002-001	0.059	1.02	0.975	1.00	mg/L	96	92	5%
		Beryllium, Dissolved	EPA 200.7	1509002-001	ND	0.962	0.924	1.00	mg/L	96	92	4%
		Boron, Dissolved	EPA 200.7	1509002-001	ND	0.965	0.926	1.00	mg/L	96	93	4%
		Calcium, Dissolved	EPA 200.7	1509002-001	15.1	25.3	21.5	10.0	mg/L	102	64	16%
		Chromium, Dissolved	EPA 200.7	1509002-001	ND	0.960	0.912	1.00	mg/L	96	91	5%
		Cobalt, Dissolved	EPA 200.7	1509002-001	ND	0.965	0.931	1.00	mg/L	96	93	4%
		Iron, Dissolved	EPA 200.7	1509002-001	ND	1.02	0.916	1.00	mg/L	102	91	11%
		Magnesium, Dissolved	EPA 200.7	1509002-001	ND	10.1	9.23	10.0	mg/L	101	92	9%
		Manganese, Dissolved	EPA 200.7	1509002-001	ND	0.966	0.916	1.00	mg/L	97	92	5%
		Molybdenum, Dissolved	EPA 200.7	1509002-001	ND	0.967	0.933	1.00	mg/L	96	93	4%
		Potassium, Dissolved	EPA 200.7	1509002-001	1.55	12.0	10.6	10.0	mg/L	104	90	12%
		Sodium, Dissolved	EPA 200.7	1509002-001	1.06	11.3	10.1	10.0	mg/L	102	90	11%
		Strontium, Dissolved	EPA 200.7	1509002-001	0.247	1.26	1.10	1.00	mg/L	101	85	14%
		Zinc, Dissolved	EPA 200.7	1509002-001	0.011	0.994	1.02	1.00	mg/L	98	101	3%
QC15090234	MS 1	WAD Cyanide	SM 4500CN I,	1508757-001	ND	0.106	0.105	0.100	mg/L	106	106	1%
QC15090234	MS 2	WAD Cyanide	SM 4500CN I,	1509009-005	ND	0.101	0.104	0.100	mg/L	101	104	3%
QC15090264	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1508754-001	ND	5.01	5.01	1.00	mg/L	100	100	<1%
QC15090264	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509002-001	ND	4.87	4.88	1.00	mg/L	97	98	<1%
QC15090303	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509002-001	0.302	1.32	1.11	1.00	mg/L	102	81	17%

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# ANALYTICAL SUMMARY REPORT

September 18, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15090781

Project Name: Job ID 1509002

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/9/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15090781-001	C586-15 P,Q Pull #11	09/01/15 15:00	09/09/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509002  
**Lab ID:** B15090781-001  
**Client Sample ID:** C586-15 P,Q Pull #11

**Report Date:** 09/18/15  
**Collection Date:** 09/01/15 15:00  
**Date Received:** 09/09/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.246	mg/L		0.009		E200.7	09/10/15 13:06 / r/h
Antimony	0.0010	mg/L		0.0005		E200.8	09/11/15 15:38 / amm
Arsenic	0.020	mg/L		0.001		E200.8	09/10/15 13:58 / amm
Cadmium	ND	mg/L		0.00003		E200.8	09/10/15 13:58 / amm
Lead	ND	mg/L		0.0002		E200.8	09/11/15 15:38 / amm
Mercury	0.0000250	mg/L		5E-06		E245.1	09/18/15 15:03 / ser
Phosphorus	0.025	mg/L	L	0.007		E200.7	09/10/15 13:06 / r/h
Selenium	ND	mg/L		0.001		E200.8	09/10/15 13:58 / amm
Silicon	0.30	mg/L		0.05		E200.7	09/10/15 13:06 / r/h
Silver	ND	mg/L		0.0002		E200.8	09/10/15 13:58 / amm
Thallium	0.0003	mg/L		0.0002		E200.8	09/11/15 15:38 / amm
Uranium	ND	mg/L		0.0002		E200.8	09/11/15 15:38 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/18/15

**Project:** Job ID 1509002

**Work Order:** B15090781

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>							Analytical Run: ICP203-B_150910A		
<b>Lab ID: ICV</b>	Continuing Calibration Verification Standard						09/10/15 09:30		
Aluminum	2.42	mg/L	0.10	97	95	105			
Phosphorus	2.36	mg/L	0.10	95	95	105			
Silicon	4.97	mg/L	0.10	99	95	105			
<b>Method: E200.7</b>							Batch: R249081		
<b>Lab ID: MB-6500DIS150910A</b>	Method Blank						Run: ICP203-B_150910A 09/10/15 09:58		
Aluminum	ND	mg/L	0.007						
Phosphorus	ND	mg/L	0.007						
Silicon	ND	mg/L	0.01						
<b>Lab ID: LFB-6500DIS150910A</b>	Laboratory Fortified Blank						Run: ICP203-B_150910A 09/10/15 10:02		
Aluminum	4.75	mg/L	0.10	95	85	115			
Phosphorus	8.90	mg/L	0.10	89	85	115			
Silicon	9.77	mg/L	0.10	98	85	115			
<b>Lab ID: B15090813-001BMS2</b>	Sample Matrix Spike						Run: ICP203-B_150910A 09/10/15 13:23		
Aluminum	47.0	mg/L	0.071	94	70	130			
Phosphorus	97.9	mg/L	0.10	98	70	130			
Silicon	109	mg/L	0.13	103	70	130			
<b>Lab ID: B15090813-001BMSD2</b>	Sample Matrix Spike Duplicate						Run: ICP203-B_150910A 09/10/15 13:27		
Aluminum	45.0	mg/L	0.071	90	70	130	4.3	20	
Phosphorus	94.9	mg/L	0.10	95	70	130	3.1	20	
Silicon	106	mg/L	0.13	100	70	130	2.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509002

**Report Date:** 09/18/15  
**Work Order:** B15090781

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8							Analytical Run: ICPMS203-B_150910A			
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard						09/10/15 15:14			
Arsenic	0.0512	mg/L	0.0050	102	90	110				
Cadmium	0.0257	mg/L	0.0010	103	90	110				
Selenium	0.0509	mg/L	0.0050	102	90	110				
Silver	0.0258	mg/L	0.0050	103	90	110				
<b>Method:</b> E200.8							Batch: R249105			
<b>Lab ID:</b> LFB	Laboratory Fortified Blank						Run: ICPMS203-B_150910A		09/10/15 11:26	
Arsenic	0.0499	mg/L	0.0050	100	85	115				
Cadmium	0.0521	mg/L	0.0010	104	85	115				
Selenium	0.0473	mg/L	0.0050	95	85	115				
Silver	0.0202	mg/L	0.0050	101	85	115				
<b>Lab ID:</b> LRB	Method Blank						Run: ICPMS203-B_150910A		09/10/15 11:54	
Arsenic	ND	mg/L	5E-05							
Cadmium	ND	mg/L	5E-06							
Selenium	ND	mg/L	7E-05							
Silver	ND	mg/L	2E-05							
<b>Lab ID:</b> B15090811-001BMS	Sample Matrix Spike						Run: ICPMS203-B_150910A		09/10/15 14:14	
Arsenic	0.0463	mg/L	0.0010	88	70	130				
Cadmium	0.0452	mg/L	0.0010	90	70	130				
Selenium	0.0474	mg/L	0.0010	92	70	130				
Silver	0.0153	mg/L	0.0010	77	70	130				
<b>Lab ID:</b> B15090811-001BMSD	Sample Matrix Spike Duplicate						Run: ICPMS203-B_150910A		09/10/15 14:18	
Arsenic	0.0472	mg/L	0.0010	90	70	130	1.9	20		
Cadmium	0.0439	mg/L	0.0010	87	70	130	2.8	20		
Selenium	0.0482	mg/L	0.0010	93	70	130	1.7	20		
Silver	0.0153	mg/L	0.0010	76	70	130	0.5	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/18/15

**Project:** Job ID 1509002

**Work Order:** B15090781

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8									Analytical Run: ICPMS203-B_150911A
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard								09/11/15 12:12
Antimony	0.0521	mg/L	0.050	104	90	110			
Lead	0.0492	mg/L	0.010	98	90	110			
Thallium	0.0494	mg/L	0.10	99	90	110			
Uranium	0.0190	mg/L	0.0010	95	90	110			
<b>Method:</b> E200.8									Batch: R249193
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: ICPMS203-B_150911A 09/11/15 09:38
Antimony	0.0471	mg/L	0.050	94	85	115			
Lead	0.0495	mg/L	0.010	99	85	115			
Thallium	0.0504	mg/L	0.10	101	85	115			
Uranium	0.0520	mg/L	0.0010	104	85	115			
<b>Lab ID:</b> LRB	Method Blank								Run: ICPMS203-B_150911A 09/11/15 10:18
Antimony	ND	mg/L	1E-05						
Lead	ND	mg/L	3E-05						
Thallium	ND	mg/L	1E-05						
Uranium	ND	mg/L	3E-06						
<b>Lab ID:</b> B15090781-001AMS	Sample Matrix Spike								Run: ICPMS203-B_150911A 09/11/15 15:42
Antimony	0.0513	mg/L	0.0010	101	70	130			
Lead	0.0481	mg/L	0.0010	96	70	130			
Thallium	0.0484	mg/L	0.00050	96	70	130			
Uranium	0.0495	mg/L	0.00030	99	70	130			
<b>Lab ID:</b> B15090781-001AMSD	Sample Matrix Spike Duplicate								Run: ICPMS203-B_150911A 09/11/15 15:46
Antimony	0.0521	mg/L	0.0010	102	70	130	1.5	20	
Lead	0.0483	mg/L	0.0010	97	70	130	0.2	20	
Thallium	0.0487	mg/L	0.00050	97	70	130	0.7	20	
Uranium	0.0500	mg/L	0.00030	100	70	130	1.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509002

**Report Date:** 09/18/15  
**Work Order:** B15090781

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV203-B_150918A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Mercury	0.000204	mg/L	1.0E-05	102	90	110			
<b>Method:</b> E245.1									Batch: 93285
<b>Lab ID:</b> MB-93285	Method Blank								
Mercury	3E-06	mg/L	1E-06			Run: HGCV203-B_150918A	09/18/15 14:37		
<b>Lab ID:</b> LCS-93285	Laboratory Control Sample								
Mercury	0.000204	mg/L	1.0E-05	101	85	115	09/18/15 14:39		
<b>Lab ID:</b> B15090780-002AMS	Sample Matrix Spike								
Mercury	0.000267	mg/L	1.0E-05	99	70	130	09/18/15 14:58		
<b>Lab ID:</b> B15090780-002AMSD	Sample Matrix Spike Duplicate								
Mercury	0.000250	mg/L	1.0E-05	91	70	130	6.6	30	09/18/15 15:00

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15090781

Login completed by: Tabitha Edwards

Date Received: 9/9/2015

Reviewed by: BL2000\jmueller

Received by: Ig

Reviewed Date: 9/10/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	15.8°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# CHAIN OF CUSTODY RECORD

**Western Environmental Testing Laboratory**  
 475 E. Greg Street #119 Sparks, NV 89431  
 Kurt Clarkson Ph: (775) 355-0202  
 kurtc@WETLaboratory.com Fax: (775) 355-0817

Total # of sample containers: 1  
 System: \_\_\_\_\_  
 Job ID: 1509002

All Samples Refrigerated?: Y  N   
 Compliance: Y  N   
 CA Write ON: Y  N   
 QC: Y  N

Samplers Initials: \_\_\_\_\_  
 Water System #: \_\_\_\_\_

Notes: \_\_\_\_\_  
 SIGNATURE OF COMPANY REPRESENTATIVE: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Set Date	Set Time	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/1/2015	3:00 PM	C566-15 P.Q.Pull #11 -	Waste Water	Various Metals (Subcontracted)		

83890781-001

Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
		9/1/15	6:30	URS						
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank

9/1/15 9:15  
 URS Grab  
 15.8 ON ICE  
 NO SEAL



	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 –sub to Energy Lab	
	Antimony	0.0005 – 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 – 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 – 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 – 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 –sub to Energy Lab	
	Calcium	1.0 – 1.0 WETLAB	EPA 200.7
	Chromium	0.01 – 0.01 WETLAB	EPA 200.7
	Copper	0.002 – 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 – 0.2 WETLAB	EPA 300.0
	Iron	0.02 – 0.02 WETLAB	EPA 200.7
	Lead	0.0003 – 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 – 1.0 WETLAB	EPA 200.7
	Manganese	0.005 – 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 –sub to Energy Lab	
	Nickel	0.002 – 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 –sub to Energy Lab	EPA 200.7
	Selenium	0.001 –sub to Energy Lab	EPA 200.8
	Silicon	0.05 – 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 –sub to Energy Lab	
	Strontium	0.02 – 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 – 1.0 WETLAB	EPA 300.0
	Thallium	0.0002 –sub to Energy Lab	
	Uranium	0.0002 – 0.0002 <del>WETLAB</del>	EPA 200.8
	Zinc	0.008 – 0.008 WETLAB	EPA 200.7
Alkalinity, Total (as CaCO3)	1	2320B	
pH (standard units)	NA	4500H+B	
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	-
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe speciat  
 redox  
 EC





9/22/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509044

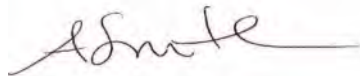
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/2/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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EPA LAB ID: NV00925 - ELAP No: 2523

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**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509044

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: Black Butte Copper Diffusion Project

Date Printed: 9/22/2015

OrderID: 1509044

Customer Sample ID: C586-15 P,Q Pull# 12

Collect Date/Time: 9/2/2015 15:00

WETLAB Sample ID: 1509044-001

Receive Date: 9/2/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/4/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/4/2015	NV00925
pH	SM 4500-H+ B	9.35	HT pH Units	1		9/4/2015	NV00925
Temperature at pH	NA	23.4	°C	1		9/4/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/10/2015	NV00925
Redox Potential	ASTM D1498	480	mV	1		9/4/2015	NV00925
Acidity (Titrimetric)	SM 2310B	-2	mg/L as CaCO3	1		9/4/2015	NV00925
Total Alkalinity	SM 2320B	9.8	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	5.2	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Carbonate (CO3)	SM 2320B	4.6	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/8/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	57	mg/L	1	10	9/3/2015	NV00925
Electrical Conductivity	SM 2510B	100	µmhos/cm	1	1	9/4/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/2/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/2/2015	NV00925
Sulfate	EPA 300.0	17	mg/L	1	1.0	9/2/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/4/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/8/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.057	mg/L	1	0.0030	9/4/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/4/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/4/2015	NV00925
Calcium, Dissolved	EPA 200.7	13	mg/L	1	0.50	9/4/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/4/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	9/4/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/4/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/4/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/4/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/4/2015	NV00925
Potassium, Dissolved	EPA 200.7	1.3	mg/L	1	0.50	9/4/2015	NV00925
Sodium, Dissolved	EPA 200.7	0.96	mg/L	1	0.50	9/4/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.22	mg/L	1	0.020	9/4/2015	NV00925
Zinc, Dissolved	EPA 200.7	0.018	mg/L	1	0.0080	9/4/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

**SPARKS**

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**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C586-15 P,Q Pull# 12

Collect Date/Time: 9/2/2015 15:00

WETLAB Sample ID: 1509044-001

Receive Date: 9/2/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.0039	mg/L	1	0.0020	9/4/2015	NV00925
Nickel, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/8/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	0.55	meq/L	1	0.10		NV00925
Cations	Calculation	0.72	meq/L	1	0.10		NV00925
Error	Calculation	14	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/3/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090139	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090203	Blank 1	Copper	EPA 200.8	ND	mg/L
		Nickel	EPA 200.8	ND	mg/L
QC15090208	Blank 1	Barium	EPA 200.7	ND	mg/L
		Beryllium	EPA 200.7	ND	mg/L
		Boron	EPA 200.7	ND	mg/L
		Calcium	EPA 200.7	ND	mg/L
		Chromium	EPA 200.7	ND	mg/L
		Cobalt	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
		Manganese	EPA 200.7	ND	mg/L
		Molybdenum	EPA 200.7	ND	mg/L
		Potassium	EPA 200.7	ND	mg/L
		Sodium	EPA 200.7	ND	mg/L
		Strontium	EPA 200.7	ND	mg/L
		Zinc	EPA 200.7	ND	mg/L
QC15090265	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090283	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090284	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15090286	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090303	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15090403	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090139	LCS 1	Chloride	EPA 300.0	10.6	10.0	106	mg/L
		Fluoride	EPA 300.0	2.01	2.00	100	mg/L
		Sulfate	EPA 300.0	24.2	25.0	97	mg/L
QC15090203	LCS 1	Copper	EPA 200.8	0.0105	0.010	105	mg/L
		Nickel	EPA 200.8	0.0104	0.010	104	mg/L
QC15090208	LCS 1	Barium	EPA 200.7	0.976	1.00	98	mg/L
		Beryllium	EPA 200.7	0.986	1.00	99	mg/L
		Boron	EPA 200.7	0.990	1.00	99	mg/L
		Calcium	EPA 200.7	9.66	10.0	97	mg/L
		Chromium	EPA 200.7	0.975	1.00	98	mg/L
		Cobalt	EPA 200.7	0.984	1.00	98	mg/L
		Iron	EPA 200.7	0.963	1.00	96	mg/L
		Magnesium	EPA 200.7	9.68	10.0	97	mg/L
		Manganese	EPA 200.7	0.984	1.00	98	mg/L
		Molybdenum	EPA 200.7	0.964	1.00	96	mg/L
		Potassium	EPA 200.7	9.71	10.0	97	mg/L
		Sodium	EPA 200.7	9.62	10.0	96	mg/L
		Strontium	EPA 200.7	0.961	1.00	96	mg/L
		Zinc	EPA 200.7	1.00	1.00	100	mg/L
QC15090240	LCS 1	pH	SM 4500-H+ B	7.01	7.00	100	pH Units
QC15090240	LCS 2	pH	SM 4500-H+ B	7.02	7.00	100	pH Units

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

Page 5 of 7

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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090240	LCS 3	pH	SM 4500-H+ B	7.02	7.00	100	pH Units
QC15090244	LCS 1	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090244	LCS 2	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15090265	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.773	0.800	97	mg/L
QC15090281	LCS 1	Redox Potential	ASTM D1498	223	221	101	mV
QC15090283	LCS 1	Electrical Conductivity	SM 2510B	1443	1412	102	µmhos/cm
QC15090284	LCS 1	Ferrous Iron	SM 3500 Fe B	0.940	1.00	94	mg/L
QC15090286	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	147	150	98	mg/L
QC15090286	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	152	150	101	mg/L
QC15090303	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.951	1.00	95	mg/L
QC15090403	LCS 1	WAD Cyanide	SM 4500CN I, E	0.098	0.100	98	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090240	Duplicate	pH	SM 4500-H+ B	1509009-001	7.92	7.90	pH Units	<1%
QC15090240	Duplicate	pH	SM 4500-H+ B	1509012-001	7.83	7.81	pH Units	<1%
QC15090240	Duplicate	pH	SM 4500-H+ B	1509059-001	7.45	7.41	pH Units	1 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509086-001	7.90	7.85	pH Units	1 %
QC15090240	Duplicate	pH	SM 4500-H+ B	1509059-003	7.45	7.39	pH Units	1 %
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509009-001	242	242	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509009-001	242	242	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509009-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509009-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509012-001	192	193	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509012-001	192	193	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509012-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509012-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509059-001	391	391	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509059-001	391	391	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509059-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509059-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509086-001	66.5	66.3	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509086-001	66.5	66.3	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509086-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509086-001	ND	ND	mg/L as CaCO3	<1%
QC15090244	Duplicate	Total Alkalinity	SM 2320B	1509059-003	423	422	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509059-003	423	422	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509059-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509059-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508761-001	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508763-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508757-001	ND	ND	mg/L as CaCO3	<1%
QC15090281	Duplicate	Redox Potential	ASTM D1498	1509115-001	543	546	mV	1 %
QC15090281	Duplicate	Redox Potential	ASTM D1498	1509118-003	507	510	mV	1 %
QC15090281	Duplicate	Redox Potential	ASTM D1498	1509122-001	425	417	mV	2 %

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**SPARKS**

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 fax (775) 355-0817  
 EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

1084 Lamoille Hwy  
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**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932



QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090283	Duplicate	Electrical Conductivity	SM 2510B	1509115-001	68.6	68.6	µmhos/cm	<1%
QC15090283	Duplicate	Electrical Conductivity	SM 2510B	1509118-003	140	140	µmhos/cm	<1%
QC15090283	Duplicate	Electrical Conductivity	SM 2510B	1509122-001	90.6	90.9	µmhos/cm	<1%
QC15090284	Duplicate	Ferrous Iron	SM 3500 Fe B	1509115-001	ND	ND	mg/L	<1%
QC15090284	Duplicate	Ferrous Iron	SM 3500 Fe B	1509118-003	ND	ND	mg/L	11 %
QC15090286	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509057-001	ND	ND	mg/L	<1%
QC15090286	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509059-002	562	569	mg/L	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090139	MS 1	Chloride	EPA 300.0	1509055-001	17.2	22.5	22.5	5.00	mg/L	105	106	<1%
		Fluoride	EPA 300.0	1509055-001	0.207	2.02	2.19	2.00	mg/L	91	99	8%
		Sulfate	EPA 300.0	1509055-001	52.9	62.0	62.1	10.0	mg/L	91	92	<1%
QC15090139	MS 2	Chloride	EPA 300.0	1509059-002	12.3	23.8	23.9	5.00	mg/L	115	116	<1%
		Fluoride	EPA 300.0	1509059-002	1.33	5.49	5.52	2.00	mg/L	104	105	1%
		Sulfate	EPA 300.0	1509059-002	91.4	110	110	10.0	mg/L	94	95	<1%
QC15090203	MS 1	Copper	EPA 200.8	1508744-003	ND	0.0110	0.0116	0.010	mg/L	93	100	5%
		Nickel	EPA 200.8	1508744-003	ND	0.0112	0.0103	0.010	mg/L	100	92	8%
QC15090208	MS 1	Barium	EPA 200.7	1508744-003	0.090	1.05	1.03	1.00	mg/L	96	94	2%
		Beryllium	EPA 200.7	1508744-003	ND	0.971	0.960	1.00	mg/L	97	96	1%
		Boron	EPA 200.7	1508744-003	ND	1.06	1.05	1.00	mg/L	100	99	1%
		Calcium	EPA 200.7	1508744-003	32.7	42.0	41.7	10.0	mg/L	93	90	1%
		Chromium	EPA 200.7	1508744-003	ND	0.969	0.951	1.00	mg/L	97	95	2%
		Cobalt	EPA 200.7	1508744-003	ND	0.952	0.942	1.00	mg/L	95	94	1%
		Iron	EPA 200.7	1508744-003	ND	0.958	0.952	1.00	mg/L	95	95	1%
		Magnesium	EPA 200.7	1508744-003	7.06	16.4	16.1	10.0	mg/L	93	90	2%
		Manganese	EPA 200.7	1508744-003	ND	0.970	0.951	1.00	mg/L	97	95	2%
		Molybdenum	EPA 200.7	1508744-003	0.041	1.00	1.01	1.00	mg/L	96	97	1%
		Potassium	EPA 200.7	1508744-003	2.84	12.5	12.3	10.0	mg/L	97	95	2%
		Sodium	EPA 200.7	1508744-003	12.9	22.6	22.5	10.0	mg/L	97	96	<1%
		Strontium	EPA 200.7	1508744-003	0.139	1.09	1.09	1.00	mg/L	95	95	<1%
		Zinc	EPA 200.7	1508744-003	0.020	0.997	0.987	1.00	mg/L	98	97	1%
QC15090265	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509009-009	ND	4.89	5.22	1.00	mg/L	98	104	7%
QC15090265	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509059-003	ND	4.94	4.92	1.00	mg/L	99	98	<1%
QC15090303	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509002-001	0.302	1.32	1.11	1.00	mg/L	102	81	17%
QC15090403	MS 1	WAD Cyanide	SM 4500CN I,	1509044-001	ND	0.101	0.102	0.100	mg/L	103	104	1%
QC15090403	MS 2	WAD Cyanide	SM 4500CN I,	1509111-003	0.031	0.126	0.128	0.100	mg/L	95	98	2%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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 EPA LAB ID: NV00932





# ANALYTICAL SUMMARY REPORT

September 18, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15090770  
Project Name: Job ID 1509044

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/9/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15090770-001	C586-15 P,Q Pull# 12	09/02/15 15:00	09/09/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509044  
**Lab ID:** B15090770-001  
**Client Sample ID:** C586-15 P,Q Pull# 12

**Report Date:** 09/18/15  
**Collection Date:** 09/02/15 15:00  
**Date Received:** 09/09/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.237	mg/L		0.009		E200.7	09/10/15 12:45 / r/h
Antimony	0.0011	mg/L		0.0005		E200.8	09/11/15 15:22 / amm
Arsenic	0.023	mg/L		0.001		E200.8	09/10/15 12:30 / amm
Cadmium	0.00004	mg/L		0.00003		E200.8	09/11/15 15:22 / amm
Lead	ND	mg/L		0.0002		E200.8	09/11/15 15:22 / amm
Mercury	0.0000196	mg/L		5E-06		E245.1	09/18/15 14:42 / ser
Phosphorus	0.035	mg/L	L	0.007		E200.7	09/10/15 12:45 / r/h
Selenium	ND	mg/L		0.001		E200.8	09/10/15 12:30 / amm
Silicon	0.34	mg/L		0.05		E200.7	09/10/15 12:45 / r/h
Silver	ND	mg/L		0.0002		E200.8	09/10/15 12:30 / amm
Thallium	0.0004	mg/L		0.0002		E200.8	09/10/15 12:30 / amm
Uranium	ND	mg/L		0.0002		E200.8	09/11/15 15:22 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/18/15

**Project:** Job ID 1509044

**Work Order:** B15090770

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>							Analytical Run: ICP203-B_150910A		
<b>Lab ID: ICV</b>	Continuing Calibration Verification Standard						09/10/15 09:30		
Aluminum	2.42	mg/L	0.10	97	95	105			
Phosphorus	2.36	mg/L	0.10	95	95	105			
Silicon	4.97	mg/L	0.10	99	95	105			
<b>Method: E200.7</b>							Batch: R249081		
<b>Lab ID: MB-6500DIS150910A</b>	Method Blank						Run: ICP203-B_150910A 09/10/15 09:58		
Aluminum	ND	mg/L	0.007						
Phosphorus	ND	mg/L	0.007						
Silicon	ND	mg/L	0.01						
<b>Lab ID: LFB-6500DIS150910A</b>	Laboratory Fortified Blank						Run: ICP203-B_150910A 09/10/15 10:02		
Aluminum	4.75	mg/L	0.10	95	85	115			
Phosphorus	8.90	mg/L	0.10	89	85	115			
Silicon	9.77	mg/L	0.10	98	85	115			
<b>Lab ID: B15090742-009BMS2</b>	Sample Matrix Spike						Run: ICP203-B_150910A 09/10/15 12:27		
Aluminum	24.7	mg/L	0.035	99	70	130			
Phosphorus	51.2	mg/L	0.10	102	70	130			
Silicon	58.4	mg/L	0.10	101	70	130			
<b>Lab ID: B15090742-009BMSD2</b>	Sample Matrix Spike Duplicate						Run: ICP203-B_150910A 09/10/15 12:31		
Aluminum	25.1	mg/L	0.035	101	70	130	1.6	20	
Phosphorus	52.0	mg/L	0.10	104	70	130	1.5	20	
Silicon	57.6	mg/L	0.10	100	70	130	1.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/18/15

**Project:** Job ID 1509044

**Work Order:** B15090770

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8									Analytical Run: ICPMS203-B_150910A
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard								09/10/15 10:16
Arsenic	0.0498	mg/L	0.0050	100	90	110			
Selenium	0.0495	mg/L	0.0050	99	90	110			
Silver	0.0253	mg/L	0.0050	101	90	110			
Thallium	0.0479	mg/L	0.10	96	90	110			
<b>Method:</b> E200.8									Batch: R249105
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								09/10/15 11:26
					Run: ICPMS203-B_150910A				
Arsenic	0.0499	mg/L	0.0050	100	85	115			
Selenium	0.0473	mg/L	0.0050	95	85	115			
Silver	0.0202	mg/L	0.0050	101	85	115			
Thallium	0.0516	mg/L	0.10	103	85	115			
<b>Lab ID:</b> LRB	Method Blank								09/10/15 11:54
					Run: ICPMS203-B_150910A				
Arsenic	ND	mg/L	5E-05						
Selenium	ND	mg/L	7E-05						
Silver	ND	mg/L	2E-05						
Thallium	ND	mg/L	1E-05						
<b>Lab ID:</b> B15090696-016CMS	Sample Matrix Spike								09/10/15 12:14
					Run: ICPMS203-B_150910A				
Arsenic	0.0532	mg/L	0.0010	106	70	130			
Selenium	0.0522	mg/L	0.0010	104	70	130			
Silver	0.0189	mg/L	0.0010	95	70	130			
Thallium	0.0532	mg/L	0.00050	106	70	130			
<b>Lab ID:</b> B15090696-016CMSD	Sample Matrix Spike Duplicate								09/10/15 12:18
					Run: ICPMS203-B_150910A				
Arsenic	0.0523	mg/L	0.0010	104	70	130	1.6	20	
Selenium	0.0541	mg/L	0.0010	108	70	130	3.7	20	
Silver	0.0221	mg/L	0.0010	110	70	130	15	20	
Thallium	0.0527	mg/L	0.00050	105	70	130	1.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/18/15

**Project:** Job ID 1509044

**Work Order:** B15090770

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8								Analytical Run: ICPMS203-B_150911A		
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard							09/11/15 12:12		
Antimony	0.0521	mg/L	0.050	104	90	110				
Cadmium	0.0259	mg/L	0.0010	104	90	110				
Lead	0.0492	mg/L	0.010	98	90	110				
Uranium	0.0190	mg/L	0.0010	95	90	110				
<b>Method:</b> E200.8								Batch: R249193		
<b>Lab ID:</b> LFB	Laboratory Fortified Blank							Run: ICPMS203-B_150911A 09/11/15 09:38		
Antimony	0.0471	mg/L	0.050	94	85	115				
Cadmium	0.0475	mg/L	0.0010	95	85	115				
Lead	0.0495	mg/L	0.010	99	85	115				
Uranium	0.0520	mg/L	0.0010	104	85	115				
<b>Lab ID:</b> LRB	Method Blank							Run: ICPMS203-B_150911A 09/11/15 10:18		
Antimony	ND	mg/L	1E-05							
Cadmium	1E-05	mg/L	5E-06							
Lead	ND	mg/L	3E-05							
Uranium	ND	mg/L	3E-06							
<b>Lab ID:</b> B15090781-001AMS	Sample Matrix Spike							Run: ICPMS203-B_150911A 09/11/15 15:42		
Antimony	0.0513	mg/L	0.0010	101	70	130				
Cadmium	0.0489	mg/L	0.0010	98	70	130				
Lead	0.0481	mg/L	0.0010	96	70	130				
Uranium	0.0495	mg/L	0.00030	99	70	130				
<b>Lab ID:</b> B15090781-001AMSD	Sample Matrix Spike Duplicate							Run: ICPMS203-B_150911A 09/11/15 15:46		
Antimony	0.0521	mg/L	0.0010	102	70	130	1.5	20		
Cadmium	0.0487	mg/L	0.0010	97	70	130	0.5	20		
Lead	0.0483	mg/L	0.0010	97	70	130	0.2	20		
Uranium	0.0500	mg/L	0.00030	100	70	130	1.0	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/18/15

**Project:** Job ID 1509044

**Work Order:** B15090770

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV203-B_150918A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Mercury	0.000204	mg/L	1.0E-05	102	90	110	09/18/15 14:28		
<b>Method:</b> E245.1									Batch: 93285
<b>Lab ID:</b> MB-93285	Method Blank								
Mercury	3E-06	mg/L	1E-06	Run: HGCV203-B_150918A		09/18/15 14:37			
<b>Lab ID:</b> LCS-93285	Laboratory Control Sample								
Mercury	0.000204	mg/L	1.0E-05	101	85	115	09/18/15 14:39		
<b>Lab ID:</b> B15090780-002AMS	Sample Matrix Spike								
Mercury	0.000267	mg/L	1.0E-05	99	70	130	09/18/15 14:58		
<b>Lab ID:</b> B15090780-002AMSD	Sample Matrix Spike Duplicate								
Mercury	0.000250	mg/L	1.0E-05	91	70	130	6.6	30	09/18/15 15:00

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15090770

Login completed by: Tabitha Edwards

Date Received: 9/9/2015

Reviewed by: BL2000\jmueller

Received by: Ig

Reviewed Date: 9/10/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	15.8°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# CHAIN OF CUSTODY RECORD

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <i>1</i> System: _____ Job ID: 1509044	All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Samplers Initials: _____ Water System #: _____
Notes: _____				
SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____				

Set Date	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/2/2015	C586-15 P, Q Pull# 12 -	Waste Water	Various Metals (Subcontracted)		
3:00 PM					

*15090770-001*

Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Sample Type
<i>[Signature]</i>		9/3/15	16:30	<i>UPS</i>			Composite
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Equipment Blank
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Equipment Blank
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Equipment Blank

*UPS 6:00 AM  
15.8° below ice  
no seals*



	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 –sub to Energy Lab	
	Antimony	0.0005 – 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 – 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 – 0.001 WETLAB	EPA 200.8
	Beryllium/	0.0008 – 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 –sub to Energy Lab/	
	Calcium	1.0 – 1.0 WETLAB	EPA 200.7
	Chromium	0.01 – 0.01 WETLAB	EPA 200.7
	Copper	0.002 – 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 – 0.2 WETLAB	EPA 300.0
	Iron /	0.02 – 0.02 WETLAB	EPA 200.7
	Lead	0.0003 – 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 – 1.0 WETLAB	EPA 200.7
	Manganese	0.005 – 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 –sub to Energy Lab/	
	Nickel	0.002 – 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 –sub to Energy Lab	EPA 200.7
	Selenium	0.001 –sub to Energy Lab/	EPA 200.8
	Silicon	0.05 – 0.05 <del>WETLAB</del>	EPA 200.7
	Silver /	0.0002 –sub to Energy Lab/	
	Strontium/	0.02 – 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 – 1.0 WETLAB	EPA 300.0
	Thallium	0.0002 –sub to Energy Lab	
	Uranium	0.0002 – 0.0002 <del>WETLAB</del>	EPA 200.8
	Zinc /	0.008 – 0.008 WETLAB	EPA 200.7
Alkalinity, Total (as Caco3)	1	2320B	
pH (standard units)	NA	4500H+B	
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	-
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe speciat  
 redox  
 EC





9/22/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509078

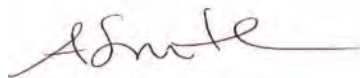
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/3/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509078

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### Specific Report Comments

The cation/anion balance for sample 1509078-001 was outside WETLAB acceptance criteria; however, reanalysis confirmed the original results.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: Black Butte Copper Diffusion Project

Date Printed: 9/22/2015

OrderID: 1509078

Customer Sample ID: C586-15 P,Q Pull# 13

Collect Date/Time: 9/3/2015 15:00

WETLAB Sample ID: 1509078-001

Receive Date: 9/3/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/4/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/4/2015	NV00925
pH	SM 4500-H+ B	8.89	HT pH Units	1		9/4/2015	NV00925
Temperature at pH	NA	21.6	°C	1		9/4/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/10/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		9/4/2015	NV00925
Acidity (Titrimetric)	SM 2310B	-1	mg/L as CaCO3	1		9/4/2015	NV00925
Total Alkalinity	SM 2320B	7.8	mg/L as CaCO3	1	1.0	9/8/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	7.8	mg/L as CaCO3	1	1.0	9/8/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/8/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/8/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/10/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	65	mg/L	1	10	9/4/2015	NV00925
Electrical Conductivity	SM 2510B	89	µmhos/cm	1	1	9/4/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/4/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/4/2015	NV00925
Sulfate	EPA 300.0	16	mg/L	1	1.0	9/4/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/8/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	M mg/L	1	0.20	9/10/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.058	mg/L	1	0.0030	9/4/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/4/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/4/2015	NV00925
Calcium, Dissolved	EPA 200.7	13	mg/L	1	0.50	9/4/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/4/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	9/4/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/4/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/4/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/4/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/4/2015	NV00925
Potassium, Dissolved	EPA 200.7	1.3	mg/L	1	0.50	9/4/2015	NV00925
Sodium, Dissolved	EPA 200.7	0.79	mg/L	1	0.50	9/4/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.22	mg/L	1	0.020	9/4/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	9/4/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**LAS VEGAS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C586-15 P,Q Pull# 13

Collect Date/Time: 9/3/2015 15:00

WETLAB Sample ID: 1509078-001

Receive Date: 9/3/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/10/2015	NV00925
Nickel, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/10/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	0.49	meq/L	1	0.10		NV00925
Cations	Calculation	0.72	meq/L	1	0.10		NV00925
Error	Calculation	19	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/4/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090274	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15090283	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090284	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15090288	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090297	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090304	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090309	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15090395	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15090403	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090245	LCS 1	pH	SM 4500-H+ B	7.01	7.00	100	pH Units
QC15090274	LCS 1	Barium, Dissolved	EPA 200.7	0.994	1.00	99	mg/L
		Beryllium, Dissolved	EPA 200.7	0.977	1.00	98	mg/L
		Boron, Dissolved	EPA 200.7	0.974	1.00	97	mg/L
		Calcium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Chromium, Dissolved	EPA 200.7	0.989	1.00	99	mg/L
		Cobalt, Dissolved	EPA 200.7	0.987	1.00	99	mg/L
		Iron, Dissolved	EPA 200.7	0.984	1.00	98	mg/L
		Magnesium, Dissolved	EPA 200.7	9.88	10.0	99	mg/L
		Manganese, Dissolved	EPA 200.7	0.970	1.00	97	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.985	1.00	98	mg/L
		Potassium, Dissolved	EPA 200.7	9.96	10.0	100	mg/L
		Sodium, Dissolved	EPA 200.7	9.95	10.0	100	mg/L
		Strontium, Dissolved	EPA 200.7	0.970	1.00	97	mg/L
		Zinc, Dissolved	EPA 200.7	1.05	1.00	105	mg/L
QC15090281	LCS 1	Redox Potential	ASTM D1498	223	221	101	mV
QC15090283	LCS 1	Electrical Conductivity	SM 2510B	1443	1412	102	µmhos/cm
QC15090284	LCS 1	Ferrous Iron	SM 3500 Fe B	0.940	1.00	94	mg/L
QC15090288	LCS 1	Chloride	EPA 300.0	10.6	10.0	106	mg/L
		Fluoride	EPA 300.0	2.18	2.00	109	mg/L
		Sulfate	EPA 300.0	25.0	25.0	100	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090290	LCS 1	Total Alkalinity	SM 2320B	98.4	100	98	mg/L
QC15090297	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.795	0.800	99	mg/L
QC15090304	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	151	150	101	mg/L
QC15090304	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	142	150	95	mg/L
QC15090309	LCS 1	Copper	EPA 200.8	0.0109	0.010	109	mg/L
		Nickel	EPA 200.8	0.0103	0.010	103	mg/L
QC15090395	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.991	1.00	99	mg/L
QC15090403	LCS 1	WAD Cyanide	SM 4500CN I, E	0.098	0.100	98	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090245	Duplicate	pH	SM 4500-H+ B	1509115-001	6.59	6.78	QD	pH Units 3 %
QC15090245	Duplicate	pH	SM 4500-H+ B	1509118-003	7.21	7.42	QD	pH Units 3 %
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508761-001	ND	ND	QD	mg/L as CaCO3 <1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508763-003	ND	ND		mg/L as CaCO3 <1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508757-001	ND	ND	QD	mg/L as CaCO3 <1%
QC15090281	Duplicate	Redox Potential	ASTM D1498	1509115-001	543	546		mV 1 %
QC15090281	Duplicate	Redox Potential	ASTM D1498	1509118-003	507	510		mV 1 %
QC15090281	Duplicate	Redox Potential	ASTM D1498	1509122-001	425	417		mV 2 %
QC15090283	Duplicate	Electrical Conductivity	SM 2510B	1509115-001	68.6	68.6		µmhos/cm <1%
QC15090283	Duplicate	Electrical Conductivity	SM 2510B	1509118-003	140	140		µmhos/cm <1%
QC15090283	Duplicate	Electrical Conductivity	SM 2510B	1509122-001	90.6	90.9		µmhos/cm <1%
QC15090284	Duplicate	Ferrous Iron	SM 3500 Fe B	1509115-001	ND	ND		mg/L <1%
QC15090284	Duplicate	Ferrous Iron	SM 3500 Fe B	1509118-003	ND	ND		mg/L 11 %
QC15090290	Duplicate	Total Alkalinity	SM 2320B	1508606-001	7.60	7.55		mg/L as CaCO3 1 %
		Bicarbonate (HCO3)	SM 2320B	1508606-001	3.24	3.09		mg/L as CaCO3 5 %
		Carbonate (CO3)	SM 2320B	1508606-001	4.36	4.36		mg/L as CaCO3 <1%
		Hydroxide (OH)	SM 2320B	1508606-001	ND	ND		mg/L as CaCO3 <1%
QC15090290	Duplicate	Total Alkalinity	SM 2320B	1509118-002	12.0	12.2		mg/L as CaCO3 1 %
		Bicarbonate (HCO3)	SM 2320B	1509118-002	12.0	12.2		mg/L as CaCO3 1 %
		Carbonate (CO3)	SM 2320B	1509118-002	ND	ND		mg/L as CaCO3 <1%
		Hydroxide (OH)	SM 2320B	1509118-002	ND	ND		mg/L as CaCO3 <1%
QC15090304	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509041-003	187	195		mg/L 4 %
QC15090304	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509083-004	600	591		mg/L 2 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090274	MS 1	Barium, Dissolved	EPA 200.7	1509078-001	0.058	1.05	1.03	1.00	mg/L	99	97	2%
		Beryllium, Dissolved	EPA 200.7	1509078-001	ND	1.00	0.994	1.00	mg/L	100	99	1%
		Boron, Dissolved	EPA 200.7	1509078-001	ND	0.986	0.978	1.00	mg/L	98	98	1%
		Calcium, Dissolved	EPA 200.7	1509078-001	13.1	21.9	21.5	10.0	mg/L	88	84	2%
		Chromium, Dissolved	EPA 200.7	1509078-001	ND	0.982	0.970	1.00	mg/L	98	97	1%
		Cobalt, Dissolved	EPA 200.7	1509078-001	ND	0.969	0.959	1.00	mg/L	97	96	1%
		Iron, Dissolved	EPA 200.7	1509078-001	ND	0.974	0.969	1.00	mg/L	97	97	1%
		Magnesium, Dissolved	EPA 200.7	1509078-001	ND	9.77	9.53	10.0	mg/L	97	95	2%
		Manganese, Dissolved	EPA 200.7	1509078-001	ND	0.966	0.955	1.00	mg/L	97	96	1%
		Molybdenum, Dissolved	EPA 200.7	1509078-001	ND	0.977	0.977	1.00	mg/L	97	97	<1%
		Potassium, Dissolved	EPA 200.7	1509078-001	1.28	11.2	11.2	10.0	mg/L	99	99	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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 EPA LAB ID: NV00932



QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Sodium, Dissolved	EPA 200.7	1509078-001	0.790	10.8	10.8	10.0	mg/L	100	100	<1%
		Strontium, Dissolved	EPA 200.7	1509078-001	0.222	1.19	1.18	1.00	mg/L	97	96	1%
		Zinc, Dissolved	EPA 200.7	1509078-001	ND	1.04	1.02	1.00	mg/L	104	102	2%
QC15090288	MS 1	Chloride	EPA 300.0	1509113-004	288	309	306	5.00	mg/L	84	72	1%
		Fluoride	EPA 300.0	1509113-004	ND	D 10.0	9.92	2.00	mg/L	97	96	1%
		Sulfate	EPA 300.0	1509113-004	23.0	70.0	69.3	10.0	mg/L	94	93	1%
QC15090288	MS 2	Chloride	EPA 300.0	1509102-001	8.14	13.9	14.0	5.00	mg/L	116	117	1%
		Fluoride	EPA 300.0	1509102-001	0.234	2.28	2.30	2.00	mg/L	103	103	1%
		Sulfate	EPA 300.0	1509102-001	26.7	36.6	36.7	10.0	mg/L	99	100	<1%
QC15090297	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509078-001	ND	5.17	5.11	1.00	mg/L	103	102	1%
QC15090297	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509082-006	0.300	5.43	5.37	1.00	mg/L	103	101	1%
QC15090309	MS 1	Copper, Dissolved	EPA 200.8	1509078-001	ND	0.0118	0.0103	0.010	mg/L	114	99	14%
		Nickel, Dissolved	EPA 200.8	1509078-001	ND	0.0106	0.0104	0.010	mg/L	102	101	2%
QC15090395	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509078-001	ND	M 1.17	1.18	1.00	mg/L	NC	NC	NC
QC15090395	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509100-001	ND	M 0.820	0.853	1.00	mg/L	NC	NC	NC
QC15090403	MS 1	WAD Cyanide	SM 4500CN I,	1509044-001	ND	0.101	0.102	0.100	mg/L	103	104	1%
QC15090403	MS 2	WAD Cyanide	SM 4500CN I,	1509111-003	0.031	0.126	0.128	0.100	mg/L	95	98	2%

**SPARKS**

475 E. Greg Street, Suite 119  
 Sparks, Nevada 89431  
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 tel (702) 475-8899  
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 EPA LAB ID: NV00932



# ANALYTICAL SUMMARY REPORT

September 18, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15090779  
Project Name: Job ID 1509078

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/9/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15090779-001	C586-15 P,Q Pull# 13	09/03/15 15:00	09/09/15	Waste Water	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509078  
**Lab ID:** B15090779-001  
**Client Sample ID:** C586-15 P,Q Pull# 13

**Report Date:** 09/18/15  
**Collection Date:** 09/03/15 15:00  
**Date Received:** 09/09/15  
**Matrix:** Waste Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.210	mg/L		0.009		E200.7	09/10/15 12:48 / r/h
Antimony	0.0010	mg/L		0.0005		E200.8	09/11/15 15:26 / amm
Arsenic	0.022	mg/L		0.001		E200.8	09/10/15 12:34 / amm
Cadmium	ND	mg/L		0.00003		E200.8	09/11/15 15:26 / amm
Lead	ND	mg/L		0.0002		E200.8	09/11/15 15:26 / amm
Mercury	0.0000220	mg/L		5E-06		E245.1	09/17/15 15:32 / ser
Phosphorus	0.026	mg/L	L	0.007		E200.7	09/10/15 12:48 / r/h
Selenium	ND	mg/L		0.001		E200.8	09/10/15 12:34 / amm
Silicon	0.33	mg/L		0.05		E200.7	09/10/15 12:48 / r/h
Silver	ND	mg/L		0.0002		E200.8	09/10/15 12:34 / amm
Thallium	0.0003	mg/L		0.0002		E200.8	09/10/15 12:34 / amm
Uranium	ND	mg/L		0.0002		E200.8	09/11/15 15:26 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/18/15

**Project:** Job ID 1509078

**Work Order:** B15090779

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>							Analytical Run: ICP203-B_150910A		
<b>Lab ID: ICV</b>	Continuing Calibration Verification Standard						09/10/15 09:30		
Aluminum	2.42	mg/L	0.10	97	95	105			
Phosphorus	2.36	mg/L	0.10	95	95	105			
Silicon	4.97	mg/L	0.10	99	95	105			
<b>Method: E200.7</b>							Batch: R249081		
<b>Lab ID: MB-6500DIS150910A</b>	Method Blank						Run: ICP203-B_150910A 09/10/15 09:58		
Aluminum	ND	mg/L	0.007						
Phosphorus	ND	mg/L	0.007						
Silicon	ND	mg/L	0.01						
<b>Lab ID: LFB-6500DIS150910A</b>	Laboratory Fortified Blank						Run: ICP203-B_150910A 09/10/15 10:02		
Aluminum	4.75	mg/L	0.10	95	85	115			
Phosphorus	8.90	mg/L	0.10	89	85	115			
Silicon	9.77	mg/L	0.10	98	85	115			
<b>Lab ID: B15090742-009BMS2</b>	Sample Matrix Spike						Run: ICP203-B_150910A 09/10/15 12:27		
Aluminum	24.7	mg/L	0.035	99	70	130			
Phosphorus	51.2	mg/L	0.10	102	70	130			
Silicon	58.4	mg/L	0.10	101	70	130			
<b>Lab ID: B15090742-009BMSD2</b>	Sample Matrix Spike Duplicate						Run: ICP203-B_150910A 09/10/15 12:31		
Aluminum	25.1	mg/L	0.035	101	70	130	1.6	20	
Phosphorus	52.0	mg/L	0.10	104	70	130	1.5	20	
Silicon	57.6	mg/L	0.10	100	70	130	1.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/18/15

**Project:** Job ID 1509078

**Work Order:** B15090779

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8									Analytical Run: ICPMS203-B_150910A
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard								09/10/15 10:16
Arsenic	0.0498	mg/L	0.0050	100	90	110			
Selenium	0.0495	mg/L	0.0050	99	90	110			
Silver	0.0253	mg/L	0.0050	101	90	110			
Thallium	0.0479	mg/L	0.10	96	90	110			
<b>Method:</b> E200.8									Batch: R249105
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								Run: ICPMS203-B_150910A 09/10/15 11:26
Arsenic	0.0499	mg/L	0.0050	100	85	115			
Selenium	0.0473	mg/L	0.0050	95	85	115			
Silver	0.0202	mg/L	0.0050	101	85	115			
Thallium	0.0516	mg/L	0.10	103	85	115			
<b>Lab ID:</b> LRB	Method Blank								Run: ICPMS203-B_150910A 09/10/15 11:54
Arsenic	ND	mg/L	5E-05						
Selenium	ND	mg/L	7E-05						
Silver	ND	mg/L	2E-05						
Thallium	ND	mg/L	1E-05						
<b>Lab ID:</b> B15090696-016CMS	Sample Matrix Spike								Run: ICPMS203-B_150910A 09/10/15 12:14
Arsenic	0.0532	mg/L	0.0010	106	70	130			
Selenium	0.0522	mg/L	0.0010	104	70	130			
Silver	0.0189	mg/L	0.0010	95	70	130			
Thallium	0.0532	mg/L	0.00050	106	70	130			
<b>Lab ID:</b> B15090696-016CMSD	Sample Matrix Spike Duplicate								Run: ICPMS203-B_150910A 09/10/15 12:18
Arsenic	0.0523	mg/L	0.0010	104	70	130	1.6	20	
Selenium	0.0541	mg/L	0.0010	108	70	130	3.7	20	
Silver	0.0221	mg/L	0.0010	110	70	130	15	20	
Thallium	0.0527	mg/L	0.00050	105	70	130	1.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/18/15

**Project:** Job ID 1509078

**Work Order:** B15090779

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8							Analytical Run: ICPMS203-B_150911A			
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard						09/11/15 12:12			
Antimony	0.0521	mg/L	0.050	104	90	110				
Cadmium	0.0259	mg/L	0.0010	104	90	110				
Lead	0.0492	mg/L	0.010	98	90	110				
Uranium	0.0190	mg/L	0.0010	95	90	110				
<b>Method:</b> E200.8							Batch: R249193			
<b>Lab ID:</b> LFB	Laboratory Fortified Blank						Run: ICPMS203-B_150911A		09/11/15 09:38	
Antimony	0.0471	mg/L	0.050	94	85	115				
Cadmium	0.0475	mg/L	0.0010	95	85	115				
Lead	0.0495	mg/L	0.010	99	85	115				
Uranium	0.0520	mg/L	0.0010	104	85	115				
<b>Lab ID:</b> LRB	Method Blank						Run: ICPMS203-B_150911A		09/11/15 10:18	
Antimony	ND	mg/L	1E-05							
Cadmium	1E-05	mg/L	5E-06							
Lead	ND	mg/L	3E-05							
Uranium	ND	mg/L	3E-06							
<b>Lab ID:</b> B15090781-001AMS	Sample Matrix Spike						Run: ICPMS203-B_150911A		09/11/15 15:42	
Antimony	0.0513	mg/L	0.0010	101	70	130				
Cadmium	0.0489	mg/L	0.0010	98	70	130				
Lead	0.0481	mg/L	0.0010	96	70	130				
Uranium	0.0495	mg/L	0.00030	99	70	130				
<b>Lab ID:</b> B15090781-001AMSD	Sample Matrix Spike Duplicate						Run: ICPMS203-B_150911A		09/11/15 15:46	
Antimony	0.0521	mg/L	0.0010	102	70	130	1.5	20		
Cadmium	0.0487	mg/L	0.0010	97	70	130	0.5	20		
Lead	0.0483	mg/L	0.0010	97	70	130	0.2	20		
Uranium	0.0500	mg/L	0.00030	100	70	130	1.0	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/18/15

**Project:** Job ID 1509078

**Work Order:** B15090779

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV203-B_150917A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Mercury	0.000204	mg/L	1.0E-05	102	90	110			09/17/15 15:18
<b>Method:</b> E245.1									Batch: 93255
<b>Lab ID:</b> MB-93255	Method Blank								
Mercury	2E-06	mg/L	1E-06						Run: HGCV203-B_150917A 09/17/15 15:27
<b>Lab ID:</b> LCS-93255	Laboratory Control Sample								
Mercury	0.000197	mg/L	1.0E-05	97	85	115			Run: HGCV203-B_150917A 09/17/15 15:30
<b>Lab ID:</b> B15091283-001BMS	Sample Matrix Spike								
Mercury	0.000209	mg/L	1.0E-05	100	70	130			Run: HGCV203-B_150917A 09/17/15 15:43
<b>Lab ID:</b> B15091283-001BMSD	Sample Matrix Spike Duplicate								
Mercury	0.000205	mg/L	1.0E-05	98	70	130	1.9	30	Run: HGCV203-B_150917A 09/17/15 15:45

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15090779

Login completed by: Tabitha Edwards

Date Received: 9/9/2015

Reviewed by: BL2000\jmueller

Received by: Ig

Reviewed Date: 9/10/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	15.8°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None





# CHAIN OF CUSTODY RECORD

**Western Environmental Testing Laboratory**  
 475 E. Greg Street #119  
 Sparks, NV 89431  
 Kurt Clarkson Ph: (775) 355-0202  
 kurtc@WETLaboratory.com Fax: (775) 355-0817

Total # of sample containers: Emergency 1  
 System: \_\_\_\_\_  
 Job ID: 1509078  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_

All Samples Refrigerated?: Y ( ) N ( )  
 Compliance: Y X N  
 CA Write ON: Y N X  
 QC: Y X N  
 Water System #: \_\_\_\_\_

Notes: \_\_\_\_\_  
 SIGNATURE OF COMPANY REPRESENTATIVE: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Set Date	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/3/2015	C586-15 P.O. Pull# 13 -	Waste Water	Various Metals (Subcontracted)		
3:00 PM					B15090779-001

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Sample Type			
						Trip Blank	Grab	Composite	Equipment Blank
	9-3-15	6:30	UPS			Trip Blank	Grab	Composite	Equipment Blank
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank

WBS 6194  
 15.8 ml ice  
 no seal

	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 –sub to Energy Lab	
	Antimony	0.0005 – 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 – 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 – 0.001 WETLAB	EPA 200.8
	Beryllium/	0.0008 – 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 –sub to Energy Lab/	
	Calcium	1.0 – 1.0 WETLAB	EPA 200.7
	Chromium	0.01 – 0.01 WETLAB	EPA 200.7
	Copper	0.002 – 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 – 0.2 WETLAB	EPA 300.0
	Iron /	0.02 – 0.02 WETLAB	EPA 200.7
	Lead	0.0003 – 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 – 1.0 WETLAB	EPA 200.7
	Manganese	0.005 – 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 –sub to Energy Lab/	
	Nickel	0.002 – 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 –sub to Energy Lab	EPA 200.7
	Selenium	0.001 –sub to Energy Lab /	EPA 200.8
	Silicon	0.05 – 0.05 <del>WETLAB</del>	EPA 200.7
	Silver /	0.0002 –sub to Energy Lab/	
	Strontium/	0.02 – 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 – 1.0 WETLAB	EPA 300.0
	Thallium	0.0002 –sub to Energy Lab	
	Uranium	0.0002 – 0.0002 <del>WETLAB</del>	EPA 200.8
	Zinc /	0.008 – 0.008 WETLAB	EPA 200.7
Alkalinity, Total (as Caco3)	1	2320B	
pH (standard units)	NA	4500H+B	
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	-
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe speciat  
 redox  
 EC





9/23/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509122

Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/4/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Jennifer Delaney  
QA Specialist

**SPARKS**

475 E. Greg Street, Suite 119  
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fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

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1084 Lamoille Hwy  
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tel (775) 777-9933  
fax (775) 777-9933  
EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1509122

---

### Specific Report Comments

The cation/anion balance for sample 1509122-001 was outside WETLAB acceptance criteria. This sample has historically failed the balance parameter.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

#### **SPARKS**

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fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

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EPA LAB ID: NV00926

#### **LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: Black Butte Copper Diffusion Project

Date Printed: 9/23/2015

OrderID: 1509122

Customer Sample ID: C586-15 P,Q Pull #14

Collect Date/Time: 9/4/2015 15:00

WETLAB Sample ID: 1509122-001

Receive Date: 9/4/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/4/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/8/2015	NV00925
pH	SM 4500-H+ B	7.15	HT pH Units	1		9/9/2015	NV00925
Temperature at pH	NA	24.4	°C	1		9/8/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/17/2015	NV00925
Redox Potential	ASTM D1498	420	mV	1		9/4/2015	NV00925
Acidity (Titrimetric)	SM 2310B	22	QD mg/L as CaCO3	1		9/9/2015	NV00925
Total Alkalinity	SM 2320B	9.4	mg/L as CaCO3	1	1.0	9/9/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	9.4	mg/L as CaCO3	1	1.0	9/9/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/9/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/9/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/16/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	63	mg/L	1	10	9/8/2015	NV00925
Electrical Conductivity	SM 2510B	91	µmhos/cm	1	1	9/4/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/9/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/9/2015	NV00925
Sulfate	EPA 300.0	15	mg/L	1	1.0	9/9/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/9/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/16/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.055	mg/L	1	0.0030	9/8/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	9/8/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	9/8/2015	NV00925
Calcium, Dissolved	EPA 200.7	13	mg/L	1	0.50	9/8/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/8/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	9/8/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/8/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	9/8/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	9/8/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	9/8/2015	NV00925
Potassium, Dissolved	EPA 200.7	1.2	mg/L	1	0.50	9/8/2015	NV00925
Sodium, Dissolved	EPA 200.7	1.0	mg/L	1	0.50	9/8/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.22	mg/L	1	0.020	9/8/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C586-15 P,Q Pull #14

Collect Date/Time: 9/4/2015 15:00

WETLAB Sample ID: 1509122-001

Receive Date: 9/4/2015 15:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	9/8/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/10/2015	NV00925
Nickel, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/10/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	0.50	meq/L	1	0.10		NV00925
Cations	Calculation	0.72	meq/L	1	0.10		NV00925
Error	Calculation	18	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		9/8/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090283	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090284	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15090312	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15090316	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15090351	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090376	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090404	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090621	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15090634	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090281	LCS 1	Redox Potential	ASTM D1498	223	221	101	mV
QC15090283	LCS 1	Electrical Conductivity	SM 2510B	1443	1412	102	µmhos/cm
QC15090284	LCS 1	Ferrous Iron	SM 3500 Fe B	0.940	1.00	94	mg/L
QC15090312	LCS 1	Copper	EPA 200.8	0.0102	0.010	102	mg/L
		Nickel	EPA 200.8	0.0100	0.010	100	mg/L
QC15090316	LCS 1	Barium, Dissolved	EPA 200.7	0.896	1.00	90	mg/L
		Beryllium, Dissolved	EPA 200.7	0.940	1.00	94	mg/L
		Boron, Dissolved	EPA 200.7	0.914	1.00	91	mg/L
		Calcium, Dissolved	EPA 200.7	9.57	10.0	96	mg/L
		Chromium, Dissolved	EPA 200.7	0.902	1.00	90	mg/L
		Cobalt, Dissolved	EPA 200.7	0.921	1.00	92	mg/L
		Iron, Dissolved	EPA 200.7	0.908	1.00	91	mg/L
		Magnesium, Dissolved	EPA 200.7	9.00	10.0	90	mg/L
		Manganese, Dissolved	EPA 200.7	0.921	1.00	92	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.923	1.00	92	mg/L
		Potassium, Dissolved	EPA 200.7	9.43	10.0	94	mg/L
		Sodium, Dissolved	EPA 200.7	9.77	10.0	98	mg/L
		Strontium, Dissolved	EPA 200.7	0.933	1.00	93	mg/L
		Zinc, Dissolved	EPA 200.7	0.979	1.00	98	mg/L
QC15090351	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.764	0.800	96	mg/L
QC15090362	LCS 1	pH	SM 4500-H+ B	7.02	7.00	100	pH Units

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090376	LCS 1	Chloride	EPA 300.0	10.1	10.0	101	mg/L
		Fluoride	EPA 300.0	1.90	2.00	95	mg/L
		Sulfate	EPA 300.0	22.8	25.0	91	mg/L
QC15090381	LCS 1	Total Alkalinity	SM 2320B	102	100	102	mg/L
QC15090381	LCS 2	Total Alkalinity	SM 2320B	101	100	101	mg/L
QC15090381	LCS 3	Total Alkalinity	SM 2320B	102	100	102	mg/L
QC15090404	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	135	150	90	mg/L
QC15090404	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	162	150	108	mg/L
QC15090621	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.06	1.00	106	mg/L
QC15090634	LCS 1	WAD Cyanide	SM 4500CN I, E	0.105	0.100	105	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090281	Duplicate	Redox Potential	ASTM D1498	1509115-001	543	546	mV	1 %
QC15090281	Duplicate	Redox Potential	ASTM D1498	1509118-003	507	510	mV	1 %
QC15090281	Duplicate	Redox Potential	ASTM D1498	1509122-001	425	417	mV	2 %
QC15090283	Duplicate	Electrical Conductivity	SM 2510B	1509115-001	68.6	68.6	µmhos/cm	<1%
QC15090283	Duplicate	Electrical Conductivity	SM 2510B	1509118-003	140	140	µmhos/cm	<1%
QC15090283	Duplicate	Electrical Conductivity	SM 2510B	1509122-001	90.6	90.9	µmhos/cm	<1%
QC15090284	Duplicate	Ferrous Iron	SM 3500 Fe B	1509115-001	ND	ND	mg/L	<1%
QC15090284	Duplicate	Ferrous Iron	SM 3500 Fe B	1509118-003	ND	ND	mg/L	11 %
QC15090362	Duplicate	pH	SM 4500-H+ B	1509161-001	6.33	6.19	QD pH Units	2 %
QC15090362	Duplicate	pH	SM 4500-H+ B	1509163-003	7.04	7.26	QD pH Units	3 %
QC15090381	Duplicate	Total Alkalinity	SM 2320B	1509113-001	348	348	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509113-001	348	348	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509113-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509113-001	ND	ND	mg/L as CaCO3	<1%
QC15090381	Duplicate	Total Alkalinity	SM 2320B	1509114-005	207	207	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509114-005	207	207	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509114-005	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509114-005	ND	ND	mg/L as CaCO3	<1%
QC15090381	Duplicate	Total Alkalinity	SM 2320B	1509083-004	420	420	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509083-004	420	420	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509083-004	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509083-004	ND	ND	mg/L as CaCO3	<1%
QC15090381	Duplicate	Total Alkalinity	SM 2320B	1509111-001	232	231	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509111-001	232	231	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509111-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509111-001	ND	ND	mg/L as CaCO3	<1%
QC15090381	Duplicate	Total Alkalinity	SM 2320B	1509112-002	242	242	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509112-002	242	242	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509112-002	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509112-002	ND	ND	mg/L as CaCO3	<1%
QC15090381	Duplicate	Total Alkalinity	SM 2320B	1509123-002	78.6	77.8	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509123-002	78.6	77.8	mg/L as CaCO3	1 %

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QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090381	Duplicate	Carbonate (CO3)	SM 2320B	1509123-002	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509123-002	ND	ND	mg/L as CaCO3	<1%
		Total Alkalinity	SM 2320B	1509133-002	163	161	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509133-002	163	161	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509133-002	ND	ND	mg/L as CaCO3	<1%
QC15090404	Duplicate	Hydroxide (OH)	SM 2320B	1509133-002	ND	ND	mg/L as CaCO3	<1%
		Total Dissolved Solids (TDS)	SM 2540C	1509110-003	387	371	mg/L	4 %
QC15090404	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509112-004	588	580	mg/L	1 %
QC15090616	Duplicate	Acidity (Titrimetric)	SM 2310B	1509122-001	21.7	17.2	QD mg/L as CaCO3	23 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090312	MS 1	Copper, Dissolved	EPA 200.8	1509121-001	ND	0.0121	0.0117	0.010	mg/L	101	97	3%
QC15090316	MS 1	Nickel, Dissolved	EPA 200.8	1509121-001	ND	M 0.0153	0.0115	0.010	mg/L	NC	NC	NC
		Barium, Dissolved	EPA 200.7	1509121-001	0.048	0.867	0.941	1.00	mg/L	82	89	8%
		Beryllium, Dissolved	EPA 200.7	1509121-001	ND	0.872	0.946	1.00	mg/L	87	95	8%
		Boron, Dissolved	EPA 200.7	1509121-001	0.137	0.993	1.08	1.00	mg/L	86	94	8%
		Calcium, Dissolved	EPA 200.7	1509121-001	18.3	25.7	26.4	10.0	mg/L	74	81	3%
		Chromium, Dissolved	EPA 200.7	1509121-001	ND	0.824	0.907	1.00	mg/L	82	91	10%
		Cobalt, Dissolved	EPA 200.7	1509121-001	ND	0.828	0.917	1.00	mg/L	83	92	10%
		Iron, Dissolved	EPA 200.7	1509121-001	0.880	1.66	1.74	1.00	mg/L	78	86	5%
		Magnesium, Dissolved	EPA 200.7	1509121-001	2.54	10.7	11.4	10.0	mg/L	82	89	6%
		Manganese, Dissolved	EPA 200.7	1509121-001	0.185	1.02	1.11	1.00	mg/L	84	92	8%
		Molybdenum, Dissolved	EPA 200.7	1509121-001	ND	0.944	0.934	1.00	mg/L	94	93	1%
		Potassium, Dissolved	EPA 200.7	1509121-001	11.4	18.9	19.8	10.0	mg/L	75	84	5%
		Sodium, Dissolved	EPA 200.7	1509121-001	67.2	SC 70.3	71.5	10.0	mg/L	NC	NC	NC
		Strontium, Dissolved	EPA 200.7	1509121-001	ND	0.915	1.03	1.00	mg/L	83	94	12%
Zinc, Dissolved	EPA 200.7	1509121-001	ND	0.882	0.976	1.00	mg/L	88	97	10%		
QC15090351	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509110-003	1.82	6.81	6.83	1.00	mg/L	100	100	<1%
QC15090351	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509121-001	ND	5.04	5.10	1.00	mg/L	101	102	1%
QC15090376	MS 1	Chloride	EPA 300.0	1509117-001	ND	D 10.4	10.5	5.00	mg/L	99	100	1%
		Fluoride	EPA 300.0	1509117-001	ND	D 4.07	4.13	2.00	mg/L	98	99	1%
		Sulfate	EPA 300.0	1509117-001	47.8	67.1	67.6	10.0	mg/L	96	99	1%
QC15090376	MS 2	Chloride	EPA 300.0	1509123-008	40.2	93.2	91.8	5.00	mg/L	106	103	2%
		Fluoride	EPA 300.0	1509123-008	ND	D 19.7	19.0	2.00	mg/L	95	92	4%
		Sulfate	EPA 300.0	1509123-008	612	705	706	10.0	mg/L	93	94	<1%
QC15090621	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509131-001	0.567	M 1.81	1.65	1.00	mg/L	NC	NC	NC
QC15090621	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509139-002	0.246	M 1.51	1.46	1.00	mg/L	NC	NC	NC
QC15090634	MS 1	WAD Cyanide	SM 4500CN I,	1509121-001	ND	0.097	0.091	0.100	mg/L	97	91	6%
QC15090634	MS 2	WAD Cyanide	SM 4500CN I,	1509281-001	ND	0.094	0.093	0.100	mg/L	93	92	1%

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# ANALYTICAL SUMMARY REPORT

September 22, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15091184

Project Name: Job ID 1509122

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/14/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15091184-001	C589-15 P,Q Pull #14 -	09/04/15 15:00	09/14/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509122  
**Lab ID:** B15091184-001  
**Client Sample ID:** C589-15 P,Q Pull #14 -

**Report Date:** 09/22/15  
**Collection Date:** 09/04/15 15:00  
**Date Received:** 09/14/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.200	mg/L		0.009		E200.8	09/16/15 06:10 / mas
Antimony	0.0008	mg/L		0.0005		E200.8	09/16/15 06:10 / mas
Arsenic	0.019	mg/L		0.001		E200.8	09/16/15 06:10 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/16/15 06:10 / mas
Lead	ND	mg/L		0.0002		E200.8	09/16/15 06:10 / mas
Mercury	0.0000272	mg/L		5E-06		E245.1	09/21/15 14:10 / ser
Phosphorus	ND	mg/L	L	0.007		E200.7	09/15/15 19:50 / mas
Selenium	ND	mg/L		0.001		E200.8	09/16/15 06:10 / mas
Silicon	0.30	mg/L		0.05		E200.7	09/15/15 19:50 / mas
Silver	ND	mg/L		0.0002		E200.8	09/16/15 06:10 / mas
Thallium	0.0002	mg/L		0.0002		E200.8	09/16/15 06:10 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/16/15 06:10 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/22/15

**Project:** Job ID 1509122

**Work Order:** B15091184

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150915A			
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard									09/15/15 13:55
Phosphorus		2.53	mg/L	0.10	101	95	105				
Silicon		5.14	mg/L	0.10	103	95	105				
<b>Method: E200.7</b>								Batch: R249346			
<b>Lab ID: MB-6500DIS150915A</b>	2	Method Blank						Run: ICP203-B_150915A			09/15/15 14:24
Phosphorus		ND	mg/L	0.007							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS150915A</b>	2	Laboratory Fortified Blank						Run: ICP203-B_150915A			09/15/15 14:27
Phosphorus		10.4	mg/L	0.10	104	85	115				
Silicon		10.5	mg/L	0.10	105	85	115				
<b>Lab ID: B15091175-007BMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_150915A			09/15/15 19:25
Phosphorus		10.2	mg/L	0.10	102	70	130				
Silicon		15.6	mg/L	0.10	98	70	130				
<b>Lab ID: B15091175-007BMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_150915A			09/15/15 19:29
Phosphorus		10.4	mg/L	0.10	104	70	130	2.0	20		
Silicon		15.9	mg/L	0.10	101	70	130	2.0	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/22/15

**Project:** Job ID 1509122

**Work Order:** B15091184

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_150914A	
<b>Lab ID: QCS</b>	9	Initial Calibration Verification Standard							09/15/15 19:39		
Aluminum		0.251	mg/L	0.10	100	90	110				
Antimony		0.0520	mg/L	0.050	104	90	110				
Arsenic		0.0497	mg/L	0.0050	99	90	110				
Cadmium		0.0253	mg/L	0.0010	101	90	110				
Lead		0.0504	mg/L	0.010	101	90	110				
Selenium		0.0491	mg/L	0.0050	98	90	110				
Silver		0.0240	mg/L	0.0050	96	90	110				
Thallium		0.0498	mg/L	0.10	100	90	110				
Uranium		0.0207	mg/L	0.0010	104	90	110				
<b>Method: E200.8</b>										Batch: R249301	
<b>Lab ID: LRB</b>	9	Method Blank							Run: ICPMS206-B_150914A 09/14/15 13:08		
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: B15091185-001AMS</b>	9	Sample Matrix Spike							Run: ICPMS206-B_150914A 09/16/15 06:34		
Aluminum		0.0544	mg/L	0.030	94	70	130				
Antimony		0.0546	mg/L	0.0010	109	70	130				
Arsenic		0.0509	mg/L	0.0010	97	70	130				
Cadmium		0.0468	mg/L	0.0010	94	70	130				
Lead		0.0483	mg/L	0.0010	96	70	130				
Selenium		0.0490	mg/L	0.0010	98	70	130				
Silver		0.0105	mg/L	0.0010	52	70	130			S	
Thallium		0.0476	mg/L	0.00050	94	70	130				
Uranium		0.0498	mg/L	0.00030	100	70	130				
<b>Lab ID: B15091185-001AMSD</b>	9	Sample Matrix Spike Duplicate							Run: ICPMS206-B_150914A 09/16/15 06:39		
Aluminum		0.0566	mg/L	0.030	98	70	130	4.0	20		
Antimony		0.0538	mg/L	0.0010	107	70	130	1.4	20		
Arsenic		0.0519	mg/L	0.0010	99	70	130	1.9	20		
Cadmium		0.0479	mg/L	0.0010	96	70	130	2.4	20		
Lead		0.0484	mg/L	0.0010	97	70	130	0.3	20		
Selenium		0.0474	mg/L	0.0010	95	70	130	3.4	20		
Silver		0.0114	mg/L	0.0010	57	70	130	8.5	20	S	
Thallium		0.0483	mg/L	0.00050	96	70	130	1.4	20		
Uranium		0.0492	mg/L	0.00030	98	70	130	1.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/22/15

**Project:** Job ID 1509122

**Work Order:** B15091184

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R249301
<b>Lab ID:</b> LFB	9	Laboratory Fortified Blank								Run: ICPMS206-B_150914A 09/16/15 08:33
Aluminum		0.0484	mg/L	0.10	97	85	115			
Antimony		0.0477	mg/L	0.050	95	85	115			
Arsenic		0.0470	mg/L	0.0050	94	85	115			
Cadmium		0.0477	mg/L	0.0010	95	85	115			
Lead		0.0480	mg/L	0.010	96	85	115			
Selenium		0.0485	mg/L	0.0050	97	85	115			
Silver		0.0178	mg/L	0.0050	89	85	115			
Thallium		0.0471	mg/L	0.10	94	85	115			
Uranium		0.0499	mg/L	0.0010	100	85	115			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/22/15

**Project:** Job ID 1509122

**Work Order:** B15091184

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150921A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/21/15 13:56	
Mercury		0.000207	mg/L	1.0E-05	104	90	110				
<b>Method:</b> E245.1										Batch: 93313	
<b>Lab ID:</b> MB-93313		Method Blank								Run: HGCV203-B_150921A	09/21/15 14:05
Mercury		2E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93313		Laboratory Control Sample								Run: HGCV203-B_150921A	09/21/15 14:07
Mercury		0.000210	mg/L	1.0E-05	104	85	115				
<b>Lab ID:</b> B15091184-001AMS		Sample Matrix Spike								Run: HGCV203-B_150921A	09/21/15 14:15
Mercury		0.000233	mg/L	1.0E-05	103	70	130				
<b>Lab ID:</b> B15091184-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150921A	09/21/15 14:18
Mercury		0.000232	mg/L	1.0E-05	102	70	130	0.4	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15091184

Login completed by: Lisa Gancze

Date Received: 9/14/2015

Reviewed by: BL2000\jmueller

Received by: jrz

Reviewed Date: 9/15/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	12.6°C Melted Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

None



# CHAIN OF CUSTODY RECORD

<b>Western Environmental Testing Laboratory</b> 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <u>5</u> System: _____ Job ID: 1509122	All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Samplers Initials: _____ Notes: _____ Date: _____ Time: _____
Sample Receipt Condition: <u>UP 5 GND / ND SEALS</u> Temperature: <u>12.6°C MELTED ICE</u>		SIGNATURE OF COMPANY REPRESENTATIVE: _____		

Set Date	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/4/2015	C588-15 P,Q Pull #14	Waste Water	Various Metals (Subcontracted)		
3:00 PM					

*B15091184-001*

		Sample Type			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
<i>[Signature]</i>			<i>[Signature]</i>		
			<i>UP S</i>		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
			<i>[Signature]</i>		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
			<i>JR Zorner</i>	<i>9/14</i>	<i>0915</i>



	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 -sub to Energy Lab	
	Antimony	0.0005 - 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 - 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 - 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 - 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 -sub to Energy Lab	
	Calcium	1.0 - 1.0 WETLAB	EPA 200.7
	Chromium	0.01 - 0.01 WETLAB	EPA 200.7
	Copper	0.002 - 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
	Iron	0.02 - 0.02 WETLAB	EPA 200.7
	Lead	0.0003 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
	Manganese	0.005 - 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 -sub to Energy Lab	
	Nickel	0.002 - 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 -sub to Energy Lab	EPA 200.7
	Selenium	0.001 -sub to Energy Lab	EPA 200.8
	Silicon	0.05 - 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 -sub to Energy Lab	
	Strontium	0.02 - 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
	Thallium	0.0002 -sub to Energy Lab	
	Uranium	0.0002 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Zinc	0.008 - 0.008 WETLAB	EPA 200.7
	Alkalinity, Total (as CaCO3)	1	2320B
	pH (standard units)	NA	4500H+B
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	-
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe speciat  
 redox  
 EC





## **Appendix D:**

WETLab HCT Results

11/19/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1508607  
***Amended***

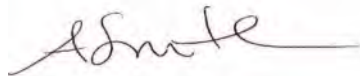
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 8/25/2015. Additional comments are located on page 2 of this report.

This is an amended report that includes corrected sample IDs. If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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Sparks, Nevada 89431  
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fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

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EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1508607 Amended

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 11/19/2015

OrderID: 1508607

Amended

Customer Sample ID: C586-15 P,Q WK: 0

Collect Date/Time: 8/25/2015 09:00

WETLAB Sample ID: 1508607-001

Receive Date: 8/25/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/25/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/26/2015	NV00925
pH	SM 4500-H+ B	6.55	pH Units	1		8/27/2015	NV00925
Temperature at pH	NA	22.4	°C	1		8/27/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	8/27/2015	NV00925
Redox Potential	ASTM D1498	520	mV	1		8/25/2015	NV00925
Acidity (Titrimetric)	SM 2310B	4	mg/L as CaCO3	1		9/2/2015	NV00925
Total Alkalinity	SM 2320B	2.3	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	2.3	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	8/29/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	160	mg/L	1	10	8/26/2015	NV00925
Electrical Conductivity	SM 2510B	260	µmhos/cm	1	1	8/25/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	8/26/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	8/26/2015	NV00925
Sulfate	EPA 300.0	100	mg/L	1	1.0	8/26/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	8/27/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	8/29/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium, Dissolved	EPA 200.7	0.077	mg/L	1	0.0030	8/26/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	8/26/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	8/26/2015	NV00925
Calcium, Dissolved	EPA 200.7	46	mg/L	1	0.50	8/26/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/26/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	8/26/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/26/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	8/26/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/26/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/26/2015	NV00925
Potassium, Dissolved	EPA 200.7	1.9	mg/L	1	0.50	8/26/2015	NV00925
Sodium, Dissolved	EPA 200.7	0.88	mg/L	1	0.50	8/26/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.43	mg/L	1	0.020	8/26/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	8/26/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 9

**SPARKS**

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EPA LAB ID: NV00925 - ELAP No: 2523

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EPA LAB ID: NV00932



Customer Sample ID: C586-15 P,Q WK: 0

Collect Date/Time: 8/25/2015 09:00

WETLAB Sample ID: 1508607-001

Receive Date: 8/25/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.0021	mg/L	1	0.0020	8/26/2015	NV00925
Nickel, Dissolved	EPA 200.8	0.002	mg/L	1	0.0020	9/8/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	2.13	meq/L	1	0.10		NV00925
Cations	Calculation	2.38	meq/L	1	0.10		NV00925
Error	Calculation	5.6	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		8/25/2015	NV00925
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		8/27/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	8/24/2015	NV00925
HCT Post-Leach Volume	N/A	2930	mL	1	1	8/25/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 0  
 WETLAB Sample ID: 1508607-002

Collect Date/Time: 8/25/2015 09:00

Receive Date: 8/25/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/25/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	8/26/2015	NV00925
pH	SM 4500-H+ B	6.60	pH Units	1		8/27/2015	NV00925
Temperature at pH	NA	22.4	°C	1		8/27/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	8/27/2015	NV00925
Redox Potential	ASTM D1498	520	mV	1		8/25/2015	NV00925
Acidity (Titrimetric)	SM 2310B	3	mg/L as CaCO3	1		9/2/2015	NV00925
Total Alkalinity	SM 2320B	3.3	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	3.3	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/2/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	8/29/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	110	mg/L	1	10	8/26/2015	NV00925
Electrical Conductivity	SM 2510B	170	µmhos/cm	1	1	8/25/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	1.0	mg/L	1	1.0	8/26/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	8/26/2015	NV00925
Sulfate	EPA 300.0	54	mg/L	1	1.0	8/26/2015	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	8/27/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	8/29/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium, Dissolved	EPA 200.7	0.15	mg/L	1	0.0030	8/26/2015	NV00925
Beryllium, Dissolved	EPA 200.7	ND	mg/L	1	0.0008	8/26/2015	NV00925
Boron, Dissolved	EPA 200.7	ND	mg/L	1	0.10	8/26/2015	NV00925
Calcium, Dissolved	EPA 200.7	26	mg/L	1	0.50	8/26/2015	NV00925
Chromium, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/26/2015	NV00925
Cobalt, Dissolved	EPA 200.7	ND	mg/L	1	0.010	8/26/2015	NV00925
Iron, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/26/2015	NV00925
Magnesium, Dissolved	EPA 200.7	ND	mg/L	1	0.50	8/26/2015	NV00925
Manganese, Dissolved	EPA 200.7	ND	mg/L	1	0.0050	8/26/2015	NV00925
Molybdenum, Dissolved	EPA 200.7	ND	mg/L	1	0.020	8/26/2015	NV00925
Potassium, Dissolved	EPA 200.7	2.1	mg/L	1	0.50	8/26/2015	NV00925
Sodium, Dissolved	EPA 200.7	1.5	mg/L	1	0.50	8/26/2015	NV00925
Strontium, Dissolved	EPA 200.7	0.43	mg/L	1	0.020	8/26/2015	NV00925
Zinc, Dissolved	EPA 200.7	ND	mg/L	1	0.0080	8/26/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper, Dissolved	EPA 200.8	0.0049	mg/L	1	0.0020	8/26/2015	NV00925
Nickel, Dissolved	EPA 200.8	ND	mg/L	1	0.0020	9/8/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.22	meq/L	1	0.10		NV00925
Cations	Calculation	1.42	meq/L	1	0.10		NV00925
Error	Calculation	7.5	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		8/25/2015	NV00925
Trace Metals Digestion, Dissolved	EPA 200.2	Complete		1		8/27/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	8/24/2015	NV00925
HCT Post-Leach Volume	N/A	2920	mL	1	1	8/25/2015	NV00925

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Customer Sample ID: C601-15 O,Q WK: 0  
WETLAB Sample ID: 1508607-002

Collect Date/Time: 8/25/2015 09:00  
Receive Date: 8/25/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>Subcontracted Analyses</b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15081062	Blank 1	Ferrous Iron	3500 Fe D	ND	mg/L
QC15081065	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15081094	Blank 1	Copper	EPA 200.8	ND	mg/L
		Nickel	EPA 200.8	ND	mg/L
QC15081103	Blank 1	Barium	EPA 200.7	ND	mg/L
		Beryllium	EPA 200.7	ND	mg/L
		Boron	EPA 200.7	ND	mg/L
		Calcium	EPA 200.7	ND	mg/L
		Chromium	EPA 200.7	ND	mg/L
		Cobalt	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
		Manganese	EPA 200.7	ND	mg/L
		Molybdenum	EPA 200.7	ND	mg/L
		Potassium	EPA 200.7	ND	mg/L
		Sodium	EPA 200.7	ND	mg/L
		Strontium	EPA 200.7	ND	mg/L
		Zinc	EPA 200.7	ND	mg/L
QC15081116	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15081117	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15081130	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15081132	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15081194	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15081215	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15081062	LCS 1	Ferrous Iron	3500 Fe D	0.858	1.00	86	mg/L
QC15081065	LCS 1	Electrical Conductivity	SM 2510B	1425	1412	101	µmhos/cm
QC15081067	LCS 1	Redox Potential	ASTM D1498	221	221	100	mV
QC15081094	LCS 1	Copper	EPA 200.8	0.0097	0.010	97	mg/L
		Nickel	EPA 200.8	0.0102	0.010	102	mg/L
QC15081103	LCS 1	Barium	EPA 200.7	0.970	1.00	97	mg/L
		Beryllium	EPA 200.7	0.971	1.00	97	mg/L
		Boron	EPA 200.7	0.961	1.00	96	mg/L
		Calcium	EPA 200.7	9.73	10.0	97	mg/L
		Chromium	EPA 200.7	0.966	1.00	97	mg/L
		Cobalt	EPA 200.7	0.972	1.00	97	mg/L
		Iron	EPA 200.7	1.01	1.00	101	mg/L
		Magnesium	EPA 200.7	10.2	10.0	102	mg/L
		Manganese	EPA 200.7	0.964	1.00	96	mg/L
		Molybdenum	EPA 200.7	0.974	1.00	97	mg/L
		Potassium	EPA 200.7	9.87	10.0	99	mg/L
		Sodium	EPA 200.7	10.2	10.0	102	mg/L
		Strontium	EPA 200.7	1.00	1.00	100	mg/L

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15081116	LCS 1	Zinc	EPA 200.7	1.00	1.00	100	mg/L
		Chloride	EPA 300.0	9.76	10.0	98	mg/L
		Fluoride	EPA 300.0	1.90	2.00	95	mg/L
QC15081117	LCS 1	Sulfate	EPA 300.0	23.4	25.0	94	mg/L
		Chloride	EPA 300.0	9.76	10.0	98	mg/L
		Fluoride	EPA 300.0	1.90	2.00	95	mg/L
		Sulfate	EPA 300.0	23.4	25.0	94	mg/L
QC15081130	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.825	0.800	103	mg/L
QC15081132	LCS 1	WAD Cyanide	SM 4500CN I, E	0.106	0.100	106	mg/L
QC15081177	LCS 1	pH	SM 4500-H+ B	6.94	7.00	99	pH Units
QC15081177	LCS 2	pH	SM 4500-H+ B	6.93	7.00	99	pH Units
QC15081194	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	151	150	101	mg/L
QC15081194	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	141	150	94	mg/L
QC15081215	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.04	1.00	104	mg/L
QC15090154	LCS 1	Total Alkalinity	SM 2320B	97.3	100	97	mg/L
QC15090154	LCS 2	Total Alkalinity	SM 2320B	88.7	100	89	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15081062	Duplicate	Ferrous Iron	3500 Fe D	1508602-001	ND	ND	mg/L	<1%
QC15081062	Duplicate	Ferrous Iron	3500 Fe D	1508604-003	ND	ND	mg/L	7 %
QC15081065	Duplicate	Electrical Conductivity	SM 2510B	1508602-001	66.9	66.6	µmhos/cm	<1%
QC15081065	Duplicate	Electrical Conductivity	SM 2510B	1508604-003	98.7	98.6	µmhos/cm	<1%
QC15081065	Duplicate	Electrical Conductivity	SM 2510B	1508606-001	105	104	µmhos/cm	1 %
QC15081067	Duplicate	Redox Potential	ASTM D1498	1508602-001	523	523	mV	<1%
QC15081067	Duplicate	Redox Potential	ASTM D1498	1508604-003	504	506	mV	<1%
QC15081067	Duplicate	Redox Potential	ASTM D1498	1508606-001	434	429	mV	1 %
QC15081177	Duplicate	pH	SM 4500-H+ B	1508521-001	6.75	6.84	pH Units	1 %
QC15081177	Duplicate	pH	SM 4500-H+ B	1508524-003	7.30	7.46	QD pH Units	2 %
QC15081177	Duplicate	pH	SM 4500-H+ B	1508602-001	6.76	6.83	pH Units	1 %
QC15081194	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508606-001	53.0	45.0	mg/L	16 %
QC15081194	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1508621-001	535	557	mg/L	4 %
QC15090152	Duplicate	Acidity (Titrimetric)	SM 2310B	1508602-001	ND	ND	QD mg/L as CaCO3	<1%
QC15090152	Duplicate	Acidity (Titrimetric)	SM 2310B	1508604-003	ND	ND	QD mg/L as CaCO3	<1%
QC15090152	Duplicate	Acidity (Titrimetric)	SM 2310B	1508694-002	ND	ND	mg/L as CaCO3	<1%
QC15090154	Duplicate	Total Alkalinity	SM 2320B	1508602-001	10.2	10.4	mg/L as CaCO3	2 %
		Bicarbonate (HCO3)	SM 2320B	1508602-001	10.2	10.4	mg/L as CaCO3	2 %
		Carbonate (CO3)	SM 2320B	1508602-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1508602-001	ND	ND	mg/L as CaCO3	<1%
QC15090154	Duplicate	Total Alkalinity	SM 2320B	1508604-003	16.1	16.1	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1508604-003	16.1	16.1	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1508604-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1508604-003	ND	ND	mg/L as CaCO3	<1%
QC15090154	Duplicate	Total Alkalinity	SM 2320B	1508694-002	35.2	35.3	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1508694-002	35.2	35.3	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1508694-002	ND	ND	mg/L as CaCO3	<1%

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QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD				
		Hydroxide (OH)	SM 2320B	1508694-002	ND	ND	mg/L as CaCO3	<1%				
QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15081094	MS 1	Copper	EPA 200.8	1508531-008	ND	0.0118	0.0116	0.010	mg/L	100	98	2%
		Nickel	EPA 200.8	1508531-008	0.0865	0.0946	0.0935	0.010	mg/L	81	70	1%
QC15081103	MS 1	Barium	EPA 200.7	1508531-008	0.027	0.968	0.976	1.00	mg/L	94	95	1%
		Beryllium	EPA 200.7	1508531-008	ND	0.938	0.932	1.00	mg/L	94	93	1%
		Boron	EPA 200.7	1508531-008	ND	0.974	0.976	1.00	mg/L	95	95	<1%
		Calcium	EPA 200.7	1508531-008	451	SC 439	433	10.0	mg/L	NC	NC	NC
		Chromium	EPA 200.7	1508531-008	ND	0.943	0.947	1.00	mg/L	94	95	<1%
		Cobalt	EPA 200.7	1508531-008	ND	0.899	0.900	1.00	mg/L	90	90	<1%
		Iron	EPA 200.7	1508531-008	0.651	1.70	1.87	1.00	mg/L	105	122	10%
		Magnesium	EPA 200.7	1508531-008	244	251	251	10.0	mg/L	70	70	<1%
		Manganese	EPA 200.7	1508531-008	0.115	1.04	1.04	1.00	mg/L	92	92	<1%
		Molybdenum	EPA 200.7	1508531-008	ND	0.976	0.975	1.00	mg/L	97	97	<1%
		Potassium	EPA 200.7	1508531-008	4.73	15.7	15.6	10.0	mg/L	110	109	1%
		Sodium	EPA 200.7	1508531-008	6.08	17.0	16.8	10.0	mg/L	109	107	1%
		Strontium	EPA 200.7	1508531-008	0.971	1.84	1.81	1.00	mg/L	87	84	2%
		Zinc	EPA 200.7	1508531-008	0.018	0.936	0.948	1.00	mg/L	92	93	1%
QC15081116	MS 1	Chloride	EPA 300.0	1508603-004	ND	5.23	5.35	5.00	mg/L	99	101	2%
		Fluoride	EPA 300.0	1508603-004	ND	1.84	1.91	2.00	mg/L	89	93	4%
		Sulfate	EPA 300.0	1508603-004	ND	9.19	9.48	10.0	mg/L	87	90	3%
QC15081116	MS 2	Chloride	EPA 300.0	1508605-002	ND	5.79	5.73	5.00	mg/L	103	102	1%
		Fluoride	EPA 300.0	1508605-002	ND	1.88	1.85	2.00	mg/L	91	90	2%
		Sulfate	EPA 300.0	1508605-002	20.5	29.9	29.7	10.0	mg/L	94	92	1%
QC15081117	MS 1	Chloride	EPA 300.0	1508607-002	1.02	6.34	6.13	5.00	mg/L	106	102	3%
		Fluoride	EPA 300.0	1508607-002	ND	1.95	1.89	2.00	mg/L	98	94	3%
		Sulfate	EPA 300.0	1508607-002	53.9	62.9	62.3	10.0	mg/L	90	84	1%
QC15081117	MS 2	Chloride	EPA 300.0	1508645-009	ND	5.01	5.07	5.00	mg/L	96	97	1%
		Fluoride	EPA 300.0	1508645-009	ND	1.91	1.93	2.00	mg/L	95	96	1%
		Sulfate	EPA 300.0	1508645-009	ND	8.91	9.01	10.0	mg/L	86	87	1%
QC15081130	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1508605-003	ND	5.03	5.04	1.00	mg/L	101	101	<1%
QC15081130	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1508613-002	5.48	10.5	10.5	1.00	mg/L	100	101	<1%
QC15081132	MS 1	WAD Cyanide	SM 4500CN I,	1508572-001	ND	0.099	0.102	0.100	mg/L	99	102	3%
QC15081132	MS 2	WAD Cyanide	SM 4500CN I,	1508587-001	ND	0.100	0.100	0.100	mg/L	101	101	<1%
QC15081215	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1508606-001	ND	1.01	1.02	1.00	mg/L	92	93	1%
QC15081215	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1508574-001	ND	1.08	0.975	1.00	mg/L	108	97	10%

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 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932







# ANALYTICAL SUMMARY REPORT

December 02, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15091692  
Project Name: Job ID 1508607

Energy Laboratories Inc Billings MT received the following 2 samples for Western Environmental Testing Laboratory on 9/18/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15091692-001	C586-15 O,Q WK: 0	08/25/15 9:00	09/18/15	Leachate	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA
B15091692-002	C601-15 P,Q WK: 0	08/25/15 9:00	09/18/15	Leachate	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:





**CLIENT:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508607  
**Work Order:** B15091692

**Revised Date:** 12/02/15

**Report Date:** 09/28/15

## CASE NARRATIVE

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Revised 11/24/2015:

Per Hollie Timmons sample ID's are incorrect on the original report. The sample ID's have been corrected. We apologize for any inconvenience this may have caused.

The report has been revised and replaces any previously issued report in its entirety.

Revised 12/2/2015:

Per Hollie Timmons change sample ID for sample C586-15 O,Q WK: 0- WLHCT-0119 (B15091692-001) to C586-15 O, Q WK: 0, and sample C601-15 P, W WK:0- WLHCT-0118 (B15091692-002) to C601-15 P,Q WK: 0. The sample ID's have been corrected. We apologize for any inconvenience this may have caused.

The report has been revised and replaces any previously issued report in its entirety.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508607  
**Lab ID:** B15091692-001  
**Client Sample ID:** C586-15 O,Q WK: 0

**Revised Date:** 12/02/15  
**Report Date:** 09/28/15  
**Collection Date:** 08/25/15 09:00  
**Date Received:** 09/18/15  
**Matrix:** Leachate

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.042	mg/L		0.009		E200.8	09/22/15 03:41 / amm
Antimony	0.0010	mg/L		0.0005		E200.8	09/22/15 03:41 / amm
Arsenic	0.002	mg/L		0.001		E200.8	09/22/15 03:41 / amm
Cadmium	0.00027	mg/L		0.00003		E200.8	09/22/15 03:41 / amm
Lead	ND	mg/L		0.0002		E200.8	09/22/15 03:41 / amm
Mercury	0.0000337	mg/L	H	5E-06		E245.1	09/23/15 14:13 / ser
Phosphorus	ND	mg/L	L	0.007		E200.7	09/21/15 22:41 / rlh
Selenium	ND	mg/L		0.001		E200.8	09/22/15 03:41 / amm
Silicon	0.10	mg/L		0.05		E200.7	09/21/15 22:41 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/22/15 03:41 / amm
Thallium	0.0006	mg/L		0.0002		E200.8	09/22/15 03:41 / amm
Uranium	ND	mg/L		0.0002		E200.8	09/22/15 20:31 / mas

**Report Definitions:**

RL - Analyte reporting limit.	MCL - Maximum contaminant level.
QCL - Quality control limit.	ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.	L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508607  
**Lab ID:** B15091692-002  
**Client Sample ID:** C601-15 P,Q WK: 0

**Revised Date:** 12/02/15  
**Report Date:** 09/28/15  
**Collection Date:** 08/25/15 09:00  
**DateReceived:** 09/18/15  
**Matrix:** Leachate

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.036	mg/L		0.009		E200.8	09/22/15 03:46 / amm
Antimony	0.0012	mg/L		0.0005		E200.8	09/22/15 03:46 / amm
Arsenic	0.011	mg/L		0.001		E200.8	09/22/15 03:46 / amm
Cadmium	ND	mg/L		0.00003		E200.8	09/22/15 20:34 / mas
Lead	ND	mg/L		0.0002		E200.8	09/22/15 03:46 / amm
Mercury	0.000127	mg/L	H	5E-06		E245.1	09/23/15 14:16 / ser
Phosphorus	0.023	mg/L	L	0.007		E200.7	09/21/15 22:51 / rlh
Selenium	ND	mg/L		0.001		E200.8	09/22/15 03:46 / amm
Silicon	0.25	mg/L		0.05		E200.7	09/21/15 22:51 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/22/15 03:46 / amm
Thallium	0.0007	mg/L		0.0002		E200.8	09/22/15 03:46 / amm
Uranium	ND	mg/L		0.0002		E200.8	09/22/15 03:46 / amm

**Report Definitions:**

RL - Analyte reporting limit.	MCL - Maximum contaminant level.
QCL - Quality control limit.	ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.	L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508607

**Work Order:** B15091692

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150921A			
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard									09/21/15 11:43
Phosphorus		2.57	mg/L	0.10	103	95	105				
Silicon		5.05	mg/L	0.10	101	95	105				
<b>Method: E200.7</b>								Batch: R249641			
<b>Lab ID: MB-6500DIS150921A</b>	2	Method Blank						Run: ICP203-B_150921A			09/21/15 10:47
Phosphorus		ND	mg/L	0.007							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS150921A</b>	2	Laboratory Fortified Blank						Run: ICP203-B_150921A			09/21/15 10:51
Phosphorus		9.74	mg/L	0.10	97	85	115				
Silicon		9.76	mg/L	0.10	98	85	115				
<b>Lab ID: B15091681-006BMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_150921A			09/21/15 22:20
Phosphorus		50.1	mg/L	0.10	100	70	130				
Silicon		53.9	mg/L	0.10	99	70	130				
<b>Lab ID: B15091681-006BMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_150921A			09/21/15 22:23
Phosphorus		48.7	mg/L	0.10	97	70	130	2.9	20		
Silicon		55.0	mg/L	0.10	101	70	130	2.1	20		
<b>Lab ID: B15091694-003AMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_150921A			09/21/15 23:13
Phosphorus		10.6	mg/L	0.10	106	70	130				
Silicon		10.5	mg/L	0.10	102	70	130				
<b>Lab ID: B15091694-003AMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_150921A			09/21/15 23:16
Phosphorus		10.2	mg/L	0.10	102	70	130	3.9	20		
Silicon		10.5	mg/L	0.10	102	70	130	0.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508607

**Work Order:** B15091692

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_150922B				
<b>Lab ID: QCS</b>	2	Initial Calibration Verification Standard								09/22/15 15:40	
Cadmium		0.0251	mg/L	0.0010	100	90	110				
Uranium		0.0189	mg/L	0.0010	95	90	110				
<b>Method: E200.8</b>							Batch: R249797				
<b>Lab ID: LFB</b>	2	Laboratory Fortified Blank								09/22/15 11:27	
Cadmium		0.0496	mg/L	0.0010	99	85	115				
Uranium		0.0470	mg/L	0.00030	94	85	115				
<b>Lab ID: LRB</b>	2	Method Blank								09/22/15 11:56	
Cadmium		1E-05	mg/L	5E-06							
Uranium		ND	mg/L	3E-06							
<b>Lab ID: B15091691-001AMS</b>	2	Sample Matrix Spike								09/22/15 20:14	
Cadmium		0.0481	mg/L	0.0010	96	70	130				
Uranium		0.0526	mg/L	0.00030	105	70	130				
<b>Lab ID: B15091691-001AMSD</b>	2	Sample Matrix Spike Duplicate								09/22/15 20:16	
Cadmium		0.0478	mg/L	0.0010	96	70	130	0.7	20		
Uranium		0.0518	mg/L	0.00030	104	70	130	1.5	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508607

**Work Order:** B15091692

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_150921A			
<b>Lab ID: QCS</b>	9	Initial Calibration Verification Standard								09/21/15 12:39	
Aluminum		0.258	mg/L	0.10	103	90	110				
Antimony		0.0491	mg/L	0.050	98	90	110				
Arsenic		0.0506	mg/L	0.0050	101	90	110				
Cadmium		0.0249	mg/L	0.0010	99	90	110				
Lead		0.0497	mg/L	0.010	99	90	110				
Selenium		0.0493	mg/L	0.0050	99	90	110				
Silver		0.0235	mg/L	0.0050	94	90	110				
Thallium		0.0494	mg/L	0.10	99	90	110				
Uranium		0.0196	mg/L	0.0010	98	90	110				
<b>Method: E200.8</b>								Batch: R249665			
<b>Lab ID: LRB</b>	9	Method Blank						Run: ICPMS206-B_150921A		09/21/15 10:30	
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	9	Laboratory Fortified Blank						Run: ICPMS206-B_150921A		09/21/15 10:35	
Aluminum		0.0523	mg/L	0.10	105	85	115				
Antimony		0.0479	mg/L	0.050	96	85	115				
Arsenic		0.0537	mg/L	0.0050	107	85	115				
Cadmium		0.0512	mg/L	0.0010	102	85	115				
Lead		0.0519	mg/L	0.010	104	85	115				
Selenium		0.0509	mg/L	0.0050	102	85	115				
Silver		0.0209	mg/L	0.0050	104	85	115				
Thallium		0.0523	mg/L	0.10	105	85	115				
Uranium		0.0535	mg/L	0.0010	107	85	115				
<b>Lab ID: B15091694-001AMS</b>	9	Sample Matrix Spike						Run: ICPMS206-B_150921A		09/22/15 04:15	
Aluminum		0.103	mg/L	0.030	89	70	130				
Antimony		0.0513	mg/L	0.0010	102	70	130				
Arsenic		0.0533	mg/L	0.0010	103	70	130				
Cadmium		0.0477	mg/L	0.0010	95	70	130				
Lead		0.0496	mg/L	0.0010	99	70	130				
Selenium		0.0477	mg/L	0.0010	95	70	130				
Silver		0.0102	mg/L	0.0010	51	70	130			S	
Thallium		0.0497	mg/L	0.00050	99	70	130				
Uranium		0.0482	mg/L	0.00030	96	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508607

**Work Order:** B15091692

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8										Batch: R249665	
<b>Lab ID:</b> B15091694-001AMSD	9	Sample Matrix Spike Duplicate			Run: ICPMS206-B_150921A				09/22/15 04:20		
Aluminum		0.102	mg/L	0.030	88	70	130	0.6	20		
Antimony		0.0514	mg/L	0.0010	102	70	130	0.2	20		
Arsenic		0.0490	mg/L	0.0010	95	70	130	8.4	20		
Cadmium		0.0476	mg/L	0.0010	95	70	130	0.2	20		
Lead		0.0485	mg/L	0.0010	97	70	130	2.2	20		
Selenium		0.0488	mg/L	0.0010	98	70	130	2.2	20		
Silver		0.00951	mg/L	0.0010	48	70	130	6.7	20	S	
Thallium		0.0488	mg/L	0.00050	97	70	130	1.9	20		
Uranium		0.0470	mg/L	0.00030	94	70	130	2.5	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/28/15

**Project:** Job ID 1508607

**Work Order:** B15091692

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150923A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/23/15 13:46	
Mercury		0.000211	mg/L	1.0E-05	106	90	110				
<b>Method:</b> E245.1										Batch: 93363	
<b>Lab ID:</b> MB-93363		Method Blank								Run: HGCV203-B_150923A	09/23/15 14:00
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93363		Laboratory Control Sample								Run: HGCV203-B_150923A	09/23/15 14:03
Mercury		0.000207	mg/L	1.0E-05	103	85	115				
<b>Lab ID:</b> B15091691-001AMS		Sample Matrix Spike								Run: HGCV203-B_150923A	09/23/15 14:08
Mercury		0.000218	mg/L	1.0E-05	102	70	130				
<b>Lab ID:</b> B15091691-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150923A	09/23/15 14:11
Mercury		0.000220	mg/L	1.0E-05	103	70	130	0.9	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15091692

Login completed by: Tabitha Edwards

Date Received: 9/18/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 9/21/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	12.0°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

Did not receive an attachment with highlighted metals. Gina McCartney, Energy Laboratories Project Manager, contacted Holly who indicated to use the same highlight metals list as per history.



# CHAIN OF CUSTODY RECORD




*Emergency*

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <u>2</u> System: _____ Job ID: 1508607	All Samples Refrigerated?: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Samplers Initials: _____ Water System #: _____ Notes: 	Date: _____ Time: _____
---	--	--	--	---	-------------------------

**SIGNATURE OF COMPANY REPRESENTATIVE:**

Set Date	Set Time	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
8/25/2015	9:00 AM	C801-15 Q,WK: 0 - WLHCT-0119	Leachate	Various Metals (Subcontracted)		
8/25/2015	9:00 AM	C586-15 P,Q,WK: 0 - WLHCT-0118	Leachate	Various Metals (Subcontracted)		

*B1509 10 92-001*  
*008*

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Sample Type		
						Trip Blank	Grab	Composite
	8-25-15	11:00	<i>ups</i>			Trip Blank	Grab	Composite
	9-16-15	14:00	<i>ups</i>			Trip Blank	Grab	Composite
			<i>Quimper Jones</i>	9/18/15	09:15	Trip Blank	Grab	Composite

*UPS NDA  
rec'd. on ice  
temp = 12.0 LR3*



	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 –sub to Energy Lab	
	Antimony	0.0005 – 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 – 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 – 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 – 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 –sub to Energy Lab	
	Calcium	1.0 – 1.0 WETLAB	EPA 200.7
	Chromium	0.01 – 0.01 WETLAB	EPA 200.7
	Copper	0.002 – 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 – 0.2 WETLAB	EPA 300.0
	Iron	0.02 – 0.02 WETLAB	EPA 200.7
	Lead	0.0003 – 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 – 1.0 WETLAB	EPA 200.7
	Manganese	0.005 – 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 –sub to Energy Lab	
	Nickel	0.002 – 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 –sub to Energy Lab	EPA 200.7
	Selenium	0.001 –sub to Energy Lab	EPA 200.8
	Silicon	0.05 – 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 –sub to Energy Lab	
	Strontium	0.02 – 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 – 1.0 WETLAB	EPA 300.0
	Thallium	0.0002 –sub to Energy Lab	
	Uranium	0.0002 – 0.0002 <del>WETLAB</del>	EPA 200.8
	Zinc	0.008 – 0.008 WETLAB	EPA 200.7
	Alkalinity, Total (as CaCO3)	1	2320B
pH (standard units)	NA	4500H+B	
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	-
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe speciat  
 redox  
 EC



11/19/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1508764  
**Amended**

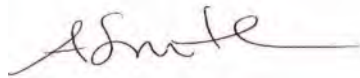
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/1/2015. Additional comments are located on page 2 of this report.

This is an amended report that includes corrected sample IDs. If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1508764 Amended

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 11/19/2015

OrderID: 1508764

Amended

Customer Sample ID: C586-15 P,Q WK: 1

Collect Date/Time: 9/1/2015 09:00

WETLAB Sample ID: 1508764-001

Receive Date: 9/1/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/1/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/4/2015	NV00925
pH	SM 4500-H+ B	6.56	pH Units	1		9/1/2015	NV00925
Temperature at pH	NA	23.2	°C	1		9/1/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/4/2015	NV00925
Redox Potential	ASTM D1498	540	mV	1		9/1/2015	NV00925
Acidity (Titrimetric)	SM 2310B	3	mg/L as CaCO3	1		9/4/2015	NV00925
Total Alkalinity	SM 2320B	2.6	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	2.6	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/8/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	63	mg/L	1	10	9/3/2015	NV00925
Electrical Conductivity	SM 2510B	140	µmhos/cm	1	1	9/1/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/3/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	2	0.20	9/3/2015	NV00925
Sulfate	EPA 300.0	44	mg/L	2	2.0	9/3/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/4/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/8/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium	EPA 200.7	0.027	mg/L	1	0.0030	9/4/2015	NV00925
Beryllium	EPA 200.7	ND	mg/L	1	0.0008	9/4/2015	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	9/4/2015	NV00925
Calcium	EPA 200.7	21	mg/L	1	0.50	9/4/2015	NV00925
Chromium	EPA 200.7	ND	mg/L	1	0.0050	9/4/2015	NV00925
Cobalt	EPA 200.7	ND	mg/L	1	0.010	9/4/2015	NV00925
Iron	EPA 200.7	ND	mg/L	1	0.020	9/4/2015	NV00925
Magnesium	EPA 200.7	ND	mg/L	1	0.50	9/4/2015	NV00925
Manganese	EPA 200.7	ND	mg/L	1	0.0050	9/4/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	9/4/2015	NV00925
Potassium	EPA 200.7	0.88	mg/L	1	0.50	9/4/2015	NV00925
Sodium	EPA 200.7	0.97	mg/L	1	0.50	9/4/2015	NV00925
Strontium	EPA 200.7	0.16	mg/L	1	0.020	9/4/2015	NV00925
Zinc	EPA 200.7	ND	mg/L	1	0.0080	9/4/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**SPARKS**

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**LAS VEGAS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C586-15 P,Q WK: 1

Collect Date/Time: 9/1/2015 09:00

WETLAB Sample ID: 1508764-001

Receive Date: 9/1/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	ND	mg/L	1	0.0020	9/4/2015	NV00925
Nickel	EPA 200.8	0.0033	mg/L	1	0.0020	9/8/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	0.97	meq/L	1	0.10		NV00925
Cations	Calculation	1.11	meq/L	1	0.10		NV00925
Error	Calculation	6.9	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		9/1/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		9/3/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	8/31/2015	NV00925
HCT Post-Leach Volume	N/A	3100	mL	1	1	9/1/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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3230 Polaris Ave. Suite 4  
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 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 1  
WETLAB Sample ID: 1508764-002

Collect Date/Time: 9/1/2015 09:00

Receive Date: 9/1/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/1/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/4/2015	NV00925
pH	SM 4500-H+ B	6.47	pH Units	1		9/1/2015	NV00925
Temperature at pH	NA	23.1	°C	1		9/1/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/4/2015	NV00925
Redox Potential	ASTM D1498	520	mV	1		9/1/2015	NV00925
Acidity (Titrimetric)	SM 2310B	5	mg/L as CaCO3	1		9/4/2015	NV00925
Total Alkalinity	SM 2320B	2.4	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	2.4	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/4/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/8/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	520	mg/L	1	10	9/3/2015	NV00925
Electrical Conductivity	SM 2510B	700	µmhos/cm	1	1	9/1/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	1.2	mg/L	1	1.0	9/3/2015	NV00925
Fluoride	EPA 300.0	0.55	mg/L	10	0.50	9/3/2015	NV00925
Sulfate	EPA 300.0	260	mg/L	10	10	9/3/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/4/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/8/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium	EPA 200.7	0.048	mg/L	1	0.0030	9/4/2015	NV00925
Beryllium	EPA 200.7	ND	mg/L	1	0.0008	9/4/2015	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	9/4/2015	NV00925
Calcium	EPA 200.7	140	mg/L	1	0.50	9/4/2015	NV00925
Chromium	EPA 200.7	ND	mg/L	1	0.0050	9/4/2015	NV00925
Cobalt	EPA 200.7	0.14	mg/L	1	0.010	9/4/2015	NV00925
Iron	EPA 200.7	ND	mg/L	1	0.020	9/4/2015	NV00925
Magnesium	EPA 200.7	1.6	mg/L	1	0.50	9/4/2015	NV00925
Manganese	EPA 200.7	0.0077	mg/L	1	0.0050	9/4/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	9/4/2015	NV00925
Potassium	EPA 200.7	3.0	mg/L	1	0.50	9/4/2015	NV00925
Sodium	EPA 200.7	1.7	mg/L	1	0.50	9/4/2015	NV00925
Strontium	EPA 200.7	1.9	mg/L	1	0.020	9/4/2015	NV00925
Zinc	EPA 200.7	ND	mg/L	1	0.0080	9/4/2015	NV00925
<b>Trace Metals by ICP-MS</b>							
Copper	EPA 200.8	0.0071	mg/L	1	0.0020	9/4/2015	NV00925
Nickel	EPA 200.8	0.059	mg/L	1	0.0020	9/8/2015	NV00925
<b>Ion Balance</b>							
Anions	Calculation	5.50	meq/L	1	0.10		NV00925
Cations	Calculation	7.27	meq/L	1	0.10		NV00925
Error	Calculation	14	%	1	1.0		NV00925
<b>Sample Preparation</b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		9/1/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		9/3/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	8/31/2015	NV00925
HCT Post-Leach Volume	N/A	2810	mL	1	1	9/1/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 9

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fax (702) 622-2868  
EPA LAB ID: NV00932



Customer Sample ID: C601-15 O,Q WK: 1  
WETLAB Sample ID: 1508764-002

Collect Date/Time: 9/1/2015 09:00  
Receive Date: 9/1/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>Subcontracted Analyses</b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090098	Blank 1	Ferrous Iron	3500 Fe D	ND	mg/L
QC15090099	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090122	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090203	Blank 1	Copper	EPA 200.8	ND	mg/L
		Nickel	EPA 200.8	ND	mg/L
QC15090208	Blank 1	Barium	EPA 200.7	ND	mg/L
		Beryllium	EPA 200.7	ND	mg/L
		Boron	EPA 200.7	ND	mg/L
		Calcium	EPA 200.7	ND	mg/L
		Chromium	EPA 200.7	ND	mg/L
		Cobalt	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
		Manganese	EPA 200.7	ND	mg/L
		Molybdenum	EPA 200.7	ND	mg/L
		Potassium	EPA 200.7	ND	mg/L
		Sodium	EPA 200.7	ND	mg/L
		Strontium	EPA 200.7	ND	mg/L
		Zinc	EPA 200.7	ND	mg/L
QC15090234	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15090264	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090265	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090286	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090303	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090098	LCS 1	Ferrous Iron	3500 Fe D	0.986	1.00	99	mg/L
QC15090099	LCS 1	Electrical Conductivity	SM 2510B	1410	1412	100	µmhos/cm
QC15090100	LCS 1	Redox Potential	ASTM D1498	223	221	101	mV
QC15090122	LCS 1	Chloride	EPA 300.0	10.1	10.0	101	mg/L
		Fluoride	EPA 300.0	2.01	2.00	100	mg/L
		Sulfate	EPA 300.0	24.6	25.0	99	mg/L
QC15090203	LCS 1	Copper	EPA 200.8	0.0105	0.010	105	mg/L
		Nickel	EPA 200.8	0.0104	0.010	104	mg/L
QC15090208	LCS 1	Barium	EPA 200.7	0.976	1.00	98	mg/L
		Beryllium	EPA 200.7	0.986	1.00	99	mg/L
		Boron	EPA 200.7	0.990	1.00	99	mg/L
		Calcium	EPA 200.7	9.66	10.0	97	mg/L
		Chromium	EPA 200.7	0.975	1.00	98	mg/L
		Cobalt	EPA 200.7	0.984	1.00	98	mg/L
		Iron	EPA 200.7	0.963	1.00	96	mg/L
		Magnesium	EPA 200.7	9.68	10.0	97	mg/L
		Manganese	EPA 200.7	0.984	1.00	98	mg/L
		Molybdenum	EPA 200.7	0.964	1.00	96	mg/L
		Potassium	EPA 200.7	9.71	10.0	97	mg/L
		Sodium	EPA 200.7	9.62	10.0	96	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

Page 7 of 9

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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Strontium	EPA 200.7	0.961	1.00	96	mg/L
		Zinc	EPA 200.7	1.00	1.00	100	mg/L
QC15090234	LCS 1	WAD Cyanide	SM 4500CN I, E	0.105	0.100	105	mg/L
QC15090247	LCS 1	Total Alkalinity	SM 2320B	96.2	100	96	mg/L
QC15090249	LCS 1	pH	SM 4500-H+ B		7.00		pH Units
QC15090264	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.800	0.800	100	mg/L
QC15090265	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.773	0.800	97	mg/L
QC15090286	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	147	150	98	mg/L
QC15090286	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	152	150	101	mg/L
QC15090303	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.951	1.00	95	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090098	Duplicate	Ferrous Iron	3500 Fe D	1508761-001	ND	ND	mg/L	<1%
QC15090098	Duplicate	Ferrous Iron	3500 Fe D	1508763-003	ND	ND	mg/L	<1%
QC15090099	Duplicate	Electrical Conductivity	SM 2510B	1508761-001	63.3	63.1	µmhos/cm	<1%
QC15090099	Duplicate	Electrical Conductivity	SM 2510B	1508763-003	89.3	88.7	µmhos/cm	1 %
QC15090099	Duplicate	Electrical Conductivity	SM 2510B	1509002-001	106	107	µmhos/cm	<1%
QC15090100	Duplicate	Redox Potential	ASTM D1498	1508761-001	526	531	mV	1 %
QC15090100	Duplicate	Redox Potential	ASTM D1498	1508763-003	525	528	mV	1 %
QC15090100	Duplicate	Redox Potential	ASTM D1498	1509002-001	420	420	mV	<1%
QC15090247	Duplicate	Total Alkalinity	SM 2320B	1508761-001	11.2	11.2	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1508761-001	11.2	11.2	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1508761-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1508761-001	ND	ND	mg/L as CaCO3	<1%
QC15090247	Duplicate	Total Alkalinity	SM 2320B	1508763-003	15.2	14.7	mg/L as CaCO3	3 %
		Bicarbonate (HCO3)	SM 2320B	1508763-003	15.2	14.7	mg/L as CaCO3	3 %
		Carbonate (CO3)	SM 2320B	1508763-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1508763-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508761-001	ND	ND	QD mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508763-003	ND	ND	mg/L as CaCO3	<1%
QC15090248	Duplicate	Acidity (Titrimetric)	SM 2310B	1508757-001	ND	ND	QD mg/L as CaCO3	<1%
QC15090249	Duplicate	pH	SM 4500-H+ B	1508761-001	6.75	6.93	QD pH Units	3 %
QC15090249	Duplicate	pH	SM 4500-H+ B	1508763-003	7.04	7.20	QD pH Units	2 %
QC15090286	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509057-001	ND	ND	mg/L	<1%
QC15090286	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509059-002	562	569	mg/L	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090122	MS 1	Chloride	EPA 300.0	1508761-003	1.02	6.39	6.53	5.00	mg/L	107	110	2%
		Fluoride	EPA 300.0	1508761-003	0.421	2.54	2.60	2.00	mg/L	106	109	2%
		Sulfate	EPA 300.0	1508761-003	18.3	28.4	28.8	10.0	mg/L	101	104	1%
QC15090122	MS 2	Chloride	EPA 300.0	1508763-002	ND	6.36	6.24	5.00	mg/L	109	107	2%
		Fluoride	EPA 300.0	1508763-002	0.103	2.21	2.17	2.00	mg/L	105	103	2%
		Sulfate	EPA 300.0	1508763-002	26.9	37.1	37.0	10.0	mg/L	102	101	<1%
QC15090203	MS 1	Copper	EPA 200.8	1508744-003	ND	0.0110	0.0116	0.010	mg/L	93	100	5%
		Nickel	EPA 200.8	1508744-003	ND	0.0112	0.0103	0.010	mg/L	100	92	8%
QC15090208	MS 1	Barium	EPA 200.7	1508744-003	0.090	1.05	1.03	1.00	mg/L	96	94	2%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**SPARKS**

475 E. Greg Street, Suite 119  
 Sparks, Nevada 89431  
 tel (775) 355-0202  
 fax (775) 355-0817  
 EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

1084 Lamoille Hwy  
 Elko, Nevada 89801  
 tel (775) 777-9933  
 fax (775) 777-9933  
 EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Beryllium	EPA 200.7	1508744-003	ND	0.971	0.960	1.00	mg/L	97	96	1%
		Boron	EPA 200.7	1508744-003	ND	1.06	1.05	1.00	mg/L	100	99	1%
		Calcium	EPA 200.7	1508744-003	32.7	42.0	41.7	10.0	mg/L	93	90	1%
		Chromium	EPA 200.7	1508744-003	ND	0.969	0.951	1.00	mg/L	97	95	2%
		Cobalt	EPA 200.7	1508744-003	ND	0.952	0.942	1.00	mg/L	95	94	1%
		Iron	EPA 200.7	1508744-003	ND	0.958	0.952	1.00	mg/L	95	95	1%
		Magnesium	EPA 200.7	1508744-003	7.06	16.4	16.1	10.0	mg/L	93	90	2%
		Manganese	EPA 200.7	1508744-003	ND	0.970	0.951	1.00	mg/L	97	95	2%
		Molybdenum	EPA 200.7	1508744-003	0.041	1.00	1.01	1.00	mg/L	96	97	1%
		Potassium	EPA 200.7	1508744-003	2.84	12.5	12.3	10.0	mg/L	97	95	2%
		Sodium	EPA 200.7	1508744-003	12.9	22.6	22.5	10.0	mg/L	97	96	<1%
		Strontium	EPA 200.7	1508744-003	0.139	1.09	1.09	1.00	mg/L	95	95	<1%
		Zinc	EPA 200.7	1508744-003	0.020	0.997	0.987	1.00	mg/L	98	97	1%
QC15090234	MS 1	WAD Cyanide	SM 4500CN I,	1508757-001	ND	0.106	0.105	0.100	mg/L	106	106	1%
QC15090234	MS 2	WAD Cyanide	SM 4500CN I,	1509009-005	ND	0.101	0.104	0.100	mg/L	101	104	3%
QC15090264	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1508754-001	ND	5.01	5.01	1.00	mg/L	100	100	<1%
QC15090264	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509002-001	ND	4.87	4.88	1.00	mg/L	97	98	<1%
QC15090265	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509009-009	ND	4.89	5.22	1.00	mg/L	98	104	7%
QC15090265	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509059-003	ND	4.94	4.92	1.00	mg/L	99	98	<1%
QC15090303	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509002-001	0.302	1.32	1.11	1.00	mg/L	102	81	17%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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#### SPARKS

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EPA LAB ID: NV00932





# ANALYTICAL SUMMARY REPORT

December 02, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15090780  
Project Name: Job ID 1508764

Energy Laboratories Inc Billings MT received the following 2 samples for Western Environmental Testing Laboratory on 9/9/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15090780-001	C586-15 O,Q WK: 1	09/01/15 9:00	09/09/15	Leachate	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA
B15090780-002	C601-15 P,Q WK: 1	09/01/15 9:00	09/09/15	Leachate	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



**CLIENT:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508764  
**Work Order:** B15090780

**Revised Date:** 12/02/15

**Report Date:** 09/18/15

## CASE NARRATIVE

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Revised 11/24/2015:

Per Hollie Timmons sample ID's are incorrect on the original report. The sample ID's have been corrected. We apologize for any inconvenience this may have caused.

The report has been revised and replaces any previously issued report in its entirety.

Revised 12/2/2015:

Per Hollie Timmons change sample ID for sample C586-15 O, Q WK: 1- WLHCT-0119 (B15090780-001) to C586-15 O,Q WK: 1, and sample C601-15 P, Q 1-WLHCT-0118 (B15090780-002) to C601-15 P,Q WK: 1. The sample ID's have been corrected. We apologize for any inconvenience this may have caused.

The report has been revised and replaces any previously issued report in its entirety.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508764  
**Lab ID:** B15090780-001  
**Client Sample ID:** C586-15 O,Q WK: 1

**Revised Date:** 12/02/15  
**Report Date:** 09/18/15  
**Collection Date:** 09/01/15 09:00  
**DateReceived:** 09/09/15  
**Matrix:** Leachate

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.012	mg/L		0.009		E200.8	09/10/15 13:50 / amm
Antimony	ND	mg/L		0.0005		E200.8	09/10/15 13:50 / amm
Arsenic	0.004	mg/L		0.001		E200.8	09/10/15 13:50 / amm
Cadmium	ND	mg/L		0.00003		E200.8	09/11/15 15:30 / amm
Lead	ND	mg/L		0.0002		E200.8	09/11/15 15:30 / amm
Mercury	0.0000199	mg/L		5E-06		E245.1	09/18/15 14:47 / ser
Phosphorus	0.018	mg/L	L	0.007		E200.7	09/10/15 12:52 / rlh
Selenium	ND	mg/L		0.001		E200.8	09/10/15 13:50 / amm
Silicon	0.09	mg/L		0.05		E200.7	09/10/15 12:52 / rlh
Silver	ND	mg/L		0.0002		E200.8	09/10/15 13:50 / amm
Thallium	0.0006	mg/L		0.0002		E200.8	09/10/15 13:50 / amm
Uranium	ND	mg/L		0.0002		E200.8	09/11/15 15:30 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1508764  
**Lab ID:** B15090780-002  
**Client Sample ID:** C601-15 P,Q WK: 1

**Revised Date:** 12/02/15  
**Report Date:** 09/18/15  
**Collection Date:** 09/01/15 09:00  
**Date Received:** 09/09/15  
**Matrix:** Leachate

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.037	mg/L		0.009		E200.7	09/10/15 13:02 / r/h
Antimony	0.0019	mg/L		0.0005		E200.8	09/11/15 15:34 / amm
Arsenic	0.015	mg/L		0.001		E200.8	09/10/15 13:54 / amm
Cadmium	0.00016	mg/L		0.00003		E200.8	09/10/15 13:54 / amm
Lead	0.0002	mg/L		0.0002		E200.8	09/11/15 15:34 / amm
Mercury	0.0000684	mg/L		5E-06		E245.1	09/18/15 14:52 / ser
Phosphorus	0.075	mg/L	L	0.007		E200.7	09/10/15 13:02 / r/h
Selenium	ND	mg/L		0.001		E200.8	09/10/15 13:54 / amm
Silicon	0.76	mg/L		0.05		E200.7	09/10/15 13:02 / r/h
Silver	ND	mg/L		0.0002		E200.8	09/10/15 13:54 / amm
Thallium	0.0044	mg/L		0.0002		E200.8	09/10/15 13:54 / amm
Uranium	ND	mg/L		0.0002		E200.8	09/11/15 15:34 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/18/15

**Project:** Job ID 1508764

**Work Order:** B15090780

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150910A			
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard									09/10/15 09:30
Aluminum		2.42	mg/L	0.10	97	95	105				
Phosphorus		2.36	mg/L	0.10	95	95	105				
Silicon		4.97	mg/L	0.10	99	95	105				
<b>Method: E200.7</b>								Batch: R249081			
<b>Lab ID: MB-6500DIS150910A</b>	3	Method Blank						Run: ICP203-B_150910A			09/10/15 09:58
Aluminum		ND	mg/L	0.007							
Phosphorus		ND	mg/L	0.007							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS150910A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_150910A			09/10/15 10:02
Aluminum		4.75	mg/L	0.10	95	85	115				
Phosphorus		8.90	mg/L	0.10	89	85	115				
Silicon		9.77	mg/L	0.10	98	85	115				
<b>Lab ID: B15090742-009BMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_150910A			09/10/15 12:27
Aluminum		24.7	mg/L	0.035	99	70	130				
Phosphorus		51.2	mg/L	0.10	102	70	130				
Silicon		58.4	mg/L	0.10	101	70	130				
<b>Lab ID: B15090742-009BMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_150910A			09/10/15 12:31
Aluminum		25.1	mg/L	0.035	101	70	130	1.6	20		
Phosphorus		52.0	mg/L	0.10	104	70	130	1.5	20		
Silicon		57.6	mg/L	0.10	100	70	130	1.4	20		
<b>Lab ID: B15090813-001BMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_150910A			09/10/15 13:23
Aluminum		47.0	mg/L	0.071	94	70	130				
Phosphorus		97.9	mg/L	0.10	98	70	130				
Silicon		109	mg/L	0.13	103	70	130				
<b>Lab ID: B15090813-001BMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_150910A			09/10/15 13:27
Aluminum		45.0	mg/L	0.071	90	70	130	4.3	20		
Phosphorus		94.9	mg/L	0.10	95	70	130	3.1	20		
Silicon		106	mg/L	0.13	100	70	130	2.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/18/15

**Project:** Job ID 1508764

**Work Order:** B15090780

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>		Analytical Run: ICPMS203-B_150910A									
<b>Lab ID: QCS</b>	7	Initial Calibration Verification Standard							09/10/15 10:16		
Aluminum		0.262	mg/L	0.10	105	90	110				
Antimony		0.0526	mg/L	0.050	105	90	110				
Arsenic		0.0498	mg/L	0.0050	100	90	110				
Cadmium		0.0255	mg/L	0.0010	102	90	110				
Selenium		0.0495	mg/L	0.0050	99	90	110				
Silver		0.0253	mg/L	0.0050	101	90	110				
Thallium		0.0479	mg/L	0.10	96	90	110				
<b>Method: E200.8</b>		Batch: R249105									
<b>Lab ID: LFB</b>	7	Laboratory Fortified Blank							Run: ICPMS203-B_150910A 09/10/15 11:26		
Aluminum		0.0552	mg/L	0.10	110	85	115				
Antimony		0.0523	mg/L	0.050	105	85	115				
Arsenic		0.0499	mg/L	0.0050	100	85	115				
Cadmium		0.0521	mg/L	0.0010	104	85	115				
Selenium		0.0473	mg/L	0.0050	95	85	115				
Silver		0.0202	mg/L	0.0050	101	85	115				
Thallium		0.0516	mg/L	0.10	103	85	115				
<b>Lab ID: LRB</b>	7	Method Blank							Run: ICPMS203-B_150910A 09/10/15 11:54		
Aluminum		ND	mg/L	0.0002							
Antimony		ND	mg/L	1E-05							
Arsenic		ND	mg/L	5E-05							
Cadmium		ND	mg/L	5E-06							
Selenium		ND	mg/L	7E-05							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	1E-05							
<b>Lab ID: B15090811-001BMS</b>	7	Sample Matrix Spike							Run: ICPMS203-B_150910A 09/10/15 14:14		
Aluminum		0.0553	mg/L	0.030	86	70	130				
Antimony		0.0514	mg/L	0.0010	102	70	130				
Arsenic		0.0463	mg/L	0.0010	88	70	130				
Cadmium		0.0452	mg/L	0.0010	90	70	130				
Selenium		0.0474	mg/L	0.0010	92	70	130				
Silver		0.0153	mg/L	0.0010	77	70	130				
Thallium		0.100	mg/L	0.00050	85	70	130				
<b>Lab ID: B15090811-001BMSD</b>	7	Sample Matrix Spike Duplicate							Run: ICPMS203-B_150910A 09/10/15 14:18		
Aluminum		0.0533	mg/L	0.030	82	70	130	3.7	20		
Antimony		0.0513	mg/L	0.0010	102	70	130	0.2	20		
Arsenic		0.0472	mg/L	0.0010	90	70	130	1.9	20		
Cadmium		0.0439	mg/L	0.0010	87	70	130	2.8	20		
Selenium		0.0482	mg/L	0.0010	93	70	130	1.7	20		
Silver		0.0153	mg/L	0.0010	76	70	130	0.5	20		
Thallium		0.0979	mg/L	0.00050	80	70	130	2.3	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/18/15

**Project:** Job ID 1508764

**Work Order:** B15090780

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_150911A				
<b>Lab ID: QCS</b>	4	Initial Calibration Verification Standard								09/11/15 12:12	
Antimony		0.0521	mg/L	0.050	104	90	110				
Cadmium		0.0259	mg/L	0.0010	104	90	110				
Lead		0.0492	mg/L	0.010	98	90	110				
Uranium		0.0190	mg/L	0.0010	95	90	110				
<b>Method: E200.8</b>							Batch: R249193				
<b>Lab ID: LFB</b>	4	Laboratory Fortified Blank								09/11/15 09:38	
Antimony		0.0471	mg/L	0.050	94	85	115				
Cadmium		0.0475	mg/L	0.0010	95	85	115				
Lead		0.0495	mg/L	0.010	99	85	115				
Uranium		0.0520	mg/L	0.0010	104	85	115				
<b>Lab ID: LRB</b>	4	Method Blank								09/11/15 10:18	
Antimony		ND	mg/L	1E-05							
Cadmium		1E-05	mg/L	5E-06							
Lead		ND	mg/L	3E-05							
Uranium		ND	mg/L	3E-06							
<b>Lab ID: B15090781-001AMS</b>	4	Sample Matrix Spike								09/11/15 15:42	
Antimony		0.0513	mg/L	0.0010	101	70	130				
Cadmium		0.0489	mg/L	0.0010	98	70	130				
Lead		0.0481	mg/L	0.0010	96	70	130				
Uranium		0.0495	mg/L	0.00030	99	70	130				
<b>Lab ID: B15090781-001AMSD</b>	4	Sample Matrix Spike Duplicate								09/11/15 15:46	
Antimony		0.0521	mg/L	0.0010	102	70	130	1.5	20		
Cadmium		0.0487	mg/L	0.0010	97	70	130	0.5	20		
Lead		0.0483	mg/L	0.0010	97	70	130	0.2	20		
Uranium		0.0500	mg/L	0.00030	100	70	130	1.0	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/18/15

**Project:** Job ID 1508764

**Work Order:** B15090780

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150918A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/18/15 14:28	
Mercury		0.000204	mg/L	1.0E-05	102	90	110				
<b>Method:</b> E245.1										Batch: 93285	
<b>Lab ID:</b> MB-93285		Method Blank								Run: HGCV203-B_150918A	09/18/15 14:37
Mercury		3E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93285		Laboratory Control Sample								Run: HGCV203-B_150918A	09/18/15 14:39
Mercury		0.000204	mg/L	1.0E-05	101	85	115				
<b>Lab ID:</b> B15090780-002AMS		Sample Matrix Spike								Run: HGCV203-B_150918A	09/18/15 14:58
Mercury		0.000267	mg/L	1.0E-05	99	70	130				
<b>Lab ID:</b> B15090780-002AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150918A	09/18/15 15:00
Mercury		0.000250	mg/L	1.0E-05	91	70	130	6.6	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15090780

Login completed by: Tabitha Edwards

Date Received: 9/9/2015

Reviewed by: BL2000\jmueller

Received by: Ig

Reviewed Date: 9/10/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	15.8°C On Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

None



# CHAIN OF CUSTODY RECORD

*E. murray*

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <i>2</i> System: _____ Job ID: 1508764	All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Samplers Initials: _____ Water System #: _____
Sample Receipt Condition: _____ Date: _____ Time: _____				
Temperature: _____				

Set Date	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/1/2015	C601-15 O,Q,WK: 1 - WLHCT-0119	Leachate	Various Metals (Subcontracted)		
9:00 AM					
9/1/2015	C586-15 P,Q,WK: 1 - WLHCT-0118	Leachate	Various Metals (Subcontracted)		
9:00 AM					

*6150990780-001*  
*2*  
*002*

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Sample Type		
						Trip Blank	Grab	Composite
<i>[Signature]</i>	9/3/15	16:30	<i>[Signature]</i>			Trip Blank	Grab	Composite
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite

*UP S*  
*9-9-15 9:15*  
*UP STARD*  
*15.8 gm ice*  
*NO Seals*



	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 –sub to Energy Lab	
	Antimony	0.0005 – 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 – 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 – 0.001 WETLAB	EPA 200.8
	Beryllium/	0.0008 – 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 –sub to Energy Lab/	
	Calcium	1.0 – 1.0 WETLAB	EPA 200.7
	Chromium	0.01 – 0.01 WETLAB	EPA 200.7
	Copper	0.002 – 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 – 0.2 WETLAB	EPA 300.0
	Iron /	0.02 – 0.02 WETLAB	EPA 200.7
	Lead	0.0003 – 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 – 1.0 WETLAB	EPA 200.7
	Manganese	0.005 – 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 –sub to Energy Lab/	
	Nickel	0.002 – 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 –sub to Energy Lab	EPA 200.7
	Selenium	0.001 –sub to Energy Lab /	EPA 200.8
	Silicon	0.05 – 0.05 <del>WETLAB</del>	EPA 200.7
	Silver /	0.0002 –sub to Energy Lab/	
	Strontium/	0.02 – 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 – 1.0 WETLAB	EPA 300.0
	Thallium	0.0002 –sub to Energy Lab	
	Uranium	0.0002 – 0.0002 <del>WETLAB</del>	EPA 200.8
	Zinc /	0.008 – 0.008 WETLAB	EPA 200.7
Alkalinity, Total (as CaCO3)	1	2320B	
pH (standard units)	NA	4500H+B	
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	-
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe speciat  
 redox  
 EC



11/19/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509164  
*Amended*

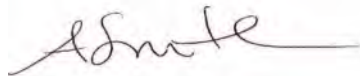
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/8/2015. Additional comments are located on page 2 of this report.

This is an amended report that includes corrected sample IDs. If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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**LAS VEGAS**

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tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509164 Amended

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### Specific Report Comments

The cation/anion balance for samples 1509164-001 and 002 were outside WETLAB acceptance criteria; however, reanalysis confirmed the original results.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 11/19/2015

OrderID: 1509164

Amended

Customer Sample ID: C586-15 P,Q WK: 2

Collect Date/Time: 9/8/2015 09:00

WETLAB Sample ID: 1509164-001

Receive Date: 9/8/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/8/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/9/2015	NV00925
pH	SM 4500-H+ B	6.16	pH Units	1		9/8/2015	NV00925
Temperature at pH	NA	24.4	°C	1		9/8/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/17/2015	NV00925
Redox Potential	ASTM D1498	500	mV	1		9/8/2015	NV00925
Acidity (Titrimetric)	SM 2310B	6	mg/L as CaCO3	1		9/15/2015	NV00925
Total Alkalinity	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/16/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/16/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/16/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/16/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/17/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	77	mg/L	1	10	9/9/2015	NV00925
Electrical Conductivity	SM 2510B	110	µmhos/cm	1	1	9/8/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/10/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/10/2015	NV00925
Sulfate	EPA 300.0	32	mg/L	1	1.0	9/10/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/10/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/17/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium	EPA 200.7	0.027	mg/L	1	0.0030	9/9/2015	NV00925
Beryllium	EPA 200.7	ND	mg/L	1	0.0008	9/9/2015	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	9/9/2015	NV00925
Calcium	EPA 200.7	17	mg/L	1	0.50	9/9/2015	NV00925
Chromium	EPA 200.7	ND	mg/L	1	0.0050	9/9/2015	NV00925
Cobalt	EPA 200.7	ND	mg/L	1	0.010	9/9/2015	NV00925
Iron	EPA 200.7	ND	mg/L	1	0.020	9/9/2015	NV00925
Magnesium	EPA 200.7	ND	mg/L	1	0.50	9/9/2015	NV00925
Manganese	EPA 200.7	ND	mg/L	1	0.0050	9/9/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	9/9/2015	NV00925
Potassium	EPA 200.7	0.89	mg/L	1	0.50	9/9/2015	NV00925
Sodium	EPA 200.7	0.68	mg/L	1	0.50	9/9/2015	NV00925
Strontium	EPA 200.7	0.15	mg/L	1	0.020	9/9/2015	NV00925
Zinc	EPA 200.7	ND	mg/L	1	0.0080	9/9/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 8

**SPARKS**

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EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C586-15 P,Q WK: 2

Collect Date/Time: 9/8/2015 09:00

WETLAB Sample ID: 1509164-001

Receive Date: 9/8/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	ND	mg/L	1	0.0020	9/10/2015	NV00925
Nickel	EPA 200.8	0.0032	mg/L	1	0.0020	9/10/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	0.67	meq/L	1	0.10		NV00925
Cations	Calculation	0.90	meq/L	1	0.10		NV00925
Error	Calculation	15	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		9/8/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		9/9/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	9/7/2015	NV00925
HCT Post-Leach Volume	N/A	3200	mL	1	1	9/8/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

**SPARKS**

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 EPA LAB ID: NV00925 - ELAP No: 2523

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**LAS VEGAS**

3230 Polaris Ave. Suite 4  
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 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 2  
 WETLAB Sample ID: 1509164-002

Collect Date/Time: 9/8/2015 09:00  
 Receive Date: 9/8/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	0.15	mg/L	1	0.1	9/8/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/9/2015	NV00925
pH	SM 4500-H+ B	4.52	pH Units	1		9/8/2015	NV00925
Temperature at pH	NA	24.4	°C	1		9/8/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/17/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		9/8/2015	NV00925
Acidity (Titrimetric)	SM 2310B	14	mg/L as CaCO3	1		9/15/2015	NV00925
Total Nitrogen	Calc.	0.41	mg/L	1	0.30	9/17/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	780	mg/L	1	10	9/9/2015	NV00925
Electrical Conductivity	SM 2510B	990	µmhos/cm	1	1	9/8/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	2.8	mg/L	1	1.0	9/11/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/11/2015	NV00925
Sulfate	EPA 300.0	300	mg/L	10	10	9/11/2015	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/10/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	0.41	mg/L	1	0.20	9/17/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.052	mg/L	1	0.0030	9/9/2015	NV00925
Beryllium	EPA 200.7	ND	mg/L	1	0.0008	9/9/2015	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	9/9/2015	NV00925
Calcium	EPA 200.7	160	mg/L	1	0.50	9/9/2015	NV00925
Chromium	EPA 200.7	ND	mg/L	1	0.0050	9/9/2015	NV00925
Cobalt	EPA 200.7	3.6	mg/L	1	0.010	9/9/2015	NV00925
Iron	EPA 200.7	0.18	mg/L	1	0.020	9/9/2015	NV00925
Magnesium	EPA 200.7	20	mg/L	1	0.50	9/9/2015	NV00925
Manganese	EPA 200.7	0.42	mg/L	1	0.0050	9/9/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	9/9/2015	NV00925
Potassium	EPA 200.7	6.0	mg/L	1	0.50	9/9/2015	NV00925
Sodium	EPA 200.7	4.9	mg/L	1	0.50	9/9/2015	NV00925
Strontium	EPA 200.7	3.1	mg/L	1	0.020	9/9/2015	NV00925
Zinc	EPA 200.7	0.028	mg/L	1	0.0080	9/9/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	0.14	mg/L	1	0.0020	9/10/2015	NV00925
Nickel	EPA 200.8	1.0	mg/L	10	0.0020	9/10/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	6.32	meq/L	1	0.10		NV00925
Cations	Calculation	10.2	meq/L	1	0.10		NV00925
Error	Calculation	23	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		9/8/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		9/9/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	9/7/2015	NV00925
HCT Post-Leach Volume	N/A	2780	mL	1	1	9/8/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

Page 5 of 8

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090353	Blank 1	Copper	EPA 200.8	ND	mg/L
		Nickel	EPA 200.8	ND	mg/L
QC15090357	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090358	Blank 1	Barium	EPA 200.7	ND	mg/L
		Beryllium	EPA 200.7	ND	mg/L
		Boron	EPA 200.7	ND	mg/L
		Calcium	EPA 200.7	ND	mg/L
		Chromium	EPA 200.7	ND	mg/L
		Cobalt	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
		Manganese	EPA 200.7	ND	mg/L
		Molybdenum	EPA 200.7	ND	mg/L
		Potassium	EPA 200.7	ND	mg/L
		Sodium	EPA 200.7	ND	mg/L
		Strontium	EPA 200.7	ND	mg/L
		Zinc	EPA 200.7	ND	mg/L
QC15090388	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090428	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15090429	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090431	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090459	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090634	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15090679	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090353	LCS 1	Copper	EPA 200.8	0.0096	0.010	96	mg/L
		Nickel	EPA 200.8	0.0100	0.010	100	mg/L
QC15090357	LCS 1	Chloride	EPA 300.0	10.6	10.0	106	mg/L
		Fluoride	EPA 300.0	1.98	2.00	99	mg/L
		Sulfate	EPA 300.0	24.1	25.0	96	mg/L
QC15090358	LCS 1	Barium	EPA 200.7	0.976	1.00	98	mg/L
		Beryllium	EPA 200.7	0.964	1.00	96	mg/L
		Boron	EPA 200.7	0.949	1.00	95	mg/L
		Calcium	EPA 200.7	9.58	10.0	96	mg/L
		Chromium	EPA 200.7	0.953	1.00	95	mg/L
		Cobalt	EPA 200.7	0.957	1.00	96	mg/L
		Iron	EPA 200.7	0.980	1.00	98	mg/L
		Magnesium	EPA 200.7	9.63	10.0	96	mg/L
		Manganese	EPA 200.7	0.959	1.00	96	mg/L
		Molybdenum	EPA 200.7	0.967	1.00	97	mg/L
		Potassium	EPA 200.7	9.74	10.0	97	mg/L
		Sodium	EPA 200.7	9.71	10.0	97	mg/L
		Strontium	EPA 200.7	0.974	1.00	97	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 6 of 8

**SPARKS**

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EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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**LAS VEGAS**

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fax (702) 622-2868  
EPA LAB ID: NV00932



QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090362	LCS 1	Zinc	EPA 200.7	0.970	1.00	97	mg/L
QC15090362	LCS 1	pH	SM 4500-H+ B	7.02	7.00	100	pH Units
QC15090388	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.803	0.800	100	mg/L
QC15090428	LCS 1	Ferrous Iron	SM 3500 Fe B	0.870	1.00	87	mg/L
QC15090429	LCS 1	Electrical Conductivity	SM 2510B	1417	1412	100	µmhos/cm
QC15090430	LCS 1	Redox Potential	ASTM D1498	223	221	101	mV
QC15090431	LCS 1	Chloride	EPA 300.0	10.2	10.0	102	mg/L
		Fluoride	EPA 300.0	1.98	2.00	99	mg/L
		Sulfate	EPA 300.0	23.0	25.0	92	mg/L
QC15090459	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	156	150	104	mg/L
QC15090459	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	160	150	107	mg/L
QC15090615	LCS 1	Total Alkalinity	SM 2320B	95.6	100	96	mg/L
QC15090634	LCS 1	WAD Cyanide	SM 4500CN I, E	0.105	0.100	105	mg/L
QC15090679	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.10	1.00	110	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090362	Duplicate	pH	SM 4500-H+ B	1509161-001	6.33	6.19	QD	pH Units 2 %
QC15090362	Duplicate	pH	SM 4500-H+ B	1509163-003	7.04	7.26	QD	pH Units 3 %
QC15090428	Duplicate	Ferrous Iron	SM 3500 Fe B	1509161-001	ND	ND		mg/L <1%
QC15090428	Duplicate	Ferrous Iron	SM 3500 Fe B	1509163-003	ND	ND		mg/L <1%
QC15090429	Duplicate	Electrical Conductivity	SM 2510B	1509161-001	60.8	60.9		µmhos/cm <1%
QC15090429	Duplicate	Electrical Conductivity	SM 2510B	1509163-003	92.5	92.0		µmhos/cm 1 %
QC15090430	Duplicate	Redox Potential	ASTM D1498	1509161-001	516	520		mV 1 %
QC15090430	Duplicate	Redox Potential	ASTM D1498	1509163-003	501	497		mV 1 %
QC15090459	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509150-001	306	320		mg/L 4 %
QC15090459	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509155-005	1548	1530		mg/L 1 %
QC15090615	Duplicate	Total Alkalinity	SM 2320B	1509312-002	10.8	11.0		mg/L as CaCO3 1 %
		Bicarbonate (HCO3)	SM 2320B	1509312-002	10.8	11.0		mg/L as CaCO3 1 %
		Carbonate (CO3)	SM 2320B	1509312-002	ND	ND		mg/L as CaCO3 <1%
		Hydroxide (OH)	SM 2320B	1509312-002	ND	ND		mg/L as CaCO3 <1%
QC15090684	Duplicate	Acidity (Titrimetric)	SM 2310B	1509312-001	ND	ND	QD	mg/L as CaCO3 163 %
QC15090684	Duplicate	Acidity (Titrimetric)	SM 2310B	1509315-001	ND	ND	QD	mg/L as CaCO3 79 %
QC15090684	Duplicate	Acidity (Titrimetric)	SM 2310B	1509364-003	2.96	2.49		mg/L as CaCO3 17 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090353	MS 1	Copper	EPA 200.8	1509129-001	0.0082	0.0152	0.0151	0.010	mg/L	70	69	1%
		Nickel	EPA 200.8	1509129-001	ND	0.009361	0.008432	0.010	mg/L	86	76	10%
QC15090357	MS 1	Chloride	EPA 300.0	1509161-001	ND	6.14	6.20	5.00	mg/L	114	115	1%
		Fluoride	EPA 300.0	1509161-001	ND	1.98	2.01	2.00	mg/L	97	98	2%
		Sulfate	EPA 300.0	1509161-001	11.2	21.0	21.2	10.0	mg/L	98	100	1%
QC15090357	MS 2	Chloride	EPA 300.0	1509164-001	ND	5.80	5.90	5.00	mg/L	110	112	2%
		Fluoride	EPA 300.0	1509164-001	ND	1.95	2.01	2.00	mg/L	96	99	3%
		Sulfate	EPA 300.0	1509164-001	31.5	41.1	41.6	10.0	mg/L	96	101	1%
QC15090358	MS 1	Barium	EPA 200.7	1509129-001	0.036	1.02	1.04	1.00	mg/L	98	100	2%
		Beryllium	EPA 200.7	1509129-001	ND	0.970	0.992	1.00	mg/L	97	99	2%
		Boron	EPA 200.7	1509129-001	0.776	1.80	1.86	1.00	mg/L	102	108	3%
		Calcium	EPA 200.7	1509129-001	26.9	36.4	35.8	10.0	mg/L	95	89	2%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**SPARKS**

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 EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Chromium	EPA 200.7	1509129-001	ND	0.958	0.970	1.00	mg/L	96	97	1%
		Cobalt	EPA 200.7	1509129-001	ND	0.958	0.981	1.00	mg/L	96	98	2%
		Iron	EPA 200.7	1509129-001	0.084	1.08	1.10	1.00	mg/L	100	102	2%
		Magnesium	EPA 200.7	1509129-001	6.73	16.4	16.7	10.0	mg/L	97	100	2%
		Manganese	EPA 200.7	1509129-001	0.005	0.969	0.988	1.00	mg/L	96	98	2%
		Molybdenum	EPA 200.7	1509129-001	ND	0.994	1.01	1.00	mg/L	99	101	2%
		Potassium	EPA 200.7	1509129-001	6.10	16.2	15.8	10.0	mg/L	101	97	2%
		Sodium	EPA 200.7	1509129-001	247	SC 265	253	10.0	mg/L	NC	NC	NC
		Strontium	EPA 200.7	1509129-001	0.183	1.16	1.12	1.00	mg/L	98	94	4%
		Zinc	EPA 200.7	1509129-001	ND	1.04	1.08	1.00	mg/L	103	107	4%
QC15090388	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509155-001	2.02	7.23	7.22	1.00	mg/L	104	104	<1%
QC15090388	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509241-001	0.344	5.60	5.59	1.00	mg/L	105	105	<1%
QC15090431	MS 1	Chloride	EPA 300.0	1509276-003	7.93	13.1	13.2	5.00	mg/L	104	106	1%
		Fluoride	EPA 300.0	1509276-003	0.103	2.10	2.15	2.00	mg/L	100	102	2%
		Sulfate	EPA 300.0	1509276-003	10.8	20.6	20.8	10.0	mg/L	98	101	1%
QC15090431	MS 2	Chloride	EPA 300.0	1509284-001	13.0	17.9	18.0	5.00	mg/L	99	100	1%
		Fluoride	EPA 300.0	1509284-001	0.148	2.16	2.22	2.00	mg/L	101	104	3%
		Sulfate	EPA 300.0	1509284-001	6.63	16.4	16.7	10.0	mg/L	98	100	2%
QC15090634	MS 1	WAD Cyanide	SM 4500CN I,	1509121-001	ND	0.097	0.091	0.100	mg/L	97	91	6%
QC15090634	MS 2	WAD Cyanide	SM 4500CN I,	1509281-001	ND	0.094	0.093	0.100	mg/L	93	92	1%
QC15090679	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509155-003	ND	0.906	0.929	1.00	mg/L	91	93	3%
QC15090679	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509236-002	0.656	M 1.21	1.26	1.00	mg/L	NC	NC	NC

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Specializing in Soil, Hazardous Waste and Water Analysis

Lab Number **1509164**  
Report Due Date **9/22/15**  
Page 1 of 1  
**CLIENT REQUIREMENTS**

Client: <b>Tintina Resources</b>		<b>Turnaround Time Requirements</b>		<b>Reporting Results Via</b>	
Address: <b>17 East Main St.</b>		Standard	<b>X</b>	Fax	
City, State & Zip: <b>White Sulphur Springs, MT 59645</b>		5 Day*		PDF	<b>X</b>
Contact: <b>Bob Jacko, Katie Seigel, and Lisa Kirk</b>		3-Day*		EDD	<b>X</b>
Phone: <b>(406) 547-3466</b>	Collector's Name: <b>WETLAB</b>	48 Hour*		Mail Only	
Fax:	PWS/Project Name:	24 Hour*		Other:	
	PWS/Project Number: <b>WLHCT 0118-0119</b>	<b>Compliance Monitoring</b>		<b>Standard Level QC Required?</b>	
Email: <b>bjacko@tintinaresources.com; seigel.k@gmail.com; lkirk@montana.com</b>		Yes	<b>X</b>	Yes	<b>X</b>
Billing Address (if different than Client Address):		No		No	
		Other:	<b>X (MO)</b>	*Level IV QC	

SAMPLE ID / LOCATION	DATE	TIME	LCH	PH	Redox	EC	Alk / Acidity	Total Fe / Ferric / Ferrous	Ca (D) & Mg (D)	SO4	ASTM_D7544 (HCT)	Profile II (w/ WAD), SC_Metals (See Attached List)	SAMPLE NUMBER (LAB USE ONLY)
C601-15 O Q WK 2 (WLHCT 0118)	9/8/2015	9:00	LCH	2 X	X	X	X	X	X	X	X	X	1
C586 P Q WK 2 (WLHCT 0119)	9/8/2015	9:00	LCH	2 X	X	X	X	X	X	X	X	X	2

Instructions/Comments/Special Requirements: Original Order ID 1508607

<b>Sample Matrix/Type Key**</b>		DW=Drinking water WW=Waste Water SW=Surface water MW=Monitoring Well SD=Solid Sludge SO=Soil HW=Hazardous Waste OT=Other									
<b>SAMPLE RECEIPT CONDITIONS</b>		DATE	TIME	<b>SAMPLES RELINQUISHED BY</b>				<b>SAMPLES RECEIVED BY</b>			
Temperature	<b>22 C</b>	<b>9/8/15</b>	<b>9:00</b>	<b>In House</b>							
Body Seals Intact?	<b>Y N None</b>										
Number of Containers	<b>4</b>										

Standard Terms and Conditions apply unless written agreements specify otherwise. Payment terms are Net 30 for established customers. Pre-payment is required for clients without an account.

Client/Collector attests to the validity and authenticity of this (these) sample(s) and is (are) aware that tampering with or intentionally mislabeling the sample(s) location or date/time of collection will be considered fraud and may be subject to legal action (NAC445.0326)

Samples are discarded 90 days after receipt unless other arrangements have been made with the laboratory.

To the maximum extent permitted by law, the Client agrees to limit the liability of WETLAB for the Client's damages to the total compensation received, unless other arrangements are made in writing. This limitation shall apply regardless of the cause of action or legal theory pled or asserted.



# ANALYTICAL SUMMARY REPORT

November 24, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15091185

Project Name: 1509164

Energy Laboratories Inc Billings MT received the following 2 samples for Western Environmental Testing Laboratory on 9/14/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15091185-001	C586-15 0, Q WK:2	09/08/15 9:00	09/14/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA
B15091185-002	C601 P, Q WK:2	09/08/15 9:00	09/14/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



**CLIENT:** Western Environmental Testing Laboratory  
**Project:** 1509164  
**Work Order:** B15091185

**Revised Date:** 11/24/15

**Report Date:** 09/22/15

## **CASE NARRATIVE**

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Revised 11/24/2015:

Per Hollie Timmons sample ID's are incorrect on the original report. The sample ID's have been corrected. We apologize for any inconvenience this may have caused.

The report has been revised and replaces any previously issued report in its entirety.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1509164  
**Lab ID:** B15091185-001  
**Client Sample ID:** C586-15 0, Q WK:2

**Revised Date:** 11/24/15  
**Report Date:** 09/22/15  
**Collection Date:** 09/08/15 09:00  
**Date Received:** 09/14/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	09/16/15 06:15 / mas
Antimony	ND	mg/L		0.0005		E200.8	09/16/15 06:15 / mas
Arsenic	0.003	mg/L		0.001		E200.8	09/16/15 06:15 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/16/15 06:15 / mas
Lead	ND	mg/L		0.0002		E200.8	09/16/15 06:15 / mas
Mercury	0.0000495	mg/L		5E-06		E245.1	09/21/15 14:20 / ser
Phosphorus	ND	mg/L	L	0.007		E200.7	09/15/15 19:54 / mas
Selenium	ND	mg/L		0.001		E200.8	09/16/15 06:15 / mas
Silicon	0.10	mg/L		0.05		E200.7	09/15/15 19:54 / mas
Silver	ND	mg/L		0.0002		E200.8	09/16/15 06:15 / mas
Thallium	0.0005	mg/L		0.0002		E200.8	09/16/15 06:15 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/16/15 06:15 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1509164  
**Lab ID:** B15091185-002  
**Client Sample ID:** C601 P, Q WK:2

**Revised Date:** 11/24/15  
**Report Date:** 09/22/15  
**Collection Date:** 09/08/15 09:00  
**Date Received:** 09/14/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.045	mg/L		0.009		E200.8	09/16/15 06:48 / mas
Antimony	0.0012	mg/L		0.0005		E200.8	09/16/15 06:48 / mas
Arsenic	0.019	mg/L		0.001		E200.8	09/16/15 06:48 / mas
Cadmium	0.00007	mg/L		0.00003		E200.8	09/16/15 06:48 / mas
Lead	0.0017	mg/L		0.0002		E200.8	09/16/15 06:48 / mas
Mercury	0.000339	mg/L		5E-06		E245.1	09/21/15 14:25 / ser
Phosphorus	0.070	mg/L	L	0.007		E200.7	09/15/15 20:04 / mas
Selenium	ND	mg/L		0.001		E200.8	09/16/15 06:48 / mas
Silicon	1.79	mg/L		0.05		E200.7	09/15/15 20:04 / mas
Silver	ND	mg/L		0.0002		E200.8	09/17/15 15:29 / jjw
Thallium	0.0136	mg/L		0.0002		E200.8	09/16/15 06:48 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/16/15 06:48 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/22/15

**Project:** 1509164

**Work Order:** B15091185

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150915A			
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard									09/15/15 13:55
Phosphorus		2.53	mg/L	0.10	101	95	105				
Silicon		5.14	mg/L	0.10	103	95	105				
<b>Method: E200.7</b>								Batch: R249346			
<b>Lab ID: MB-6500DIS150915A</b>	2	Method Blank									Run: ICP203-B_150915A 09/15/15 14:24
Phosphorus		ND	mg/L	0.007							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS150915A</b>	2	Laboratory Fortified Blank									Run: ICP203-B_150915A 09/15/15 14:27
Phosphorus		10.4	mg/L	0.10	104	85	115				
Silicon		10.5	mg/L	0.10	105	85	115				
<b>Lab ID: B15091172-001CMS2</b>	2	Sample Matrix Spike									Run: ICP203-B_150915A 09/15/15 20:15
Phosphorus		10.6	mg/L	0.10	100	70	130				
Silicon		15.5	mg/L	0.10	101	70	130				
<b>Lab ID: B15091172-001CMSD</b>	2	Sample Matrix Spike Duplicate									Run: ICP203-B_150915A 09/15/15 20:18
Phosphorus		11.0	mg/L	0.10	103	70	130	3.2	20		
Silicon		15.4	mg/L	0.10	100	70	130	0.9	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/22/15

**Project:** 1509164

**Work Order:** B15091185

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>						Analytical Run: ICPMS203-B_150917A				
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard									
Silver		0.0226	mg/L	0.0050	90	90	110			09/17/15 10:45
<b>Method: E200.8</b>						Batch: R249538				
<b>Lab ID: LFB</b>	Laboratory Fortified Blank									
Silver		0.0201	mg/L	0.0050	100	85	115			09/17/15 10:48
<b>Lab ID: LRB</b>	Method Blank									
Silver		ND	mg/L	2E-05						09/17/15 13:09
<b>Lab ID: B15091316-004AMS</b>	Sample Matrix Spike									
Silver		0.0149	mg/L	0.0010	75	70	130			09/17/15 14:54
<b>Lab ID: B15091316-004AMSD</b>	Sample Matrix Spike Duplicate									
Silver		0.0140	mg/L	0.0010	70	70	130	6.8	20	09/17/15 14:57
<b>Lab ID: B15091185-002AMS</b>	Sample Matrix Spike									
Silver		0.0115	mg/L	0.0010	57	70	130			09/17/15 15:32 S
<b>Lab ID: B15091185-002AMSD</b>	Sample Matrix Spike Duplicate									
Silver		0.0154	mg/L	0.0010	77	70	130	29	20	09/17/15 15:35 R

**Qualifiers:**

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/22/15

**Project:** 1509164

**Work Order:** B15091185

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_150914A	
<b>Lab ID: QCS</b>	9	Initial Calibration Verification Standard							09/15/15 19:39		
Aluminum		0.251	mg/L	0.10	100	90	110				
Antimony		0.0520	mg/L	0.050	104	90	110				
Arsenic		0.0497	mg/L	0.0050	99	90	110				
Cadmium		0.0253	mg/L	0.0010	101	90	110				
Lead		0.0504	mg/L	0.010	101	90	110				
Selenium		0.0491	mg/L	0.0050	98	90	110				
Silver		0.0240	mg/L	0.0050	96	90	110				
Thallium		0.0498	mg/L	0.10	100	90	110				
Uranium		0.0207	mg/L	0.0010	104	90	110				
<b>Method: E200.8</b>										Batch: R249301	
<b>Lab ID: LRB</b>	9	Method Blank							Run: ICPMS206-B_150914A 09/14/15 13:08		
Aluminum		ND	mg/L	0.0001							
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: B15091185-001AMS</b>	9	Sample Matrix Spike							Run: ICPMS206-B_150914A 09/16/15 06:34		
Aluminum		0.0544	mg/L	0.030	94	70	130				
Antimony		0.0546	mg/L	0.0010	109	70	130				
Arsenic		0.0509	mg/L	0.0010	97	70	130				
Cadmium		0.0468	mg/L	0.0010	94	70	130				
Lead		0.0483	mg/L	0.0010	96	70	130				
Selenium		0.0490	mg/L	0.0010	98	70	130				
Silver		0.0105	mg/L	0.0010	52	70	130			S	
Thallium		0.0476	mg/L	0.00050	94	70	130				
Uranium		0.0498	mg/L	0.00030	100	70	130				
<b>Lab ID: B15091185-001AMSD</b>	9	Sample Matrix Spike Duplicate							Run: ICPMS206-B_150914A 09/16/15 06:39		
Aluminum		0.0566	mg/L	0.030	98	70	130	4.0	20		
Antimony		0.0538	mg/L	0.0010	107	70	130	1.4	20		
Arsenic		0.0519	mg/L	0.0010	99	70	130	1.9	20		
Cadmium		0.0479	mg/L	0.0010	96	70	130	2.4	20		
Lead		0.0484	mg/L	0.0010	97	70	130	0.3	20		
Selenium		0.0474	mg/L	0.0010	95	70	130	3.4	20		
Silver		0.0114	mg/L	0.0010	57	70	130	8.5	20	S	
Thallium		0.0483	mg/L	0.00050	96	70	130	1.4	20		
Uranium		0.0492	mg/L	0.00030	98	70	130	1.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/22/15

**Project:** 1509164

**Work Order:** B15091185

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R249301
<b>Lab ID:</b> LFB	9	Laboratory Fortified Blank								Run: ICPMS206-B_150914A 09/16/15 08:33
Aluminum		0.0484	mg/L	0.10	97	85	115			
Antimony		0.0477	mg/L	0.050	95	85	115			
Arsenic		0.0470	mg/L	0.0050	94	85	115			
Cadmium		0.0477	mg/L	0.0010	95	85	115			
Lead		0.0480	mg/L	0.010	96	85	115			
Selenium		0.0485	mg/L	0.0050	97	85	115			
Silver		0.0178	mg/L	0.0050	89	85	115			
Thallium		0.0471	mg/L	0.10	94	85	115			
Uranium		0.0499	mg/L	0.0010	100	85	115			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/22/15

**Project:** 1509164

**Work Order:** B15091185

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150921A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/21/15 13:56	
Mercury		0.000207	mg/L	1.0E-05	104	90	110				
<b>Method:</b> E245.1										Batch: 93313	
<b>Lab ID:</b> MB-93313		Method Blank								Run: HGCV203-B_150921A	09/21/15 14:05
Mercury		2E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93313		Laboratory Control Sample								Run: HGCV203-B_150921A	09/21/15 14:07
Mercury		0.000210	mg/L	1.0E-05	104	85	115				
<b>Lab ID:</b> B15091184-001AMS		Sample Matrix Spike								Run: HGCV203-B_150921A	09/21/15 14:15
Mercury		0.000233	mg/L	1.0E-05	103	70	130				
<b>Lab ID:</b> B15091184-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150921A	09/21/15 14:18
Mercury		0.000232	mg/L	1.0E-05	102	70	130	0.4	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15091185

Login completed by: Lisa Gancze

Date Received: 9/14/2015

Reviewed by: BL2000\jmueller

Received by: Ig

Reviewed Date: 9/15/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	12.6°C Melted Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None





	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 -sub to Energy Lab	
	Antimony	0.0005 - 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 - 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 - 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 - 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 -sub to Energy Lab	
	Calcium	1.0 - 1.0 WETLAB	EPA 200.7
	Chromium	0.01 - 0.01 WETLAB	EPA 200.7
	Copper	0.002 - 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
	Iron	0.02 - 0.02 WETLAB	EPA 200.7
	Lead	0.0003 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
	Manganese	0.005 - 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 -sub to Energy Lab	
	Nickel	0.002 - 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 -sub to Energy Lab	EPA 200.7
	Selenium	0.001 -sub to Energy Lab	EPA 200.8
	Silicon	0.05 - 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 -sub to Energy Lab	
	Strontium	0.02 - 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
	Thallium	0.0002 -sub to Energy Lab	
	Uranium	0.0002 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Zinc	0.008 - 0.008 WETLAB	EPA 200.7
		Alkalinity, Total (as CaCO3)	1
	pH (standard units)	NA	4500H+B
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	-
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe speciat  
 redox  
 EC



11/19/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509366  
*Amended*

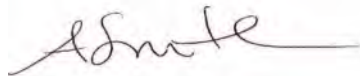
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/15/2015. Additional comments are located on page 2 of this report.

This is an amended report that includes corrected sample IDs. If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

*Tintina Resources - 1509366 Amended*

### Specific Report Comments

The result for the laboratory control sample (LCS) for the analysis of pH on samples 1509366-001 and 002 was outside WETLAB acceptance criteria. Due to a lack of sample volume the analysis could not be performed a second time. The reported data should be considered an estimate. We apologize for any inconvenience this may have caused.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 11/19/2015

OrderID: 1509366

Amended

Customer Sample ID: C586-15 P,Q WK: 3

Collect Date/Time: 9/15/2015 09:00

WETLAB Sample ID: 1509366-001

Receive Date: 9/15/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/15/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/21/2015	NV00925
pH	SM 4500-H+ B	6.04	QL pH Units	1		9/17/2015	NV00925
Temperature at pH	NA	22.6	°C	1		9/17/2015	NV00925
Redox Potential	ASTM D1498	520	mV	1		9/15/2015	NV00925
Acidity (Titrimetric)	SM 2310B	6	mg/L as CaCO3	1		9/15/2015	NV00925
Total Alkalinity	SM 2320B	1.4	mg/L as CaCO3	1	1.0	9/17/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	1.4	mg/L as CaCO3	1	1.0	9/17/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/17/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/17/2015	NV00925
Electrical Conductivity	SM 2510B	130	µmhos/cm	1	1	9/15/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	36	mg/L	1	1.0	9/16/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	19	mg/L	1	0.50	9/21/2015	NV00925
Iron	EPA 200.7	ND	mg/L	1	0.020	9/21/2015	NV00925
Magnesium	EPA 200.7	ND	mg/L	1	0.50	9/21/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		9/15/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		9/22/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	9/14/2015	NV00925
HCT Post-Leach Volume	N/A	3090	mL	1	1	9/15/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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 fax (702) 622-2868  
 EPA LAB ID: NV00932



Customer Sample ID: C601-15 O,Q WK: 3  
 WETLAB Sample ID: 1509366-002

Collect Date/Time: 9/15/2015 09:00

Receive Date: 9/15/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/15/2015	NV00925
Ferric Iron	SM 3500 Fe B	6.3	mg/L	1	0.1	9/21/2015	NV00925
pH	SM 4500-H+ B	4.27	QL pH Units	1		9/17/2015	NV00925
Temperature at pH	NA	22.5	°C	1		9/17/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		9/15/2015	NV00925
Acidity (Titrimetric)	SM 2310B	140	mg/L as CaCO <sub>3</sub>	1		9/15/2015	NV00925
Electrical Conductivity	SM 2510B	1900	µmhos/cm	1	1	9/15/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	1000	mg/L	10	10	9/16/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	140	mg/L	1	0.50	9/21/2015	NV00925
Iron	EPA 200.7	6.3	mg/L	1	0.020	9/21/2015	NV00925
Magnesium	EPA 200.7	120	mg/L	1	0.50	9/21/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		9/15/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		9/22/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	9/14/2015	NV00925
HCT Post-Leach Volume	N/A	2780	mL	1	1	9/15/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 6

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090561	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15090585	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090623	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15090767	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090561	LCS 1	Ferrous Iron	SM 3500 Fe B	0.927	1.00	93	mg/L
QC15090563	LCS 1	Redox Potential	ASTM D1498	222	221	100	mV
QC15090585	LCS 1	Electrical Conductivity	SM 2510B	1437	1412	102	µmhos/cm
QC15090623	LCS 1	Sulfate	EPA 300.0	23.9	25.0	96	mg/L
QC15090676	LCS 1	Total Alkalinity	SM 2320B	95.6	100	96	mg/L
QC15090676	LCS 2	Total Alkalinity	SM 2320B	96.1	100	96	mg/L
QC15090718	LCS 1	pH	SM 4500-H+ B	6.78	7.00	97	pH Units
QC15090767	LCS 1	Calcium, Dissolved	EPA 200.7	9.63	10.0	96	mg/L
		Iron, Dissolved	EPA 200.7	0.967	1.00	97	mg/L
		Magnesium, Dissolved	EPA 200.7	9.60	10.0	96	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090561	Duplicate	Ferrous Iron	SM 3500 Fe B	1509363-001	ND	ND	mg/L	<1%
QC15090561	Duplicate	Ferrous Iron	SM 3500 Fe B	1509365-003	ND	ND	mg/L	<1%
QC15090561	Duplicate	Ferrous Iron	SM 3500 Fe B	1509387-002	ND	ND	mg/L	<1%
QC15090563	Duplicate	Redox Potential	ASTM D1498	1509363-001	516	518	mV	<1%
QC15090563	Duplicate	Redox Potential	ASTM D1498	1509365-003	496	497	mV	<1%
QC15090563	Duplicate	Redox Potential	ASTM D1498	1509387-002	449	452	mV	1 %
QC15090585	Duplicate	Electrical Conductivity	SM 2510B	1509363-001	63.5	63.2	µmhos/cm	<1%
QC15090585	Duplicate	Electrical Conductivity	SM 2510B	1509365-003	100	99.8	µmhos/cm	<1%
QC15090676	Duplicate	Total Alkalinity	SM 2320B	1509312-003	22.6	25.3	mg/L as CaCO3	11 %
		Bicarbonate (HCO3)	SM 2320B	1509312-003	22.6	25.3	mg/L as CaCO3	11 %
		Carbonate (CO3)	SM 2320B	1509312-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509312-003	ND	ND	mg/L as CaCO3	<1%
QC15090676	Duplicate	Total Alkalinity	SM 2320B	1509315-004	26.3	25.8	mg/L as CaCO3	2 %
		Bicarbonate (HCO3)	SM 2320B	1509315-004	26.3	25.8	mg/L as CaCO3	2 %
		Carbonate (CO3)	SM 2320B	1509315-004	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509315-004	ND	ND	mg/L as CaCO3	<1%
QC15090676	Duplicate	Total Alkalinity	SM 2320B	1509365-001	14.8	13.6	mg/L as CaCO3	9 %
		Bicarbonate (HCO3)	SM 2320B	1509365-001	14.8	13.6	mg/L as CaCO3	9 %
		Carbonate (CO3)	SM 2320B	1509365-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509365-001	ND	ND	mg/L as CaCO3	<1%
QC15090684	Duplicate	Acidity (Titrimetric)	SM 2310B	1509312-001	ND	ND	QD mg/L as CaCO3	163 %
QC15090684	Duplicate	Acidity (Titrimetric)	SM 2310B	1509315-001	ND	ND	QD mg/L as CaCO3	79 %

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 6

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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090684	Duplicate	Acidity (Titrimetric)	SM 2310B	1509364-003	2.96	2.49	mg/L as CaCO3	17 %
QC15090718	Duplicate	pH	SM 4500-H+ B	1509363-001	6.51	6.71	QD,Q pH Units	3 %
QC15090718	Duplicate	pH	SM 4500-H+ B	1509365-003	6.87	7.13	QD,Q pH Units	4 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090623	MS 1	Sulfate	EPA 300.0	1509420-001	152	245	248	10.0	mg/L	93	97	1%
QC15090623	MS 2	Sulfate	EPA 300.0	1509364-005	ND	8.88	8.89	10.0	mg/L	85	85	<1%
QC15090767	MS 1	Calcium, Dissolved	EPA 200.7	1509525-005	115	122	122	10.0	mg/L	70	70	<1%
		Iron, Dissolved	EPA 200.7	1509525-005	ND	0.902	0.891	1.00	mg/L	90	89	1%
		Magnesium, Dissolved	EPA 200.7	1509525-005	12.6	20.7	20.6	10.0	mg/L	81	80	<1%

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**WETLAB**  
WESTERN ENVIRONMENTAL  
TESTING LABORATORY

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Specializing in Soil, Hazardous Waste and Water Analysis

Lab Number 15093606  
Report Due Date 9/29/15  
Page 1 of 1  
**CLIENT REQUIREMENTS**

Client	Tintina Resources	Turnaround Time Requirements	Standard	X	Reporting Results Via	Fax	
Address	11111 Main St	5 Day*			PDF	X	
City, State & Zip	White Sulphur Springs, MT 59645	3-Day*			EDD	X	
Contact	Bob Jacko, Kate Seig and Lisa Kirk	18 Hour*			Mail Only		
Phone	(406) 547-3466	24 Hour*			Other		
Collector Name	WETLAB	Compliance Monitoring	Yes	X	Samples Collected From Which State?	CA	
PWS/Project Name		Standard Level QC Required?	Yes	X	No		
PWS/Project Number	WLHCT 0118-0119	Other		X (MO)	*Level IV QC		*Surcharges will apply
bjacko@tintinaresources.com; seigal@montana.com; lkirk@montana.com							
Billing Address (if different than Client Address)							

SAMPLE ID / LOCATION	DATE	TIME	SAMPLE TYPE	NO. OF CONTAINERS	ANALYSES REQUESTED										SAMPLE NUMBER (LAB USE ONLY)
					pH	Redox	EC	Alk / Acidity	Total Fe / Ferric / Ferrous	Ca (D) & Mg (D)	SO4	ASTM_D7544 (HCT)	Profile II (w/ WAD) - SC_Metals (See Attached List)		
C601-15 O.Q WK 3	9/15/2015	9:00	LCH	2	X	X	X	X	X	X	X	X		1	
C586 P.Q WK 3	9/15/2015	9:00	LCH	2	X	X	X	X	X	X	X	X		2	

Instructions/Comments/Special Requirements: Original Order ID 1508607

Sample Matrix/Type Key**	DV=Drinking Water	W=Waste Water	SW=Surfacewater	MW=Monitoring Well	SD=Solid Sludge	SO=Soil	HW=Hazardous Waste	OT=Other
SAMPLE RECEIPT CONDITIONS	DATE	TIME	SAMPLES RELINQUISHED BY		SAMPLES RECEIVED BY			
Temperature <u>22</u> C	<u>9/15/15</u>	<u>9:00</u>	In House					
Custody Seals Intact? Y N <u>(None)</u>								
Number of Containers <u>4</u>								

WETLAB'S Standard Terms and Conditions apply unless written terms specify otherwise. Payment terms are Net 30 for established customers. Pre-payment is required for clients without an account.

Client/Collector attests to the validity and authenticity of the sample(s) and is (are) aware that tampering with or intentionally mislabeling the sample(s) location or date/time of collection will be considered fraud and may be subject to legal action (NAC-453.216)

Samples are discarded 90 days after receipt unless other arrangements have been made with the laboratory

To the maximum extent permitted by law, the Client agrees to limit the liability of WETLAB for the Client's damages to the total compensation received, unless other arrangements are made in writing. This limitation shall apply regardless of the cause of action or legal theory applied or asserted.

11/19/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509578  
***Amended***

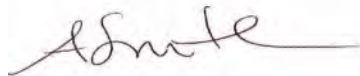
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/22/2015. Additional comments are located on page 2 of this report.

This is an amended report that includes corrected sample IDs. If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509578 Amended

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### Specific Report Comments

The cation/anion balance for sample 1509578-001 was outside WETLAB acceptance criteria; however, reanalysis confirmed the original results.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 11/19/2015

OrderID: 1509578

Amended

Customer Sample ID: C586-15 P,Q WK: 4

Collect Date/Time: 9/22/2015 09:00

WETLAB Sample ID: 1509578-001

Receive Date: 9/22/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/22/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/30/2015	NV00925
pH	SM 4500-H+ B	4.68	pH Units	1		9/23/2015	NV00925
Temperature at pH	NA	25.2	°C	1		9/23/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	10/1/2015	NV00925
Redox Potential	ASTM D1498	510	mV	1		9/22/2015	NV00925
Acidity (Titrimetric)	SM 2310B	9	mg/L as CaCO3	1		9/24/2015	NV00925
Total Alkalinity	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/24/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	10/1/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	320	mg/L	1	10	9/24/2015	NV00925
Electrical Conductivity	SM 2510B	350	µmhos/cm	1	1	9/22/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	2.0	mg/L	1	1.0	9/24/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/24/2015	NV00925
Sulfate	EPA 300.0	68	mg/L	1	1.0	9/24/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/30/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	0.26	mg/L	1	0.20	10/1/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium	EPA 200.7	0.032	mg/L	1	0.0030	9/30/2015	NV00925
Beryllium	EPA 200.7	ND	mg/L	1	0.0008	9/30/2015	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	9/30/2015	NV00925
Calcium	EPA 200.7	54	mg/L	1	0.50	9/30/2015	NV00925
Chromium	EPA 200.7	ND	mg/L	1	0.0050	9/30/2015	NV00925
Cobalt	EPA 200.7	0.057	mg/L	1	0.010	9/30/2015	NV00925
Iron	EPA 200.7	ND	mg/L	1	0.020	9/30/2015	NV00925
Magnesium	EPA 200.7	2.6	mg/L	1	0.50	9/30/2015	NV00925
Manganese	EPA 200.7	0.016	mg/L	1	0.0050	9/30/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	9/30/2015	NV00925
Potassium	EPA 200.7	4.5	mg/L	1	0.50	9/30/2015	NV00925
Sodium	EPA 200.7	4.4	mg/L	1	0.50	9/30/2015	NV00925
Strontium	EPA 200.7	0.67	mg/L	1	0.020	9/30/2015	NV00925
Zinc	EPA 200.7	0.014	mg/L	1	0.0080	9/30/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C586-15 P,Q WK: 4

Collect Date/Time: 9/22/2015 09:00

WETLAB Sample ID: 1509578-001

Receive Date: 9/22/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	0.0045	mg/L	1	0.0020	10/1/2015	NV00925
Nickel	EPA 200.8	0.022	mg/L	1	0.0020	10/1/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.47	meq/L	1	0.10		NV00925
Cations	Calculation	3.22	meq/L	1	0.10		NV00925
Error	Calculation	37	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		9/22/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		9/29/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	9/21/2015	NV00925
HCT Post-Leach Volume	N/A	3080	mL	1	1	9/22/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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 fax (702) 622-2868  
 EPA LAB ID: NV00932



Customer Sample ID: C601-15 O,Q WK: 4  
 WETLAB Sample ID: 1509578-002

Collect Date/Time: 9/22/2015 09:00

Receive Date: 9/22/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/22/2015	NV00925
Ferric Iron	SM 3500 Fe B	69	mg/L	1	0.1	9/30/2015	NV00925
pH	SM 4500-H+ B	3.63	pH Units	1		9/23/2015	NV00925
Temperature at pH	NA	25.2	°C	1		9/23/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	10/1/2015	NV00925
Redox Potential	ASTM D1498	470	mV	1		9/22/2015	NV00925
Acidity (Titrimetric)	SM 2310B	950	mg/L as CaCO3	1		9/24/2015	NV00925
Total Nitrogen	Calc.	1.3	mg/L	1	0.30	9/30/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	3000	mg/L	1	10	9/24/2015	NV00925
Electrical Conductivity	SM 2510B	2800	µmhos/cm	1	1	9/22/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	D mg/L	10	10	9/24/2015	NV00925
Fluoride	EPA 300.0	1.4	mg/L	10	1.0	9/24/2015	NV00925
Sulfate	EPA 300.0	2000	mg/L	100	100	9/25/2015	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	0.31	mg/L	5	0.10	9/30/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	1.0	mg/L	1	0.20	9/30/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.016	mg/L	1	0.0030	9/30/2015	NV00925
Beryllium	EPA 200.7	0.017	mg/L	1	0.0008	9/30/2015	NV00925
Boron	EPA 200.7	0.15	mg/L	1	0.10	9/30/2015	NV00925
Calcium	EPA 200.7	120	mg/L	1	0.50	9/30/2015	NV00925
Chromium	EPA 200.7	0.030	mg/L	1	0.0050	9/30/2015	NV00925
Cobalt	EPA 200.7	91	mg/L	10	0.10	9/30/2015	NV00925
Iron	EPA 200.7	69	mg/L	1	0.020	9/30/2015	NV00925
Magnesium	EPA 200.7	160	mg/L	1	0.50	9/30/2015	NV00925
Manganese	EPA 200.7	9.2	mg/L	1	0.0050	9/30/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	9/30/2015	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	9/30/2015	NV00925
Sodium	EPA 200.7	2.9	mg/L	1	0.50	9/30/2015	NV00925
Strontium	EPA 200.7	2.5	mg/L	1	0.020	9/30/2015	NV00925
Zinc	EPA 200.7	3.0	mg/L	1	0.0080	9/30/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	220	mg/L	1000	5.0	10/1/2015	NV00925
Nickel	EPA 200.8	30	mg/L	1000	10	10/1/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	41.7	meq/L	1	0.10		NV00925
Cations	Calculation	40.0	meq/L	1	0.10		NV00925
Error	Calculation	2.1	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		9/22/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		9/29/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	9/21/2015	NV00925
HCT Post-Leach Volume	N/A	2780	mL	1	1	9/22/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090966	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15091068	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15091118	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15091163	Blank 1	Copper	EPA 200.8	ND	mg/L
		Nickel	EPA 200.8	ND	mg/L
QC15091180	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15091192	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15091203	Blank 1	Barium	EPA 200.7	ND	mg/L
		Beryllium	EPA 200.7	ND	mg/L
		Boron	EPA 200.7	ND	mg/L
		Calcium	EPA 200.7	ND	mg/L
		Chromium	EPA 200.7	ND	mg/L
		Cobalt	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
		Manganese	EPA 200.7	ND	mg/L
		Molybdenum	EPA 200.7	ND	mg/L
		Potassium	EPA 200.7	ND	mg/L
		Sodium	EPA 200.7	ND	mg/L
		Strontium	EPA 200.7	ND	mg/L
		Zinc	EPA 200.7	ND	mg/L
QC15091211	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15100025	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15100072	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090930	LCS 1	pH	SM 4500-H+ B	6.91	7.00	99	pH Units
QC15090966	LCS 1	Chloride	EPA 300.0	10.1	10.0	101	mg/L
		Fluoride	EPA 300.0	2.11	2.00	106	mg/L
		Sulfate	EPA 300.0	25.0	25.0	100	mg/L
QC15091068	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	155	150	103	mg/L
QC15091068	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	162	150	108	mg/L
QC15091118	LCS 1	Ferrous Iron	SM 3500 Fe B	0.944	1.00	94	mg/L
QC15091145	LCS 1	Total Alkalinity	SM 2320B	100	100	100	mg/L
QC15091163	LCS 1	Copper	EPA 200.8	0.0099	0.010	99	mg/L
		Nickel	EPA 200.8	0.0102	0.010	102	mg/L
QC15091180	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.836	0.800	104	mg/L
QC15091192	LCS 1	Electrical Conductivity	SM 2510B	1376	1412	97	µmhos/cm
QC15091196	LCS 1	Redox Potential	ASTM D1498	221	221	100	mV
QC15091203	LCS 1	Barium	EPA 200.7	0.983	1.00	98	mg/L
		Beryllium	EPA 200.7	0.973	1.00	97	mg/L
		Boron	EPA 200.7	0.968	1.00	97	mg/L
		Calcium	EPA 200.7	9.63	10.0	96	mg/L
		Chromium	EPA 200.7	0.975	1.00	98	mg/L
		Cobalt	EPA 200.7	0.972	1.00	97	mg/L
		Iron	EPA 200.7	0.996	1.00	100	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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EPA LAB ID: NV00926

**LAS VEGAS**

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Las Vegas, Nevada 89102  
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fax (702) 622-2868  
EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Magnesium	EPA 200.7	9.65	10.0	96	mg/L
		Manganese	EPA 200.7	0.970	1.00	97	mg/L
		Molybdenum	EPA 200.7	0.971	1.00	97	mg/L
		Potassium	EPA 200.7	9.89	10.0	99	mg/L
		Sodium	EPA 200.7	10.1	10.0	101	mg/L
		Strontium	EPA 200.7	1.00	1.00	100	mg/L
		Zinc	EPA 200.7	0.994	1.00	99	mg/L
QC15091211	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.02	1.00	102	mg/L
QC15100025	LCS 1	WAD Cyanide	SM 4500CN I, E	0.106	0.100	106	mg/L
QC15100072	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.05	1.00	105	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090930	Duplicate	pH	SM 4500-H+ B	1509575-001	6.84	7.07	QD	pH Units 3 %
QC15090930	Duplicate	pH	SM 4500-H+ B	1509577-003	7.11	7.37	QD	pH Units 4 %
QC15091068	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509634-001	157	156		mg/L 1 %
QC15091118	Duplicate	Ferrous Iron	SM 3500 Fe B	1509575-001	ND	ND		mg/L <1%
QC15091118	Duplicate	Ferrous Iron	SM 3500 Fe B	1509577-003	ND	ND		mg/L <1%
QC15091118	Duplicate	Ferrous Iron	SM 3500 Fe B	1509580-001	ND	ND		mg/L <1%
QC15091145	Duplicate	Total Alkalinity	SM 2320B	1509575-001	12.4	12.6		mg/L as CaCO3 1 %
		Bicarbonate (HCO3)	SM 2320B	1509575-001	12.4	12.6		mg/L as CaCO3 1 %
		Carbonate (CO3)	SM 2320B	1509575-001	ND	ND		mg/L as CaCO3 <1%
		Hydroxide (OH)	SM 2320B	1509575-001	ND	ND		mg/L as CaCO3 <1%
QC15091145	Duplicate	Total Alkalinity	SM 2320B	1509577-003	19.5	19.6		mg/L as CaCO3 <1%
		Bicarbonate (HCO3)	SM 2320B	1509577-003	19.5	19.6		mg/L as CaCO3 <1%
		Carbonate (CO3)	SM 2320B	1509577-003	ND	ND		mg/L as CaCO3 <1%
		Hydroxide (OH)	SM 2320B	1509577-003	ND	ND		mg/L as CaCO3 <1%
QC15091146	Duplicate	Acidity (Titrimetric)	SM 2310B	1509575-001	0.190	ND	QD	mg/L as CaCO3 <1%
QC15091146	Duplicate	Acidity (Titrimetric)	SM 2310B	1509577-003	ND	ND		mg/L as CaCO3 <1%
QC15091192	Duplicate	Electrical Conductivity	SM 2510B	1509575-001	71.3	70.8		µmhos/cm 1 %
QC15091192	Duplicate	Electrical Conductivity	SM 2510B	1509577-003	94.8	96.4		µmhos/cm 2 %
QC15091196	Duplicate	Redox Potential	ASTM D1498	1509575-001	497	500		mV 1 %
QC15091196	Duplicate	Redox Potential	ASTM D1498	1509577-003	491	495		mV 1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090966	MS 1	Chloride	EPA 300.0	1509577-003	ND	5.86	5.89	5.00	mg/L	107	107	1%
		Fluoride	EPA 300.0	1509577-003	0.457	2.55	2.58	2.00	mg/L	105	106	1%
		Sulfate	EPA 300.0	1509577-003	19.2	29.5	29.6	10.0	mg/L	103	104	<1%
QC15090966	MS 2	Chloride	EPA 300.0	1509643-010	ND	5.41	5.43	5.00	mg/L	107	107	<1%
		Fluoride	EPA 300.0	1509643-010	ND	2.25	2.25	2.00	mg/L	109	109	<1%
		Sulfate	EPA 300.0	1509643-010	3.48	14.0	14.1	10.0	mg/L	105	106	1%
QC15091163	MS 1	Copper	EPA 200.8	1509510-006	ND	0.0148	0.0143	0.010	mg/L	110	105	3%
		Nickel	EPA 200.8	1509510-006	0.0205	0.0310	0.0300	0.010	mg/L	105	95	3%
QC15091180	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509578-001	ND	5.27	5.28	1.00	mg/L	104	105	<1%
QC15091180	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509605-008	0.680	5.88	5.90	1.00	mg/L	104	104	<1%
QC15091203	MS 1	Barium	EPA 200.7	1509510-006	0.028	0.967	0.966	1.00	mg/L	94	94	<1%
		Beryllium	EPA 200.7	1509510-006	ND	0.971	0.962	1.00	mg/L	97	96	1%
		Boron	EPA 200.7	1509510-006	0.249	1.28	1.26	1.00	mg/L	103	101	2%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**SPARKS**

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Calcium	EPA 200.7	1509510-006	370	SC 384	347	10.0	mg/L	NC	NC	NC
		Chromium	EPA 200.7	1509510-006	ND	0.961	0.951	1.00	mg/L	96	95	1%
		Cobalt	EPA 200.7	1509510-006	ND	0.946	0.927	1.00	mg/L	94	92	2%
		Iron	EPA 200.7	1509510-006	ND	1.04	0.987	1.00	mg/L	104	99	5%
		Magnesium	EPA 200.7	1509510-006	84.9	SC 98.2	87.5	10.0	mg/L	NC	NC	NC
		Manganese	EPA 200.7	1509510-006	0.757	1.74	1.70	1.00	mg/L	98	94	2%
		Molybdenum	EPA 200.7	1509510-006	ND	1.00	0.990	1.00	mg/L	99	98	1%
		Potassium	EPA 200.7	1509510-006	19.2	30.5	28.3	10.0	mg/L	113	91	7%
		Sodium	EPA 200.7	1509510-006	164	SC 181	168	10.0	mg/L	NC	NC	NC
		Strontium	EPA 200.7	1509510-006	2.63	3.76	3.51	1.00	mg/L	113	88	7%
		Zinc	EPA 200.7	1509510-006	ND	0.989	0.923	1.00	mg/L	98	91	7%
QC15091211	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509580-001	ND	M 1.04	1.01	1.00	mg/L	NC	NC	NC
QC15091211	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509605-008	ND	M 0.841	0.838	1.00	mg/L	NC	NC	NC
QC15100025	MS 1	WAD Cyanide	SM 4500CN I,	1509576-001	ND	0.102	0.099	0.100	mg/L	102	100	3%
QC15100025	MS 2	WAD Cyanide	SM 4500CN I,	1509722-001	ND	0.097	0.102	0.100	mg/L	96	101	5%
QC15100072	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509573-002	ND	1.12	1.08	1.00	mg/L	99	95	4%
QC15100072	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509688-004	0.319	M 1.07	1.20	1.00	mg/L	NC	NC	NC

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# ANALYTICAL SUMMARY REPORT

December 02, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15092483                      Quote ID: B3679

Project Name: Job ID 1509578

Energy Laboratories Inc Billings MT received the following 2 samples for Western Environmental Testing Laboratory on 9/29/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15092483-001	C586-15 O,Q WK:4	09/22/15 9:00	09/29/15	Leachate	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA
B15092483-002	C601-15 P,Q WK:4	09/22/15 9:00	09/29/15	Leachate	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



**CLIENT:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509578  
**Work Order:** B15092483

**Revised Date:** 12/02/15

**Report Date:** 10/07/15

## CASE NARRATIVE

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Revised 11/24/2015:

Per Hollie Timmons sample ID's are incorrect on the original report. The sample ID's have been corrected. We apologize for any inconvenience this may have caused.

The report has been revised and replaces any previously issued report in its entirety.

Revised 12/2/2015:

Per Hollie Timmons change sample ID for sample C586-15 O, Q WK: 4- WLHCT-0119 (B15092483-001) to C586-15 O,Q WK:4, and sample C601-15 P, Q WK: 4- WLHCT-0118 (B15092483-002) to C601-15 P,Q WK:4. The sample ID's have been corrected. We apologize for any inconvenience this may have caused.

The report has been revised and replaces any previously issued report in its entirety.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509578  
**Lab ID:** B15092483-001  
**Client Sample ID:** C586-15 O,Q WK:4

**Revised Date:** 12/02/15  
**Report Date:** 10/07/15  
**Collection Date:** 09/22/15 09:00  
**Date Received:** 09/29/15  
**Matrix:** Leachate

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.7	10/01/15 12:45 / r/h
Antimony	0.0006	mg/L		0.0005		E200.8	10/01/15 20:21 / mas
Arsenic	0.005	mg/L		0.001		E200.8	10/01/15 20:21 / mas
Cadmium	0.00004	mg/L		0.00003		E200.8	10/01/15 20:21 / mas
Lead	0.0003	mg/L		0.0003		E200.8	10/01/15 20:21 / mas
Mercury	0.000102	mg/L		5E-06		E245.1	10/01/15 15:29 / ser
Phosphorus	ND	mg/L	L	0.007		E200.7	10/01/15 12:45 / r/h
Selenium	ND	mg/L		0.001		E200.8	10/01/15 20:21 / mas
Silicon	0.37	mg/L		0.05		E200.7	10/01/15 12:45 / r/h
Silver	ND	mg/L		0.0002		E200.8	10/01/15 20:21 / mas
Thallium	0.0023	mg/L		0.0002		E200.8	10/01/15 20:21 / mas
Uranium	ND	mg/L		0.0002		E200.8	10/01/15 20:21 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1509578  
**Lab ID:** B15092483-002  
**Client Sample ID:** C601-15 P,Q WK:4

**Revised Date:** 12/02/15  
**Report Date:** 10/07/15  
**Collection Date:** 09/22/15 09:00  
**Date Received:** 09/29/15  
**Matrix:** Leachate

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	69.8	mg/L	L	0.01		E200.7	10/01/15 13:06 / r/h
Antimony	0.0013	mg/L		0.0005		E200.8	10/01/15 20:25 / mas
Arsenic	0.028	mg/L		0.001		E200.8	10/01/15 20:25 / mas
Cadmium	0.00490	mg/L		0.00003		E200.8	10/01/15 20:25 / mas
Lead	0.0079	mg/L		0.0003		E200.8	10/01/15 20:25 / mas
Mercury	5.1E-06	mg/L		5E-06		E245.1	10/01/15 15:35 / ser
Phosphorus	0.753	mg/L	L	0.007		E200.7	10/01/15 13:06 / r/h
Selenium	0.006	mg/L		0.001		E200.8	10/01/15 20:25 / mas
Silicon	14.4	mg/L		0.05		E200.7	10/01/15 13:06 / r/h
Silver	ND	mg/L		0.0002		E200.8	10/01/15 20:25 / mas
Thallium	0.0333	mg/L		0.0002		E200.8	10/01/15 20:25 / mas
Uranium	0.0314	mg/L		0.0002		E200.8	10/01/15 20:25 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID 1509578

**Work Order:** B15092483

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>		Analytical Run: ICP203-B_151001A								
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard							10/01/15 11:35	
Aluminum		2.55	mg/L	0.10	102	95	105			
Phosphorus		2.51	mg/L	0.10	101	95	105			
Silicon		5.08	mg/L	0.10	102	95	105			
<b>Method: E200.7</b>		Batch: R250269								
<b>Lab ID: MB-6500DIS151001A</b>	3	Method Blank							Run: ICP203-B_151001A 10/01/15 12:03	
Aluminum		ND	mg/L	0.007						
Phosphorus		ND	mg/L	0.007						
Silicon		ND	mg/L	0.01						
<b>Lab ID: LFB-6500DIS151001A</b>	3	Laboratory Fortified Blank							Run: ICP203-B_151001A 10/01/15 12:07	
Aluminum		5.12	mg/L	0.10	102	85	115			
Phosphorus		10.4	mg/L	0.10	104	85	115			
Silicon		10.3	mg/L	0.10	103	85	115			
<b>Lab ID: B15092483-001AMS2</b>	3	Sample Matrix Spike							Run: ICP203-B_151001A 10/01/15 12:52	
Aluminum		5.24	mg/L	0.030	105	70	130			
Phosphorus		10.6	mg/L	0.10	106	70	130			
Silicon		10.8	mg/L	0.10	105	70	130			
<b>Lab ID: B15092483-001AMSD</b>	3	Sample Matrix Spike Duplicate							Run: ICP203-B_151001A 10/01/15 12:56	
Aluminum		5.31	mg/L	0.030	106	70	130	1.2	20	
Phosphorus		10.7	mg/L	0.10	107	70	130	1.2	20	
Silicon		10.7	mg/L	0.10	103	70	130	1.5	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID 1509578

**Work Order:** B15092483

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_151001A				
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard						10/01/15 14:47			
Antimony		0.0527	mg/L	0.050	105	90	110				
Arsenic		0.0508	mg/L	0.0050	102	90	110				
Cadmium		0.0252	mg/L	0.0010	101	90	110				
Lead		0.0505	mg/L	0.010	101	90	110				
Selenium		0.0506	mg/L	0.0050	101	90	110				
Silver		0.0236	mg/L	0.0050	94	90	110				
Thallium		0.0481	mg/L	0.10	96	90	110				
Uranium		0.0199	mg/L	0.0010	99	90	110				
<b>Method: E200.8</b>							Batch: R250260				
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank						Run: ICPMS203-B_151001A 10/01/15 10:23			
Antimony		0.0496	mg/L	0.050	99	85	115				
Arsenic		0.0486	mg/L	0.0050	97	85	115				
Cadmium		0.0494	mg/L	0.0010	99	85	115				
Lead		0.0507	mg/L	0.010	101	85	115				
Selenium		0.0485	mg/L	0.0050	97	85	115				
Silver		0.0183	mg/L	0.0050	92	85	115				
Thallium		0.0515	mg/L	0.10	103	85	115				
Uranium		0.0520	mg/L	0.0010	104	85	115				
<b>Lab ID: LRB</b>	8	Method Blank						Run: ICPMS203-B_151001A 10/01/15 11:43			
Antimony		ND	mg/L	1E-05							
Arsenic		9E-05	mg/L	5E-05							
Cadmium		ND	mg/L	5E-06							
Lead		ND	mg/L	3E-05							
Selenium		ND	mg/L	7E-05							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	3E-06							
<b>Lab ID: B15091901-004BMS</b>	8	Sample Matrix Spike						Run: ICPMS203-B_151001A 10/01/15 17:10			
Antimony		0.0990	mg/L	0.0010	99	70	130				
Arsenic		0.103	mg/L	0.0010	99	70	130				
Cadmium		0.0955	mg/L	0.0010	95	70	130				
Lead		0.101	mg/L	0.0010	100	70	130				
Selenium		0.0993	mg/L	0.0010	98	70	130				
Silver		0.0316	mg/L	0.0010	79	70	130				
Thallium		0.0981	mg/L	0.00050	98	70	130				
Uranium		0.121	mg/L	0.00030	116	70	130				
<b>Lab ID: B15091901-004BMSD</b>	8	Sample Matrix Spike Duplicate						Run: ICPMS203-B_151001A 10/01/15 17:14			
Antimony		0.100	mg/L	0.0010	100	70	130	1.1	20		
Arsenic		0.105	mg/L	0.0010	100	70	130	1.7	20		
Cadmium		0.0959	mg/L	0.0010	96	70	130	0.4	20		
Lead		0.102	mg/L	0.0010	102	70	130	1.7	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID 1509578

**Work Order:** B15092483

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>										Batch: R250260
<b>Lab ID: B15091901-004BMSD</b>	8	Sample Matrix Spike Duplicate					Run: ICPMS203-B_151001A			10/01/15 17:14
Selenium		0.102	mg/L	0.0010	101	70	130	2.9	20	
Silver		0.0298	mg/L	0.0010	75	70	130	5.9	20	
Thallium		0.0981	mg/L	0.00050	98	70	130	0.1	20	
Uranium		0.125	mg/L	0.00030	120	70	130	3.3	20	
<b>Lab ID: B15092383-001AMS</b>	8	Sample Matrix Spike					Run: ICPMS203-B_151001A			10/01/15 20:34
Antimony		0.0499	mg/L	0.0010	100	70	130			
Arsenic		0.0523	mg/L	0.0010	102	70	130			
Cadmium		0.0492	mg/L	0.0010	98	70	130			
Lead		0.0529	mg/L	0.0010	106	70	130			
Selenium		0.0497	mg/L	0.0010	98	70	130			
Silver		0.00861	mg/L	0.0010	43	70	130			S
Thallium		0.0475	mg/L	0.00050	95	70	130			
Uranium		0.0516	mg/L	0.00030	102	70	130			
<b>Lab ID: B15092383-001AMSD</b>	8	Sample Matrix Spike Duplicate					Run: ICPMS203-B_151001A			10/01/15 20:38
Antimony		0.0501	mg/L	0.0010	100	70	130	0.5	20	
Arsenic		0.0540	mg/L	0.0010	106	70	130	3.3	20	
Cadmium		0.0498	mg/L	0.0010	100	70	130	1.2	20	
Lead		0.0526	mg/L	0.0010	105	70	130	0.5	20	
Selenium		0.0565	mg/L	0.0010	112	70	130	13	20	
Silver		0.0178	mg/L	0.0010	89	70	130	70	20	R
Thallium		0.0478	mg/L	0.00050	95	70	130	0.6	20	
Uranium		0.0506	mg/L	0.00030	100	70	130	2.0	20	

**Qualifiers:**

RL - Analyte reporting limit.  
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.  
S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID 1509578

**Work Order:** B15092483

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151001A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								10/01/15 15:05	
Mercury		0.000217	mg/L	1.0E-05	108	90	110				
<b>Method:</b> E245.1										Batch: 93632	
<b>Lab ID:</b> MB-93632		Method Blank								Run: HGCV203-B_151001A	10/01/15 15:14
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93632		Laboratory Control Sample								Run: HGCV203-B_151001A	10/01/15 15:16
Mercury		0.000216	mg/L	1.0E-05	107	85	115				
<b>Lab ID:</b> B15092392-007BMS		Sample Matrix Spike								Run: HGCV203-B_151001A	10/01/15 15:22
Mercury		0.000218	mg/L	1.0E-05	108	70	130				
<b>Lab ID:</b> B15092392-007BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_151001A	10/01/15 15:24
Mercury		0.000221	mg/L	1.0E-05	110	70	130	1.4	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15092483

Login completed by: Randa Nees

Date Received: 9/29/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 10/1/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	16.2°C Melted Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

Per phone call with Mitchell at Western Environmental Testing Laboratory analyze samples per client history.



# CHAIN OF CUSTODY RECORD

*Empty*

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <u>1</u> System: _____ Job ID: 1509578	All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Samplers Initials: _____ Water System #: _____
Notes: <i>See Attaches</i>				
SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____				

Set Date	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/22/2015 9:00 AM	C801-15 O,Q WK: 4 - WLHCT-0119	Leachate	Various Metals (Subcontracted)		
9/22/2015 9:00 AM	C886-15 P,Q WK: 4 - WLHCT-0118	Leachate	Various Metals (Subcontracted)		

*B15092483-001*  
*L 002*

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
<i>[Signature]</i>	9-24-15	11:00	<i>[Signature]</i>						
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank

*UP 5 Grnd.*

*Quince Jones*

*melted ice  
no temp blank  
temp = 16.2  
no seals*

11/19/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509798  
***Amended***

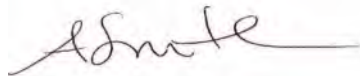
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/29/2015. Additional comments are located on page 2 of this report.

This is an amended report that includes corrected sample IDs. If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

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EPA LAB ID: NV00926

**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509798 Amended

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### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

**Tintina Resources**  
**17 East Main Street**  
**White Sulphur Springs, MT 59645**  
**Attn: Bob Jacko/Katie Seipel/Lisa Kirk**  
**Phone: (406)-547-3466 Fax:**  
**POProject: WLHCT-0118-0119**

**Date Printed:** 11/19/2015  
**OrderID:** 1509798  
**Amended**

**Customer Sample ID:** C586-15 P,Q WK: 5  
**WETLAB Sample ID:** 1509798-001

**Collect Date/Time:** 9/29/2015 09:00  
**Receive Date:** 9/29/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/29/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	10/2/2015	NV00925
pH	SM 4500-H+ B	4.92	pH Units	1		10/2/2015	NV00925
Temperature at pH	NA	22.5	°C	1		10/2/2015	NV00925
Redox Potential	ASTM D1498	510	mV	1		9/29/2015	NV00925
Acidity (Titrimetric)	SM 2310B	9	mg/L as CaCO <sub>3</sub>	1		9/30/2015	NV00925
Electrical Conductivity	SM 2510B	250	µmhos/cm	1	1	9/29/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	49	mg/L	1	1.0	9/30/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	32	mg/L	1	0.50	10/2/2015	NV00925
Iron	EPA 200.7	ND	mg/L	1	0.020	10/2/2015	NV00925
Magnesium	EPA 200.7	4.3	mg/L	1	0.50	10/2/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		9/29/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/1/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	9/28/2015	NV00925
HCT Post-Leach Volume	N/A	3190	mL	1	1	9/29/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

Page 3 of 5

### SPARKS

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### LAS VEGAS

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 5  
 WETLAB Sample ID: 1509798-002

Collect Date/Time: 9/29/2015 09:00  
 Receive Date: 9/29/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	0.12	mg/L	1	0.1	9/29/2015	NV00925
Ferric Iron	SM 3500 Fe B	210	mg/L	1	0.1	10/2/2015	NV00925
pH	SM 4500-H+ B	3.12	pH Units	1		10/2/2015	NV00925
Temperature at pH	NA	22.5	°C	1		10/2/2015	NV00925
Redox Potential	ASTM D1498	460	mV	1		9/29/2015	NV00925
Acidity (Titrimetric)	SM 2310B	1300	mg/L as CaCO3	1		9/30/2015	NV00925
Electrical Conductivity	SM 2510B	2900	µmhos/cm	1	1	9/29/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	1800	mg/L	20	20	10/1/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	81	mg/L	1	0.50	10/2/2015	NV00925
Iron	EPA 200.7	210	mg/L	1	0.020	10/2/2015	NV00925
Magnesium	EPA 200.7	79	mg/L	1	0.50	10/2/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		9/29/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/1/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	9/28/2015	NV00925
HCT Post-Leach Volume	N/A	2790	mL	1	1	9/29/2015	NV00925

**SPARKS**

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15091191	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15091195	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15100018	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15100106	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15091191	LCS 1	Ferrous Iron	SM 3500 Fe B	0.943	1.00	94	mg/L
QC15091195	LCS 1	Electrical Conductivity	SM 2510B	1435	1412	102	µmhos/cm
QC15091199	LCS 1	Redox Potential	ASTM D1498	222	221	100	mV
QC15100018	LCS 1	Sulfate	EPA 300.0	23.3	25.0	93	mg/L
QC15100106	LCS 1	Calcium	EPA 200.7	9.16	10.0	92	mg/L
		Iron	EPA 200.7	0.914	1.00	91	mg/L
		Magnesium	EPA 200.7	8.96	10.0	90	mg/L
QC15100147	LCS 1	pH	SM 4500-H+ B	6.94	7.00	99	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15091191	Duplicate	Ferrous Iron	SM 3500 Fe B	1509795-001	ND	ND	mg/L	<1%
QC15091191	Duplicate	Ferrous Iron	SM 3500 Fe B	1509797-003	ND	ND	mg/L	<1%
QC15091195	Duplicate	Electrical Conductivity	SM 2510B	1509795-001	62.6	62.6	µmhos/cm	<1%
QC15091195	Duplicate	Electrical Conductivity	SM 2510B	1509797-003	99.1	98.3	µmhos/cm	1 %
QC15091199	Duplicate	Redox Potential	ASTM D1498	1509795-001	487	496	mV	2 %
QC15091199	Duplicate	Redox Potential	ASTM D1498	1509797-003	482	487	mV	1 %
QC15100083	Duplicate	Acidity (Titrimetric)	SM 2310B	1509666-001	11.2	11.9	mg/L as CaCO3	6 %
QC15100083	Duplicate	Acidity (Titrimetric)	SM 2310B	1509797-002	3.45	2.66	QD mg/L as CaCO3	26 %
QC15100147	Duplicate	pH	SM 4500-H+ B	1509795-001	6.69	6.84	QD pH Units	2 %
QC15100147	Duplicate	pH	SM 4500-H+ B	1509797-003	7.06	7.26	QD pH Units	3 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15100018	MS 1	Sulfate	EPA 300.0	1509854-001	ND	9.60	9.65	10.0	mg/L	92	93	1%
QC15100018	MS 2	Sulfate	EPA 300.0	1509797-001	42.9	52.1	52.1	10.0	mg/L	93	92	<1%
QC15100106	MS 1	Calcium	EPA 200.7	1509848-003	8.87	18.3	18.1	10.0	mg/L	94	92	1%
		Iron	EPA 200.7	1509848-003	0.906	2.12	2.11	1.00	mg/L	121	120	<1%
		Magnesium	EPA 200.7	1509848-003	2.52	12.2	11.9	10.0	mg/L	97	94	2%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 5

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EPA LAB ID: NV00932



11/19/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1510100  
*Amended*

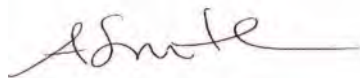
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

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The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 10/6/2015. Additional comments are located on page 2 of this report.

This is an amended report that includes corrected sample IDs. If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager



# Western Environmental Testing Laboratory

## Report Comments

Tintina Resources - 1510100 Amended

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
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### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 11/19/2015

OrderID: 1510100

Amended

Customer Sample ID: C586-15 P,Q WK: 6

Collect Date/Time: 10/6/2015 09:00

WETLAB Sample ID: 1510100-001

Receive Date: 10/6/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	10/6/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	10/13/2015	NV00925
pH	SM 4500-H+ B	5.39	pH Units	1		10/12/2015	NV00925
Temperature at pH	NA	23	°C	1		10/12/2015	NV00925
Redox Potential	ASTM D1498	500	mV	1		10/6/2015	NV00925
Acidity (Titrimetric)	SM 2310B	10	mg/L as CaCO3	1		10/9/2015	NV00925
Total Alkalinity	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/9/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/9/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/9/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/9/2015	NV00925
Electrical Conductivity	SM 2510B	220	µmhos/cm	1	1	10/6/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Sulfate	EPA 300.0	54	mg/L	1	1.0	10/7/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Calcium	EPA 200.7	20	mg/L	1	0.50	10/13/2015	NV00925
Iron	EPA 200.7	ND	mg/L	1	0.020	10/13/2015	NV00925
Magnesium	EPA 200.7	11	mg/L	1	0.50	10/13/2015	NV00925
<b>Sample Preparation</b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		10/6/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/12/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	10/5/2015	NV00925
HCT Post-Leach Volume	N/A	3070	mL	1	1	10/6/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 6

**SPARKS**

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 EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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**LAS VEGAS**

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 Las Vegas, Nevada 89102  
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 fax (702) 622-2868  
 EPA LAB ID: NV00932



Customer Sample ID: C601-15 O,Q WK: 6  
 WETLAB Sample ID: 1510100-002

Collect Date/Time: 10/6/2015 09:00  
 Receive Date: 10/6/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	0.30	mg/L	1	0.1	10/6/2015	NV00925
Ferric Iron	SM 3500 Fe B	390	mg/L	1	0.1	10/13/2015	NV00925
pH	SM 4500-H+ B	2.91	pH Units	1		10/12/2015	NV00925
Temperature at pH	NA	23	°C	1		10/12/2015	NV00925
Redox Potential	ASTM D1498	470	mV	1		10/6/2015	NV00925
Acidity (Titrimetric)	SM 2310B	1500	mg/L as CaCO3	1		10/9/2015	NV00925
Electrical Conductivity	SM 2510B	2900	µmhos/cm	1	1	10/6/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	1800	mg/L	20	20	10/7/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	68	mg/L	1	0.50	10/13/2015	NV00925
Iron	EPA 200.7	390	mg/L	10	0.20	10/13/2015	NV00925
Magnesium	EPA 200.7	51	mg/L	1	0.50	10/13/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		10/6/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/12/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	10/5/2015	NV00925
HCT Post-Leach Volume	N/A	2810	mL	1	1	10/6/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15100295	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15100327	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15100328	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15100562	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15100295	LCS 1	Sulfate	EPA 300.0	23.1	25.0	93	mg/L
QC15100327	LCS 1	Ferrous Iron	SM 3500 Fe B	0.898	1.00	90	mg/L
QC15100328	LCS 1	Electrical Conductivity	SM 2510B	1433	1412	101	µmhos/cm
QC15100344	LCS 1	Redox Potential	ASTM D1498	224	221	101	mV
QC15100476	LCS 1	Total Alkalinity	SM 2320B	102	100	102	mg/L
QC15100476	LCS 2	Total Alkalinity	SM 2320B	96.5	100	97	mg/L
QC15100545	LCS 1	pH	SM 4500-H+ B	6.92	7.00	99	pH Units
QC15100545	LCS 2	pH	SM 4500-H+ B	6.94	7.00	99	pH Units
QC15100562	LCS 1	Calcium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Iron, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Magnesium, Dissolved	EPA 200.7	10.6	10.0	106	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15100327	Duplicate	Ferrous Iron	SM 3500 Fe B	1510097-001	ND	ND	mg/L	<1%
QC15100327	Duplicate	Ferrous Iron	SM 3500 Fe B	1510099-003	ND	ND	mg/L	<1%
QC15100328	Duplicate	Electrical Conductivity	SM 2510B	1510097-001	63.2	62.5	µmhos/cm	1 %
QC15100328	Duplicate	Electrical Conductivity	SM 2510B	1510099-003	93.1	92.5	µmhos/cm	1 %
QC15100344	Duplicate	Redox Potential	ASTM D1498	1510097-001	504	509	mV	1 %
QC15100344	Duplicate	Redox Potential	ASTM D1498	1510099-003	463	464	mV	<1%
QC15100476	Duplicate	Total Alkalinity	SM 2320B	1510018-001	10.8	11.2	mg/L as CaCO3	3 %
		Bicarbonate (HCO3)	SM 2320B	1510018-001	10.8	11.2	mg/L as CaCO3	3 %
		Carbonate (CO3)	SM 2320B	1510018-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1510018-001	ND	ND	mg/L as CaCO3	<1%
QC15100476	Duplicate	Total Alkalinity	SM 2320B	1510021-003	27.1	27.0	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1510021-003	27.1	27.0	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1510021-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1510021-003	ND	ND	mg/L as CaCO3	<1%
QC15100476	Duplicate	Total Alkalinity	SM 2320B	1510098-005	2.46	2.55	mg/L as CaCO3	4 %
		Bicarbonate (HCO3)	SM 2320B	1510098-005	2.46	2.55	mg/L as CaCO3	4 %
		Carbonate (CO3)	SM 2320B	1510098-005	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1510098-005	ND	ND	mg/L as CaCO3	<1%
QC15100477	Duplicate	Acidity (Titrimetric)	SM 2310B	1510018-001	5.56	4.61	mg/L as CaCO3	19 %
QC15100477	Duplicate	Acidity (Titrimetric)	SM 2310B	1510021-003	ND	1.26	QD mg/L as CaCO3	640 %
QC15100477	Duplicate	Acidity (Titrimetric)	SM 2310B	1510098-005	8.39	7.63	mg/L as CaCO3	9 %

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15100545	Duplicate	pH	SM 4500-H+ B	1510018-001	6.65	6.82	QD pH Units	3 %
QC15100545	Duplicate	pH	SM 4500-H+ B	1510021-003	7.10	7.41	QD pH Units	4 %
QC15100545	Duplicate	pH	SM 4500-H+ B	1510097-001	6.73	6.83	pH Units	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15100295	MS 1	Sulfate	EPA 300.0	1510099-004	71.3	80.3	80.8	10.0	mg/L	89	94	1%
QC15100562	MS 1	Calcium, Dissolved	EPA 200.7	1510174-003	105	115	114	10.0	mg/L	100	90	1%
		Iron, Dissolved	EPA 200.7	1510174-003	0.628	1.63	1.65	1.00	mg/L	100	102	1%
		Magnesium, Dissolved	EPA 200.7	1510174-003	27.3	37.4	37.3	10.0	mg/L	101	100	<1%

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11/19/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1510305  
*Amended*

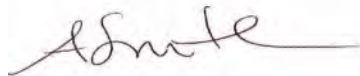
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 10/13/2015. Additional comments are located on page 2 of this report.

This is an amended report that includes corrected sample IDs. If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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# Western Environmental Testing Laboratory

## Report Comments

Tintina Resources - 1510305 Amended

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 11/19/2015

OrderID: 1510305

Amended

Customer Sample ID: C586-15 P,Q WK: 7

Collect Date/Time: 10/13/2015 09:00

WETLAB Sample ID: 1510305-001

Receive Date: 10/13/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	0.28	mg/L	1	0.1	10/13/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	10/16/2015	NV00925
pH	SM 4500-H+ B	5.41	pH Units	1		10/20/2015	NV00925
Temperature at pH	NA	23.5	°C	1		10/20/2015	NV00925
Redox Potential	ASTM D1498	500	mV	1		10/13/2015	NV00925
Acidity (Titrimetric)	SM 2310B	20	mg/L as CaCO3	1		10/19/2015	NV00925
Total Alkalinity	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/19/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/19/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/19/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/19/2015	NV00925
Electrical Conductivity	SM 2510B	400	µmhos/cm	1	1	10/13/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	150	mg/L	1	1.0	10/15/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	23	mg/L	1	0.50	10/16/2015	NV00925
Iron	EPA 200.7	0.28	mg/L	1	0.020	10/16/2015	NV00925
Magnesium	EPA 200.7	30	mg/L	1	0.50	10/16/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		10/13/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/16/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	10/12/2015	NV00925
HCT Post-Leach Volume	N/A	3180	mL	1	1	10/13/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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Customer Sample ID: C601-15 O,Q WK: 7  
 WETLAB Sample ID: 1510305-002

Collect Date/Time: 10/13/2015 09:00  
 Receive Date: 10/13/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	0.55	mg/L	1	0.1	10/13/2015	NV00925
Ferric Iron	SM 3500 Fe B	800	mg/L	1	0.1	10/19/2015	NV00925
pH	SM 4500-H+ B	2.80	pH Units	1		10/20/2015	NV00925
Temperature at pH	NA	23.5	°C	1		10/20/2015	NV00925
Redox Potential	ASTM D1498	460	mV	1		10/13/2015	NV00925
Acidity (Titrimetric)	SM 2310B	1800	mg/L as CaCO3	1		10/19/2015	NV00925
Electrical Conductivity	SM 2510B	3400	µmhos/cm	1	1	10/13/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2300	mg/L	100	100	10/15/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	70	mg/L	1	0.50	10/16/2015	NV00925
Iron	EPA 200.7	800	mg/L	10	0.20	10/19/2015	NV00925
Magnesium	EPA 200.7	36	mg/L	1	0.50	10/16/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		10/13/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/16/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	10/12/2015	NV00925
HCT Post-Leach Volume	N/A	2920	mL	1	1	10/13/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15100618	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15100619	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15100645	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15100675	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15100738	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15100618	LCS 1	Ferrous Iron	SM 3500 Fe B	0.954	1.00	95	mg/L
QC15100619	LCS 1	Electrical Conductivity	SM 2510B	1439	1412	102	µmhos/cm
QC15100621	LCS 1	Redox Potential	ASTM D1498	222	221	101	mV
QC15100645	LCS 1	Sulfate	EPA 300.0	24.6	25.0	98	mg/L
QC15100675	LCS 1	Sulfate	EPA 300.0	24.1	25.0	97	mg/L
QC15100738	LCS 1	Calcium, Dissolved	EPA 200.7	9.74	10.0	97	mg/L
		Iron, Dissolved	EPA 200.7	0.995	1.00	100	mg/L
		Magnesium, Dissolved	EPA 200.7	9.87	10.0	99	mg/L
QC15100804	LCS 1	Total Alkalinity	SM 2320B	101	100	101	mg/L
QC15100804	LCS 2	Total Alkalinity	SM 2320B	98.2	100	98	mg/L
QC15100847	LCS 1	pH	SM 4500-H+ B	6.92	7.00	99	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15100618	Duplicate	Ferrous Iron	SM 3500 Fe B	1510302-001	ND	ND	mg/L	<1%
QC15100618	Duplicate	Ferrous Iron	SM 3500 Fe B	1510304-003	ND	ND	mg/L	<1%
QC15100619	Duplicate	Electrical Conductivity	SM 2510B	1510302-001	59.4	59.3	µmhos/cm	<1%
QC15100619	Duplicate	Electrical Conductivity	SM 2510B	1510304-003	79.8	79.3	µmhos/cm	1 %
QC15100621	Duplicate	Redox Potential	ASTM D1498	1510302-001	508	510	mV	<1%
QC15100621	Duplicate	Redox Potential	ASTM D1498	1510304-003	474	475	mV	<1%
QC15100804	Duplicate	Total Alkalinity	SM 2320B	1510305-001	ND	ND	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1510305-001	ND	ND	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1510305-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1510305-001	ND	ND	mg/L as CaCO3	<1%
QC15100804	Duplicate	Total Alkalinity	SM 2320B	1510458-001	13.5	14.0	mg/L as CaCO3	4 %
		Bicarbonate (HCO3)	SM 2320B	1510458-001	13.5	14.0	mg/L as CaCO3	4 %
		Carbonate (CO3)	SM 2320B	1510458-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1510458-001	ND	ND	mg/L as CaCO3	<1%
QC15100804	Duplicate	Total Alkalinity	SM 2320B	1510458-002	15.2	15.0	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1510458-002	15.2	15.0	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1510458-002	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1510458-002	ND	ND	mg/L as CaCO3	<1%
QC15100805	Duplicate	Acidity (Titrimetric)	SM 2310B	1510305-001	20.1	17.8	mg/L as CaCO3	12 %
QC15100805	Duplicate	Acidity (Titrimetric)	SM 2310B	1510458-001	7.56	8.15	mg/L as CaCO3	8 %

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15100805	Duplicate	Acidity (Titrimetric)	SM 2310B	1510458-002	13.7	13.3	mg/L as CaCO3	3 %
QC15100847	Duplicate	pH	SM 4500-H+ B	1510302-001	6.72	6.77	pH Units	1 %
QC15100847	Duplicate	pH	SM 4500-H+ B	1510304-003	6.92	6.91	pH Units	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15100645	MS 1	Sulfate	EPA 300.0	1510370-001	75.3	83.8	83.9	10.0	mg/L	85	86	<1%
QC15100645	MS 2	Sulfate	EPA 300.0	1510374-005	27.0	36.7	36.9	10.0	mg/L	96	98	1%
QC15100675	MS 1	Sulfate	EPA 300.0	1510303-005	ND	10.6	10.6	10.0	mg/L	101	102	<1%
QC15100675	MS 2	Sulfate	EPA 300.0	1510304-002	34.2	42.7	42.8	10.0	mg/L	85	86	<1%
QC15100738	MS 1	Calcium, Dissolved	EPA 200.7	1510377-001	566	SC 542	553	10.0	mg/L	NC	NC	NC
		Iron, Dissolved	EPA 200.7	1510377-001	ND	0.990	0.985	1.00	mg/L	99	98	1%
		Magnesium, Dissolved	EPA 200.7	1510377-001	9.11	18.4	18.5	10.0	mg/L	93	94	1%

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11/5/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1510523

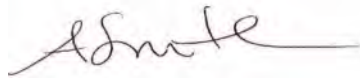
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 10/20/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1510523

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### Specific Report Comments

Sample 1510523-002 had unexpectedly high metals results as well as an unacceptable cation/anion balance percent error. It was determined that the sample included dirt/particulate matter. It is thought that these particulates had a high metals concentration which upset the expected cation/anion balance.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT 0118-0119

Date Printed: 11/5/2015

OrderID: 1510523

Customer Sample ID: C601-15 O,Q WK: 8

Collect Date/Time: 10/20/2015 09:00

WETLAB Sample ID: 1510523-001

Receive Date: 10/20/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	0.13	mg/L	1	0.1	10/20/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	10/21/2015	NV00925
pH	SM 4500-H+ B	4.96	pH Units	1		10/22/2015	NV00925
Temperature at pH	NA	23.6	°C	1		10/22/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	10/26/2015	NV00925
Redox Potential	ASTM D1498	550	mV	1		10/20/2015	NV00925
Acidity (Titrimetric)	SM 2310B	31	mg/L as CaCO3	1		10/26/2015	NV00925
Total Alkalinity	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/26/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/26/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/26/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/26/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	10/23/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	250	mg/L	1	10	10/21/2015	NV00925
Electrical Conductivity	SM 2510B	390	µmhos/cm	1	1	10/20/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	1.2	mg/L	1	1.0	10/21/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	10/21/2015	NV00925
Sulfate	EPA 300.0	160	mg/L	1	1.0	10/21/2015	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	10/23/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	10/22/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.020	mg/L	1	0.0030	10/21/2015	NV00925
Beryllium	EPA 200.7	ND	mg/L	1	0.0008	10/21/2015	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	10/21/2015	NV00925
Calcium	EPA 200.7	16	mg/L	1	0.50	10/21/2015	NV00925
Chromium	EPA 200.7	ND	mg/L	1	0.0050	10/21/2015	NV00925
Cobalt	EPA 200.7	4.0	mg/L	1	0.010	10/21/2015	NV00925
Iron	EPA 200.7	0.16	mg/L	1	0.020	10/21/2015	NV00925
Magnesium	EPA 200.7	28	mg/L	1	0.50	10/21/2015	NV00925
Manganese	EPA 200.7	0.86	mg/L	1	0.0050	10/21/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	10/21/2015	NV00925
Potassium	EPA 200.7	1.5	mg/L	1	0.50	10/21/2015	NV00925
Sodium	EPA 200.7	2.8	mg/L	1	0.50	10/21/2015	NV00925
Strontium	EPA 200.7	0.34	mg/L	1	0.020	10/21/2015	NV00925
Zinc	EPA 200.7	0.14	mg/L	1	0.0080	10/21/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**LAS VEGAS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 8

Collect Date/Time: 10/20/2015 09:00

WETLAB Sample ID: 1510523-001

Receive Date: 10/20/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	1.3	mg/L	10	0.020	10/23/2015	NV00925
Nickel	EPA 200.8	0.81	mg/L	10	0.020	10/23/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	3.36	meq/L	1	0.10		NV00925
Cations	Calculation	3.35	meq/L	1	0.10		NV00925
Error	Calculation	ND	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		10/20/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/21/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	10/19/2015	NV00925
HCT Post-Leach Volume	N/A	3200	mL	1	1	10/20/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C586-15 P,Q WK: 8  
 WETLAB Sample ID: 1510523-002

Collect Date/Time: 10/20/2015 09:00  
 Receive Date: 10/20/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	0.69	mg/L	1	0.1	10/20/2015	NV00925
Ferric Iron	SM 3500 Fe B	730	mg/L	1	0.1	10/21/2015	NV00925
pH	SM 4500-H+ B	2.77	pH Units	1		10/22/2015	NV00925
Temperature at pH	NA	23.6	°C	1		10/22/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	10/26/2015	NV00925
Redox Potential	ASTM D1498	450	mV	1		10/20/2015	NV00925
Acidity (Titrimetric)	SM 2310B	1800	mg/L as CaCO3	1		10/26/2015	NV00925
Total Nitrogen	Calc.	0.77	mg/L	1	0.30	10/23/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	2800	mg/L	1	10	10/21/2015	NV00925
Electrical Conductivity	SM 2510B	1900	µmhos/cm	1	1	10/20/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	D mg/L	100	50	10/23/2015	NV00925
Fluoride	EPA 300.0	ND	D mg/L	100	4.0	10/23/2015	NV00925
Sulfate	EPA 300.0	2000	mg/L	100	100	10/23/2015	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	0.41	mg/L	5	0.10	10/23/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	0.35	mg/L	1	0.20	10/22/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.017	mg/L	1	0.0030	10/21/2015	NV00925
Beryllium	EPA 200.7	0.0076	mg/L	1	0.0008	10/21/2015	NV00925
Boron	EPA 200.7	0.17	mg/L	1	0.10	10/21/2015	NV00925
Calcium	EPA 200.7	72	mg/L	1	0.50	10/21/2015	NV00925
Chromium	EPA 200.7	0.52	mg/L	1	0.0050	10/21/2015	NV00925
Cobalt	EPA 200.7	19	mg/L	5	0.050	10/21/2015	NV00925
Iron	EPA 200.7	730	mg/L	5	0.10	10/21/2015	NV00925
Magnesium	EPA 200.7	22	mg/L	1	0.50	10/21/2015	NV00925
Manganese	EPA 200.7	6.2	mg/L	1	0.0050	10/21/2015	NV00925
Molybdenum	EPA 200.7	ND	D mg/L	5	0.10	10/21/2015	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	10/21/2015	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	10/21/2015	NV00925
Strontium	EPA 200.7	1.1	mg/L	1	0.020	10/21/2015	NV00925
Zinc	EPA 200.7	1.1	mg/L	1	0.0080	10/21/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	67	mg/L	500	1.0	10/23/2015	NV00925
Nickel	EPA 200.8	7.0	mg/L	500	1.0	10/23/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	41.7	meq/L	1	0.10		NV00925
Cations	Calculation	65.4	meq/L	1	0.10		NV00925
Error	Calculation	22	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		10/20/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/21/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	10/19/2015	NV00925
HCT Post-Leach Volume	N/A	2870	mL	1	1	10/20/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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 EPA LAB ID: NV00932



## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15100899	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15100900	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15100908	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15100922	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15100947	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15100957	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15100978	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15100998	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15101046	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15101082	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15101104	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15100899	LCS 1	Barium, Dissolved	EPA 200.7	0.977	1.00	98	mg/L
		Beryllium, Dissolved	EPA 200.7	0.964	1.00	96	mg/L
		Boron, Dissolved	EPA 200.7	0.978	1.00	98	mg/L
		Calcium, Dissolved	EPA 200.7	9.60	10.0	96	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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### LAS VEGAS

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fax (702) 622-2868  
EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Chromium, Dissolved	EPA 200.7	0.968	1.00	97	mg/L
		Cobalt, Dissolved	EPA 200.7	0.981	1.00	98	mg/L
		Iron, Dissolved	EPA 200.7	0.955	1.00	96	mg/L
		Magnesium, Dissolved	EPA 200.7	9.58	10.0	96	mg/L
		Manganese, Dissolved	EPA 200.7	0.978	1.00	98	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.966	1.00	97	mg/L
		Potassium, Dissolved	EPA 200.7	9.72	10.0	97	mg/L
		Sodium, Dissolved	EPA 200.7	9.64	10.0	96	mg/L
		Strontium, Dissolved	EPA 200.7	0.965	1.00	96	mg/L
		Zinc, Dissolved	EPA 200.7	0.995	1.00	100	mg/L
QC15100900	LCS 1	Barium, Dissolved	EPA 200.7	0.977	1.00	98	mg/L
		Beryllium, Dissolved	EPA 200.7	0.964	1.00	96	mg/L
		Boron, Dissolved	EPA 200.7	0.978	1.00	98	mg/L
		Calcium, Dissolved	EPA 200.7	9.60	10.0	96	mg/L
		Chromium, Dissolved	EPA 200.7	0.968	1.00	97	mg/L
		Cobalt, Dissolved	EPA 200.7	0.981	1.00	98	mg/L
		Iron, Dissolved	EPA 200.7	0.955	1.00	96	mg/L
		Magnesium, Dissolved	EPA 200.7	9.58	10.0	96	mg/L
		Manganese, Dissolved	EPA 200.7	0.978	1.00	98	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.966	1.00	97	mg/L
		Potassium, Dissolved	EPA 200.7	9.72	10.0	97	mg/L
		Sodium, Dissolved	EPA 200.7	9.64	10.0	96	mg/L
		Strontium, Dissolved	EPA 200.7	0.965	1.00	96	mg/L
		Zinc, Dissolved	EPA 200.7	0.995	1.00	100	mg/L
QC15100908	LCS 1	Copper	EPA 200.8	0.0107	0.010	107	mg/L
		Nickel	EPA 200.8	0.0107	0.010	107	mg/L
QC15100922	LCS 1	Chloride	EPA 300.0	9.79	10.0	98	mg/L
		Fluoride	EPA 300.0	1.95	2.00	98	mg/L
		Sulfate	EPA 300.0	23.9	25.0	96	mg/L
QC15100947	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.955	1.00	96	mg/L
QC15100957	LCS 1	Chloride	EPA 300.0	10.6	10.0	106	mg/L
		Fluoride	EPA 300.0	1.85	2.00	92	mg/L
		Sulfate	EPA 300.0	23.1	25.0	93	mg/L
QC15100978	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	156	150	104	mg/L
QC15100978	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	153	150	102	mg/L
QC15100998	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.810	0.800	101	mg/L
QC15101031	LCS 1	pH	SM 4500-H+ B	6.92	7.00	99	pH Units
QC15101046	LCS 1	WAD Cyanide	SM 4500CN I, E	0.091	0.100	91	mg/L
QC15101078	LCS 1	Total Alkalinity	SM 2320B	105	100	105	mg/L
QC15101078	LCS 2	Total Alkalinity	SM 2320B	97.5	100	97	mg/L
QC15101082	LCS 1	Ferrous Iron	SM 3500 Fe B	0.932	1.00	93	mg/L
QC15101104	LCS 1	Electrical Conductivity	SM 2510B	1437	1412	102	µmhos/cm
QC15101108	LCS 1	Redox Potential	ASTM D1498	222	221	100	mV

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15100978	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1510542-001	264	266	mg/L	1 %
QC15100978	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1510542-002	130	140	mg/L	7 %
QC15101031	Duplicate	pH	SM 4500-H+ B	1510520-001	6.76	6.78	pH Units	<1%
QC15101031	Duplicate	pH	SM 4500-H+ B	1510522-003	6.92	7.06	QD pH Units	2 %
QC15101078	Duplicate	Total Alkalinity	SM 2320B	1510520-001	11.7	11.9	mg/L as CaCO3	2 %
		Bicarbonate (HCO3)	SM 2320B	1510520-001	11.7	11.9	mg/L as CaCO3	2 %

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15101078	Duplicate	Carbonate (CO3)	SM 2320B	1510520-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1510520-001	ND	ND	mg/L as CaCO3	<1%
		Total Alkalinity	SM 2320B	1510522-003	15.5	15.6	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1510522-003	15.5	15.6	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1510522-003	ND	ND	mg/L as CaCO3	<1%
QC15101078	Duplicate	Hydroxide (OH)	SM 2320B	1510522-003	ND	ND	mg/L as CaCO3	<1%
		Total Alkalinity	SM 2320B	1510599-001	42.0	41.7	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1510599-001	42.0	41.7	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1510599-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1510599-001	ND	ND	mg/L as CaCO3	<1%
QC15101079	Duplicate	Acidity (Titrimetric)	SM 2310B	1510520-001	16.2	14.3	mg/L as CaCO3	12 %
QC15101079	Duplicate	Acidity (Titrimetric)	SM 2310B	1510522-003	16.6	18.3	mg/L as CaCO3	10 %
QC15101079	Duplicate	Acidity (Titrimetric)	SM 2310B	1510599-001	21.2	21.3	mg/L as CaCO3	<1%
QC15101082	Duplicate	Ferrous Iron	SM 3500 Fe B	1510520-001	ND	ND	mg/L	<1%
QC15101082	Duplicate	Ferrous Iron	SM 3500 Fe B	1510522-003	ND	ND	mg/L	<1%
QC15101104	Duplicate	Electrical Conductivity	SM 2510B	1510520-001	61.4	61.0	µmhos/cm	1 %
QC15101104	Duplicate	Electrical Conductivity	SM 2510B	1510522-003	86.2	86.2	µmhos/cm	<1%
QC15101108	Duplicate	Redox Potential	ASTM D1498	1510520-001	517	519	mV	<1%
QC15101108	Duplicate	Redox Potential	ASTM D1498	1510522-003	508	501	mV	2 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15100899	MS 1	Barium, Dissolved	EPA 200.7	1510567-001	0.086	1.07	1.09	1.00	mg/L	98	100	2%
		Beryllium, Dissolved	EPA 200.7	1510567-001	ND	0.987	1.01	1.00	mg/L	99	101	2%
		Boron, Dissolved	EPA 200.7	1510567-001	0.777	1.78	1.84	1.00	mg/L	100	106	3%
		Calcium, Dissolved	EPA 200.7	1510567-001	248	258	256	10.0	mg/L	100	80	1%
		Chromium, Dissolved	EPA 200.7	1510567-001	ND	0.978	1.00	1.00	mg/L	98	100	2%
		Cobalt, Dissolved	EPA 200.7	1510567-001	ND	0.989	1.02	1.00	mg/L	99	102	3%
		Iron, Dissolved	EPA 200.7	1510567-001	0.029	0.956	0.959	1.00	mg/L	93	93	<1%
		Magnesium, Dissolved	EPA 200.7	1510567-001	20.7	29.9	29.9	10.0	mg/L	92	92	<1%
		Manganese, Dissolved	EPA 200.7	1510567-001	0.086	1.06	1.09	1.00	mg/L	97	100	3%
		Molybdenum, Dissolved	EPA 200.7	1510567-001	0.037	1.05	1.07	1.00	mg/L	101	103	2%
		Potassium, Dissolved	EPA 200.7	1510567-001	20.8	31.0	30.8	10.0	mg/L	102	100	1%
		Sodium, Dissolved	EPA 200.7	1510567-001	306	SC 312	318	10.0	mg/L	NC	NC	NC
		Strontium, Dissolved	EPA 200.7	1510567-001	1.82	2.75	2.74	1.00	mg/L	93	92	<1%
		Zinc, Dissolved	EPA 200.7	1510567-001	ND	1.08	1.12	1.00	mg/L	108	112	4%
QC15100900	MS 1	Barium, Dissolved	EPA 200.7	1510542-001	0.082	1.07	1.08	1.00	mg/L	99	100	1%
		Beryllium, Dissolved	EPA 200.7	1510542-001	ND	1.00	1.00	1.00	mg/L	100	100	<1%
		Boron, Dissolved	EPA 200.7	1510542-001	ND	1.09	1.11	1.00	mg/L	102	104	2%
		Calcium, Dissolved	EPA 200.7	1510542-001	53.5	62.3	60.4	10.0	mg/L	88	69	3%
		Chromium, Dissolved	EPA 200.7	1510542-001	ND	0.989	1.00	1.00	mg/L	99	100	1%
		Cobalt, Dissolved	EPA 200.7	1510542-001	ND	0.986	0.998	1.00	mg/L	99	100	1%
		Iron, Dissolved	EPA 200.7	1510542-001	ND	0.939	0.944	1.00	mg/L	93	94	1%
		Magnesium, Dissolved	EPA 200.7	1510542-001	5.94	15.4	15.2	10.0	mg/L	95	93	1%
		Manganese, Dissolved	EPA 200.7	1510542-001	ND	0.984	0.994	1.00	mg/L	98	99	1%
		Molybdenum, Dissolved	EPA 200.7	1510542-001	ND	1.00	0.989	1.00	mg/L	101	100	1%
		Potassium, Dissolved	EPA 200.7	1510542-001	5.76	15.3	15.2	10.0	mg/L	95	94	1%
		Sodium, Dissolved	EPA 200.7	1510542-001	11.6	20.7	20.6	10.0	mg/L	91	90	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15100908	MS 1	Strontium, Dissolved	EPA 200.7	1510542-001	0.146	1.07	1.07	1.00	mg/L	92	92	<1%
		Zinc, Dissolved	EPA 200.7	1510542-001	ND	1.05	1.06	1.00	mg/L	105	106	1%
		Copper, Dissolved	EPA 200.8	1510567-001	0.0072	0.0170	0.0163	0.010	mg/L	98	92	4%
		Nickel, Dissolved	EPA 200.8	1510567-001	0.0125	0.0227	0.0236	0.010	mg/L	102	111	4%
QC15100922	MS 1	Chloride	EPA 300.0	1510520-001	ND	5.22	5.26	5.00	mg/L	100	101	1%
		Fluoride	EPA 300.0	1510520-001	ND	1.98	1.98	2.00	mg/L	95	96	<1%
		Sulfate	EPA 300.0	1510520-001	13.0	22.4	22.5	10.0	mg/L	94	95	<1%
QC15100922	MS 2	Chloride	EPA 300.0	1510521-001	ND	5.16	5.20	5.00	mg/L	100	101	1%
		Fluoride	EPA 300.0	1510521-001	ND	1.92	1.92	2.00	mg/L	94	95	<1%
		Sulfate	EPA 300.0	1510521-001	14.5	24.1	24.1	10.0	mg/L	96	96	<1%
QC15100947	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1510509-001	ND	M 0.291	0.203	1.00	mg/L	NC	NC	NC
QC15100957	MS 1	Chloride	EPA 300.0	1510611-001	12.4	17.6	17.5	5.00	mg/L	104	103	1%
		Fluoride	EPA 300.0	1510611-001	0.248	1.93	1.92	2.00	mg/L	84	84	1%
		Sulfate	EPA 300.0	1510611-001	9.85	19.0	19.0	10.0	mg/L	92	92	<1%
QC15100998	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1510506-001	ND	5.33	5.25	1.00	mg/L	107	105	2%
QC15100998	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1510521-002	ND	5.20	5.15	1.00	mg/L	104	103	1%
QC15101046	MS 1	WAD Cyanide	SM 4500CN I,	1510542-001	ND	0.096	0.099	0.100	mg/L	96	99	3%
QC15101046	MS 2	WAD Cyanide	SM 4500CN I,	1510542-004	ND	0.087	0.094	0.100	mg/L	88	95	8%

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# ANALYTICAL SUMMARY REPORT

December 02, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15102008                      Quote ID: B3679

Project Name: Job ID: 1510523

Energy Laboratories Inc Billings MT received the following 2 samples for Western Environmental Testing Laboratory on 10/26/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15102008-001	C586-15 O, Q Wk: 8	10/20/15 9:00	10/26/15	Leachate	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA
B15102008-002	C601-15 P, Q Wk: 8	10/20/15 9:00	10/26/15	Leachate	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



**CLIENT:** Western Environmental Testing Laboratory  
**Project:** Job ID: 1510523  
**Work Order:** B15102008

**Revised Date:** 12/02/15

**Report Date:** 11/04/15

## CASE NARRATIVE

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Revised 12/2/2015:

Per Hollie Timmons change sample ID for sample C601-15 O, Q Wk: 8- WLHCT-0118 (B150102008-001) to C586-15 O, Q Wk: 8, and sample C586-15 P, Q Wk: 8- WLHCT-0119 (B15102008-002) to C601-15 P, Q Wk: 8. The sample ID's have been corrected. We apologize for any inconvenience this may have caused.

The report has been revised and replaces any previously issued report in its entirety.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID: 1510523  
**Lab ID:** B15102008-001  
**Client Sample ID:** C586-15 O, Q Wk: 8

**Revised Date:** 12/02/15  
**Report Date:** 11/04/15  
**Collection Date:** 10/20/15 09:00  
**Date Received:** 10/26/15  
**Matrix:** Leachate

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.371	mg/L		0.009		E200.7	10/28/15 03:59 / jjw
Antimony	0.0008	mg/L		0.0005		E200.8	10/27/15 18:15 / mas
Arsenic	0.003	mg/L		0.001		E200.8	10/27/15 18:15 / mas
Cadmium	0.00004	mg/L		0.00003		E200.8	10/27/15 18:15 / mas
Lead	ND	mg/L		0.0003		E200.8	10/27/15 18:15 / mas
Mercury	0.0000172	mg/L		5E-06		E245.1	10/26/15 16:16 / ser
Phosphorus	ND	mg/L	L	0.007		E200.7	10/28/15 03:59 / jjw
Selenium	ND	mg/L		0.001		E200.8	10/27/15 18:15 / mas
Silicon	0.60	mg/L		0.05		E200.7	10/28/15 03:59 / jjw
Silver	ND	mg/L		0.0002		E200.8	11/02/15 13:29 / mas
Thallium	0.0039	mg/L		0.0002		E200.8	10/27/15 18:15 / mas
Uranium	0.0002	mg/L		0.0002		E200.8	10/27/15 18:15 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID: 1510523  
**Lab ID:** B15102008-002  
**Client Sample ID:** C601-15 P, Q Wk: 8

**Revised Date:** 12/02/15  
**Report Date:** 11/04/15  
**Collection Date:** 10/20/15 09:00  
**Date Received:** 10/26/15  
**Matrix:** Leachate

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	31.9	mg/L		0.009		E200.7	10/28/15 04:03 / jjw
Antimony	0.0070	mg/L		0.0005		E200.8	10/29/15 15:00 / mas
Arsenic	3.86	mg/L		0.001		E200.8	10/27/15 18:26 / mas
Cadmium	0.00214	mg/L		0.00003		E200.8	10/29/15 15:00 / mas
Lead	0.0028	mg/L		0.0003		E200.8	10/29/15 15:00 / mas
Mercury	0.0000118	mg/L		5E-06		E245.1	10/26/15 16:21 / ser
Phosphorus	0.267	mg/L	L	0.007		E200.7	10/28/15 04:03 / jjw
Selenium	0.002	mg/L		0.001		E200.8	10/27/15 18:26 / mas
Silicon	7.71	mg/L		0.05		E200.7	10/28/15 04:03 / jjw
Silver	ND	mg/L		0.0002		E200.8	11/02/15 13:45 / mas
Thallium	0.0002	mg/L		0.0002		E200.8	10/29/15 15:00 / mas
Uranium	0.0142	mg/L		0.0002		E200.8	10/29/15 15:00 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 11/03/15

**Project:** Job ID: 1510523

**Work Order:** B15102008

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_151027A			
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard								10/27/15 11:54	
Aluminum		2.45	mg/L	0.10	98	95	105				
Phosphorus		2.45	mg/L	0.10	98	95	105				
Silicon		5.08	mg/L	0.10	102	95	105				
<b>Method: E200.7</b>								Batch: R251563			
<b>Lab ID: MB-6500DIS151027A</b>	3	Method Blank						Run: ICP203-B_151027A		10/27/15 12:22	
Aluminum		ND	mg/L	0.007							
Phosphorus		ND	mg/L	0.007							
Silicon		0.04	mg/L	0.01							
<b>Lab ID: LFB-6500DIS151027A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_151027A		10/27/15 12:26	
Aluminum		4.89	mg/L	0.10	98	85	115				
Phosphorus		9.82	mg/L	0.10	98	85	115				
Silicon		11.4	mg/L	0.10	114	85	115				
<b>Lab ID: B15102008-002AMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_151027A		10/28/15 04:06	
Aluminum		34.6	mg/L	0.030		70	130			A	
Phosphorus		9.68	mg/L	0.10	94	70	130				
Silicon		18.1	mg/L	0.10	103	70	130				
<b>Lab ID: B15102008-002AMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_151027A		10/28/15 04:10	
Aluminum		34.8	mg/L	0.030		70	130	0.4	20	A	
Phosphorus		9.73	mg/L	0.10	95	70	130	0.5	20		
Silicon		18.3	mg/L	0.10	106	70	130	1.3	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 11/03/15

**Project:** Job ID: 1510523

**Work Order:** B15102008

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS202-B_151027A	
<b>Lab ID: QCS</b>	7	Initial Calibration Verification Standard							10/27/15 14:46		
Antimony		0.0546	mg/L	0.050	109	90	110				
Arsenic		0.0535	mg/L	0.0050	107	90	110				
Cadmium		0.0267	mg/L	0.0010	107	90	110				
Lead		0.0525	mg/L	0.010	105	90	110				
Selenium		0.0532	mg/L	0.0050	106	90	110				
Thallium		0.0522	mg/L	0.10	104	90	110				
Uranium		0.0214	mg/L	0.0010	107	90	110				
<b>Method: E200.8</b>										Batch: R251564	
<b>Lab ID: LRB</b>	7	Method Blank							Run: ICPMS202-B_151027A 10/27/15 12:54		
Antimony		8E-05	mg/L	1E-05							
Arsenic		ND	mg/L	0.0001							
Cadmium		ND	mg/L	1E-05							
Lead		ND	mg/L	2E-05							
Selenium		ND	mg/L	0.0003							
Thallium		3E-05	mg/L	1E-05							
Uranium		ND	mg/L	7E-06							
<b>Lab ID: LFB</b>	7	Laboratory Fortified Blank							Run: ICPMS202-B_151027A 10/27/15 12:56		
Antimony		0.0502	mg/L	0.050	100	85	115				
Arsenic		0.0513	mg/L	0.0050	103	85	115				
Cadmium		0.0521	mg/L	0.0010	104	85	115				
Lead		0.0504	mg/L	0.010	101	85	115				
Selenium		0.0531	mg/L	0.0050	106	85	115				
Thallium		0.0502	mg/L	0.10	100	85	115				
Uranium		0.0502	mg/L	0.0010	100	85	115				
<b>Lab ID: B15101975-001BMS</b>	7	Sample Matrix Spike							Run: ICPMS202-B_151027A 10/27/15 18:04		
Antimony		0.0545	mg/L	0.0010	109	70	130				
Arsenic		0.0603	mg/L	0.0010	118	70	130				
Cadmium		0.0537	mg/L	0.0010	107	70	130				
Lead		0.0536	mg/L	0.0010	107	70	130				
Selenium		0.0651	mg/L	0.0010	129	70	130				
Thallium		0.0542	mg/L	0.00050	108	70	130				
Uranium		0.0544	mg/L	0.00030	108	70	130				
<b>Lab ID: B15101975-001BMSD</b>	7	Sample Matrix Spike Duplicate							Run: ICPMS202-B_151027A 10/27/15 18:07		
Antimony		0.0550	mg/L	0.0010	110	70	130	0.8	20		
Arsenic		0.0592	mg/L	0.0010	116	70	130	1.8	20		
Cadmium		0.0538	mg/L	0.0010	108	70	130	0.2	20		
Lead		0.0530	mg/L	0.0010	106	70	130	1.3	20		
Selenium		0.0644	mg/L	0.0010	127	70	130	1.0	20		
Thallium		0.0542	mg/L	0.00050	108	70	130	0.0	20		
Uranium		0.0540	mg/L	0.00030	107	70	130	0.7	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 11/03/15

**Project:** Job ID: 1510523

**Work Order:** B15102008

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Analytical Run: ICPMS202-B_151029A		
<b>Lab ID: QCS</b>	5	Initial Calibration Verification Standard								10/29/15 13:50
Antimony		0.0524	mg/L	0.050	105	90	110			
Cadmium		0.0252	mg/L	0.0010	101	90	110			
Lead		0.0505	mg/L	0.010	101	90	110			
Thallium		0.0508	mg/L	0.10	102	90	110			
Uranium		0.0208	mg/L	0.0010	104	90	110			
<b>Method: E200.8</b>								Batch: R251689		
<b>Lab ID: LRB</b>	5	Method Blank						Run: ICPMS202-B_151029A		10/29/15 11:29
Antimony		0.0002	mg/L	1E-05						
Cadmium		1E-05	mg/L	1E-05						
Lead		ND	mg/L	2E-05						
Thallium		3E-05	mg/L	1E-05						
Uranium		ND	mg/L	7E-06						
<b>Lab ID: LFB</b>	5	Laboratory Fortified Blank						Run: ICPMS202-B_151029A		10/29/15 11:52
Antimony		0.0474	mg/L	0.050	94	85	115			
Cadmium		0.0490	mg/L	0.0010	98	85	115			
Lead		0.0492	mg/L	0.010	98	85	115			
Thallium		0.0484	mg/L	0.10	97	85	115			
Uranium		0.0473	mg/L	0.0010	95	85	115			
<b>Lab ID: B15102008-001AMS</b>	5	Sample Matrix Spike						Run: ICPMS202-B_151029A		10/29/15 14:50
Antimony		0.0522	mg/L	0.0010	103	70	130			
Cadmium		0.0506	mg/L	0.0010	101	70	130			
Lead		0.0487	mg/L	0.0010	97	70	130			
Thallium		0.0537	mg/L	0.00050	100	70	130			
Uranium		0.0475	mg/L	0.00030	95	70	130			
<b>Lab ID: B15102008-001AMSD</b>	5	Sample Matrix Spike Duplicate						Run: ICPMS202-B_151029A		10/29/15 14:52
Antimony		0.0530	mg/L	0.0010	105	70	130	1.4	20	
Cadmium		0.0508	mg/L	0.0010	101	70	130	0.5	20	
Lead		0.0487	mg/L	0.0010	97	70	130	0.1	20	
Thallium		0.0532	mg/L	0.00050	99	70	130	0.8	20	
Uranium		0.0472	mg/L	0.00030	94	70	130	0.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 11/03/15

**Project:** Job ID: 1510523

**Work Order:** B15102008

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8										Analytical Run: ICPMS203-B_151102A	
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								11/02/15 12:24	
Silver		0.0258	mg/L	0.0050	103	90	110				
<b>Method:</b> E200.8										Batch: R251832	
<b>Lab ID:</b> LRB		Method Blank								Run: ICPMS203-B_151102A	11/02/15 13:01
Silver		ND	mg/L	2E-05							
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: ICPMS203-B_151102A	11/02/15 13:05
Silver		0.0199	mg/L	0.0050	100	85	115				
<b>Lab ID:</b> B15102008-001AMS		Sample Matrix Spike								Run: ICPMS203-B_151102A	11/02/15 13:33
Silver		0.0124	mg/L	0.0010	62	70	130			S	
<b>Lab ID:</b> B15102008-001AMSD		Sample Matrix Spike Duplicate								Run: ICPMS203-B_151102A	11/02/15 13:37
Silver		0.0149	mg/L	0.0010	75	70	130	19	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 11/03/15

**Project:** Job ID: 1510523

**Work Order:** B15102008

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151026A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								10/26/15 15:33	
Mercury		0.000195	mg/L	1.0E-05	98	90	110				
<b>Method:</b> E245.1										Batch: 94299	
<b>Lab ID:</b> MB-94299		Method Blank								Run: HGCV203-B_151026A	10/26/15 15:42
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-94299		Laboratory Control Sample								Run: HGCV203-B_151026A	10/26/15 15:45
Mercury		0.000192	mg/L	1.0E-05	95	85	115				
<b>Lab ID:</b> B15101961-005BMS		Sample Matrix Spike								Run: HGCV203-B_151026A	10/26/15 16:10
Mercury		0.000196	mg/L	1.0E-05	97	70	130				
<b>Lab ID:</b> B15101961-005BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_151026A	10/26/15 16:13
Mercury		0.000203	mg/L	1.0E-05	100	70	130	3.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15102008

Login completed by: Randa Nees

Date Received: 10/26/2015

Reviewed by: BL2000\jmueller

Received by: jwc

Reviewed Date: 10/26/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	12.2°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None


# CHAIN OF CUSTODY RECORD

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <u>2</u> System: _____		Samplers Initials: _____ Notes: <u>Quote # 3679</u>		All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N Compliance: Y <input checked="" type="checkbox"/> N CA Write ON: Y <input checked="" type="checkbox"/> N QC: Y <input checked="" type="checkbox"/> N		Water System #: _____	
Sample Receipt Condition: _____				Job ID: 1510523		Date: _____		Time: _____	
Temperature: _____									

Set Date	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
10/20/2015 9:00 AM	C601-15 O,Q WK: 8 - WLHCT-0118	Leachate	Various Metals (Subcontracted)		
10/20/2015 9:00 AM	C586-15 P,Q WK: 8 - WLHCT-0119	Leachate	Various Metals (Subcontracted)		

B15102008-001

L 002

Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
		10/21/15	14:00	<u>US</u>						
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
				<u>Jed W Stanford</u>	11/16/15	9:30				
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
				<u>UPS ground</u>						
				<u>NOISE 17.2°C</u>						

11/19/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1510681  
*Amended*

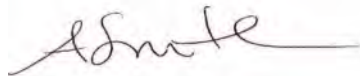
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 10/27/2015. Additional comments are located on page 2 of this report.

This is an amended report that includes corrected sample IDs. If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

475 E. Greg Street, Suite 119  
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fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

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EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1510681 Amended

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### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

#### **SPARKS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 11/19/2015

OrderID: 1510681

Amended

Customer Sample ID: C586-15 P,Q WK: 9

Collect Date/Time: 10/27/2015 09:00

WETLAB Sample ID: 1510681-001

Receive Date: 10/27/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	0.78	mg/L	1	0.1	10/27/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	10/29/2015	NV00925
pH	SM 4500-H+ B	4.84	pH Units	1		11/3/2015	NV00925
Temperature at pH	NA	20.1	°C	1		11/3/2015	NV00925
Redox Potential	ASTM D1498	560	mV	1		10/27/2015	NV00925
Acidity (Titrimetric)	SM 2310B	50	mg/L as CaCO3	1		10/29/2015	NV00925
Total Alkalinity	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/29/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/29/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/29/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/29/2015	NV00925
Electrical Conductivity	SM 2510B	560	µmhos/cm	1	1	10/27/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	250	mg/L	10	10	10/29/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	28	mg/L	1	0.50	10/29/2015	NV00925
Iron	EPA 200.7	0.72	mg/L	1	0.020	10/29/2015	NV00925
Magnesium	EPA 200.7	38	mg/L	1	0.50	10/29/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		10/27/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/28/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	10/26/2015	NV00925
HCT Post-Leach Volume	N/A	3050	mL	1	1	10/27/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 6

**SPARKS**

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 EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 9

Collect Date/Time: 10/27/2015 09:00

WETLAB Sample ID: 1510681-002

Receive Date: 10/27/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	640	mg/L	200	20	10/27/2015	NV00925
Ferric Iron	SM 3500 Fe B	270	mg/L	1	0.1	10/30/2015	NV00925
pH	SM 4500-H+ B	2.65	pH Units	1		11/3/2015	NV00925
Temperature at pH	NA	20.1	°C	1		11/3/2015	NV00925
Redox Potential	ASTM D1498	450	mV	1		10/27/2015	NV00925
Acidity (Titrimetric)	SM 2310B	1900	mg/L as CaCO3	1		10/29/2015	NV00925
Electrical Conductivity	SM 2510B	4100	µmhos/cm	2	2.0	10/27/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2200	mg/L	200	200	10/28/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	80	mg/L	1	0.50	10/29/2015	NV00925
Iron	EPA 200.7	910	mg/L	10	0.20	10/30/2015	NV00925
Magnesium	EPA 200.7	15	mg/L	1	0.50	10/29/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		10/27/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/28/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	10/26/2015	NV00925
HCT Post-Leach Volume	N/A	2770	mL	1	1	10/27/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 6

**SPARKS**

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 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15101106	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15101111	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15101159	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15101234	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15101237	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15101106	LCS 1	Electrical Conductivity	SM 2510B	1481	1412	105	µmhos/cm
QC15101110	LCS 1	Redox Potential	ASTM D1498	222	221	100	mV
QC15101111	LCS 1	Ferrous Iron	SM 3500 Fe B	1.00	1.00	100	mg/L
QC15101159	LCS 1	Sulfate	EPA 300.0	23.4	25.0	94	mg/L
QC15101234	LCS 1	Sulfate	EPA 300.0	23.7	25.0	95	mg/L
QC15101237	LCS 1	Calcium, Dissolved	EPA 200.7	9.63	10.0	96	mg/L
		Iron, Dissolved	EPA 200.7	0.964	1.00	96	mg/L
		Magnesium, Dissolved	EPA 200.7	9.66	10.0	97	mg/L
QC15110115	LCS 1	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC15110125	LCS 1	Total Alkalinity	SM 2320B	106	100	106	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15101106	Duplicate	Electrical Conductivity	SM 2510B	1510678-001	58.6	58.6	µmhos/cm	<1%
QC15101106	Duplicate	Electrical Conductivity	SM 2510B	1510680-003	84.4	84.1	µmhos/cm	<1%
QC15101110	Duplicate	Redox Potential	ASTM D1498	1510678-001	504	504	mV	<1%
QC15101110	Duplicate	Redox Potential	ASTM D1498	1510680-003	504	502	mV	<1%
QC15101111	Duplicate	Ferrous Iron	SM 3500 Fe B	1510678-001	ND	ND	mg/L	<1%
QC15101111	Duplicate	Ferrous Iron	SM 3500 Fe B	1510680-003	ND	ND	mg/L	<1%
QC15110115	Duplicate	pH	SM 4500-H+ B	1510678-001	7.43	7.40	pH Units	<1%
QC15110115	Duplicate	pH	SM 4500-H+ B	1510680-003	7.54	7.57	pH Units	<1%
QC15110125	Duplicate	Total Alkalinity	SM 2320B	1510678-001	13.2	13.3	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1510678-001	13.2	13.3	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1510678-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1510678-001	ND	ND	mg/L as CaCO3	<1%
QC15110125	Duplicate	Total Alkalinity	SM 2320B	1510680-003	17.8	17.7	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1510680-003	17.8	17.7	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1510680-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1510680-003	ND	ND	mg/L as CaCO3	<1%
QC15110126	Duplicate	Acidity (Titrimetric)	SM 2310B	1510678-001	13.7	11.6	mg/L as CaCO3	16 %
QC15110126	Duplicate	Acidity (Titrimetric)	SM 2310B	1510680-003	6.64	6.68	mg/L as CaCO3	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15101159	MS 1	Sulfate	EPA 300.0	1510678-003	19.1	28.5	28.7	10.0	mg/L	94	96	1%
QC15101159	MS 2	Sulfate	EPA 300.0	1510680-003	15.9	25.7	25.5	10.0	mg/L	99	96	1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 6

**SPARKS**

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fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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fax (702) 622-2868  
EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15101234	MS 1	Sulfate	EPA 300.0	1510763-001	4.85	14.6	14.5	10.0	mg/L	98	97	1%
QC15101234	MS 2	Sulfate	EPA 300.0	1510681-001	247	362	363	10.0	mg/L	115	116	<1%
QC15101237	MS 1	Calcium, Dissolved	EPA 200.7	1510718-006	11.6	21.0	21.2	10.0	mg/L	94	96	1%
		Iron, Dissolved	EPA 200.7	1510718-006	0.385	1.35	1.33	1.00	mg/L	97	94	1%
		Magnesium, Dissolved	EPA 200.7	1510718-006	1.51	11.2	11.1	10.0	mg/L	97	96	1%

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11/13/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1511010

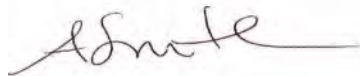
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 11/3/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1511010

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### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 11/13/2015

OrderID: 1511010

Customer Sample ID: C586-15 P,Q WK: 10

Collect Date/Time: 11/3/2015 09:00

WETLAB Sample ID: 1511010-001

Receive Date: 11/3/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	2.4	mg/L	1	0.1	11/3/2015	NV00925
Ferric Iron	SM 3500 Fe B	0.22	mg/L	1	0.1	11/4/2015	NV00925
pH	SM 4500-H+ B	4.52	pH Units	1		11/4/2015	NV00925
Temperature at pH	NA	22.1	°C	1		11/4/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		11/3/2015	NV00925
Acidity (Titrimetric)	SM 2310B	110	mg/L as CaCO3	1		11/5/2015	NV00925
Total Alkalinity	SM 2320B	ND	mg/L as CaCO3	1	1.0	11/5/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	11/5/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	11/5/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	11/5/2015	NV00925
Electrical Conductivity	SM 2510B	720	µmhos/cm	1	1	11/3/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	350	mg/L	10	10	11/5/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	24	mg/L	1	0.50	11/4/2015	NV00925
Iron	EPA 200.7	2.6	mg/L	1	0.020	11/4/2015	NV00925
Magnesium	EPA 200.7	54	mg/L	1	0.50	11/4/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		11/3/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		11/4/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	11/2/2015	NV00925
HCT Post-Leach Volume	N/A	3120	mL	1	1	11/3/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 6

**SPARKS**

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**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 10  
 WETLAB Sample ID: 1511010-002

Collect Date/Time: 11/3/2015 09:00  
 Receive Date: 11/3/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	620	mg/L	200	20	11/3/2015	NV00925
Ferric Iron	SM 3500 Fe B	350	mg/L	1	0.1	11/5/2015	NV00925
pH	SM 4500-H+ B	2.66	pH Units	1		11/4/2015	NV00925
Temperature at pH	NA	22.1	°C	1		11/4/2015	NV00925
Redox Potential	ASTM D1498	450	mV	1		11/3/2015	NV00925
Acidity (Titrimetric)	SM 2310B	1900	mg/L as CaCO3	1		11/5/2015	NV00925
Electrical Conductivity	SM 2510B	2000	µmhos/cm	1	1	11/3/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2000	mg/L	20	20	11/5/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	73	mg/L	1	0.50	11/4/2015	NV00925
Iron	EPA 200.7	970	mg/L	10	0.20	11/5/2015	NV00925
Magnesium	EPA 200.7	12	mg/L	1	0.50	11/4/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		11/3/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		11/4/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	11/2/2015	NV00925
HCT Post-Leach Volume	N/A	2900	mL	1	1	11/3/2015	NV00925

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 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15110103	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15110104	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15110105	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15110156	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
QC15110219	Blank 1	Sulfate	EPA 300.0	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15110103	LCS 1	Ferrous Iron	SM 3500 Fe B	1.01	1.00	101	mg/L
QC15110104	LCS 1	Electrical Conductivity	SM 2510B	1423	1412	101	µmhos/cm
QC15110105	LCS 1	Electrical Conductivity	SM 2510B	1448	1412	103	µmhos/cm
QC15110106	LCS 1	Redox Potential	ASTM D1498	225	221	102	mV
QC15110156	LCS 1	Calcium	EPA 200.7	9.63	10.0	96	mg/L
		Iron	EPA 200.7	1.04	1.00	104	mg/L
		Magnesium	EPA 200.7	10.3	10.0	103	mg/L
QC15110199	LCS 1	Total Alkalinity	SM 2320B	107	100	107	mg/L
QC15110219	LCS 1	Sulfate	EPA 300.0	24.0	25.0	96	mg/L
QC15110423	LCS 1	pH	SM 4500-H+ B	6.97	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15110103	Duplicate	Ferrous Iron	SM 3500 Fe B	1511007-001	ND	ND	mg/L	<1%
QC15110103	Duplicate	Ferrous Iron	SM 3500 Fe B	1511009-003	ND	ND	mg/L	<1%
QC15110104	Duplicate	Electrical Conductivity	SM 2510B	1511010-001	721	716	µmhos/cm	1 %
QC15110105	Duplicate	Electrical Conductivity	SM 2510B	1511007-001	61.9	61.6	µmhos/cm	<1%
QC15110105	Duplicate	Electrical Conductivity	SM 2510B	1511009-003	81.7	81.1	µmhos/cm	1 %
QC15110106	Duplicate	Redox Potential	ASTM D1498	1511007-001	532	533	mV	<1%
QC15110106	Duplicate	Redox Potential	ASTM D1498	1511009-003	477	477	mV	<1%
QC15110199	Duplicate	Total Alkalinity	SM 2320B	1511007-001	14.0	13.9	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1511007-001	14.0	13.9	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1511007-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1511007-001	ND	ND	mg/L as CaCO3	<1%
QC15110199	Duplicate	Total Alkalinity	SM 2320B	1511009-003	17.3	17.3	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1511009-003	17.3	17.3	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1511009-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1511009-003	ND	ND	mg/L as CaCO3	<1%
QC15110200	Duplicate	Acidity (Titrimetric)	SM 2310B	1511007-001	12.5	9.97	mg/L as CaCO3	23 %
QC15110200	Duplicate	Acidity (Titrimetric)	SM 2310B	1511009-003	7.17	8.50	mg/L as CaCO3	17 %
QC15110423	Duplicate	pH	SM 4500-H+ B	1511007-001	7.52	7.52	pH Units	<1%
QC15110423	Duplicate	pH	SM 4500-H+ B	1511009-003	7.64	7.68	pH Units	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
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DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 6

**SPARKS**

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**LAS VEGAS**

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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15110156	MS 1	Calcium	EPA 200.7	1511010-001	23.7	30.9	31.1	10.0	mg/L	72	74	1%
		Iron	EPA 200.7	1511010-001	2.58	3.42	3.39	1.00	mg/L	84	81	1%
		Magnesium	EPA 200.7	1511010-001	54.1	SC 60.6	60.3	10.0	mg/L	NC	NC	NC
QC15110219	MS 1	Sulfate	EPA 300.0	1511121-002	64.1	72.6	72.8	10.0	mg/L	84	87	<1%
QC15110219	MS 2	Sulfate	EPA 300.0	1511010-001	352	440	440	10.0	mg/L	88	88	<1%

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 EPA LAB ID: NV00932





11/20/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1511202

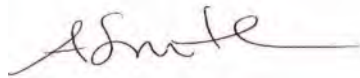
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 11/10/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1511202

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### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 11/20/2015

OrderID: 1511202

Customer Sample ID: C586-15 P,Q WK: 11

Collect Date/Time: 11/10/2015 09:00

WETLAB Sample ID: 1511202-001

Receive Date: 11/10/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	2.7	mg/L	1	0.1	11/10/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	11/16/2015	NV00925
pH	SM 4500-H+ B	4.33	pH Units	1		11/10/2015	NV00925
Temperature at pH	NA	22	°C	1		11/10/2015	NV00925
Redox Potential	ASTM D1498	520	mV	1		11/10/2015	NV00925
Acidity (Titrimetric)	SM 2310B	140	mg/L as CaCO <sub>3</sub>	1		11/11/2015	NV00925
Electrical Conductivity	SM 2510B	570	µmhos/cm	1	1	11/10/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	270	mg/L	10	10	11/12/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	15	mg/L	1	0.50	11/16/2015	NV00925
Iron	EPA 200.7	2.8	mg/L	1	0.020	11/16/2015	NV00925
Magnesium	EPA 200.7	37	mg/L	1	0.50	11/16/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		11/10/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		11/13/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	11/9/2015	NV00925
HCT Post-Leach Volume	N/A	3100	mL	1	1	11/10/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 5

**SPARKS**

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 EPA LAB ID: NV00925 - ELAP No: 2523

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**LAS VEGAS**

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 fax (702) 622-2868  
 EPA LAB ID: NV00932



Customer Sample ID: C601-15 O,Q WK: 11  
 WETLAB Sample ID: 1511202-002

Collect Date/Time: 11/10/2015 09:00  
 Receive Date: 11/10/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	580	mg/L	200	20	11/10/2015	NV00925
Ferric Iron	SM 3500 Fe B	330	mg/L	1	0.1	11/16/2015	NV00925
pH	SM 4500-H+ B	2.67	pH Units	1		11/10/2015	NV00925
Temperature at pH	NA	22	°C	1		11/10/2015	NV00925
Redox Potential	ASTM D1498	460	mV	1		11/10/2015	NV00925
Acidity (Titrimetric)	SM 2310B	1700	mg/L as CaCO3	1		11/11/2015	NV00925
Electrical Conductivity	SM 2510B	3600	µmhos/cm	2	2.0	11/10/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2000	mg/L	10	10	11/11/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	76	mg/L	1	0.50	11/16/2015	NV00925
Iron	EPA 200.7	910	mg/L	10	0.20	11/16/2015	NV00925
Magnesium	EPA 200.7	7.3	mg/L	1	0.50	11/16/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		11/10/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		11/13/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	11/9/2015	NV00925
HCT Post-Leach Volume	N/A	2850	mL	1	1	11/10/2015	NV00925

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15110367	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15110411	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15110443	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15110478	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15110543	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15110364	LCS 1	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC15110367	LCS 1	Electrical Conductivity	SM 2510B	1433	1412	101	µmhos/cm
QC15110373	LCS 1	Redox Potential	ASTM D1498	224	221	101	mV
QC15110411	LCS 1	Sulfate	EPA 300.0	24.7	25.0	99	mg/L
QC15110443	LCS 1	Ferrous Iron	SM 3500 Fe B	0.990	1.00	99	mg/L
QC15110478	LCS 1	Sulfate	EPA 300.0	24.6	25.0	98	mg/L
QC15110543	LCS 1	Calcium	EPA 200.7	10.4	10.0	104	mg/L
		Iron	EPA 200.7	0.992	1.00	99	mg/L
		Magnesium	EPA 200.7	9.91	10.0	99	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15110364	Duplicate	pH	SM 4500-H+ B	1511199-001	7.44	7.45	pH Units	<1%
QC15110364	Duplicate	pH	SM 4500-H+ B	1511201-003	7.60	7.65	pH Units	1 %
QC15110367	Duplicate	Electrical Conductivity	SM 2510B	1511199-001	67.9	67.5	µmhos/cm	1 %
QC15110367	Duplicate	Electrical Conductivity	SM 2510B	1511201-003	77.9	77.9	µmhos/cm	<1%
QC15110373	Duplicate	Redox Potential	ASTM D1498	1511199-001	517	516	mV	<1%
QC15110373	Duplicate	Redox Potential	ASTM D1498	1511201-003	485	487	mV	<1%
QC15110428	Duplicate	Acidity (Titrimetric)	SM 2310B	1511199-001	14.7	17.4	mg/L as CaCO3	17 %
QC15110428	Duplicate	Acidity (Titrimetric)	SM 2310B	1511201-003	14.8	14.4	mg/L as CaCO3	3 %
QC15110443	Duplicate	Ferrous Iron	SM 3500 Fe B	1511199-001	ND	ND	mg/L	<1%
QC15110443	Duplicate	Ferrous Iron	SM 3500 Fe B	1511201-003	ND	ND	mg/L	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15110411	MS 1	Sulfate	EPA 300.0	1511266-001	6.87	16.8	16.8	10.0	mg/L	99	100	<1%
QC15110411	MS 2	Sulfate	EPA 300.0	1511201-002	24.3	33.9	34.0	10.0	mg/L	96	97	<1%
QC15110478	MS 1	Sulfate	EPA 300.0	1511202-001	266	366	370	10.0	mg/L	100	104	1%
QC15110543	MS 1	Calcium	EPA 200.7	1511358-001	32.3	M 38.3	38.7	10.0	mg/L	NC	NC	NC
		Iron	EPA 200.7	1511358-001	0.353	1.32	1.32	1.00	mg/L	97	97	<1%
		Magnesium	EPA 200.7	1511358-001	0.141	J 9.99	10.0	10.0	mg/L	98	99	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 5

**SPARKS**

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EPA LAB ID: NV00932



12/8/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1511386

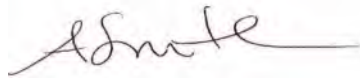
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 11/17/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1511386

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT 0118-0119

Date Printed: 12/8/2015

OrderID: 1511386

Customer Sample ID: C586-15 P,Q WK: 12

Collect Date/Time: 11/17/2015 09:00

WETLAB Sample ID: 1511386-001

Receive Date: 11/17/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	4.6	mg/L	1	0.1	11/17/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	11/23/2015	NV00925
pH	SM 4500-H+ B	4.13	pH Units	1		11/25/2015	NV00925
Temperature at pH	NA	19.8	°C	1		11/25/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	11/24/2015	NV00925
Redox Potential	ASTM D1498	530	mV	1		11/17/2015	NV00925
Acidity (Titrimetric)	SM 2310B	140	mg/L as CaCO3	1		11/20/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.50	11/20/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	400	mg/L	1	10	11/19/2015	NV00925
Electrical Conductivity	SM 2510B	620	µmhos/cm	1	1	11/17/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	11/20/2015	NV00925
Fluoride	EPA 300.0	0.24	mg/L	1	0.10	11/20/2015	NV00925
Sulfate	EPA 300.0	330	mg/L	10	10	11/30/2015	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	11/18/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.40	11/20/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.019	mg/L	1	0.0030	11/23/2015	NV00925
Beryllium	EPA 200.7	0.0032	mg/L	1	0.0008	11/23/2015	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	11/23/2015	NV00925
Calcium	EPA 200.7	17	mg/L	1	0.50	11/23/2015	NV00925
Chromium	EPA 200.7	ND	mg/L	1	0.0050	11/23/2015	NV00925
Cobalt	EPA 200.7	10	mg/L	1	0.010	11/23/2015	NV00925
Iron	EPA 200.7	4.4	mg/L	1	0.020	11/23/2015	NV00925
Magnesium	EPA 200.7	27	mg/L	1	0.50	11/23/2015	NV00925
Manganese	EPA 200.7	2.2	mg/L	1	0.0050	11/23/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	11/23/2015	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	11/23/2015	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	11/23/2015	NV00925
Strontium	EPA 200.7	0.32	mg/L	1	0.020	11/23/2015	NV00925
Zinc	EPA 200.7	0.71	mg/L	1	0.0080	11/23/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	33	mg/L	100	0.20	11/30/2015	NV00925
Nickel	EPA 200.8	4.2	mg/L	100	0.20	11/30/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

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 EPA LAB ID: NV00932



Customer Sample ID: C586-15 P,Q WK: 12

Collect Date/Time: 11/17/2015 09:00

WETLAB Sample ID: 1511386-001

Receive Date: 11/17/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Ion Balance</u></b>							
Anions	Calculation	6.88	meq/L	1	0.10		NV00925
Cations	Calculation	6.06	meq/L	1	0.10		NV00925
Error	Calculation	6.4	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		11/17/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		11/23/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	11/16/2015	NV00925
HCT Post-Leach Volume	N/A	3080	mL	1	1	11/17/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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Customer Sample ID: C601-15 O,Q WK: 12  
 WETLAB Sample ID: 1511386-002

Collect Date/Time: 11/17/2015 09:00  
 Receive Date: 11/17/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	750	mg/L	200	20	11/17/2015	NV00925
Ferric Iron	SM 3500 Fe B	180	mg/L	1	0.1	11/24/2015	NV00925
pH	SM 4500-H+ B	2.67	pH Units	1		11/25/2015	NV00925
Temperature at pH	NA	19.8	°C	1		11/25/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	11/24/2015	NV00925
Redox Potential	ASTM D1498	470	mV	1		11/17/2015	NV00925
Acidity (Titrimetric)	SM 2310B	1700	mg/L as CaCO3	1		11/20/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.50	11/20/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	2900	mg/L	1	10	11/19/2015	NV00925
Electrical Conductivity	SM 2510B	4000	µmhos/cm	2	2.0	11/17/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	D mg/L	10	10	11/20/2015	NV00925
Fluoride	EPA 300.0	0.37	mg/L	10	0.33	11/20/2015	NV00925
Sulfate	EPA 300.0	2800	mg/L	20	20	11/23/2015	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	0.40	mg/L	5	0.10	11/18/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.40	11/20/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.030	mg/L	1	0.0030	11/23/2015	NV00925
Beryllium	EPA 200.7	0.0019	mg/L	1	0.0008	11/23/2015	NV00925
Boron	EPA 200.7	1.4	mg/L	1	0.10	11/23/2015	NV00925
Calcium	EPA 200.7	86	mg/L	1	0.50	11/23/2015	NV00925
Chromium	EPA 200.7	0.60	mg/L	1	0.0050	11/23/2015	NV00925
Cobalt	EPA 200.7	6.2	mg/L	1	0.010	11/23/2015	NV00925
Iron	EPA 200.7	930	mg/L	10	0.20	11/24/2015	NV00925
Magnesium	EPA 200.7	5.0	mg/L	1	0.50	11/23/2015	NV00925
Manganese	EPA 200.7	2.0	mg/L	1	0.0050	11/23/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	11/23/2015	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	11/23/2015	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	11/23/2015	NV00925
Strontium	EPA 200.7	1.4	mg/L	1	0.020	11/23/2015	NV00925
Zinc	EPA 200.7	0.39	mg/L	1	0.0080	11/23/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	21	mg/L	100	0.20	11/30/2015	NV00925
Nickel	EPA 200.8	2.8	mg/L	100	0.20	11/30/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	58.3	meq/L	1	0.10		NV00925
Cations	Calculation	73.4	meq/L	1	0.10		NV00925
Error	Calculation	11	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		11/17/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		11/23/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	11/16/2015	NV00925
HCT Post-Leach Volume	N/A	2910	mL	1	1	11/17/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

Page 5 of 7

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 EPA LAB ID: NV00932



## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15110636	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15110639	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15110670	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15110761	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15110774	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15110855	Blank 1	Barium	EPA 200.7	ND	mg/L
		Beryllium	EPA 200.7	ND	mg/L
		Boron	EPA 200.7	ND	mg/L
		Calcium	EPA 200.7	ND	mg/L
		Chromium	EPA 200.7	ND	mg/L
		Cobalt	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
		Manganese	EPA 200.7	ND	mg/L
		Molybdenum	EPA 200.7	ND	mg/L
		Potassium	EPA 200.7	ND	mg/L
		Sodium	EPA 200.7	ND	mg/L
		Strontium	EPA 200.7	ND	mg/L
		Zinc	EPA 200.7	ND	mg/L
QC15110862	Blank 1	Copper	EPA 200.8	ND	mg/L
		Nickel	EPA 200.8	ND	mg/L
QC15110903	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15110910	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15110636	LCS 1	Electrical Conductivity	SM 2510B	1343	1412	95	µmhos/cm
QC15110637	LCS 1	Redox Potential	ASTM D1498	229	221	103	mV
QC15110639	LCS 1	Ferrous Iron	SM 3500 Fe B	0.869	1.00	87	mg/L
QC15110670	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.784	0.800	98	mg/L
QC15110761	LCS 1	Chloride	EPA 300.0	10.7	10.0	107	mg/L
		Fluoride	EPA 300.0	1.88	2.00	94	mg/L
		Sulfate	EPA 300.0	24.0	25.0	96	mg/L
QC15110774	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.984	1.00	98	mg/L
QC15110855	LCS 1	Barium	EPA 200.7	1.00	1.00	100	mg/L
		Beryllium	EPA 200.7	0.999	1.00	100	mg/L
		Boron	EPA 200.7	0.981	1.00	98	mg/L
		Calcium	EPA 200.7	9.84	10.0	98	mg/L
		Chromium	EPA 200.7	0.993	1.00	99	mg/L
		Cobalt	EPA 200.7	0.997	1.00	100	mg/L
		Iron	EPA 200.7	0.974	1.00	97	mg/L
		Magnesium	EPA 200.7	9.69	10.0	97	mg/L
		Manganese	EPA 200.7	0.990	1.00	99	mg/L
		Molybdenum	EPA 200.7	0.991	1.00	99	mg/L
		Potassium	EPA 200.7	9.77	10.0	98	mg/L
		Sodium	EPA 200.7	9.97	10.0	100	mg/L
		Strontium	EPA 200.7	0.995	1.00	100	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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### SPARKS

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EPA LAB ID: NV00925 - ELAP No: 2523

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3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15110862	LCS 1	Zinc	EPA 200.7	1.03	1.00	103	mg/L
		Copper	EPA 200.8	0.0094	0.010	94	mg/L
		Nickel	EPA 200.8	0.0104	0.010	104	mg/L
QC15110903	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	146	150	97	mg/L
QC15110903	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	149	150	99	mg/L
QC15110910	LCS 1	WAD Cyanide	SM 4500CN I, E	0.094	0.100	94	mg/L
QC15110956	LCS 1	pH	SM 4500-H+ B	6.99	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15110636	Duplicate	Electrical Conductivity	SM 2510B	1511382-001	57.0	56.9	µmhos/cm	<1%
QC15110636	Duplicate	Electrical Conductivity	SM 2510B	1511385-003	86.9	86.7	µmhos/cm	<1%
QC15110637	Duplicate	Redox Potential	ASTM D1498	1511383-001	521	520	mV	<1%
QC15110637	Duplicate	Redox Potential	ASTM D1498	1511385-003	512	514	mV	<1%
QC15110639	Duplicate	Ferrous Iron	SM 3500 Fe B	1511382-001	ND	ND	mg/L	<1%
QC15110639	Duplicate	Ferrous Iron	SM 3500 Fe B	1511385-003	ND	ND	mg/L	<1%
QC15110903	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1511413-002	135	139	mg/L	3 %
QC15110903	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1511413-003	128	135	mg/L	5 %
QC15110938	Duplicate	Acidity (Titrimetric)	SM 2310B	1511386-001	140	136	mg/L as CaCO3	3 %
QC15110938	Duplicate	Acidity (Titrimetric)	SM 2310B	1511388-004	ND	ND	mg/L as CaCO3	<1%
QC15110956	Duplicate	pH	SM 4500-H+ B	1511382-001	7.45	7.46	pH Units	<1%
QC15110956	Duplicate	pH	SM 4500-H+ B	1511385-003	7.66	7.71	pH Units	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15110670	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1511429-001	ND	1.02	1.01	1.00	mg/L	103	102	1%
QC15110670	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1511429-011	ND	1.02	1.02	1.00	mg/L	104	104	<1%
QC15110761	MS 1	Chloride	EPA 300.0	1511469-003	20.1	25.3	25.3	5.00	mg/L	105	104	<1%
		Fluoride	EPA 300.0	1511469-003	ND	2.05	2.01	2.00	mg/L	98	96	2%
		Sulfate	EPA 300.0	1511469-003	151	SC 159	159	10.0	mg/L	NC	NC	NC
QC15110774	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1511375-003	3.62	M 3.50	3.34	1.00	mg/L	NC	NC	NC
QC15110774	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1511383-003	ND	0.911	0.957	1.00	mg/L	109	113	5%
QC15110855	MS 1	Barium	EPA 200.7	1511493-001	ND	0.991	0.985	1.00	mg/L	99	98	1%
		Beryllium	EPA 200.7	1511493-001	ND	0.978	0.979	1.00	mg/L	98	98	<1%
		Boron	EPA 200.7	1511493-001	ND	1.00	0.995	1.00	mg/L	98	98	1%
		Calcium	EPA 200.7	1511493-001	8.49	18.5	17.0	10.0	mg/L	100	85	8%
		Chromium	EPA 200.7	1511493-001	ND	0.986	0.979	1.00	mg/L	99	98	1%
		Cobalt	EPA 200.7	1511493-001	ND	0.970	0.972	1.00	mg/L	97	97	<1%
		Iron	EPA 200.7	1511493-001	ND	0.965	0.914	1.00	mg/L	96	91	5%
		Magnesium	EPA 200.7	1511493-001	1.20	10.7	10.2	10.0	mg/L	95	90	5%
		Manganese	EPA 200.7	1511493-001	ND	0.978	0.967	1.00	mg/L	98	97	1%
		Molybdenum	EPA 200.7	1511493-001	ND	0.988	0.980	1.00	mg/L	99	98	1%
		Potassium	EPA 200.7	1511493-001	0.971	10.3	10.3	10.0	mg/L	93	93	<1%
		Sodium	EPA 200.7	1511493-001	3.68	13.5	12.6	10.0	mg/L	98	89	7%
		Strontium	EPA 200.7	1511493-001	ND	1.04	0.971	1.00	mg/L	99	92	7%
QC15110862	MS 1	Zinc	EPA 200.7	1511493-001	ND	1.04	1.03	1.00	mg/L	104	103	1%
		Copper	EPA 200.8	1511493-001	ND	0.0099	0.0105	0.010	mg/L	99	108	6%
		Nickel	EPA 200.8	1511493-001	ND	0.0107	0.0128	0.010	mg/L	107	128	18%
QC15110910	MS 1	WAD Cyanide	SM 4500CN I,	1511391-001	0.022	0.120	0.120	0.100	mg/L	98	97	<1%
QC15110910	MS 2	WAD Cyanide	SM 4500CN I,	1511391-003	0.029	0.122	0.122	0.100	mg/L	93	93	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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 EPA LAB ID: NV00932



# ANALYTICAL SUMMARY REPORT

December 07, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15112009                      Quote ID: B3679

Project Name: Job ID: 1511386

Energy Laboratories Inc Billings MT received the following 2 samples for Western Environmental Testing Laboratory on 11/30/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15112009-001	C586-15 P,Q WK: 12 - WLHCT-0118	11/17/15 9:00	11/30/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA
B15112009-002	C601-15 O,Q WK: 12 - WLHCT-0119	11/17/15 9:00	11/30/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID: 1511386  
**Lab ID:** B15112009-001  
**Client Sample ID:** C586-15 P,Q WK: 12 - WLHCT-0118

**Report Date:** 12/07/15  
**Collection Date:** 11/17/15 09:00  
**Date Received:** 11/30/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	10.8	mg/L	D	0.01		E200.7	12/01/15 14:59 / jjw
Antimony	ND	mg/L		0.0005		E200.8	12/01/15 21:49 / mas
Arsenic	0.002	mg/L		0.001		E200.8	12/01/15 21:49 / mas
Cadmium	0.00097	mg/L		0.00003		E200.8	12/01/15 21:49 / mas
Lead	0.0024	mg/L		0.0003		E200.8	12/01/15 21:49 / mas
Mercury	ND	mg/L		5E-06		E245.1	11/30/15 16:03 / ser
Phosphorus	0.090	mg/L	L	0.007		E200.7	12/03/15 11:50 / jjw
Selenium	ND	mg/L		0.001		E200.8	12/01/15 21:49 / mas
Silicon	1.15	mg/L		0.05		E200.7	12/01/15 14:59 / jjw
Silver	ND	mg/L		0.0002		E200.8	12/01/15 21:49 / mas
Thallium	0.0097	mg/L		0.0002		E200.8	12/01/15 21:49 / mas
Uranium	0.0050	mg/L		0.0002		E200.8	12/01/15 21:49 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID: 1511386  
**Lab ID:** B15112009-002  
**Client Sample ID:** C601-15 O,Q WK: 12 - WLHCT-0119

**Report Date:** 12/07/15  
**Collection Date:** 11/17/15 09:00  
**DateReceived:** 11/30/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	12.1	mg/L	D	0.01		E200.7	12/01/15 15:02 / jjw
Antimony	0.0053	mg/L		0.0005		E200.8	12/01/15 21:54 / mas
Arsenic	5.76	mg/L		0.001		E200.8	12/01/15 21:54 / mas
Cadmium	0.00101	mg/L		0.00003		E200.8	12/01/15 21:54 / mas
Lead	0.0025	mg/L		0.0003		E200.8	12/01/15 21:54 / mas
Mercury	0.0000302	mg/L		5E-06		E245.1	12/02/15 15:52 / ser
Phosphorus	0.512	mg/L	L	0.007		E200.7	12/03/15 11:54 / jjw
Selenium	0.001	mg/L		0.001		E200.8	12/01/15 21:54 / mas
Silicon	5.78	mg/L		0.05		E200.7	12/01/15 15:02 / jjw
Silver	ND	mg/L		0.0002		E200.8	12/01/15 21:54 / mas
Thallium	ND	mg/L		0.0002		E200.8	12/01/15 21:54 / mas
Uranium	0.0037	mg/L		0.0002		E200.8	12/01/15 21:54 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 12/07/15

**Project:** Job ID: 1511386

**Work Order:** B15112009

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>										Analytical Run: ICP203-B_151201A	
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard							12/01/15 11:37		
Aluminum		2.42	mg/L	0.10	97	95	105				
Silicon		4.89	mg/L	0.10	98	95	105				
<b>Method: E200.7</b>										Batch: R253144	
<b>Lab ID: MB-6500DIS151201A</b>	2	Method Blank							Run: ICP203-B_151201A		12/01/15 12:05
Aluminum		ND	mg/L	0.007							
Silicon		0.03	mg/L	0.01							
<b>Lab ID: LFB-6500DIS151201A</b>	2	Laboratory Fortified Blank							Run: ICP203-B_151201A		12/01/15 12:09
Aluminum		4.94	mg/L	0.10	99	85	115				
Silicon		10.3	mg/L	0.10	103	85	115				
<b>Lab ID: B15112010-001AMS2</b>	2	Sample Matrix Spike							Run: ICP203-B_151201A		12/01/15 13:54
Aluminum		10.1	mg/L	0.030	101	70	130				
Silicon		23.1	mg/L	0.10	98	70	130				
<b>Lab ID: B15112010-001AMSD</b>	2	Sample Matrix Spike Duplicate							Run: ICP203-B_151201A		12/01/15 13:57
Aluminum		10.0	mg/L	0.030	100	70	130	1.1	20		
Silicon		22.3	mg/L	0.10	95	70	130	3.4	20		
<b>Method: E200.7</b>										Analytical Run: ICP203-B_151203A	
<b>Lab ID: ICV</b>		Continuing Calibration Verification Standard							12/03/15 10:57		
Phosphorus		2.53	mg/L	0.10	101	95	105				
<b>Method: E200.7</b>										Batch: R253267	
<b>Lab ID: MB-6500DIS151203A</b>		Method Blank							Run: ICP203-B_151203A		12/03/15 11:26
Phosphorus		ND	mg/L	0.007							
<b>Lab ID: LFB-6500DIS151203A</b>		Laboratory Fortified Blank							Run: ICP203-B_151203A		12/03/15 11:29
Phosphorus		10.2	mg/L	0.10	102	85	115				
<b>Lab ID: B15120193-001AMS2</b>		Sample Matrix Spike							Run: ICP203-B_151203A		12/03/15 12:04
Phosphorus		51.5	mg/L	0.10	103	70	130				
<b>Lab ID: B15120193-001AMSD</b>		Sample Matrix Spike Duplicate							Run: ICP203-B_151203A		12/03/15 12:08
Phosphorus		53.1	mg/L	0.10	106	70	130	3.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 12/07/15

**Project:** Job ID: 1511386

**Work Order:** B15112009

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS206-B_151201A				
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard						12/01/15 16:54			
Antimony		0.0546	mg/L	0.050	109	90	110				
Arsenic		0.0515	mg/L	0.0050	103	90	110				
Cadmium		0.0260	mg/L	0.0010	104	90	110				
Lead		0.0505	mg/L	0.010	101	90	110				
Selenium		0.0512	mg/L	0.0050	102	90	110				
Silver		0.0241	mg/L	0.0050	97	90	110				
Thallium		0.0499	mg/L	0.10	100	90	110				
Uranium		0.0199	mg/L	0.0010	99	90	110				
<b>Method: E200.8</b>							Batch: R253147				
<b>Lab ID: LRB</b>	8	Method Blank						Run: ICPMS206-B_151201A 12/01/15 12:13			
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank						Run: ICPMS206-B_151201A 12/01/15 12:18			
Antimony		0.0467	mg/L	0.050	93	85	115				
Arsenic		0.0481	mg/L	0.0050	96	85	115				
Cadmium		0.0482	mg/L	0.0010	96	85	115				
Lead		0.0481	mg/L	0.010	96	85	115				
Selenium		0.0496	mg/L	0.0050	99	85	115				
Silver		0.0190	mg/L	0.0050	95	85	115				
Thallium		0.0485	mg/L	0.10	97	85	115				
Uranium		0.0489	mg/L	0.0010	98	85	115				
<b>Lab ID: B15120005-001AMS</b>	8	Sample Matrix Spike						Run: ICPMS206-B_151201A 12/01/15 22:32			
Antimony		0.0520	mg/L	0.0010	104	70	130				
Arsenic		0.0489	mg/L	0.0010	97	70	130				
Cadmium		0.0475	mg/L	0.0010	95	70	130				
Lead		0.0485	mg/L	0.0010	97	70	130				
Selenium		0.0483	mg/L	0.0010	96	70	130				
Silver		0.0179	mg/L	0.0010	90	70	130				
Thallium		0.0479	mg/L	0.00050	96	70	130				
Uranium		0.0506	mg/L	0.00030	100	70	130				
<b>Lab ID: B15120005-001AMSD</b>	8	Sample Matrix Spike Duplicate						Run: ICPMS206-B_151201A 12/01/15 22:37			
Antimony		0.0516	mg/L	0.0010	103	70	130	0.8	20		
Arsenic		0.0501	mg/L	0.0010	99	70	130	2.5	20		
Cadmium		0.0477	mg/L	0.0010	95	70	130	0.4	20		
Lead		0.0483	mg/L	0.0010	96	70	130	0.3	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 12/07/15

**Project:** Job ID: 1511386

**Work Order:** B15112009

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R253147
<b>Lab ID:</b> B15120005-001AMSD	8	Sample Matrix Spike Duplicate								Run: ICPMS206-B_151201A
										12/01/15 22:37
Selenium		0.0491	mg/L	0.0010	98	70	130	1.7	20	
Silver		0.0182	mg/L	0.0010	91	70	130	1.2	20	
Thallium		0.0485	mg/L	0.00050	97	70	130	1.2	20	
Uranium		0.0505	mg/L	0.00030	100	70	130	0.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 12/07/15

**Project:** Job ID: 1511386

**Work Order:** B15112009

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151130A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								11/30/15 15:44	
Mercury		0.000194	mg/L	1.0E-05	97	90	110				
<b>Method:</b> E245.1										Batch: 95215	
<b>Lab ID:</b> MB-95215		Method Blank								Run: HGCV203-B_151130A	11/30/15 15:52
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-95215		Laboratory Control Sample								Run: HGCV203-B_151130A	11/30/15 15:55
Mercury		0.000190	mg/L	1.0E-05	95	85	115				
<b>Lab ID:</b> B15112009-002AMS		Sample Matrix Spike								Run: HGCV203-B_151130A	11/30/15 16:08
Mercury		0.000218	mg/L	1.0E-05	97	70	130				
<b>Lab ID:</b> B15112009-002AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_151130A	11/30/15 16:10
Mercury		0.000215	mg/L	1.0E-05	96	70	130	1.4	30		
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151202A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								12/02/15 13:51	
Mercury		0.000189	mg/L	1.0E-05	95	90	110				
<b>Method:</b> E245.1										Batch: 95254	
<b>Lab ID:</b> MB-95254		Method Blank								Run: HGCV203-B_151202A	12/02/15 15:39
Mercury		2E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-95254		Laboratory Control Sample								Run: HGCV203-B_151202A	12/02/15 15:42
Mercury		0.000192	mg/L	1.0E-05	95	85	115				
<b>Lab ID:</b> B15111735-007BMS		Sample Matrix Spike								Run: HGCV203-B_151202A	12/02/15 15:47
Mercury		0.000196	mg/L	1.0E-05	97	70	130				
<b>Lab ID:</b> B15111735-007BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_151202A	12/02/15 15:49
Mercury		0.000197	mg/L	1.0E-05	98	70	130	0.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15112009

Login completed by: Tabitha Edwards

Date Received: 11/30/2015

Reviewed by: BL2000\lcardreau

Received by: cds

Reviewed Date: 11/30/2015

Carrier name: UPS

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 11.4°C No Ice
- Water - VOA vials have zero headspace? Yes  No  Not Applicable
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

None

# CHAIN OF CUSTODY RECORD

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Logan Greenwood Ph: (775) 355-0202 LoganG@wetlaboratory.com Fax: (775) 355-0817		Total # of sample containers System	Samplers Initials Compliance: Y X N CA Write ON: Y X N QC: Y X N	All Samples Refrigerated?: Y N X Water System #:
Sample Receipt Condition:		Notes: Quote # 3079		
Temperature: 11.4°C		SIGNATURE OF COMPANY REPRESENTATIVE:		
Job ID 1511386		Date: Time:		
Set Date 11/17/2015 9:00 AM	Sample ID - Site ID C586-15 P,Q WK: 12 - WLHCT-0118	Matrix Leachate	Parameter Various Metals (Subcontracted)	Container Type Preservatives B15112009 -001 -002
11/17/2015 9:00 AM	C601-15 O,Q WK: 12 - WLHCT-0119	Leachate	Various Metals (Subcontracted)	-002

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
	11-22-15	16:30	UPS						
Relinquished by: (Signature)			Chris Schneider	11/30/15	7:50A	Trip Blank	Grab	Composite	Equipment Blank
Relinquished by: (Signature)						Trip Blank	Grab	Composite	Equipment Blank

Shipped by: UPS GED

on ice: NO

custody seal: NO

signature match: NO



12/8/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1511609

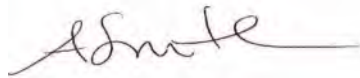
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 11/24/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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EPA LAB ID: NV00926

**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1511609

---

### Specific Report Comments

The result for Ferrous Iron for sample 1511609-001 is slightly higher than Total Iron. This indicates that all of the Iron is in the form of Ferrous Iron. Since the results were close in value reanalysis was not done.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 12/8/2015

OrderID: 1511609

Customer Sample ID: C586-15 P,Q WK: 13

Collect Date/Time: 11/24/2015 09:00

WETLAB Sample ID: 1511609-001

Receive Date: 11/24/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	10	mg/L	10	1.0	11/24/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	12/2/2015	NV00925
pH	SM 4500-H+ B	3.84	pH Units	1		12/4/2015	NV00925
Temperature at pH	NA	20.4	°C	1		12/4/2015	NV00925
Redox Potential	ASTM D1498	520	mV	1		11/24/2015	NV00925
Acidity (Titrimetric)	SM 2310B	190	mg/L as CaCO <sub>3</sub>	1		12/1/2015	NV00925
Electrical Conductivity	SM 2510B	670	µmhos/cm	1	1	11/24/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	390	mg/L	10	10	12/2/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	16	mg/L	1	0.50	12/2/2015	NV00925
Iron	EPA 200.7	9.4	mg/L	1	0.020	12/2/2015	NV00925
Magnesium	EPA 200.7	30	mg/L	1	0.50	12/2/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		11/24/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/2/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	11/23/2015	NV00925
HCT Post-Leach Volume	N/A	3170	mL	1	1	11/24/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 5

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 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932



Customer Sample ID: C601-15 O,Q WK: 13  
 WETLAB Sample ID: 1511609-002

Collect Date/Time: 11/24/2015 09:00  
 Receive Date: 11/24/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	500	mg/L	200	20	11/24/2015	NV00925
Ferric Iron	SM 3500 Fe B	190	mg/L	1	0.1	12/2/2015	NV00925
pH	SM 4500-H+ B	2.68	pH Units	1		12/4/2015	NV00925
Temperature at pH	NA	20.4	°C	1		12/4/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		11/24/2015	NV00925
Acidity (Titrimetric)	SM 2310B	1300	mg/L as CaCO3	1		12/1/2015	NV00925
Electrical Conductivity	SM 2510B	3200	µmhos/cm	2	2.0	11/24/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2300	mg/L	20	20	12/2/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	72	mg/L	1	0.50	12/2/2015	NV00925
Iron	EPA 200.7	690	mg/L	10	0.20	12/2/2015	NV00925
Magnesium	EPA 200.7	2.4	mg/L	1	0.50	12/2/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		11/24/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/2/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	11/23/2015	NV00925
HCT Post-Leach Volume	N/A	3140	mL	1	1	11/24/2015	NV00925

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15110965	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15110966	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15120106	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
QC15120134	Blank 1	Sulfate	EPA 300.0	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15110964	LCS 1	Redox Potential	ASTM D1498	226	221	102	mV
QC15110965	LCS 1	Electrical Conductivity	SM 2510B	1479	1412	105	µmhos/cm
QC15110966	LCS 1	Ferrous Iron	SM 3500 Fe B	1.02	1.00	102	mg/L
QC15120106	LCS 1	Calcium, Dissolved	EPA 200.7	9.86	10.0	99	mg/L
		Iron, Dissolved	EPA 200.7	0.950	1.00	95	mg/L
		Magnesium, Dissolved	EPA 200.7	9.51	10.0	95	mg/L
QC15120134	LCS 1	Sulfate	EPA 300.0	26.2	25.0	105	mg/L
QC15120263	LCS 1	pH	SM 4500-H+ B	6.99	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15110964	Duplicate	Redox Potential	ASTM D1498	1511606-001	520	521	mV	<1%
QC15110964	Duplicate	Redox Potential	ASTM D1498	1511608-003	507	508	mV	<1%
QC15110965	Duplicate	Electrical Conductivity	SM 2510B	1511606-001	57.7	57.2	µmhos/cm	1 %
QC15110965	Duplicate	Electrical Conductivity	SM 2510B	1511608-003	98.6	98.3	µmhos/cm	<1%
QC15110966	Duplicate	Ferrous Iron	SM 3500 Fe B	1511606-001	ND	ND	mg/L	<1%
QC15110966	Duplicate	Ferrous Iron	SM 3500 Fe B	1511608-003	ND	ND	mg/L	13 %
QC15120120	Duplicate	Acidity (Titrimetric)	SM 2310B	1511536-001	4.13	1.22	mg/L as CaCO3	109 %
QC15120120	Duplicate	Acidity (Titrimetric)	SM 2310B	1511606-003	2.03	ND	mg/L as CaCO3	<1%
QC15120120	Duplicate	Acidity (Titrimetric)	SM 2310B	1511609-001	185	189	mg/L as CaCO3	2 %
QC15120120	Duplicate	Acidity (Titrimetric)	SM 2310B	1511683-003	3.38	3.44	mg/L as CaCO3	2 %
QC15120120	Duplicate	Acidity (Titrimetric)	SM 2310B	1511686-005	ND	ND	mg/L as CaCO3	<1%
QC15120263	Duplicate	pH	SM 4500-H+ B	1511606-001	7.55	7.55	pH Units	<1%
QC15120263	Duplicate	pH	SM 4500-H+ B	1511608-003	7.81	7.86	pH Units	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15120106	MS 1	Calcium, Dissolved	EPA 200.7	1511669-006	145	154	151	10.0	mg/L	90	60	2%
		Iron, Dissolved	EPA 200.7	1511669-006	ND	0.936	0.906	1.00	mg/L	93	90	3%
		Magnesium, Dissolved	EPA 200.7	1511669-006	84.7	94.9	92.7	10.0	mg/L	102	80	2%
QC15120134	MS 1	Sulfate	EPA 300.0	1511607-003	6.57	16.0	16.0	10.0	mg/L	95	95	<1%
QC15120134	MS 2	Sulfate	EPA 300.0	1512023-001	19.1	28.3	28.4	10.0	mg/L	92	92	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 5

**SPARKS**

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**LAS VEGAS**

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fax (702) 622-2868  
EPA LAB ID: NV00932



12/14/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1511699

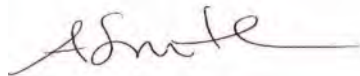
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 12/1/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1511699

---

### Specific Report Comments

The result for the continuing calibration verification (CCV) sample during the analysis for pH was outside WETLAB acceptance criteria. Laboratory Control Samples (LCS/LFB) and Duplicate data was however acceptable. The reported data for pH on all samples should be considered estimates. Due to a lack of sample volume reanalysis was not possible. We apologize for any inconvenience this may have caused.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 12/14/2015

OrderID: 1511699

Customer Sample ID: C586-15 P,Q WK: 14

Collect Date/Time: 12/1/2015 09:00

WETLAB Sample ID: 1511699-001

Receive Date: 12/1/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	7.8	mg/L	5	0.1	12/1/2015	NV00925
Ferric Iron	SM 3500 Fe B	15	mg/L	1	0.1	12/3/2015	NV00925
pH	SM 4500-H+ B	3.45	pH Units	1		12/7/2015	NV00925
Temperature at pH	NA	21.4	°C	1		12/7/2015	NV00925
Redox Potential	ASTM D1498	450	mV	1		12/1/2015	NV00925
Acidity (Titrimetric)	SM 2310B	290	mg/L as CaCO <sub>3</sub>	1		12/8/2015	NV00925
Electrical Conductivity	SM 2510B	1000	µmhos/cm	1	1	12/1/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	510	mg/L	5	5.0	12/4/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	20	mg/L	1	0.50	12/3/2015	NV00925
Iron	EPA 200.7	23	SC mg/L	1	0.020	12/3/2015	NV00925
Magnesium	EPA 200.7	38	mg/L	1	0.50	12/3/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/1/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/3/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	11/30/2015	NV00925
HCT Post-Leach Volume	N/A	3190	mL	1	1	12/1/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 6

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**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 14  
 WETLAB Sample ID: 1511699-002

Collect Date/Time: 12/1/2015 09:00  
 Receive Date: 12/1/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	720	mg/L	200	20	12/1/2015	NV00925
Ferric Iron	SM 3500 Fe B	92	mg/L	1	0.1	12/4/2015	NV00925
pH	SM 4500-H+ B	2.73	pH Units	1		12/7/2015	NV00925
Temperature at pH	NA	21.4	°C	1		12/7/2015	NV00925
Redox Potential	ASTM D1498	450	mV	1		12/1/2015	NV00925
Acidity (Titrimetric)	SM 2310B	1500	mg/L as CaCO3	1		12/8/2015	NV00925
Electrical Conductivity	SM 2510B	3600	µmhos/cm	2	2.0	12/1/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	1800	mg/L	20	20	12/4/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	72	mg/L	1	0.50	12/3/2015	NV00925
Iron	EPA 200.7	820	mg/L	10	0.20	12/4/2015	NV00925
Magnesium	EPA 200.7	1.7	mg/L	1	0.50	12/3/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/1/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/3/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	11/30/2015	NV00925
HCT Post-Leach Volume	N/A	3230	mL	1	1	12/1/2015	NV00925

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 EPA LAB ID: NV00932



## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15120076	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15120083	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15120183	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
QC15120184	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
QC15120203	Blank 1	Sulfate	EPA 300.0	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15120076	LCS 1	Electrical Conductivity	SM 2510B	1505	1412	107	µmhos/cm
QC15120077	LCS 1	Redox Potential	ASTM D1498	226	229	99	mV
QC15120083	LCS 1	Ferrous Iron	SM 3500 Fe B	1.01	1.00	101	mg/L
QC15120183	LCS 1	Calcium	EPA 200.7	9.52	10.0	95	mg/L
		Iron	EPA 200.7	0.923	1.00	92	mg/L
		Magnesium	EPA 200.7	9.27	10.0	93	mg/L
QC15120184	LCS 1	Calcium	EPA 200.7	9.52	10.0	95	mg/L
		Iron	EPA 200.7	0.923	1.00	92	mg/L
		Magnesium	EPA 200.7	9.27	10.0	93	mg/L
QC15120203	LCS 1	Sulfate	EPA 300.0	23.8	25.0	95	mg/L
QC15120329	LCS 1	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC15120329	LCS 2	pH	SM 4500-H+ B	7.20	7.00	103	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15120076	Duplicate	Electrical Conductivity	SM 2510B	1511696-001	55.8	55.6	µmhos/cm	<1%
QC15120076	Duplicate	Electrical Conductivity	SM 2510B	1511698-003	100	99.7	µmhos/cm	<1%
QC15120077	Duplicate	Redox Potential	ASTM D1498	1511696-001	510	507	mV	1 %
QC15120077	Duplicate	Redox Potential	ASTM D1498	1511698-003	445	442	mV	1 %
QC15120083	Duplicate	Ferrous Iron	SM 3500 Fe B	1511696-001	ND	ND	mg/L	<1%
QC15120083	Duplicate	Ferrous Iron	SM 3500 Fe B	1511698-003	ND	ND	mg/L	<1%
QC15120329	Duplicate	pH	SM 4500-H+ B	1511696-001	7.38	7.39	pH Units	<1%
QC15120329	Duplicate	pH	SM 4500-H+ B	1511698-003	7.71	7.76	pH Units	1 %
QC15120329	Duplicate	pH	SM 4500-H+ B	1512113-001	7.10	7.00	QL pH Units	1 %
QC15120329	Duplicate	pH	SM 4500-H+ B	1512116-003	7.29	7.10	QL,Q pH Units	3 %
QC15120393	Duplicate	Acidity (Titrimetric)	SM 2310B	1511696-001	1.80	ND	QD mg/L as CaCO3	293 %
QC15120393	Duplicate	Acidity (Titrimetric)	SM 2310B	1511698-003	ND	ND	QD mg/L as CaCO3	<1%
QC15120393	Duplicate	Acidity (Titrimetric)	SM 2310B	1512113-001	4.83	4.77	mg/L as CaCO3	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15120183	MS 1	Calcium	EPA 200.7	1511699-001	19.7	28.3	28.2	10.0	mg/L	86	85	<1%
		Iron	EPA 200.7	1511699-001	23.0	SC 22.7	23.0	1.00	mg/L	NC	NC	NC
		Magnesium	EPA 200.7	1511699-001	37.5	44.5	45.0	10.0	mg/L	70	75	1%
QC15120184	MS 1	Calcium	EPA 200.7	1511699-002	72.2	82.1	83.4	10.0	mg/L	99	112	2%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 6

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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Iron	EPA 200.7	1511699-002	817	SC 816	865	1.00	mg/L	NC	NC	NC
		Magnesium	EPA 200.7	1511699-002	1.73	10.7	10.7	10.0	mg/L	90	90	<1%
QC15120203	MS 1	Sulfate	EPA 300.0	1511696-001	7.75	17.6	17.8	10.0	mg/L	98	100	1%
QC15120203	MS 2	Sulfate	EPA 300.0	1511697-005	ND	10.1	10.4	10.0	mg/L	99	102	3%

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12/17/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1512203

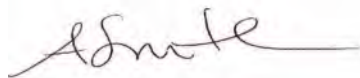
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 12/8/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1512203

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 12/17/2015

OrderID: 1512203

Customer Sample ID: C586-15 P,Q WK: 15

Collect Date/Time: 12/8/2015 09:00

WETLAB Sample ID: 1512203-001

Receive Date: 12/8/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	38	mg/L	10	1.0	12/8/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	12/10/2015	NV00925
pH	SM 4500-H+ B	3.30	pH Units	1		12/11/2015	NV00925
Temperature at pH	NA	21	°C	1		12/11/2015	NV00925
Redox Potential	ASTM D1498	430	mV	1		12/8/2015	NV00925
Acidity (Titrimetric)	SM 2310B	330	mg/L as CaCO <sub>3</sub>	1		12/9/2015	NV00925
Electrical Conductivity	SM 2510B	1000	µmhos/cm	1	1	12/8/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	650	mg/L	10	10	12/10/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	16	mg/L	1	0.50	12/10/2015	NV00925
Iron	EPA 200.7	37	mg/L	1	0.020	12/10/2015	NV00925
Magnesium	EPA 200.7	32	mg/L	1	0.50	12/10/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/8/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/10/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	12/7/2015	NV00925
HCT Post-Leach Volume	N/A	3190	mL	1	1	12/8/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 5

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 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 15  
 WETLAB Sample ID: 1512203-002

Collect Date/Time: 12/8/2015 09:00  
 Receive Date: 12/8/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	680	mg/L	500	50	12/8/2015	NV00925
Ferric Iron	SM 3500 Fe B	130	mg/L	1	0.1	12/11/2015	NV00925
pH	SM 4500-H+ B	2.64	pH Units	1		12/11/2015	NV00925
Temperature at pH	NA	21	°C	1		12/11/2015	NV00925
Redox Potential	ASTM D1498	440	mV	1		12/8/2015	NV00925
Acidity (Titrimetric)	SM 2310B	1500	mg/L as CaCO3	1		12/9/2015	NV00925
Electrical Conductivity	SM 2510B	2000	µmhos/cm	1	1	12/8/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2600	mg/L	20	20	12/10/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	140	mg/L	1	0.50	12/10/2015	NV00925
Iron	EPA 200.7	810	mg/L	5	0.10	12/11/2015	NV00925
Magnesium	EPA 200.7	1.5	mg/L	1	0.50	12/10/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/8/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/10/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	12/7/2015	NV00925
HCT Post-Leach Volume	N/A	2730	mL	1	1	12/8/2015	NV00925

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15120431	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15120438	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15120497	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
QC15120602	Blank 1	Sulfate	EPA 300.0	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15120431	LCS 1	Electrical Conductivity	SM 2510B	1469	1412	104	µmhos/cm
QC15120433	LCS 1	Redox Potential	ASTM D1498	242	229	106	mV
QC15120438	LCS 1	Ferrous Iron	SM 3500 Fe B	1.01	1.00	101	mg/L
QC15120497	LCS 1	Calcium	EPA 200.7	9.92	10.0	99	mg/L
		Iron	EPA 200.7	0.984	1.00	98	mg/L
		Magnesium	EPA 200.7	9.95	10.0	100	mg/L
QC15120550	LCS 1	pH	SM 4500-H+ B	6.98	7.00	100	pH Units
QC15120550	LCS 2	pH	SM 4500-H+ B	6.98	7.00	100	pH Units
QC15120602	LCS 1	Sulfate	EPA 300.0	23.8	25.0	95	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15120431	Duplicate	Electrical Conductivity	SM 2510B	1512200-001	55.2	55.0	µmhos/cm	<1%
QC15120431	Duplicate	Electrical Conductivity	SM 2510B	1512202-003	74.2	73.8	µmhos/cm	1 %
QC15120433	Duplicate	Redox Potential	ASTM D1498	1512200-001	443	443	mV	<1%
QC15120433	Duplicate	Redox Potential	ASTM D1498	1512202-003	435	435	mV	<1%
QC15120438	Duplicate	Ferrous Iron	SM 3500 Fe B	1512200-001	ND	ND	mg/L	<1%
QC15120438	Duplicate	Ferrous Iron	SM 3500 Fe B	1512202-003	ND	ND	mg/L	<1%
QC15120488	Duplicate	Acidity (Titrimetric)	SM 2310B	1512201-001	1.76	4.42	mg/L as CaCO3	86 %
QC15120488	Duplicate	Acidity (Titrimetric)	SM 2310B	1512201-005	11.4	11.1	mg/L as CaCO3	3 %
QC15120488	Duplicate	Acidity (Titrimetric)	SM 2310B	1512205-003	10.7	10.7	mg/L as CaCO3	<1%
QC15120550	Duplicate	pH	SM 4500-H+ B	1512200-001	7.45	7.43	pH Units	<1%
QC15120550	Duplicate	pH	SM 4500-H+ B	1512202-003	7.63	7.68	pH Units	1 %
QC15120550	Duplicate	pH	SM 4500-H+ B	1512381-001	7.38	7.36	pH Units	<1%
QC15120550	Duplicate	pH	SM 4500-H+ B	1512384-003	7.46	7.45	pH Units	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15120497	MS 1	Calcium	EPA 200.7	1512293-001	83.6	96.2	94.3	10.0	mg/L	126	107	2%
		Iron	EPA 200.7	1512293-001	ND	0.999	1.00	1.00	mg/L	99	99	<1%
		Magnesium	EPA 200.7	1512293-001	28.3	38.0	37.9	10.0	mg/L	97	96	<1%
QC15120602	MS 1	Sulfate	EPA 300.0	1512279-001	262	311	314	10.0	mg/L	100	105	1%
QC15120602	MS 2	Sulfate	EPA 300.0	1512270-002	48.3	57.4	57.5	10.0	mg/L	91	92	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 5

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EPA LAB ID: NV00932





12/29/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1512448

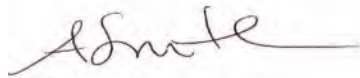
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 12/15/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1512448

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### Specific Report Comments

The cation/anion balance for sample 1512448-002 was outside WETLAB acceptance criteria; however, reanalysis confirmed the original results.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT 0118-0119

Date Printed: 12/29/2015

OrderID: 1512448

Customer Sample ID: C586-15 P,Q WK: 16

Collect Date/Time: 12/15/2015 09:00

WETLAB Sample ID: 1512448-001

Receive Date: 12/15/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	120	mg/L	100	10	12/15/2015	NV00925
Ferric Iron	SM 3500 Fe B	3.3	mg/L	1	0.1	12/17/2015	NV00925
pH	SM 4500-H+ B	3.50	pH Units	1		12/17/2015	NV00925
Temperature at pH	NA	19.6	°C	1		12/17/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	12/21/2015	NV00925
Redox Potential	ASTM D1498	380	mV	1		12/15/2015	NV00925
Acidity (Titrimetric)	SM 2310B	500	mg/L as CaCO3	1		12/18/2015	NV00925
Total Nitrogen	Calc.	0.88	mg/L	1	0.50	12/21/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	890	mg/L	1	10	12/17/2015	NV00925
Electrical Conductivity	SM 2510B	1200	µmhos/cm	1	1	12/15/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND D	mg/L	10	10	12/17/2015	NV00925
Fluoride	EPA 300.0	ND D	mg/L	10	1.0	12/17/2015	NV00925
Sulfate	EPA 300.0	680	mg/L	10	10	12/17/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	0.56	mg/L	5	0.10	12/17/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.40	12/21/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium	EPA 200.7	0.010	mg/L	1	0.0030	12/17/2015	NV00925
Beryllium	EPA 200.7	0.0061	mg/L	1	0.0008	12/17/2015	NV00925
Boron	EPA 200.7	0.22	mg/L	1	0.10	12/17/2015	NV00925
Calcium	EPA 200.7	15	mg/L	1	0.50	12/17/2015	NV00925
Chromium	EPA 200.7	0.0094	mg/L	1	0.0050	12/17/2015	NV00925
Cobalt	EPA 200.7	17	mg/L	1	0.010	12/17/2015	NV00925
Iron	EPA 200.7	120	mg/L	1	0.020	12/17/2015	NV00925
Magnesium	EPA 200.7	38	mg/L	1	0.50	12/17/2015	NV00925
Manganese	EPA 200.7	4.0	mg/L	1	0.0050	12/17/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	12/17/2015	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	12/17/2015	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	12/17/2015	NV00925
Strontium	EPA 200.7	0.27	mg/L	1	0.020	12/17/2015	NV00925
Zinc	EPA 200.7	1.2	mg/L	1	0.0080	12/17/2015	NV00925
<b>Trace Metals by ICP-MS</b>							
Copper	EPA 200.8	55	mg/L	500	1.0	12/22/2015	NV00925
Nickel	EPA 200.8	6.8	mg/L	100	0.20	12/22/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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 EPA LAB ID: NV00932

Customer Sample ID: C586-15 P,Q WK: 16

Collect Date/Time: 12/15/2015 09:00

WETLAB Sample ID: 1512448-001

Receive Date: 12/15/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Ion Balance</u></b>							
Anions	Calculation	14.2	meq/L	1	0.10		NV00925
Cations	Calculation	17.4	meq/L	1	0.10		NV00925
Error	Calculation	10	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/15/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/17/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	12/14/2015	NV00925
HCT Post-Leach Volume	N/A	3240	mL	1	1	12/15/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 16  
 WETLAB Sample ID: 1512448-002

Collect Date/Time: 12/15/2015 09:00

Receive Date: 12/15/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	750	mg/L	200	20	12/15/2015	NV00925
Ferric Iron	SM 3500 Fe B	50	mg/L	1	0.1	12/18/2015	NV00925
pH	SM 4500-H+ B	2.82	pH Units	1		12/17/2015	NV00925
Temperature at pH	NA	19.5	°C	1		12/17/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	12/21/2015	NV00925
Redox Potential	ASTM D1498	410	mV	1		12/15/2015	NV00925
Acidity (Titrimetric)	SM 2310B	1300	mg/L as CaCO3	1		12/18/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.50	12/21/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	2400	mg/L	1	10	12/17/2015	NV00925
Electrical Conductivity	SM 2510B	3000	µmhos/cm	1	1	12/15/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	D mg/L	10	10	12/17/2015	NV00925
Fluoride	EPA 300.0	ND	D mg/L	10	1.0	12/17/2015	NV00925
Sulfate	EPA 300.0	1700	mg/L	10	10	12/17/2015	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	12/21/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.40	12/21/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.031	mg/L	1	0.0030	12/17/2015	NV00925
Beryllium	EPA 200.7	ND	mg/L	1	0.0008	12/17/2015	NV00925
Boron	EPA 200.7	1.3	mg/L	1	0.10	12/17/2015	NV00925
Calcium	EPA 200.7	95	mg/L	1	0.50	12/17/2015	NV00925
Chromium	EPA 200.7	0.30	mg/L	1	0.0050	12/17/2015	NV00925
Cobalt	EPA 200.7	2.8	mg/L	1	0.010	12/17/2015	NV00925
Iron	EPA 200.7	800	mg/L	20	0.40	12/18/2015	NV00925
Magnesium	EPA 200.7	1.4	mg/L	1	0.50	12/17/2015	NV00925
Manganese	EPA 200.7	0.53	mg/L	1	0.0050	12/17/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	12/17/2015	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	12/17/2015	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	12/17/2015	NV00925
Strontium	EPA 200.7	1.5	mg/L	1	0.020	12/17/2015	NV00925
Zinc	EPA 200.7	0.19	mg/L	1	0.0080	12/17/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	9.0	mg/L	100	0.20	12/22/2015	NV00925
Nickel	EPA 200.8	1.1	mg/L	100	0.20	12/22/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	35.4	meq/L	1	0.10		NV00925
Cations	Calculation	61.4	meq/L	1	0.10		NV00925
Error	Calculation	27	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/15/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/17/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	12/14/2015	NV00925
HCT Post-Leach Volume	N/A	3040	mL	1	1	12/15/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15120683	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15120685	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15120718	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15120758	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15120765	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15120772	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15120780	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15120868	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15120890	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15120892	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15120894	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15120683	LCS 1	Ferrous Iron	SM 3500 Fe B	0.971	1.00	97	mg/L
QC15120684	LCS 1	Redox Potential	ASTM D1498	239	229	104	mV
QC15120685	LCS 1	Electrical Conductivity	SM 2510B	1513	1412	107	µmhos/cm
QC15120718	LCS 1	Chloride	EPA 300.0	9.76	10.0	98	mg/L
		Fluoride	EPA 300.0	2.09	2.00	105	mg/L
		Sulfate	EPA 300.0	24.2	25.0	97	mg/L
QC15120758	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.811	0.800	101	mg/L
QC15120765	LCS 1	Copper	EPA 200.8	0.0111	0.010	111	mg/L
		Nickel	EPA 200.8	0.0098	0.010	98	mg/L
QC15120772	LCS 1	Barium, Dissolved	EPA 200.7	0.983	1.00	98	mg/L
		Beryllium, Dissolved	EPA 200.7	0.977	1.00	98	mg/L
		Boron, Dissolved	EPA 200.7	0.976	1.00	98	mg/L
		Calcium, Dissolved	EPA 200.7	9.95	10.0	100	mg/L
		Chromium, Dissolved	EPA 200.7	0.985	1.00	98	mg/L
		Cobalt, Dissolved	EPA 200.7	0.997	1.00	100	mg/L
		Iron, Dissolved	EPA 200.7	0.981	1.00	98	mg/L
		Magnesium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15120780	LCS 1	Manganese, Dissolved	EPA 200.7	0.990	1.00	99	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.983	1.00	98	mg/L
		Potassium, Dissolved	EPA 200.7	9.76	10.0	98	mg/L
		Sodium, Dissolved	EPA 200.7	9.77	10.0	98	mg/L
		Strontium, Dissolved	EPA 200.7	0.986	1.00	99	mg/L
		Zinc, Dissolved	EPA 200.7	1.03	1.00	103	mg/L
		Chloride	EPA 300.0	10.00	10.0	100	mg/L
		Fluoride	EPA 300.0	2.11	2.00	106	mg/L
		Sulfate	EPA 300.0	24.8	25.0	99	mg/L
QC15120868	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	158	150	105	mg/L
QC15120868	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	154	150	103	mg/L
QC15120890	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.770	0.800	96	mg/L
QC15120892	LCS 1	WAD Cyanide	SM 4500CN I, E	0.097	0.100	97	mg/L
QC15120894	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.996	1.00	100	mg/L
QC15121046	LCS 1	pH	SM 4500-H+ B	6.99	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15120683	Duplicate	Ferrous Iron	SM 3500 Fe B	1512445-001	ND	ND	mg/L	<1%
QC15120683	Duplicate	Ferrous Iron	SM 3500 Fe B	1512447-003	ND	ND	mg/L	18 %
QC15120684	Duplicate	Redox Potential	ASTM D1498	1512445-001	378	383	mV	1 %
QC15120684	Duplicate	Redox Potential	ASTM D1498	1512447-003	431	430	mV	<1%
QC15120685	Duplicate	Electrical Conductivity	SM 2510B	1512445-001	51.2	51.0	µmhos/cm	<1%
QC15120685	Duplicate	Electrical Conductivity	SM 2510B	1512447-003	76.2	76.1	µmhos/cm	<1%
QC15120856	Duplicate	Acidity (Titrimetric)	SM 2310B	1512381-001	10.8	6.67	mg/L as CaCO3	48 %
QC15120856	Duplicate	Acidity (Titrimetric)	SM 2310B	1512384-003	8.81	9.74	mg/L as CaCO3	10 %
QC15120856	Duplicate	Acidity (Titrimetric)	SM 2310B	1512446-005	11.6	13.0	mg/L as CaCO3	12 %
QC15120856	Duplicate	Acidity (Titrimetric)	SM 2310B	1512450-003	24.3	22.4	mg/L as CaCO3	8 %
QC15120868	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1512482-001	353	351	mg/L	1 %
QC15120868	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1512495-001	246	243	mg/L	1 %
QC15121046	Duplicate	pH	SM 4500-H+ B	1512445-001	7.36	7.37	pH Units	<1%
QC15121046	Duplicate	pH	SM 4500-H+ B	1512447-003	7.53	7.53	pH Units	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15120718	MS 1	Chloride	EPA 300.0	1512460-014	ND	5.38	5.43	5.00	mg/L	106	107	1%
		Fluoride	EPA 300.0	1512460-014	ND	2.20	2.20	2.00	mg/L	109	110	<1%
		Sulfate	EPA 300.0	1512460-014	18.9	28.7	28.8	10.0	mg/L	98	99	<1%
QC15120718	MS 2	Chloride	EPA 300.0	1512448-001	ND	D 54.7	54.6	5.00	mg/L	107	107	<1%
		Fluoride	EPA 300.0	1512448-001	ND	D 21.9	22.2	2.00	mg/L	107	108	1%
		Sulfate	EPA 300.0	1512448-001	681	775	776	10.0	mg/L	94	95	<1%
QC15120758	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1512414-001	ND	4.72	4.82	1.00	mg/L	94	96	2%
QC15120758	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1512419-001	ND	4.95	5.02	1.00	mg/L	99	100	1%
QC15120765	MS 1	Copper, Dissolved	EPA 200.8	1512417-009	0.0065	0.0146	0.0141	0.010	mg/L	81	76	3%
		Nickel, Dissolved	EPA 200.8	1512417-009	0.0169	0.0249	0.0258	0.010	mg/L	80	89	4%
QC15120772	MS 1	Barium, Dissolved	EPA 200.7	1512417-009	0.026	0.986	0.994	1.00	mg/L	96	97	1%
		Beryllium, Dissolved	EPA 200.7	1512417-009	ND	1.01	1.02	1.00	mg/L	101	102	1%
		Boron, Dissolved	EPA 200.7	1512417-009	0.564	1.62	1.65	1.00	mg/L	106	109	2%
		Calcium, Dissolved	EPA 200.7	1512417-009	232	SC 229	237	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1512417-009	ND	0.969	0.978	1.00	mg/L	97	98	1%

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Cobalt, Dissolved	EPA 200.7	1512417-009	ND	0.928	0.941	1.00	mg/L	93	94	1%
		Iron, Dissolved	EPA 200.7	1512417-009	ND	0.979	0.985	1.00	mg/L	98	98	1%
		Magnesium, Dissolved	EPA 200.7	1512417-009	81.6	89.0	91.5	10.0	mg/L	74	99	3%
		Manganese, Dissolved	EPA 200.7	1512417-009	ND	0.966	0.974	1.00	mg/L	97	98	1%
		Molybdenum, Dissolved	EPA 200.7	1512417-009	ND	1.03	1.05	1.00	mg/L	102	104	2%
		Potassium, Dissolved	EPA 200.7	1512417-009	8.73	18.1	18.6	10.0	mg/L	94	99	3%
		Sodium, Dissolved	EPA 200.7	1512417-009	179	SC 181	188	10.0	mg/L	NC	NC	NC
		Strontium, Dissolved	EPA 200.7	1512417-009	0.757	1.71	1.75	1.00	mg/L	95	99	2%
		Zinc, Dissolved	EPA 200.7	1512417-009	0.032	0.977	0.995	1.00	mg/L	94	96	2%
QC15120780	MS 1	Chloride	EPA 300.0	1512450-001	ND	5.42	5.52	5.00	mg/L	107	109	2%
		Fluoride	EPA 300.0	1512450-001	0.982	3.14	3.15	2.00	mg/L	108	109	<1%
		Sulfate	EPA 300.0	1512450-001	21.5	31.3	31.5	10.0	mg/L	98	100	1%
QC15120780	MS 2	Chloride	EPA 300.0	1512457-017	ND	5.13	5.11	5.00	mg/L	102	102	<1%
		Fluoride	EPA 300.0	1512457-017	0.106	2.21	2.22	2.00	mg/L	105	106	<1%
		Sulfate	EPA 300.0	1512457-017	2.71	12.7	12.7	10.0	mg/L	100	100	<1%
QC15120890	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1512497-001	0.563	5.67	5.68	1.00	mg/L	102	102	<1%
QC15120890	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1512499-001	0.256	5.36	5.33	1.00	mg/L	102	101	1%
QC15120892	MS 1	WAD Cyanide	SM 4500CN I,	1512599-001	ND	0.106	0.108	0.100	mg/L	105	107	2%
QC15120892	MS 2	WAD Cyanide	SM 4500CN I,	1512604-001	ND	0.106	0.105	0.100	mg/L	105	104	1%
QC15120894	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1512414-002	ND	1.17	1.02	1.00	mg/L	94	79	14%
QC15120894	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1512417-002	ND	M 0.827	0.909	1.00	mg/L	NC	NC	NC

**SPARKS**

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 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932



# ANALYTICAL SUMMARY REPORT

December 24, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15121495                      Quote ID: B3679  
Project Name: 1512448

Energy Laboratories Inc Billings MT received the following 2 samples for Western Environmental Testing Laboratory on 12/18/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15121495-001	C586-15 P,Q WK:16	12/15/15 9:00	12/18/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA
B15121495-002	C601-15 O,Q WK:16	12/15/15 9:00	12/18/15	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1512448  
**Lab ID:** B15121495-001  
**Client Sample ID:** C586-15 P,Q WK:16

**Report Date:** 12/24/15  
**Collection Date:** 12/15/15 09:00  
**Date Received:** 12/18/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	27.3	mg/L	L	0.01		E200.7	12/22/15 17:37 / rlh
Antimony	ND	mg/L		0.0005		E200.8	12/21/15 20:28 / amm
Arsenic	0.003	mg/L		0.001		E200.8	12/21/15 20:28 / amm
Cadmium	0.00179	mg/L		0.00003		E200.8	12/21/15 20:28 / amm
Lead	0.0038	mg/L		0.0003		E200.8	12/21/15 20:28 / amm
Mercury	ND	mg/L		5E-06		E245.1	12/22/15 13:33 / ser
Phosphorus	0.108	mg/L	L	0.007		E200.7	12/22/15 17:37 / rlh
Selenium	ND	mg/L		0.001		E200.8	12/21/15 20:28 / amm
Silicon	2.76	mg/L		0.05		E200.7	12/22/15 17:37 / rlh
Silver	ND	mg/L		0.0002		E200.8	12/21/15 20:28 / amm
Thallium	0.0045	mg/L		0.0002		E200.8	12/21/15 20:28 / amm
Uranium	0.0100	mg/L		0.0002		E200.8	12/21/15 20:28 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1512448  
**Lab ID:** B15121495-002  
**Client Sample ID:** C601-15 O,Q WK:16

**Report Date:** 12/24/15  
**Collection Date:** 12/15/15 09:00  
**Date Received:** 12/18/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	7.09	mg/L		0.009		E200.7	12/22/15 17:47 / rlh
Antimony	0.0012	mg/L		0.0005		E200.8	12/21/15 20:33 / amm
Arsenic	0.230	mg/L		0.001		E200.8	12/21/15 20:33 / amm
Cadmium	0.00052	mg/L		0.00003		E200.8	12/21/15 20:33 / amm
Lead	0.0008	mg/L		0.0003		E200.8	12/21/15 20:33 / amm
Mercury	ND	mg/L		5E-06		E245.1	12/22/15 13:36 / ser
Phosphorus	0.074	mg/L	L	0.007		E200.7	12/22/15 17:47 / rlh
Selenium	ND	mg/L		0.001		E200.8	12/21/15 20:33 / amm
Silicon	9.91	mg/L		0.05		E200.7	12/22/15 17:47 / rlh
Silver	ND	mg/L		0.0002		E200.8	12/21/15 20:33 / amm
Thallium	0.0004	mg/L		0.0002		E200.8	12/21/15 20:33 / amm
Uranium	0.0009	mg/L		0.0002		E200.8	12/21/15 20:33 / amm

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 12/24/15

**Project:** 1512448

**Work Order:** B15121495

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_151222A			
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard									12/22/15 09:24
Aluminum		2.52	mg/L	0.10	101	95	105				
Phosphorus		2.47	mg/L	0.10	99	95	105				
Silicon		5.13	mg/L	0.10	103	95	105				
<b>Method: E200.7</b>								Batch: R254144			
<b>Lab ID: MB-6500DIS151222A</b>	3	Method Blank						Run: ICP203-B_151222A			12/22/15 09:52
Aluminum		ND	mg/L	0.007							
Phosphorus		ND	mg/L	0.007							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS151222A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_151222A			12/22/15 09:56
Aluminum		4.92	mg/L	0.10	98	85	115				
Phosphorus		9.70	mg/L	0.10	97	85	115				
Silicon		10.6	mg/L	0.10	106	85	115				
<b>Lab ID: B15121496-002BMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_151222A			12/22/15 17:57
Aluminum		9.77	mg/L	0.030	97	70	130				
Phosphorus		20.3	mg/L	0.10	101	70	130				
Silicon		37.6	mg/L	0.10	113	70	130				
<b>Lab ID: B15121496-002BMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_151222A			12/22/15 18:01
Aluminum		10.4	mg/L	0.030	104	70	130	6.4	20		
Phosphorus		21.2	mg/L	0.10	106	70	130	4.5	20		
Silicon		37.3	mg/L	0.10	112	70	130	0.7	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 12/24/15

**Project:** 1512448

**Work Order:** B15121495

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_151221A	
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard						12/21/15 12:08			
Antimony		0.0493	mg/L	0.050	99	90	110				
Arsenic		0.0505	mg/L	0.0050	101	90	110				
Cadmium		0.0255	mg/L	0.0010	102	90	110				
Lead		0.0508	mg/L	0.010	102	90	110				
Selenium		0.0514	mg/L	0.0050	103	90	110				
Silver		0.0256	mg/L	0.0050	102	90	110				
Thallium		0.0505	mg/L	0.10	101	90	110				
Uranium		0.0199	mg/L	0.0010	100	90	110				
<b>Method: E200.8</b>										Batch: R254106	
<b>Lab ID: LRB</b>	8	Method Blank						Run: ICPMS206-B_151221A 12/21/15 13:06			
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank						Run: ICPMS206-B_151221A 12/21/15 13:10			
Antimony		0.0480	mg/L	0.050	96	85	115				
Arsenic		0.0493	mg/L	0.0050	99	85	115				
Cadmium		0.0489	mg/L	0.0010	98	85	115				
Lead		0.0497	mg/L	0.010	99	85	115				
Selenium		0.0474	mg/L	0.0050	95	85	115				
Silver		0.0196	mg/L	0.0050	98	85	115				
Thallium		0.0498	mg/L	0.10	100	85	115				
Uranium		0.0501	mg/L	0.0010	100	85	115				
<b>Lab ID: B15121496-005BMS</b>	8	Sample Matrix Spike						Run: ICPMS206-B_151221A 12/21/15 21:02			
Antimony		0.0965	mg/L	0.0010	96	70	130				
Arsenic		0.0940	mg/L	0.0010	90	70	130				
Cadmium		0.0920	mg/L	0.0010	92	70	130				
Lead		0.0927	mg/L	0.0010	93	70	130				
Selenium		0.0923	mg/L	0.0010	92	70	130				
Silver		0.0362	mg/L	0.0010	90	70	130				
Thallium		0.0929	mg/L	0.00050	93	70	130				
Uranium		0.0992	mg/L	0.00030	91	70	130				
<b>Lab ID: B15121496-005BMSD</b>	8	Sample Matrix Spike Duplicate						Run: ICPMS206-B_151221A 12/21/15 21:06			
Antimony		0.0953	mg/L	0.0010	95	70	130	1.3	20		
Arsenic		0.0943	mg/L	0.0010	90	70	130	0.3	20		
Cadmium		0.0916	mg/L	0.0010	91	70	130	0.5	20		
Lead		0.0950	mg/L	0.0010	95	70	130	2.4	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 12/24/15

**Project:** 1512448

**Work Order:** B15121495

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R254106
<b>Lab ID:</b> B15121496-005BMSD	8	Sample Matrix Spike Duplicate			Run: ICPMS206-B_151221A				12/21/15 21:06	
Selenium		0.0896	mg/L	0.0010	89	70	130	2.9	20	
Silver		0.0331	mg/L	0.0010	83	70	130	8.8	20	
Thallium		0.0954	mg/L	0.00050	95	70	130	2.6	20	
Uranium		0.101	mg/L	0.00030	94	70	130	2.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 12/24/15

**Project:** 1512448

**Work Order:** B15121495

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1 <span style="float: right;">Analytical Run: HGCV203-B_151222A</span>										
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard <span style="float: right;">12/22/15 12:12</span>									
Mercury	0.000201	mg/L	1.0E-05	101	90	110				
<b>Method:</b> E245.1 <span style="float: right;">Batch: 95724</span>										
<b>Lab ID:</b> MB-95724	Method Blank <span style="float: right;">Run: HGCV203-B_151222A 12/22/15 13:21</span>									
Mercury	1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-95724	Laboratory Control Sample <span style="float: right;">Run: HGCV203-B_151222A 12/22/15 13:23</span>									
Mercury	0.000202	mg/L	1.0E-05	100	85	115				
<b>Lab ID:</b> B15121465-001BMS	Sample Matrix Spike <span style="float: right;">Run: HGCV203-B_151222A 12/22/15 13:28</span>									
Mercury	0.000207	mg/L	1.0E-05	103	70	130				
<b>Lab ID:</b> B15121465-001BMSD	Sample Matrix Spike Duplicate <span style="float: right;">Run: HGCV203-B_151222A 12/22/15 13:31</span>									
Mercury	0.000192	mg/L	1.0E-05	95	70	130	7.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15121495

Login completed by: Brittaney R. Garza

Date Received: 12/18/2015

Reviewed by: BL2000\lcardreau

Received by: dlf

Reviewed Date: 12/21/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	11.2°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

None







1/5/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1512661

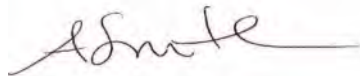
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 12/22/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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EPA LAB ID: NV00925 - ELAP No: 2523

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EPA LAB ID: NV00926

**LAS VEGAS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1512661

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### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 1/5/2016

OrderID: 1512661

Customer Sample ID: C586-15 P,Q WK: 17

Collect Date/Time: 12/22/2015 09:00

WETLAB Sample ID: 1512661-001

Receive Date: 12/22/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	90	mg/L	100	10	12/22/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	12/24/2015	NV00925
pH	SM 4500-H+ B	3.00	pH Units	1		12/28/2015	NV00925
Temperature at pH	NA	19.4	°C	1		12/28/2015	NV00925
Redox Potential	ASTM D1498	450	mV	1		12/22/2015	NV00925
Acidity (Titrimetric)	SM 2310B	530	mg/L as CaCO <sub>3</sub>	1		12/23/2015	NV00925
Electrical Conductivity	SM 2510B	1500	µmhos/cm	1	1	12/22/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	830	mg/L	5	5.0	12/28/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	19	mg/L	1	0.50	12/24/2015	NV00925
Iron	EPA 200.7	87	mg/L	1	0.020	12/24/2015	NV00925
Magnesium	EPA 200.7	32	mg/L	1	0.50	12/24/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/22/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/24/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	12/21/2015	NV00925
HCT Post-Leach Volume	N/A	3170	mL	1	1	12/22/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**SPARKS**

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**LAS VEGAS**

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 17  
 WETLAB Sample ID: 1512661-002

Collect Date/Time: 12/22/2015 09:00  
 Receive Date: 12/22/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	640	mg/L	200	20	12/22/2015	NV00925
Ferric Iron	SM 3500 Fe B	280	mg/L	1	0.1	12/28/2015	NV00925
pH	SM 4500-H+ B	2.62	pH Units	1		12/28/2015	NV00925
Temperature at pH	NA	19.4	°C	1		12/28/2015	NV00925
Redox Potential	ASTM D1498	440	mV	1		12/22/2015	NV00925
Acidity (Titrimetric)	SM 2310B	1600	mg/L as CaCO3	1		12/23/2015	NV00925
Electrical Conductivity	SM 2510B	4100	µmhos/cm	2	2.0	12/22/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	3400	mg/L	40	40	12/28/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	140	mg/L	1	0.50	12/24/2015	NV00925
Iron	EPA 200.7	920	mg/L	20	0.40	12/28/2015	NV00925
Magnesium	EPA 200.7	0.79	mg/L	1	0.50	12/24/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/22/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/24/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	12/21/2015	NV00925
HCT Post-Leach Volume	N/A	2780	mL	1	1	12/22/2015	NV00925

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15120968	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15120970	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15121078	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
QC15121143	Blank 1	Sulfate	EPA 300.0	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15120966	LCS 1	Redox Potential	ASTM D1498	240	229	105	mV
QC15120968	LCS 1	Electrical Conductivity	SM 2510B	1539	1412	109	µmhos/cm
QC15120970	LCS 1	Ferrous Iron	SM 3500 Fe B	1.01	1.00	101	mg/L
QC15121078	LCS 1	Calcium	EPA 200.7	10.1	10.0	101	mg/L
		Iron	EPA 200.7	1.02	1.00	102	mg/L
		Magnesium	EPA 200.7	9.98	10.0	100	mg/L
QC15121143	LCS 1	Sulfate	EPA 300.0	24.6	25.0	99	mg/L
QC15121191	LCS 1	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC15121191	LCS 2	pH	SM 4500-H+ B	6.99	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15120966	Duplicate	Redox Potential	ASTM D1498	1512658-001	233	231	mV	1 %
QC15120966	Duplicate	Redox Potential	ASTM D1498	1512660-003	267	268	mV	<1%
QC15120968	Duplicate	Electrical Conductivity	SM 2510B	1512658-001	59.9	59.5	µmhos/cm	1 %
QC15120968	Duplicate	Electrical Conductivity	SM 2510B	1512660-003	84.5	84.3	µmhos/cm	<1%
QC15120970	Duplicate	Ferrous Iron	SM 3500 Fe B	1512658-001	ND	ND	mg/L	<1%
QC15120970	Duplicate	Ferrous Iron	SM 3500 Fe B	1512660-003	ND	ND	mg/L	<1%
QC15121029	Duplicate	Acidity (Titrimetric)	SM 2310B	1512559-001	2.22	0.050	QD mg/L as CaCO3	191 %
QC15121029	Duplicate	Acidity (Titrimetric)	SM 2310B	1512564-003	0.150	ND	QD mg/L as CaCO3	<1%
QC15121029	Duplicate	Acidity (Titrimetric)	SM 2310B	1512659-005	7.74	8.98	mg/L as CaCO3	15 %
QC15121029	Duplicate	Acidity (Titrimetric)	SM 2310B	1512663-003	10.3	9.84	mg/L as CaCO3	5 %
QC15121191	Duplicate	pH	SM 4500-H+ B	1512658-001	7.29	7.33	pH Units	1 %
QC15121191	Duplicate	pH	SM 4500-H+ B	1512660-003	7.51	7.62	QD pH Units	1 %
QC15121191	Duplicate	pH	SM 4500-H+ B	1512744-001	7.31	7.37	pH Units	1 %
QC15121191	Duplicate	pH	SM 4500-H+ B	1512747-003	7.37	7.42	pH Units	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15121078	MS 1	Calcium	EPA 200.7	1512731-001	1.76	11.9	11.8	10.0	mg/L	101	100	1%
		Iron	EPA 200.7	1512731-001	0.714	1.79	1.79	1.00	mg/L	108	108	<1%
		Magnesium	EPA 200.7	1512731-001	ND	10.4	10.3	10.0	mg/L	100	99	1%
QC15121143	MS 1	Sulfate	EPA 300.0	1512665-002	218	276	274	10.0	mg/L	116	113	1%
QC15121143	MS 2	Sulfate	EPA 300.0	1512661-001	835	1756	1749	10.0	mg/L	246	239	<1%

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Page 5 of 5

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1/11/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1512764

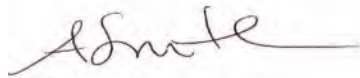
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 12/29/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1512764

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 1/11/2016

OrderID: 1512764

Customer Sample ID: C586-15 P,Q WK: 18

Collect Date/Time: 12/29/2015 09:00

WETLAB Sample ID: 1512764-001

Receive Date: 12/29/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	100	mg/L	100	10	12/29/2015	NV00925
Ferric Iron	SM 3500 Fe B	12	mg/L	1	0.1	1/4/2016	NV00925
pH	SM 4500-H+ B	2.94	pH Units	1		1/4/2016	NV00925
Temperature at pH	NA	18.4	°C	1		1/4/2016	NV00925
Redox Potential	ASTM D1498	460	mV	1		12/29/2015	NV00925
Acidity (Titrimetric)	SM 2310B	570	mg/L as CaCO <sub>3</sub>	1		12/30/2015	NV00925
Electrical Conductivity	SM 2510B	1500	µmhos/cm	1	1	12/29/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	680	mg/L	10	10	12/30/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	16	mg/L	1	0.50	1/4/2016	NV00925
Iron	EPA 200.7	120	mg/L	1	0.020	1/4/2016	NV00925
Magnesium	EPA 200.7	29	mg/L	1	0.50	1/4/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/29/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/31/2015	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	12/28/2015	NV00925
HCT Post-Leach Volume	N/A	3160	mL	1	1	12/29/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 6

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 18  
 WETLAB Sample ID: 1512764-002

Collect Date/Time: 12/29/2015 09:00  
 Receive Date: 12/29/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	730	mg/L	200	20	12/29/2015	NV00925
Ferric Iron	SM 3500 Fe B	430	mg/L	1	0.1	1/7/2016	NV00925
pH	SM 4500-H+ B	2.60	pH Units	1		1/4/2016	NV00925
Temperature at pH	NA	18.3	°C	1		1/4/2016	NV00925
Redox Potential	ASTM D1498	440	mV	1		12/29/2015	NV00925
Acidity (Titrimetric)	SM 2310B	1800	mg/L as CaCO3	1		12/30/2015	NV00925
Electrical Conductivity	SM 2510B	3800	µmhos/cm	1	1	12/29/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2300	mg/L	100	100	1/1/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	170	mg/L	1	0.50	1/4/2016	NV00925
Iron	EPA 200.7	1200	mg/L	10	0.20	1/7/2016	NV00925
Magnesium	EPA 200.7	1.5	mg/L	1	0.50	1/4/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/29/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/31/2015	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	12/28/2015	NV00925
HCT Post-Leach Volume	N/A	2780	mL	1	1	12/29/2015	NV00925

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# Western Environmental Testing Laboratory

## QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15121223	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15121225	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15121263	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16010002	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16010150	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
QC16010151	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15121223	LCS 1	Electrical Conductivity	SM 2510B	1536	1412	109	µmhos/cm
QC15121224	LCS 1	Redox Potential	ASTM D1498	242	229	106	mV
QC15121225	LCS 1	Ferrous Iron	SM 3500 Fe B	1.02	1.00	102	mg/L
QC15121263	LCS 1	Sulfate	EPA 300.0	23.7	25.0	95	mg/L
QC16010002	LCS 1	Sulfate	EPA 300.0	24.0	25.0	96	mg/L
QC16010060	LCS 1	pH	SM 4500-H+ B	7.00	7.00	100	pH Units
QC16010060	LCS 2	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC16010150	LCS 1	Calcium, Dissolved	EPA 200.7	9.55	10.0	96	mg/L
		Iron, Dissolved	EPA 200.7	0.997	1.00	100	mg/L
		Magnesium, Dissolved	EPA 200.7	10.0	10.0	100	mg/L
QC16010151	LCS 1	Calcium	EPA 200.7	9.80	10.0	98	mg/L
		Iron	EPA 200.7	1.10	1.00	110	mg/L
		Magnesium	EPA 200.7	10.7	10.0	107	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15121223	Duplicate	Electrical Conductivity	SM 2510B	1512761-001	53.4	52.9	µmhos/cm	1 %
QC15121223	Duplicate	Electrical Conductivity	SM 2510B	1512763-003	91.4	90.3	µmhos/cm	1 %
QC15121224	Duplicate	Redox Potential	ASTM D1498	1512761-001	426	431	mV	1 %
QC15121224	Duplicate	Redox Potential	ASTM D1498	1512763-003	423	423	mV	<1%
QC15121225	Duplicate	Ferrous Iron	SM 3500 Fe B	1512761-001	ND	ND	mg/L	<1%
QC15121225	Duplicate	Ferrous Iron	SM 3500 Fe B	1512763-003	ND	ND	mg/L	<1%
QC16010060	Duplicate	pH	SM 4500-H+ B	1512761-001	7.17	7.23	pH Units	1 %
QC16010060	Duplicate	pH	SM 4500-H+ B	1512763-003	7.46	7.56	pH Units	1 %
QC16010060	Duplicate	pH	SM 4500-H+ B	1512836-001	7.15	7.23	pH Units	1 %
QC16010060	Duplicate	pH	SM 4500-H+ B	1512839-003	7.28	7.33	pH Units	1 %
QC16010098	Duplicate	Acidity (Titrimetric)	SM 2310B	1512744-001	14.0	7.41	mg/L as CaCO3	62 %
QC16010098	Duplicate	Acidity (Titrimetric)	SM 2310B	1512747-003	12.4	13.0	mg/L as CaCO3	5 %
QC16010098	Duplicate	Acidity (Titrimetric)	SM 2310B	1512762-005	12.9	13.2	mg/L as CaCO3	3 %
QC16010098	Duplicate	Acidity (Titrimetric)	SM 2310B	1512766-003	30.2	29.9	mg/L as CaCO3	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15121263	MS 1	Sulfate	EPA 300.0	1512792-001	36.5	45.6	46.0	10.0	mg/L	91	94	1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

Page 5 of 6

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15121263	MS 2	Sulfate	EPA 300.0	1512766-005	29.4	38.1	39.1	10.0	mg/L	86	96	3%
QC16010002	MS 1	Sulfate	EPA 300.0	1512823-010	ND	10.1	10.5	10.0	mg/L	100	104	4%
QC16010002	MS 2	Sulfate	EPA 300.0	1512823-018	ND	10.5	10.5	10.0	mg/L	105	104	<1%
QC16010150	MS 1	Calcium, Dissolved	EPA 200.7	1512806-001	564	SC 588	594	10.0	mg/L	NC	NC	NC
		Iron, Dissolved	EPA 200.7	1512806-001	ND	1.08	1.09	1.00	mg/L	107	108	1%
		Magnesium, Dissolved	EPA 200.7	1512806-001	0.842	11.3	11.6	10.0	mg/L	105	108	3%
QC16010151	MS 1	Calcium	EPA 200.7	1512827-001	3.60	13.6	13.4	10.0	mg/L	100	98	1%
		Iron	EPA 200.7	1512827-001	1.19	2.36	2.56	1.00	mg/L	117	137	8%
		Magnesium	EPA 200.7	1512827-001	ND	10.9	10.9	10.0	mg/L	109	109	<1%

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 fax (702) 622-2868  
 EPA LAB ID: NV00932



1/14/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1601011

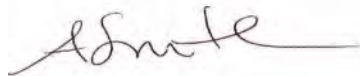
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 1/5/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

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EPA LAB ID: NV00926

**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1601011

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 1/14/2016

OrderID: 1601011

Customer Sample ID: C586-15 P,Q WK: 19

Collect Date/Time: 1/5/2016 09:00

WETLAB Sample ID: 1601011-001

Receive Date: 1/5/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	100	mg/L	100	10	1/5/2016	NV00925
Ferric Iron	SM 3500 Fe B	5.0	mg/L	1	0.1	1/6/2016	NV00925
pH	SM 4500-H+ B	2.92	pH Units	1		1/5/2016	NV00925
Temperature at pH	NA	19.8	°C	1		1/5/2016	NV00925
Redox Potential	ASTM D1498	460	mV	1		1/5/2016	NV00925
Acidity (Titrimetric)	SM 2310B	530	mg/L as CaCO <sub>3</sub>	1		1/13/2016	NV00925
Electrical Conductivity	SM 2510B	1400	µmhos/cm	1	1	1/5/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	610	mg/L	10	10	1/6/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	13	mg/L	1	0.50	1/6/2016	NV00925
Iron	EPA 200.7	110	mg/L	1	0.020	1/6/2016	NV00925
Magnesium	EPA 200.7	21	mg/L	1	0.50	1/6/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		1/5/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		1/6/2016	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	1/4/2016	NV00925
HCT Post-Leach Volume	N/A	3160	mL	1	1	1/5/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 6

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**LAS VEGAS**

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 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 19  
 WETLAB Sample ID: 1601011-002

Collect Date/Time: 1/5/2016 09:00  
 Receive Date: 1/5/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	670	mg/L	200	20	1/5/2016	NV00925
Ferric Iron	SM 3500 Fe B	260	mg/L	1	0.1	1/8/2016	NV00925
pH	SM 4500-H+ B	2.61	pH Units	1		1/5/2016	NV00925
Temperature at pH	NA	19.8	°C	1		1/5/2016	NV00925
Redox Potential	ASTM D1498	440	mV	1		1/5/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1800	mg/L as CaCO3	1		1/13/2016	NV00925
Electrical Conductivity	SM 2510B	3100	µmhos/cm	1	1	1/5/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2100	mg/L	100	100	1/7/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	160	mg/L	1	0.50	1/6/2016	NV00925
Iron	EPA 200.7	930	mg/L	10	0.20	1/8/2016	NV00925
Magnesium	EPA 200.7	0.63	mg/L	1	0.50	1/6/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		1/5/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		1/6/2016	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	1/4/2016	NV00925
HCT Post-Leach Volume	N/A	2720	mL	1	1	1/5/2016	NV00925

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# Western Environmental Testing Laboratory

## QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16010135	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16010135	Blank 2	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16010138	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16010138	Blank 2	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16010162	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
QC16010184	Blank 1	Sulfate	EPA 300.0	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16010122	LCS 1	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC16010122	LCS 2	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC16010133	LCS 1	Redox Potential	ASTM D1498	243	229	106	mV
QC16010133	LCS 2	Redox Potential	ASTM D1498	247	229	108	mV
QC16010135	LCS 1	Electrical Conductivity	SM 2510B	1498	1412	106	µmhos/cm
QC16010135	LCS 2	Electrical Conductivity	SM 2510B	1532	1412	108	µmhos/cm
QC16010138	LCS 1	Ferrous Iron	SM 3500 Fe B	1.03	1.00	103	mg/L
QC16010138	LCS 2	Ferrous Iron	SM 3500 Fe B	1.04	1.00	104	mg/L
QC16010162	LCS 1	Calcium	EPA 200.7	10.8	10.0	108	mg/L
		Iron	EPA 200.7	1.06	1.00	106	mg/L
		Magnesium	EPA 200.7	10.8	10.0	108	mg/L
QC16010184	LCS 1	Sulfate	EPA 300.0	23.1	25.0	92	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16010122	Duplicate	pH	SM 4500-H+ B	1601008-001	7.15	7.20	pH Units	1 %
QC16010122	Duplicate	pH	SM 4500-H+ B	1601010-003	7.43	7.54	QD pH Units	1 %
QC16010122	Duplicate	pH	SM 4500-H+ B	1601014-001	5.29	5.38	pH Units	2 %
QC16010133	Duplicate	Redox Potential	ASTM D1498	1601008-001	334	336	mV	<1%
QC16010133	Duplicate	Redox Potential	ASTM D1498	1601010-003	476	477	mV	<1%
QC16010133	Duplicate	Redox Potential	ASTM D1498	1601014-001	258	258	mV	<1%
QC16010135	Duplicate	Electrical Conductivity	SM 2510B	1601008-001	56.0	55.9	µmhos/cm	<1%
QC16010135	Duplicate	Electrical Conductivity	SM 2510B	1601010-003	78.0	77.6	µmhos/cm	1 %
QC16010135	Duplicate	Electrical Conductivity	SM 2510B	1601014-001	2970	2976	µmhos/cm	<1%
QC16010138	Duplicate	Ferrous Iron	SM 3500 Fe B	1601008-001	ND	ND	mg/L	<1%
QC16010138	Duplicate	Ferrous Iron	SM 3500 Fe B	1601010-003	ND	ND	mg/L	<1%
QC16010138	Duplicate	Ferrous Iron	SM 3500 Fe B	1601014-001	4.54	4.57	mg/L	1 %
QC16010387	Duplicate	Acidity (Titrimetric)	SM 2310B	1601009-002	7.63	0.560	QD mg/L as CaCO3	173 %
QC16010387	Duplicate	Acidity (Titrimetric)	SM 2310B	1601011-001	531	539	mg/L as CaCO3	2 %
QC16010387	Duplicate	Acidity (Titrimetric)	SM 2310B	1601114-001	0.820	1.79	QD mg/L as CaCO3	74 %
QC16010387	Duplicate	Acidity (Titrimetric)	SM 2310B	1601114-003	2.87	2.67	mg/L as CaCO3	7 %
QC16010387	Duplicate	Acidity (Titrimetric)	SM 2310B	1601117-005	ND	ND	mg/L as CaCO3	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
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DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 6

**SPARKS**

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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD	
QC16010162	MS 1	Calcium	EPA 200.7	1512832-001	464	SC 480	473	10.0	mg/L	NC	NC	NC	
		Iron	EPA 200.7	1512832-001	ND		1.00	0.989	1.00	mg/L	99	98	1%
		Magnesium	EPA 200.7	1512832-001	20.7		30.1	30.0	10.0	mg/L	94	93	<1%
QC16010184	MS 1	Sulfate	EPA 300.0	1601008-003	18.0		27.5	27.8	10.0	mg/L	94	97	1%
QC16010184	MS 2	Sulfate	EPA 300.0	1601009-005	ND		10.1	9.97	10.0	mg/L	99	98	1%

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 EPA LAB ID: NV00932





1/28/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1601182

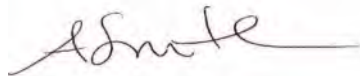
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 1/12/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1601182

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### Specific Report Comments

The cation/anion balance for sample 1601182-002 was outside WETLAB acceptance criteria; however, reanalysis confirmed the original results.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT 0118-0119

Date Printed: 1/28/2016

OrderID: 1601182

Customer Sample ID: C586-15 P,Q WK: 20

Collect Date/Time: 1/12/2016 09:00

WETLAB Sample ID: 1601182-001

Receive Date: 1/12/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	170	mg/L	100	10	1/12/2016	NV00925
Ferric Iron	SM 3500 Fe B	3.1	mg/L	1	0.1	1/15/2016	NV00925
pH	SM 4500-H+ B	2.79	pH Units	1		1/18/2016	NV00925
Temperature at pH	NA	20.2	°C	1		1/18/2016	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	1/15/2016	NV00925
Redox Potential	ASTM D1498	470	mV	1		1/12/2016	NV00925
Acidity (Titrimetric)	SM 2310B	780	mg/L as CaCO3	1		1/19/2016	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.50	1/19/2016	NV00925
Total Dissolved Solids (TDS)	SM 2540C	1200	mg/L	1	10	1/14/2016	NV00925
Electrical Conductivity	SM 2510B	2000	µmhos/cm	1	1	1/12/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	D mg/L	10	10	1/15/2016	NV00925
Fluoride	EPA 300.0	ND	D mg/L	10	1.0	1/15/2016	NV00925
Sulfate	EPA 300.0	970	mg/L	10	10	1/15/2016	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	0.22	mg/L	5	0.10	1/19/2016	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.40	1/15/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.011	mg/L	1	0.0030	1/15/2016	NV00925
Beryllium	EPA 200.7	0.0075	mg/L	1	0.0008	1/15/2016	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	1/15/2016	NV00925
Calcium	EPA 200.7	20	mg/L	1	0.50	1/15/2016	NV00925
Chromium	EPA 200.7	0.11	mg/L	1	0.0050	1/15/2016	NV00925
Cobalt	EPA 200.7	14	mg/L	1	0.010	1/15/2016	NV00925
Iron	EPA 200.7	170	mg/L	1	0.020	1/15/2016	NV00925
Magnesium	EPA 200.7	23	mg/L	1	0.50	1/15/2016	NV00925
Manganese	EPA 200.7	3.2	mg/L	1	0.0050	1/15/2016	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	1/15/2016	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	1/15/2016	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	1/15/2016	NV00925
Strontium	EPA 200.7	0.26	mg/L	1	0.020	1/15/2016	NV00925
Zinc	EPA 200.7	0.95	mg/L	1	0.0080	1/15/2016	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	52	mg/L	500	1.0	1/19/2016	NV00925
Nickel	EPA 200.8	5.7	mg/L	100	0.20	1/22/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 8

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EPA LAB ID: NV00932



Customer Sample ID: C586-15 P,Q WK: 20

Collect Date/Time: 1/12/2016 09:00

WETLAB Sample ID: 1601182-001

Receive Date: 1/12/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Ion Balance</u></b>							
Anions	Calculation	20.2	meq/L	1	0.10		NV00925
Cations	Calculation	25.4	meq/L	1	0.10		NV00925
Error	Calculation	11	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		1/12/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		1/14/2016	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	1/11/2016	NV00925
HCT Post-Leach Volume	N/A	3130	mL	1	1	1/12/2016	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

**SPARKS**

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 EPA LAB ID: NV00925 - ELAP No: 2523

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 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 20  
 WETLAB Sample ID: 1601182-002

Collect Date/Time: 1/12/2016 09:00  
 Receive Date: 1/12/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	820	mg/L	200	20	1/12/2016	NV00925
Ferric Iron	SM 3500 Fe B	300	mg/L	1	0.1	1/18/2016	NV00925
pH	SM 4500-H+ B	2.56	pH Units	1		1/18/2016	NV00925
Temperature at pH	NA	20.3	°C	1		1/18/2016	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	1/15/2016	NV00925
Redox Potential	ASTM D1498	450	mV	1		1/12/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1900	mg/L as CaCO3	1		1/19/2016	NV00925
Total Nitrogen	Calc.	1.5	mg/L	1	0.50	1/19/2016	NV00925
Total Dissolved Solids (TDS)	SM 2540C	3900	mg/L	1	10	1/14/2016	NV00925
Electrical Conductivity	SM 2510B	3700	µmhos/cm	1	1	1/12/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	D mg/L	10	10	1/18/2016	NV00925
Fluoride	EPA 300.0	ND	D mg/L	10	1.0	1/18/2016	NV00925
Sulfate	EPA 300.0	2600	mg/L	100	100	1/18/2016	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	1.4	mg/L	5	0.10	1/19/2016	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.40	1/15/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.032	mg/L	1	0.0030	1/15/2016	NV00925
Beryllium	EPA 200.7	ND	mg/L	1	0.0008	1/15/2016	NV00925
Boron	EPA 200.7	0.16	mg/L	1	0.10	1/15/2016	NV00925
Calcium	EPA 200.7	190	mg/L	1	0.50	1/15/2016	NV00925
Chromium	EPA 200.7	0.65	mg/L	1	0.0050	1/15/2016	NV00925
Cobalt	EPA 200.7	3.8	mg/L	1	0.010	1/15/2016	NV00925
Iron	EPA 200.7	1100	mg/L	5	0.10	1/18/2016	NV00925
Magnesium	EPA 200.7	0.72	mg/L	1	0.50	1/15/2016	NV00925
Manganese	EPA 200.7	0.32	mg/L	1	0.0050	1/15/2016	NV00925
Molybdenum	EPA 200.7	ND	D mg/L	5	0.10	1/18/2016	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	1/15/2016	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	1/15/2016	NV00925
Strontium	EPA 200.7	2.4	mg/L	1	0.020	1/15/2016	NV00925
Zinc	EPA 200.7	0.15	mg/L	1	0.0080	1/15/2016	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	8.0	mg/L	100	0.20	1/19/2016	NV00925
Nickel	EPA 200.8	1.4	mg/L	100	0.20	1/22/2016	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	54.2	meq/L	1	0.10		NV00925
Cations	Calculation	89.2	meq/L	1	0.10		NV00925
Error	Calculation	24	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		1/12/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		1/14/2016	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	1/11/2016	NV00925
HCT Post-Leach Volume	N/A	2680	mL	1	1	1/12/2016	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16010350	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16010350	Blank 2	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16010352	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16010352	Blank 2	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16010443	Blank 1	Barium	EPA 200.7	ND	mg/L
		Beryllium	EPA 200.7	ND	mg/L
		Boron	EPA 200.7	ND	mg/L
		Calcium	EPA 200.7	ND	mg/L
		Chromium	EPA 200.7	ND	mg/L
		Cobalt	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
		Manganese	EPA 200.7	ND	mg/L
		Molybdenum	EPA 200.7	ND	mg/L
		Potassium	EPA 200.7	ND	mg/L
		Sodium	EPA 200.7	ND	mg/L
		Strontium	EPA 200.7	ND	mg/L
		Zinc	EPA 200.7	ND	mg/L
QC16010453	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC16010459	Blank 1	Copper	EPA 200.8	ND	mg/L
		Nickel	EPA 200.8	ND	mg/L
QC16010464	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC16010467	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC16010525	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC16010594	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16010350	LCS 1	Ferrous Iron	SM 3500 Fe B	1.03	1.00	103	mg/L
QC16010350	LCS 2	Ferrous Iron	SM 3500 Fe B	1.04	1.00	104	mg/L
QC16010351	LCS 1	Redox Potential	ASTM D1498	245	229	107	mV
QC16010351	LCS 2	Redox Potential	ASTM D1498	246	229	107	mV
QC16010352	LCS 1	Electrical Conductivity	SM 2510B	1525	1412	108	µmhos/cm
QC16010352	LCS 2	Electrical Conductivity	SM 2510B	1542	1412	109	µmhos/cm
QC16010443	LCS 1	Barium	EPA 200.7	0.944	1.00	94	mg/L
		Beryllium	EPA 200.7	0.970	1.00	97	mg/L
		Boron	EPA 200.7	0.978	1.00	98	mg/L
		Calcium	EPA 200.7	9.76	10.0	98	mg/L
		Chromium	EPA 200.7	0.949	1.00	95	mg/L
		Cobalt	EPA 200.7	0.964	1.00	96	mg/L
		Iron	EPA 200.7	0.959	1.00	96	mg/L
		Magnesium	EPA 200.7	9.63	10.0	96	mg/L
		Manganese	EPA 200.7	0.952	1.00	95	mg/L
		Molybdenum	EPA 200.7	0.959	1.00	96	mg/L
		Potassium	EPA 200.7	9.90	10.0	99	mg/L
		Sodium	EPA 200.7	9.74	10.0	97	mg/L
		Strontium	EPA 200.7	0.950	1.00	95	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16010453	LCS 1	Zinc	EPA 200.7	0.992	1.00	99	mg/L
QC16010453	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.940	1.00	94	mg/L
QC16010459	LCS 1	Copper	EPA 200.8	0.0101	0.010	101	mg/L
QC16010459	LCS 1	Nickel	EPA 200.8	0.009901	0.010	99	mg/L
QC16010464	LCS 1	WAD Cyanide	SM 4500CN I, E	0.105	0.100	105	mg/L
QC16010467	LCS 1	Chloride	EPA 300.0	10.3	10.0	103	mg/L
QC16010467	LCS 1	Fluoride	EPA 300.0	2.16	2.00	108	mg/L
QC16010467	LCS 1	Sulfate	EPA 300.0	25.0	25.0	100	mg/L
QC16010513	LCS 1	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC16010513	LCS 2	pH	SM 4500-H+ B	6.98	7.00	100	pH Units
QC16010513	LCS 3	pH	SM 4500-H+ B	6.98	7.00	100	pH Units
QC16010525	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	155	150	103	mg/L
QC16010525	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	145	150	97	mg/L
QC16010594	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.810	0.800	101	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16010350	Duplicate	Ferrous Iron	SM 3500 Fe B	1601179-001	ND	ND	mg/L	<1%
QC16010350	Duplicate	Ferrous Iron	SM 3500 Fe B	1601181-003	ND	ND	mg/L	<1%
QC16010350	Duplicate	Ferrous Iron	SM 3500 Fe B	1601185-001	ND	ND	mg/L	<1%
QC16010351	Duplicate	Redox Potential	ASTM D1498	1601179-001	270	270	mV	<1%
QC16010351	Duplicate	Redox Potential	ASTM D1498	1601181-003	434	431	mV	1 %
QC16010351	Duplicate	Redox Potential	ASTM D1498	1601185-001	493	491	mV	<1%
QC16010352	Duplicate	Electrical Conductivity	SM 2510B	1601179-001	58.2	57.9	µmhos/cm	1 %
QC16010352	Duplicate	Electrical Conductivity	SM 2510B	1601181-003	99.3	98.8	µmhos/cm	1 %
QC16010352	Duplicate	Electrical Conductivity	SM 2510B	1601185-001	1751	1753	µmhos/cm	<1%
QC16010513	Duplicate	pH	SM 4500-H+ B	1601179-001	7.19	7.25	pH Units	1 %
QC16010513	Duplicate	pH	SM 4500-H+ B	1601181-003	7.54	7.70	QD pH Units	2 %
QC16010513	Duplicate	pH	SM 4500-H+ B	1601185-001	6.41	6.50	pH Units	1 %
QC16010513	Duplicate	pH	SM 4500-H+ B	1601274-001	7.30	7.39	pH Units	1 %
QC16010513	Duplicate	pH	SM 4500-H+ B	1601277-003	7.32	7.47	QD pH Units	2 %
QC16010525	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1601206-001	457	447	mg/L	2 %
QC16010525	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1601206-003	446	443	mg/L	1 %
QC16010574	Duplicate	Acidity (Titrimetric)	SM 2310B	1601179-001	149	7.47	QD mg/L as CaCO3	181 %
QC16010574	Duplicate	Acidity (Titrimetric)	SM 2310B	1601181-003	4.37	6.94	QD mg/L as CaCO3	45 %
QC16010574	Duplicate	Acidity (Titrimetric)	SM 2310B	1601185-001	76.4	77.1	mg/L as CaCO3	1 %
QC16010574	Duplicate	Acidity (Titrimetric)	SM 2310B	1601274-004	21.7	21.3	mg/L as CaCO3	4 %
QC16010574	Duplicate	Acidity (Titrimetric)	SM 2310B	1601277-005	22.2	22.2	mg/L as CaCO3	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16010443	MS 1	Barium	EPA 200.7	1601150-001	0.019	0.949	0.929	1.00	mg/L	93	91	2%
QC16010443	MS 1	Beryllium	EPA 200.7	1601150-001	ND	0.967	0.958	1.00	mg/L	97	96	1%
QC16010443	MS 1	Boron	EPA 200.7	1601150-001	1.15	2.23	2.21	1.00	mg/L	108	106	1%
QC16010443	MS 1	Calcium	EPA 200.7	1601150-001	71.8	SC 85.9	83.5	10.0	mg/L	NC	NC	NC
QC16010443	MS 1	Chromium	EPA 200.7	1601150-001	ND	0.933	0.915	1.00	mg/L	93	91	2%
QC16010443	MS 1	Cobalt	EPA 200.7	1601150-001	ND	0.962	0.939	1.00	mg/L	96	94	2%
QC16010443	MS 1	Iron	EPA 200.7	1601150-001	ND	0.945	0.930	1.00	mg/L	93	91	2%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Magnesium	EPA 200.7	1601150-001	8.10	17.6	17.3	10.0	mg/L	95	92	2%
		Manganese	EPA 200.7	1601150-001	ND	0.942	0.924	1.00	mg/L	94	92	2%
		Molybdenum	EPA 200.7	1601150-001	0.028	0.998	0.992	1.00	mg/L	97	96	1%
		Potassium	EPA 200.7	1601150-001	3.18	13.0	12.8	10.0	mg/L	98	96	2%
		Sodium	EPA 200.7	1601150-001	449	SC 486	463	10.0	mg/L	NC	NC	NC
		Strontium	EPA 200.7	1601150-001	0.838	1.82	1.77	1.00	mg/L	98	93	3%
		Zinc	EPA 200.7	1601150-001	ND	1.00	0.984	1.00	mg/L	99	98	2%
QC16010453	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1601205-001	ND	M 0.715	0.678	1.00	mg/L	NC	NC	NC
QC16010453	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1601205-002	ND	M 0.772	0.803	1.00	mg/L	NC	NC	NC
QC16010459	MS 1	Copper	EPA 200.8	1601150-001	0.0147	0.0260	0.0273	0.010	mg/L	113	126	5%
		Nickel	EPA 200.8	1601150-001	ND	0.0163	0.0161	0.010	mg/L	103	101	1%
QC16010464	MS 1	WAD Cyanide	SM 4500CN I,	1601207-008	ND	0.099	0.096	0.100	mg/L	99	96	3%
QC16010464	MS 2	WAD Cyanide	SM 4500CN I,	1601207-009	ND	0.100	0.093	0.100	mg/L	100	92	7%
QC16010467	MS 1	Chloride	EPA 300.0	1601306-001	ND	5.32	5.44	5.00	mg/L	105	107	2%
		Fluoride	EPA 300.0	1601306-001	ND	2.20	2.26	2.00	mg/L	106	109	3%
		Sulfate	EPA 300.0	1601306-001	1.80	12.1	12.4	10.0	mg/L	103	106	2%
QC16010467	MS 2	Chloride	EPA 300.0	1601180-005	1.15	6.46	6.63	5.00	mg/L	106	110	3%
		Fluoride	EPA 300.0	1601180-005	ND	2.32	2.40	2.00	mg/L	113	117	3%
		Sulfate	EPA 300.0	1601180-005	ND	10.9	11.3	10.0	mg/L	107	111	4%
QC16010594	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1601203-002	5.64	10.4	10.4	1.00	mg/L	96	94	<1%
QC16010594	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1601205-001	ND	M 5.53	5.57	1.00	mg/L	NC	NC	NC

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# ANALYTICAL SUMMARY REPORT

January 26, 2016

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B16011070                      Quote ID: B3679  
Project Name: 1601182

Energy Laboratories Inc Billings MT received the following 2 samples for Western Environmental Testing Laboratory on 1/18/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16011070-001	C586-15 P,Q WK: 20-WLHCT-0118	01/12/16 9:00	01/18/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA
B16011070-002	C601-15 O,Q WK: 20-WLHCT-0119	01/12/16 9:00	01/18/16	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1601182  
**Lab ID:** B16011070-001  
**Client Sample ID:** C586-15 P,Q WK: 20-WLHCT-0118

**Report Date:** 01/26/16  
**Collection Date:** 01/12/16 09:00  
**Date Received:** 01/18/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	32.6	mg/L	D	0.01		E200.7	01/20/16 11:37 / jjw
Antimony	0.0008	mg/L		0.0005		E200.8	01/19/16 16:54 / mas
Arsenic	0.305	mg/L		0.001		E200.8	01/19/16 16:54 / mas
Cadmium	0.00172	mg/L		0.00003		E200.8	01/19/16 16:54 / mas
Lead	0.0039	mg/L		0.0003		E200.8	01/19/16 16:54 / mas
Mercury	ND	mg/L		5E-06		E245.1	01/19/16 16:34 / ser
Phosphorus	0.07	mg/L	D	0.02		E200.7	01/20/16 11:37 / jjw
Selenium	ND	mg/L		0.001		E200.8	01/19/16 16:54 / mas
Silicon	1.64	mg/L		0.05		E200.8	01/19/16 16:54 / mas
Silver	ND	mg/L		0.0002		E200.8	01/19/16 16:54 / mas
Thallium	0.0010	mg/L		0.0002		E200.8	01/19/16 16:54 / mas
Uranium	0.0135	mg/L		0.0002		E200.8	01/19/16 16:54 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1601182  
**Lab ID:** B16011070-002  
**Client Sample ID:** C601-15 O,Q WK: 20-WLHCT-0119

**Report Date:** 01/26/16  
**Collection Date:** 01/12/16 09:00  
**Date Received:** 01/18/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	8.34	mg/L	D	0.01		E200.7	01/20/16 12:09 / jjw
Antimony	0.0089	mg/L		0.0005		E200.8	01/19/16 17:14 / mas
Arsenic	10.3	mg/L		0.001		E200.8	01/19/16 17:14 / mas
Cadmium	0.00062	mg/L		0.00003		E200.8	01/19/16 17:14 / mas
Lead	0.0088	mg/L		0.0003		E200.8	01/19/16 17:14 / mas
Mercury	8.7E-06	mg/L		5E-06		E245.1	01/20/16 16:36 / ser
Phosphorus	0.99	mg/L	D	0.02		E200.7	01/20/16 12:09 / jjw
Selenium	0.002	mg/L		0.001		E200.8	01/19/16 17:14 / mas
Silicon	5.02	mg/L		0.05		E200.8	01/19/16 17:14 / mas
Silver	ND	mg/L		0.0002		E200.8	01/19/16 17:14 / mas
Thallium	0.0004	mg/L		0.0002		E200.8	01/19/16 17:14 / mas
Uranium	0.0012	mg/L		0.0002		E200.8	01/19/16 17:14 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 01/26/16

**Project:** 1601182

**Work Order:** B16011070

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160120A			
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard								01/20/16 10:03	
Aluminum		2.47	mg/L	0.10	99	95	105				
Phosphorus		2.41	mg/L	0.10	97	95	105				
<b>Method: E200.7</b>								Batch: R255272			
<b>Lab ID: MB-6500DIS160120A</b>	2	Method Blank						Run: ICP203-B_160120A		01/20/16 10:32	
Aluminum		0.03	mg/L	0.007							
Phosphorus		0.02	mg/L	0.007							
<b>Lab ID: LFB-6500DIS160120A</b>	2	Laboratory Fortified Blank						Run: ICP203-B_160120A		01/20/16 10:35	
Aluminum		4.80	mg/L	0.10	95	85	115				
Phosphorus		9.65	mg/L	0.10	96	85	115				
<b>Lab ID: B16011143-001BMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_160120A		01/20/16 11:26	
Aluminum		23.6	mg/L	0.035	94	70	130				
Phosphorus		47.7	mg/L	0.10	95	70	130				
<b>Lab ID: B16011143-001BMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_160120A		01/20/16 11:30	
Aluminum		21.7	mg/L	0.035	87	70	130	8.4	20		
Phosphorus		43.7	mg/L	0.10	87	70	130	8.6	20		
<b>Lab ID: B16011070-001AMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_160120A		01/20/16 12:02	
Aluminum		46.3	mg/L	0.030	136	70	130			S	
Phosphorus		20.4	mg/L	0.10	102	70	130				
<b>Lab ID: B16011070-001AMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_160120A		01/20/16 12:06	
Aluminum		47.5	mg/L	0.030	149	70	130	2.7	20	S	
Phosphorus		20.8	mg/L	0.10	104	70	130	1.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 01/26/16

**Project:** 1601182

**Work Order:** B16011070

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Analytical Run: ICPMS206-B_160119A			
<b>Lab ID: QCS</b>	9	Initial Calibration Verification Standard								01/19/16 15:34	
Antimony		0.0498	mg/L	0.050	100	90	110				
Arsenic		0.0505	mg/L	0.0050	101	90	110				
Cadmium		0.0257	mg/L	0.0010	103	90	110				
Lead		0.0501	mg/L	0.010	100	90	110				
Selenium		0.0509	mg/L	0.0050	102	90	110				
Silicon		0.494	mg/L	0.10	99	90	110				
Silver		0.0251	mg/L	0.0050	100	90	110				
Thallium		0.0503	mg/L	0.10	101	90	110				
Uranium		0.0201	mg/L	0.0010	101	90	110				
<b>Method: E200.8</b>								Batch: R255205			
<b>Lab ID: LRB</b>	9	Method Blank						Run: ICPMS206-B_160119A		01/19/16 13:30	
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Silicon		ND	mg/L	0.002							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	9	Laboratory Fortified Blank						Run: ICPMS206-B_160119A		01/19/16 13:35	
Antimony		0.0478	mg/L	0.050	96	85	115				
Arsenic		0.0490	mg/L	0.0050	98	85	115				
Cadmium		0.0474	mg/L	0.0010	95	85	115				
Lead		0.0479	mg/L	0.010	96	85	115				
Selenium		0.0472	mg/L	0.0050	94	85	115				
Silicon		0.178	mg/L	0.10	89	85	115				
Silver		0.0187	mg/L	0.0050	93	85	115				
Thallium		0.0480	mg/L	0.10	96	85	115				
Uranium		0.0475	mg/L	0.0010	95	85	115				
<b>Lab ID: B16011070-001AMS</b>	9	Sample Matrix Spike						Run: ICPMS206-B_160119A		01/19/16 16:59	
Antimony		0.0428	mg/L	0.0010	84	70	130				
Arsenic		0.343	mg/L	0.0010		70	130			A	
Cadmium		0.0485	mg/L	0.0010	93	70	130				
Lead		0.0529	mg/L	0.0010	98	70	130				
Selenium		0.0486	mg/L	0.0010	96	70	130				
Silicon		1.72	mg/L	0.10		70	130			A	
Silver		0.0132	mg/L	0.0010	66	70	130			S	
Thallium		0.0501	mg/L	0.00050	98	70	130				
Uranium		0.0628	mg/L	0.00030	99	70	130				

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 01/26/16

**Project:** 1601182

**Work Order:** B16011070

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>								Batch: R255205			
<b>Lab ID:</b>	<b>B16011070-001AMSD</b>	9 Sample Matrix Spike Duplicate			Run: ICPMS206-B_160119A				01/19/16 17:04		
Antimony		0.0434	mg/L	0.0010	85	70	130	1.3	20		
Arsenic		0.344	mg/L	0.0010		70	130	0.2	20	A	
Cadmium		0.0481	mg/L	0.0010	93	70	130	0.7	20		
Lead		0.0529	mg/L	0.0010	98	70	130	0.1	20		
Selenium		0.0484	mg/L	0.0010	96	70	130	0.4	20		
Silicon		1.76	mg/L	0.10		70	130	2.5	20	A	
Silver		0.0131	mg/L	0.0010	65	70	130	0.5	20	S	
Thallium		0.0501	mg/L	0.00050	98	70	130	0.0	20		
Uranium		0.0622	mg/L	0.00030	97	70	130	1.0	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 01/26/16

**Project:** 1601182

**Work Order:** B16011070

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E245.1</b> Analytical Run: HGCV203-B_160119A										
<b>Lab ID: CCV</b>	Continuing Calibration Verification Standard									
Mercury		9.72E-05	mg/L	1.0E-05	97	90	110			01/19/16 16:13
<b>Method: E245.1</b> Batch: 96318										
<b>Lab ID: MB-96318</b>	Method Blank									
Mercury		ND	mg/L	1E-06						01/19/16 15:37
<b>Lab ID: LCS-96318</b>	Laboratory Control Sample									
Mercury		0.000201	mg/L	1.0E-05	101	85	115			01/19/16 15:40
<b>Lab ID: B16011070-002AMS</b>	Sample Matrix Spike									
Mercury		0.000216	mg/L	1.0E-05	105	70	130			01/19/16 16:39
<b>Lab ID: B16011070-002AMSD</b>	Sample Matrix Spike Duplicate									
Mercury		0.000226	mg/L	1.0E-05	110	70	130	4.5	30	01/19/16 16:42
<b>Method: E245.1</b> Analytical Run: HGCV203-B_160120A										
<b>Lab ID: ICV</b>	Initial Calibration Verification Standard									
Mercury		0.000205	mg/L	1.0E-05	103	90	110			01/20/16 15:20
<b>Method: E245.1</b> Batch: 96357										
<b>Lab ID: MB-96357</b>	Method Blank									
Mercury		2E-06	mg/L	1E-06						01/20/16 16:28
<b>Lab ID: LCS-96357</b>	Laboratory Control Sample									
Mercury		0.000199	mg/L	1.0E-05	98	85	115			01/20/16 16:30
<b>Lab ID: B16011163-002BMS</b>	Sample Matrix Spike									
Mercury		0.00138	mg/L	2.5E-05		70	130			01/20/16 17:33 A
<b>Lab ID: B16011163-002BMSD</b>	Sample Matrix Spike Duplicate									
Mercury		0.00146	mg/L	2.5E-05		70	130	5.3	30	01/20/16 17:36 A

**Qualifiers:**

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B16011070

Login completed by: Leslie S. Cadreau

Date Received: 1/18/2016

Reviewed by: BL2000\tedwards

Received by: qej

Reviewed Date: 1/19/2016

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	7.6°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

Samples received partially frozen.

# CHAIN OF CUSTODY RECORD

<b>Western Environmental Testing Laboratory</b> 475 E. Greg Street #119 Sparks, NV 89431 Logan Greenwood Ph: (775) 355-0202 LoganG@wetlaboratory.com Fax: (775) 355-0817		Total # of sample containers: <b>2</b> System: _____ Job ID: 1601182	All Samples Refrigerated?: Y N X Compliance: Y X N CA Write ON: Y X N QC: Y X N Water System #: _____
Sample Receipt Condition: _____		Samplers Initials: _____ Notes: <b>Quote # 3679</b>	
Temperature: _____		SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____	

Set Date	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
1/12/2016 9:00 AM	C586-15 P.Q.WK: 20 - WLHCT-0118	Leachate	Various Metals (Subcontracted)		B16011070-001
1/12/2016 9:00 AM	G601-15 O.Q.WK: 20 - WLHCT-0119	Leachate	Various Metals (Subcontracted)		-002

Relinquished by:		Received by:		Sample Type		
(Signature)	Date:	(Signature)	Date:	Trip Blank	Grab	Composite
	12/14/16	UPS				
Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:	Trip Blank	Grab	Composite
Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:	Trip Blank	Grab	Composite
		<i>Quince James</i>	11/8/16 09:20			

UPS Brnd.  
temp = 7.6  
no ice  
no seals





1/29/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1601362

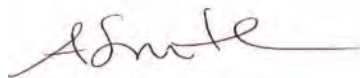
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 1/19/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

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fax (775) 777-9933  
EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1601362

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### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

#### **SPARKS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 1/29/2016

OrderID: 1601362

Customer Sample ID: C586-15 P,Q WK: 21

Collect Date/Time: 1/19/2016 09:00

WETLAB Sample ID: 1601362-001

Receive Date: 1/19/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	130	mg/L	100	10	1/19/2016	NV00925
Ferric Iron	SM 3500 Fe B	33	mg/L	1	0.1	1/21/2016	NV00925
pH	SM 4500-H+ B	2.81	pH Units	1		1/21/2016	NV00925
Temperature at pH	NA	21.8	°C	1		1/21/2016	NV00925
Redox Potential	ASTM D1498	460	mV	1		1/19/2016	NV00925
Acidity (Titrimetric)	SM 2310B	620	mg/L as CaCO <sub>3</sub>	1		1/26/2016	NV00925
Electrical Conductivity	SM 2510B	1700	µmhos/cm	1	1	1/19/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	1000 SC	mg/L	20	20	1/23/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	14	mg/L	1	0.50	1/21/2016	NV00925
Iron	EPA 200.7	160	mg/L	1	0.020	1/21/2016	NV00925
Magnesium	EPA 200.7	17	mg/L	1	0.50	1/21/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		1/19/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		1/21/2016	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	1/18/2016	NV00925
HCT Post-Leach Volume	N/A	3180	mL	1	1	1/19/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 6

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 EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 21  
 WETLAB Sample ID: 1601362-002

Collect Date/Time: 1/19/2016 09:00  
 Receive Date: 1/19/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	660	mg/L	200	20	1/19/2016	NV00925
Ferric Iron	SM 3500 Fe B	69	mg/L	1	0.1	1/25/2016	NV00925
pH	SM 4500-H+ B	2.74	pH Units	1		1/21/2016	NV00925
Temperature at pH	NA	21.9	°C	1		1/21/2016	NV00925
Redox Potential	ASTM D1498	400	mV	1		1/19/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1200	mg/L as CaCO3	1		1/26/2016	NV00925
Electrical Conductivity	SM 2510B	3000	µmhos/cm	1	1	1/19/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	3000	mg/L	50	50	1/23/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	110	mg/L	1	0.50	1/25/2016	NV00925
Iron	EPA 200.7	730	mg/L	20	0.40	1/25/2016	NV00925
Magnesium	EPA 200.7	ND D	mg/L	2	1.0	1/25/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		1/19/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		1/22/2016	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	1/18/2016	NV00925
HCT Post-Leach Volume	N/A	2970	mL	1	1	1/19/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

Page 4 of 6

**SPARKS**

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 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16010554	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16010559	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16010647	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
QC16010709	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16010742	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16010554	LCS 1	Ferrous Iron	SM 3500 Fe B	0.969	1.00	97	mg/L
QC16010557	LCS 1	Redox Potential	ASTM D1498	479	475	101	mV
QC16010559	LCS 1	Electrical Conductivity	SM 2510B	1493	1412	106	µmhos/cm
QC16010647	LCS 1	Calcium	EPA 200.7	9.39	10.0	94	mg/L
		Iron	EPA 200.7	0.948	1.00	95	mg/L
		Magnesium	EPA 200.7	9.40	10.0	94	mg/L
QC16010709	LCS 1	Sulfate	EPA 300.0	22.6	25.0	90	mg/L
QC16010742	LCS 1	Calcium, Dissolved	EPA 200.7	9.48	10.0	95	mg/L
		Iron, Dissolved	EPA 200.7	0.956	1.00	96	mg/L
		Magnesium, Dissolved	EPA 200.7	9.47	10.0	95	mg/L
QC16010839	LCS 1	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC16010839	LCS 2	pH	SM 4500-H+ B	6.97	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16010554	Duplicate	Ferrous Iron	SM 3500 Fe B	1601359-001	ND	ND	mg/L	<1%
QC16010554	Duplicate	Ferrous Iron	SM 3500 Fe B	1601361-003	ND	ND	mg/L	<1%
QC16010557	Duplicate	Redox Potential	ASTM D1498	1601359-001	537	538	mV	<1%
QC16010557	Duplicate	Redox Potential	ASTM D1498	1601361-003	439	441	mV	<1%
QC16010559	Duplicate	Electrical Conductivity	SM 2510B	1601359-001	56.9	56.8	µmhos/cm	<1%
QC16010559	Duplicate	Electrical Conductivity	SM 2510B	1601361-003	79.0	78.7	µmhos/cm	<1%
QC16010832	Duplicate	Acidity (Titrimetric)	SM 2310B	1601359-001	23.1	25.2	mg/L as CaCO3	9 %
QC16010832	Duplicate	Acidity (Titrimetric)	SM 2310B	1601361-003	31.9	30.2	mg/L as CaCO3	6 %
QC16010832	Duplicate	Acidity (Titrimetric)	SM 2310B	1601365-001	90.2	86.8	mg/L as CaCO3	4 %
QC16010839	Duplicate	pH	SM 4500-H+ B	1601359-001	6.89	7.05	QD pH Units	2 %
QC16010839	Duplicate	pH	SM 4500-H+ B	1601361-003	7.17	7.38	QD pH Units	3 %
QC16010839	Duplicate	pH	SM 4500-H+ B	1601365-001	6.37	6.51	QD pH Units	2 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16010647	MS 1	Calcium	EPA 200.7	1601404-003	63.8	70.9	70.5	10.0	mg/L	71	67	1%
		Iron	EPA 200.7	1601404-003	0.114	1.10	1.11	1.00	mg/L	99	100	1%
		Magnesium	EPA 200.7	1601404-003	27.2	36.0	36.4	10.0	mg/L	88	92	1%
QC16010709	MS 1	Sulfate	EPA 300.0	1601362-001	1027	SC 1490	1505	10.0	mg/L	NC	NC	NC
QC16010709	MS 2	Sulfate	EPA 300.0	1601391-019	1567	SC 1709	1804	10.0	mg/L	NC	NC	NC

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 6

**SPARKS**

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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16010742	MS 1	Calcium, Dissolved	EPA 200.7	1601480-003	10.1	18.9	18.7	10.0	mg/L	88	86	1%
		Iron, Dissolved	EPA 200.7	1601480-003	ND	0.972	0.956	1.00	mg/L	96	94	2%
		Magnesium, Dissolved	EPA 200.7	1601480-003	ND	9.59	9.47	10.0	mg/L	95	94	1%

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2/5/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1601528

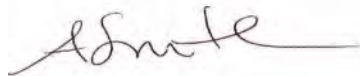
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 1/26/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1601528

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 2/5/2016

OrderID: 1601528

Customer Sample ID: C586-15 P,Q WK: 22

Collect Date/Time: 1/26/2016 09:00

WETLAB Sample ID: 1601528-001

Receive Date: 1/26/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	250	mg/L	100	10	1/26/2016	NV00925
Ferric Iron	SM 3500 Fe B	110	mg/L	1	0.1	1/29/2016	NV00925
pH	SM 4500-H+ B	2.68	HT pH Units	1		1/27/2016	NV00925
Temperature at pH	NA	20.7	°C	1		1/27/2016	NV00925
Redox Potential	ASTM D1498	460	mV	1		1/26/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1000	mg/L as CaCO <sub>3</sub>	1		1/29/2016	NV00925
Electrical Conductivity	SM 2510B	1200	µmhos/cm	1	1	1/26/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	1300	mg/L	10	10	1/27/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	31	mg/L	1	0.50	1/29/2016	NV00925
Iron	EPA 200.7	360	mg/L	10	0.20	1/29/2016	NV00925
Magnesium	EPA 200.7	24	mg/L	1	0.50	1/29/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		1/26/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		1/28/2016	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	1/25/2016	NV00925
HCT Post-Leach Volume	N/A	3210	mL	1	1	1/26/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 6

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 22

Collect Date/Time: 1/26/2016 09:00

WETLAB Sample ID: 1601528-002

Receive Date: 1/26/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	720	mg/L	200	20	1/26/2016	NV00925
Ferric Iron	SM 3500 Fe B	210	mg/L	1	0.1	1/29/2016	NV00925
pH	SM 4500-H+ B	2.52	HT pH Units	1		1/27/2016	NV00925
Temperature at pH	NA	20.7	°C	1		1/27/2016	NV00925
Redox Potential	ASTM D1498	440	mV	1		1/26/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1700	mg/L as CaCO3	1		1/29/2016	NV00925
Electrical Conductivity	SM 2510B	2000	µmhos/cm	1	1	1/26/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2400	mg/L	20	20	1/28/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	180	mg/L	1	0.50	1/29/2016	NV00925
Iron	EPA 200.7	930	mg/L	10	0.20	1/29/2016	NV00925
Magnesium	EPA 200.7	ND	mg/L	1	0.50	1/29/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		1/26/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		1/28/2016	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	1/25/2016	NV00925
HCT Post-Leach Volume	N/A	2730	mL	1	1	1/26/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 6

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 EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16010809	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16010811	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16010906	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16010907	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16010927	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16010809	LCS 1	Ferrous Iron	SM 3500 Fe B	0.974	1.00	97	mg/L
QC16010811	LCS 1	Electrical Conductivity	SM 2510B	1436	1412	102	µmhos/cm
QC16010814	LCS 1	Redox Potential	ASTM D1498	484	475	102	mV
QC16010835	LCS 1	pH	SM 4500-H+ B	6.96	7.00	99	pH Units
QC16010835	LCS 2	pH	SM 4500-H+ B	6.96	7.00	99	pH Units
QC16010906	LCS 1	Sulfate	EPA 300.0	26.0	25.0	104	mg/L
QC16010907	LCS 1	Sulfate	EPA 300.0	25.9	25.0	104	mg/L
QC16010927	LCS 1	Calcium	EPA 200.7	9.59	10.0	96	mg/L
		Iron	EPA 200.7	0.951	1.00	95	mg/L
		Magnesium	EPA 200.7	9.59	10.0	96	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16010809	Duplicate	Ferrous Iron	SM 3500 Fe B	1601525-001	ND	ND	mg/L	<1%
QC16010809	Duplicate	Ferrous Iron	SM 3500 Fe B	1601527-003	ND	ND	mg/L	<1%
QC16010811	Duplicate	Electrical Conductivity	SM 2510B	1601525-001	57.2	57.1	µmhos/cm	<1%
QC16010811	Duplicate	Electrical Conductivity	SM 2510B	1601527-003	84.0	84.3	µmhos/cm	<1%
QC16010814	Duplicate	Redox Potential	ASTM D1498	1601525-001	572	567	mV	1 %
QC16010814	Duplicate	Redox Potential	ASTM D1498	1601527-003	429	428	mV	<1%
QC16010835	Duplicate	pH	SM 4500-H+ B	1601525-001	6.64	6.78	HT,Q pH Units	2 %
QC16010835	Duplicate	pH	SM 4500-H+ B	1601527-003	6.92	7.15	HT,Q pH Units	3 %
QC16010835	Duplicate	pH	SM 4500-H+ B	1601531-001	6.30	6.49	HT,Q pH Units	3 %
QC16020041	Duplicate	Acidity (Titrimetric)	SM 2310B	1601470-001	ND	ND	mg/L as CaCO3	<1%
QC16020041	Duplicate	Acidity (Titrimetric)	SM 2310B	1601473-003	ND	ND	QD mg/L as CaCO3	<1%
QC16020041	Duplicate	Acidity (Titrimetric)	SM 2310B	1601526-005	5.22	4.82	mg/L as CaCO3	8 %
QC16020041	Duplicate	Acidity (Titrimetric)	SM 2310B	1601530-003	14.6	14.0	mg/L as CaCO3	4 %
QC16020041	Duplicate	Acidity (Titrimetric)	SM 2310B	1601531-008	10.4	13.0	QD mg/L as CaCO3	22 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16010906	MS 1	Sulfate	EPA 300.0	1601531-007	788	883	893	10.0	mg/L	95	104	1%
QC16010906	MS 2	Sulfate	EPA 300.0	1601561-024	75.7	97.2	97.2	10.0	mg/L	108	108	<1%
QC16010907	MS 1	Sulfate	EPA 300.0	1601524-002	247	293	290	10.0	mg/L	91	86	1%
QC16010907	MS 2	Sulfate	EPA 300.0	1601598-002	152	SC 160	160	10.0	mg/L	NC	NC	NC
QC16010927	MS 1	Calcium	EPA 200.7	1601590-001	76.2	SC 91.1	89.1	10.0	mg/L	NC	NC	NC
		Iron	EPA 200.7	1601590-001	0.069	1.02	1.02	1.00	mg/L	95	95	<1%
		Magnesium	EPA 200.7	1601590-001	26.5	37.0	36.7	10.0	mg/L	105	102	1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 6

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2/16/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1602026

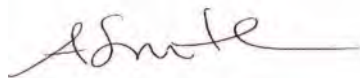
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 2/2/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1602026

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### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 2/16/2016

OrderID: 1602026

Customer Sample ID: C586-15 P,Q WK: 23

Collect Date/Time: 2/2/2016 09:00

WETLAB Sample ID: 1602026-001

Receive Date: 2/2/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	150	mg/L	100	10	2/2/2016	NV00925
Ferric Iron	SM 3500 Fe B	34	mg/L	1	0.1	2/5/2016	NV00925
pH	SM 4500-H+ B	2.78 HT	pH Units	1		2/2/2016	NV00925
Temperature at pH	NA	20.2	°C	1		2/2/2016	NV00925
Redox Potential	ASTM D1498	480	mV	1		2/2/2016	NV00925
Acidity (Titrimetric)	SM 2310B	620	mg/L as CaCO <sub>3</sub>	1		2/10/2016	NV00925
Electrical Conductivity	SM 2510B	3200	µmhos/cm	2	2.0	2/2/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	610	mg/L	20	20	2/4/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	15	mg/L	1	0.50	2/5/2016	NV00925
Iron	EPA 200.7	190	mg/L	1	0.020	2/5/2016	NV00925
Magnesium	EPA 200.7	13	mg/L	1	0.50	2/5/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		2/2/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		2/5/2016	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	2/1/2016	NV00925
HCT Post-Leach Volume	N/A	3150	mL	1	1	2/2/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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 EPA LAB ID: NV00925 - ELAP No: 2523

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 EPA LAB ID: NV00932



Customer Sample ID: C601-15 O,Q WK: 23

Collect Date/Time: 2/2/2016 09:00

WETLAB Sample ID: 1602026-002

Receive Date: 2/2/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	660	mg/L	200	20	2/2/2016	NV00925
Ferric Iron	SM 3500 Fe B	170	mg/L	1	0.1	2/10/2016	NV00925
pH	SM 4500-H+ B	2.49	HT pH Units	1		2/2/2016	NV00925
Temperature at pH	NA	20	°C	1		2/2/2016	NV00925
Redox Potential	ASTM D1498	460	mV	1		2/2/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1700	mg/L as CaCO3	1		2/10/2016	NV00925
Electrical Conductivity	SM 2510B	5400	µmhos/cm	5	5.0	2/2/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2200	mg/L	20	20	2/4/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	190	mg/L	1	0.50	2/9/2016	NV00925
Iron	EPA 200.7	830	mg/L	5	0.10	2/10/2016	NV00925
Magnesium	EPA 200.7	ND	mg/L	1	0.50	2/9/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		2/2/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		2/9/2016	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	2/1/2016	NV00925
HCT Post-Leach Volume	N/A	2710	mL	1	1	2/2/2016	NV00925

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16020132	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16020134	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16020167	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16020233	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
QC16020333	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16020132	LCS 1	Electrical Conductivity	SM 2510B	1416	1412	100	µmhos/cm
QC16020134	LCS 1	Ferrous Iron	SM 3500 Fe B	1.02	1.00	102	mg/L
QC16020137	LCS 1	Redox Potential	ASTM D1498	476	475	100	mV
QC16020167	LCS 1	Sulfate	EPA 300.0	23.7	25.0	95	mg/L
QC16020233	LCS 1	Calcium, Dissolved	EPA 200.7	9.46	10.0	95	mg/L
		Iron, Dissolved	EPA 200.7	0.950	1.00	95	mg/L
		Magnesium, Dissolved	EPA 200.7	9.31	10.0	93	mg/L
QC16020333	LCS 1	Calcium, Dissolved	EPA 200.7	9.36	10.0	94	mg/L
		Iron, Dissolved	EPA 200.7	0.912	1.00	91	mg/L
		Magnesium, Dissolved	EPA 200.7	9.20	10.0	92	mg/L
QC16020392	LCS 1	pH	SM 4500-H+ B	6.96	7.00	99	pH Units
QC16020392	LCS 2	pH	SM 4500-H+ B	6.97	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD	
QC16020132	Duplicate	Electrical Conductivity	SM 2510B	1602021-001	56.8	56.2	µmhos/cm	1 %	
QC16020132	Duplicate	Electrical Conductivity	SM 2510B	1602025-003	81.1	80.4	µmhos/cm	1 %	
QC16020134	Duplicate	Ferrous Iron	SM 3500 Fe B	1602021-001	ND	ND	mg/L	<1%	
QC16020134	Duplicate	Ferrous Iron	SM 3500 Fe B	1602025-003	ND	ND	mg/L	2 %	
QC16020137	Duplicate	Redox Potential	ASTM D1498	1602021-001	496	496	mV	<1%	
QC16020137	Duplicate	Redox Potential	ASTM D1498	1602025-003	460	462	mV	1 %	
QC16020392	Duplicate	pH	SM 4500-H+ B	1602021-001	7.17	7.24	HT	pH Units	1 %
QC16020392	Duplicate	pH	SM 4500-H+ B	1602025-003	7.39	7.54	HT,Q	pH Units	2 %
QC16020392	Duplicate	pH	SM 4500-H+ B	1602029-001	6.56	6.66	HT	pH Units	2 %
QC16020405	Duplicate	Acidity (Titrimetric)	SM 2310B	1602023-001	19.6	23.6	mg/L as CaCO3	18 %	
QC16020405	Duplicate	Acidity (Titrimetric)	SM 2310B	1602023-002	25.6	25.2	mg/L as CaCO3	2 %	
QC16020405	Duplicate	Acidity (Titrimetric)	SM 2310B	1602023-003	35.0	31.9	mg/L as CaCO3	9 %	

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16020167	MS 1	Sulfate	EPA 300.0	1602023-002	18.6	27.4	27.4	10.0	mg/L	88	88	<1%
QC16020167	MS 2	Sulfate	EPA 300.0	1602028-005	18.3	27.2	27.3	10.0	mg/L	89	90	<1%
QC16020233	MS 1	Calcium, Dissolved	EPA 200.7	1602146-001	32.6	M 38.9	41.5	10.0	mg/L	NC	NC	NC
		Iron, Dissolved	EPA 200.7	1602146-001	ND	0.916	0.986	1.00	mg/L	90	97	7%
		Magnesium, Dissolved	EPA 200.7	1602146-001	8.10	16.1	17.3	10.0	mg/L	80	92	7%

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16020333	MS 1	Calcium, Dissolved	EPA 200.7	1602162-001	585	SC 560	568	10.0	mg/L	NC	NC	NC
		Iron, Dissolved	EPA 200.7	1602162-001	ND	0.940	0.923	1.00	mg/L	92	90	2%
		Magnesium, Dissolved	EPA 200.7	1602162-001	43.4	50.8	50.2	10.0	mg/L	74	68	1%

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2/25/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1602206

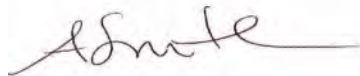
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 2/9/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1602206

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### Specific Report Comments

The cation/anion balance for sample 1602206-002 was outside WETLAB acceptance criteria; however, reanalysis confirmed the original results.

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT 0118-0119

Date Printed: 2/25/2016

OrderID: 1602206

Customer Sample ID: C586-15 P,Q WK: 24

Collect Date/Time: 2/9/2016 09:00

WETLAB Sample ID: 1602206-001

Receive Date: 2/9/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	140	mg/L	100	10	2/9/2016	NV00925
Ferric Iron	SM 3500 Fe B	29	mg/L	1	0.1	2/11/2016	NV00925
pH	SM 4500-H+ B	2.74	HT pH Units	1		2/12/2016	NV00925
Temperature at pH	NA	21.1	°C	1		2/12/2016	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	2/17/2016	NV00925
Redox Potential	ASTM D1498	500	mV	1		2/9/2016	NV00925
Acidity (Titrimetric)	SM 2310B	550	mg/L as CaCO3	1		2/17/2016	NV00925
Total Nitrogen	Calc.	0.96	mg/L	1	0.50	2/17/2016	NV00925
Total Dissolved Solids (TDS)	SM 2540C	770	mg/L	1	10	2/10/2016	NV00925
Electrical Conductivity	SM 2510B	1500	µmhos/cm	1	1	2/9/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	D mg/L	10	5.0	2/10/2016	NV00925
Fluoride	EPA 300.0	ND	D mg/L	10	0.50	2/10/2016	NV00925
Sulfate	EPA 300.0	670	mg/L	10	10	2/10/2016	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	0.45	mg/L	5	0.10	2/12/2016	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	0.51	mg/L	1	0.40	2/17/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.009	mg/L	1	0.0030	2/11/2016	NV00925
Beryllium	EPA 200.7	0.0032	mg/L	1	0.0008	2/11/2016	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	2/11/2016	NV00925
Calcium	EPA 200.7	13	mg/L	1	0.50	2/11/2016	NV00925
Chromium	EPA 200.7	0.11	mg/L	1	0.0050	2/11/2016	NV00925
Cobalt	EPA 200.7	6.6	mg/L	1	0.010	2/11/2016	NV00925
Iron	EPA 200.7	160	mg/L	1	0.020	2/11/2016	NV00925
Magnesium	EPA 200.7	10	mg/L	1	0.50	2/11/2016	NV00925
Manganese	EPA 200.7	1.5	mg/L	1	0.0050	2/11/2016	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	2/11/2016	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	2/11/2016	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	2/11/2016	NV00925
Strontium	EPA 200.7	0.16	mg/L	1	0.020	2/11/2016	NV00925
Zinc	EPA 200.7	0.47	mg/L	1	0.0080	2/11/2016	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	23	mg/L	100	0.20	2/17/2016	NV00925
Nickel	EPA 200.8	2.8	mg/L	100	0.20	2/17/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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Customer Sample ID: C586-15 P,Q WK: 24

Collect Date/Time: 2/9/2016 09:00

WETLAB Sample ID: 1602206-001

Receive Date: 2/9/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Ion Balance</u></b>							
Anions	Calculation	14.0	meq/L	1	0.10		NV00925
Cations	Calculation	16.4	meq/L	1	0.10		NV00925
Error	Calculation	8.1	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		2/9/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		2/11/2016	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	2/8/2016	NV00925
HCT Post-Leach Volume	N/A	3190	mL	1	1	2/9/2016	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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Customer Sample ID: C601-15 O,Q WK: 24  
 WETLAB Sample ID: 1602206-002

Collect Date/Time: 2/9/2016 09:00  
 Receive Date: 2/9/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	630	mg/L	200	20	2/9/2016	NV00925
Ferric Iron	SM 3500 Fe B	200	mg/L	1	0.1	2/10/2016	NV00925
pH	SM 4500-H+ B	2.45	HT pH Units	1		2/12/2016	NV00925
Temperature at pH	NA	21.1	°C	1		2/12/2016	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	2/17/2016	NV00925
Redox Potential	ASTM D1498	480	mV	1		2/9/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1700	mg/L as CaCO3	1		2/17/2016	NV00925
Total Nitrogen	Calc.	2.0	mg/L	1	0.50	2/17/2016	NV00925
Total Dissolved Solids (TDS)	SM 2540C	2900	mg/L	1	10	2/10/2016	NV00925
Electrical Conductivity	SM 2510B	3900	µmhos/cm	1	1	2/9/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	D mg/L	10	5.0	2/10/2016	NV00925
Fluoride	EPA 300.0	0.50	mg/L	10	0.50	2/10/2016	NV00925
Sulfate	EPA 300.0	2200	mg/L	100	100	2/10/2016	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	1.9	mg/L	5	0.10	2/12/2016	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.40	2/17/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.035	mg/L	1	0.0030	2/11/2016	NV00925
Beryllium	EPA 200.7	ND	mg/L	1	0.0008	2/11/2016	NV00925
Boron	EPA 200.7	0.13	mg/L	1	0.10	2/11/2016	NV00925
Calcium	EPA 200.7	180	mg/L	1	0.50	2/11/2016	NV00925
Chromium	EPA 200.7	0.46	mg/L	1	0.0050	2/11/2016	NV00925
Cobalt	EPA 200.7	3.0	mg/L	1	0.010	2/11/2016	NV00925
Iron	EPA 200.7	900	mg/L	5	0.50	2/12/2016	NV00925
Magnesium	EPA 200.7	ND	mg/L	1	0.50	2/11/2016	NV00925
Manganese	EPA 200.7	0.23	mg/L	1	0.0050	2/11/2016	NV00925
Molybdenum	EPA 200.7	ND	D mg/L	5	0.050	2/12/2016	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	2/11/2016	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	2/11/2016	NV00925
Strontium	EPA 200.7	2.5	mg/L	1	0.020	2/11/2016	NV00925
Zinc	EPA 200.7	0.14	mg/L	1	0.0080	2/11/2016	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	6.2	mg/L	100	0.20	2/17/2016	NV00925
Nickel	EPA 200.8	1.2	mg/L	100	0.20	2/17/2016	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	45.9	meq/L	1	0.10		NV00925
Cations	Calculation	74.9	meq/L	1	0.10		NV00925
Error	Calculation	24	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		2/9/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		2/11/2016	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	2/8/2016	NV00925
HCT Post-Leach Volume	N/A	2770	mL	1	1	2/9/2016	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16020358	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16020370	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16020381	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC16020439	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC16020456	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC16020470	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC16020470	Blank 2	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC16020522	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC16020578	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC16020841	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16020358	LCS 1	Ferrous Iron	SM 3500 Fe B	1.00	1.00	100	mg/L
QC16020367	LCS 1	Redox Potential	ASTM D1498	476	475	100	mV
QC16020370	LCS 1	Electrical Conductivity	SM 2510B	1434	1412	102	µmhos/cm
QC16020381	LCS 1	Chloride	EPA 300.0	10.1	10.0	101	mg/L
		Fluoride	EPA 300.0	2.08	2.00	104	mg/L
		Sulfate	EPA 300.0	24.8	25.0	99	mg/L
QC16020439	LCS 1	Copper	EPA 200.8	0.0109	0.010	109	mg/L
		Nickel	EPA 200.8	0.0108	0.010	108	mg/L
QC16020456	LCS 1	Barium, Dissolved	EPA 200.7	0.985	1.00	98	mg/L
		Beryllium, Dissolved	EPA 200.7	0.991	1.00	99	mg/L
		Boron, Dissolved	EPA 200.7	0.997	1.00	100	mg/L
		Calcium, Dissolved	EPA 200.7	9.78	10.0	98	mg/L
		Chromium, Dissolved	EPA 200.7	0.984	1.00	98	mg/L
		Cobalt, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Iron, Dissolved	EPA 200.7	0.977	1.00	98	mg/L
		Magnesium, Dissolved	EPA 200.7	9.76	10.0	98	mg/L
		Manganese, Dissolved	EPA 200.7	0.996	1.00	100	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.984	1.00	98	mg/L
		Potassium, Dissolved	EPA 200.7	9.97	10.0	100	mg/L
		Sodium, Dissolved	EPA 200.7	9.91	10.0	99	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Strontium, Dissolved	EPA 200.7	0.975	1.00	98	mg/L
		Zinc, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
QC16020470	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.840	0.800	105	mg/L
QC16020470	LCS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	0.853	0.800	107	mg/L
QC16020494	LCS 1	pH	SM 4500-H+ B	6.94	7.00	99	pH Units
QC16020494	LCS 2	pH	SM 4500-H+ B	6.95	7.00	99	pH Units
QC16020494	LCS 3	pH	SM 4500-H+ B	6.95	7.00	99	pH Units
QC16020522	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	146	150	97	mg/L
QC16020522	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	147	150	98	mg/L
QC16020578	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.08	1.00	108	mg/L
QC16020841	LCS 1	WAD Cyanide	SM 4500CN I, E	0.095	0.100	95	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16020358	Duplicate	Ferrous Iron	SM 3500 Fe B	1602203-001	ND	ND	mg/L	<1%
QC16020358	Duplicate	Ferrous Iron	SM 3500 Fe B	1602205-003	ND	ND	mg/L	<1%
QC16020367	Duplicate	Redox Potential	ASTM D1498	1602203-001	521	520	mV	<1%
QC16020367	Duplicate	Redox Potential	ASTM D1498	1602205-003	479	479	mV	<1%
QC16020370	Duplicate	Electrical Conductivity	SM 2510B	1602203-001	59.7	59.4	µmhos/cm	1 %
QC16020370	Duplicate	Electrical Conductivity	SM 2510B	1602205-003	90.3	90.4	µmhos/cm	<1%
QC16020494	Duplicate	pH	SM 4500-H+ B	1602114-001	7.28	7.43	HT,Q pH Units	2 %
QC16020494	Duplicate	pH	SM 4500-H+ B	1602117-002	7.54	7.45	HT pH Units	1 %
QC16020494	Duplicate	pH	SM 4500-H+ B	1602203-001	7.22	7.29	HT pH Units	1 %
QC16020494	Duplicate	pH	SM 4500-H+ B	1602205-003	7.47	7.62	HT,Q pH Units	2 %
QC16020494	Duplicate	pH	SM 4500-H+ B	1602209-001	6.67	6.75	HT pH Units	1 %
QC16020522	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1602213-001	298	303	mg/L	2 %
QC16020522	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1602213-002	315	310	mg/L	2 %
QC16020625	Duplicate	Acidity (Titrimetric)	SM 2310B	1602203-001	7.55	5.32	QD mg/L as CaCO3	35 %
QC16020625	Duplicate	Acidity (Titrimetric)	SM 2310B	1602205-003	ND	ND	QD mg/L as CaCO3	21 %
QC16020625	Duplicate	Acidity (Titrimetric)	SM 2310B	1602209-001	27.8	27.7	mg/L as CaCO3	<1%
QC16020625	Duplicate	Acidity (Titrimetric)	SM 2310B	1602311-003	16.7	12.8	QD mg/L as CaCO3	27 %
QC16020625	Duplicate	Acidity (Titrimetric)	SM 2310B	1602310-001	21.9	20.0	mg/L as CaCO3	9 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16020381	MS 1	Chloride	EPA 300.0	1602205-001	ND	5.83	5.86	5.00	mg/L	105	106	1%
		Fluoride	EPA 300.0	1602205-001	0.330	2.43	2.44	2.00	mg/L	105	105	<1%
		Sulfate	EPA 300.0	1602205-001	18.5	28.6	28.6	10.0	mg/L	101	101	<1%
QC16020381	MS 2	Chloride	EPA 300.0	1602218-005	251	298	295	5.00	mg/L	94	89	1%
		Fluoride	EPA 300.0	1602218-005	2.59	23.8	23.5	2.00	mg/L	106	105	1%
		Sulfate	EPA 300.0	1602218-005	336	433	429	10.0	mg/L	97	93	1%
QC16020439	MS 1	Copper, Dissolved	EPA 200.8	1602268-001	ND	0.0112	0.0114	0.010	mg/L	95	96	2%
		Nickel, Dissolved	EPA 200.8	1602268-001	0.0007	0.0104	0.0106	0.010	mg/L	97	99	2%
QC16020456	MS 1	Barium, Dissolved	EPA 200.7	1602268-001	0.032	0.977	0.970	1.00	mg/L	94	94	1%
		Beryllium, Dissolved	EPA 200.7	1602268-001	ND	0.951	0.941	1.00	mg/L	95	94	1%
		Boron, Dissolved	EPA 200.7	1602268-001	0.255	1.21	1.23	1.00	mg/L	96	98	2%
		Calcium, Dissolved	EPA 200.7	1602268-001	15.3	25.7	24.7	10.0	mg/L	104	94	4%
		Chromium, Dissolved	EPA 200.7	1602268-001	ND	0.939	0.945	1.00	mg/L	94	94	1%
		Cobalt, Dissolved	EPA 200.7	1602268-001	ND	0.954	0.958	1.00	mg/L	95	96	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Iron, Dissolved	EPA 200.7	1602268-001	0.071	1.01	0.973	1.00	mg/L	94	90	4%
		Magnesium, Dissolved	EPA 200.7	1602268-001	5.52	15.0	14.6	10.0	mg/L	95	91	3%
		Manganese, Dissolved	EPA 200.7	1602268-001	0.005	0.955	0.951	1.00	mg/L	95	95	<1%
		Molybdenum, Dissolved	EPA 200.7	1602268-001	ND	0.951	0.947	1.00	mg/L	95	94	<1%
		Potassium, Dissolved	EPA 200.7	1602268-001	6.25	15.8	15.4	10.0	mg/L	96	92	3%
		Sodium, Dissolved	EPA 200.7	1602268-001	43.6	53.3	52.5	10.0	mg/L	97	89	2%
		Strontium, Dissolved	EPA 200.7	1602268-001	0.199	1.12	1.12	1.00	mg/L	92	92	<1%
		Zinc, Dissolved	EPA 200.7	1602268-001	ND	0.974	0.999	1.00	mg/L	97	99	3%
QC16020470	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1602155-001	2.36	M 2.53	2.51	1.00	mg/L	NC	NC	NC
QC16020470	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1602214-001	0.741	M 0.940	0.944	1.00	mg/L	NC	NC	NC
QC16020470	MS 3	Nitrate + Nitrite Nitrogen	EPA 353.2	1602270-006	ND	M 0.198	0.210	1.00	mg/L	NC	NC	NC
QC16020578	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1602210-001	ND	0.995	1.05	1.00	mg/L	92	98	5%
QC16020578	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1602162-001	3.04	M 6.39	5.87	1.00	mg/L	NC	NC	NC
QC16020841	MS 1	WAD Cyanide	SM 4500CN I,	1602211-001	ND	0.097	0.099	0.100	mg/L	95	97	2%
QC16020841	MS 2	WAD Cyanide	SM 4500CN I,	1602270-001	ND	0.096	0.092	0.100	mg/L	95	92	4%

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# ANALYTICAL SUMMARY REPORT

February 25, 2016

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B16021189                      Quote ID: B3679  
Project Name: 1602206

Energy Laboratories Inc Billings MT received the following 2 samples for Western Environmental Testing Laboratory on 2/16/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16021189-001	1602206-001, C586-15 P Q WK:24 - WLHCT-0118	02/09/16 9:00	02/16/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA
B16021189-002	1602206-002, C601-15 O Q WK:24 - WLHCT-0119	02/09/16 9:00	02/16/16	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



**CLIENT:** Western Environmental Testing Laboratory  
**Project:** 1602206  
**Work Order:** B16021189

**Revised Date:** 02/25/16

**Report Date:** 02/18/16

## CASE NARRATIVE

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Revised 2/25/2016:

Per Hollie Timmons on 2/24/16, add Mercury to sample 1602206-001, C586-15 P Q WK:24 - WLHCT-0118 (B16021189-001) and 1602206-002, C601-15 O Q WK:24 - WLHCT-0119 (B16021189-002).

The report has been revised and replaces any previously issued report in its entirety.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1602206  
**Lab ID:** B16021189-001  
**Client Sample ID:** 1602206-001, C586-15 P Q WK:24 - WLHCT-0118

**Revised Date:** 02/25/16  
**Report Date:** 02/18/16  
**Collection Date:** 02/09/16 09:00  
**Date Received:** 02/16/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	20.0	mg/L	L	0.01		E200.7	02/18/16 11:09 / jjw
Antimony	ND	mg/L		0.0005		E200.8	02/17/16 13:05 / mas
Arsenic	0.087	mg/L		0.001		E200.8	02/17/16 13:05 / mas
Cadmium	0.00074	mg/L		0.00003		E200.8	02/17/16 13:05 / mas
Lead	0.0010	mg/L		0.0003		E200.8	02/17/16 13:05 / mas
Mercury	ND	mg/L		5E-06		E245.1	02/24/16 15:22 / ser
Phosphorus	0.030	mg/L	L	0.007		E200.7	02/18/16 11:09 / jjw
Selenium	ND	mg/L		0.001		E200.8	02/17/16 13:05 / mas
Silicon	0.79	mg/L		0.05		E200.7	02/18/16 11:09 / jjw
Silver	ND	mg/L		0.0002		E200.8	02/17/16 13:05 / mas
Thallium	ND	mg/L		0.0002		E200.8	02/17/16 13:05 / mas
Uranium	0.0052	mg/L		0.0002		E200.8	02/17/16 13:05 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1602206  
**Lab ID:** B16021189-002  
**Client Sample ID:** 1602206-002, C601-15 O Q WK:24 - WLHCT-0119

**Revised Date:** 02/25/16  
**Report Date:** 02/18/16  
**Collection Date:** 02/09/16 09:00  
**Date Received:** 02/16/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	5.68	mg/L	L	0.01		E200.7	02/18/16 11:22 / jjw
Antimony	0.0100	mg/L		0.0005		E200.8	02/17/16 13:08 / mas
Arsenic	13.3	mg/L		0.001		E200.8	02/17/16 13:08 / mas
Cadmium	0.00050	mg/L		0.00003		E200.8	02/17/16 13:08 / mas
Lead	0.0075	mg/L		0.0003		E200.8	02/17/16 13:08 / mas
Mercury	9.2E-06	mg/L		5E-06		E245.1	02/24/16 15:27 / ser
Phosphorus	1.84	mg/L	L	0.007		E200.7	02/18/16 11:22 / jjw
Selenium	0.002	mg/L		0.001		E200.8	02/17/16 13:08 / mas
Silicon	5.57	mg/L		0.05		E200.7	02/18/16 11:22 / jjw
Silver	ND	mg/L		0.0002		E200.8	02/17/16 13:08 / mas
Thallium	0.0015	mg/L		0.0002		E200.8	02/17/16 13:08 / mas
Uranium	0.0010	mg/L		0.0002		E200.8	02/17/16 13:08 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 02/18/16

**Project:** 1602206

**Work Order:** B16021189

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160218A		
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard								02/18/16 09:34
Aluminum		2.58	mg/L	0.10	103	95	105			
Phosphorus		2.47	mg/L	0.10	99	95	105			
Silicon		5.18	mg/L	0.10	104	95	105			
<b>Method: E200.7</b>								Batch: R256699		
<b>Lab ID: MB-6500DIS160218A</b>	3	Method Blank						Run: ICP203-B_160218A		02/18/16 10:02
Aluminum		0.05	mg/L	0.007						
Phosphorus		ND	mg/L	0.007						
Silicon		ND	mg/L	0.01						
<b>Lab ID: LFB-6500DIS160218A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_160218A		02/18/16 10:06
Aluminum		5.05	mg/L	0.10	100	85	115			
Phosphorus		9.67	mg/L	0.10	97	85	115			
Silicon		9.72	mg/L	0.10	97	85	115			
<b>Lab ID: B16021189-001AMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_160218A		02/18/16 11:16
Aluminum		23.3	mg/L	0.030	66	70	130			S
Phosphorus		10.0	mg/L	0.10	100	70	130			
Silicon		11.0	mg/L	0.10	102	70	130			
<b>Lab ID: B16021189-001AMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_160218A		02/18/16 11:19
Aluminum		22.6	mg/L	0.030	51	70	130	3.2	20	S
Phosphorus		9.79	mg/L	0.10	98	70	130	2.4	20	
Silicon		10.9	mg/L	0.10	101	70	130	0.7	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 02/18/16

**Project:** 1602206

**Work Order:** B16021189

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS202-B_160217A				
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard									02/17/16 09:33
Antimony		0.0481	mg/L	0.050	96	90	110				
Arsenic		0.0494	mg/L	0.0050	99	90	110				
Cadmium		0.0254	mg/L	0.0010	102	90	110				
Lead		0.0506	mg/L	0.010	101	90	110				
Selenium		0.0487	mg/L	0.0050	97	90	110				
Silver		0.0255	mg/L	0.0050	102	90	110				
Thallium		0.0491	mg/L	0.10	98	90	110				
Uranium		0.0202	mg/L	0.0010	101	90	110				
<b>Method: E200.8</b>							Batch: R256634				
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank									02/17/16 09:39
						Run: ICPMS202-B_160217A					
Antimony		0.0465	mg/L	0.050	93	85	115				
Arsenic		0.0495	mg/L	0.0050	99	85	115				
Cadmium		0.0496	mg/L	0.0010	99	85	115				
Lead		0.0516	mg/L	0.010	103	85	115				
Selenium		0.0490	mg/L	0.0050	98	85	115				
Silver		0.0214	mg/L	0.0050	107	85	115				
Thallium		0.0501	mg/L	0.10	100	85	115				
Uranium		0.0505	mg/L	0.0010	101	85	115				
<b>Lab ID: LRB</b>	8	Method Blank									02/17/16 11:30
						Run: ICPMS202-B_160217A					
Antimony		ND	mg/L	1E-05							
Arsenic		ND	mg/L	0.0001							
Cadmium		1E-05	mg/L	1E-05							
Lead		ND	mg/L	2E-05							
Selenium		ND	mg/L	0.0003							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	7E-06							
<b>Lab ID: B16020956-002BMS</b>	8	Sample Matrix Spike									02/17/16 12:51
						Run: ICPMS202-B_160217A					
Antimony		0.270	mg/L	0.0010	108	70	130				
Arsenic		0.279	mg/L	0.0010	110	70	130				
Cadmium		0.264	mg/L	0.0010	106	70	130				
Lead		0.271	mg/L	0.0010	108	70	130				
Selenium		0.300	mg/L	0.0016	110	70	130				
Silver		0.111	mg/L	0.0010	111	70	130				
Thallium		0.264	mg/L	0.00050	105	70	130				
Uranium		0.278	mg/L	0.00030	111	70	130				
<b>Lab ID: B16020956-002BMSD</b>	8	Sample Matrix Spike Duplicate									02/17/16 12:54
						Run: ICPMS202-B_160217A					
Antimony		0.279	mg/L	0.0010	111	70	130	3.4	20		
Arsenic		0.292	mg/L	0.0010	115	70	130	4.8	20		
Cadmium		0.272	mg/L	0.0010	109	70	130	2.8	20		
Lead		0.278	mg/L	0.0010	111	70	130	2.8	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 02/18/16

**Project:** 1602206

**Work Order:** B16021189

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R256634
<b>Lab ID:</b> B16020956-002BMSD	8	Sample Matrix Spike Duplicate					Run: ICPMS202-B_160217A			02/17/16 12:54
Selenium		0.311	mg/L	0.0016	115	70	130	3.8	20	
Silver		0.0901	mg/L	0.0010	90	70	130	21	20	R
Thallium		0.269	mg/L	0.00050	108	70	130	2.1	20	
Uranium		0.285	mg/L	0.00030	114	70	130	2.6	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Revised Date: 02/25/16

Report Date: 02/18/16

Client: Western Environmental Testing Laboratory

Work Order: B16021189

Project: 1602206

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160224A
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								02/24/16 15:03
Mercury		0.000199	mg/L	1.0E-05	100	90	110			
<b>Method:</b> E245.1										Batch: 97156
<b>Lab ID:</b> MB-97156		Method Blank								02/24/16 15:12
Mercury		2E-06	mg/L	1E-06				Run: HGCV203-B_160224A		
<b>Lab ID:</b> LCS-97156		Laboratory Control Sample								02/24/16 15:14
Mercury		0.000198	mg/L	1.0E-05	98	85	115	Run: HGCV203-B_160224A		
<b>Lab ID:</b> B16021645-004CMS		Sample Matrix Spike								02/24/16 15:43
Mercury		0.000199	mg/L	1.0E-05	98	70	130	Run: HGCV203-B_160224A		
<b>Lab ID:</b> B16021645-004CMSD		Sample Matrix Spike Duplicate								02/24/16 15:45
Mercury		0.000215	mg/L	1.0E-05	106	70	130	7.7	30	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B16021189

Login completed by: Brittane R. Garza

Date Received: 2/16/2016

Reviewed by: BL2000\tedwards

Received by: cmb

Reviewed Date: 2/17/2016

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	18.4°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:


Date/time not indicated on sample containers.

# CHAIN OF CUSTODY RECORD

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Logan Greenwood Ph: (775) 355-0202 LoganG@wetlaboratory.com Fax: (775) 355-0817		Total # of sample containers 2 WLHCT 0118-0119	Subcontractor Energy	All Samples Refrigerated?: Y X N Compliance: Y X N CA Write ON: Y N X QC: Y X N Water System #:
Sample Receipt Condition: Temperature: 18.4°C - No Ice		Job ID 1602206		
Notes: Quote # 3679				

Sample Date/Time	Sample ID - Site ID	Matrix	Parameter	Sample Number
2/9/2016 9:00 AM	C586-15 P, Q WK: 24 - WLHCT-0118	Leachate	Various Metals (Subcontracted)	1602206-001
2/9/2016 9:00 AM	C601-15 O, Q WK: 24 - WLHCT-0119	Leachate	Various Metals (Subcontracted)	1602206-002

B160211089 - 001  
- 002

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time:
	2/10/16	4:00	UPS Ground	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Time:

UPS Ground  
 No Wet Custody  
 Temp. Label  
 No. of



2/26/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1602357

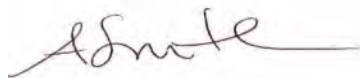
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 2/16/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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**LAS VEGAS**

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EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1602357

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### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 2/26/2016

OrderID: 1602357

Customer Sample ID: C586-15 P,Q WK: 25

Collect Date/Time: 2/16/2016 09:00

WETLAB Sample ID: 1602357-001

Receive Date: 2/16/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	220	mg/L	100	10	2/16/2016	NV00925
Ferric Iron	SM 3500 Fe B	32	mg/L	1	0.1	2/19/2016	NV00925
pH	SM 4500-H+ B	2.68	HT pH Units	1		2/16/2016	NV00925
Temperature at pH	NA	24	°C	1		2/16/2016	NV00925
Redox Potential	ASTM D1498	460	mV	1		2/16/2016	NV00925
Acidity (Titrimetric)	SM 2310B	840	mg/L as CaCO <sub>3</sub>	1		2/20/2016	NV00925
Electrical Conductivity	SM 2510B	2000	µmhos/cm	1	1	2/16/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	970	mg/L	20	20	2/18/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	20	mg/L	1	0.50	2/19/2016	NV00925
Iron	EPA 200.7	260	mg/L	1	0.020	2/19/2016	NV00925
Magnesium	EPA 200.7	12	mg/L	1	0.50	2/19/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		2/16/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		2/18/2016	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	2/15/2016	NV00925
HCT Post-Leach Volume	N/A	3240	mL	1	1	2/16/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 25  
 WETLAB Sample ID: 1602357-002

Collect Date/Time: 2/16/2016 09:00  
 Receive Date: 2/16/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	820	mg/L	200	20	2/16/2016	NV00925
Ferric Iron	SM 3500 Fe B	280	mg/L	1	0.1	2/22/2016	NV00925
pH	SM 4500-H+ B	2.38	HT pH Units	1		2/16/2016	NV00925
Temperature at pH	NA	23.9	°C	1		2/16/2016	NV00925
Redox Potential	ASTM D1498	440	mV	1		2/16/2016	NV00925
Acidity (Titrimetric)	SM 2310B	2100	mg/L as CaCO3	1		2/20/2016	NV00925
Electrical Conductivity	SM 2510B	4600	µmhos/cm	1	1	2/16/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2700	mg/L	20	20	2/18/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	190	mg/L	1	0.50	2/19/2016	NV00925
Iron	EPA 200.7	1100	mg/L	20	0.40	2/22/2016	NV00925
Magnesium	EPA 200.7	ND	mg/L	1	0.50	2/19/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		2/16/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		2/18/2016	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	2/15/2016	NV00925
HCT Post-Leach Volume	N/A	2780	mL	1	1	2/16/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

Page 4 of 6

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16020573	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16020593	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16020610	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16020641	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16020685	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16020549	LCS 1	pH	SM 4500-H+ B	6.93	7.00	99	pH Units
QC16020549	LCS 2	pH	SM 4500-H+ B	6.93	7.00	99	pH Units
QC16020549	LCS 3	pH	SM 4500-H+ B	6.94	7.00	99	pH Units
QC16020573	LCS 1	Electrical Conductivity	SM 2510B	1442	1412	102	µmhos/cm
QC16020590	LCS 1	Redox Potential	ASTM D1498	479	475	101	mV
QC16020593	LCS 1	Ferrous Iron	SM 3500 Fe B	1.05	1.00	105	mg/L
QC16020610	LCS 1	Sulfate	EPA 300.0	25.5	25.0	102	mg/L
QC16020641	LCS 1	Sulfate	EPA 300.0	25.3	25.0	101	mg/L
QC16020685	LCS 1	Calcium	EPA 200.7	9.76	10.0	98	mg/L
		Iron	EPA 200.7	0.977	1.00	98	mg/L
		Magnesium	EPA 200.7	9.71	10.0	97	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16020549	Duplicate	pH	SM 4500-H+ B	1602308-001	7.39	7.50	HT,Q pH Units	1 %
QC16020549	Duplicate	pH	SM 4500-H+ B	1602311-003	7.32	7.41	HT pH Units	1 %
QC16020549	Duplicate	pH	SM 4500-H+ B	1602354-001	7.17	7.20	HT pH Units	<1%
QC16020549	Duplicate	pH	SM 4500-H+ B	1602356-003	7.52	7.67	HT,Q pH Units	2 %
QC16020549	Duplicate	pH	SM 4500-H+ B	1602360-001	6.70	6.75	HT pH Units	1 %
QC16020573	Duplicate	Electrical Conductivity	SM 2510B	1602354-001	56.1	56.1	µmhos/cm	<1%
QC16020573	Duplicate	Electrical Conductivity	SM 2510B	1602356-003	93.1	92.9	µmhos/cm	<1%
QC16020590	Duplicate	Redox Potential	ASTM D1498	1602354-001	524	519	mV	1 %
QC16020590	Duplicate	Redox Potential	ASTM D1498	1602356-003	430	431	mV	<1%
QC16020593	Duplicate	Ferrous Iron	SM 3500 Fe B	1602354-001	ND	ND	mg/L	<1%
QC16020593	Duplicate	Ferrous Iron	SM 3500 Fe B	1602356-003	ND	ND	mg/L	<1%
QC16020755	Duplicate	Acidity (Titrimetric)	SM 2310B	1602354-001	1.22	1.02	mg/L as CaCO3	18 %
QC16020755	Duplicate	Acidity (Titrimetric)	SM 2310B	1602356-003	ND	ND	QD mg/L as CaCO3	<1%
QC16020755	Duplicate	Acidity (Titrimetric)	SM 2310B	1602360-001	39.6	38.1	mg/L as CaCO3	4 %
QC16020755	Duplicate	Acidity (Titrimetric)	SM 2310B	1602476-003	16.2	13.8	mg/L as CaCO3	16 %
QC16020755	Duplicate	Acidity (Titrimetric)	SM 2310B	1602479-005	10.4	9.23	mg/L as CaCO3	11 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16020610	MS 1	Sulfate	EPA 300.0	1602359-001	17.9	28.2	28.3	10.0	mg/L	103	104	<1%
QC16020641	MS 1	Sulfate	EPA 300.0	1602429-002	6.38	16.7	16.8	10.0	mg/L	103	104	1%
QC16020641	MS 2	Sulfate	EPA 300.0	1602361-001	206	224	225	10.0	mg/L	94	98	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16020685	MS 1	Calcium	EPA 200.7	1602404-001	82.8	SC 89.4	90.7	10.0	mg/L	NC	NC	NC
		Iron	EPA 200.7	1602404-001	ND	0.991	0.998	1.00	mg/L	97	98	1%
		Magnesium	EPA 200.7	1602404-001	28.7	36.4	36.9	10.0	mg/L	77	82	1%

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 fax (775) 355-0817  
 EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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 EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932





3/7/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1602531  
*Amended*

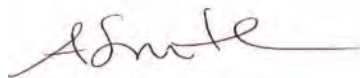
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 2/23/2016. Additional comments are located on page 2 of this report.

This is an amended report that includes the corrected result for Electrical Conductivity for sample 1602531-002. If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

Tintina Resources - 1602531 Amended

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 3/7/2016

OrderID: 1602531

Amended

Customer Sample ID: C586-15 P,Q WK: 26

Collect Date/Time: 2/23/2016 09:00

WETLAB Sample ID: 1602531-001

Receive Date: 2/23/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Temperature at pH	SM 2550B	21.5	°C	1		2/24/2016	NV00925
Ferrous Iron	SM 3500 Fe B	190	mg/L	100	10	2/23/2016	NV00925
Ferric Iron	SM 3500 Fe B	40	mg/L	1	0.1	2/24/2016	NV00925
pH	SM 4500-H+ B	2.80	HT pH Units	1		2/24/2016	NV00925
Redox Potential	ASTM D1498	480	mV	1		2/23/2016	NV00925
Acidity (Titrimetric)	SM 2310B	700	mg/L as CaCO <sub>3</sub>	1		2/24/2016	NV00925
Electrical Conductivity	SM 2510B	1800	µmhos/cm	1	1	2/23/2016	NV00925
<b>Anions by Ion Chromatography</b>							
Sulfate	EPA 300.0	850	mg/L	25	25	2/24/2016	NV00925
<b>Trace Metals by ICP-OES</b>							
Calcium	EPA 200.7	18	mg/L	1	0.50	2/24/2016	NV00925
Iron	EPA 200.7	230	mg/L	1	0.020	2/24/2016	NV00925
Magnesium	EPA 200.7	9.5	mg/L	1	0.50	2/24/2016	NV00925
<b>Sample Preparation</b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		2/26/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		2/24/2016	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	2/22/2016	NV00925
HCT Post-Leach Volume	N/A	3150	mL	1	1	2/23/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 5

**SPARKS**

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**LAS VEGAS**

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 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 26  
 WETLAB Sample ID: 1602531-002

Collect Date/Time: 2/23/2016 09:00  
 Receive Date: 2/23/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Temperature at pH	SM 2550B	21.5	°C	1		2/24/2016	NV00925
Ferrous Iron	SM 3500 Fe B	590	mg/L	200	20	2/23/2016	NV00925
Ferric Iron	SM 3500 Fe B	230	mg/L	1	0.1	2/25/2016	NV00925
pH	SM 4500-H+ B	2.44	HT pH Units	1		2/24/2016	NV00925
Redox Potential	ASTM D1498	450	mV	1		2/23/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1600	mg/L as CaCO3	1		2/24/2016	NV00925
Electrical Conductivity	SM 2510B	3400	µmhos/cm	1	1	2/23/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2300	mg/L	50	50	2/24/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	200	mg/L	1	0.50	2/24/2016	NV00925
Iron	EPA 200.7	820	mg/L	20	0.40	2/25/2016	NV00925
Magnesium	EPA 200.7	ND	mg/L	1	0.50	2/24/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		2/26/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		2/24/2016	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	2/22/2016	NV00925
HCT Post-Leach Volume	N/A	2720	mL	1	1	2/23/2016	NV00925

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Page 4 of 5

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16020823	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16020826	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
QC16020876	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16020876	Blank 2	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16020903	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16020823	LCS 1	Sulfate	EPA 300.0	26.3	25.0	105	mg/L
QC16020826	LCS 1	Calcium, Dissolved	EPA 200.7	9.66	10.0	97	mg/L
		Iron, Dissolved	EPA 200.7	0.946	1.00	95	mg/L
		Magnesium, Dissolved	EPA 200.7	9.56	10.0	96	mg/L
QC16020837	LCS 1	pH	SM 4500-H+ B	6.98	7.00	100	pH Units
QC16020837	LCS 2	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC16020837	LCS 3	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC16020876	LCS 1	Electrical Conductivity	SM 2510B	1453	1412	103	µmhos/cm
QC16020900	LCS 1	Redox Potential	ASTM D1498	477	475	100	mV
QC16020903	LCS 1	Ferrous Iron	SM 3500 Fe B	1.05	1.00	105	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16020837	Duplicate	pH	SM 4500-H+ B	1602476-001	7.53	7.55	HT	pH Units <1%
QC16020837	Duplicate	pH	SM 4500-H+ B	1602479-003	7.60	7.66	HT	pH Units 1 %
QC16020837	Duplicate	pH	SM 4500-H+ B	1602528-001	7.50	7.50	HT	pH Units <1%
QC16020837	Duplicate	pH	SM 4500-H+ B	1602530-003	7.81	7.87	HT	pH Units 1 %
QC16020837	Duplicate	pH	SM 4500-H+ B	1602534-001	6.97	6.99	HT	pH Units <1%
QC16020843	Duplicate	Acidity (Titrimetric)	SM 2310B	1602528-001	ND	0.540	QD	mg/L as CaCO3 <1%
QC16020843	Duplicate	Acidity (Titrimetric)	SM 2310B	1602530-003	ND	ND	QD	mg/L as CaCO3 <1%
QC16020843	Duplicate	Acidity (Titrimetric)	SM 2310B	1602534-001	25.8	24.5		mg/L as CaCO3 5 %
QC16020876	Duplicate	Electrical Conductivity	SM 2510B	1602528-001	58.9	58.7		µmhos/cm <1%
QC16020876	Duplicate	Electrical Conductivity	SM 2510B	1602530-003	99.5	99.4		µmhos/cm <1%
QC16020900	Duplicate	Redox Potential	ASTM D1498	1602528-001	513	513		mV <1%
QC16020900	Duplicate	Redox Potential	ASTM D1498	1602530-003	436	443		mV 2 %
QC16020903	Duplicate	Ferrous Iron	SM 3500 Fe B	1602528-001	ND	ND		mg/L <1%
QC16020903	Duplicate	Ferrous Iron	SM 3500 Fe B	1602530-003	ND	ND		mg/L <1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16020823	MS 1	Sulfate	EPA 300.0	1602529-005	ND	10.7	11.1	10.0	mg/L	106	110	4%
QC16020823	MS 2	Sulfate	EPA 300.0	1602533-005	17.2	27.8	27.8	10.0	mg/L	106	106	<1%
QC16020826	MS 1	Calcium, Dissolved	EPA 200.7	1602550-002	83.5	91.8	95.0	10.0	mg/L	83	115	3%
		Iron, Dissolved	EPA 200.7	1602550-002	ND	0.949	0.936	1.00	mg/L	95	93	1%
		Magnesium, Dissolved	EPA 200.7	1602550-002	11.1	20.5	20.8	10.0	mg/L	94	97	1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 5

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EPA LAB ID: NV00932



3/14/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1602728

Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 3/1/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Jennifer Delaney  
QA Specialist

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1602728

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0118-0119

Date Printed: 3/14/2016

OrderID: 1602728

Customer Sample ID: C586-15 P,Q WK: 27

Collect Date/Time: 3/1/2016 09:00

WETLAB Sample ID: 1602728-001

Receive Date: 3/1/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Temperature at pH	SM 2550B	21.9	°C	1		3/1/2016	NV00925
Ferrous Iron	SM 3500 Fe B	220	mg/L	100	10	3/1/2016	NV00925
Ferric Iron	SM 3500 Fe B	85	mg/L	1	0.1	3/7/2016	NV00925
pH	SM 4500-H+ B	2.76	HT pH Units	1		3/1/2016	NV00925
Redox Potential	ASTM D1498	460	mV	1		3/1/2016	NV00925
Acidity (Titrimetric)	SM 2310B	840	mg/L as CaCO <sub>3</sub>	1		3/3/2016	NV00925
Electrical Conductivity	SM 2510B	2000	µmhos/cm	1	1	3/1/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	980	mg/L	5	5.0	3/4/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	22	mg/L	1	0.50	3/7/2016	NV00925
Iron	EPA 200.7	310	mg/L	10	0.20	3/7/2016	NV00925
Magnesium	EPA 200.7	10	mg/L	1	0.50	3/7/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		3/1/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		3/3/2016	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	2/29/2016	NV00925
HCT Post-Leach Volume	N/A	3160	mL	1	1	3/1/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 5

**SPARKS**

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**LAS VEGAS**

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 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C601-15 O,Q WK: 27  
 WETLAB Sample ID: 1602728-002

Collect Date/Time: 3/1/2016 09:00  
 Receive Date: 3/1/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Temperature at pH	SM 2550B	21.9	°C	1		3/1/2016	NV00925
Ferrous Iron	SM 3500 Fe B	730	mg/L	200	20	3/1/2016	NV00925
Ferric Iron	SM 3500 Fe B	270	mg/L	1	0.1	3/7/2016	NV00925
pH	SM 4500-H+ B	2.30	HT pH Units	1		3/1/2016	NV00925
Redox Potential	ASTM D1498	450	mV	1		3/1/2016	NV00925
Acidity (Titrimetric)	SM 2310B	2000	mg/L as CaCO3	1		3/3/2016	NV00925
Electrical Conductivity	SM 2510B	4600	µmhos/cm	1	1	3/1/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2700	mg/L	20	20	3/4/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	180	mg/L	1	0.50	3/7/2016	NV00925
Iron	EPA 200.7	1000	mg/L	10	0.20	3/7/2016	NV00925
Magnesium	EPA 200.7	ND	mg/L	1	0.50	3/7/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		3/1/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		3/3/2016	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	2/29/2016	NV00925
HCT Post-Leach Volume	N/A	2830	mL	1	1	3/1/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

Page 4 of 5

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16030139	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16030170	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16030179	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16030253	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16030064	LCS 1	pH	SM 4500-H+ B	6.95	7.00	99	pH Units
QC16030064	LCS 2	pH	SM 4500-H+ B	6.96	7.00	99	pH Units
QC16030064	LCS 3	pH	SM 4500-H+ B	6.96	7.00	99	pH Units
QC16030139	LCS 1	Electrical Conductivity	SM 2510B	1485	1412	105	µmhos/cm
QC16030143	LCS 1	Redox Potential	ASTM D1498	481	475	101	mV
QC16030170	LCS 1	Sulfate	EPA 300.0	24.6	25.0	98	mg/L
QC16030179	LCS 1	Ferrous Iron	SM 3500 Fe B	1.00	1.00	100	mg/L
QC16030253	LCS 1	Calcium	EPA 200.7	9.57	10.0	96	mg/L
		Iron	EPA 200.7	0.946	1.00	95	mg/L
		Magnesium	EPA 200.7	9.60	10.0	96	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16030064	Duplicate	pH	SM 4500-H+ B	1602671-001	7.54	7.57	HT	pH Units <1%
QC16030064	Duplicate	pH	SM 4500-H+ B	1602674-003	7.38	7.43	HT	pH Units 1 %
QC16030064	Duplicate	pH	SM 4500-H+ B	1602725-001	7.26	7.27	HT	pH Units <1%
QC16030064	Duplicate	pH	SM 4500-H+ B	1602727-003	7.62	7.75	HT,Q	pH Units 2 %
QC16030064	Duplicate	pH	SM 4500-H+ B	1602731-002	3.45	3.41	HT	pH Units 1 %
QC16030139	Duplicate	Electrical Conductivity	SM 2510B	1602725-001	52.3	52.3		µmhos/cm <1%
QC16030139	Duplicate	Electrical Conductivity	SM 2510B	1602727-003	106	106		µmhos/cm <1%
QC16030143	Duplicate	Redox Potential	ASTM D1498	1602725-001	502	502		mV <1%
QC16030143	Duplicate	Redox Potential	ASTM D1498	1602727-003	450	451		mV <1%
QC16030157	Duplicate	Acidity (Titrimetric)	SM 2310B	1602671-001	17.1	19.3		mg/L as CaCO3 12 %
QC16030157	Duplicate	Acidity (Titrimetric)	SM 2310B	1602674-003	24.9	22.9		mg/L as CaCO3 8 %
QC16030157	Duplicate	Acidity (Titrimetric)	SM 2310B	1602726-005	17.2	17.0		mg/L as CaCO3 1 %
QC16030157	Duplicate	Acidity (Titrimetric)	SM 2310B	1602730-003	34.2	34.9		mg/L as CaCO3 2 %
QC16030157	Duplicate	Acidity (Titrimetric)	SM 2310B	1602731-008	30.3	27.5		mg/L as CaCO3 9 %
QC16030179	Duplicate	Ferrous Iron	SM 3500 Fe B	1602725-001	ND	ND		mg/L 13 %
QC16030179	Duplicate	Ferrous Iron	SM 3500 Fe B	1602727-003	ND	ND		mg/L <1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16030170	MS 1	Sulfate	EPA 300.0	1602727-004	63.3	73.4	73.6	10.0	mg/L	101	104	<1%
QC16030170	MS 2	Sulfate	EPA 300.0	1602731-003	823	SC 935	916	10.0	mg/L	NC	NC	NC
QC16030253	MS 1	Calcium	EPA 200.7	1603080-001	81.7	92.3	90.1	10.0	mg/L	106	84	2%
		Iron	EPA 200.7	1603080-001	0.095	1.09	1.10	1.00	mg/L	100	100	1%
		Magnesium	EPA 200.7	1603080-001	28.6	37.8	37.7	10.0	mg/L	92	91	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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3/21/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1603191

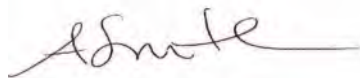
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 3/8/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1603191

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

PO/Project: WLHCT 0118-0119

Date Printed: 3/21/2016

OrderID: 1603191

Customer Sample ID: C586-15 P,Q WK: 28

Collect Date/Time: 3/8/2016 09:00

WETLAB Sample ID: 1603191-001

Receive Date: 3/8/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Temperature at pH	SM 2550B	21.9	°C	1		3/9/2016	NV00925
Ferrous Iron	SM 3500 Fe B	280	mg/L	100	10	3/8/2016	NV00925
Ferric Iron	SM 3500 Fe B	110	mg/L	1	0.1	3/15/2016	NV00925
pH	SM 4500-H+ B	2.67	HT pH Units	1		3/9/2016	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	3/16/2016	NV00925
Redox Potential	ASTM D1498	470	mV	1		3/8/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1000	mg/L as CaCO3	1		3/10/2016	NV00925
Total Nitrogen	Calc.	0.64	mg/L	1	0.50	3/15/2016	NV00925
Total Dissolved Solids (TDS)	SM 2540C	1500	mg/L	1	10	3/10/2016	NV00925
Electrical Conductivity	SM 2510B	2200	µmhos/cm	1	1	3/8/2016	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	D mg/L	10	10	3/10/2016	NV00925
Fluoride	EPA 300.0	ND	D mg/L	10	1.0	3/10/2016	NV00925
Sulfate	EPA 300.0	1400	mg/L	100	100	3/18/2016	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	0.27	mg/L	5	0.10	3/15/2016	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.40	3/14/2016	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium	EPA 200.7	0.014	mg/L	1	0.0030	3/14/2016	NV00925
Beryllium	EPA 200.7	0.0037	mg/L	1	0.0010	3/14/2016	NV00925
Boron	EPA 200.7	0.10	mg/L	1	0.10	3/14/2016	NV00925
Calcium	EPA 200.7	25	mg/L	1	0.50	3/14/2016	NV00925
Chromium	EPA 200.7	0.25	mg/L	1	0.0050	3/14/2016	NV00925
Cobalt	EPA 200.7	8.0	mg/L	1	0.010	3/14/2016	NV00925
Iron	EPA 200.7	390	mg/L	5	0.10	3/15/2016	NV00925
Magnesium	EPA 200.7	11	mg/L	1	0.50	3/14/2016	NV00925
Manganese	EPA 200.7	1.7	mg/L	1	0.0050	3/14/2016	NV00925
Molybdenum	EPA 200.7	ND	D mg/L	5	0.10	3/15/2016	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	3/14/2016	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	3/14/2016	NV00925
Strontium	EPA 200.7	0.22	mg/L	1	0.020	3/14/2016	NV00925
Zinc	EPA 200.7	0.57	mg/L	1	0.0080	3/14/2016	NV00925
<b>Trace Metals by ICP-MS</b>							
Copper	EPA 200.8	26	mg/L	100	0.20	3/16/2016	NV00925
Nickel	EPA 200.8	3.3	mg/L	100	0.20	3/16/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**LAS VEGAS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C586-15 P,Q WK: 28

Collect Date/Time: 3/8/2016 09:00

WETLAB Sample ID: 1603191-001

Receive Date: 3/8/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Ion Balance</u></b>							
Anions	Calculation	29.2	meq/L	1	0.10		NV00925
Cations	Calculation	34.5	meq/L	1	0.10		NV00925
Error	Calculation	8.4	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		3/8/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		3/11/2016	NV00925
HCT Pre-Leach Volume	N/A	3300	mL	1	1	9/7/2016	NV00925
HCT Post-Leach Volume	N/A	3220	mL	1	1	9/8/2016	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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 EPA LAB ID: NV00932



Customer Sample ID: C601-15 O,Q WK: 28  
 WETLAB Sample ID: 1603191-002

Collect Date/Time: 3/8/2016 09:00

Receive Date: 3/8/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Temperature at pH	SM 2550B	22	°C	1		3/9/2016	NV00925
Ferrous Iron	SM 3500 Fe B	420	mg/L	200	20	3/8/2016	NV00925
Ferric Iron	SM 3500 Fe B	25	mg/L	1	0.1	3/15/2016	NV00925
pH	SM 4500-H+ B	2.33	HT pH Units	1		3/9/2016	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	3/16/2016	NV00925
Redox Potential	ASTM D1498	450	mV	1		3/8/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1100	mg/L as CaCO3	1		3/10/2016	NV00925
Total Nitrogen	Calc.	0.56	mg/L	1	0.50	3/15/2016	NV00925
Total Dissolved Solids (TDS)	SM 2540C	2200	mg/L	1	10	3/10/2016	NV00925
Electrical Conductivity	SM 2510B	3600	µmhos/cm	1	1	3/8/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	D mg/L	10	10	3/10/2016	NV00925
Fluoride	EPA 300.0	ND	D mg/L	10	1.0	3/10/2016	NV00925
Sulfate	EPA 300.0	1800	mg/L	100	100	3/18/2016	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	0.31	mg/L	5	0.10	3/15/2016	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.40	3/14/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.026	mg/L	1	0.0030	3/14/2016	NV00925
Beryllium	EPA 200.7	ND	mg/L	1	0.0010	3/14/2016	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	3/14/2016	NV00925
Calcium	EPA 200.7	100	mg/L	1	0.50	3/14/2016	NV00925
Chromium	EPA 200.7	0.14	mg/L	1	0.0050	3/14/2016	NV00925
Cobalt	EPA 200.7	1.6	mg/L	1	0.010	3/14/2016	NV00925
Iron	EPA 200.7	450	mg/L	5	0.10	3/15/2016	NV00925
Magnesium	EPA 200.7	ND	mg/L	1	0.50	3/14/2016	NV00925
Manganese	EPA 200.7	0.16	mg/L	1	0.0050	3/14/2016	NV00925
Molybdenum	EPA 200.7	ND	D mg/L	5	0.10	3/15/2016	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	3/14/2016	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	3/14/2016	NV00925
Strontium	EPA 200.7	1.7	mg/L	1	0.020	3/14/2016	NV00925
Zinc	EPA 200.7	0.12	mg/L	1	0.0080	3/14/2016	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	5.5	mg/L	100	0.20	3/16/2016	NV00925
Nickel	EPA 200.8	0.68	mg/L	100	0.20	3/16/2016	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	37.5	meq/L	1	0.10		NV00925
Cations	Calculation	40.6	meq/L	1	0.10		NV00925
Error	Calculation	3.9	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		3/8/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		3/11/2016	NV00925
HCT Pre-Leach Volume	N/A	3050	mL	1	1	3/7/2016	NV00925
HCT Post-Leach Volume	N/A	2870	mL	1	1	3/8/2016	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 5 of 8

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16030307	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16030367	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16030387	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC16030421	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC16030510	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC16030521	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC16030526	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC16030546	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC16030576	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC16030589	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16030307	LCS 1	Ferrous Iron	SM 3500 Fe B	1.04	1.00	104	mg/L
QC16030365	LCS 1	Redox Potential	ASTM D1498	480	475	101	mV
QC16030367	LCS 1	Electrical Conductivity	SM 2510B	1488	1412	105	µmhos/cm
QC16030387	LCS 1	Chloride	EPA 300.0	9.91	10.0	99	mg/L
		Fluoride	EPA 300.0	2.04	2.00	102	mg/L
		Sulfate	EPA 300.0	24.4	25.0	98	mg/L
QC16030403	LCS 1	pH	SM 4500-H+ B	6.95	7.00	99	pH Units
QC16030403	LCS 2	pH	SM 4500-H+ B	6.95	7.00	99	pH Units
QC16030421	LCS 1	Chloride	EPA 300.0	9.98	10.0	100	mg/L
		Fluoride	EPA 300.0	2.06	2.00	103	mg/L
		Sulfate	EPA 300.0	24.8	25.0	99	mg/L
QC16030510	LCS 1	Copper	EPA 200.8	0.0101	0.010	101	mg/L
		Nickel	EPA 200.8	0.0102	0.010	102	mg/L
QC16030521	LCS 1	Barium, Dissolved	EPA 200.7	0.997	1.00	100	mg/L
		Beryllium, Dissolved	EPA 200.7	0.981	1.00	98	mg/L
		Boron, Dissolved	EPA 200.7	0.996	1.00	100	mg/L
		Calcium, Dissolved	EPA 200.7	9.92	10.0	99	mg/L
		Chromium, Dissolved	EPA 200.7	0.995	1.00	100	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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EPA LAB ID: NV00932



QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Cobalt, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
		Iron, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Magnesium, Dissolved	EPA 200.7	9.97	10.0	100	mg/L
		Manganese, Dissolved	EPA 200.7	0.981	1.00	98	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.998	1.00	100	mg/L
		Potassium, Dissolved	EPA 200.7	9.77	10.0	98	mg/L
		Sodium, Dissolved	EPA 200.7	9.92	10.0	99	mg/L
		Strontium, Dissolved	EPA 200.7	0.970	1.00	97	mg/L
		Zinc, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
QC16030526	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	152	150	101	mg/L
QC16030526	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	150	150	100	mg/L
QC16030546	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.991	1.00	99	mg/L
QC16030576	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.817	0.800	102	mg/L
QC16030589	LCS 1	WAD Cyanide	SM 4500CN I, E	0.094	0.100	94	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16030307	Duplicate	Ferrous Iron	SM 3500 Fe B	1603188-001	ND	ND	mg/L	15 %
QC16030307	Duplicate	Ferrous Iron	SM 3500 Fe B	1603190-003	ND	ND	mg/L	<1%
QC16030365	Duplicate	Redox Potential	ASTM D1498	1603188-001	520	518	mV	<1%
QC16030365	Duplicate	Redox Potential	ASTM D1498	1603190-003	443	452	mV	2 %
QC16030367	Duplicate	Electrical Conductivity	SM 2510B	1603188-001	54.4	54.3	µmhos/cm	<1%
QC16030367	Duplicate	Electrical Conductivity	SM 2510B	1603190-003	74.4	74.2	µmhos/cm	<1%
QC16030403	Duplicate	pH	SM 4500-H+ B	1603188-001	7.21	7.38	QD,H pH Units	2 %
QC16030403	Duplicate	pH	SM 4500-H+ B	1603190-003	7.27	7.55	QD,H pH Units	4 %
QC16030403	Duplicate	pH	SM 4500-H+ B	1603194-001	6.91	6.90	HT pH Units	<1%
QC16030464	Duplicate	Acidity (Titrimetric)	SM 2310B	1603104-001	ND	ND	mg/L as CaCO3	<1%
QC16030464	Duplicate	Acidity (Titrimetric)	SM 2310B	1603107-003	ND	ND	mg/L as CaCO3	<1%
QC16030464	Duplicate	Acidity (Titrimetric)	SM 2310B	1603189-005	5.42	5.11	mg/L as CaCO3	6 %
QC16030464	Duplicate	Acidity (Titrimetric)	SM 2310B	1603193-003	13.0	10.1	QD mg/L as CaCO3	25 %
QC16030464	Duplicate	Acidity (Titrimetric)	SM 2310B	1603194-008	12.0	13.2	mg/L as CaCO3	9 %
QC16030526	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1603170-001	282	261	QD mg/L	8 %
QC16030526	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1603200-003	732	717	mg/L	2 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16030387	MS 1	Chloride	EPA 300.0	1603189-004	ND	5.80	5.86	5.00	mg/L	108	109	1%
		Fluoride	EPA 300.0	1603189-004	ND	2.10	2.11	2.00	mg/L	105	105	<1%
		Sulfate	EPA 300.0	1603189-004	ND	10.9	11.0	10.0	mg/L	102	104	1%
QC16030387	MS 2	Chloride	EPA 300.0	1603194-001	ND	D 52.4	52.7	5.00	mg/L	104	105	1%
		Fluoride	EPA 300.0	1603194-001	1.60	24.0	24.1	2.00	mg/L	112	113	<1%
		Sulfate	EPA 300.0	1603194-001	389	486	491	10.0	mg/L	97	101	1%
QC16030421	MS 1	Chloride	EPA 300.0	1603194-002	ND	D 53.4	53.3	5.00	mg/L	105	105	<1%
		Fluoride	EPA 300.0	1603194-002	ND	D 23.5	23.5	2.00	mg/L	113	114	<1%
		Sulfate	EPA 300.0	1603194-002	387	487	489	10.0	mg/L	100	102	<1%
QC16030421	MS 2	Chloride	EPA 300.0	1603210-004	113	164	163	5.00	mg/L	102	100	1%
		Fluoride	EPA 300.0	1603210-004	1.02	22.6	22.5	2.00	mg/L	108	107	<1%
		Sulfate	EPA 300.0	1603210-004	460	558	556	10.0	mg/L	98	96	<1%
QC16030510	MS 1	Copper, Dissolved	EPA 200.8	1603217-001	0.0119	0.0211	0.0210	0.010	mg/L	92	91	<1%
		Nickel, Dissolved	EPA 200.8	1603217-001	0.0210	0.0329	0.0340	0.010	mg/L	120	130	3%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**SPARKS**

475 E. Greg Street, Suite 119  
 Sparks, Nevada 89431  
 tel (775) 355-0202  
 fax (775) 355-0817  
 EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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 EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
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 fax (702) 622-2868  
 EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16030521	MS 1	Barium, Dissolved	EPA 200.7	1603217-001	0.044	1.00	0.965	1.00	mg/L	96	92	4%
		Beryllium, Dissolved	EPA 200.7	1603217-001	ND	0.995	0.935	1.00	mg/L	100	94	6%
		Boron, Dissolved	EPA 200.7	1603217-001	0.406	1.49	1.43	1.00	mg/L	108	102	4%
		Calcium, Dissolved	EPA 200.7	1603217-001	485	SC 499	478	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1603217-001	ND	1.03	0.961	1.00	mg/L	103	96	7%
		Cobalt, Dissolved	EPA 200.7	1603217-001	ND	1.03	0.973	1.00	mg/L	103	97	6%
		Iron, Dissolved	EPA 200.7	1603217-001	ND	0.928	0.876	1.00	mg/L	93	87	6%
		Magnesium, Dissolved	EPA 200.7	1603217-001	147	156	149	10.0	mg/L	90	20	5%
		Manganese, Dissolved	EPA 200.7	1603217-001	ND	0.989	0.923	1.00	mg/L	99	92	7%
		Molybdenum, Dissolved	EPA 200.7	1603217-001	ND	1.00	0.949	1.00	mg/L	100	95	5%
		Potassium, Dissolved	EPA 200.7	1603217-001	6.33	16.3	15.8	10.0	mg/L	100	95	3%
		Sodium, Dissolved	EPA 200.7	1603217-001	72.9	81.0	79.7	10.0	mg/L	81	68	2%
		Strontium, Dissolved	EPA 200.7	1603217-001	2.15	3.11	3.00	1.00	mg/L	96	85	4%
		Zinc, Dissolved	EPA 200.7	1603217-001	0.011	1.08	0.988	1.00	mg/L	107	98	9%
QC16030546	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1603169-011	ND	M 1.20	1.12	1.00	mg/L	NC	NC	NC
QC16030546	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1603318-001	ND	M 0.890	0.882	1.00	mg/L	NC	NC	NC
QC16030576	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1603189-004	ND	5.26	5.29	1.00	mg/L	106	107	1%
QC16030576	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1603286-001	ND	5.31	5.28	1.00	mg/L	107	106	1%
QC16030589	MS 1	WAD Cyanide	SM 4500CN I,	1603169-009	ND	0.090	0.086	0.100	mg/L	91	87	5%
QC16030589	MS 2	WAD Cyanide	SM 4500CN I,	1603210-001	ND	0.097	0.102	0.100	mg/L	97	102	5%

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# ANALYTICAL SUMMARY REPORT

March 18, 2016

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B16031159                      Quote ID: B3679  
Project Name: 1603191

Energy Laboratories Inc Billings MT received the following 2 samples for Western Environmental Testing Laboratory on 3/14/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16031159-001	1603191-001, C586-15 P,Q WK:28-WLHCT-0118	03/08/16 9:00	03/14/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA
B16031159-002	1603191-002, C601-15 O,Q WK:28-WLHCT-0119	03/08/16 9:00	03/14/16	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1603191  
**Lab ID:** B16031159-001  
**Client Sample ID:** 1603191-001, C586-15 P,Q WK:28-WLHCT-0118

**Report Date:** 03/18/16  
**Collection Date:** 03/08/16 09:00  
**Date Received:** 03/14/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	26.3	mg/L	D	0.01		E200.7	03/15/16 19:31 / jjw
Antimony	0.0020	mg/L		0.0005		E200.8	03/15/16 13:45 / mas
Arsenic	2.01	mg/L	D	0.03		E200.7	03/15/16 19:31 / jjw
Cadmium	0.00097	mg/L		0.00003		E200.8	03/15/16 13:45 / mas
Lead	0.0011	mg/L		0.0003		E200.8	03/15/16 13:45 / mas
Mercury	ND	mg/L		5E-06		E245.1	03/16/16 15:54 / ser
Phosphorus	0.41	mg/L	D	0.01		E200.7	03/15/16 19:31 / jjw
Selenium	0.002	mg/L		0.001		E200.8	03/15/16 13:45 / mas
Silicon	1.04	mg/L		0.05		E200.7	03/15/16 19:31 / jjw
Silver	ND	mg/L		0.0002		E200.8	03/15/16 13:45 / mas
Thallium	ND	mg/L		0.0002		E200.8	03/15/16 13:45 / mas
Uranium	0.0060	mg/L		0.0002		E200.8	03/15/16 13:45 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1603191  
**Lab ID:** B16031159-002  
**Client Sample ID:** 1603191-002, C601-15 O,Q WK:28-WLHCT-0119

**Report Date:** 03/18/16  
**Collection Date:** 03/08/16 09:00  
**Date Received:** 03/14/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	1.83	mg/L	D	0.01		E200.7	03/15/16 19:34 / jjw
Antimony	0.0083	mg/L		0.0005		E200.8	03/15/16 13:48 / mas
Arsenic	3.92	mg/L	D	0.03		E200.7	03/15/16 19:34 / jjw
Cadmium	0.00031	mg/L		0.00003		E200.8	03/15/16 13:48 / mas
Lead	0.0065	mg/L		0.0003		E200.8	03/15/16 13:48 / mas
Mercury	6.9E-06	mg/L		5E-06		E245.1	03/16/16 16:04 / ser
Phosphorus	0.78	mg/L	D	0.01		E200.7	03/15/16 19:34 / jjw
Selenium	0.002	mg/L		0.001		E200.8	03/15/16 13:48 / mas
Silicon	7.47	mg/L		0.05		E200.7	03/15/16 19:34 / jjw
Silver	ND	mg/L		0.0002		E200.8	03/15/16 13:48 / mas
Thallium	0.0123	mg/L		0.0002		E200.8	03/15/16 13:48 / mas
Uranium	0.0005	mg/L		0.0002		E200.8	03/15/16 13:48 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 03/18/16

**Project:** 1603191

**Work Order:** B16031159

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160315A			
<b>Lab ID: ICV</b>	4	Continuing Calibration Verification Standard									03/15/16 14:00
Aluminum		2.64	mg/L	0.10	105	95	105				
Arsenic		2.62	mg/L	0.10	105	95	105				
Phosphorus		2.52	mg/L	0.10	101	95	105				
Silicon		5.16	mg/L	0.10	103	95	105				
<b>Method: E200.7</b>								Batch: R257998			
<b>Lab ID: MB-6500DIS160315A</b>	4	Method Blank						Run: ICP203-B_160315A			03/15/16 14:07
Aluminum		ND	mg/L	0.007							
Arsenic		0.02	mg/L	0.01							
Phosphorus		0.04	mg/L	0.007							
Silicon		0.06	mg/L	0.01							
<b>Lab ID: LFB-6500DIS160315A</b>	4	Laboratory Fortified Blank						Run: ICP203-B_160315A			03/15/16 14:14
Aluminum		4.72	mg/L	0.10	94	85	115				
Arsenic		0.944	mg/L	0.10	93	85	115				
Phosphorus		8.78	mg/L	0.10	87	85	115				
Silicon		11.1	mg/L	0.10	111	85	115				
<b>Lab ID: B16031158-003BMS2</b>	4	Sample Matrix Spike						Run: ICP203-B_160315A			03/15/16 19:10
Aluminum		24.8	mg/L	0.035	99	70	130				
Arsenic		5.08	mg/L	0.073	102	70	130				
Phosphorus		50.7	mg/L	0.10	101	70	130				
Silicon		58.1	mg/L	0.10	101	70	130				
<b>Lab ID: B16031158-003BMSD</b>	4	Sample Matrix Spike Duplicate						Run: ICP203-B_160315A			03/15/16 19:13
Aluminum		24.3	mg/L	0.035	97	70	130	2.3	20		
Arsenic		4.97	mg/L	0.073	99	70	130	2.3	20		
Phosphorus		50.0	mg/L	0.10	100	70	130	1.4	20		
Silicon		58.8	mg/L	0.10	103	70	130	1.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 03/18/16

**Project:** 1603191

**Work Order:** B16031159

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>		Analytical Run: ICPMS202-B_160315A									
<b>Lab ID: QCS</b>	7	Initial Calibration Verification Standard							03/15/16 10:46		
Antimony		0.0515	mg/L	0.050	103	90	110				
Cadmium		0.0257	mg/L	0.0010	103	90	110				
Lead		0.0490	mg/L	0.010	98	90	110				
Selenium		0.0512	mg/L	0.0050	102	90	110				
Silver		0.0262	mg/L	0.0050	105	90	110				
Thallium		0.0487	mg/L	0.10	97	90	110				
Uranium		0.0191	mg/L	0.0010	95	90	110				
<b>Method: E200.8</b>		Batch: R257975									
<b>Lab ID: LFB</b>	7	Laboratory Fortified Blank							Run: ICPMS202-B_160315A 03/15/16 11:10		
Antimony		0.0472	mg/L	0.050	94	85	115				
Cadmium		0.0480	mg/L	0.0010	96	85	115				
Lead		0.0505	mg/L	0.010	101	85	115				
Selenium		0.0484	mg/L	0.0050	97	85	115				
Silver		0.0205	mg/L	0.0050	102	85	115				
Thallium		0.0504	mg/L	0.10	101	85	115				
Uranium		0.0490	mg/L	0.0010	98	85	115				
<b>Lab ID: LRB</b>	7	Method Blank							Run: ICPMS202-B_160315A 03/15/16 12:22		
Antimony		ND	mg/L	4E-05							
Cadmium		ND	mg/L	9E-06							
Lead		ND	mg/L	2E-05							
Selenium		ND	mg/L	0.0002							
Silver		ND	mg/L	4E-05							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	1E-05							
<b>Lab ID: B16031159-002AMS</b>	7	Sample Matrix Spike							Run: ICPMS202-B_160315A 03/15/16 13:50		
Antimony		0.0574	mg/L	0.0010	98	70	130				
Cadmium		0.0525	mg/L	0.0010	104	70	130				
Lead		0.0612	mg/L	0.0010	110	70	130				
Selenium		0.0573	mg/L	0.0010	111	70	130				
Silver		0.0174	mg/L	0.0010	87	70	130				
Thallium		0.0647	mg/L	0.00050	105	70	130				
Uranium		0.0504	mg/L	0.00030	100	70	130				
<b>Lab ID: B16031159-002AMSD</b>	7	Sample Matrix Spike Duplicate							Run: ICPMS202-B_160315A 03/15/16 13:53		
Antimony		0.0569	mg/L	0.0010	97	70	130	0.9	20		
Cadmium		0.0518	mg/L	0.0010	103	70	130	1.3	20		
Lead		0.0606	mg/L	0.0010	108	70	130	1.1	20		
Selenium		0.0563	mg/L	0.0010	109	70	130	1.7	20		
Silver		0.0182	mg/L	0.0010	91	70	130	4.5	20		
Thallium		0.0648	mg/L	0.00050	105	70	130	0.1	20		
Uranium		0.0504	mg/L	0.00030	100	70	130	0.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 03/18/16

**Project:** 1603191

**Work Order:** B16031159

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160316A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								03/16/16 15:15	
Mercury	0.000200	mg/L	1.0E-05	100	90	110					
<b>Method:</b> E245.1										Batch: 97644	
<b>Lab ID:</b> MB-97644		Method Blank								Run: HGCV203-B_160316A	03/16/16 15:49
Mercury	ND	mg/L	1E-06								
<b>Lab ID:</b> LCS-97644		Laboratory Control Sample								Run: HGCV203-B_160316A	03/16/16 15:52
Mercury	0.000200	mg/L	1.0E-05	100	85	115					
<b>Lab ID:</b> B16031293-003BMS		Sample Matrix Spike								Run: HGCV203-B_160316A	03/16/16 16:24
Mercury	0.000197	mg/L	1.0E-05	98	70	130					
<b>Lab ID:</b> B16031293-003BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160316A	03/16/16 16:27
Mercury	0.000203	mg/L	1.0E-05	102	70	130	3.0	30			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# Work Order Receipt Checklist

Western Environmental Testing Laboratory B16031159

Login completed by: Leslie S. Cadreau

Date Received: 3/14/2016

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 3/15/2016

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	11.4°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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## Contact and Corrective Action Comments:

None

# CHAIN OF CUSTODY RECORD

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Logan Greenwood Ph: (775) 355-0202 LoganG@wetlaboratory.com Fax: (775) 355-0817		Total # of sample containers 2 WLHCT 0118-0119	Subcontractor Energy	All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/>	Water System #:
Sample Receipt Condition:		Notes: Quote # 3679			
Temperature:		Job ID 1603191			
Sample Date/Time	Sample ID - Site ID	Matrix	Parameter	Sample Number	
3/8/2016 9:00 AM	C586-15 P,Q WK: 28 - WLHCT-0118	Leachate	Various Metals (Subcontracted)	1603191-001	B16031159-001
3/8/2016 9:00 AM	C601-15 O,Q WK: 28 - WLHCT-0119	Leachate	Various Metals (Subcontracted)	1603191-002	-002

Relinquished by: (Signature)	Date: 3-26-16	Time: 11:00	Received by: (Signature) UPS	Date: 3/26/16	Time: 11:15
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature) Quince Jans B14116	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

temp 11.4  
no ice  
no seals  
UPS emd.



9/30/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509367

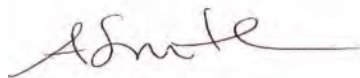
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/15/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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**LAS VEGAS**

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509367

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### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 9/30/2015

OrderID: 1509367

Customer Sample ID: C773-15 B,C WK:0

Collect Date/Time: 9/15/2015 09:00

WETLAB Sample ID: 1509367-001

Receive Date: 9/15/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/15/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/22/2015	NV00925
pH	SM 4500-H+ B	6.09	QL pH Units	1		9/17/2015	NV00925
Temperature at pH	NA	22.4	°C	1		9/17/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	9/22/2015	NV00925
Redox Potential	ASTM D1498	480	mV	1		9/15/2015	NV00925
Acidity (Titrimetric)	SM 2310B	7	mg/L as CaCO3	1		9/15/2015	NV00925
Total Alkalinity	SM 2320B	1.5	mg/L as CaCO3	1	1.0	9/17/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	1.5	mg/L as CaCO3	1	1.0	9/17/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/17/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/17/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/21/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	190	mg/L	1	10	9/16/2015	NV00925
Electrical Conductivity	SM 2510B	290	µmhos/cm	1	1	9/15/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/21/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/21/2015	NV00925
Sulfate	EPA 300.0	100	mg/L	1	1.0	9/21/2015	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/21/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/21/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.076	mg/L	1	0.0030	9/22/2015	NV00925
Beryllium	EPA 200.7	ND	mg/L	1	0.0008	9/22/2015	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	9/22/2015	NV00925
Calcium	EPA 200.7	51	mg/L	1	0.50	9/22/2015	NV00925
Chromium	EPA 200.7	ND	mg/L	1	0.0050	9/22/2015	NV00925
Cobalt	EPA 200.7	ND	mg/L	1	0.010	9/22/2015	NV00925
Iron	EPA 200.7	ND	mg/L	1	0.020	9/22/2015	NV00925
Magnesium	EPA 200.7	ND	mg/L	1	0.50	9/22/2015	NV00925
Manganese	EPA 200.7	0.0085	mg/L	1	0.0050	9/22/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	9/22/2015	NV00925
Potassium	EPA 200.7	2.5	mg/L	1	0.50	9/22/2015	NV00925
Sodium	EPA 200.7	1.4	mg/L	1	0.50	9/22/2015	NV00925
Strontium	EPA 200.7	0.85	mg/L	1	0.020	9/22/2015	NV00925
Zinc	EPA 200.7	0.013	mg/L	1	0.0080	9/22/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C773-15 B,C WK:0

Collect Date/Time: 9/15/2015 09:00

WETLAB Sample ID: 1509367-001

Receive Date: 9/15/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	0.051	mg/L	1	0.0020	9/18/2015	NV00925
Nickel	EPA 200.8	0.0045	mg/L	1	0.0020	9/27/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	2.11	meq/L	1	0.10		NV00925
Cations	Calculation	2.67	meq/L	1	0.10		NV00925
Error	Calculation	12	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		9/15/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		9/18/2015	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	9/14/2015	NV00925
HCT Post-Leach Volume	N/A	820	mL	1	1	9/15/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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# Western Environmental Testing Laboratory

## QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090561	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15090585	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15090703	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15090709	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15090742	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15090792	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15090793	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090804	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15090814	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090561	LCS 1	Ferrous Iron	SM 3500 Fe B	0.927	1.00	93	mg/L
QC15090563	LCS 1	Redox Potential	ASTM D1498	222	221	100	mV
QC15090585	LCS 1	Electrical Conductivity	SM 2510B	1437	1412	102	µmhos/cm
QC15090676	LCS 1	Total Alkalinity	SM 2320B	95.6	100	96	mg/L
QC15090676	LCS 2	Total Alkalinity	SM 2320B	96.1	100	96	mg/L
QC15090703	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	154	150	103	mg/L
QC15090703	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	146	150	97	mg/L
QC15090709	LCS 1	Copper	EPA 200.8	0.0107	0.010	107	mg/L
		Nickel	EPA 200.8	0.0110	0.010	110	mg/L
QC15090718	LCS 1	pH	SM 4500-H+ B	6.78	7.00	97	pH Units
QC15090742	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.859	0.800	107	mg/L
QC15090792	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.01	1.00	101	mg/L
QC15090793	LCS 1	Chloride	EPA 300.0	10.5	10.0	105	mg/L
		Fluoride	EPA 300.0	1.85	2.00	93	mg/L
		Sulfate	EPA 300.0	23.4	25.0	94	mg/L
QC15090804	LCS 1	Barium, Dissolved	EPA 200.7	0.995	1.00	100	mg/L
		Beryllium, Dissolved	EPA 200.7	0.993	1.00	99	mg/L
		Boron, Dissolved	EPA 200.7	0.992	1.00	99	mg/L
		Calcium, Dissolved	EPA 200.7	9.96	10.0	100	mg/L
		Chromium, Dissolved	EPA 200.7	0.990	1.00	99	mg/L
		Cobalt, Dissolved	EPA 200.7	1.00	1.00	100	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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fax (702) 622-2868  
EPA LAB ID: NV00932



QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Iron, Dissolved	EPA 200.7	0.982	1.00	98	mg/L
		Magnesium, Dissolved	EPA 200.7	9.85	10.0	98	mg/L
		Manganese, Dissolved	EPA 200.7	0.997	1.00	100	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.992	1.00	99	mg/L
		Potassium, Dissolved	EPA 200.7	10.0	10.0	100	mg/L
		Sodium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Strontium, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
		Zinc, Dissolved	EPA 200.7	1.02	1.00	102	mg/L
QC15090814	LCS 1	WAD Cyanide	SM 4500CN I, E	0.106	0.100	106	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090561	Duplicate	Ferrous Iron	SM 3500 Fe B	1509363-001	ND	ND	mg/L	<1%
QC15090561	Duplicate	Ferrous Iron	SM 3500 Fe B	1509365-003	ND	ND	mg/L	<1%
QC15090561	Duplicate	Ferrous Iron	SM 3500 Fe B	1509387-002	ND	ND	mg/L	<1%
QC15090563	Duplicate	Redox Potential	ASTM D1498	1509363-001	516	518	mV	<1%
QC15090563	Duplicate	Redox Potential	ASTM D1498	1509365-003	496	497	mV	<1%
QC15090563	Duplicate	Redox Potential	ASTM D1498	1509387-002	449	452	mV	1 %
QC15090585	Duplicate	Electrical Conductivity	SM 2510B	1509363-001	63.5	63.2	µmhos/cm	<1%
QC15090585	Duplicate	Electrical Conductivity	SM 2510B	1509365-003	100	99.8	µmhos/cm	<1%
QC15090676	Duplicate	Total Alkalinity	SM 2320B	1509312-003	22.6	25.3	mg/L as CaCO3	11 %
		Bicarbonate (HCO3)	SM 2320B	1509312-003	22.6	25.3	mg/L as CaCO3	11 %
		Carbonate (CO3)	SM 2320B	1509312-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509312-003	ND	ND	mg/L as CaCO3	<1%
QC15090676	Duplicate	Total Alkalinity	SM 2320B	1509315-004	26.3	25.8	mg/L as CaCO3	2 %
		Bicarbonate (HCO3)	SM 2320B	1509315-004	26.3	25.8	mg/L as CaCO3	2 %
		Carbonate (CO3)	SM 2320B	1509315-004	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509315-004	ND	ND	mg/L as CaCO3	<1%
QC15090676	Duplicate	Total Alkalinity	SM 2320B	1509365-001	14.8	13.6	mg/L as CaCO3	9 %
		Bicarbonate (HCO3)	SM 2320B	1509365-001	14.8	13.6	mg/L as CaCO3	9 %
		Carbonate (CO3)	SM 2320B	1509365-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509365-001	ND	ND	mg/L as CaCO3	<1%
QC15090684	Duplicate	Acidity (Titrimetric)	SM 2310B	1509312-001	ND	ND	QD mg/L as CaCO3	163 %
QC15090684	Duplicate	Acidity (Titrimetric)	SM 2310B	1509315-001	ND	ND	QD mg/L as CaCO3	79 %
QC15090684	Duplicate	Acidity (Titrimetric)	SM 2310B	1509364-003	2.96	2.49	mg/L as CaCO3	17 %
QC15090703	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509400-001	730	746	mg/L	2 %
QC15090703	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509400-002	800	822	mg/L	3 %
QC15090718	Duplicate	pH	SM 4500-H+ B	1509363-001	6.51	6.71	QD,Q pH Units	3 %
QC15090718	Duplicate	pH	SM 4500-H+ B	1509365-003	6.87	7.13	QD,Q pH Units	4 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090709	MS 1	Copper, Dissolved	EPA 200.8	1509335-005	ND	0.0121	0.0111	0.010	mg/L	104	94	9%
		Nickel, Dissolved	EPA 200.8	1509335-005	ND	0.0141	0.0168	0.010	mg/L	93	119	17%
QC15090742	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509420-001	ND	5.37	5.38	1.00	mg/L	107	108	<1%
QC15090742	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509363-002	ND	5.48	5.44	1.00	mg/L	109	109	1%
QC15090792	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509351-002	ND	M 0.900	0.827	1.00	mg/L	NC	NC	NC

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090792	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509361-002	0.487	M 1.29	1.18	1.00	mg/L	NC	NC	NC
QC15090793	MS 1	Chloride	EPA 300.0	1509494-001	ND	5.56	5.60	5.00	mg/L	109	110	1%
		Fluoride	EPA 300.0	1509494-001	0.127	2.03	2.04	2.00	mg/L	95	96	<1%
		Sulfate	EPA 300.0	1509494-001	12.7	21.0	21.9	10.0	mg/L	84	93	4%
QC15090793	MS 2	Chloride	EPA 300.0	1509519-001	ND	6.08	6.11	5.00	mg/L	111	112	<1%
		Fluoride	EPA 300.0	1509519-001	ND	2.07	2.16	2.00	mg/L	102	106	4%
		Sulfate	EPA 300.0	1509519-001	70.1	79.9	80.3	10.0	mg/L	98	102	<1%
QC15090804	MS 1	Barium, Dissolved	EPA 200.7	1509335-005	0.065	1.03	1.03	1.00	mg/L	97	97	<1%
		Beryllium, Dissolved	EPA 200.7	1509335-005	ND	0.997	0.992	1.00	mg/L	100	99	1%
		Boron, Dissolved	EPA 200.7	1509335-005	ND	1.10	1.09	1.00	mg/L	103	102	1%
		Calcium, Dissolved	EPA 200.7	1509335-005	112	SC 116	114	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1509335-005	ND	0.981	0.975	1.00	mg/L	98	97	1%
		Cobalt, Dissolved	EPA 200.7	1509335-005	ND	0.958	0.953	1.00	mg/L	96	95	1%
		Iron, Dissolved	EPA 200.7	1509335-005	0.032	1.02	1.02	1.00	mg/L	99	99	<1%
		Magnesium, Dissolved	EPA 200.7	1509335-005	11.1	20.2	19.9	10.0	mg/L	91	88	1%
		Manganese, Dissolved	EPA 200.7	1509335-005	0.043	1.02	1.02	1.00	mg/L	98	98	<1%
		Molybdenum, Dissolved	EPA 200.7	1509335-005	ND	0.988	1.00	1.00	mg/L	99	100	1%
		Potassium, Dissolved	EPA 200.7	1509335-005	5.82	15.8	15.8	10.0	mg/L	100	100	<1%
		Sodium, Dissolved	EPA 200.7	1509335-005	24.9	33.9	33.8	10.0	mg/L	90	89	<1%
		Strontium, Dissolved	EPA 200.7	1509335-005	0.280	1.26	1.26	1.00	mg/L	98	98	<1%
		Zinc, Dissolved	EPA 200.7	1509335-005	0.019	0.999	0.992	1.00	mg/L	98	97	1%
QC15090814	MS 1	WAD Cyanide	SM 4500CN I,	1509377-001	ND	M 0.062	0.066	0.100	mg/L	NC	NC	NC
QC15090814	MS 2	WAD Cyanide	SM 4500CN I,	1509400-002	ND	0.103	0.106	0.100	mg/L	103	106	3%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 7 of 7

**SPARKS**

475 E. Greg Street, Suite 119  
 Sparks, Nevada 89431  
 tel (775) 355-0202  
 fax (775) 355-0817  
 EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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 EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932



# ANALYTICAL SUMMARY REPORT

September 29, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15091781  
Project Name: Job ID: 1509367

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/21/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15091781-001	C773-15 B,C Wk:0-WLHCT-0120	09/15/15 9:00	09/21/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID: 1509367  
**Lab ID:** B15091781-001  
**Client Sample ID:** C773-15 B,C Wk:0-WLHCT-0120

**Report Date:** 09/29/15  
**Collection Date:** 09/15/15 09:00  
**Date Received:** 09/21/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.038	mg/L		0.009		E200.8	09/22/15 20:49 / mas
Antimony	0.0028	mg/L		0.0005		E200.8	09/22/15 20:49 / mas
Arsenic	ND	mg/L		0.001		E200.8	09/22/15 20:49 / mas
Cadmium	ND	mg/L		0.00003		E200.8	09/22/15 20:49 / mas
Lead	ND	mg/L		0.0003		E200.8	09/22/15 20:49 / mas
Mercury	0.00082	mg/L	D	0.00002		E245.1	09/23/15 14:48 / ser
Phosphorus	0.021	mg/L	L	0.007		E200.7	09/22/15 15:53 / mas
Selenium	ND	mg/L		0.001		E200.8	09/22/15 20:49 / mas
Silicon	0.13	mg/L		0.05		E200.7	09/22/15 15:53 / mas
Silver	ND	mg/L		0.0002		E200.8	09/25/15 16:36 / mas
Thallium	0.0055	mg/L		0.0002		E200.8	09/22/15 20:49 / mas
Uranium	ND	mg/L		0.0002		E200.8	09/22/15 20:49 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.  
L - Lowest available reporting limit for the analytical method used.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/29/15

**Project:** Job ID: 1509367

**Work Order:** B15091781

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_150922A		
<b>Lab ID: ICV</b>	2	Continuing Calibration Verification Standard								09/22/15 11:30
Phosphorus		2.50	mg/L	0.10	100	95	105			
Silicon		4.97	mg/L	0.10	99	95	105			
<b>Method: E200.7</b>								Batch: R249724		
<b>Lab ID: MB-6500DIS150922A</b>	2	Method Blank						Run: ICP203-B_150922A		09/22/15 11:59
Phosphorus		ND	mg/L	0.007						
Silicon		ND	mg/L	0.01						
<b>Lab ID: LFB-6500DIS150922A</b>	2	Laboratory Fortified Blank						Run: ICP203-B_150922A		09/22/15 12:02
Phosphorus		10.1	mg/L	0.10	101	85	115			
Silicon		9.95	mg/L	0.10	99	85	115			
<b>Lab ID: B15091780-001AMS2</b>	2	Sample Matrix Spike						Run: ICP203-B_150922A		09/22/15 15:43
Phosphorus		10.2	mg/L	0.10	102	70	130			
Silicon		10.1	mg/L	0.10	100	70	130			
<b>Lab ID: B15091780-001AMSD</b>	2	Sample Matrix Spike Duplicate						Run: ICP203-B_150922A		09/22/15 15:46
Phosphorus		10.3	mg/L	0.10	103	70	130	1.4	20	
Silicon		10.2	mg/L	0.10	101	70	130	1.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/29/15

**Project:** Job ID: 1509367

**Work Order:** B15091781

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_150922B				
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard							09/22/15 15:40		
Aluminum		0.252	mg/L	0.10	101	90	110				
Antimony		0.0496	mg/L	0.050	99	90	110				
Arsenic		0.0492	mg/L	0.0050	98	90	110				
Cadmium		0.0251	mg/L	0.0010	100	90	110				
Lead		0.0485	mg/L	0.010	97	90	110				
Selenium		0.0486	mg/L	0.0050	97	90	110				
Thallium		0.0472	mg/L	0.10	94	90	110				
Uranium		0.0189	mg/L	0.0010	95	90	110				
<b>Method: E200.8</b>							Batch: R249797				
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank					Run: ICPMS203-B_150922B		09/22/15 11:27		
Aluminum		0.0499	mg/L	0.030	100	85	115				
Antimony		0.0448	mg/L	0.0010	90	85	115				
Arsenic		0.0492	mg/L	0.0010	98	85	115				
Cadmium		0.0496	mg/L	0.0010	99	85	115				
Lead		0.0485	mg/L	0.0010	97	85	115				
Selenium		0.0502	mg/L	0.0010	100	85	115				
Thallium		0.0478	mg/L	0.00050	96	85	115				
Uranium		0.0470	mg/L	0.00030	94	85	115				
<b>Lab ID: LRB</b>	8	Method Blank					Run: ICPMS203-B_150922B		09/22/15 11:56		
Aluminum		ND	mg/L	0.0002							
Antimony		ND	mg/L	1E-05							
Arsenic		ND	mg/L	0.0004							
Cadmium		1E-05	mg/L	5E-06							
Lead		6E-05	mg/L	3E-05							
Selenium		0.0006	mg/L	0.0001							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	3E-06							
<b>Lab ID: B15091798-001BMS</b>	8	Sample Matrix Spike					Run: ICPMS203-B_150922B		09/22/15 21:10		
Aluminum		0.0487	mg/L	0.030	96	70	130				
Antimony		0.0465	mg/L	0.0010	93	70	130				
Arsenic		0.0509	mg/L	0.0010	102	70	130				
Cadmium		0.0474	mg/L	0.0010	95	70	130				
Lead		0.0471	mg/L	0.0010	94	70	130				
Selenium		0.0489	mg/L	0.0010	98	70	130				
Thallium		0.0511	mg/L	0.00050	102	70	130				
Uranium		0.0558	mg/L	0.00030	109	70	130				
<b>Lab ID: B15091798-001BMSD</b>	8	Sample Matrix Spike Duplicate					Run: ICPMS203-B_150922B		09/22/15 21:13		
Aluminum		0.0475	mg/L	0.030	94	70	130	2.6	20		
Antimony		0.0460	mg/L	0.0010	92	70	130	0.9	20		
Arsenic		0.0496	mg/L	0.0010	99	70	130	2.6	20		
Cadmium		0.0462	mg/L	0.0010	92	70	130	2.6	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/29/15

**Project:** Job ID: 1509367

**Work Order:** B15091781

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> <span style="float: right;">Batch: R249797</span>										
<b>Lab ID: B15091798-001BMSD</b>	8	Sample Matrix Spike Duplicate					Run: ICPMS203-B_150922B			09/22/15 21:13
Lead		0.0463	mg/L	0.0010	92	70	130	1.7	20	
Selenium		0.0477	mg/L	0.0010	95	70	130	2.4	20	
Thallium		0.0503	mg/L	0.00050	101	70	130	1.6	20	
Uranium		0.0544	mg/L	0.00030	106	70	130	2.5	20	
<b>Method: E200.8</b> <span style="float: right;">Analytical Run: ICPMS203-B_150925B</span>										
<b>Lab ID: QCS</b>		Initial Calibration Verification Standard								09/25/15 13:08
Silver		0.0240	mg/L	0.0050	96	90	110			
<b>Method: E200.8</b> <span style="float: right;">Batch: R249988</span>										
<b>Lab ID: LFB</b>		Laboratory Fortified Blank					Run: ICPMS203-B_150925B			09/25/15 13:36
Silver		0.0180	mg/L	0.0050	90	85	115			
<b>Lab ID: LRB</b>		Method Blank					Run: ICPMS203-B_150925B			09/25/15 14:07
Silver		ND	mg/L	2E-05						
<b>Lab ID: B15092027-001AMS</b>		Sample Matrix Spike					Run: ICPMS203-B_150925B			09/25/15 17:12
Silver		0.0163	mg/L	0.0010	81	70	130			
<b>Lab ID: B15092027-001AMSD</b>		Sample Matrix Spike Duplicate					Run: ICPMS203-B_150925B			09/25/15 17:16
Silver		0.0161	mg/L	0.0010	81	70	130	1.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 09/29/15

**Project:** Job ID: 1509367

**Work Order:** B15091781

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_150923A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								09/23/15 13:46	
Mercury		0.000211	mg/L	1.0E-05	106	90	110				
<b>Method:</b> E245.1										Batch: 93363	
<b>Lab ID:</b> MB-93363		Method Blank								Run: HGCV203-B_150923A	09/23/15 14:00
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93363		Laboratory Control Sample								Run: HGCV203-B_150923A	09/23/15 14:03
Mercury		0.000207	mg/L	1.0E-05	103	85	115				
<b>Lab ID:</b> B15091691-001AMS		Sample Matrix Spike								Run: HGCV203-B_150923A	09/23/15 14:08
Mercury		0.000218	mg/L	1.0E-05	102	70	130				
<b>Lab ID:</b> B15091691-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_150923A	09/23/15 14:11
Mercury		0.000220	mg/L	1.0E-05	103	70	130	0.9	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15091781

Login completed by: Randa Nees

Date Received: 9/21/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 9/22/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	16.8°C Melted Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None



# CHAIN OF CUSTODY RECORD

<b>Western Environmental Testing Laboratory</b> 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <i>Emergency</i> System: _____ Job ID: 1509367	All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N _____ Compliance: Y <input checked="" type="checkbox"/> N _____ CA Write ON: Y <input checked="" type="checkbox"/> N _____ QC: Y <input checked="" type="checkbox"/> N _____ Water System #: _____
Sample Receipt Condition: _____ Temperature: _____		Samplers Initials: _____ Notes: <i>see attached</i>	SIGNATURE OF COMPANY REPRESENTATIVE: _____ Date: _____ Time: _____
<b>Set Date</b> 9/15/2015 9:00 AM	<b>Sample ID - Site ID</b> C773-15 B,C WK0 - WLHCT-0120	<b>Matrix</b> Leachate	<b>Parameter</b> Various Metals (Subcontracted)
			<b>Container Type</b> _____ <i>1781-001</i> <i>B1509770-003</i>
<b>Relinquished by:</b> (Signature) _____ Date: 9-16-15 16:00		<b>Sample Type</b> Composite	
<b>Relinquished by:</b> (Signature) _____ Date: _____		<b>Received by:</b> (Signature) _____ Date: _____	<b>Trip Blank</b> _____ Date: _____
<b>Relinquished by:</b> (Signature) _____ Date: _____		<b>Received by:</b> (Signature) <i>Quince Jans</i> Date: 9/16/15 09:30	<b>Grab</b> _____ Date: _____
		<b>Equipment Blank</b> _____ Date: _____	<b>Composite</b> _____ Date: _____

UPS Grnd.  
 temp = 16.8 LR-2  
 melted ice  
 no COC seals

	Parameter	Required Reporting Value (mg/L)	Method
Typical MT Parameters	Aluminum	0.009 -sub to Energy Lab	
	Antimony	0.0005 - 0.00097 <del>WETLAB</del>	EPA 200.8
	Arsenic	0.001 - 0.001 <del>WETLAB</del>	EPA 200.8
	Barium	0.003 - 0.001 WETLAB	EPA 200.8
	Beryllium	0.0008 - 0.0008 WETLAB	EPA 200.8
	Cadmium	0.00003 -sub to Energy Lab	
	Calcium	1.0 - 1.0 WETLAB	EPA 200.7
	Chromium	0.01 - 0.01 WETLAB	EPA 200.7
	Copper	0.002 - 0.002 WETLAB	EPA 200.8
	Fluoride	0.2 - 0.2 WETLAB	EPA 300.0
	Iron	0.02 - 0.02 WETLAB	EPA 200.7
	Lead	0.0003 - 0.0002 <del>WETLAB</del>	EPA 200.8
	Magnesium	1.0 - 1.0 WETLAB	EPA 200.7
	Manganese	0.005 - 0.005 WETLAB	EPA 200.7
	Mercury	0.000005 -sub to Energy Lab	
	Nickel	0.002 - 0.0004 WETLAB	EPA 200.8
	Phosphorus	0.001 -sub to Energy Lab	EPA 200.7
	Selenium	0.001 -sub to Energy Lab	EPA 200.8
	Silicon	0.05 - 0.05 <del>WETLAB</del>	EPA 200.7
	Silver	0.0002 -sub to Energy Lab	
	Strontium	0.02 - 0.02 WETLAB	EPA 200.7
	Sulfate	1.0 - 1.0 WETLAB	EPA 300.0
	Titanium	0.0002 -sub to Energy Lab	
Uranium	0.0002 - 0.0002 <del>WETLAB</del>	EPA 200.8	
Zinc	0.008 - 0.008 WETLAB	EPA 200.7	
	Alkalinity, Total (as CaCO3)	1	2320B
	pH (standard units)	NA	4500H+B
Additional Profile II Parameters	Alkalinity, Bicarbonate (as CaCO3)	1	2320B
	Bismuth	0.1	EPA 200.7
	Boron	0.1	EPA 200.7
	Chloride	1	EPA 300.0
	Cobalt	0.01	EPA 200.7
	Gallium	0.1	EPA 200.7
	Lithium	0.1	EPA 200.7
	Molybdenum	0.01	EPA 200.7
	Nitrate+Nitrite, Total (as N)	0.1	EPA 353.2
	Nitrogen, Total (as N)	0.3	-
	Potassium	0.5	EPA 200.7
	Scandium	0.1	EPA 200.7
	Sodium	0.5	EPA 200.7
	Tin	0.1	EPA 200.7
	Titanium	0.1	EPA 200.7
	Total Dissolved Solids	10	2540C
	Vanadium	0.01	EPA 200.7
	WAD Cyanide	0.01	4500 CNI

also please  
 acidity  
 Fe special  
 redox  
 EC



10/7/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509579

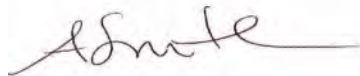
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/22/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

475 E. Greg Street, Suite 119  
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tel (775) 355-0202  
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EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509579

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

PO/Project: WLHCT-0120

Date Printed: 10/7/2015

OrderID: 1509579

Customer Sample ID: C773-15 B,C WK:1

Collect Date/Time: 9/22/2015 09:00

WETLAB Sample ID: 1509579-001

Receive Date: 9/22/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/22/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/30/2015	NV00925
pH	SM 4500-H+ B	6.35	pH Units	1		9/23/2015	NV00925
Temperature at pH	NA	25.2	°C	1		9/23/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	10/1/2015	NV00925
Redox Potential	ASTM D1498	470	mV	1		9/22/2015	NV00925
Acidity (Titrimetric)	SM 2310B	-2	mg/L as CaCO3	1		10/2/2015	NV00925
Total Alkalinity	SM 2320B	4.0	mg/L as CaCO3	1	1.0	10/2/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	4.0	mg/L as CaCO3	1	1.0	10/2/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/2/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/2/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	9/30/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	290	mg/L	1	10	9/24/2015	NV00925
Electrical Conductivity	SM 2510B	380	µmhos/cm	1	1	9/22/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	9/24/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	9/24/2015	NV00925
Sulfate	EPA 300.0	160	mg/L	1	1.0	9/24/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/25/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	9/30/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium	EPA 200.7	0.073	mg/L	1	0.0030	9/30/2015	NV00925
Beryllium	EPA 200.7	ND	mg/L	1	0.0008	9/30/2015	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	9/30/2015	NV00925
Calcium	EPA 200.7	71	mg/L	1	0.50	9/30/2015	NV00925
Chromium	EPA 200.7	ND	mg/L	1	0.0050	9/30/2015	NV00925
Cobalt	EPA 200.7	0.039	mg/L	1	0.010	9/30/2015	NV00925
Iron	EPA 200.7	ND	mg/L	1	0.020	9/30/2015	NV00925
Magnesium	EPA 200.7	0.57	mg/L	1	0.50	9/30/2015	NV00925
Manganese	EPA 200.7	0.020	mg/L	1	0.0050	9/30/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	9/30/2015	NV00925
Potassium	EPA 200.7	2.0	mg/L	1	0.50	9/30/2015	NV00925
Sodium	EPA 200.7	0.73	mg/L	1	0.50	9/30/2015	NV00925
Strontium	EPA 200.7	1.2	mg/L	1	0.020	9/30/2015	NV00925
Zinc	EPA 200.7	0.037	mg/L	1	0.0080	9/30/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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fax (702) 622-2868  
EPA LAB ID: NV00932



Customer Sample ID: C773-15 B,C WK:1

Collect Date/Time: 9/22/2015 09:00

WETLAB Sample ID: 1509579-001

Receive Date: 9/22/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	0.084	mg/L	1	0.0020	10/1/2015	NV00925
Nickel	EPA 200.8	0.014	mg/L	1	0.0020	10/1/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	3.41	meq/L	1	0.10		NV00925
Cations	Calculation	3.68	meq/L	1	0.10		NV00925
Error	Calculation	3.8	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		9/22/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		9/29/2015	NV00925
HCT Pre-Leach Volume	N/A	1000	mL	1	1	9/21/2015	NV00925
HCT Post-Leach Volume	N/A	820	mL	1	1	9/22/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15090962	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15090998	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15091068	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15091118	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15091163	Blank 1	Copper	EPA 200.8	ND	mg/L
		Nickel	EPA 200.8	ND	mg/L
QC15091192	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15091203	Blank 1	Barium	EPA 200.7	ND	mg/L
		Beryllium	EPA 200.7	ND	mg/L
		Boron	EPA 200.7	ND	mg/L
		Calcium	EPA 200.7	ND	mg/L
		Chromium	EPA 200.7	ND	mg/L
		Cobalt	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
		Manganese	EPA 200.7	ND	mg/L
		Molybdenum	EPA 200.7	ND	mg/L
		Potassium	EPA 200.7	ND	mg/L
		Sodium	EPA 200.7	ND	mg/L
		Strontium	EPA 200.7	ND	mg/L
Zinc	EPA 200.7	ND	mg/L		
QC15091211	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15100025	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15090930	LCS 1	pH	SM 4500-H+ B	6.91	7.00	99	pH Units
QC15090962	LCS 1	Chloride	EPA 300.0	10.6	10.0	106	mg/L
		Fluoride	EPA 300.0	1.99	2.00	99	mg/L
		Sulfate	EPA 300.0	24.5	25.0	98	mg/L
QC15090998	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.766	0.800	96	mg/L
QC15091068	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	155	150	103	mg/L
QC15091068	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	162	150	108	mg/L
QC15091118	LCS 1	Ferrous Iron	SM 3500 Fe B	0.944	1.00	94	mg/L
QC15091163	LCS 1	Copper	EPA 200.8	0.0099	0.010	99	mg/L
		Nickel	EPA 200.8	0.0102	0.010	102	mg/L
QC15091192	LCS 1	Electrical Conductivity	SM 2510B	1376	1412	97	µmhos/cm
QC15091196	LCS 1	Redox Potential	ASTM D1498	221	221	100	mV
QC15091203	LCS 1	Barium	EPA 200.7	0.983	1.00	98	mg/L
		Beryllium	EPA 200.7	0.973	1.00	97	mg/L
		Boron	EPA 200.7	0.968	1.00	97	mg/L
		Calcium	EPA 200.7	9.63	10.0	96	mg/L
		Chromium	EPA 200.7	0.975	1.00	98	mg/L
		Cobalt	EPA 200.7	0.972	1.00	97	mg/L
		Iron	EPA 200.7	0.996	1.00	100	mg/L
		Magnesium	EPA 200.7	9.65	10.0	96	mg/L
		Manganese	EPA 200.7	0.970	1.00	97	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Molybdenum	EPA 200.7	0.971	1.00	97	mg/L
		Potassium	EPA 200.7	9.89	10.0	99	mg/L
		Sodium	EPA 200.7	10.1	10.0	101	mg/L
		Strontium	EPA 200.7	1.00	1.00	100	mg/L
		Zinc	EPA 200.7	0.994	1.00	99	mg/L
QC15091211	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.02	1.00	102	mg/L
QC15100025	LCS 1	WAD Cyanide	SM 4500CN I, E	0.106	0.100	106	mg/L
QC15100128	LCS 1	Total Alkalinity	SM 2320B	96.0	100	96	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15090930	Duplicate	pH	SM 4500-H+ B	1509575-001	6.84	7.07	QD	pH Units 3 %
QC15090930	Duplicate	pH	SM 4500-H+ B	1509577-003	7.11	7.37	QD	pH Units 4 %
QC15091068	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509634-001	157	156		mg/L 1 %
QC15091118	Duplicate	Ferrous Iron	SM 3500 Fe B	1509575-001	ND	ND		mg/L <1%
QC15091118	Duplicate	Ferrous Iron	SM 3500 Fe B	1509577-003	ND	ND		mg/L <1%
QC15091118	Duplicate	Ferrous Iron	SM 3500 Fe B	1509580-001	ND	ND		mg/L <1%
QC15091192	Duplicate	Electrical Conductivity	SM 2510B	1509575-001	71.3	70.8		µmhos/cm 1 %
QC15091192	Duplicate	Electrical Conductivity	SM 2510B	1509577-003	94.8	96.4		µmhos/cm 2 %
QC15091196	Duplicate	Redox Potential	ASTM D1498	1509575-001	497	500		mV 1 %
QC15091196	Duplicate	Redox Potential	ASTM D1498	1509577-003	491	495		mV 1 %
QC15100128	Duplicate	Total Alkalinity	SM 2320B	1509869-002	110	110		mg/L as CaCO3 <1%
		Bicarbonate (HCO3)	SM 2320B	1509869-002	110	110		mg/L as CaCO3 <1%
		Carbonate (CO3)	SM 2320B	1509869-002	ND	ND		mg/L as CaCO3 <1%
		Hydroxide (OH)	SM 2320B	1509869-002	ND	ND		mg/L as CaCO3 <1%
QC15100161	Duplicate	Acidity (Titrimetric)	SM 2310B	1509579-001	ND	2.00	QD	mg/L as CaCO3 400 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15090962	MS 1	Chloride	EPA 300.0	1509579-001	ND	6.10	6.09	5.00	mg/L	113	113	<1%
		Fluoride	EPA 300.0	1509579-001	ND	2.13	2.10	2.00	mg/L	104	103	1%
		Sulfate	EPA 300.0	1509579-001	161	169	171	10.0	mg/L	84	98	1%
QC15090962	MS 2	Chloride	EPA 300.0	1509654-001	18.4	23.6	23.5	5.00	mg/L	103	102	<1%
		Fluoride	EPA 300.0	1509654-001	1.33	3.15	3.11	2.00	mg/L	91	89	1%
		Sulfate	EPA 300.0	1509654-001	109	117	117	10.0	mg/L	84	85	<1%
QC15090998	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509478-013	ND	4.90	4.97	1.00	mg/L	96	98	1%
QC15090998	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509547-001	ND	5.10	5.13	1.00	mg/L	100	101	1%
QC15091163	MS 1	Copper	EPA 200.8	1509510-006	ND	0.0148	0.0143	0.010	mg/L	110	105	3%
		Nickel	EPA 200.8	1509510-006	0.0205	0.0310	0.0300	0.010	mg/L	105	95	3%
QC15091203	MS 1	Barium	EPA 200.7	1509510-006	0.028	0.967	0.966	1.00	mg/L	94	94	<1%
		Beryllium	EPA 200.7	1509510-006	ND	0.971	0.962	1.00	mg/L	97	96	1%
		Boron	EPA 200.7	1509510-006	0.249	1.28	1.26	1.00	mg/L	103	101	2%
		Calcium	EPA 200.7	1509510-006	370	SC 384	347	10.0	mg/L	NC	NC	NC
		Chromium	EPA 200.7	1509510-006	ND	0.961	0.951	1.00	mg/L	96	95	1%
		Cobalt	EPA 200.7	1509510-006	ND	0.946	0.927	1.00	mg/L	94	92	2%
		Iron	EPA 200.7	1509510-006	ND	1.04	0.987	1.00	mg/L	104	99	5%
		Magnesium	EPA 200.7	1509510-006	84.9	SC 98.2	87.5	10.0	mg/L	NC	NC	NC
		Manganese	EPA 200.7	1509510-006	0.757	1.74	1.70	1.00	mg/L	98	94	2%
		Molybdenum	EPA 200.7	1509510-006	ND	1.00	0.990	1.00	mg/L	99	98	1%
		Potassium	EPA 200.7	1509510-006	19.2	30.5	28.3	10.0	mg/L	113	91	7%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Sodium	EPA 200.7	1509510-006	164	SC 181	168	10.0	mg/L	NC	NC	NC
		Strontium	EPA 200.7	1509510-006	2.63	3.76	3.51	1.00	mg/L	113	88	7%
		Zinc	EPA 200.7	1509510-006	ND	0.989	0.923	1.00	mg/L	98	91	7%
QC15091211	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509580-001	ND	M 1.04	1.01	1.00	mg/L	NC	NC	NC
QC15091211	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1509605-008	ND	M 0.841	0.838	1.00	mg/L	NC	NC	NC
QC15100025	MS 1	WAD Cyanide	SM 4500CN I,	1509576-001	ND	0.102	0.099	0.100	mg/L	102	100	3%
QC15100025	MS 2	WAD Cyanide	SM 4500CN I,	1509722-001	ND	0.097	0.102	0.100	mg/L	96	101	5%

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# ANALYTICAL SUMMARY REPORT

October 06, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15092576                      Quote ID: B3679

Project Name: Job ID: 1509579

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 9/29/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15092576-001	C773-15 B,C Wk:1-WLHCT-0120	09/22/15 9:00	09/29/15	Leachate	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID: 1509579  
**Lab ID:** B15092576-001  
**Client Sample ID:** C773-15 B,C Wk:1-WLHCT-0120

**Report Date:** 10/06/15  
**Collection Date:** 09/22/15 09:00  
**Date Received:** 09/29/15  
**Matrix:** Leachate

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.018	mg/L		0.009		E200.7	10/01/15 13:58 / rh
Antimony	0.0014	mg/L		0.0005		E200.8	10/01/15 19:58 / mas
Arsenic	0.001	mg/L		0.001		E200.8	10/01/15 19:58 / mas
Cadmium	ND	mg/L		0.00003		E200.8	10/01/15 19:58 / mas
Lead	ND	mg/L		0.0003		E200.8	10/01/15 19:58 / mas
Mercury	0.0000608	mg/L		5E-06		E245.1	10/01/15 15:45 / ser
Phosphorus	ND	mg/L	L	0.007		E200.7	10/01/15 13:58 / rh
Selenium	ND	mg/L		0.001		E200.8	10/01/15 19:58 / mas
Silicon	0.37	mg/L		0.05		E200.7	10/01/15 13:58 / rh
Silver	ND	mg/L		0.0002		E200.8	10/01/15 19:58 / mas
Thallium	0.0084	mg/L		0.0002		E200.8	10/01/15 19:58 / mas
Uranium	ND	mg/L		0.0002		E200.8	10/01/15 19:58 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID: 1509579

**Work Order:** B15092576

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_151001A		
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard								10/01/15 11:35
Aluminum		2.55	mg/L	0.10	102	95	105			
Phosphorus		2.51	mg/L	0.10	101	95	105			
Silicon		5.08	mg/L	0.10	102	95	105			
<b>Method: E200.7</b>								Batch: R250269		
<b>Lab ID: MB-6500DIS151001A</b>	3	Method Blank						Run: ICP203-B_151001A		10/01/15 12:03
Aluminum		ND	mg/L	0.007						
Phosphorus		ND	mg/L	0.007						
Silicon		ND	mg/L	0.01						
<b>Lab ID: LFB-6500DIS151001A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_151001A		10/01/15 12:07
Aluminum		5.12	mg/L	0.10	102	85	115			
Phosphorus		10.4	mg/L	0.10	104	85	115			
Silicon		10.3	mg/L	0.10	103	85	115			
<b>Lab ID: B15092495-005BMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_151001A		10/01/15 13:48
Aluminum		25.5	mg/L	0.035	102	70	130			
Phosphorus		51.4	mg/L	0.10	103	70	130			
Silicon		57.1	mg/L	0.10	101	70	130			
<b>Lab ID: B15092495-005BMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_151001A		10/01/15 13:51
Aluminum		25.3	mg/L	0.035	101	70	130	0.8	20	
Phosphorus		51.4	mg/L	0.10	103	70	130	0.1	20	
Silicon		57.8	mg/L	0.10	102	70	130	1.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID: 1509579

**Work Order:** B15092576

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_151001A				
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard						10/01/15 14:47			
Antimony		0.0527	mg/L	0.050	105	90	110				
Arsenic		0.0508	mg/L	0.0050	102	90	110				
Cadmium		0.0252	mg/L	0.0010	101	90	110				
Lead		0.0505	mg/L	0.010	101	90	110				
Selenium		0.0506	mg/L	0.0050	101	90	110				
Silver		0.0236	mg/L	0.0050	94	90	110				
Thallium		0.0481	mg/L	0.10	96	90	110				
Uranium		0.0199	mg/L	0.0010	99	90	110				
<b>Method: E200.8</b>							Batch: R250260				
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank						Run: ICPMS203-B_151001A 10/01/15 10:23			
Antimony		0.0496	mg/L	0.050	99	85	115				
Arsenic		0.0486	mg/L	0.0050	97	85	115				
Cadmium		0.0494	mg/L	0.0010	99	85	115				
Lead		0.0507	mg/L	0.010	101	85	115				
Selenium		0.0485	mg/L	0.0050	97	85	115				
Silver		0.0183	mg/L	0.0050	92	85	115				
Thallium		0.0515	mg/L	0.10	103	85	115				
Uranium		0.0520	mg/L	0.0010	104	85	115				
<b>Lab ID: LRB</b>	8	Method Blank						Run: ICPMS203-B_151001A 10/01/15 11:43			
Antimony		ND	mg/L	1E-05							
Arsenic		9E-05	mg/L	5E-05							
Cadmium		ND	mg/L	5E-06							
Lead		ND	mg/L	3E-05							
Selenium		ND	mg/L	7E-05							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	3E-06							
<b>Lab ID: B15091901-004BMS</b>	8	Sample Matrix Spike						Run: ICPMS203-B_151001A 10/01/15 17:10			
Antimony		0.0990	mg/L	0.0010	99	70	130				
Arsenic		0.103	mg/L	0.0010	99	70	130				
Cadmium		0.0955	mg/L	0.0010	95	70	130				
Lead		0.101	mg/L	0.0010	100	70	130				
Selenium		0.0993	mg/L	0.0010	98	70	130				
Silver		0.0316	mg/L	0.0010	79	70	130				
Thallium		0.0981	mg/L	0.00050	98	70	130				
Uranium		0.121	mg/L	0.00030	116	70	130				
<b>Lab ID: B15091901-004BMSD</b>	8	Sample Matrix Spike Duplicate						Run: ICPMS203-B_151001A 10/01/15 17:14			
Antimony		0.100	mg/L	0.0010	100	70	130	1.1	20		
Arsenic		0.105	mg/L	0.0010	100	70	130	1.7	20		
Cadmium		0.0959	mg/L	0.0010	96	70	130	0.4	20		
Lead		0.102	mg/L	0.0010	102	70	130	1.7	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID: 1509579

**Work Order:** B15092576

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Batch: R250260		
<b>Lab ID: B15091901-004BMSD</b>	8	Sample Matrix Spike Duplicate			Run: ICPMS203-B_151001A				10/01/15 17:14	
Selenium		0.102	mg/L	0.0010	101	70	130	2.9	20	
Silver		0.0298	mg/L	0.0010	75	70	130	5.9	20	
Thallium		0.0981	mg/L	0.00050	98	70	130	0.1	20	
Uranium		0.125	mg/L	0.00030	120	70	130	3.3	20	
<b>Lab ID: B15092496-004BMS</b>	8	Sample Matrix Spike			Run: ICPMS203-B_151001A				10/01/15 19:30	
Antimony		0.0508	mg/L	0.0010	102	70	130			
Arsenic		0.0492	mg/L	0.0010	98	70	130			
Cadmium		0.0493	mg/L	0.0010	99	70	130			
Lead		0.0505	mg/L	0.0010	101	70	130			
Selenium		0.0488	mg/L	0.0010	98	70	130			
Silver		0.0104	mg/L	0.0010	52	70	130			S
Thallium		0.0484	mg/L	0.00050	97	70	130			
Uranium		0.0480	mg/L	0.00030	96	70	130			
<b>Lab ID: B15092496-004BMSD</b>	8	Sample Matrix Spike Duplicate			Run: ICPMS203-B_151001A				10/01/15 19:34	
Antimony		0.0508	mg/L	0.0010	101	70	130	0.1	20	
Arsenic		0.0498	mg/L	0.0010	100	70	130	1.2	20	
Cadmium		0.0496	mg/L	0.0010	99	70	130	0.6	20	
Lead		0.0500	mg/L	0.0010	100	70	130	1.0	20	
Selenium		0.0485	mg/L	0.0010	97	70	130	0.5	20	
Silver		0.0106	mg/L	0.0010	53	70	130	1.6	20	S
Thallium		0.0480	mg/L	0.00050	96	70	130	0.9	20	
Uranium		0.0491	mg/L	0.00030	98	70	130	2.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/06/15

**Project:** Job ID: 1509579

**Work Order:** B15092576

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151001A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								10/01/15 15:05	
Mercury		0.000217	mg/L	1.0E-05	108	90	110				
<b>Method:</b> E245.1										Batch: 93632	
<b>Lab ID:</b> MB-93632		Method Blank								Run: HGCV203-B_151001A	10/01/15 15:14
Mercury		1E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-93632		Laboratory Control Sample								Run: HGCV203-B_151001A	10/01/15 15:16
Mercury		0.000216	mg/L	1.0E-05	107	85	115				
<b>Lab ID:</b> B15092392-007BMS		Sample Matrix Spike								Run: HGCV203-B_151001A	10/01/15 15:22
Mercury		0.000218	mg/L	1.0E-05	108	70	130				
<b>Lab ID:</b> B15092392-007BMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_151001A	10/01/15 15:24
Mercury		0.000221	mg/L	1.0E-05	110	70	130	1.4	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15092576

Login completed by: Randa Nees

Date Received: 9/29/2015

Reviewed by: BL2000\jmueller

Received by: qej

Reviewed Date: 10/1/2015

Carrier name: UPS Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	16.2°C Melted Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

## Contact and Corrective Action Comments:

Per phone call with Mitchell at Western Environmental Testing Laboratory analyze samples per client history.



# CHAIN OF CUSTODY RECORD

<b>Western Environmental Testing Laboratory</b> 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson kurtc@WETLaboratory.com Ph: (775) 355-0202 Fax: (775) 355-0817		Total # of sample containers: <i>Empty</i> System: _____ Job ID: 1509579	All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N _____ Compliance: Y <input checked="" type="checkbox"/> N _____ CA Write ON: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N _____ Water System #: _____
Samplers Initials: _____ Notes: <i>See attached</i>		Date: _____ Time: _____	

SIGNATURE OF COMPANY REPRESENTATIVE: \_\_\_\_\_

Set Date	Set Time	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
9/22/2015	9:00 AM	C773-15 B,C WK:1 - WLHCT-0120	Leachate	Various Metals (Subcontracted)		

*B15092576-001*

Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
<i>[Signature]</i>		9-24-15	14:00	<i>CP 5 Grnd.</i>						
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	Trip Blank	Grab	Composite	Equipment Blank

*Quince Jones*

*melted ice  
no TB  
temp = 16.2  
no seals*



10/12/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1509799

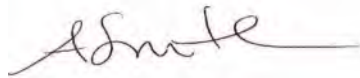
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 9/29/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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EPA LAB ID: NV00925 - ELAP No: 2523

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EPA LAB ID: NV00926

**LAS VEGAS**

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1509799

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

PO/Project: WLHCT-0120

Date Printed: 10/12/2015

OrderID: 1509799

Customer Sample ID: C773-15 B,C WK:2

Collect Date/Time: 9/29/2015 09:00

WETLAB Sample ID: 1509799-001

Receive Date: 9/29/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	ND	mg/L	1	0.1	9/29/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	10/2/2015	NV00925
pH	SM 4500-H+ B	6.32	pH Units	1		10/2/2015	NV00925
Temperature at pH	NA	22.6	°C	1		10/2/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	10/6/2015	NV00925
Redox Potential	ASTM D1498	460	mV	1		9/29/2015	NV00925
Acidity (Titrimetric)	SM 2310B	15	mg/L as CaCO3	1		9/30/2015	NV00925
Total Alkalinity	SM 2320B	4.6	mg/L as CaCO3	1	1.0	9/30/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	4.6	mg/L as CaCO3	1	1.0	9/30/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/30/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	9/30/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	10/6/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	390	mg/L	1	10	10/2/2015	NV00925
Electrical Conductivity	SM 2510B	560	µmhos/cm	1	1	9/29/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	2.4	mg/L	1	1.0	9/30/2015	NV00925
Fluoride	EPA 300.0	0.12	mg/L	1	0.10	9/30/2015	NV00925
Sulfate	EPA 300.0	240	mg/L	5	5.0	10/1/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	9/30/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	10/6/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium	EPA 200.7	0.058	mg/L	1	0.0030	10/2/2015	NV00925
Beryllium	EPA 200.7	0.0009	mg/L	1	0.0008	10/2/2015	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	10/2/2015	NV00925
Calcium	EPA 200.7	110	mg/L	1	0.50	10/2/2015	NV00925
Chromium	EPA 200.7	ND	mg/L	1	0.0050	10/2/2015	NV00925
Cobalt	EPA 200.7	0.30	mg/L	1	0.010	10/2/2015	NV00925
Iron	EPA 200.7	ND	mg/L	1	0.020	10/2/2015	NV00925
Magnesium	EPA 200.7	3.3	mg/L	1	0.50	10/2/2015	NV00925
Manganese	EPA 200.7	0.17	mg/L	1	0.0050	10/2/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	10/2/2015	NV00925
Potassium	EPA 200.7	3.5	mg/L	1	0.50	10/2/2015	NV00925
Sodium	EPA 200.7	3.2	mg/L	1	0.50	10/2/2015	NV00925
Strontium	EPA 200.7	3.0	mg/L	1	0.020	10/2/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

**SPARKS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C773-15 B,C WK:2

Collect Date/Time: 9/29/2015 09:00

WETLAB Sample ID: 1509799-001

Receive Date: 9/29/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Zinc	EPA 200.7	0.078	mg/L	1	0.0080	10/2/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	0.97	mg/L	10	0.0020	10/6/2015	NV00925
Nickel	EPA 200.8	0.070	mg/L	1	0.0020	10/5/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	5.16	meq/L	1	0.10		NV00925
Cations	Calculation	6.03	meq/L	1	0.10		NV00925
Error	Calculation	7.7	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		9/29/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/1/2015	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	9/28/2015	NV00925
HCT Post-Leach Volume	N/A	880	mL	1	1	9/29/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

**SPARKS**

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 fax (702) 622-2868  
 EPA LAB ID: NV00932



## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15091191	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15091195	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15091209	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15100018	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15100112	Blank 1	Copper	EPA 200.8	ND	mg/L
		Nickel	EPA 200.8	ND	mg/L
QC15100116	Blank 1	Barium	EPA 200.7	ND	mg/L
		Beryllium	EPA 200.7	ND	mg/L
		Boron	EPA 200.7	ND	mg/L
		Calcium	EPA 200.7	ND	mg/L
		Chromium	EPA 200.7	ND	mg/L
		Cobalt	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
		Manganese	EPA 200.7	ND	mg/L
		Molybdenum	EPA 200.7	ND	mg/L
		Potassium	EPA 200.7	ND	mg/L
		Sodium	EPA 200.7	ND	mg/L
		Strontium	EPA 200.7	ND	mg/L
		Zinc	EPA 200.7	ND	mg/L
QC15100205	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15100264	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15100265	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15091191	LCS 1	Ferrous Iron	SM 3500 Fe B	0.943	1.00	94	mg/L
QC15091195	LCS 1	Electrical Conductivity	SM 2510B	1435	1412	102	µmhos/cm
QC15091199	LCS 1	Redox Potential	ASTM D1498	222	221	100	mV
QC15091209	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.835	0.800	104	mg/L
QC15100018	LCS 1	Chloride	EPA 300.0	10.7	10.0	107	mg/L
		Fluoride	EPA 300.0	1.86	2.00	93	mg/L
		Sulfate	EPA 300.0	23.3	25.0	93	mg/L
QC15100082	LCS 1	Total Alkalinity	SM 2320B	102	100	102	mg/L
QC15100112	LCS 1	Copper	EPA 200.8	0.0095	0.010	95	mg/L
		Nickel	EPA 200.8	0.0104	0.010	104	mg/L
QC15100116	LCS 1	Barium	EPA 200.7	0.983	1.00	98	mg/L
		Beryllium	EPA 200.7	0.979	1.00	98	mg/L
		Boron	EPA 200.7	0.976	1.00	98	mg/L
		Calcium	EPA 200.7	9.80	10.0	98	mg/L
		Chromium	EPA 200.7	0.976	1.00	98	mg/L
		Cobalt	EPA 200.7	0.975	1.00	98	mg/L
		Iron	EPA 200.7	0.990	1.00	99	mg/L
		Magnesium	EPA 200.7	9.75	10.0	98	mg/L
		Manganese	EPA 200.7	0.978	1.00	98	mg/L
		Molybdenum	EPA 200.7	0.978	1.00	98	mg/L
		Potassium	EPA 200.7	10.2	10.0	102	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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### SPARKS

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Sodium	EPA 200.7	10.1	10.0	101	mg/L
		Strontium	EPA 200.7	0.995	1.00	100	mg/L
		Zinc	EPA 200.7	0.981	1.00	98	mg/L
QC15100147	LCS 1	pH	SM 4500-H+ B	6.94	7.00	99	pH Units
QC15100205	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	147	150	98	mg/L
QC15100205	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	150	150	100	mg/L
QC15100264	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.918	1.00	92	mg/L
QC15100265	LCS 1	WAD Cyanide	SM 4500CN I, E	0.109	0.100	109	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15091191	Duplicate	Ferrous Iron	SM 3500 Fe B	1509795-001	ND	ND	mg/L	<1%
QC15091191	Duplicate	Ferrous Iron	SM 3500 Fe B	1509797-003	ND	ND	mg/L	<1%
QC15091195	Duplicate	Electrical Conductivity	SM 2510B	1509795-001	62.6	62.6	µmhos/cm	<1%
QC15091195	Duplicate	Electrical Conductivity	SM 2510B	1509797-003	99.1	98.3	µmhos/cm	1 %
QC15091199	Duplicate	Redox Potential	ASTM D1498	1509795-001	487	496	mV	2 %
QC15091199	Duplicate	Redox Potential	ASTM D1498	1509797-003	482	487	mV	1 %
QC15100082	Duplicate	Total Alkalinity	SM 2320B	1509666-001	3.15	3.15	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1509666-001	3.15	3.15	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1509666-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509666-001	ND	ND	mg/L as CaCO3	<1%
QC15100082	Duplicate	Total Alkalinity	SM 2320B	1509797-002	10.4	10.3	mg/L as CaCO3	1 %
		Bicarbonate (HCO3)	SM 2320B	1509797-002	10.4	10.3	mg/L as CaCO3	1 %
		Carbonate (CO3)	SM 2320B	1509797-002	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1509797-002	ND	ND	mg/L as CaCO3	<1%
QC15100083	Duplicate	Acidity (Titrimetric)	SM 2310B	1509666-001	11.2	11.9	mg/L as CaCO3	6 %
QC15100083	Duplicate	Acidity (Titrimetric)	SM 2310B	1509797-002	3.45	2.66	QD mg/L as CaCO3	26 %
QC15100147	Duplicate	pH	SM 4500-H+ B	1509795-001	6.69	6.84	QD pH Units	2 %
QC15100147	Duplicate	pH	SM 4500-H+ B	1509797-003	7.06	7.26	QD pH Units	3 %
QC15100205	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509814-001	43.0	46.0	mg/L	7 %
QC15100205	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1509819-001	186	198	QD mg/L	6 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15091209	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1509765-001	ND	5.25	5.24	1.00	mg/L	105	105	<1%
QC15091209	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1509771-002	ND	5.24	5.25	1.00	mg/L	105	105	<1%
QC15100018	MS 1	Chloride	EPA 300.0	1509854-001	ND	5.47	5.48	5.00	mg/L	108	109	<1%
		Fluoride	EPA 300.0	1509854-001	ND	1.88	1.89	2.00	mg/L	93	93	1%
		Sulfate	EPA 300.0	1509854-001	ND	9.60	9.65	10.0	mg/L	92	93	1%
QC15100018	MS 2	Chloride	EPA 300.0	1509797-001	ND	5.85	5.89	5.00	mg/L	111	112	1%
		Fluoride	EPA 300.0	1509797-001	0.546	2.39	2.39	2.00	mg/L	92	92	<1%
		Sulfate	EPA 300.0	1509797-001	42.9	52.1	52.1	10.0	mg/L	93	92	<1%
QC15100112	MS 1	Copper	EPA 200.8	1509678-001	ND	0.0101	0.0108	0.010	mg/L	92	100	7%
		Nickel	EPA 200.8	1509678-001	0.0183	0.0290	0.0299	0.010	mg/L	107	116	3%
QC15100116	MS 1	Barium	EPA 200.7	1509678-001	1.55	2.49	2.46	1.00	mg/L	94	91	1%
		Beryllium	EPA 200.7	1509678-001	ND	0.972	0.971	1.00	mg/L	97	97	<1%
		Boron	EPA 200.7	1509678-001	ND	1.04	1.02	1.00	mg/L	103	101	2%
		Calcium	EPA 200.7	1509678-001	567	SC 596	607	10.0	mg/L	NC	NC	NC
		Chromium	EPA 200.7	1509678-001	0.008	0.977	0.964	1.00	mg/L	97	96	1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Cobalt	EPA 200.7	1509678-001	ND	0.924	0.922	1.00	mg/L	92	92	<1%
		Iron	EPA 200.7	1509678-001	ND	0.952	0.941	1.00	mg/L	95	94	1%
		Magnesium	EPA 200.7	1509678-001	ND	9.06	9.07	10.0	mg/L	91	91	<1%
		Manganese	EPA 200.7	1509678-001	ND	0.952	0.943	1.00	mg/L	95	94	1%
		Molybdenum	EPA 200.7	1509678-001	0.073	1.06	1.04	1.00	mg/L	99	97	2%
		Potassium	EPA 200.7	1509678-001	79.2	91.9	90.0	10.0	mg/L	127	108	2%
		Sodium	EPA 200.7	1509678-001	45.1	56.3	55.1	10.0	mg/L	112	100	2%
		Strontium	EPA 200.7	1509678-001	17.2	17.9	17.6	1.00	mg/L	74	42	2%
		Zinc	EPA 200.7	1509678-001	ND	0.964	0.971	1.00	mg/L	96	96	1%
QC15100264	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1509801-001	0.257	M 0.385	0.300	1.00	mg/L	NC	NC	NC
QC15100265	MS 1	WAD Cyanide	SM 4500CN I,	1509776-002	ND	0.103	0.102	0.100	mg/L	103	101	1%
QC15100265	MS 2	WAD Cyanide	SM 4500CN I,	1509802-002	ND	0.103	0.107	0.100	mg/L	102	106	4%

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# ANALYTICAL SUMMARY REPORT

October 12, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15100258                      Quote ID: B3679

Project Name: Job ID: 1509799

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 10/5/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15100258-001	C773-15 B,C WK:2-WHLCT-0120	09/29/15 9:00	10/05/15	Leachate	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID: 1509799  
**Lab ID:** B15100258-001  
**Client Sample ID:** C773-15 B,C WK:2-WHLCT-0120

**Report Date:** 10/12/15  
**Collection Date:** 09/29/15 09:00  
**Date Received:** 10/05/15  
**Matrix:** Leachate

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	ND	mg/L		0.009		E200.8	10/06/15 16:57 / mas
Antimony	0.0013	mg/L		0.0005		E200.8	10/06/15 16:57 / mas
Arsenic	ND	mg/L		0.001		E200.8	10/06/15 16:57 / mas
Cadmium	0.00004	mg/L		0.00003		E200.8	10/06/15 16:57 / mas
Lead	ND	mg/L		0.0003		E200.8	10/06/15 16:57 / mas
Mercury	0.000130	mg/L		5E-06		E245.1	10/08/15 14:43 / ser
Phosphorus	0.011	mg/L	L	0.007		E200.7	10/06/15 12:51 / mas
Selenium	ND	mg/L		0.001		E200.8	10/06/15 16:57 / mas
Silicon	1.52	mg/L		0.05		E200.7	10/06/15 12:51 / mas
Silver	ND	mg/L		0.0002		E200.8	10/06/15 16:57 / mas
Thallium	0.0211	mg/L		0.0002		E200.8	10/06/15 16:57 / mas
Uranium	ND	mg/L		0.0002		E200.8	10/06/15 16:57 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/12/15

**Project:** Job ID: 1509799

**Work Order:** B15100258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>							Analytical Run: ICP203-B_151006A			
<b>Lab ID: ICV</b>	Continuing Calibration Verification Standard								10/06/15 10:59	
Phosphorus	2.45	mg/L	0.10	98	95	105				
Silicon	5.19	mg/L	0.10	104	95	105				
<b>Method: E200.7</b>							Batch: R250481			
<b>Lab ID: MB-6500DIS151006A</b>	Method Blank								Run: ICP203-B_151006A	10/06/15 11:27
Phosphorus	ND	mg/L		0.007						
Silicon	0.02	mg/L		0.01						
<b>Lab ID: LFB-6500DIS151006A</b>	Laboratory Fortified Blank								Run: ICP203-B_151006A	10/06/15 11:31
Phosphorus	10.3	mg/L	0.10	103	85	115				
Silicon	10.4	mg/L	0.10	104	85	115				
<b>Lab ID: B15100226-001BMS2</b>	Sample Matrix Spike								Run: ICP203-B_151006A	10/06/15 12:41
Phosphorus	206	mg/L	0.14	103	70	130				
Silicon	221	mg/L	0.27	107	70	130				
<b>Lab ID: B15100226-001BMSD2</b>	Sample Matrix Spike Duplicate								Run: ICP203-B_151006A	10/06/15 12:44
Phosphorus	212	mg/L	0.14	106	70	130	2.6	20		
Silicon	222	mg/L	0.27	108	70	130	0.4	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/12/15

**Project:** Job ID: 1509799

**Work Order:** B15100258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Analytical Run: ICPMS206-B_151006A		
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard						10/07/15 00:24		
Aluminum	0.237	mg/L	0.10	95	90	110			
Antimony	0.0497	mg/L	0.050	99	90	110			
Arsenic	0.0510	mg/L	0.0050	102	90	110			
Cadmium	0.0247	mg/L	0.0010	99	90	110			
Lead	0.0488	mg/L	0.010	98	90	110			
Selenium	0.0494	mg/L	0.0050	99	90	110			
Silver	0.0237	mg/L	0.0050	95	90	110			
Thallium	0.0482	mg/L	0.10	96	90	110			
Uranium	0.0193	mg/L	0.0010	96	90	110			
<b>Method: E200.8</b>							Batch: R250480		
<b>Lab ID: LRB</b>	Method Blank						Run: ICPMS206-B_151006A 10/06/15 11:38		
Aluminum	-6E-05	mg/L							
Antimony	-1E-05	mg/L							
Arsenic	3E-05	mg/L							
Cadmium	-8E-06	mg/L							
Lead	1E-05	mg/L							
Selenium	-7E-05	mg/L							
Silver	5E-07	mg/L							
Thallium	2E-05	mg/L							
Uranium	1E-05	mg/L							
<b>Lab ID: LFB</b>	Laboratory Fortified Blank						Run: ICPMS206-B_151006A 10/06/15 11:43		
Aluminum	0.0443	mg/L		0	85	115			
Antimony	0.0473	mg/L		0	85	115			
Arsenic	0.0478	mg/L		0	85	115			
Cadmium	0.0482	mg/L		0	85	115			
Lead	0.0484	mg/L		0	85	115			
Selenium	0.0471	mg/L		0	85	115			
Silver	0.0182	mg/L		0	85	115			
Thallium	0.0483	mg/L		0	85	115			
Uranium	0.0487	mg/L		0	85	115			
<b>Lab ID: B15100196-001BMS</b>	Sample Matrix Spike						Run: ICPMS206-B_151006A 10/06/15 18:22		
Aluminum	0.119	mg/L	0.030	80	70	130			
Antimony	0.0469	mg/L	0.0010	93	70	130			
Arsenic	0.0468	mg/L	0.0010	91	70	130			
Cadmium	0.0458	mg/L	0.0010	92	70	130			
Lead	0.0478	mg/L	0.0010	95	70	130			
Selenium	0.0460	mg/L	0.0010	92	70	130			
Silver	0.0148	mg/L	0.0010	74	70	130			
Thallium	0.0470	mg/L	0.00050	94	70	130			
Uranium	0.0501	mg/L	0.00030	94	70	130			

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/12/15

**Project:** Job ID: 1509799

**Work Order:** B15100258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8									Batch: R250480
<b>Lab ID:</b> B15100196-001BMSD	Sample Matrix Spike Duplicate			Run: ICPMS206-B_151006A				10/06/15 18:27	
Aluminum	0.115	mg/L	0.030	71	70	130	3.6	20	
Antimony	0.0482	mg/L	0.0010	96	70	130	2.9	20	
Arsenic	0.0471	mg/L	0.0010	92	70	130	0.7	20	
Cadmium	0.0460	mg/L	0.0010	92	70	130	0.5	20	
Lead	0.0477	mg/L	0.0010	95	70	130	0.2	20	
Selenium	0.0469	mg/L	0.0010	93	70	130	2.0	20	
Silver	0.0173	mg/L	0.0010	86	70	130	16	20	
Thallium	0.0471	mg/L	0.00050	94	70	130	0.3	20	
Uranium	0.0493	mg/L	0.00030	92	70	130	1.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/12/15

**Project:** Job ID: 1509799

**Work Order:** B15100258

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV203-B_151008A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Mercury	0.000203	mg/L	1.0E-05	102	90	110			10/08/15 12:02
<b>Lab ID:</b> CCV	Continuing Calibration Verification Standard								
Mercury	9.39E-05	mg/L	1.0E-05	94	90	110			10/08/15 14:32
<b>Method:</b> E245.1									Batch: 93777
<b>Lab ID:</b> MB-93777	Method Blank								
Mercury	2E-06	mg/L	1E-06						Run: HGCV203-B_151008A 10/08/15 13:56
<b>Lab ID:</b> LCS-93777	Laboratory Control Sample								
Mercury	0.000196	mg/L	1.0E-05	97	85	115			Run: HGCV203-B_151008A 10/08/15 13:59
<b>Lab ID:</b> B15100471-003BMS	Sample Matrix Spike								
Mercury	0.000211	mg/L	1.0E-05	102	70	130			Run: HGCV203-B_151008A 10/08/15 14:58
<b>Lab ID:</b> B15100471-003BMSD	Sample Matrix Spike Duplicate								
Mercury	0.000201	mg/L	1.0E-05	97	70	130	4.9	30	Run: HGCV203-B_151008A 10/08/15 15:01

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15100258

Login completed by: Leslie S. Cadreau

Date Received: 10/5/2015

Reviewed by: BL2000\jmueller

Received by: jwc

Reviewed Date: 10/5/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	12.0°C Melted Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None

# CHAIN OF CUSTODY RECORD

*Energy*

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson Ph: (775) 355-0202 kurtc@WETLaboratory.com Fax: (775) 355-0817		Total # of sample containers: <u>1</u> System: _____		Samplers Initials: _____ All Samples Refrigerated?: Y N Compliance: Y N CA Write ON: Y N QC: Y N		Water System #: _____	
Sample Receipt Condition: _____ Temperature: _____		Job ID: 1509799		Notes: <i>see attached</i>			
Set Date: _____ Set Time: 9/29/2015 9:00 AM		Sample ID - Site ID: C773-15 B.C WK.2 - WLHCT-0120		Container Type: _____		Date: _____ Time: _____	
Matrix: Leachate		Parameter: Various Metals (Subcontracted)		Preservatives: _____		Date: _____ Time: _____	
Relinquished by: <i>[Signature]</i> (Signature)		Date: 9/30/15 4:00		Received by: <i>UPS</i> (Signature)		Date: _____ Time: _____	
Relinquished by: _____ (Signature)		Date: _____		Received by: <i>Jody W Campbell</i> (Signature)		Date: 10/15/15 9:15	
Relinquished by: _____ (Signature)		Date: _____		Received by: _____ (Signature)		Date: _____ Time: _____	

*B15100258-001*

*12:0°C methanolic  
UPS grand*



10/14/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1510101

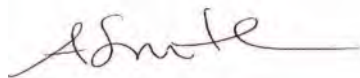
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 10/6/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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EPA LAB ID: NV00926

**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1510101

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 10/14/2015

OrderID: 1510101

Customer Sample ID: C773-15 B, C WK: 3

Collect Date/Time: 10/6/2015 09:00

WETLAB Sample ID: 1510101-001

Receive Date: 10/6/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	0.26	mg/L	1	0.1	10/6/2015	NV00925
Ferric Iron	SM 3500 Fe B	ND	mg/L	1	0.1	10/13/2015	NV00925
pH	SM 4500-H+ B	4.73	pH Units	1		10/12/2015	NV00925
Temperature at pH	NA	23	°C	1		10/12/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		10/6/2015	NV00925
Acidity (Titrimetric)	SM 2310B	19	mg/L as CaCO3	1		10/9/2015	NV00925
Total Alkalinity	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/9/2015	NV00925
Bicarbonate (HCO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/9/2015	NV00925
Carbonate (CO3)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/9/2015	NV00925
Hydroxide (OH)	SM 2320B	ND	mg/L as CaCO3	1	1.0	10/9/2015	NV00925
Electrical Conductivity	SM 2510B	150	µmhos/cm	1	1	10/6/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	75	mg/L	1	1.0	10/7/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	22	mg/L	1	0.50	10/13/2015	NV00925
Iron	EPA 200.7	0.32	mg/L	1	0.020	10/13/2015	NV00925
Magnesium	EPA 200.7	1.6	mg/L	1	0.50	10/13/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		10/6/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/12/2015	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	10/5/2015	NV00925
HCT Post-Leach Volume	N/A	830	mL	1	1	10/6/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 5

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15100295	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15100327	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15100328	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15100562	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15100295	LCS 1	Sulfate	EPA 300.0	23.1	25.0	93	mg/L
QC15100327	LCS 1	Ferrous Iron	SM 3500 Fe B	0.898	1.00	90	mg/L
QC15100328	LCS 1	Electrical Conductivity	SM 2510B	1433	1412	101	µmhos/cm
QC15100344	LCS 1	Redox Potential	ASTM D1498	224	221	101	mV
QC15100476	LCS 1	Total Alkalinity	SM 2320B	102	100	102	mg/L
QC15100476	LCS 2	Total Alkalinity	SM 2320B	96.5	100	97	mg/L
QC15100545	LCS 1	pH	SM 4500-H+ B	6.92	7.00	99	pH Units
QC15100545	LCS 2	pH	SM 4500-H+ B	6.94	7.00	99	pH Units
QC15100562	LCS 1	Calcium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Iron, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Magnesium, Dissolved	EPA 200.7	10.6	10.0	106	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15100327	Duplicate	Ferrous Iron	SM 3500 Fe B	1510097-001	ND	ND	mg/L	<1%
QC15100327	Duplicate	Ferrous Iron	SM 3500 Fe B	1510099-003	ND	ND	mg/L	<1%
QC15100328	Duplicate	Electrical Conductivity	SM 2510B	1510097-001	63.2	62.5	µmhos/cm	1 %
QC15100328	Duplicate	Electrical Conductivity	SM 2510B	1510099-003	93.1	92.5	µmhos/cm	1 %
QC15100344	Duplicate	Redox Potential	ASTM D1498	1510097-001	504	509	mV	1 %
QC15100344	Duplicate	Redox Potential	ASTM D1498	1510099-003	463	464	mV	<1%
QC15100476	Duplicate	Total Alkalinity	SM 2320B	1510018-001	10.8	11.2	mg/L as CaCO3	3 %
		Bicarbonate (HCO3)	SM 2320B	1510018-001	10.8	11.2	mg/L as CaCO3	3 %
		Carbonate (CO3)	SM 2320B	1510018-001	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1510018-001	ND	ND	mg/L as CaCO3	<1%
QC15100476	Duplicate	Total Alkalinity	SM 2320B	1510021-003	27.1	27.0	mg/L as CaCO3	<1%
		Bicarbonate (HCO3)	SM 2320B	1510021-003	27.1	27.0	mg/L as CaCO3	<1%
		Carbonate (CO3)	SM 2320B	1510021-003	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1510021-003	ND	ND	mg/L as CaCO3	<1%
QC15100476	Duplicate	Total Alkalinity	SM 2320B	1510098-005	2.46	2.55	mg/L as CaCO3	4 %
		Bicarbonate (HCO3)	SM 2320B	1510098-005	2.46	2.55	mg/L as CaCO3	4 %
		Carbonate (CO3)	SM 2320B	1510098-005	ND	ND	mg/L as CaCO3	<1%
		Hydroxide (OH)	SM 2320B	1510098-005	ND	ND	mg/L as CaCO3	<1%
QC15100477	Duplicate	Acidity (Titrimetric)	SM 2310B	1510018-001	5.56	4.61	mg/L as CaCO3	19 %
QC15100477	Duplicate	Acidity (Titrimetric)	SM 2310B	1510021-003	ND	1.26	mg/L as CaCO3	640 %
QC15100477	Duplicate	Acidity (Titrimetric)	SM 2310B	1510098-005	8.39	7.63	mg/L as CaCO3	9 %

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 5

**SPARKS**

475 E. Greg Street, Suite 119  
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 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932



QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD	
QC15100545	Duplicate	pH	SM 4500-H+ B	1510018-001	6.65	6.82	QD	pH Units	3 %
QC15100545	Duplicate	pH	SM 4500-H+ B	1510021-003	7.10	7.41	QD	pH Units	4 %
QC15100545	Duplicate	pH	SM 4500-H+ B	1510097-001	6.73	6.83		pH Units	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15100295	MS 1	Sulfate	EPA 300.0	1510099-004	71.3	80.3	80.8	10.0	mg/L	89	94	1%
QC15100562	MS 1	Calcium, Dissolved	EPA 200.7	1510174-003	105	115	114	10.0	mg/L	100	90	1%
		Iron, Dissolved	EPA 200.7	1510174-003	0.628	1.63	1.65	1.00	mg/L	100	102	1%
		Magnesium, Dissolved	EPA 200.7	1510174-003	27.3	37.4	37.3	10.0	mg/L	101	100	<1%

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 EPA LAB ID: NV00932



11/5/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1510306

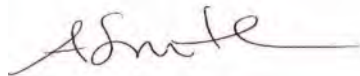
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 10/13/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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Sparks, Nevada 89431  
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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1510306

---

### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 11/5/2015

OrderID: 1510306

Customer Sample ID: C773-15 B, C WK: 4

Collect Date/Time: 10/13/2015 09:00

WETLAB Sample ID: 1510306-001

Receive Date: 10/13/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	0.20	mg/L	1	0.1	10/13/2015	NV00925
Ferric Iron	SM 3500 Fe B	1.0	mg/L	1	0.1	10/16/2015	NV00925
pH	SM 4500-H+ B	4.36	pH Units	1		10/20/2015	NV00925
Temperature at pH	NA	23.5	°C	1		10/20/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	10/20/2015	NV00925
Redox Potential	ASTM D1498	500	mV	1		10/13/2015	NV00925
Acidity (Titrimetric)	SM 2310B	35	mg/L as CaCO3	1		10/19/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.30	10/19/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	160	mg/L	1	10	10/15/2015	NV00925
Electrical Conductivity	SM 2510B	230	µmhos/cm	1	1	10/13/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	10/15/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	10/15/2015	NV00925
Sulfate	EPA 300.0	90	mg/L	1	1.0	10/15/2015	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	10/16/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.20	10/19/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.063	mg/L	1	0.0030	10/16/2015	NV00925
Beryllium	EPA 200.7	ND	mg/L	1	0.0008	10/16/2015	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	10/16/2015	NV00925
Calcium	EPA 200.7	27	mg/L	1	0.50	10/16/2015	NV00925
Chromium	EPA 200.7	ND	mg/L	1	0.0050	10/16/2015	NV00925
Cobalt	EPA 200.7	0.59	mg/L	1	0.010	10/16/2015	NV00925
Iron	EPA 200.7	1.2	mg/L	1	0.020	10/16/2015	NV00925
Magnesium	EPA 200.7	2.6	mg/L	1	0.50	10/16/2015	NV00925
Manganese	EPA 200.7	0.20	mg/L	1	0.0050	10/16/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	10/16/2015	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	10/16/2015	NV00925
Sodium	EPA 200.7	0.69	mg/L	1	0.50	10/16/2015	NV00925
Strontium	EPA 200.7	1.2	mg/L	1	0.020	10/16/2015	NV00925
Zinc	EPA 200.7	0.11	mg/L	1	0.0080	10/16/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	7.5	mg/L	100	0.20	10/23/2015	NV00925
Nickel	EPA 200.8	0.13	mg/L	1	0.0020	10/23/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

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**LAS VEGAS**

3230 Polaris Ave. Suite 4  
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 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C773-15 B, C WK: 4

Collect Date/Time: 10/13/2015 09:00

WETLAB Sample ID: 1510306-001

Receive Date: 10/13/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Ion Balance</u></b>							
Anions	Calculation	1.87	meq/L	1	0.10		NV00925
Cations	Calculation	2.02	meq/L	1	0.10		NV00925
Error	Calculation	3.8	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		10/13/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/16/2015	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	10/12/2015	NV00925
HCT Post-Leach Volume	N/A	860	mL	1	1	10/13/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15100618	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15100619	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15100645	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15100683	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15100735	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15100781	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15100782	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15100788	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15100830	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15100618	LCS 1	Ferrous Iron	SM 3500 Fe B	0.954	1.00	95	mg/L
QC15100619	LCS 1	Electrical Conductivity	SM 2510B	1439	1412	102	µmhos/cm
QC15100621	LCS 1	Redox Potential	ASTM D1498	222	221	101	mV
QC15100645	LCS 1	Chloride	EPA 300.0	10.1	10.0	101	mg/L
		Fluoride	EPA 300.0	2.00	2.00	100	mg/L
		Sulfate	EPA 300.0	24.6	25.0	98	mg/L
QC15100683	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.805	0.800	101	mg/L
QC15100735	LCS 1	Barium, Dissolved	EPA 200.7	0.996	1.00	100	mg/L
		Beryllium, Dissolved	EPA 200.7	0.979	1.00	98	mg/L
		Boron, Dissolved	EPA 200.7	0.980	1.00	98	mg/L
		Calcium, Dissolved	EPA 200.7	9.50	10.0	95	mg/L
		Chromium, Dissolved	EPA 200.7	0.988	1.00	99	mg/L
		Cobalt, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Iron, Dissolved	EPA 200.7	1.01	1.00	101	mg/L
		Magnesium, Dissolved	EPA 200.7	10.2	10.0	102	mg/L
		Manganese, Dissolved	EPA 200.7	0.978	1.00	98	mg/L
		Molybdenum, Dissolved	EPA 200.7	1.00	1.00	100	mg/L
		Potassium, Dissolved	EPA 200.7	10.1	10.0	101	mg/L
		Sodium, Dissolved	EPA 200.7	9.89	10.0	99	mg/L
		Strontium, Dissolved	EPA 200.7	0.967	1.00	97	mg/L
		Zinc, Dissolved	EPA 200.7	1.06	1.00	106	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15100781	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.09	1.00	109	mg/L
QC15100782	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	158	150	105	mg/L
QC15100782	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	150	150	100	mg/L
QC15100788	LCS 1	Copper	EPA 200.8	0.0107	0.010	107	mg/L
		Nickel	EPA 200.8	0.0108	0.010	108	mg/L
QC15100830	LCS 1	WAD Cyanide	SM 4500CN I, E	0.101	0.100	101	mg/L
QC15100847	LCS 1	pH	SM 4500-H+ B	6.92	7.00	99	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15100618	Duplicate	Ferrous Iron	SM 3500 Fe B	1510302-001	ND	ND	mg/L	<1%
QC15100618	Duplicate	Ferrous Iron	SM 3500 Fe B	1510304-003	ND	ND	mg/L	<1%
QC15100619	Duplicate	Electrical Conductivity	SM 2510B	1510302-001	59.4	59.3	µmhos/cm	<1%
QC15100619	Duplicate	Electrical Conductivity	SM 2510B	1510304-003	79.8	79.3	µmhos/cm	1 %
QC15100621	Duplicate	Redox Potential	ASTM D1498	1510302-001	508	510	mV	<1%
QC15100621	Duplicate	Redox Potential	ASTM D1498	1510304-003	474	475	mV	<1%
QC15100782	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1510374-001	284	275	mg/L	3 %
QC15100782	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1510374-002	207	208	mg/L	<1%
QC15100805	Duplicate	Acidity (Titrimetric)	SM 2310B	1510305-001	20.1	17.8	mg/L as CaCO3	12 %
QC15100805	Duplicate	Acidity (Titrimetric)	SM 2310B	1510458-001	7.56	8.15	mg/L as CaCO3	8 %
QC15100805	Duplicate	Acidity (Titrimetric)	SM 2310B	1510458-002	13.7	13.3	mg/L as CaCO3	3 %
QC15100847	Duplicate	pH	SM 4500-H+ B	1510302-001	6.72	6.77	pH Units	1 %
QC15100847	Duplicate	pH	SM 4500-H+ B	1510304-003	6.92	6.91	pH Units	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15100645	MS 1	Chloride	EPA 300.0	1510370-001	9.38	15.1	15.2	5.00	mg/L	114	116	1%
		Fluoride	EPA 300.0	1510370-001	0.202	2.19	2.24	2.00	mg/L	100	102	2%
		Sulfate	EPA 300.0	1510370-001	75.3	83.8	83.9	10.0	mg/L	85	86	<1%
QC15100645	MS 2	Chloride	EPA 300.0	1510374-005	9.38	14.5	14.6	5.00	mg/L	102	104	1%
		Fluoride	EPA 300.0	1510374-005	0.996	2.88	2.94	2.00	mg/L	94	97	2%
		Sulfate	EPA 300.0	1510374-005	27.0	36.7	36.9	10.0	mg/L	96	98	1%
QC15100683	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1510372-002	4.48	14.6	14.7	1.00	mg/L	101	102	1%
QC15100683	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1510377-001	0.375	5.63	5.58	1.00	mg/L	105	104	1%
QC15100735	MS 1	Barium, Dissolved	EPA 200.7	1510374-001	0.084	1.07	1.06	1.00	mg/L	99	98	1%
		Beryllium, Dissolved	EPA 200.7	1510374-001	ND	1.00	0.961	1.00	mg/L	100	96	4%
		Boron, Dissolved	EPA 200.7	1510374-001	0.130	1.15	1.13	1.00	mg/L	102	100	2%
		Calcium, Dissolved	EPA 200.7	1510374-001	40.3	SC 46.1	46.6	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1510374-001	ND	0.986	0.966	1.00	mg/L	99	97	2%
		Cobalt, Dissolved	EPA 200.7	1510374-001	ND	0.977	0.940	1.00	mg/L	98	94	4%
		Iron, Dissolved	EPA 200.7	1510374-001	ND	0.999	1.00	1.00	mg/L	99	99	<1%
		Magnesium, Dissolved	EPA 200.7	1510374-001	7.92	17.0	16.9	10.0	mg/L	91	90	1%
		Manganese, Dissolved	EPA 200.7	1510374-001	ND	0.974	0.950	1.00	mg/L	97	95	2%
		Molybdenum, Dissolved	EPA 200.7	1510374-001	ND	1.00	0.979	1.00	mg/L	100	98	2%
		Potassium, Dissolved	EPA 200.7	1510374-001	5.40	14.5	14.6	10.0	mg/L	91	92	1%
		Sodium, Dissolved	EPA 200.7	1510374-001	33.1	40.4	41.6	10.0	mg/L	73	85	3%
		Strontium, Dissolved	EPA 200.7	1510374-001	0.281	1.23	1.24	1.00	mg/L	95	96	1%
		Zinc, Dissolved	EPA 200.7	1510374-001	ND	1.05	1.00	1.00	mg/L	104	99	5%
QC15100781	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1510300-001	0.280	1.35	1.20	1.00	mg/L	107	92	12%
QC15100781	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1510300-002	ND	1.08	1.21	1.00	mg/L	94	107	11%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15100788	MS 1	Copper, Dissolved	EPA 200.8	1510374-001	ND	0.0111	0.0110	0.010	mg/L	103	101	1%
		Nickel, Dissolved	EPA 200.8	1510374-001	ND	0.0124	0.0123	0.010	mg/L	104	103	1%
QC15100830	MS 1	WAD Cyanide	SM 4500CN I,	1510416-001	ND	0.107	0.106	0.100	mg/L	107	105	1%
QC15100830	MS 2	WAD Cyanide	SM 4500CN I,	1510300-002	ND	0.100	0.105	0.100	mg/L	100	104	5%

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# ANALYTICAL SUMMARY REPORT

October 28, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15101634                      Quote ID: B3679

Project Name: Job ID 1510306

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 10/20/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15101634-001	C773-15 B, C WK: 4 - WLHCT-0120	10/13/15 9:00	10/20/15	Leachate	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** Job ID 1510306  
**Lab ID:** B15101634-001  
**Client Sample ID:** C773-15 B, C WK: 4 -WLHCT-0120

**Report Date:** 10/28/15  
**Collection Date:** 10/13/15 09:00  
**Date Received:** 10/20/15  
**Matrix:** Leachate

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	0.530	mg/L		0.009		E200.7	10/26/15 17:22 / rjh
Antimony	ND	mg/L		0.0005		E200.8	10/21/15 19:06 / mas
Arsenic	ND	mg/L		0.001		E200.8	10/21/15 19:06 / mas
Cadmium	0.00013	mg/L		0.00003		E200.8	10/22/15 16:50 / mas
Lead	0.0020	mg/L		0.0003		E200.8	10/21/15 19:06 / mas
Mercury	ND	mg/L		5E-06		E245.1	10/21/15 14:13 / ser
Phosphorus	0.009	mg/L	L	0.007		E200.7	10/26/15 17:22 / rjh
Selenium	ND	mg/L		0.001		E200.8	10/21/15 19:06 / mas
Silicon	1.16	mg/L		0.05		E200.8	10/21/15 19:06 / mas
Silver	ND	mg/L		0.0002		E200.8	10/21/15 19:06 / mas
Thallium	0.0206	mg/L		0.0002		E200.8	10/21/15 19:06 / mas
Uranium	0.0007	mg/L		0.0002		E200.8	10/21/15 19:06 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/28/15

**Project:** Job ID 1510306

**Work Order:** B15101634

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.7								Analytical Run: ICP203-B_151026A		
<b>Lab ID:</b> ICV	Continuing Calibration Verification Standard							10/26/15 11:26		
Aluminum	2.53	mg/L	0.10	101	95	105				
Phosphorus	2.50	mg/L	0.10	100	95	105				
<b>Method:</b> E200.7								Batch: R251488		
<b>Lab ID:</b> MB-6500DIS151026A	Method Blank							Run: ICP203-B_151026A 10/26/15 11:54		
Aluminum	ND	mg/L	0.007							
Phosphorus	ND	mg/L	0.007							
<b>Lab ID:</b> LFB-6500DIS151026A	Laboratory Fortified Blank							Run: ICP203-B_151026A 10/26/15 11:58		
Aluminum	5.13	mg/L	0.10	103	85	115				
Phosphorus	10.1	mg/L	0.10	101	85	115				
<b>Lab ID:</b> B15101634-001AMS2	Sample Matrix Spike							Run: ICP203-B_151026A 10/26/15 17:25		
Aluminum	5.62	mg/L	0.030	102	70	130				
Phosphorus	10.2	mg/L	0.10	102	70	130				
<b>Lab ID:</b> B15101634-001AMSD2	Sample Matrix Spike Duplicate							Run: ICP203-B_151026A 10/26/15 17:29		
Aluminum	5.63	mg/L	0.030	102	70	130	0.1	20		
Phosphorus	10.3	mg/L	0.10	102	70	130	0.1	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/28/15

**Project:** Job ID 1510306

**Work Order:** B15101634

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8	Analytical Run: ICPMS202-B_151022A								
<b>Lab ID:</b> QCS	Initial Calibration Verification Standard								10/22/15 15:02
Cadmium	0.0255	mg/L	0.0010	102	90	110			
<b>Method:</b> E200.8	Batch: R251400								
<b>Lab ID:</b> LFB	Laboratory Fortified Blank								10/22/15 12:10
Cadmium	0.0508	mg/L	0.0010	102	85	115			
<b>Lab ID:</b> LRB	Method Blank								10/22/15 15:21
Cadmium	ND	mg/L	1E-05						
<b>Lab ID:</b> B15101741-001BMS	Sample Matrix Spike								10/22/15 16:55
Cadmium	0.0537	mg/L	0.0010	107	70	130			
<b>Lab ID:</b> B15101741-001BMSD	Sample Matrix Spike Duplicate								10/22/15 16:58
Cadmium	0.0526	mg/L	0.0010	105	70	130	2.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/28/15

**Project:** Job ID 1510306

**Work Order:** B15101634

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Analytical Run: ICPMS203-B_151021A		
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard						10/21/15 18:22		
Antimony	0.0496	mg/L	0.050	99	90	110			
Arsenic	0.0532	mg/L	0.0050	106	90	110			
Lead	0.0455	mg/L	0.010	91	90	110			
Selenium	0.0493	mg/L	0.0050	99	90	110			
Silicon	0.534	mg/L	0.10	107	90	110			
Silver	0.0241	mg/L	0.0050	96	90	110			
Thallium	0.0450	mg/L	0.10	90	90	110			
Uranium	0.0183	mg/L	0.0010	92	90	110			
<b>Method: E200.8</b>							Batch: R251289		
<b>Lab ID: LFB</b>	Laboratory Fortified Blank				Run: ICPMS203-B_151021A		10/21/15 10:22		
Antimony	0.0458	mg/L	0.050	92	85	115			
Arsenic	0.0468	mg/L	0.0050	94	85	115			
Lead	0.0500	mg/L	0.010	100	85	115			
Selenium	0.0466	mg/L	0.0050	93	85	115			
Silicon	0.218	mg/L	0.10	109	85	115			
Silver	0.0201	mg/L	0.0050	101	85	115			
Thallium	0.0517	mg/L	0.10	103	85	115			
Uranium	0.0493	mg/L	0.0010	99	85	115			
<b>Lab ID: LRB</b>	Method Blank			Run: ICPMS203-B_151021A		10/21/15 11:26			
Antimony	ND	mg/L	1E-05						
Arsenic	0.0001	mg/L	5E-05						
Lead	ND	mg/L	3E-05						
Selenium	ND	mg/L	7E-05						
Silicon	ND	mg/L	0.003						
Silver	ND	mg/L	2E-05						
Thallium	ND	mg/L	1E-05						
Uranium	ND	mg/L	3E-06						
<b>Lab ID: B15101425-018BMS</b>	Sample Matrix Spike			Run: ICPMS203-B_151021A		10/21/15 19:27			
Antimony	0.0500	mg/L	0.0010	99	70	130			
Arsenic	0.0579	mg/L	0.0010	115	70	130			
Lead	0.0507	mg/L	0.0010	101	70	130			
Selenium	0.0571	mg/L	0.0010	114	70	130			
Silicon	6.94	mg/L	0.10		70	130			A
Silver	0.0181	mg/L	0.0010	90	70	130			
Thallium	0.0533	mg/L	0.00050	107	70	130			
Uranium	0.0545	mg/L	0.00030	109	70	130			
<b>Lab ID: B15101425-018BMSD</b>	Sample Matrix Spike Duplicate			Run: ICPMS203-B_151021A		10/21/15 19:31			
Antimony	0.0511	mg/L	0.0010	101	70	130	2.3	20	
Arsenic	0.0593	mg/L	0.0010	117	70	130	2.4	20	

**Qualifiers:**

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/28/15

**Project:** Job ID 1510306

**Work Order:** B15101634

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8									Batch: R251289
<b>Lab ID:</b> B15101425-018BMSD	Sample Matrix Spike Duplicate			Run: ICPMS203-B_151021A				10/21/15 19:31	
Lead	0.0515	mg/L	0.0010	103	70	130	1.5	20	
Selenium	0.0549	mg/L	0.0010	110	70	130	3.9	20	
Silicon	6.58	mg/L	0.10		70	130	5.4	20	A
Silver	0.0179	mg/L	0.0010	90	70	130	0.8	20	
Thallium	0.0542	mg/L	0.00050	108	70	130	1.8	20	
Uranium	0.0549	mg/L	0.00030	110	70	130	0.8	20	

**Qualifiers:**

RL - Analyte reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 10/28/15

**Project:** Job ID 1510306

**Work Order:** B15101634

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV203-B_151021A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Mercury	0.000203	mg/L	1.0E-05	102	90	110			10/21/15 11:35
<b>Method:</b> E245.1									Batch: 94184
<b>Lab ID:</b> MB-94184	Method Blank								
Mercury	ND	mg/L	1E-06						Run: HGCV203-B_151021A 10/21/15 13:52
<b>Lab ID:</b> LCS-94184	Laboratory Control Sample								
Mercury	0.000197	mg/L	1.0E-05	98	85	115			Run: HGCV203-B_151021A 10/21/15 13:55
<b>Lab ID:</b> B15101080-004CMS	Sample Matrix Spike								
Mercury	0.000198	mg/L	1.0E-05	99	70	130			Run: HGCV203-B_151021A 10/21/15 14:00
<b>Lab ID:</b> B15101080-004CMSD	Sample Matrix Spike Duplicate								
Mercury	0.000202	mg/L	1.0E-05	101	70	130	2.0	30	Run: HGCV203-B_151021A 10/21/15 14:03

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.





# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15101634

Login completed by: Lisa Gancze

Date Received: 10/20/2015

Reviewed by: BL2000\jmueller

Received by: dlf

Reviewed Date: 10/21/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	17.2°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None


# CHAIN OF CUSTODY RECORD

*Ernest*

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Logan Greenwood Ph: (775) 355-0202 LoganG@wetlaboratory.com Fax: (775) 355-0817		Total # of sample containers System Job ID 1510306	All Samples Refrigerated?: Y N Compliance: Y X N CA Write ON: Y N X QC: Y X N	Samplers Initials _____ Notes: <i>Quote # 3679</i>	Date: _____ Time: _____ SIGNATURE OF COMPANY REPRESENTATIVE: _____
---	--	---	--	--	---

Set Date	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives
10/13/2015	C773-15 B, C WK. 4 - WLHCT-0120	Leachate	Various Metals (Subcontracted)		
9:00 AM					

*B15101634001*

		Sample Type			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	10/15/15	14:00	<i>UPS</i>		
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
			<i>Dubois</i>	10/20/15	0915
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

*17.2  
No Ice  
No Seals  
UPS Grd*



10/30/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1510524

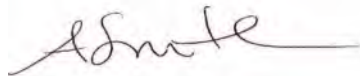
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 10/20/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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**LAS VEGAS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1510524

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 10/30/2015

OrderID: 1510524

Customer Sample ID: C773-15 B, C WK: 5

Collect Date/Time: 10/20/2015 09:00

WETLAB Sample ID: 1510524-001

Receive Date: 10/20/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	0.15	mg/L	1	0.1	10/20/2015	NV00925
Ferric Iron	SM 3500 Fe B	1.7	mg/L	1	0.1	10/21/2015	NV00925
pH	SM 4500-H+ B	3.81	pH Units	1		10/22/2015	NV00925
Temperature at pH	NA	23.7	°C	1		10/22/2015	NV00925
Redox Potential	ASTM D1498	470	mV	1		10/20/2015	NV00925
Acidity (Titrimetric)	SM 2310B	48	mg/L as CaCO <sub>3</sub>	1		10/26/2015	NV00925
Electrical Conductivity	SM 2510B	210	µmhos/cm	1	1	10/20/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	76	mg/L	1	1.0	10/21/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	20	mg/L	1	0.50	10/21/2015	NV00925
Iron	EPA 200.7	1.8	mg/L	1	0.020	10/21/2015	NV00925
Magnesium	EPA 200.7	2.5	mg/L	1	0.50	10/21/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		10/20/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/21/2015	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	10/19/2015	NV00925
HCT Post-Leach Volume	N/A	860	mL	1	1	10/20/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 4

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15100919	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
QC15100923	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15101082	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15101104	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15100919	LCS 1	Calcium, Dissolved	EPA 200.7	9.59	10.0	96	mg/L
		Iron, Dissolved	EPA 200.7	0.962	1.00	96	mg/L
		Magnesium, Dissolved	EPA 200.7	9.54	10.0	95	mg/L
QC15100923	LCS 1	Sulfate	EPA 300.0	23.9	25.0	96	mg/L
QC15101031	LCS 1	pH	SM 4500-H+ B	6.92	7.00	99	pH Units
QC15101082	LCS 1	Ferrous Iron	SM 3500 Fe B	0.932	1.00	93	mg/L
QC15101104	LCS 1	Electrical Conductivity	SM 2510B	1437	1412	102	µmhos/cm
QC15101108	LCS 1	Redox Potential	ASTM D1498	222	221	100	mV

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15101031	Duplicate	pH	SM 4500-H+ B	1510520-001	6.76	6.78	pH Units	<1%
QC15101031	Duplicate	pH	SM 4500-H+ B	1510522-003	6.92	7.06	QD pH Units	2 %
QC15101079	Duplicate	Acidity (Titrimetric)	SM 2310B	1510520-001	16.2	14.3	mg/L as CaCO3	12 %
QC15101079	Duplicate	Acidity (Titrimetric)	SM 2310B	1510522-003	16.6	18.3	mg/L as CaCO3	10 %
QC15101079	Duplicate	Acidity (Titrimetric)	SM 2310B	1510599-001	21.2	21.3	mg/L as CaCO3	<1%
QC15101082	Duplicate	Ferrous Iron	SM 3500 Fe B	1510520-001	ND	ND	mg/L	<1%
QC15101082	Duplicate	Ferrous Iron	SM 3500 Fe B	1510522-003	ND	ND	mg/L	<1%
QC15101104	Duplicate	Electrical Conductivity	SM 2510B	1510520-001	61.4	61.0	µmhos/cm	1 %
QC15101104	Duplicate	Electrical Conductivity	SM 2510B	1510522-003	86.2	86.2	µmhos/cm	<1%
QC15101108	Duplicate	Redox Potential	ASTM D1498	1510520-001	517	519	mV	<1%
QC15101108	Duplicate	Redox Potential	ASTM D1498	1510522-003	508	501	mV	2 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15100919	MS 1	Calcium, Dissolved	EPA 200.7	1510568-002	37.8	49.2	48.1	10.0	mg/L	114	103	2%
		Iron, Dissolved	EPA 200.7	1510568-002	ND	0.981	0.983	1.00	mg/L	97	97	<1%
		Magnesium, Dissolved	EPA 200.7	1510568-002	11.8	21.6	21.5	10.0	mg/L	98	97	<1%
QC15100923	MS 1	Sulfate	EPA 300.0	1510524-001	76.2	84.9	85.2	10.0	mg/L	87	90	<1%
QC15100923	MS 2	Sulfate	EPA 300.0	1510564-014	21.5	31.4	31.6	10.0	mg/L	99	100	1%

**SPARKS**

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EPA LAB ID: NV00932





11/6/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1510682

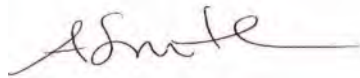
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

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The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 10/27/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1510682

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 11/6/2015

OrderID: 1510682

Customer Sample ID: C773-15 B,C WK:6

Collect Date/Time: 10/27/2015 09:00

WETLAB Sample ID: 1510682-001

Receive Date: 10/27/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	4.6	mg/L	1	0.1	10/27/2015	NV00925
Ferric Iron	SM 3500 Fe B	0.10	mg/L	1	0.1	10/29/2015	NV00925
pH	SM 4500-H+ B	3.87	pH Units	1		11/3/2015	NV00925
Temperature at pH	NA	20.2	°C	1		11/3/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		10/27/2015	NV00925
Acidity (Titrimetric)	SM 2310B	68	mg/L as CaCO <sub>3</sub>	1		10/29/2015	NV00925
Electrical Conductivity	SM 2510B	330	µmhos/cm	1	1	10/27/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	120	SC mg/L	10	10	10/29/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	28	mg/L	1	0.50	10/29/2015	NV00925
Iron	EPA 200.7	4.7	mg/L	1	0.020	10/29/2015	NV00925
Magnesium	EPA 200.7	4.1	mg/L	1	0.50	10/29/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		10/27/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		10/28/2015	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	10/26/2015	NV00925
HCT Post-Leach Volume	N/A	860	mL	1	1	10/27/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 4

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15101106	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15101111	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15101222	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15101222	Blank 2	Sulfate	EPA 300.0	ND	mg/L
QC15101237	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15101106	LCS 1	Electrical Conductivity	SM 2510B	1481	1412	105	µmhos/cm
QC15101110	LCS 1	Redox Potential	ASTM D1498	222	221	100	mV
QC15101111	LCS 1	Ferrous Iron	SM 3500 Fe B	1.00	1.00	100	mg/L
QC15101222	LCS 1	Sulfate	EPA 300.0	23.3	25.0	93	mg/L
QC15101237	LCS 1	Calcium, Dissolved	EPA 200.7	9.63	10.0	96	mg/L
		Iron, Dissolved	EPA 200.7	0.964	1.00	96	mg/L
		Magnesium, Dissolved	EPA 200.7	9.66	10.0	97	mg/L
QC15110115	LCS 1	pH	SM 4500-H+ B	6.97	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15101106	Duplicate	Electrical Conductivity	SM 2510B	1510678-001	58.6	58.6	µmhos/cm	<1%
QC15101106	Duplicate	Electrical Conductivity	SM 2510B	1510680-003	84.4	84.1	µmhos/cm	<1%
QC15101110	Duplicate	Redox Potential	ASTM D1498	1510678-001	504	504	mV	<1%
QC15101110	Duplicate	Redox Potential	ASTM D1498	1510680-003	504	502	mV	<1%
QC15101111	Duplicate	Ferrous Iron	SM 3500 Fe B	1510678-001	ND	ND	mg/L	<1%
QC15101111	Duplicate	Ferrous Iron	SM 3500 Fe B	1510680-003	ND	ND	mg/L	<1%
QC15110115	Duplicate	pH	SM 4500-H+ B	1510678-001	7.43	7.40	pH Units	<1%
QC15110115	Duplicate	pH	SM 4500-H+ B	1510680-003	7.54	7.57	pH Units	<1%
QC15110126	Duplicate	Acidity (Titrimetric)	SM 2310B	1510678-001	13.7	11.6	mg/L as CaCO3	16 %
QC15110126	Duplicate	Acidity (Titrimetric)	SM 2310B	1510680-003	6.64	6.68	mg/L as CaCO3	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15101222	MS 1	Sulfate	EPA 300.0	1510682-001	121	SC 111	110	10.0	mg/L	NC	NC	NC
QC15101222	MS 2	Sulfate	EPA 300.0	1510792-004	451	SC 523	536	10.0	mg/L	NC	NC	NC
QC15101237	MS 1	Calcium, Dissolved	EPA 200.7	1510718-006	11.6	21.0	21.2	10.0	mg/L	94	96	1%
		Iron, Dissolved	EPA 200.7	1510718-006	0.385	1.35	1.33	1.00	mg/L	97	94	1%
		Magnesium, Dissolved	EPA 200.7	1510718-006	1.51	11.2	11.1	10.0	mg/L	97	96	1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 4

**SPARKS**

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**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932



11/13/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1511011

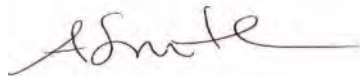
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 11/3/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

475 E. Greg Street, Suite 119  
Sparks, Nevada 89431  
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fax (775) 355-0817  
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tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1511011

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 11/13/2015

OrderID: 1511011

Customer Sample ID: C773-15 B,C WK:7

Collect Date/Time: 11/3/2015 09:00

WETLAB Sample ID: 1511011-001

Receive Date: 11/3/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	8.5	mg/L	5	0.50	11/3/2015	NV00925
Ferric Iron	SM 3500 Fe B	1.2	mg/L	1	0.1	11/4/2015	NV00925
pH	SM 4500-H+ B	3.65	pH Units	1		11/4/2015	NV00925
Temperature at pH	NA	22.2	°C	1		11/4/2015	NV00925
Redox Potential	ASTM D1498	460	mV	1		11/3/2015	NV00925
Acidity (Titrimetric)	SM 2310B	100	mg/L as CaCO <sub>3</sub>	1		11/5/2015	NV00925
Electrical Conductivity	SM 2510B	440	µmhos/cm	1	1	11/3/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	150	mg/L	1	1.0	11/6/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	27	mg/L	1	0.50	11/4/2015	NV00925
Iron	EPA 200.7	9.7	mg/L	1	0.020	11/4/2015	NV00925
Magnesium	EPA 200.7	7.0	mg/L	1	0.50	11/4/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		11/3/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		11/4/2015	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	11/2/2015	NV00925
HCT Post-Leach Volume	N/A	870	mL	1	1	11/3/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 4

**SPARKS**

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 EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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 fax (702) 622-2868  
 EPA LAB ID: NV00932



## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15110103	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15110105	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15110156	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
QC15110169	Blank 1	Sulfate	EPA 300.0	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15110103	LCS 1	Ferrous Iron	SM 3500 Fe B	1.01	1.00	101	mg/L
QC15110105	LCS 1	Electrical Conductivity	SM 2510B	1448	1412	103	µmhos/cm
QC15110106	LCS 1	Redox Potential	ASTM D1498	225	221	102	mV
QC15110156	LCS 1	Calcium	EPA 200.7	9.63	10.0	96	mg/L
		Iron	EPA 200.7	1.04	1.00	104	mg/L
		Magnesium	EPA 200.7	10.3	10.0	103	mg/L
QC15110169	LCS 1	Sulfate	EPA 300.0	23.3	25.0	93	mg/L
QC15110423	LCS 1	pH	SM 4500-H+ B	6.97	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15110103	Duplicate	Ferrous Iron	SM 3500 Fe B	1511007-001	ND	ND	mg/L	<1%
QC15110103	Duplicate	Ferrous Iron	SM 3500 Fe B	1511009-003	ND	ND	mg/L	<1%
QC15110105	Duplicate	Electrical Conductivity	SM 2510B	1511007-001	61.9	61.6	µmhos/cm	<1%
QC15110105	Duplicate	Electrical Conductivity	SM 2510B	1511009-003	81.7	81.1	µmhos/cm	1 %
QC15110106	Duplicate	Redox Potential	ASTM D1498	1511007-001	532	533	mV	<1%
QC15110106	Duplicate	Redox Potential	ASTM D1498	1511009-003	477	477	mV	<1%
QC15110200	Duplicate	Acidity (Titrimetric)	SM 2310B	1511007-001	12.5	9.97	mg/L as CaCO3	23 %
QC15110200	Duplicate	Acidity (Titrimetric)	SM 2310B	1511009-003	7.17	8.50	mg/L as CaCO3	17 %
QC15110423	Duplicate	pH	SM 4500-H+ B	1511007-001	7.52	7.52	pH Units	<1%
QC15110423	Duplicate	pH	SM 4500-H+ B	1511009-003	7.64	7.68	pH Units	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15110156	MS 1	Calcium	EPA 200.7	1511010-001	23.7	30.9	31.1	10.0	mg/L	72	74	1%
		Iron	EPA 200.7	1511010-001	2.58	3.42	3.39	1.00	mg/L	84	81	1%
		Magnesium	EPA 200.7	1511010-001	54.1	SC 60.6	60.3	10.0	mg/L	NC	NC	NC
QC15110169	MS 1	Sulfate	EPA 300.0	1511049-003	3.44	13.4	13.5	10.0	mg/L	100	101	1%
QC15110169	MS 2	Sulfate	EPA 300.0	1511033-001	663	SC 681	745	10.0	mg/L	NC	NC	NC

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 4

**SPARKS**

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**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932



12/1/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1511203

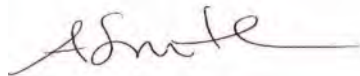
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 11/10/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1511203

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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Las Vegas, Nevada 89102  
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fax (702) 622-2868  
EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 12/1/2015

OrderID: 1511203

Customer Sample ID: C773-15 B, C WK: 8

Collect Date/Time: 11/10/2015 09:00

WETLAB Sample ID: 1511203-001

Receive Date: 11/10/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	1.8	mg/L	1	0.1	11/10/2015	NV00925
Ferric Iron	SM 3500 Fe B	6.4	mg/L	1	0.1	11/13/2015	NV00925
pH	SM 4500-H+ B	3.59	pH Units	1		11/10/2015	NV00925
Temperature at pH	NA	22	°C	1		11/10/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	11/16/2015	NV00925
Redox Potential	ASTM D1498	500	mV	1		11/10/2015	NV00925
Acidity (Titrimetric)	SM 2310B	120	mg/L as CaCO3	1		11/11/2015	NV00925
Total Nitrogen	Calc.	ND	mg/L	1	0.50	11/16/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	220	mg/L	1	10	11/12/2015	NV00925
Electrical Conductivity	SM 2510B	420	µmhos/cm	1	1	11/10/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	mg/L	1	1.0	11/11/2015	NV00925
Fluoride	EPA 300.0	ND	mg/L	1	0.10	11/11/2015	NV00925
Sulfate	EPA 300.0	150	mg/L	1	1.0	11/11/2015	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L	5	0.10	11/16/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.40	11/16/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.040	mg/L	1	0.0030	11/13/2015	NV00925
Beryllium	EPA 200.7	0.0010	mg/L	1	0.0008	11/13/2015	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	11/13/2015	NV00925
Calcium	EPA 200.7	17	mg/L	1	0.50	11/13/2015	NV00925
Chromium	EPA 200.7	ND	mg/L	1	0.0050	11/13/2015	NV00925
Cobalt	EPA 200.7	1.5	mg/L	1	0.010	11/13/2015	NV00925
Iron	EPA 200.7	8.2	mg/L	1	0.020	11/13/2015	NV00925
Magnesium	EPA 200.7	7.3	mg/L	1	0.50	11/13/2015	NV00925
Manganese	EPA 200.7	0.43	mg/L	1	0.0050	11/13/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	11/13/2015	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	11/13/2015	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	11/13/2015	NV00925
Strontium	EPA 200.7	0.48	mg/L	1	0.020	11/13/2015	NV00925
Zinc	EPA 200.7	0.24	mg/L	1	0.0080	11/13/2015	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	27	mg/L	100	0.20	11/16/2015	NV00925
Nickel	EPA 200.8	0.44	mg/L	10	0.020	11/18/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

**SPARKS**

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**LAS VEGAS**

3230 Polaris Ave. Suite 4  
 Las Vegas, Nevada 89102  
 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

Customer Sample ID: C773-15 B, C WK: 8

Collect Date/Time: 11/10/2015 09:00

WETLAB Sample ID: 1511203-001

Receive Date: 11/10/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Ion Balance</u></b>							
Anions	Calculation	3.12	meq/L	1	0.10		NV00925
Cations	Calculation	3.99	meq/L	1	0.10		NV00925
Error	Calculation	12	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		11/10/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		11/13/2015	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	11/9/2015	NV00925
HCT Post-Leach Volume	N/A	880	mL	1	1	11/10/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

**SPARKS**

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15110367	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15110411	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15110443	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15110517	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC15110525	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC15110551	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15110562	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15110564	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC15110582	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15110364	LCS 1	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC15110367	LCS 1	Electrical Conductivity	SM 2510B	1433	1412	101	µmhos/cm
QC15110373	LCS 1	Redox Potential	ASTM D1498	224	221	101	mV
QC15110411	LCS 1	Chloride	EPA 300.0	9.86	10.0	99	mg/L
		Fluoride	EPA 300.0	2.01	2.00	101	mg/L
		Sulfate	EPA 300.0	24.7	25.0	99	mg/L
QC15110443	LCS 1	Ferrous Iron	SM 3500 Fe B	0.990	1.00	99	mg/L
QC15110517	LCS 1	Copper	EPA 200.8	0.0098	0.010	98	mg/L
		Nickel	EPA 200.8	0.0099	0.010	99	mg/L
QC15110525	LCS 1	Barium, Dissolved	EPA 200.7	0.976	1.00	98	mg/L
		Beryllium, Dissolved	EPA 200.7	0.971	1.00	97	mg/L
		Boron, Dissolved	EPA 200.7	0.959	1.00	96	mg/L
		Calcium, Dissolved	EPA 200.7	9.83	10.0	98	mg/L
		Chromium, Dissolved	EPA 200.7	0.965	1.00	96	mg/L
		Cobalt, Dissolved	EPA 200.7	0.977	1.00	98	mg/L
		Iron, Dissolved	EPA 200.7	0.984	1.00	98	mg/L
		Magnesium, Dissolved	EPA 200.7	9.88	10.0	99	mg/L
		Manganese, Dissolved	EPA 200.7	0.963	1.00	96	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.979	1.00	98	mg/L
		Potassium, Dissolved	EPA 200.7	9.91	10.0	99	mg/L
		Sodium, Dissolved	EPA 200.7	9.93	10.0	99	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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### SPARKS

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EPA LAB ID: NV00925 - ELAP No: 2523

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Las Vegas, Nevada 89102  
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EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Strontium, Dissolved	EPA 200.7	0.983	1.00	98	mg/L
		Zinc, Dissolved	EPA 200.7	0.981	1.00	98	mg/L
QC15110551	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	148	150	99	mg/L
QC15110551	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	139	150	93	mg/L
QC15110562	LCS 1	WAD Cyanide	SM 4500CN I, E	0.086	0.100	86	mg/L
QC15110564	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.954	1.00	95	mg/L
QC15110582	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.804	0.800	101	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15110364	Duplicate	pH	SM 4500-H+ B	1511199-001	7.44	7.45	pH Units	<1%
QC15110364	Duplicate	pH	SM 4500-H+ B	1511201-003	7.60	7.65	pH Units	1 %
QC15110367	Duplicate	Electrical Conductivity	SM 2510B	1511199-001	67.9	67.5	µmhos/cm	1 %
QC15110367	Duplicate	Electrical Conductivity	SM 2510B	1511201-003	77.9	77.9	µmhos/cm	<1%
QC15110373	Duplicate	Redox Potential	ASTM D1498	1511199-001	517	516	mV	<1%
QC15110373	Duplicate	Redox Potential	ASTM D1498	1511201-003	485	487	mV	<1%
QC15110428	Duplicate	Acidity (Titrimetric)	SM 2310B	1511199-001	14.7	17.4	mg/L as CaCO3	17 %
QC15110428	Duplicate	Acidity (Titrimetric)	SM 2310B	1511201-003	14.8	14.4	mg/L as CaCO3	3 %
QC15110443	Duplicate	Ferrous Iron	SM 3500 Fe B	1511199-001	ND	ND	mg/L	<1%
QC15110443	Duplicate	Ferrous Iron	SM 3500 Fe B	1511201-003	ND	ND	mg/L	<1%
QC15110551	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1511276-002	344	335	mg/L	3 %
QC15110551	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1511276-005	434	439	mg/L	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15110411	MS 1	Chloride	EPA 300.0	1511266-001	5.43	10.4	10.5	5.00	mg/L	100	101	1%
		Fluoride	EPA 300.0	1511266-001	0.156	2.17	2.18	2.00	mg/L	101	101	<1%
		Sulfate	EPA 300.0	1511266-001	6.87	16.8	16.8	10.0	mg/L	99	100	<1%
QC15110411	MS 2	Chloride	EPA 300.0	1511201-002	ND	5.52	5.55	5.00	mg/L	103	103	1%
		Fluoride	EPA 300.0	1511201-002	0.350	2.33	2.36	2.00	mg/L	99	101	1%
		Sulfate	EPA 300.0	1511201-002	24.3	33.9	34.0	10.0	mg/L	96	97	<1%
QC15110517	MS 1	Copper, Dissolved	EPA 200.8	1511276-003	ND	0.0106	0.0102	0.010	mg/L	95	91	4%
		Nickel, Dissolved	EPA 200.8	1511276-003	0.0292	0.0387	0.0382	0.010	mg/L	95	90	1%
QC15110525	MS 1	Barium, Dissolved	EPA 200.7	1511276-003	0.101	1.04	1.02	1.00	mg/L	94	92	2%
		Beryllium, Dissolved	EPA 200.7	1511276-003	ND	0.950	0.952	1.00	mg/L	95	95	<1%
		Boron, Dissolved	EPA 200.7	1511276-003	ND	1.10	1.09	1.00	mg/L	102	100	1%
		Calcium, Dissolved	EPA 200.7	1511276-003	329	SC 348	345	10.0	mg/L	NC	NC	NC
		Chromium, Dissolved	EPA 200.7	1511276-003	ND	0.985	0.968	1.00	mg/L	98	96	2%
		Cobalt, Dissolved	EPA 200.7	1511276-003	0.300	1.24	1.22	1.00	mg/L	94	92	2%
		Iron, Dissolved	EPA 200.7	1511276-003	0.027	0.932	0.929	1.00	mg/L	90	90	<1%
		Magnesium, Dissolved	EPA 200.7	1511276-003	190	SC 205	204	10.0	mg/L	NC	NC	NC
		Manganese, Dissolved	EPA 200.7	1511276-003	ND	0.952	0.936	1.00	mg/L	95	93	2%
		Molybdenum, Dissolved	EPA 200.7	1511276-003	ND	0.966	0.959	1.00	mg/L	97	96	1%
		Potassium, Dissolved	EPA 200.7	1511276-003	14.4	24.7	24.6	10.0	mg/L	103	102	<1%
		Sodium, Dissolved	EPA 200.7	1511276-003	33.9	44.3	43.8	10.0	mg/L	104	99	1%
		Strontium, Dissolved	EPA 200.7	1511276-003	1.09	2.05	2.03	1.00	mg/L	96	94	1%
		Zinc, Dissolved	EPA 200.7	1511276-003	ND	0.947	0.938	1.00	mg/L	95	94	1%
QC15110562	MS 1	WAD Cyanide	SM 4500CN I,	1511197-001	ND	0.095	0.095	0.100	mg/L	96	96	<1%
QC15110562	MS 2	WAD Cyanide	SM 4500CN I,	1511197-002	ND	0.087	0.090	0.100	mg/L	85	88	3%
QC15110564	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1511127-001	ND	M 1.03	1.02	1.00	mg/L	NC	NC	NC
QC15110564	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1511267-002	ND	M 1.05	0.876	1.00	mg/L	NC	NC	NC

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15110582	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1511276-001	1.03	6.22	6.16	1.00	mg/L	104	102	1%
QC15110582	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1511293-005	0.322		5.58	1.00	mg/L	106	105	Unkn

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# ANALYTICAL SUMMARY REPORT

November 19, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15111229                      Quote ID: B3679

Project Name: 1511203

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 11/16/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15111229-001	C773-15 B, C WK: 8-WLHCT-0120	11/10/15 9:00	11/16/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1511203  
**Lab ID:** B15111229-001  
**Client Sample ID:** C773-15 B, C WK: 8-WLHCT-0120

**Report Date:** 11/19/15  
**Collection Date:** 11/10/15 09:00  
**Date Received:** 11/16/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	2.68	mg/L		0.009		E200.7	11/17/15 13:29 / jjw
Antimony	ND	mg/L		0.0005		E200.8	11/17/15 16:59 / mas
Arsenic	0.003	mg/L		0.001		E200.8	11/17/15 16:59 / mas
Cadmium	0.00032	mg/L		0.00003		E200.8	11/17/15 16:59 / mas
Lead	0.0017	mg/L		0.0003		E200.8	11/17/15 16:59 / mas
Mercury	ND	mg/L		5E-06		E245.1	11/17/15 16:24 / ser
Phosphorus	0.112	mg/L	L	0.007		E200.7	11/17/15 13:29 / jjw
Selenium	ND	mg/L		0.001		E200.8	11/17/15 16:59 / mas
Silicon	0.58	mg/L		0.05		E200.7	11/17/15 13:29 / jjw
Silver	ND	mg/L		0.0002		E200.8	11/17/15 16:59 / mas
Thallium	0.0011	mg/L		0.0002		E200.8	11/17/15 16:59 / mas
Uranium	0.0032	mg/L		0.0002		E200.8	11/17/15 16:59 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



## QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1511203

**Report Date:** 11/19/15  
**Work Order:** B15111229

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_151117A		
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard								11/17/15 10:02
Aluminum		2.43	mg/L	0.10	97	95	105			
Phosphorus		2.46	mg/L	0.10	98	95	105			
Silicon		4.80	mg/L	0.10	96	95	105			
<b>Method: E200.7</b>								Batch: R252574		
<b>Lab ID: MB-6500DIS151117A</b>	3	Method Blank						Run: ICP203-B_151117A		11/17/15 10:31
Aluminum		ND	mg/L	0.007						
Phosphorus		ND	mg/L	0.007						
Silicon		ND	mg/L	0.01						
<b>Lab ID: LFB-6500DIS151117A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_151117A		11/17/15 10:34
Aluminum		4.55	mg/L	0.10	91	85	115			
Phosphorus		8.94	mg/L	0.10	89	85	115			
Silicon		9.82	mg/L	0.10	98	85	115			
<b>Lab ID: B15111229-001AMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_151117A		11/17/15 13:36
Aluminum		7.57	mg/L	0.030	98	70	130			
Phosphorus		11.0	mg/L	0.10	109	70	130			
Silicon		10.5	mg/L	0.10	100	70	130			
<b>Lab ID: B15111229-001AMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_151117A		11/17/15 13:39
Aluminum		7.61	mg/L	0.030	99	70	130	0.6	20	
Phosphorus		11.1	mg/L	0.10	110	70	130	0.9	20	
Silicon		10.6	mg/L	0.10	100	70	130	0.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1511203

**Report Date:** 11/19/15  
**Work Order:** B1511229

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS206-B_151117A	
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard							11/17/15 10:14		
Antimony		0.0522	mg/L	0.050	104	90	110				
Arsenic		0.0487	mg/L	0.0050	97	90	110				
Cadmium		0.0257	mg/L	0.0010	103	90	110				
Lead		0.0502	mg/L	0.010	100	90	110				
Selenium		0.0517	mg/L	0.0050	103	90	110				
Silver		0.0265	mg/L	0.0050	106	90	110				
Thallium		0.0507	mg/L	0.10	101	90	110				
Uranium		0.0201	mg/L	0.0010	100	90	110				
<b>Method: E200.8</b>										Batch: R252583	
<b>Lab ID: LRB</b>	8	Method Blank							Run: ICPMS206-B_151117A 11/17/15 11:05		
Antimony		ND	mg/L	8E-05							
Arsenic		ND	mg/L	6E-05							
Cadmium		ND	mg/L	3E-05							
Lead		ND	mg/L	5E-05							
Selenium		ND	mg/L	0.0001							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	7E-05							
Uranium		ND	mg/L	5E-05							
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank							Run: ICPMS206-B_151117A 11/17/15 11:10		
Antimony		0.0445	mg/L	0.050	89	85	115				
Arsenic		0.0473	mg/L	0.0050	95	85	115				
Cadmium		0.0468	mg/L	0.0010	94	85	115				
Lead		0.0473	mg/L	0.010	95	85	115				
Selenium		0.0486	mg/L	0.0050	97	85	115				
Silver		0.0204	mg/L	0.0050	102	85	115				
Thallium		0.0473	mg/L	0.10	95	85	115				
Uranium		0.0480	mg/L	0.0010	96	85	115				
<b>Lab ID: B1511243-006BMS</b>	8	Sample Matrix Spike							Run: ICPMS206-B_151117A 11/17/15 18:29		
Antimony		0.0506	mg/L	0.0010	100	70	130				
Arsenic		0.0508	mg/L	0.0010	98	70	130				
Cadmium		0.0449	mg/L	0.0010	90	70	130				
Lead		0.0441	mg/L	0.0010	88	70	130				
Selenium		0.0491	mg/L	0.0010	97	70	130				
Silver		0.00997	mg/L	0.0010	50	70	130			S	
Thallium		0.0441	mg/L	0.00050	88	70	130				
Uranium		0.0574	mg/L	0.00030	88	70	130				
<b>Lab ID: B1511243-006BMSD</b>	8	Sample Matrix Spike Duplicate							Run: ICPMS206-B_151117A 11/17/15 18:34		
Antimony		0.0509	mg/L	0.0010	101	70	130	0.7	20		
Arsenic		0.0496	mg/L	0.0010	95	70	130	2.3	20		
Cadmium		0.0450	mg/L	0.0010	90	70	130	0.3	20		
Lead		0.0462	mg/L	0.0010	92	70	130	4.5	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1511203

**Report Date:** 11/19/15  
**Work Order:** B15111229

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R252583
<b>Lab ID:</b> B15111243-006BMSD	8	Sample Matrix Spike Duplicate								Run: ICPMS206-B_151117A
										11/17/15 18:34
Selenium		0.0487	mg/L	0.0010	97	70	130	0.8	20	
Silver		0.0109	mg/L	0.0010	55	70	130	9.3	20	S
Thallium		0.0463	mg/L	0.00050	93	70	130	5.1	20	
Uranium		0.0599	mg/L	0.00030	93	70	130	4.2	20	

**Qualifiers:**

RL - Analyte reporting limit.

S - Spike recovery outside of advisory limits.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1511203

**Report Date:** 11/19/15  
**Work Order:** B15111229

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151117A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								11/17/15 15:12	
Mercury		0.000191	mg/L	1.0E-05	96	90	110				
<b>Method:</b> E245.1										Batch: 94932	
<b>Lab ID:</b> MB-94932		Method Blank								Run: HGCV203-B_151117A	11/17/15 16:13
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-94932		Laboratory Control Sample								Run: HGCV203-B_151117A	11/17/15 16:16
Mercury		0.000197	mg/L	1.0E-05	98	85	115				
<b>Lab ID:</b> B15111277-002CMS		Sample Matrix Spike								Run: HGCV203-B_151117A	11/17/15 16:34
Mercury		0.000199	mg/L	1.0E-05	100	70	130				
<b>Lab ID:</b> B15111277-002CMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_151117A	11/17/15 16:36
Mercury		0.000200	mg/L	1.0E-05	100	70	130	0.5	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15111229

Login completed by: Lisa Gancze

Date Received: 11/16/2015

Reviewed by: BL2000\jmueller

Received by: dlf

Reviewed Date: 11/16/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	12.2°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

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## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:



None



# CHAIN OF CUSTODY RECORD

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Kurt Clarkson kurtc@WETLaboratory.com Ph: (775) 355-0202 Fax: (775) 355-0817		Total # of sample containers System		All Samples Refrigerated? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Compliance: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N CA Write ON: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N QC: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Samplers Initials Water System #:		Date: Time:	
Sample Receipt Condition:		Job ID 1511203		Notes: Quote # 3679					
Temperature:		SIGNATURE OF COMPANY REPRESENTATIVE:							
Set Date Set Time 11/10/2015 9:00 AM		Sample ID - Site ID C773-15 B, C WK: 8 - WLHCT-0120		Matrix Leachate		Parameter Various Metals (Subcontracted)		Container Type Preservatives	
						B1511229-001			

		Received by:		Date:		Time:		Sample Type	
Relinquished by: (Signature)		Received by: (Signature)	UPS					Trip Blank	Grab
Relinquished by: (Signature)		Received by: (Signature)						Trip Blank	Grab
Relinquished by: (Signature)		Received by: (Signature)						Trip Blank	Grab
			12.2					Composite	Equipment Blank
			Noice					Composite	Equipment Blank
			No Seal					Composite	Equipment Blank
			UPS Grab					Composite	Equipment Blank
								Composite	Equipment Blank



12/2/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1511387

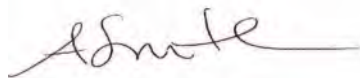
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 11/17/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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**LAS VEGAS**

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tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1511387

---

### Specific Report Comments

Due to a laboratory reanalysis requirement the analysis for Ferrous Iron on sample 1511387-001 was performed past the EPA recommended holding time. We apologize for any inconvenience this may have caused.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 12/2/2015

OrderID: 1511387

Customer Sample ID: C773-15 B, C WK: 9

Collect Date/Time: 11/17/2015 09:00

WETLAB Sample ID: 1511387-001

Receive Date: 11/17/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	60	HT mg/L	20	2.0	11/27/2015	NV00925
Ferric Iron	SM 3500 Fe B	0.49	mg/L	1	0.1	12/1/2015	NV00925
pH	SM 4500-H+ B	3.19	pH Units	1		11/25/2015	NV00925
Temperature at pH	NA	19.8	°C	1		11/25/2015	NV00925
Redox Potential	ASTM D1498	490	mV	1		11/17/2015	NV00925
Acidity (Titrimetric)	SM 2310B	660	mg/L as CaCO <sub>3</sub>	1		11/24/2015	NV00925
Electrical Conductivity	SM 2510B	1800	µmhos/cm	1	1	11/17/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	1300	mg/L	10	10	11/23/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	20	mg/L	1	0.50	11/24/2015	NV00925
Iron	EPA 200.7	60	mg/L	5	0.10	12/1/2015	NV00925
Magnesium	EPA 200.7	54	mg/L	1	0.50	11/24/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		11/17/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		11/23/2015	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	11/16/2015	NV00925
HCT Post-Leach Volume	N/A	920	mL	1	1	11/17/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 4

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15110636	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15110639	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15110864	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15110926	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15110636	LCS 1	Electrical Conductivity	SM 2510B	1343	1412	95	µmhos/cm
QC15110637	LCS 1	Redox Potential	ASTM D1498	229	221	103	mV
QC15110639	LCS 1	Ferrous Iron	SM 3500 Fe B	0.869	1.00	87	mg/L
QC15110864	LCS 1	Sulfate	EPA 300.0	23.7	25.0	95	mg/L
QC15110926	LCS 1	Calcium, Dissolved	EPA 200.7	9.79	10.0	98	mg/L
		Iron, Dissolved	EPA 200.7	0.967	1.00	97	mg/L
		Magnesium, Dissolved	EPA 200.7	9.77	10.0	98	mg/L
QC15110956	LCS 1	pH	SM 4500-H+ B	6.99	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15110636	Duplicate	Electrical Conductivity	SM 2510B	1511382-001	57.0	56.9	µmhos/cm	<1%
QC15110636	Duplicate	Electrical Conductivity	SM 2510B	1511385-003	86.9	86.7	µmhos/cm	<1%
QC15110637	Duplicate	Redox Potential	ASTM D1498	1511383-001	521	520	mV	<1%
QC15110637	Duplicate	Redox Potential	ASTM D1498	1511385-003	512	514	mV	<1%
QC15110639	Duplicate	Ferrous Iron	SM 3500 Fe B	1511382-001	ND	ND	mg/L	<1%
QC15110639	Duplicate	Ferrous Iron	SM 3500 Fe B	1511385-003	ND	ND	mg/L	<1%
QC15110954	Duplicate	Acidity (Titrimetric)	SM 2310B	1511539-001	11.3	10.2	mg/L as CaCO3	10 %
QC15110954	Duplicate	Acidity (Titrimetric)	SM 2310B	1511539-005	ND	ND	mg/L as CaCO3	<1%
QC15110956	Duplicate	pH	SM 4500-H+ B	1511382-001	7.45	7.46	pH Units	<1%
QC15110956	Duplicate	pH	SM 4500-H+ B	1511385-003	7.66	7.71	pH Units	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15110864	MS 1	Sulfate	EPA 300.0	1511387-001	1256	1363	1379	10.0	mg/L	107	123	1%
QC15110864	MS 2	Sulfate	EPA 300.0	1511523-004	519	621	645	10.0	mg/L	103	127	4%
QC15110926	MS 1	Calcium, Dissolved	EPA 200.7	1511441-005	64.4	72.4	75.7	10.0	mg/L	80	113	4%
		Iron, Dissolved	EPA 200.7	1511441-005	ND	0.921	0.924	1.00	mg/L	92	92	<1%
		Magnesium, Dissolved	EPA 200.7	1511441-005	21.2	30.0	30.4	10.0	mg/L	88	92	1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 4

**SPARKS**

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fax (702) 622-2868  
EPA LAB ID: NV00932





12/9/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1511610

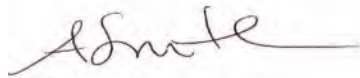
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

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The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 11/24/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1511610

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 12/9/2015

OrderID: 1511610

Customer Sample ID: C773-15 B,C WK:10

Collect Date/Time: 11/24/2015 09:00

WETLAB Sample ID: 1511610-001

Receive Date: 11/24/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	2.6	mg/L	1	0.1	11/24/2015	NV00925
Ferric Iron	SM 3500 Fe B	25	mg/L	1	0.1	12/2/2015	NV00925
pH	SM 4500-H+ B	3.27	pH Units	1		12/4/2015	NV00925
Temperature at pH	NA	20.5	°C	1		12/4/2015	NV00925
Redox Potential	ASTM D1498	510	mV	1		11/24/2015	NV00925
Acidity (Titrimetric)	SM 2310B	280	mg/L as CaCO <sub>3</sub>	1		12/1/2015	NV00925
Electrical Conductivity	SM 2510B	950	µmhos/cm	1	1	11/24/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	650	mg/L	10	10	12/2/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	27	mg/L	1	0.50	12/2/2015	NV00925
Iron	EPA 200.7	28	mg/L	1	0.020	12/2/2015	NV00925
Magnesium	EPA 200.7	21	mg/L	1	0.50	12/2/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		11/24/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/2/2015	NV00925
HCT Pre-Leach Volume	N/A	1000	mL	1	1	11/23/2015	NV00925
HCT Post-Leach Volume	N/A	860	mL	1	1	11/24/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 4

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 tel (702) 475-8899  
 fax (702) 622-2868  
 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15110965	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15110966	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15120106	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
QC15120134	Blank 1	Sulfate	EPA 300.0	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15110964	LCS 1	Redox Potential	ASTM D1498	226	221	102	mV
QC15110965	LCS 1	Electrical Conductivity	SM 2510B	1479	1412	105	µmhos/cm
QC15110966	LCS 1	Ferrous Iron	SM 3500 Fe B	1.02	1.00	102	mg/L
QC15120106	LCS 1	Calcium, Dissolved	EPA 200.7	9.86	10.0	99	mg/L
		Iron, Dissolved	EPA 200.7	0.950	1.00	95	mg/L
		Magnesium, Dissolved	EPA 200.7	9.51	10.0	95	mg/L
QC15120134	LCS 1	Sulfate	EPA 300.0	26.2	25.0	105	mg/L
QC15120263	LCS 1	pH	SM 4500-H+ B	6.99	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15110964	Duplicate	Redox Potential	ASTM D1498	1511606-001	520	521	mV	<1%
QC15110964	Duplicate	Redox Potential	ASTM D1498	1511608-003	507	508	mV	<1%
QC15110965	Duplicate	Electrical Conductivity	SM 2510B	1511606-001	57.7	57.2	µmhos/cm	1 %
QC15110965	Duplicate	Electrical Conductivity	SM 2510B	1511608-003	98.6	98.3	µmhos/cm	<1%
QC15110966	Duplicate	Ferrous Iron	SM 3500 Fe B	1511606-001	ND	ND	mg/L	<1%
QC15110966	Duplicate	Ferrous Iron	SM 3500 Fe B	1511608-003	ND	ND	mg/L	13 %
QC15120120	Duplicate	Acidity (Titrimetric)	SM 2310B	1511536-001	4.13	1.22	QD mg/L as CaCO3	109 %
QC15120120	Duplicate	Acidity (Titrimetric)	SM 2310B	1511606-003	2.03	ND	QD mg/L as CaCO3	<1%
QC15120120	Duplicate	Acidity (Titrimetric)	SM 2310B	1511609-001	185	189	mg/L as CaCO3	2 %
QC15120120	Duplicate	Acidity (Titrimetric)	SM 2310B	1511683-003	3.38	3.44	mg/L as CaCO3	2 %
QC15120120	Duplicate	Acidity (Titrimetric)	SM 2310B	1511686-005	ND	ND	QD mg/L as CaCO3	<1%
QC15120263	Duplicate	pH	SM 4500-H+ B	1511606-001	7.55	7.55	pH Units	<1%
QC15120263	Duplicate	pH	SM 4500-H+ B	1511608-003	7.81	7.86	pH Units	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15120106	MS 1	Calcium, Dissolved	EPA 200.7	1511669-006	145	154	151	10.0	mg/L	90	60	2%
		Iron, Dissolved	EPA 200.7	1511669-006	ND	0.936	0.906	1.00	mg/L	93	90	3%
		Magnesium, Dissolved	EPA 200.7	1511669-006	84.7	94.9	92.7	10.0	mg/L	102	80	2%
QC15120134	MS 1	Sulfate	EPA 300.0	1511607-003	6.57	16.0	16.0	10.0	mg/L	95	95	<1%
QC15120134	MS 2	Sulfate	EPA 300.0	1512023-001	19.1	28.3	28.4	10.0	mg/L	92	92	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 4

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**WETLAB**  
WESTERN ENVIRONMENTAL  
TESTING LABORATORY

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Sparks, Nevada 89431  
tel (775) 355-0202 fax (775) 355-0817  
www.wetlaboratory.com

Specializing in Soil, Hazardous Waste and Water Analysis

Lab Number 1511610  
Report Due Date 12/7/15  
Page 1 of 1

**CLIENT REQUIREMENTS**

Client Tintina Resources		Turnaround Time Requirements		Reporting Results Via	
Address 17 East Main St		Standard	X	Fax	
City, State & Zip White Sulphur Springs, MT 59645		5 Day*		PDF	X
Contact Bob Jacko, Katie Seipel, and Lisa Kirk		3-Day*		EDD	X
Phone (406) 547-3466	Collector's Name WETLAB	48 Hour*		Mail Only	
Fax	PWS/Project Name	24 Hour*		Other:	
P.O.#	PWS/Project Number WLHCT 0120	Compliance Monitoring		Standard Level QC Required?	
Email bjacko@tintinaresources.com; seipel.k@gmail.com; lkirk@montana.com		Yes	X	NV	CA
Billing Address (if different than Client Address)		No		Other	X (MO)
				Yes	X No
				*Level IV QC	
				*Surcharges will apply	

Client				SAMPLE TYPE	NO. OF CONTAINERS	ANALYSES REQUESTED										PROFILE II (w/ WAD), SC_Metals (See Attached List)	SAMPLE NUMBER (LAB USE ONLY)
Address						pH	Redox	EC	Alk / Acidity	Total Fe / Ferric / Ferrous	Ca (D) & Mg (D)	SO4	ASTM_D7544 (HCT)				
City, State & Zip				DATE	TIME												
Contact																	
Phone																	
Fax																	
Email																	
SAMPLE ID / LOCATION																	
C773-15 B,C WK 10 (WLHCT 0120)				11/24/2015	9:00	LCH	2	X	X	X	X	X	X	X			
DATE																	
TIME																	
SAMPLE TYPE																	
NO. OF CONTAINERS																	
pH																	
Redox																	
EC																	
Alk / Acidity																	
Total Fe / Ferric / Ferrous																	
Ca (D) & Mg (D)																	
SO4																	
ASTM_D7544 (HCT)																	
PROFILE II (w/ WAD), SC_Metals (See Attached List)																	
SAMPLE NUMBER (LAB USE ONLY)																	

Instructions/Comments/Special Requirements Original Order ID 1508385

Sample Matrix/Type Key**		DW=Drinking water WW=Waste Water SW=Surfacewater MW=Monitoring Well SD=Solid/Sludge SO=Soil HW=Hazardous Waste OT=Other											
SAMPLE RECEIPT CONDITIONS		DATE	TIME	SAMPLES RELINQUISHED BY					SAMPLES RECEIVED BY				
Temperature 22 C		11/24/15	9:00	In House									
Custody Seals Intact? Y N (None)													
Number of Containers 2													

WETLAB'S Standard Terms and Conditions apply unless written agreements specify otherwise. Payment terms are Net 30 for established customers. Pre-payment is required for clients without an account.

Client/Collector attests to the validity and authenticity of this (these) sample(s) and, is (are) aware that tampering with or intentionally mislabeling the sample(s) location or date/time of collection will be considered fraud and may be subject to legal action (NAC445 0636)

Samples are discarded 90 days after receipt unless other arrangements have been made with the laboratory.

To the maximum extent permitted by law, the Client agrees to limit the liability of WETLAB for the Client's damages to the total compensation received, unless other arrangements are made in writing. This limitation shall apply regardless of the cause of action or legal theory pled or asserted.

12/14/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1511700

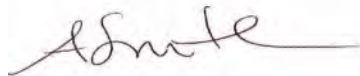
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 12/1/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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fax (775) 355-0817  
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**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1511700

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### Specific Report Comments

The result for the continuing calibration verification (CCV) sample during the analysis for pH was outside WETLAB acceptance criteria. Laboratory Control Samples (LCS/LFB) and Duplicate data was however acceptable. The reported data for pH on all samples should be considered estimates. Due to a lack of sample volume reanalysis was not possible. We apologize for any inconvenience this may have caused.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 12/14/2015

OrderID: 1511700

Customer Sample ID: C773-15 B,C WK:11

Collect Date/Time: 12/1/2015 09:00

WETLAB Sample ID: 1511700-001

Receive Date: 12/1/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	2.2	mg/L	1	0.1	12/1/2015	NV00925
Ferric Iron	SM 3500 Fe B	32	mg/L	1	0.1	12/4/2015	NV00925
pH	SM 4500-H+ B	3.16	pH Units	1		12/7/2015	NV00925
Temperature at pH	NA	21.4	°C	1		12/7/2015	NV00925
Redox Potential	ASTM D1498	460	mV	1		12/1/2015	NV00925
Acidity (Titrimetric)	SM 2310B	310	mg/L as CaCO <sub>3</sub>	1		12/8/2015	NV00925
Electrical Conductivity	SM 2510B	1100	µmhos/cm	1	1	12/1/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	480	mg/L	10	10	12/4/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	40	mg/L	1	0.50	12/4/2015	NV00925
Iron	EPA 200.7	34	mg/L	1	0.020	12/4/2015	NV00925
Magnesium	EPA 200.7	22	mg/L	1	0.50	12/4/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/1/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/3/2015	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	11/30/2015	NV00925
HCT Post-Leach Volume	N/A	890	mL	1	1	12/1/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 4

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 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15120076	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15120083	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15120203	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15120218	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15120076	LCS 1	Electrical Conductivity	SM 2510B	1505	1412	107	µmhos/cm
QC15120077	LCS 1	Redox Potential	ASTM D1498	226	229	99	mV
QC15120083	LCS 1	Ferrous Iron	SM 3500 Fe B	1.01	1.00	101	mg/L
QC15120203	LCS 1	Sulfate	EPA 300.0	23.8	25.0	95	mg/L
QC15120218	LCS 1	Calcium	EPA 200.7	9.38	10.0	94	mg/L
		Iron	EPA 200.7	0.882	1.00	88	mg/L
		Magnesium	EPA 200.7	9.03	10.0	90	mg/L
QC15120329	LCS 1	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC15120329	LCS 2	pH	SM 4500-H+ B	7.20	7.00	103	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15120076	Duplicate	Electrical Conductivity	SM 2510B	1511696-001	55.8	55.6	µmhos/cm	<1%
QC15120076	Duplicate	Electrical Conductivity	SM 2510B	1511698-003	100	99.7	µmhos/cm	<1%
QC15120077	Duplicate	Redox Potential	ASTM D1498	1511696-001	510	507	mV	1 %
QC15120077	Duplicate	Redox Potential	ASTM D1498	1511698-003	445	442	mV	1 %
QC15120083	Duplicate	Ferrous Iron	SM 3500 Fe B	1511696-001	ND	ND	mg/L	<1%
QC15120083	Duplicate	Ferrous Iron	SM 3500 Fe B	1511698-003	ND	ND	mg/L	<1%
QC15120329	Duplicate	pH	SM 4500-H+ B	1511696-001	7.38	7.39	pH Units	<1%
QC15120329	Duplicate	pH	SM 4500-H+ B	1511698-003	7.71	7.76	pH Units	1 %
QC15120329	Duplicate	pH	SM 4500-H+ B	1512113-001	7.10	7.00	QL pH Units	1 %
QC15120329	Duplicate	pH	SM 4500-H+ B	1512116-003	7.29	7.10	QL,Q pH Units	3 %
QC15120393	Duplicate	Acidity (Titrimetric)	SM 2310B	1511696-001	1.80	ND	QD mg/L as CaCO3	293 %
QC15120393	Duplicate	Acidity (Titrimetric)	SM 2310B	1511698-003	ND	ND	QD mg/L as CaCO3	<1%
QC15120393	Duplicate	Acidity (Titrimetric)	SM 2310B	1512113-001	4.83	4.77	mg/L as CaCO3	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15120203	MS 1	Sulfate	EPA 300.0	1511696-001	7.75	17.6	17.8	10.0	mg/L	98	100	1%
QC15120203	MS 2	Sulfate	EPA 300.0	1511697-005	ND	10.1	10.4	10.0	mg/L	99	102	3%
QC15120218	MS 1	Calcium	EPA 200.7	1512029-001	33.5	43.1	43.7	10.0	mg/L	96	102	1%
		Iron	EPA 200.7	1512029-001	0.453	1.51	1.52	1.00	mg/L	106	107	1%
		Magnesium	EPA 200.7	1512029-001	7.31	17.0	17.0	10.0	mg/L	97	97	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 4

**SPARKS**

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fax (702) 622-2868  
EPA LAB ID: NV00932





12/22/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1512204

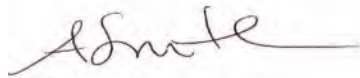
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 12/8/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1512204

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 12/22/2015

OrderID: 1512204

Customer Sample ID: C773-15 B, C WK: 12

Collect Date/Time: 12/8/2015 09:00

WETLAB Sample ID: 1512204-001

Receive Date: 12/8/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	2.7	mg/L	1	0.1	12/8/2015	NV00925
Ferric Iron	SM 3500 Fe B	41	mg/L	1	0.1	12/10/2015	NV00925
pH	SM 4500-H+ B	3.13	pH Units	1		12/11/2015	NV00925
Temperature at pH	NA	20.9	°C	1		12/11/2015	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	12/15/2015	NV00925
Redox Potential	ASTM D1498	440	mV	1		12/8/2015	NV00925
Acidity (Titrimetric)	SM 2310B	360	mg/L as CaCO3	1		12/9/2015	NV00925
Total Nitrogen	Calc.	0.76	mg/L	1	0.50	12/15/2015	NV00925
Total Dissolved Solids (TDS)	SM 2540C	670	mg/L	1	10	12/10/2015	NV00925
Electrical Conductivity	SM 2510B	1200	µmhos/cm	1	1	12/8/2015	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	D mg/L	10	5.0	12/10/2015	NV00925
Fluoride	EPA 300.0	ND	D mg/L	10	1.0	12/10/2015	NV00925
Sulfate	EPA 300.0	540	mg/L	10	10	12/10/2015	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	0.46	mg/L	5	0.10	12/11/2015	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.40	12/15/2015	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium	EPA 200.7	0.035	mg/L	1	0.0030	12/10/2015	NV00925
Beryllium	EPA 200.7	0.0038	mg/L	1	0.0008	12/10/2015	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	12/10/2015	NV00925
Calcium	EPA 200.7	45	mg/L	1	0.50	12/10/2015	NV00925
Chromium	EPA 200.7	0.019	mg/L	1	0.0050	12/10/2015	NV00925
Cobalt	EPA 200.7	4.9	mg/L	1	0.010	12/10/2015	NV00925
Iron	EPA 200.7	43	mg/L	1	0.020	12/10/2015	NV00925
Magnesium	EPA 200.7	24	mg/L	1	0.50	12/10/2015	NV00925
Manganese	EPA 200.7	1.4	mg/L	1	0.0050	12/10/2015	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	12/10/2015	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	12/10/2015	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	12/10/2015	NV00925
Strontium	EPA 200.7	0.86	mg/L	1	0.020	12/10/2015	NV00925
Zinc	EPA 200.7	0.73	mg/L	1	0.0080	12/10/2015	NV00925
<b>Trace Metals by ICP-MS</b>							
Copper	EPA 200.8	100	mg/L	1000	2.0	12/16/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

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**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C773-15 B, C WK: 12

Collect Date/Time: 12/8/2015 09:00

WETLAB Sample ID: 1512204-001

Receive Date: 12/8/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Nickel	EPA 200.8	1.6	mg/L	100	0.20	12/16/2015	NV00925
<b><u>Mercury by CVAA</u></b>							
Mercury	EPA 245.1	ND	mg/L	1	0.00010	12/11/2015	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	11.3	meq/L	1	0.10		NV00925
Cations	Calculation	13.4	meq/L	1	0.10		NV00925
Error	Calculation	8.7	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/8/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/10/2015	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	12/7/2015	NV00925
HCT Post-Leach Volume	N/A	870	mL	1	1	12/8/2015	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

**SPARKS**

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 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15120417	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC15120431	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15120438	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15120482	Blank 1	Barium	EPA 200.7	ND	mg/L
		Beryllium	EPA 200.7	ND	mg/L
		Boron	EPA 200.7	ND	mg/L
		Calcium	EPA 200.7	ND	mg/L
		Chromium	EPA 200.7	ND	mg/L
		Cobalt	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
		Manganese	EPA 200.7	ND	mg/L
		Molybdenum	EPA 200.7	ND	mg/L
		Potassium	EPA 200.7	ND	mg/L
		Sodium	EPA 200.7	ND	mg/L
		Strontium	EPA 200.7	ND	mg/L
		Zinc	EPA 200.7	ND	mg/L
QC15120519	Blank 1	Mercury, Dissolved	EPA 245.1	ND	mg/L
QC15120522	Blank 1	Copper	EPA 200.8	ND	mg/L
		Nickel	EPA 200.8	ND	mg/L
QC15120530	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC15120573	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC15120639	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC15120644	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15120417	LCS 1	Chloride	EPA 300.0	9.37	10.0	94	mg/L
		Fluoride	EPA 300.0	2.00	2.00	100	mg/L
		Sulfate	EPA 300.0	22.6	25.0	91	mg/L
QC15120431	LCS 1	Electrical Conductivity	SM 2510B	1469	1412	104	µmhos/cm
QC15120433	LCS 1	Redox Potential	ASTM D1498	242	229	106	mV
QC15120438	LCS 1	Ferrous Iron	SM 3500 Fe B	1.01	1.00	101	mg/L
QC15120482	LCS 1	Barium	EPA 200.7	0.975	1.00	98	mg/L
		Beryllium	EPA 200.7	0.966	1.00	97	mg/L
		Boron	EPA 200.7	0.962	1.00	96	mg/L
		Calcium	EPA 200.7	9.78	10.0	98	mg/L
		Chromium	EPA 200.7	0.974	1.00	97	mg/L
		Cobalt	EPA 200.7	0.972	1.00	97	mg/L
		Iron	EPA 200.7	0.975	1.00	98	mg/L
		Magnesium	EPA 200.7	9.71	10.0	97	mg/L
		Manganese	EPA 200.7	0.971	1.00	97	mg/L
		Molybdenum	EPA 200.7	0.973	1.00	97	mg/L
		Potassium	EPA 200.7	9.92	10.0	99	mg/L
		Sodium	EPA 200.7	9.88	10.0	99	mg/L
		Strontium	EPA 200.7	0.970	1.00	97	mg/L
		Zinc	EPA 200.7	0.982	1.00	98	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15120519	LCS 1	Mercury	EPA 245.1	0.005750	0.005	115	mg/L
QC15120522	LCS 1	Copper	EPA 200.8	0.0098	0.010	98	mg/L
		Nickel	EPA 200.8	0.009766	0.010	98	mg/L
QC15120530	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.799	0.800	100	mg/L
QC15120550	LCS 1	pH	SM 4500-H+ B	6.98	7.00	100	pH Units
QC15120550	LCS 2	pH	SM 4500-H+ B	6.98	7.00	100	pH Units
QC15120573	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	143	150	95	mg/L
QC15120573	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	145	150	97	mg/L
QC15120639	LCS 1	WAD Cyanide	SM 4500CN I, E	0.102	0.100	102	mg/L
QC15120644	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.952	1.00	95	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15120431	Duplicate	Electrical Conductivity	SM 2510B	1512200-001	55.2	55.0	µmhos/cm	<1%
QC15120431	Duplicate	Electrical Conductivity	SM 2510B	1512202-003	74.2	73.8	µmhos/cm	1 %
QC15120433	Duplicate	Redox Potential	ASTM D1498	1512200-001	443	443	mV	<1%
QC15120433	Duplicate	Redox Potential	ASTM D1498	1512202-003	435	435	mV	<1%
QC15120438	Duplicate	Ferrous Iron	SM 3500 Fe B	1512200-001	ND	ND	mg/L	<1%
QC15120438	Duplicate	Ferrous Iron	SM 3500 Fe B	1512202-003	ND	ND	mg/L	<1%
QC15120488	Duplicate	Acidity (Titrimetric)	SM 2310B	1512201-001	1.76	4.42	mg/L as CaCO3	86 %
QC15120488	Duplicate	Acidity (Titrimetric)	SM 2310B	1512201-005	11.4	11.1	mg/L as CaCO3	3 %
QC15120488	Duplicate	Acidity (Titrimetric)	SM 2310B	1512205-003	10.7	10.7	mg/L as CaCO3	<1%
QC15120550	Duplicate	pH	SM 4500-H+ B	1512200-001	7.45	7.43	pH Units	<1%
QC15120550	Duplicate	pH	SM 4500-H+ B	1512202-003	7.63	7.68	pH Units	1 %
QC15120550	Duplicate	pH	SM 4500-H+ B	1512381-001	7.38	7.36	pH Units	<1%
QC15120550	Duplicate	pH	SM 4500-H+ B	1512384-003	7.46	7.45	pH Units	<1%
QC15120573	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1512247-001	130	128	mg/L	2 %
QC15120573	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1512247-002	161	156	mg/L	3 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15120417	MS 1	Chloride	EPA 300.0	1512228-002	29.3	34.0	34.1	5.00	mg/L	95	97	<1%
		Fluoride	EPA 300.0	1512228-002	ND	2.10	2.11	2.00	mg/L	104	104	<1%
		Sulfate	EPA 300.0	1512228-002	7.15	16.7	16.8	10.0	mg/L	96	96	1%
QC15120417	MS 2	Chloride	EPA 300.0	1512202-003	ND	5.47	5.53	5.00	mg/L	105	106	1%
		Fluoride	EPA 300.0	1512202-003	0.190	2.34	2.35	2.00	mg/L	108	108	<1%
		Sulfate	EPA 300.0	1512202-003	9.55	19.4	19.5	10.0	mg/L	98	99	1%
QC15120482	MS 1	Barium	EPA 200.7	1512077-001	0.033	1.00	1.00	1.00	mg/L	97	97	<1%
		Beryllium	EPA 200.7	1512077-001	ND	0.956	0.957	1.00	mg/L	96	96	<1%
		Boron	EPA 200.7	1512077-001	1.30	2.33	2.32	1.00	mg/L	103	102	<1%
		Calcium	EPA 200.7	1512077-001	157	170	169	10.0	mg/L	130	120	1%
		Chromium	EPA 200.7	1512077-001	ND	0.956	0.956	1.00	mg/L	95	95	<1%
		Cobalt	EPA 200.7	1512077-001	ND	0.956	0.958	1.00	mg/L	96	96	<1%
		Iron	EPA 200.7	1512077-001	ND	0.972	0.965	1.00	mg/L	97	96	1%
		Magnesium	EPA 200.7	1512077-001	58.6	68.0	67.2	10.0	mg/L	94	86	1%
		Manganese	EPA 200.7	1512077-001	0.006	0.968	0.968	1.00	mg/L	96	96	<1%
		Molybdenum	EPA 200.7	1512077-001	ND	0.972	0.954	1.00	mg/L	98	97	2%
		Potassium	EPA 200.7	1512077-001	16.5	26.5	26.2	10.0	mg/L	100	97	1%
		Sodium	EPA 200.7	1512077-001	216	227	224	10.0	mg/L	110	80	1%
		Strontium	EPA 200.7	1512077-001	1.48	2.46	2.44	1.00	mg/L	98	96	1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Zinc	EPA 200.7	1512077-001	ND	0.974	0.977	1.00	mg/L	97	98	<1%
QC15120519	MS 1	Mercury, Dissolved	EPA 245.1	1512229-001	0.001360	0.006330	0.006100	0.005	mg/L	99	95	4%
QC15120522	MS 1	Copper	EPA 200.8	1512077-001	ND	0.0124	0.0121	0.010	mg/L	78	76	2%
		Nickel	EPA 200.8	1512077-001	ND	0.0138	0.0139	0.010	mg/L	81	82	1%
QC15120530	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1512160-001	ND	5.06	5.14	1.00	mg/L	102	103	2%
QC15120530	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1512206-002	5.21	15.4	15.5	1.00	mg/L	102	103	1%
QC15120639	MS 1	WAD Cyanide	SM 4500CN I, 1512270-001	ND		0.110	0.103	0.100	mg/L	108	102	7%
QC15120639	MS 2	WAD Cyanide	SM 4500CN I, 1512229-002	ND		0.093	0.087	0.100	mg/L	91	85	7%
QC15120644	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1512176-001	ND	M 0.751	0.742	1.00	mg/L	NC	NC	NC
QC15120644	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1512158-002	ND	M 0.802	0.798	1.00	mg/L	NC	NC	NC

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# ANALYTICAL SUMMARY REPORT

December 22, 2015

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B15121077                      Quote ID: B3679  
Project Name: 1512204

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 12/14/2015 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B15121077-001	C773-15 B,C WK:12	12/08/15 9:00	12/14/15	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:



### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1512204  
**Lab ID:** B15121077-001  
**Client Sample ID:** C773-15 B,C WK:12

**Report Date:** 12/22/15  
**Collection Date:** 12/08/15 09:00  
**Date Received:** 12/14/15  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	12.4	mg/L		0.009		E200.7	12/15/15 13:26 / rh
Antimony	0.0005	mg/L		0.0005		E200.8	12/15/15 13:59 / mas
Arsenic	0.009	mg/L		0.001		E200.8	12/15/15 13:59 / mas
Cadmium	0.00111	mg/L		0.00003		E200.8	12/15/15 13:59 / mas
Lead	0.0015	mg/L		0.0003		E200.8	12/15/15 13:59 / mas
Mercury	ND	mg/L		5E-06		E245.1	12/17/15 14:28 / ser
Phosphorus	0.118	mg/L	L	0.007		E200.7	12/15/15 13:26 / rh
Selenium	ND	mg/L		0.001		E200.8	12/15/15 13:59 / mas
Silicon	0.77	mg/L		0.05		E200.7	12/15/15 13:26 / rh
Silver	ND	mg/L		0.0002		E200.8	12/15/15 13:59 / mas
Thallium	ND	mg/L		0.0002		E200.8	12/15/15 13:59 / mas
Uranium	0.0171	mg/L		0.0002		E200.8	12/16/15 12:24 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 12/22/15

**Project:** 1512204

**Work Order:** B15121077

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_151215A			
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard						12/15/15 10:02			
Aluminum		2.60	mg/L	0.10	104	95	105				
Phosphorus		2.56	mg/L	0.10	102	95	105				
Silicon		5.22	mg/L	0.10	104	95	105				
<b>Method: E200.7</b>								Batch: R253796			
<b>Lab ID: MB-6500DIS151215A</b>	3	Method Blank						Run: ICP203-B_151215A 12/15/15 10:30			
Aluminum		0.008	mg/L	0.007							
Phosphorus		ND	mg/L	0.007							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS151215A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_151215A 12/15/15 10:34			
Aluminum		5.09	mg/L	0.10	102	85	115				
Phosphorus		10.3	mg/L	0.10	103	85	115				
Silicon		10.0	mg/L	0.10	100	85	115				
<b>Lab ID: B15121044-001BMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_151215A 12/15/15 13:01			
Aluminum		23.9	mg/L	0.035	95	70	130				
Phosphorus		50.1	mg/L	0.10	100	70	130				
Silicon		54.3	mg/L	0.10	99	70	130				
<b>Lab ID: B15121044-001BMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_151215A 12/15/15 13:04			
Aluminum		24.3	mg/L	0.035	97	70	130	1.6	20		
Phosphorus		51.2	mg/L	0.10	102	70	130	2.2	20		
Silicon		53.5	mg/L	0.10	98	70	130	1.3	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Western Environmental Testing Laboratory

Report Date: 12/22/15

Project: 1512204

Work Order: B15121077

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>							Analytical Run: ICPMS202-B_151215A				
<b>Lab ID: QCS</b>	7	Initial Calibration Verification Standard						12/15/15 10:48			
Antimony		0.0517	mg/L	0.050	103	90	110				
Arsenic		0.0506	mg/L	0.0050	101	90	110				
Cadmium		0.0253	mg/L	0.0010	101	90	110				
Lead		0.0511	mg/L	0.010	102	90	110				
Selenium		0.0514	mg/L	0.0050	103	90	110				
Silver		0.0254	mg/L	0.0050	102	90	110				
Thallium		0.0493	mg/L	0.10	99	90	110				
<b>Method: E200.8</b>							Batch: R253816				
<b>Lab ID: LRB</b>	7	Method Blank						Run: ICPMS202-B_151215A 12/15/15 10:59			
Antimony		0.0001	mg/L	1E-05							
Arsenic		ND	mg/L	0.0001							
Cadmium		1E-05	mg/L	1E-05							
Lead		ND	mg/L	2E-05							
Selenium		ND	mg/L	0.0003							
Silver		0.0001	mg/L	2E-05							
Thallium		5E-05	mg/L	1E-05							
<b>Lab ID: LFB</b>	7	Laboratory Fortified Blank						Run: ICPMS202-B_151215A 12/15/15 11:01			
Antimony		0.0476	mg/L	0.050	95	85	115				
Arsenic		0.0483	mg/L	0.0050	97	85	115				
Cadmium		0.0493	mg/L	0.0010	99	85	115				
Lead		0.0494	mg/L	0.010	99	85	115				
Selenium		0.0506	mg/L	0.0050	101	85	115				
Silver		0.0209	mg/L	0.0050	104	85	115				
Thallium		0.0478	mg/L	0.10	96	85	115				
<b>Lab ID: B15121099-001AMS</b>	7	Sample Matrix Spike						Run: ICPMS202-B_151215A 12/15/15 14:07			
Antimony		0.0534	mg/L	0.0010	106	70	130				
Arsenic		0.0605	mg/L	0.0010	120	70	130				
Cadmium		0.0301	mg/L	0.0010	60	70	130			S	
Lead		0.0448	mg/L	0.0010	88	70	130				
Selenium		0.0695	mg/L	0.0010	139	70	130			S	
Silver		0.0153	mg/L	0.0010	76	70	130				
Thallium		0.0360	mg/L	0.00050	72	70	130				
<b>Lab ID: B15121099-001AMSD</b>	7	Sample Matrix Spike Duplicate						Run: ICPMS202-B_151215A 12/15/15 14:10			
Antimony		0.0543	mg/L	0.0010	108	70	130	1.6	20		
Arsenic		0.0612	mg/L	0.0010	121	70	130	1.2	20		
Cadmium		0.0296	mg/L	0.0010	59	70	130	1.5	20	S	
Lead		0.0450	mg/L	0.0010	89	70	130	0.4	20		
Selenium		0.0711	mg/L	0.0010	142	70	130	2.3	20	S	
Silver		0.0156	mg/L	0.0010	78	70	130	2.1	20		
Thallium		0.0358	mg/L	0.00050	72	70	130	0.4	20		

### Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 12/22/15

**Project:** 1512204

**Work Order:** B15121077

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E200.8										Analytical Run: ICPMS203-B_151216A	
<b>Lab ID:</b> QCS		Initial Calibration Verification Standard								12/16/15 11:06	
Uranium		0.0196	mg/L	0.0010	98	90	110				
<b>Method:</b> E200.8										Batch: R253880	
<b>Lab ID:</b> LRB		Method Blank								Run: ICPMS203-B_151216A	12/16/15 11:48
Uranium		ND	mg/L	3E-06							
<b>Lab ID:</b> LFB		Laboratory Fortified Blank								Run: ICPMS203-B_151216A	12/16/15 11:52
Uranium		0.0489	mg/L	0.0010	98	85	115				
<b>Lab ID:</b> B15120990-002BMS		Sample Matrix Spike								Run: ICPMS203-B_151216A	12/16/15 13:13
Uranium		0.108	mg/L	0.00030	108	70	130				
<b>Lab ID:</b> B15120990-002BMSD		Sample Matrix Spike Duplicate								Run: ICPMS203-B_151216A	12/16/15 13:17
Uranium		0.107	mg/L	0.00030	107	70	130	0.4	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 12/22/15

**Project:** 1512204

**Work Order:** B15121077

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_151217A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								12/17/15 14:13	
Mercury		0.000195	mg/L	1.0E-05	98	90	110				
<b>Method:</b> E245.1										Batch: 95640	
<b>Lab ID:</b> MB-95640		Method Blank								Run: HGCV203-B_151217A	12/17/15 14:23
Mercury		2E-06	mg/L	1E-06							
<b>Lab ID:</b> LCS-95640		Laboratory Control Sample								Run: HGCV203-B_151217A	12/17/15 14:26
Mercury		0.000180	mg/L	1.0E-05	89	85	115				
<b>Lab ID:</b> B15121105-001CMS		Sample Matrix Spike								Run: HGCV203-B_151217A	12/17/15 14:34
Mercury		0.000192	mg/L	1.0E-05	95	70	130				
<b>Lab ID:</b> B15121105-001CMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_151217A	12/17/15 14:36
Mercury		0.000192	mg/L	1.0E-05	95	70	130	0.0	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B15121077

Login completed by: Leslie S. Cadreau

Date Received: 12/14/2015

Reviewed by: BL2000\jmueller

Received by: jwc

Reviewed Date: 12/14/2015

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	13.2°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None







12/28/2015

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1512449

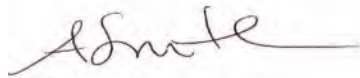
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 12/15/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1512449

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 12/28/2015

OrderID: 1512449

Customer Sample ID: C773-15 B, C WK: 13

Collect Date/Time: 12/15/2015 09:00

WETLAB Sample ID: 1512449-001

Receive Date: 12/15/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	1.5	mg/L	1	0.1	12/15/2015	NV00925
Ferric Iron	SM 3500 Fe B	120	mg/L	1	0.1	12/21/2015	NV00925
pH	SM 4500-H+ B	2.92	pH Units	1		12/17/2015	NV00925
Temperature at pH	NA	19.5	°C	1		12/17/2015	NV00925
Redox Potential	ASTM D1498	450	mV	1		12/15/2015	NV00925
Acidity (Titrimetric)	SM 2310B	880	mg/L as CaCO <sub>3</sub>	1		12/18/2015	NV00925
Electrical Conductivity	SM 2510B	2200	µmhos/cm	1	1	12/15/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	1200	mg/L	10	10	12/17/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	50	mg/L	1	0.50	12/21/2015	NV00925
Iron	EPA 200.7	120	mg/L	1	0.020	12/21/2015	NV00925
Magnesium	EPA 200.7	56	mg/L	1	0.50	12/21/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/15/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/21/2015	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	12/14/2015	NV00925
HCT Post-Leach Volume	N/A	870	mL	1	1	12/15/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 4

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 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15120683	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15120685	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15120780	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC15120902	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15120683	LCS 1	Ferrous Iron	SM 3500 Fe B	0.971	1.00	97	mg/L
QC15120684	LCS 1	Redox Potential	ASTM D1498	239	229	104	mV
QC15120685	LCS 1	Electrical Conductivity	SM 2510B	1513	1412	107	µmhos/cm
QC15120780	LCS 1	Sulfate	EPA 300.0	24.8	25.0	99	mg/L
QC15120902	LCS 1	Calcium, Dissolved	EPA 200.7	9.70	10.0	97	mg/L
		Iron, Dissolved	EPA 200.7	0.966	1.00	97	mg/L
		Magnesium, Dissolved	EPA 200.7	9.67	10.0	97	mg/L
QC15121046	LCS 1	pH	SM 4500-H+ B	6.99	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15120683	Duplicate	Ferrous Iron	SM 3500 Fe B	1512445-001	ND	ND	mg/L	<1%
QC15120683	Duplicate	Ferrous Iron	SM 3500 Fe B	1512447-003	ND	ND	mg/L	18 %
QC15120684	Duplicate	Redox Potential	ASTM D1498	1512445-001	378	383	mV	1 %
QC15120684	Duplicate	Redox Potential	ASTM D1498	1512447-003	431	430	mV	<1%
QC15120685	Duplicate	Electrical Conductivity	SM 2510B	1512445-001	51.2	51.0	µmhos/cm	<1%
QC15120685	Duplicate	Electrical Conductivity	SM 2510B	1512447-003	76.2	76.1	µmhos/cm	<1%
QC15120856	Duplicate	Acidity (Titrimetric)	SM 2310B	1512381-001	10.8	6.67	mg/L as CaCO3	48 %
QC15120856	Duplicate	Acidity (Titrimetric)	SM 2310B	1512384-003	8.81	9.74	mg/L as CaCO3	10 %
QC15120856	Duplicate	Acidity (Titrimetric)	SM 2310B	1512446-005	11.6	13.0	mg/L as CaCO3	12 %
QC15120856	Duplicate	Acidity (Titrimetric)	SM 2310B	1512450-003	24.3	22.4	mg/L as CaCO3	8 %
QC15121046	Duplicate	pH	SM 4500-H+ B	1512445-001	7.36	7.37	pH Units	<1%
QC15121046	Duplicate	pH	SM 4500-H+ B	1512447-003	7.53	7.53	pH Units	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15120780	MS 1	Sulfate	EPA 300.0	1512450-001	21.5	31.3	31.5	10.0	mg/L	98	100	1%
QC15120780	MS 2	Sulfate	EPA 300.0	1512457-017	2.71	12.7	12.7	10.0	mg/L	100	100	<1%
QC15120902	MS 1	Calcium, Dissolved	EPA 200.7	1512499-001	38.5	47.3	48.8	10.0	mg/L	88	103	3%
		Iron, Dissolved	EPA 200.7	1512499-001	ND	0.944	0.949	1.00	mg/L	94	94	1%
		Magnesium, Dissolved	EPA 200.7	1512499-001	8.07	17.4	17.7	10.0	mg/L	93	96	2%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 4

**SPARKS**

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EPA LAB ID: NV00932





1/5/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1512662

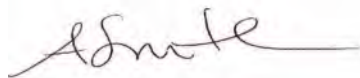
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 12/22/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1512662

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### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 1/5/2016

OrderID: 1512662

Customer Sample ID: C773-15 B,C WK:14

Collect Date/Time: 12/22/2015 09:00

WETLAB Sample ID: 1512662-001

Receive Date: 12/22/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	140	mg/L	200	20	12/22/2015	NV00925
Ferric Iron	SM 3500 Fe B	17	mg/L	1	0.1	12/24/2015	NV00925
pH	SM 4500-H+ B	2.86	pH Units	1		12/28/2015	NV00925
Temperature at pH	NA	19.3	°C	1		12/28/2015	NV00925
Redox Potential	ASTM D1498	450	mV	1		12/22/2015	NV00925
Acidity (Titrimetric)	SM 2310B	950	mg/L as CaCO <sub>3</sub>	1		12/23/2015	NV00925
Electrical Conductivity	SM 2510B	2500	µmhos/cm	1	1	12/22/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	1500 SC	mg/L	10	10	12/28/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	84	mg/L	1	0.50	12/24/2015	NV00925
Iron	EPA 200.7	150	mg/L	1	0.020	12/24/2015	NV00925
Magnesium	EPA 200.7	52	mg/L	1	0.50	12/24/2015	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/22/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/24/2015	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	12/21/2015	NV00925
HCT Post-Leach Volume	N/A	880	mL	1	1	12/22/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 4

**SPARKS**

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15120968	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15120970	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15121078	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
QC15121143	Blank 1	Sulfate	EPA 300.0	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15120966	LCS 1	Redox Potential	ASTM D1498	240	229	105	mV
QC15120968	LCS 1	Electrical Conductivity	SM 2510B	1539	1412	109	µmhos/cm
QC15120970	LCS 1	Ferrous Iron	SM 3500 Fe B	1.01	1.00	101	mg/L
QC15121078	LCS 1	Calcium	EPA 200.7	10.1	10.0	101	mg/L
		Iron	EPA 200.7	1.02	1.00	102	mg/L
		Magnesium	EPA 200.7	9.98	10.0	100	mg/L
QC15121143	LCS 1	Sulfate	EPA 300.0	24.6	25.0	99	mg/L
QC15121191	LCS 1	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC15121191	LCS 2	pH	SM 4500-H+ B	6.99	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15120966	Duplicate	Redox Potential	ASTM D1498	1512658-001	233	231	mV	1 %
QC15120966	Duplicate	Redox Potential	ASTM D1498	1512660-003	267	268	mV	<1%
QC15120968	Duplicate	Electrical Conductivity	SM 2510B	1512658-001	59.9	59.5	µmhos/cm	1 %
QC15120968	Duplicate	Electrical Conductivity	SM 2510B	1512660-003	84.5	84.3	µmhos/cm	<1%
QC15120970	Duplicate	Ferrous Iron	SM 3500 Fe B	1512658-001	ND	ND	mg/L	<1%
QC15120970	Duplicate	Ferrous Iron	SM 3500 Fe B	1512660-003	ND	ND	mg/L	<1%
QC15121029	Duplicate	Acidity (Titrimetric)	SM 2310B	1512559-001	2.22	0.050	QD mg/L as CaCO3	191 %
QC15121029	Duplicate	Acidity (Titrimetric)	SM 2310B	1512564-003	0.150	ND	QD mg/L as CaCO3	<1%
QC15121029	Duplicate	Acidity (Titrimetric)	SM 2310B	1512659-005	7.74	8.98	mg/L as CaCO3	15 %
QC15121029	Duplicate	Acidity (Titrimetric)	SM 2310B	1512663-003	10.3	9.84	mg/L as CaCO3	5 %
QC15121191	Duplicate	pH	SM 4500-H+ B	1512658-001	7.29	7.33	pH Units	1 %
QC15121191	Duplicate	pH	SM 4500-H+ B	1512660-003	7.51	7.62	QD pH Units	1 %
QC15121191	Duplicate	pH	SM 4500-H+ B	1512744-001	7.31	7.37	pH Units	1 %
QC15121191	Duplicate	pH	SM 4500-H+ B	1512747-003	7.37	7.42	pH Units	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15121078	MS 1	Calcium	EPA 200.7	1512731-001	1.76	11.9	11.8	10.0	mg/L	101	100	1%
		Iron	EPA 200.7	1512731-001	0.714	1.79	1.79	1.00	mg/L	108	108	<1%
		Magnesium	EPA 200.7	1512731-001	ND	10.4	10.3	10.0	mg/L	100	99	1%
QC15121143	MS 1	Sulfate	EPA 300.0	1512665-002	218	276	274	10.0	mg/L	116	113	1%
QC15121143	MS 2	Sulfate	EPA 300.0	1512661-001	835	1756	1749	10.0	mg/L	246	239	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 4

**SPARKS**

475 E. Greg Street, Suite 119  
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tel (775) 355-0202  
fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

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**LAS VEGAS**

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EPA LAB ID: NV00932



1/11/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1512765

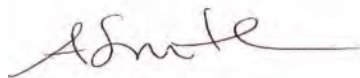
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 12/29/2015. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1512765

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 1/11/2016

OrderID: 1512765

Customer Sample ID: C773-15 B,C WK:15

Collect Date/Time: 12/29/2015 09:00

WETLAB Sample ID: 1512765-001

Receive Date: 12/29/2015 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	130	mg/L	200	20	12/29/2015	NV00925
Ferric Iron	SM 3500 Fe B	20	mg/L	1	0.1	1/4/2016	NV00925
pH	SM 4500-H+ B	2.89	pH Units	1		1/4/2016	NV00925
Temperature at pH	NA	18.3	°C	1		1/4/2016	NV00925
Redox Potential	ASTM D1498	450	mV	1		12/29/2015	NV00925
Acidity (Titrimetric)	SM 2310B	810	mg/L as CaCO <sub>3</sub>	1		12/30/2015	NV00925
Electrical Conductivity	SM 2510B	2100	µmhos/cm	1	1	12/29/2015	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	1100	mg/L	10	10	12/30/2015	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	65	mg/L	1	0.50	1/4/2016	NV00925
Iron	EPA 200.7	150	mg/L	1	0.020	1/4/2016	NV00925
Magnesium	EPA 200.7	45	mg/L	1	0.50	1/4/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		12/29/2015	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		12/31/2015	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	12/28/2015	NV00925
HCT Post-Leach Volume	N/A	880	mL	1	1	12/29/2015	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 4

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC15121223	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC15121225	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC15121263	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16010151	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC15121223	LCS 1	Electrical Conductivity	SM 2510B	1536	1412	109	µmhos/cm
QC15121224	LCS 1	Redox Potential	ASTM D1498	242	229	106	mV
QC15121225	LCS 1	Ferrous Iron	SM 3500 Fe B	1.02	1.00	102	mg/L
QC15121263	LCS 1	Sulfate	EPA 300.0	23.7	25.0	95	mg/L
QC16010060	LCS 1	pH	SM 4500-H+ B	7.00	7.00	100	pH Units
QC16010060	LCS 2	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC16010151	LCS 1	Calcium	EPA 200.7	9.80	10.0	98	mg/L
		Iron	EPA 200.7	1.10	1.00	110	mg/L
		Magnesium	EPA 200.7	10.7	10.0	107	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC15121223	Duplicate	Electrical Conductivity	SM 2510B	1512761-001	53.4	52.9	µmhos/cm	1 %
QC15121223	Duplicate	Electrical Conductivity	SM 2510B	1512763-003	91.4	90.3	µmhos/cm	1 %
QC15121224	Duplicate	Redox Potential	ASTM D1498	1512761-001	426	431	mV	1 %
QC15121224	Duplicate	Redox Potential	ASTM D1498	1512763-003	423	423	mV	<1%
QC15121225	Duplicate	Ferrous Iron	SM 3500 Fe B	1512761-001	ND	ND	mg/L	<1%
QC15121225	Duplicate	Ferrous Iron	SM 3500 Fe B	1512763-003	ND	ND	mg/L	<1%
QC16010060	Duplicate	pH	SM 4500-H+ B	1512761-001	7.17	7.23	pH Units	1 %
QC16010060	Duplicate	pH	SM 4500-H+ B	1512763-003	7.46	7.56	pH Units	1 %
QC16010060	Duplicate	pH	SM 4500-H+ B	1512836-001	7.15	7.23	pH Units	1 %
QC16010060	Duplicate	pH	SM 4500-H+ B	1512839-003	7.28	7.33	pH Units	1 %
QC16010098	Duplicate	Acidity (Titrimetric)	SM 2310B	1512744-001	14.0	7.41	mg/L as CaCO3	62 %
QC16010098	Duplicate	Acidity (Titrimetric)	SM 2310B	1512747-003	12.4	13.0	mg/L as CaCO3	5 %
QC16010098	Duplicate	Acidity (Titrimetric)	SM 2310B	1512762-005	12.9	13.2	mg/L as CaCO3	3 %
QC16010098	Duplicate	Acidity (Titrimetric)	SM 2310B	1512766-003	30.2	29.9	mg/L as CaCO3	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC15121263	MS 1	Sulfate	EPA 300.0	1512792-001	36.5	45.6	46.0	10.0	mg/L	91	94	1%
QC15121263	MS 2	Sulfate	EPA 300.0	1512766-005	29.4	38.1	39.1	10.0	mg/L	86	96	3%
QC16010151	MS 1	Calcium	EPA 200.7	1512827-001	3.60	13.6	13.4	10.0	mg/L	100	98	1%
		Iron	EPA 200.7	1512827-001	1.19	2.36	2.56	1.00	mg/L	117	137	8%
		Magnesium	EPA 200.7	1512827-001	ND	10.9	10.9	10.0	mg/L	109	109	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 4

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EPA LAB ID: NV00932





1/20/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1601012

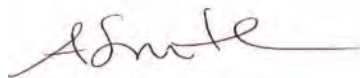
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

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The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 1/5/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1601012

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

PO/Project: WLHCT-0120

Date Printed: 1/20/2016

OrderID: 1601012

Customer Sample ID: C773-15 B, C WK: 16

Collect Date/Time: 1/5/2016 09:00

WETLAB Sample ID: 1601012-001

Receive Date: 1/5/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	100	HT mg/L	100	10	1/15/2016	NV00925
Ferric Iron	SM 3500 Fe B	14	mg/L	1	0.1	1/15/2016	NV00925
pH	SM 4500-H+ B	2.90	pH Units	1		1/5/2016	NV00925
Temperature at pH	NA	19.9	°C	1		1/5/2016	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	1/7/2016	NV00925
Redox Potential	ASTM D1498	450	mV	1		1/5/2016	NV00925
Acidity (Titrimetric)	SM 2310B	690	mg/L as CaCO3	1		1/13/2016	NV00925
Total Nitrogen	Calc.	0.58	mg/L	1	0.50	1/8/2016	NV00925
Total Dissolved Solids (TDS)	SM 2540C	1200	mg/L	1	10	1/7/2016	NV00925
Electrical Conductivity	SM 2510B	1900	µmhos/cm	1	1	1/5/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Chloride	EPA 300.0	ND	D mg/L	5	5.0	1/6/2016	NV00925
Fluoride	EPA 300.0	ND	D mg/L	5	0.50	1/6/2016	NV00925
Sulfate	EPA 300.0	1300	SC mg/L	10	10	1/7/2016	NV00925
<b><u>Flow Injection Analyses</u></b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	0.19	mg/L	5	0.10	1/7/2016	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.40	1/8/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Barium	EPA 200.7	0.025	mg/L	1	0.0030	1/6/2016	NV00925
Beryllium	EPA 200.7	0.0061	mg/L	1	0.0008	1/6/2016	NV00925
Boron	EPA 200.7	ND	mg/L	1	0.10	1/7/2016	NV00925
Calcium	EPA 200.7	60	mg/L	1	0.50	1/6/2016	NV00925
Chromium	EPA 200.7	0.082	mg/L	1	0.0050	1/6/2016	NV00925
Cobalt	EPA 200.7	6.7	mg/L	1	0.010	1/6/2016	NV00925
Iron	EPA 200.7	120	mg/L	1	0.020	1/6/2016	NV00925
Magnesium	EPA 200.7	32	mg/L	1	0.50	1/6/2016	NV00925
Manganese	EPA 200.7	1.9	mg/L	1	0.0050	1/6/2016	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	1/6/2016	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	1/7/2016	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	1/7/2016	NV00925
Strontium	EPA 200.7	1.0	mg/L	1	0.020	1/6/2016	NV00925
Zinc	EPA 200.7	1.0	mg/L	1	0.0080	1/6/2016	NV00925
<b><u>Trace Metals by ICP-MS</u></b>							
Copper	EPA 200.8	170	mg/L	1000	2.0	1/13/2016	NV00925
Nickel	EPA 200.8	2.2	mg/L	100	0.20	1/8/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

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EPA LAB ID: NV00932

Customer Sample ID: C773-15 B, C WK: 16

Collect Date/Time: 1/5/2016 09:00

WETLAB Sample ID: 1601012-001

Receive Date: 1/5/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>Ion Balance</u></b>							
Anions	Calculation	27.1	meq/L	1	0.10		NV00925
Cations	Calculation	24.6	meq/L	1	0.10		NV00925
Error	Calculation	4.8	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		1/5/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		1/6/2016	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	1/4/2016	NV00925
HCT Post-Leach Volume	N/A	860	mL	1	1	1/5/2016	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

**SPARKS**

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16010135	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16010135	Blank 2	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16010138	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16010138	Blank 2	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16010159	Blank 1	Barium	EPA 200.7	ND	mg/L
		Beryllium	EPA 200.7	ND	mg/L
		Boron	EPA 200.7	ND	mg/L
		Calcium	EPA 200.7	ND	mg/L
		Chromium	EPA 200.7	ND	mg/L
		Cobalt	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
		Manganese	EPA 200.7	ND	mg/L
		Molybdenum	EPA 200.7	ND	mg/L
		Potassium	EPA 200.7	ND	mg/L
		Sodium	EPA 200.7	ND	mg/L
		Strontium	EPA 200.7	ND	mg/L
		Zinc	EPA 200.7	ND	mg/L
QC16010165	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC16010180	Blank 1	Copper	EPA 200.8	ND	mg/L
		Nickel	EPA 200.8	ND	mg/L
QC16010199	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC16010203	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC16010264	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC16010307	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16010122	LCS 1	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC16010122	LCS 2	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC16010133	LCS 1	Redox Potential	ASTM D1498	243	229	106	mV
QC16010133	LCS 2	Redox Potential	ASTM D1498	247	229	108	mV
QC16010135	LCS 1	Electrical Conductivity	SM 2510B	1498	1412	106	µmhos/cm
QC16010135	LCS 2	Electrical Conductivity	SM 2510B	1532	1412	108	µmhos/cm
QC16010138	LCS 1	Ferrous Iron	SM 3500 Fe B	1.03	1.00	103	mg/L
QC16010138	LCS 2	Ferrous Iron	SM 3500 Fe B	1.04	1.00	104	mg/L
QC16010159	LCS 1	Barium	EPA 200.7	1.04	1.00	104	mg/L
		Beryllium	EPA 200.7	1.02	1.00	102	mg/L
		Boron	EPA 200.7	1.09	1.00	109	mg/L
		Calcium	EPA 200.7	10.2	10.0	102	mg/L
		Chromium	EPA 200.7	1.03	1.00	103	mg/L
		Cobalt	EPA 200.7	1.04	1.00	104	mg/L
		Iron	EPA 200.7	1.02	1.00	102	mg/L
		Magnesium	EPA 200.7	10.1	10.0	101	mg/L
		Manganese	EPA 200.7	1.03	1.00	103	mg/L
		Molybdenum	EPA 200.7	1.03	1.00	103	mg/L
		Potassium	EPA 200.7	10.2	10.0	102	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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### SPARKS

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Sparks, Nevada 89431  
tel (775) 355-0202  
fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

### ELKO

1084 Lamoille Hwy  
Elko, Nevada 89801  
tel (775) 777-9933  
fax (775) 777-9933  
EPA LAB ID: NV00926

### LAS VEGAS

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16010165	LCS 1	Sodium	EPA 200.7	9.91	10.0	99	mg/L
		Strontium	EPA 200.7	1.03	1.00	103	mg/L
		Zinc	EPA 200.7	1.06	1.00	106	mg/L
		Chloride	EPA 300.0	10.3	10.0	103	mg/L
		Fluoride	EPA 300.0	1.93	2.00	96	mg/L
		Sulfate	EPA 300.0	24.0	25.0	96	mg/L
QC16010180	LCS 1	Copper	EPA 200.8	0.0105	0.010	105	mg/L
		Nickel	EPA 200.8	0.0108	0.010	108	mg/L
QC16010199	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.780	0.800	98	mg/L
QC16010203	LCS 1	WAD Cyanide	SM 4500CN I, E	0.092	0.100	92	mg/L
QC16010264	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	1.03	1.00	103	mg/L
QC16010307	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	138	150	92	mg/L
QC16010307	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	138	150	92	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16010122	Duplicate	pH	SM 4500-H+ B	1601008-001	7.15	7.20	pH Units	1 %
QC16010122	Duplicate	pH	SM 4500-H+ B	1601010-003	7.43	7.54	QD pH Units	1 %
QC16010122	Duplicate	pH	SM 4500-H+ B	1601014-001	5.29	5.38	pH Units	2 %
QC16010133	Duplicate	Redox Potential	ASTM D1498	1601008-001	334	336	mV	<1%
QC16010133	Duplicate	Redox Potential	ASTM D1498	1601010-003	476	477	mV	<1%
QC16010133	Duplicate	Redox Potential	ASTM D1498	1601014-001	258	258	mV	<1%
QC16010135	Duplicate	Electrical Conductivity	SM 2510B	1601008-001	56.0	55.9	µmhos/cm	<1%
QC16010135	Duplicate	Electrical Conductivity	SM 2510B	1601010-003	78.0	77.6	µmhos/cm	1 %
QC16010135	Duplicate	Electrical Conductivity	SM 2510B	1601014-001	2970	2976	µmhos/cm	<1%
QC16010138	Duplicate	Ferrous Iron	SM 3500 Fe B	1601008-001	ND	ND	mg/L	<1%
QC16010138	Duplicate	Ferrous Iron	SM 3500 Fe B	1601010-003	ND	ND	mg/L	<1%
QC16010138	Duplicate	Ferrous Iron	SM 3500 Fe B	1601014-001	2.82	4.57	HT mg/L	1 %
QC16010307	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1601065-001	518	513	mg/L	1 %
QC16010307	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1601076-001	259	251	mg/L	3 %
QC16010387	Duplicate	Acidity (Titrimetric)	SM 2310B	1601009-002	7.63	13.3	QD mg/L as CaCO3	54 %
QC16010387	Duplicate	Acidity (Titrimetric)	SM 2310B	1601011-001	531	539	mg/L as CaCO3	2 %
QC16010387	Duplicate	Acidity (Titrimetric)	SM 2310B	1601114-001	0.820	1.79	QD mg/L as CaCO3	74 %
QC16010387	Duplicate	Acidity (Titrimetric)	SM 2310B	1601114-003	2.87	2.67	mg/L as CaCO3	7 %
QC16010387	Duplicate	Acidity (Titrimetric)	SM 2310B	1601117-005	ND	ND	mg/L as CaCO3	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16010159	MS 1	Barium	EPA 200.7	1512833-002	0.017	1.00	1.02	1.00	mg/L	98	100	2%
		Beryllium	EPA 200.7	1512833-002	ND	0.973	0.992	1.00	mg/L	97	99	2%
		Boron	EPA 200.7	1512833-002	2.99	3.96	3.99	1.00	mg/L	96	100	1%
		Calcium	EPA 200.7	1512833-002	469	479	475	10.0	mg/L	100	60	1%
		Chromium	EPA 200.7	1512833-002	ND	0.983	1.00	1.00	mg/L	98	100	2%
		Cobalt	EPA 200.7	1512833-002	ND	0.950	0.973	1.00	mg/L	95	97	2%
		Iron	EPA 200.7	1512833-002	0.047	1.03	1.04	1.00	mg/L	98	99	1%
		Magnesium	EPA 200.7	1512833-002	25.4	34.9	35.3	10.0	mg/L	95	99	1%
		Manganese	EPA 200.7	1512833-002	0.051	1.01	1.03	1.00	mg/L	96	98	2%
		Molybdenum	EPA 200.7	1512833-002	0.287	1.32	1.34	1.00	mg/L	103	105	2%
		Potassium	EPA 200.7	1512833-002	4.56	14.5	14.6	10.0	mg/L	99	100	1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD	
		Sodium	EPA 200.7	1512833-002	745	SC 760	755	10.0	mg/L	NC	NC	NC	
		Strontium	EPA 200.7	1512833-002	3.73		4.78	4.67	1.00	mg/L	105	94	2%
		Zinc	EPA 200.7	1512833-002	ND		1.01	1.02	1.00	mg/L	100	101	1%
QC16010165	MS 1	Chloride	EPA 300.0	1601012-001	ND	D 26.9	27.0	5.00	mg/L	105	105	<1%	
		Fluoride	EPA 300.0	1601012-001	ND	D 10.3	10.3	2.00	mg/L	100	100	<1%	
QC16010165	MS 2	Sulfate	EPA 300.0	1601012-001	1274	SC 1399	1401	10.0	mg/L	NC	NC	NC	
		Chloride	EPA 300.0	1601037-003	135	SC 165	163	5.00	mg/L	NC	NC	NC	
		Fluoride	EPA 300.0	1601037-003	0.612		10.6	10.7	2.00	mg/L	100	101	1%
		Sulfate	EPA 300.0	1601037-003	283		341	337	10.0	mg/L	117	108	1%
QC16010180	MS 1	Copper	EPA 200.8	1512833-002	0.0353		0.0446	0.0466	0.010	mg/L	93	113	4%
		Nickel	EPA 200.8	1512833-002	0.0171		0.0263	0.0261	0.010	mg/L	92	90	1%
QC16010199	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1512839-002	ND		5.87	5.75	1.00	mg/L	118	116	2%
QC16010199	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1601008-002	ND		5.42	5.58	1.00	mg/L	108	111	3%
QC16010203	MS 1	WAD Cyanide	SM 4500CN I,	1601013-001	ND	M 0.072	0.074	0.100	mg/L	NC	NC	NC	
QC16010203	MS 2	WAD Cyanide	SM 4500CN I,	1601014-001	ND	M 0.054	0.053	0.100	mg/L	NC	NC	NC	
QC16010264	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1601013-001	ND		0.868	0.948	1.00	mg/L	95	103	9%
QC16010264	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1601013-002	ND		0.933	0.810	1.00	mg/L	102	89	14%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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# ANALYTICAL SUMMARY REPORT

January 20, 2016

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B16010578                      Quote ID: B3679  
Project Name: 1601012

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 1/11/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16010578-001	C773-15 B, C WK: 16-WLHCT-0120	01/05/16 9:00	01/11/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1601012  
**Lab ID:** B16010578-001  
**Client Sample ID:** C773-15 B, C WK: 16-WLHCT-0120

**Report Date:** 01/20/16  
**Collection Date:** 01/05/16 09:00  
**Date Received:** 01/11/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	27.7	mg/L	D	0.03		E200.7	01/12/16 15:45 / r/h
Antimony	0.0013	mg/L		0.0005		E200.8	01/12/16 12:41 / mas
Arsenic	0.056	mg/L		0.001		E200.8	01/12/16 12:41 / mas
Cadmium	0.00167	mg/L		0.00003		E200.8	01/12/16 12:41 / mas
Lead	0.0036	mg/L		0.0003		E200.8	01/12/16 12:41 / mas
Mercury	ND	mg/L		5E-06		E245.1	01/12/16 16:34 / ser
Phosphorus	ND	mg/L	D	0.1		E200.7	01/12/16 15:45 / r/h
Selenium	ND	mg/L		0.001		E200.8	01/12/16 12:41 / mas
Silicon	1.35	mg/L	D	0.07		E200.7	01/12/16 15:45 / r/h
Silver	ND	mg/L		0.0002		E200.8	01/12/16 12:41 / mas
Thallium	0.0003	mg/L		0.0002		E200.8	01/12/16 12:41 / mas
Uranium	0.0259	mg/L		0.0002		E200.8	01/12/16 12:41 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 01/20/16

**Project:** 1601012

**Work Order:** B16010578

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160112A		
<b>Lab ID: ICV</b>	Continuing Calibration Verification Standard									
Aluminum		2.44	mg/L	0.10	98	95	105			01/12/16 10:03
<b>Method: E200.7</b>								Batch: R254901		
<b>Lab ID: MB-6500DIS160112A</b>	Method Blank									
Aluminum		ND	mg/L	0.007						Run: ICP203-B_160112A 01/12/16 10:31
<b>Lab ID: LFB-6500DIS160112A</b>	Laboratory Fortified Blank									
Aluminum		4.68	mg/L	0.10	94	85	115			Run: ICP203-B_160112A 01/12/16 10:35
<b>Lab ID: B16010147-004BMS2</b>	Sample Matrix Spike									
Aluminum		4.91	mg/L	0.030	98	70	130			Run: ICP203-B_160112A 01/12/16 12:51
<b>Lab ID: B16010147-004BMSD</b>	Sample Matrix Spike Duplicate									
Aluminum		4.88	mg/L	0.030	98	70	130	0.7	20	Run: ICP203-B_160112A 01/12/16 12:55

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 01/20/16

**Project:** 1601012

**Work Order:** B16010578

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b> Analytical Run: ICPMS206-B_160112A										
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard								01/12/16 12:27
Antimony		0.0493	mg/L	0.050	99	90	110			
Arsenic		0.0499	mg/L	0.0050	100	90	110			
Cadmium		0.0257	mg/L	0.0010	103	90	110			
Lead		0.0513	mg/L	0.010	103	90	110			
Selenium		0.0494	mg/L	0.0050	99	90	110			
Silver		0.0225	mg/L	0.0050	90	90	110			
Thallium		0.0508	mg/L	0.10	102	90	110			
Uranium		0.0197	mg/L	0.0010	99	90	110			
<b>Method: E200.8</b> Batch: R254912										
<b>Lab ID: LRB</b>	8	Method Blank								01/12/16 12:18
Antimony		ND	mg/L	8E-05						
Arsenic		ND	mg/L	6E-05						
Cadmium		ND	mg/L	3E-05						
Lead		ND	mg/L	5E-05						
Selenium		ND	mg/L	0.0001						
Silver		ND	mg/L	2E-05						
Thallium		ND	mg/L	7E-05						
Uranium		ND	mg/L	5E-05						
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank								01/12/16 12:22
Antimony		0.0490	mg/L	0.050	98	85	115			
Arsenic		0.0490	mg/L	0.0050	98	85	115			
Cadmium		0.0495	mg/L	0.0010	99	85	115			
Lead		0.0500	mg/L	0.010	100	85	115			
Selenium		0.0503	mg/L	0.0050	101	85	115			
Silver		0.0179	mg/L	0.0050	89	85	115			
Thallium		0.0502	mg/L	0.10	100	85	115			
Uranium		0.0503	mg/L	0.0010	101	85	115			
<b>Lab ID: B16010578-001AMS</b>	8	Sample Matrix Spike								01/12/16 12:46
Antimony		0.0440	mg/L	0.0010	85	70	130			
Arsenic		0.100	mg/L	0.0010	89	70	130			
Cadmium		0.0503	mg/L	0.0010	97	70	130			
Lead		0.0556	mg/L	0.0010	104	70	130			
Selenium		0.0494	mg/L	0.0010	98	70	130			
Silver		0.0134	mg/L	0.0010	67	70	130			S
Thallium		0.0518	mg/L	0.00050	103	70	130			
Uranium		0.0770	mg/L	0.00030	102	70	130			
<b>Lab ID: B16010578-001AMSD</b>	8	Sample Matrix Spike Duplicate								01/12/16 12:51
Antimony		0.0440	mg/L	0.0010	85	70	130	0.0	20	
Arsenic		0.101	mg/L	0.0010	90	70	130	0.5	20	
Cadmium		0.0494	mg/L	0.0010	95	70	130	1.7	20	
Lead		0.0550	mg/L	0.0010	103	70	130	1.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 01/20/16

**Project:** 1601012

**Work Order:** B16010578

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>								Batch: R254912		
<b>Lab ID: B16010578-001AMSD</b>				8 Sample Matrix Spike Duplicate		Run: ICPMS206-B_160112A			01/12/16 12:51	
Selenium		0.0524	mg/L	0.0010	104	70	130	5.9	20	
Silver		0.0134	mg/L	0.0010	67	70	130	0.1	20	S
Thallium		0.0515	mg/L	0.00050	103	70	130	0.6	20	
Uranium		0.0755	mg/L	0.00030	99	70	130	1.9	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 01/20/16

**Project:** 1601012

**Work Order:** B16010578

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method:</b> E245.1										Analytical Run: HGCV203-B_160112A	
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								01/12/16 16:04	
Mercury		0.000204	mg/L	1.0E-05	102	90	110				
<b>Method:</b> E245.1										Batch: 96150	
<b>Lab ID:</b> MB-96150		Method Blank								Run: HGCV203-B_160112A	01/12/16 16:28
Mercury		ND	mg/L	1E-06							
<b>Lab ID:</b> LCS-96150		Laboratory Control Sample								Run: HGCV203-B_160112A	01/12/16 16:31
Mercury		0.000206	mg/L	1.0E-05	103	85	115				
<b>Lab ID:</b> B16010578-001AMS		Sample Matrix Spike								Run: HGCV203-B_160112A	01/12/16 16:39
Mercury		0.000213	mg/L	1.0E-05	105	70	130				
<b>Lab ID:</b> B16010578-001AMSD		Sample Matrix Spike Duplicate								Run: HGCV203-B_160112A	01/12/16 16:41
Mercury		0.000217	mg/L	1.0E-05	107	70	130	1.9	30		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B16010578

Login completed by: Gina McCartney

Date Received: 1/11/2016

Reviewed by: BL2000\tedwards

Received by: qej

Reviewed Date: 1/11/2016

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	13.6°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None

# CHAIN OF CUSTODY RECORD

Energy

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Logan Greenwood Ph: (775) 355-0202 LoganG@wetlaboratory.com Fax: (775) 355-0817		Total # of sample containers: <u>1</u> System: _____		Samplers Initials: _____ All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		Water System #: _____	
Sample Receipt Condition: _____		Job ID: 1601012		Notes: _____		Date: _____ Time: _____	
Temperature: _____		SIGNATURE OF COMPANY REPRESENTATIVE: _____		Date: _____ Time: _____		Date: _____ Time: _____	
Set Date	Set Time	Sample ID - Site ID	Matrix	Parameter	Container Type	Preservatives	Sample Type
1/5/2016	9:00 AM	C773-15 B, C WK: 16 - WLHCT-0120	Leachate	Various Metals (Subcontracted)		B16010578-001	Composite
Relinquished by: (Signature)	Date: 1/16/16	Time: 14:00	Received by: (Signature)	Date: _____	Time: _____	Trip Blank	Equipment Blank
Relinquished by: (Signature)	Date: _____	Time: _____	Received by: (Signature)	Date: _____	Time: _____	Grab	Equipment Blank
Relinquished by: (Signature)	Date: _____	Time: _____	Received by: (Signature)	Date: 1/11/16	Time: 09:15	Grab	Equipment Blank

temp = 13.6  
 no ice  
 no seals  
 UPS temp.







1/25/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1601183

Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 1/12/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Jennifer Delaney  
QA Specialist

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1601183

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 1/25/2016

OrderID: 1601183

Customer Sample ID: C773-15 B, C WK: 17

Collect Date/Time: 1/12/2016 09:00

WETLAB Sample ID: 1601183-001

Receive Date: 1/12/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	290	mg/L	100	10	1/12/2016	NV00925
Ferric Iron	SM 3500 Fe B	120	mg/L	1	0.1	1/18/2016	NV00925
pH	SM 4500-H+ B	2.72	pH Units	1		1/18/2016	NV00925
Temperature at pH	NA	20.3	°C	1		1/18/2016	NV00925
Redox Potential	ASTM D1498	450	mV	1		1/12/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1500	mg/L as CaCO <sub>3</sub>	1		1/19/2016	NV00925
Electrical Conductivity	SM 2510B	3000	µmhos/cm	1	1	1/12/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2100	mg/L	20	20	1/15/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	150	mg/L	1	0.50	1/15/2016	NV00925
Iron	EPA 200.7	410	mg/L	10	0.20	1/18/2016	NV00925
Magnesium	EPA 200.7	55	mg/L	1	0.50	1/15/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		1/12/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		1/14/2016	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	1/11/2016	NV00925
HCT Post-Leach Volume	N/A	870	mL	1	1	1/12/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 5

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16010350	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16010350	Blank 2	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16010352	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16010352	Blank 2	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16010447	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
QC16010467	Blank 1	Sulfate	EPA 300.0	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16010350	LCS 1	Ferrous Iron	SM 3500 Fe B	1.03	1.00	103	mg/L
QC16010350	LCS 2	Ferrous Iron	SM 3500 Fe B	1.04	1.00	104	mg/L
QC16010351	LCS 1	Redox Potential	ASTM D1498	245	229	107	mV
QC16010351	LCS 2	Redox Potential	ASTM D1498	246	229	107	mV
QC16010352	LCS 1	Electrical Conductivity	SM 2510B	1525	1412	108	µmhos/cm
QC16010352	LCS 2	Electrical Conductivity	SM 2510B	1542	1412	109	µmhos/cm
QC16010447	LCS 1	Calcium, Dissolved	EPA 200.7	9.23	10.0	92	mg/L
		Iron, Dissolved	EPA 200.7	0.870	1.00	87	mg/L
		Magnesium, Dissolved	EPA 200.7	9.02	10.0	90	mg/L
QC16010467	LCS 1	Sulfate	EPA 300.0	25.0	25.0	100	mg/L
QC16010513	LCS 1	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC16010513	LCS 2	pH	SM 4500-H+ B	6.98	7.00	100	pH Units
QC16010513	LCS 3	pH	SM 4500-H+ B	6.98	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD	
QC16010350	Duplicate	Ferrous Iron	SM 3500 Fe B	1601179-001	ND	ND	mg/L	<1%	
QC16010350	Duplicate	Ferrous Iron	SM 3500 Fe B	1601181-003	ND	ND	mg/L	<1%	
QC16010350	Duplicate	Ferrous Iron	SM 3500 Fe B	1601185-001	ND	ND	mg/L	<1%	
QC16010351	Duplicate	Redox Potential	ASTM D1498	1601179-001	270	270	mV	<1%	
QC16010351	Duplicate	Redox Potential	ASTM D1498	1601181-003	434	431	mV	1 %	
QC16010351	Duplicate	Redox Potential	ASTM D1498	1601185-001	493	491	mV	<1%	
QC16010352	Duplicate	Electrical Conductivity	SM 2510B	1601179-001	58.2	57.9	µmhos/cm	1 %	
QC16010352	Duplicate	Electrical Conductivity	SM 2510B	1601181-003	99.3	98.8	µmhos/cm	1 %	
QC16010352	Duplicate	Electrical Conductivity	SM 2510B	1601185-001	1751	1753	µmhos/cm	<1%	
QC16010513	Duplicate	pH	SM 4500-H+ B	1601179-001	7.19	7.25	pH Units	1 %	
QC16010513	Duplicate	pH	SM 4500-H+ B	1601181-003	7.54	7.70	QD	pH Units	2 %
QC16010513	Duplicate	pH	SM 4500-H+ B	1601185-001	6.41	6.50	pH Units	1 %	
QC16010513	Duplicate	pH	SM 4500-H+ B	1601274-001	7.30	7.39	pH Units	1 %	
QC16010513	Duplicate	pH	SM 4500-H+ B	1601277-003	7.32	7.47	QD	pH Units	2 %
QC16010574	Duplicate	Acidity (Titrimetric)	SM 2310B	1601179-001	149	7.47	QD	mg/L as CaCO3	181 %
QC16010574	Duplicate	Acidity (Titrimetric)	SM 2310B	1601181-003	4.37	6.94	QD	mg/L as CaCO3	45 %
QC16010574	Duplicate	Acidity (Titrimetric)	SM 2310B	1601185-001	76.4	77.1		mg/L as CaCO3	1 %
QC16010574	Duplicate	Acidity (Titrimetric)	SM 2310B	1601274-004	21.7	21.3		mg/L as CaCO3	4 %

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 5

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QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16010574	Duplicate	Acidity (Titrimetric)	SM 2310B	1601277-005	22.2	22.2	mg/L as CaCO3	<1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16010447	MS 1	Calcium, Dissolved	EPA 200.7	1601245-001	48.4	58.3	57.4	10.0	mg/L	99	90	2%
		Iron, Dissolved	EPA 200.7	1601245-001	0.044	0.956	0.872	1.00	mg/L	91	83	9%
		Magnesium, Dissolved	EPA 200.7	1601245-001	21.8	30.4	30.2	10.0	mg/L	86	84	1%
QC16010467	MS 1	Sulfate	EPA 300.0	1601306-001	1.80	12.1	12.4	10.0	mg/L	103	106	2%
QC16010467	MS 2	Sulfate	EPA 300.0	1601180-005	ND	10.9	11.3	10.0	mg/L	107	111	4%

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1/29/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1601363

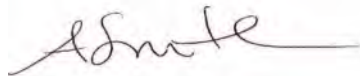
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 1/19/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1601363

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 1/29/2016

OrderID: 1601363

Customer Sample ID: C773-15 B,C WK:18

Collect Date/Time: 1/19/2016 09:00

WETLAB Sample ID: 1601363-001

Receive Date: 1/19/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	350	mg/L	100	10	1/19/2016	NV00925
Ferric Iron	SM 3500 Fe B	120	mg/L	1	0.1	1/25/2016	NV00925
pH	SM 4500-H+ B	2.68	pH Units	1		1/21/2016	NV00925
Temperature at pH	NA	21.9	°C	1		1/21/2016	NV00925
Redox Potential	ASTM D1498	440	mV	1		1/19/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1700	mg/L as CaCO3	1		1/26/2016	NV00925
Electrical Conductivity	SM 2510B	3300	µmhos/cm	1	1	1/19/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	3500	mg/L	20	20	1/21/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	150	mg/L	1	0.50	1/25/2016	NV00925
Iron	EPA 200.7	470	mg/L	20	0.40	1/25/2016	NV00925
Magnesium	EPA 200.7	59	mg/L	1	0.50	1/25/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		1/19/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		1/22/2016	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	1/18/2016	NV00925
HCT Post-Leach Volume	N/A	860	mL	1	1	1/19/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 4

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16010554	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16010559	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16010628	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16010742	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16010554	LCS 1	Ferrous Iron	SM 3500 Fe B	0.969	1.00	97	mg/L
QC16010557	LCS 1	Redox Potential	ASTM D1498	479	475	101	mV
QC16010559	LCS 1	Electrical Conductivity	SM 2510B	1493	1412	106	µmhos/cm
QC16010628	LCS 1	Sulfate	EPA 300.0	25.1	25.0	100	mg/L
QC16010742	LCS 1	Calcium, Dissolved	EPA 200.7	9.48	10.0	95	mg/L
		Iron, Dissolved	EPA 200.7	0.956	1.00	96	mg/L
		Magnesium, Dissolved	EPA 200.7	9.47	10.0	95	mg/L
QC16010839	LCS 1	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC16010839	LCS 2	pH	SM 4500-H+ B	6.97	7.00	100	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16010554	Duplicate	Ferrous Iron	SM 3500 Fe B	1601359-001	ND	ND	mg/L	<1%
QC16010554	Duplicate	Ferrous Iron	SM 3500 Fe B	1601361-003	ND	ND	mg/L	<1%
QC16010557	Duplicate	Redox Potential	ASTM D1498	1601359-001	537	538	mV	<1%
QC16010557	Duplicate	Redox Potential	ASTM D1498	1601361-003	439	441	mV	<1%
QC16010559	Duplicate	Electrical Conductivity	SM 2510B	1601359-001	56.9	56.8	µmhos/cm	<1%
QC16010559	Duplicate	Electrical Conductivity	SM 2510B	1601361-003	79.0	78.7	µmhos/cm	<1%
QC16010832	Duplicate	Acidity (Titrimetric)	SM 2310B	1601359-001	23.1	25.2	mg/L as CaCO3	9 %
QC16010832	Duplicate	Acidity (Titrimetric)	SM 2310B	1601361-003	31.9	30.2	mg/L as CaCO3	6 %
QC16010832	Duplicate	Acidity (Titrimetric)	SM 2310B	1601365-001	90.2	86.8	mg/L as CaCO3	4 %
QC16010839	Duplicate	pH	SM 4500-H+ B	1601359-001	6.89	7.05	QD pH Units	2 %
QC16010839	Duplicate	pH	SM 4500-H+ B	1601361-003	7.17	7.38	QD pH Units	3 %
QC16010839	Duplicate	pH	SM 4500-H+ B	1601365-001	6.37	6.51	QD pH Units	2 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16010628	MS 1	Sulfate	EPA 300.0	1601361-002	11.9	20.9	20.9	10.0	mg/L	90	90	<1%
QC16010742	MS 1	Calcium, Dissolved	EPA 200.7	1601480-003	10.1	18.9	18.7	10.0	mg/L	88	86	1%
		Iron, Dissolved	EPA 200.7	1601480-003	ND	0.972	0.956	1.00	mg/L	96	94	2%
		Magnesium, Dissolved	EPA 200.7	1601480-003	ND	9.59	9.47	10.0	mg/L	95	94	1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 4

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EPA LAB ID: NV00932



2/5/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1601529

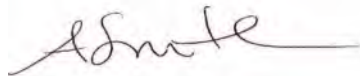
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 1/26/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

475 E. Greg Street, Suite 119  
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fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

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EPA LAB ID: NV00926

**LAS VEGAS**

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Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1601529

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### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 2/5/2016

OrderID: 1601529

Customer Sample ID: C773-15 B,C WK:19

Collect Date/Time: 1/26/2016 09:00

WETLAB Sample ID: 1601529-001

Receive Date: 1/26/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	330	mg/L	100	10	1/26/2016	NV00925
Ferric Iron	SM 3500 Fe B	99	mg/L	1	0.1	1/29/2016	NV00925
pH	SM 4500-H+ B	2.69 HT	pH Units	1		1/27/2016	NV00925
Temperature at pH	NA	20.9	°C	1		1/27/2016	NV00925
Redox Potential	ASTM D1498	450	mV	1		1/26/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1500	mg/L as CaCO <sub>3</sub>	1		1/29/2016	NV00925
Electrical Conductivity	SM 2510B	1600	µmhos/cm	1	1	1/26/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	3300	mg/L	40	40	1/27/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	120	mg/L	1	0.50	1/29/2016	NV00925
Iron	EPA 200.7	430	mg/L	10	0.20	1/29/2016	NV00925
Magnesium	EPA 200.7	47	mg/L	1	0.50	1/29/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		1/26/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		1/28/2016	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	1/25/2016	NV00925
HCT Post-Leach Volume	N/A	890	mL	1	1	1/26/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 4

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16010809	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16010811	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16010843	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16010927	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16010809	LCS 1	Ferrous Iron	SM 3500 Fe B	0.974	1.00	97	mg/L
QC16010811	LCS 1	Electrical Conductivity	SM 2510B	1436	1412	102	µmhos/cm
QC16010814	LCS 1	Redox Potential	ASTM D1498	484	475	102	mV
QC16010835	LCS 1	pH	SM 4500-H+ B	6.96	7.00	99	pH Units
QC16010835	LCS 2	pH	SM 4500-H+ B	6.96	7.00	99	pH Units
QC16010843	LCS 1	Sulfate	EPA 300.0	25.2	25.0	101	mg/L
QC16010927	LCS 1	Calcium	EPA 200.7	9.59	10.0	96	mg/L
		Iron	EPA 200.7	0.951	1.00	95	mg/L
		Magnesium	EPA 200.7	9.59	10.0	96	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16010809	Duplicate	Ferrous Iron	SM 3500 Fe B	1601525-001	ND	ND	mg/L	<1%
QC16010809	Duplicate	Ferrous Iron	SM 3500 Fe B	1601527-003	ND	ND	mg/L	<1%
QC16010811	Duplicate	Electrical Conductivity	SM 2510B	1601525-001	57.2	57.1	µmhos/cm	<1%
QC16010811	Duplicate	Electrical Conductivity	SM 2510B	1601527-003	84.0	84.3	µmhos/cm	<1%
QC16010814	Duplicate	Redox Potential	ASTM D1498	1601525-001	572	567	mV	1 %
QC16010814	Duplicate	Redox Potential	ASTM D1498	1601527-003	429	428	mV	<1%
QC16010835	Duplicate	pH	SM 4500-H+ B	1601525-001	6.64	6.78	HT,Q pH Units	2 %
QC16010835	Duplicate	pH	SM 4500-H+ B	1601527-003	6.92	7.15	HT,Q pH Units	3 %
QC16010835	Duplicate	pH	SM 4500-H+ B	1601531-001	6.30	6.49	HT,Q pH Units	3 %
QC16020041	Duplicate	Acidity (Titrimetric)	SM 2310B	1601470-001	ND	ND	mg/L as CaCO3	<1%
QC16020041	Duplicate	Acidity (Titrimetric)	SM 2310B	1601473-003	ND	ND	QD mg/L as CaCO3	<1%
QC16020041	Duplicate	Acidity (Titrimetric)	SM 2310B	1601526-005	5.22	4.82	mg/L as CaCO3	8 %
QC16020041	Duplicate	Acidity (Titrimetric)	SM 2310B	1601530-003	14.6	14.0	mg/L as CaCO3	4 %
QC16020041	Duplicate	Acidity (Titrimetric)	SM 2310B	1601531-008	10.4	13.0	QD mg/L as CaCO3	22 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16010843	MS 1	Sulfate	EPA 300.0	1601525-003	14.7	23.3	23.5	10.0	mg/L	87	88	1%
QC16010843	MS 2	Sulfate	EPA 300.0	1601561-001	4.57	12.8	12.6	10.0	mg/L	82	80	2%
QC16010927	MS 1	Calcium	EPA 200.7	1601590-001	76.2	SC 91.1	89.1	10.0	mg/L	NC	NC	NC
		Iron	EPA 200.7	1601590-001	0.069	1.02	1.02	1.00	mg/L	95	95	<1%
		Magnesium	EPA 200.7	1601590-001	26.5	37.0	36.7	10.0	mg/L	105	102	1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 4

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EPA LAB ID: NV00932





2/22/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1602027

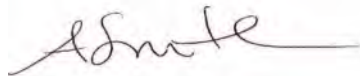
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The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 2/2/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1602027

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
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- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
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- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

PO/Project: WLHCT-0120

Date Printed: 2/22/2016

OrderID: 1602027

Customer Sample ID: C773-15 B, C WK: 20

Collect Date/Time: 2/2/2016 09:00

WETLAB Sample ID: 1602027-001

Receive Date: 2/2/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Ferrous Iron	SM 3500 Fe B	240	mg/L	100	10	2/2/2016	NV00925
Ferric Iron	SM 3500 Fe B	78	mg/L	1	0.1	2/8/2016	NV00925
pH	SM 4500-H+ B	2.71	HT pH Units	1		2/2/2016	NV00925
Temperature at pH	NA	20.1	°C	1		2/2/2016	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	2/11/2016	NV00925
Redox Potential	ASTM D1498	470	mV	1		2/2/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1200	mg/L as CaCO3	1		2/10/2016	NV00925
Total Nitrogen	Calc.	1.1	mg/L	1	0.50	2/9/2016	NV00925
Total Dissolved Solids (TDS)	SM 2540C	2000	mg/L	1	10	2/4/2016	NV00925
Electrical Conductivity	SM 2510B	3000	µmhos/cm	2	2.0	2/2/2016	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	D mg/L	10	10	2/5/2016	NV00925
Fluoride	EPA 300.0	ND	D mg/L	10	1.0	2/5/2016	NV00925
Sulfate	EPA 300.0	1600	mg/L	10	10	2/5/2016	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	0.73	mg/L	5	0.10	2/9/2016	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L	1	0.40	2/9/2016	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium	EPA 200.7	0.023	mg/L	1	0.0030	2/5/2016	NV00925
Beryllium	EPA 200.7	0.0063	mg/L	1	0.0008	2/5/2016	NV00925
Boron	EPA 200.7	0.65	mg/L	1	0.10	2/5/2016	NV00925
Calcium	EPA 200.7	86	mg/L	1	0.50	2/5/2016	NV00925
Chromium	EPA 200.7	0.21	mg/L	1	0.0050	2/5/2016	NV00925
Cobalt	EPA 200.7	6.9	mg/L	1	0.010	2/5/2016	NV00925
Iron	EPA 200.7	320	mg/L	10	0.20	2/8/2016	NV00925
Magnesium	EPA 200.7	36	mg/L	1	0.50	2/5/2016	NV00925
Manganese	EPA 200.7	1.8	mg/L	1	0.0050	2/5/2016	NV00925
Molybdenum	EPA 200.7	ND	mg/L	1	0.020	2/5/2016	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	2/5/2016	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	2/5/2016	NV00925
Strontium	EPA 200.7	1.7	mg/L	1	0.020	2/5/2016	NV00925
Zinc	EPA 200.7	1.0	mg/L	1	0.0080	2/5/2016	NV00925
<b>Trace Metals by ICP-MS</b>							
Copper	EPA 200.8	140	mg/L	1000	2.0	2/11/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

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fax (702) 622-2868  
EPA LAB ID: NV00932

Customer Sample ID: C773-15 B, C WK: 20

Collect Date/Time: 2/2/2016 09:00

WETLAB Sample ID: 1602027-001

Receive Date: 2/2/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Nickel	EPA 200.8	2.8	mg/L	100	0.20	2/10/2016	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	33.4	meq/L	1	0.10		NV00925
Cations	Calculation	41.1	meq/L	1	0.10		NV00925
Error	Calculation	10	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		2/2/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		2/5/2016	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	2/1/2016	NV00925
HCT Post-Leach Volume	N/A	850	mL	1	1	2/2/2016	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16020132	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16020134	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16020167	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC16020230	Blank 1	Barium	EPA 200.7	ND	mg/L
		Beryllium	EPA 200.7	ND	mg/L
		Boron	EPA 200.7	ND	mg/L
		Calcium	EPA 200.7	ND	mg/L
		Chromium	EPA 200.7	ND	mg/L
		Cobalt	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L
		Manganese	EPA 200.7	ND	mg/L
		Molybdenum	EPA 200.7	ND	mg/L
		Potassium	EPA 200.7	ND	mg/L
		Sodium	EPA 200.7	ND	mg/L
		Strontium	EPA 200.7	ND	mg/L
		Zinc	EPA 200.7	ND	mg/L
QC16020235	Blank 1	Copper	EPA 200.8	ND	mg/L
		Nickel	EPA 200.8	ND	mg/L
QC16020288	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC16020320	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L
QC16020337	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC16020401	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16020132	LCS 1	Electrical Conductivity	SM 2510B	1416	1412	100	µmhos/cm
QC16020134	LCS 1	Ferrous Iron	SM 3500 Fe B	1.02	1.00	102	mg/L
QC16020137	LCS 1	Redox Potential	ASTM D1498	476	475	100	mV
QC16020167	LCS 1	Chloride	EPA 300.0	9.93	10.0	99	mg/L
		Fluoride	EPA 300.0	2.03	2.00	101	mg/L
		Sulfate	EPA 300.0	23.7	25.0	95	mg/L
QC16020230	LCS 1	Barium	EPA 200.7	0.985	1.00	98	mg/L
		Beryllium	EPA 200.7	0.981	1.00	98	mg/L
		Boron	EPA 200.7	0.970	1.00	97	mg/L
		Calcium	EPA 200.7	9.73	10.0	97	mg/L
		Chromium	EPA 200.7	0.974	1.00	97	mg/L
		Cobalt	EPA 200.7	0.988	1.00	99	mg/L
		Iron	EPA 200.7	0.982	1.00	98	mg/L
		Magnesium	EPA 200.7	9.75	10.0	98	mg/L
		Manganese	EPA 200.7	0.974	1.00	97	mg/L
		Molybdenum	EPA 200.7	0.985	1.00	98	mg/L
		Potassium	EPA 200.7	9.91	10.0	99	mg/L
		Sodium	EPA 200.7	10.0	10.0	100	mg/L
		Strontium	EPA 200.7	0.988	1.00	99	mg/L
		Zinc	EPA 200.7	1.01	1.00	101	mg/L
QC16020235	LCS 1	Copper	EPA 200.8	0.0100	0.010	100	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

Page 5 of 7

### SPARKS

475 E. Greg Street, Suite 119  
Sparks, Nevada 89431  
tel (775) 355-0202  
fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

### ELKO

1084 Lamoille Hwy  
Elko, Nevada 89801  
tel (775) 777-9933  
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EPA LAB ID: NV00926

### LAS VEGAS

3230 Polaris Ave. Suite 4  
Las Vegas, Nevada 89102  
tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Nickel	EPA 200.8	0.0104	0.010	104	mg/L
QC16020288	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	152	150	101	mg/L
QC16020288	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	156	150	104	mg/L
QC16020320	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.938	1.00	94	mg/L
QC16020337	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.758	0.800	95	mg/L
QC16020392	LCS 1	pH	SM 4500-H+ B	6.96	7.00	99	pH Units
QC16020392	LCS 2	pH	SM 4500-H+ B	6.97	7.00	100	pH Units
QC16020401	LCS 1	WAD Cyanide	SM 4500CN I, E	0.091	0.100	91	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16020132	Duplicate	Electrical Conductivity	SM 2510B	1602021-001	56.8	56.2	µmhos/cm	1 %
QC16020132	Duplicate	Electrical Conductivity	SM 2510B	1602025-003	81.1	80.4	µmhos/cm	1 %
QC16020134	Duplicate	Ferrous Iron	SM 3500 Fe B	1602021-001	ND	ND	mg/L	<1%
QC16020134	Duplicate	Ferrous Iron	SM 3500 Fe B	1602025-003	ND	ND	mg/L	2 %
QC16020137	Duplicate	Redox Potential	ASTM D1498	1602021-001	496	496	mV	<1%
QC16020137	Duplicate	Redox Potential	ASTM D1498	1602025-003	460	462	mV	1 %
QC16020288	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1602030-002	894	880	mg/L	2 %
QC16020288	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1602037-001	1054	1068	mg/L	1 %
QC16020392	Duplicate	pH	SM 4500-H+ B	1602021-001	7.17	7.24	HT pH Units	1 %
QC16020392	Duplicate	pH	SM 4500-H+ B	1602025-003	7.39	7.54	HT,Q pH Units	2 %
QC16020392	Duplicate	pH	SM 4500-H+ B	1602029-001	6.56	6.66	HT pH Units	2 %
QC16020405	Duplicate	Acidity (Titrimetric)	SM 2310B	1602023-001	19.6	23.6	mg/L as CaCO3	18 %
QC16020405	Duplicate	Acidity (Titrimetric)	SM 2310B	1602023-002	25.6	25.2	mg/L as CaCO3	2 %
QC16020405	Duplicate	Acidity (Titrimetric)	SM 2310B	1602023-003	35.0	31.9	mg/L as CaCO3	9 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16020167	MS 1	Chloride	EPA 300.0	1602023-002	ND	5.46	5.50	5.00	mg/L	98	99	1%
		Fluoride	EPA 300.0	1602023-002	ND	1.99	1.99	2.00	mg/L	97	98	<1%
		Sulfate	EPA 300.0	1602023-002	18.6	27.4	27.4	10.0	mg/L	88	88	<1%
QC16020167	MS 2	Chloride	EPA 300.0	1602028-005	ND	4.98	5.01	5.00	mg/L	97	97	1%
		Fluoride	EPA 300.0	1602028-005	0.182	2.11	2.12	2.00	mg/L	96	97	<1%
		Sulfate	EPA 300.0	1602028-005	18.3	27.2	27.3	10.0	mg/L	89	90	<1%
QC16020230	MS 1	Barium	EPA 200.7	1602037-001	0.076	0.987	1.02	1.00	mg/L	91	94	3%
		Beryllium	EPA 200.7	1602037-001	ND	0.956	0.985	1.00	mg/L	96	98	3%
		Boron	EPA 200.7	1602037-001	0.253	1.20	1.24	1.00	mg/L	95	99	3%
		Calcium	EPA 200.7	1602037-001	104	SC 101	106	10.0	mg/L	NC	NC	NC
		Chromium	EPA 200.7	1602037-001	ND	0.932	0.961	1.00	mg/L	93	96	3%
		Cobalt	EPA 200.7	1602037-001	ND	0.921	0.944	1.00	mg/L	92	94	2%
		Iron	EPA 200.7	1602037-001	0.027	0.963	1.00	1.00	mg/L	94	97	4%
		Magnesium	EPA 200.7	1602037-001	29.4	M 34.8	36.7	10.0	mg/L	NC	NC	NC
		Manganese	EPA 200.7	1602037-001	ND	0.912	0.939	1.00	mg/L	91	94	3%
		Molybdenum	EPA 200.7	1602037-001	ND	0.984	1.01	1.00	mg/L	98	100	3%
		Potassium	EPA 200.7	1602037-001	17.4	24.6	25.8	10.0	mg/L	72	84	5%
		Sodium	EPA 200.7	1602037-001	249	SC 232	246	10.0	mg/L	NC	NC	NC
		Strontium	EPA 200.7	1602037-001	1.32	2.11	2.22	1.00	mg/L	79	90	5%
		Zinc	EPA 200.7	1602037-001	0.026	1.01	1.04	1.00	mg/L	98	101	3%
QC16020235	MS 1	Copper	EPA 200.8	1602037-001	0.0108	0.0213	0.0214	0.010	mg/L	105	106	<1%
		Nickel	EPA 200.8	1602037-001	0.0053	0.0155	0.0155	0.010	mg/L	102	102	<1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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 EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16020320	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1602043-001	ND	1.01	1.00	1.00	mg/L	101	100	1%
QC16020320	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1602043-002	1.27	2.26	2.20	1.00	mg/L	99	93	3%
QC16020337	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1602043-001	ND	5.08	5.34	1.00	mg/L	101	107	5%
QC16020401	MS 1	WAD Cyanide	SM 4500CN I,	1602043-004	ND	0.090	0.092	0.100	mg/L	91	93	2%
QC16020401	MS 2	WAD Cyanide	SM 4500CN I,	1602043-008	ND	0.092	0.091	0.100	mg/L	92	92	1%

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# ANALYTICAL SUMMARY REPORT

February 19, 2016

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B16020879                      Quote ID: B3679  
Project Name: 1602027

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 2/10/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16020879-001	1602027-001, C773-15 B,C WK: 20-WLHCT-0120	02/02/16 9:00	02/10/16	Aqueous	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1602027  
**Lab ID:** B16020879-001  
**Client Sample ID:** 1602027-001, C773-15 B,C WK: 20-WLHCT-0120

**Report Date:** 02/19/16  
**Collection Date:** 02/02/16 09:00  
**Date Received:** 02/10/16  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	37.2	mg/L	L	0.01		E200.7	02/12/16 11:03 / r/h
Antimony	0.0058	mg/L		0.0005		E200.8	02/11/16 12:24 / mas
Arsenic	0.496	mg/L		0.001		E200.8	02/11/16 12:24 / mas
Cadmium	0.00188	mg/L		0.00003		E200.8	02/11/16 12:24 / mas
Lead	0.0022	mg/L		0.0003		E200.8	02/11/16 12:24 / mas
Mercury	ND	mg/L		5E-06		E245.1	02/19/16 16:34 / ser
Phosphorus	0.360	mg/L	L	0.007		E200.7	02/12/16 11:03 / r/h
Selenium	0.001	mg/L		0.001		E200.8	02/11/16 12:24 / mas
Silicon	1.81	mg/L		0.05		E200.7	02/12/16 11:03 / r/h
Silver	ND	mg/L		0.0002		E200.8	02/11/16 12:24 / mas
Thallium	ND	mg/L		0.0002		E200.8	02/11/16 12:24 / mas
Uranium	0.0250	mg/L		0.0002		E200.8	02/11/16 12:24 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 02/19/16

**Project:** 1602027

**Work Order:** B16020879

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>								Analytical Run: ICP203-B_160212A			
<b>Lab ID: ICV</b>	3	Continuing Calibration Verification Standard						02/12/16 09:14			
Aluminum		2.50	mg/L	0.10	100	95	105				
Phosphorus		2.46	mg/L	0.10	98	95	105				
Silicon		4.93	mg/L	0.10	99	95	105				
<b>Method: E200.7</b>								Batch: R256438			
<b>Lab ID: MB-6500DIS160212A</b>	3	Method Blank						Run: ICP203-B_160212A 02/12/16 09:43			
Aluminum		ND	mg/L	0.01							
Phosphorus		ND	mg/L	0.007							
Silicon		ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS160212A</b>	3	Laboratory Fortified Blank						Run: ICP203-B_160212A 02/12/16 09:46			
Aluminum		5.01	mg/L	0.10	100	85	115				
Phosphorus		9.78	mg/L	0.10	98	85	115				
Silicon		9.83	mg/L	0.10	98	85	115				
<b>Lab ID: B16020876-001BMS2</b>	3	Sample Matrix Spike						Run: ICP203-B_160212A 02/12/16 10:35			
Aluminum		4.99	mg/L	0.030	100	70	130				
Phosphorus		10.0	mg/L	0.10	100	70	130				
Silicon		12.7	mg/L	0.10	96	70	130				
<b>Lab ID: B16020876-001BMSD</b>	3	Sample Matrix Spike Duplicate						Run: ICP203-B_160212A 02/12/16 10:45			
Aluminum		5.09	mg/L	0.030	102	70	130	1.8	20		
Phosphorus		9.87	mg/L	0.10	99	70	130	1.6	20		
Silicon		12.9	mg/L	0.10	97	70	130	1.2	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 02/19/16

**Project:** 1602027

**Work Order:** B16020879

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.8</b>										Analytical Run: ICPMS202-B_160211A	
<b>Lab ID: QCS</b>	8	Initial Calibration Verification Standard						02/11/16 09:24			
Antimony		0.0482	mg/L	0.050	96	90	110				
Arsenic		0.0511	mg/L	0.0050	102	90	110				
Cadmium		0.0258	mg/L	0.0010	103	90	110				
Lead		0.0496	mg/L	0.010	99	90	110				
Selenium		0.0519	mg/L	0.0050	104	90	110				
Silver		0.0254	mg/L	0.0050	101	90	110				
Thallium		0.0496	mg/L	0.10	99	90	110				
Uranium		0.0193	mg/L	0.0010	97	90	110				
<b>Method: E200.8</b>										Batch: R256386	
<b>Lab ID: LFB</b>	8	Laboratory Fortified Blank						Run: ICPMS202-B_160211A 02/11/16 09:29			
Antimony		0.0489	mg/L	0.050	98	85	115				
Arsenic		0.0533	mg/L	0.0050	107	85	115				
Cadmium		0.0518	mg/L	0.0010	104	85	115				
Lead		0.0535	mg/L	0.010	107	85	115				
Selenium		0.0543	mg/L	0.0050	109	85	115				
Silver		0.0222	mg/L	0.0050	111	85	115				
Thallium		0.0535	mg/L	0.10	107	85	115				
Uranium		0.0507	mg/L	0.0010	101	85	115				
<b>Lab ID: LRB</b>	8	Method Blank						Run: ICPMS202-B_160211A 02/11/16 09:49			
Antimony		ND	mg/L	1E-05							
Arsenic		ND	mg/L	0.0001							
Cadmium		ND	mg/L	1E-05							
Lead		ND	mg/L	2E-05							
Selenium		ND	mg/L	0.0003							
Silver		ND	mg/L	2E-05							
Thallium		ND	mg/L	1E-05							
Uranium		ND	mg/L	7E-06							
<b>Lab ID: B16020662-001BMS</b>	8	Sample Matrix Spike						Run: ICPMS202-B_160211A 02/11/16 12:34			
Antimony		0.102	mg/L	0.0010	102	70	130				
Arsenic		0.109	mg/L	0.0010	109	70	130				
Cadmium		0.104	mg/L	0.0010	104	70	130				
Lead		0.115	mg/L	0.0010	113	70	130				
Selenium		0.113	mg/L	0.0010	112	70	130				
Silver		0.0379	mg/L	0.0010	95	70	130				
Thallium		0.120	mg/L	0.00050	120	70	130				
Uranium		0.108	mg/L	0.00030	106	70	130				
<b>Lab ID: B16020662-001BMSD</b>	8	Sample Matrix Spike Duplicate						Run: ICPMS202-B_160211A 02/11/16 12:36			
Antimony		0.0982	mg/L	0.0010	98	70	130	3.9	20		
Arsenic		0.104	mg/L	0.0010	104	70	130	4.5	20		
Cadmium		0.104	mg/L	0.0010	104	70	130	0.6	20		
Lead		0.110	mg/L	0.0010	108	70	130	4.5	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 02/19/16

**Project:** 1602027

**Work Order:** B16020879

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8										Batch: R256386
<b>Lab ID:</b> B16020662-001BMSD	8	Sample Matrix Spike Duplicate								Run: ICPMS202-B_160211A
Selenium		0.106	mg/L	0.0010	105	70	130	5.8	20	02/11/16 12:36
Silver		0.0381	mg/L	0.0010	95	70	130	0.4	20	
Thallium		0.108	mg/L	0.00050	108	70	130	11	20	
Uranium		0.103	mg/L	0.00030	101	70	130	5.0	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 02/19/16

**Project:** 1602027

**Work Order:** B16020879

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1										Analytical Run: HGCV202-B_160219C
<b>Lab ID:</b> ICV		Initial Calibration Verification Standard								02/19/16 16:21
Mercury		0.000210	mg/L	1.0E-05	105	90	110			
<b>Method:</b> E245.1										Batch: 97034
<b>Lab ID:</b> MB-97034		Method Blank								02/19/16 16:29
Mercury		ND	mg/L							Run: HGCV202-B_160219C
<b>Lab ID:</b> LCS-97034		Laboratory Control Sample								02/19/16 16:32
Mercury		0.000218	mg/L	1.0E-05	109	85	115			Run: HGCV202-B_160219C
<b>Lab ID:</b> B16011949-001BMS		Sample Matrix Spike								02/19/16 16:42
Mercury		0.000219	mg/L	1.0E-05	109	70	130			Run: HGCV202-B_160219C
<b>Lab ID:</b> B16011949-001BMSD		Sample Matrix Spike Duplicate								02/19/16 16:44
Mercury		0.000220	mg/L	1.0E-05	110	70	130	0.2	30	Run: HGCV202-B_160219C

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B16020879

Login completed by: Leslie S. Cadreau

Date Received: 2/10/2016

Reviewed by: BL2000\tedwards

Received by: dlf

Reviewed Date: 2/11/2016

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	16.8°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.


Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None

# CHAIN OF CUSTODY RECORD

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Logan Greenwood Ph: (775) 355-0202 LoganG@wetlaboratory.com Fax: (775) 355-0817		Total # of sample containers: <b>Emergency</b> WLHCT-0120		Subcontractor:		All Samples Refrigerated?: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> Compliance: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> CA Write ON: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> QC: Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/>			
Sample Receipt Condition: Temperature:		Job ID: 1602027		Notes: Quote # 3679					
Sample Date/Time: 2/2/2016 9:00 AM		Sample ID - Site ID: C773-15 B, C WK: 20 - WLHCT-0120		Matrix: Leachate		Parameter: Various Metals (Subcontracted)		Sample Number: 1602027-001	
Relinquished by: 		Date: 2-4-16 11:00		Received by: <i>OTAC</i>		Date:		Time:	
Relinquished by:		Date:		Received by:		Date:		Time:	
Relinquished by:		Date:		Received by: <i>Subcontractor's</i>		Date:		Time:	

UPS Grd  
 16.8 - No Ice  
 No Seals





2/22/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1602207

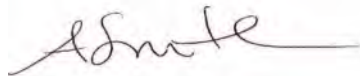
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 2/9/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

475 E. Greg Street, Suite 119  
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fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

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**LAS VEGAS**

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1602207

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 2/22/2016

OrderID: 1602207

Customer Sample ID: C773-15 B, C WK: 21

Collect Date/Time: 2/9/2016 09:00

WETLAB Sample ID: 1602207-001

Receive Date: 2/9/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	270	mg/L	100	10	2/9/2016	NV00925
Ferric Iron	SM 3500 Fe B	140	mg/L	1	0.1	2/12/2016	NV00925
pH	SM 4500-H+ B	2.65 HT	pH Units	1		2/12/2016	NV00925
Temperature at pH	NA	21.2	°C	1		2/12/2016	NV00925
Redox Potential	ASTM D1498	490	mV	1		2/9/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1300	mg/L as CaCO <sub>3</sub>	1		2/17/2016	NV00925
Electrical Conductivity	SM 2510B	2800	µmhos/cm	1	1	2/9/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	1600	mg/L	20	20	2/10/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	69	mg/L	1	0.50	2/11/2016	NV00925
Iron	EPA 200.7	410	mg/L	5	0.10	2/12/2016	NV00925
Magnesium	EPA 200.7	32	mg/L	1	0.50	2/11/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		2/9/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		2/11/2016	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	2/8/2016	NV00925
HCT Post-Leach Volume	N/A	900	mL	1	1	2/9/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 4

**SPARKS**

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 EPA LAB ID: NV00932

## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16020358	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16020370	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16020381	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16020457	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16020358	LCS 1	Ferrous Iron	SM 3500 Fe B	1.00	1.00	100	mg/L
QC16020367	LCS 1	Redox Potential	ASTM D1498	476	475	100	mV
QC16020370	LCS 1	Electrical Conductivity	SM 2510B	1434	1412	102	µmhos/cm
QC16020381	LCS 1	Sulfate	EPA 300.0	24.8	25.0	99	mg/L
QC16020457	LCS 1	Calcium, Dissolved	EPA 200.7	9.78	10.0	98	mg/L
		Iron, Dissolved	EPA 200.7	0.977	1.00	98	mg/L
		Magnesium, Dissolved	EPA 200.7	9.76	10.0	98	mg/L
QC16020494	LCS 1	pH	SM 4500-H+ B	6.94	7.00	99	pH Units
QC16020494	LCS 2	pH	SM 4500-H+ B	6.95	7.00	99	pH Units
QC16020494	LCS 3	pH	SM 4500-H+ B	6.95	7.00	99	pH Units

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16020358	Duplicate	Ferrous Iron	SM 3500 Fe B	1602203-001	ND	ND	mg/L	<1%
QC16020358	Duplicate	Ferrous Iron	SM 3500 Fe B	1602205-003	ND	ND	mg/L	<1%
QC16020367	Duplicate	Redox Potential	ASTM D1498	1602203-001	521	520	mV	<1%
QC16020367	Duplicate	Redox Potential	ASTM D1498	1602205-003	479	479	mV	<1%
QC16020370	Duplicate	Electrical Conductivity	SM 2510B	1602203-001	59.7	59.4	µmhos/cm	1 %
QC16020370	Duplicate	Electrical Conductivity	SM 2510B	1602205-003	90.3	90.4	µmhos/cm	<1%
QC16020494	Duplicate	pH	SM 4500-H+ B	1602114-001	7.28	7.43	HT,Q pH Units	2 %
QC16020494	Duplicate	pH	SM 4500-H+ B	1602117-002	7.54	7.45	HT pH Units	1 %
QC16020494	Duplicate	pH	SM 4500-H+ B	1602203-001	7.22	7.29	HT pH Units	1 %
QC16020494	Duplicate	pH	SM 4500-H+ B	1602205-003	7.47	7.62	HT,Q pH Units	2 %
QC16020494	Duplicate	pH	SM 4500-H+ B	1602209-001	6.67	6.75	HT pH Units	1 %
QC16020625	Duplicate	Acidity (Titrimetric)	SM 2310B	1602203-001	7.55	5.32	QD mg/L as CaCO3	35 %
QC16020625	Duplicate	Acidity (Titrimetric)	SM 2310B	1602205-003	ND	ND	QD mg/L as CaCO3	21 %
QC16020625	Duplicate	Acidity (Titrimetric)	SM 2310B	1602209-001	27.8	27.7	mg/L as CaCO3	<1%
QC16020625	Duplicate	Acidity (Titrimetric)	SM 2310B	1602311-003	16.7	12.8	QD mg/L as CaCO3	27 %
QC16020625	Duplicate	Acidity (Titrimetric)	SM 2310B	1602310-001	21.9	20.0	mg/L as CaCO3	9 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16020381	MS 1	Sulfate	EPA 300.0	1602205-001	18.5	28.6	28.6	10.0	mg/L	101	101	<1%
QC16020381	MS 2	Sulfate	EPA 300.0	1602218-005	336	433	429	10.0	mg/L	97	93	1%
QC16020457	MS 1	Calcium, Dissolved	EPA 200.7	1602268-002	50.6	SC 55.9	57.5	10.0	mg/L	NC	NC	NC
		Iron, Dissolved	EPA 200.7	1602268-002	0.110	1.04	1.06	1.00	mg/L	93	95	2%
		Magnesium, Dissolved	EPA 200.7	1602268-002	9.96	18.3	18.9	10.0	mg/L	83	89	3%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 4

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EPA LAB ID: NV00932



2/26/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1602358

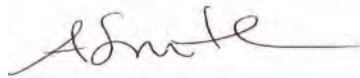
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 2/16/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

---

Tintina Resources - 1602358

---

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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fax (702) 622-2868  
EPA LAB ID: NV00932

# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 2/26/2016

OrderID: 1602358

Customer Sample ID: C773-15 B,C WK:22

Collect Date/Time: 2/16/2016 09:00

WETLAB Sample ID: 1602358-001

Receive Date: 2/16/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b><u>General Chemistry</u></b>							
Ferrous Iron	SM 3500 Fe B	470	mg/L	100	10	2/16/2016	NV00925
Ferric Iron	SM 3500 Fe B	250	mg/L	1	0.1	2/22/2016	NV00925
pH	SM 4500-H+ B	2.58	HT pH Units	1		2/16/2016	NV00925
Temperature at pH	NA	23.9	°C	1		2/16/2016	NV00925
Redox Potential	ASTM D1498	450	mV	1		2/16/2016	NV00925
Acidity (Titrimetric)	SM 2310B	2000	mg/L as CaCO <sub>3</sub>	1		2/20/2016	NV00925
Electrical Conductivity	SM 2510B	3700	µmhos/cm	1	1	2/16/2016	NV00925
<b><u>Anions by Ion Chromatography</u></b>							
Sulfate	EPA 300.0	2600	mg/L	20	20	2/18/2016	NV00925
<b><u>Trace Metals by ICP-OES</u></b>							
Calcium	EPA 200.7	110	mg/L	1	0.50	2/19/2016	NV00925
Iron	EPA 200.7	720	mg/L	20	0.40	2/22/2016	NV00925
Magnesium	EPA 200.7	45	mg/L	1	0.50	2/19/2016	NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		2/16/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		2/18/2016	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	2/15/2016	NV00925
HCT Post-Leach Volume	N/A	850	mL	1	1	2/16/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 4

**SPARKS**

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 fax (702) 622-2868  
 EPA LAB ID: NV00932



## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16020573	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16020593	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16020641	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16020685	Blank 1	Calcium	EPA 200.7	ND	mg/L
		Iron	EPA 200.7	ND	mg/L
		Magnesium	EPA 200.7	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16020549	LCS 1	pH	SM 4500-H+ B	6.93	7.00	99	pH Units
QC16020549	LCS 2	pH	SM 4500-H+ B	6.93	7.00	99	pH Units
QC16020549	LCS 3	pH	SM 4500-H+ B	6.94	7.00	99	pH Units
QC16020573	LCS 1	Electrical Conductivity	SM 2510B	1442	1412	102	µmhos/cm
QC16020590	LCS 1	Redox Potential	ASTM D1498	479	475	101	mV
QC16020593	LCS 1	Ferrous Iron	SM 3500 Fe B	1.05	1.00	105	mg/L
QC16020641	LCS 1	Sulfate	EPA 300.0	25.3	25.0	101	mg/L
QC16020685	LCS 1	Calcium	EPA 200.7	9.76	10.0	98	mg/L
		Iron	EPA 200.7	0.977	1.00	98	mg/L
		Magnesium	EPA 200.7	9.71	10.0	97	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16020549	Duplicate	pH	SM 4500-H+ B	1602308-001	7.39	7.50	HT,Q pH Units	1 %
QC16020549	Duplicate	pH	SM 4500-H+ B	1602311-003	7.32	7.41	HT pH Units	1 %
QC16020549	Duplicate	pH	SM 4500-H+ B	1602354-001	7.17	7.20	HT pH Units	<1%
QC16020549	Duplicate	pH	SM 4500-H+ B	1602356-003	7.52	7.67	HT,Q pH Units	2 %
QC16020549	Duplicate	pH	SM 4500-H+ B	1602360-001	6.70	6.75	HT pH Units	1 %
QC16020573	Duplicate	Electrical Conductivity	SM 2510B	1602354-001	56.1	56.1	µmhos/cm	<1%
QC16020573	Duplicate	Electrical Conductivity	SM 2510B	1602356-003	93.1	92.9	µmhos/cm	<1%
QC16020590	Duplicate	Redox Potential	ASTM D1498	1602354-001	524	519	mV	1 %
QC16020590	Duplicate	Redox Potential	ASTM D1498	1602356-003	430	431	mV	<1%
QC16020593	Duplicate	Ferrous Iron	SM 3500 Fe B	1602354-001	ND	ND	mg/L	<1%
QC16020593	Duplicate	Ferrous Iron	SM 3500 Fe B	1602356-003	ND	ND	mg/L	<1%
QC16020755	Duplicate	Acidity (Titrimetric)	SM 2310B	1602354-001	1.22	1.02	mg/L as CaCO3	18 %
QC16020755	Duplicate	Acidity (Titrimetric)	SM 2310B	1602356-003	ND	ND	QD mg/L as CaCO3	<1%
QC16020755	Duplicate	Acidity (Titrimetric)	SM 2310B	1602360-001	39.6	38.1	mg/L as CaCO3	4 %
QC16020755	Duplicate	Acidity (Titrimetric)	SM 2310B	1602476-003	16.2	13.8	mg/L as CaCO3	16 %
QC16020755	Duplicate	Acidity (Titrimetric)	SM 2310B	1602479-005	10.4	9.23	mg/L as CaCO3	11 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16020641	MS 1	Sulfate	EPA 300.0	1602429-002	6.38	16.7	16.8	10.0	mg/L	103	104	1%
QC16020641	MS 2	Sulfate	EPA 300.0	1602361-001	206	224	225	10.0	mg/L	94	98	<1%
QC16020685	MS 1	Calcium	EPA 200.7	1602404-001	82.8	SC 89.4	90.7	10.0	mg/L	NC	NC	NC
		Iron	EPA 200.7	1602404-001	ND	0.991	0.998	1.00	mg/L	97	98	1%
		Magnesium	EPA 200.7	1602404-001	28.7	36.4	36.9	10.0	mg/L	77	82	1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 4 of 4

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3/7/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1602532  
*Amended*

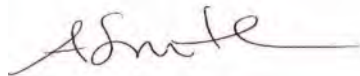
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 2/23/2016. Additional comments are located on page 2 of this report.

This is an amended report that includes the corrected result for Electrical Conductivity for sample 1602532-001. If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

**SPARKS**

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Sparks, Nevada 89431  
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fax (775) 355-0817  
EPA LAB ID: NV00925 - ELAP No: 2523

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EPA LAB ID: NV00926

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# Western Environmental Testing Laboratory

## Report Comments

Tintina Resources - 1602532 Amended

### Specific Report Comments

None

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 3/7/2016

OrderID: 1602532

Amended

Customer Sample ID: C773-15 B,C WK:23

Collect Date/Time: 2/23/2016 09:00

WETLAB Sample ID: 1602532-001

Receive Date: 2/23/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Temperature at pH	SM 2550B	21.5	°C	1		2/24/2016	NV00925
Ferrous Iron	SM 3500 Fe B	420	mg/L	100	10	2/23/2016	NV00925
Ferric Iron	SM 3500 Fe B	250	mg/L	1	0.1	2/25/2016	NV00925
pH	SM 4500-H+ B	2.68	HT pH Units	1		2/24/2016	NV00925
Redox Potential	ASTM D1498	460	mV	1		2/23/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1700	mg/L as CaCO <sub>3</sub>	1		2/24/2016	NV00925
Electrical Conductivity	SM 2510B	3400	µmhos/cm	1	1	2/23/2016	NV00925
<b>Anions by Ion Chromatography</b>							
Sulfate	EPA 300.0	2300	mg/L	50	50	2/24/2016	NV00925
<b>Trace Metals by ICP-OES</b>							
Calcium	EPA 200.7	100	mg/L	1	0.50	2/24/2016	NV00925
Iron	EPA 200.7	670	mg/L	20	0.40	2/25/2016	NV00925
Magnesium	EPA 200.7	39	mg/L	1	0.50	2/24/2016	NV00925
<b>Sample Preparation</b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		2/26/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		2/24/2016	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	2/22/2016	NV00925
HCT Post-Leach Volume	N/A	860	mL	1	1	2/23/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16020823	Blank 1	Sulfate	EPA 300.0	ND	mg/L
QC16020826	Blank 1	Calcium, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
QC16020876	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16020876	Blank 2	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16020903	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16020823	LCS 1	Sulfate	EPA 300.0	26.3	25.0	105	mg/L
QC16020826	LCS 1	Calcium, Dissolved	EPA 200.7	9.66	10.0	97	mg/L
		Iron, Dissolved	EPA 200.7	0.946	1.00	95	mg/L
		Magnesium, Dissolved	EPA 200.7	9.56	10.0	96	mg/L
QC16020837	LCS 1	pH	SM 4500-H+ B	6.98	7.00	100	pH Units
QC16020837	LCS 2	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC16020837	LCS 3	pH	SM 4500-H+ B	6.99	7.00	100	pH Units
QC16020876	LCS 1	Electrical Conductivity	SM 2510B	1453	1412	103	µmhos/cm
QC16020900	LCS 1	Redox Potential	ASTM D1498	477	475	100	mV
QC16020903	LCS 1	Ferrous Iron	SM 3500 Fe B	1.05	1.00	105	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16020837	Duplicate	pH	SM 4500-H+ B	1602476-001	7.53	7.55	HT	pH Units <1%
QC16020837	Duplicate	pH	SM 4500-H+ B	1602479-003	7.60	7.66	HT	pH Units 1 %
QC16020837	Duplicate	pH	SM 4500-H+ B	1602528-001	7.50	7.50	HT	pH Units <1%
QC16020837	Duplicate	pH	SM 4500-H+ B	1602530-003	7.81	7.87	HT	pH Units 1 %
QC16020837	Duplicate	pH	SM 4500-H+ B	1602534-001	6.97	6.99	HT	pH Units <1%
QC16020843	Duplicate	Acidity (Titrimetric)	SM 2310B	1602528-001	ND	0.540	QD	mg/L as CaCO3 <1%
QC16020843	Duplicate	Acidity (Titrimetric)	SM 2310B	1602530-003	ND	ND	QD	mg/L as CaCO3 <1%
QC16020843	Duplicate	Acidity (Titrimetric)	SM 2310B	1602534-001	25.8	24.5		mg/L as CaCO3 5 %
QC16020876	Duplicate	Electrical Conductivity	SM 2510B	1602528-001	58.9	58.7		µmhos/cm <1%
QC16020876	Duplicate	Electrical Conductivity	SM 2510B	1602530-003	99.5	99.4		µmhos/cm <1%
QC16020900	Duplicate	Redox Potential	ASTM D1498	1602528-001	513	513		mV <1%
QC16020900	Duplicate	Redox Potential	ASTM D1498	1602530-003	436	443		mV 2 %
QC16020903	Duplicate	Ferrous Iron	SM 3500 Fe B	1602528-001	ND	ND		mg/L <1%
QC16020903	Duplicate	Ferrous Iron	SM 3500 Fe B	1602530-003	ND	ND		mg/L <1%

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16020823	MS 1	Sulfate	EPA 300.0	1602529-005	ND	10.7	11.1	10.0	mg/L	106	110	4%
QC16020823	MS 2	Sulfate	EPA 300.0	1602533-005	17.2	27.8	27.8	10.0	mg/L	106	106	<1%
QC16020826	MS 1	Calcium, Dissolved	EPA 200.7	1602550-002	83.5	91.8	95.0	10.0	mg/L	83	115	3%
		Iron, Dissolved	EPA 200.7	1602550-002	ND	0.949	0.936	1.00	mg/L	95	93	1%
		Magnesium, Dissolved	EPA 200.7	1602550-002	11.1	20.5	20.8	10.0	mg/L	94	97	1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

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EPA LAB ID: NV00932



3/25/2016

Tintina Resources  
17 East Main Street  
White Sulphur Springs, MT 59645  
Attn: Bob Jacko/Katie Seipel/Lisa Kirk

OrderID: 1602729

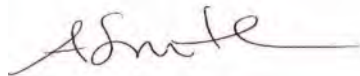
Dear: Bob Jacko/Katie Seipel/Lisa Kirk

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 3/1/2016. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,



Andy Smith  
QA Manager

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EPA LAB ID: NV00932



# Western Environmental Testing Laboratory

## Report Comments

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Tintina Resources - 1602729

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### Specific Report Comments

None

### Subcontracting Comments

The analysis for various metals was performed by Energy Laboratories of Billings, MT. Their report is attached.

### Report Legend

- B -- Blank contamination; Analyte detected above the method reporting limit in an associated blank.
- D -- Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
- HT -- Sample analyzed beyond the EPA recommended holding time.
- J -- The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- M -- The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
- N -- There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
- NC -- Not calculated due to matrix interference or very high sample concentration.
- QD -- The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
- QL -- The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
- S -- Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits.
- SC -- Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.
- U -- The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit.

### General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:

A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

---

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# Western Environmental Testing Laboratory

## Analytical Report

Tintina Resources

17 East Main Street

White Sulphur Springs, MT 59645

Attn: Bob Jacko/Katie Seipel/Lisa Kirk

Phone: (406)-547-3466 Fax:

POProject: WLHCT-0120

Date Printed: 3/25/2016

OrderID: 1602729

Customer Sample ID: C773-15 B, C WK: 24

Collect Date/Time: 3/1/2016 09:00

WETLAB Sample ID: 1602729-001

Receive Date: 3/1/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
<b>General Chemistry</b>							
Temperature at pH	SM 2550B	22	°C	1		3/1/2016	NV00925
Ferrous Iron	SM 3500 Fe B	440	mg/L	100	10	3/1/2016	NV00925
Ferric Iron	SM 3500 Fe B	190	mg/L	1	0.1	3/7/2016	NV00925
pH	SM 4500-H+ B	2.67	HT pH Units	1		3/1/2016	NV00925
WAD Cyanide	SM 4500CN I, E	ND	mg/L	1	0.010	3/8/2016	NV00925
Redox Potential	ASTM D1498	450	mV	1		3/1/2016	NV00925
Acidity (Titrimetric)	SM 2310B	1600	mg/L as CaCO3	1		3/3/2016	NV00925
Total Nitrogen	Calc.	1.0	mg/L	1	0.50	3/8/2016	NV00925
Total Dissolved Solids (TDS)	SM 2540C	3100	mg/L	1	10	3/3/2016	NV00925
Electrical Conductivity	SM 2510B	2800	µmhos/cm	1	1	3/1/2016	NV00925
<b>Anions by Ion Chromatography</b>							
Chloride	EPA 300.0	ND	D mg/L	10	10	3/4/2016	NV00925
Fluoride	EPA 300.0	ND	D mg/L	10	1.0	3/4/2016	NV00925
Sulfate	EPA 300.0	2300	mg/L	50	50	3/9/2016	NV00925
<b>Flow Injection Analyses</b>							
Nitrate + Nitrite Nitrogen	EPA 353.2	0.24	mg/L	5	0.10	3/8/2016	NV00925
Total Kjeldahl Nitrogen	EPA 351.2	0.76	mg/L	1	0.40	3/8/2016	NV00925
<b>Trace Metals by ICP-OES</b>							
Barium	EPA 200.7	0.022	mg/L	1	0.010	3/4/2016	NV00925
Beryllium	EPA 200.7	0.0058	mg/L	1	0.0010	3/4/2016	NV00925
Boron	EPA 200.7	0.12	mg/L	1	0.10	3/4/2016	NV00925
Calcium	EPA 200.7	100	mg/L	1	0.50	3/4/2016	NV00925
Chromium	EPA 200.7	0.36	mg/L	1	0.0050	3/4/2016	NV00925
Cobalt	EPA 200.7	7.0	mg/L	1	0.010	3/4/2016	NV00925
Iron	EPA 200.7	630	mg/L	5	0.10	3/7/2016	NV00925
Magnesium	EPA 200.7	30	mg/L	1	0.50	3/4/2016	NV00925
Manganese	EPA 200.7	1.6	mg/L	1	0.0050	3/4/2016	NV00925
Molybdenum	EPA 200.7	ND	D mg/L	10	0.20	3/7/2016	NV00925
Potassium	EPA 200.7	ND	mg/L	1	0.50	3/4/2016	NV00925
Sodium	EPA 200.7	ND	mg/L	1	0.50	3/4/2016	NV00925
Strontium	EPA 200.7	1.7	mg/L	1	0.10	3/4/2016	NV00925
Zinc	EPA 200.7	0.86	mg/L	1	0.010	3/4/2016	NV00925
<b>Trace Metals by ICP-MS</b>							
Copper	EPA 200.8	120	mg/L	500	2.5	3/7/2016	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 3 of 7

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**LAS VEGAS**

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EPA LAB ID: NV00932

Customer Sample ID: C773-15 B, C WK: 24

Collect Date/Time: 3/1/2016 09:00

WETLAB Sample ID: 1602729-001

Receive Date: 3/1/2016 09:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Nickel	EPA 200.8	3.1	mg/L	500	2.5	3/7/2016	NV00925
<b><u>Ion Balance</u></b>							
Anions	Calculation	47.9	meq/L	1	0.10		NV00925
Cations	Calculation	61.8	meq/L	1	0.10		NV00925
Error	Calculation	13	%	1	1.0		NV00925
<b><u>Sample Preparation</u></b>							
Humidity Cell Extraction	ASTM D5744	Complete		1		3/1/2016	NV00925
Trace Metals Digestion	EPA 200.2	Complete		1		3/3/2016	NV00925
HCT Pre-Leach Volume	N/A	900	mL	1	1	2/29/2016	NV00925
HCT Post-Leach Volume	N/A	870	mL	1	1	3/1/2016	NV00925
<b><u>Subcontracted Analyses</u></b>							
Various Metals (Subcontracted)	N/A	See Attached		1			

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## Western Environmental Testing Laboratory QC Report

QCBatchID	QCType	Parameter	Method	Result	Units
QC16030139	Blank 1	Electrical Conductivity	SM 2510B	ND	µmhos/cm
QC16030170	Blank 1	Chloride	EPA 300.0	ND	mg/L
		Fluoride	EPA 300.0	ND	mg/L
		Sulfate	EPA 300.0	ND	mg/L
QC16030179	Blank 1	Ferrous Iron	SM 3500 Fe B	ND	mg/L
QC16030212	Blank 1	Copper, Dissolved	EPA 200.8	ND	mg/L
		Nickel, Dissolved	EPA 200.8	ND	mg/L
QC16030234	Blank 1	Barium, Dissolved	EPA 200.7	ND	mg/L
		Beryllium, Dissolved	EPA 200.7	ND	mg/L
		Boron, Dissolved	EPA 200.7	ND	mg/L
		Calcium, Dissolved	EPA 200.7	ND	mg/L
		Chromium, Dissolved	EPA 200.7	ND	mg/L
		Cobalt, Dissolved	EPA 200.7	ND	mg/L
		Iron, Dissolved	EPA 200.7	ND	mg/L
		Magnesium, Dissolved	EPA 200.7	ND	mg/L
		Manganese, Dissolved	EPA 200.7	ND	mg/L
		Molybdenum, Dissolved	EPA 200.7	ND	mg/L
		Potassium, Dissolved	EPA 200.7	ND	mg/L
		Sodium, Dissolved	EPA 200.7	ND	mg/L
		Strontium, Dissolved	EPA 200.7	ND	mg/L
		Zinc, Dissolved	EPA 200.7	ND	mg/L
QC16030285	Blank 1	Nitrate + Nitrite Nitrogen	EPA 353.2	ND	mg/L
QC16030293	Blank 1	Total Dissolved Solids (TDS)	SM 2540C	ND	mg/L
QC16030302	Blank 1	WAD Cyanide	SM 4500CN I,	ND	mg/L
QC16030320	Blank 1	Total Kjeldahl Nitrogen	EPA 351.2	ND	mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
QC16030064	LCS 1	pH	SM 4500-H+ B	6.95	7.00	99	pH Units
QC16030064	LCS 2	pH	SM 4500-H+ B	6.96	7.00	99	pH Units
QC16030064	LCS 3	pH	SM 4500-H+ B	6.96	7.00	99	pH Units
QC16030139	LCS 1	Electrical Conductivity	SM 2510B	1485	1412	105	µmhos/cm
QC16030143	LCS 1	Redox Potential	ASTM D1498	481	475	101	mV
QC16030170	LCS 1	Chloride	EPA 300.0	9.81	10.0	98	mg/L
		Fluoride	EPA 300.0	2.02	2.00	101	mg/L
		Sulfate	EPA 300.0	24.6	25.0	98	mg/L
QC16030179	LCS 1	Ferrous Iron	SM 3500 Fe B	1.00	1.00	100	mg/L
QC16030212	LCS 1	Copper	EPA 200.8	0.0102	0.010	102	mg/L
		Nickel	EPA 200.8	0.0103	0.010	103	mg/L
QC16030234	LCS 1	Barium, Dissolved	EPA 200.7	0.925	1.00	92	mg/L
		Beryllium, Dissolved	EPA 200.7	0.966	1.00	97	mg/L
		Boron, Dissolved	EPA 200.7	0.960	1.00	96	mg/L
		Calcium, Dissolved	EPA 200.7	9.42	10.0	94	mg/L
		Chromium, Dissolved	EPA 200.7	0.944	1.00	94	mg/L
		Cobalt, Dissolved	EPA 200.7	0.970	1.00	97	mg/L
		Iron, Dissolved	EPA 200.7	0.912	1.00	91	mg/L
		Magnesium, Dissolved	EPA 200.7	9.24	10.0	92	mg/L
		Manganese, Dissolved	EPA 200.7	0.962	1.00	96	mg/L
		Molybdenum, Dissolved	EPA 200.7	0.934	1.00	93	mg/L

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

Page 5 of 7

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tel (702) 475-8899  
fax (702) 622-2868  
EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Result	Actual	% Recovery	Units
		Potassium, Dissolved	EPA 200.7	9.96	10.0	100	mg/L
		Sodium, Dissolved	EPA 200.7	10.0	10.0	100	mg/L
		Strontium, Dissolved	EPA 200.7	0.975	1.00	98	mg/L
		Zinc, Dissolved	EPA 200.7	0.923	1.00	92	mg/L
QC16030285	LCS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	0.807	0.800	101	mg/L
QC16030293	LCS 1	Total Dissolved Solids (TDS)	SM 2540C	154	150	103	mg/L
QC16030293	LCS 2	Total Dissolved Solids (TDS)	SM 2540C	150	150	100	mg/L
QC16030302	LCS 1	WAD Cyanide	SM 4500CN I, E	0.102	0.100	102	mg/L
QC16030320	LCS 1	Total Kjeldahl Nitrogen	EPA 351.2	0.955	1.00	96	mg/L

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC16030064	Duplicate	pH	SM 4500-H+ B	1602671-001	7.54	7.57	HT pH Units	<1%
QC16030064	Duplicate	pH	SM 4500-H+ B	1602674-003	7.38	7.43	HT pH Units	1 %
QC16030064	Duplicate	pH	SM 4500-H+ B	1602725-001	7.26	7.27	HT pH Units	<1%
QC16030064	Duplicate	pH	SM 4500-H+ B	1602727-003	7.62	7.75	HT,Q pH Units	2 %
QC16030064	Duplicate	pH	SM 4500-H+ B	1602731-002	3.45	3.41	HT pH Units	1 %
QC16030139	Duplicate	Electrical Conductivity	SM 2510B	1602725-001	52.3	52.3	µmhos/cm	<1%
QC16030139	Duplicate	Electrical Conductivity	SM 2510B	1602727-003	106	106	µmhos/cm	<1%
QC16030143	Duplicate	Redox Potential	ASTM D1498	1602725-001	502	502	mV	<1%
QC16030143	Duplicate	Redox Potential	ASTM D1498	1602727-003	450	451	mV	<1%
QC16030157	Duplicate	Acidity (Titrimetric)	SM 2310B	1602671-001	17.1	19.3	mg/L as CaCO3	12 %
QC16030157	Duplicate	Acidity (Titrimetric)	SM 2310B	1602674-003	24.9	22.9	mg/L as CaCO3	8 %
QC16030157	Duplicate	Acidity (Titrimetric)	SM 2310B	1602726-005	17.2	17.0	mg/L as CaCO3	1 %
QC16030157	Duplicate	Acidity (Titrimetric)	SM 2310B	1602730-003	34.2	34.9	mg/L as CaCO3	2 %
QC16030157	Duplicate	Acidity (Titrimetric)	SM 2310B	1602731-008	30.3	27.5	mg/L as CaCO3	9 %
QC16030179	Duplicate	Ferrous Iron	SM 3500 Fe B	1602725-001	ND	ND	mg/L	13 %
QC16030179	Duplicate	Ferrous Iron	SM 3500 Fe B	1602727-003	ND	ND	mg/L	<1%
QC16030293	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1602712-002	771	775	mg/L	1 %
QC16030293	Duplicate	Total Dissolved Solids (TDS)	SM 2540C	1602712-003	582	586	mg/L	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
QC16030170	MS 1	Chloride	EPA 300.0	1602727-004	ND	5.45	5.50	5.00	mg/L	106	107	1%
		Fluoride	EPA 300.0	1602727-004	1.51	3.53	3.55	2.00	mg/L	101	102	1%
		Sulfate	EPA 300.0	1602727-004	63.3	73.4	73.6	10.0	mg/L	101	104	<1%
QC16030170	MS 2	Chloride	EPA 300.0	1602731-003	ND	M, 13.2	11.9	5.00	mg/L	NC	NC	NC
		Fluoride	EPA 300.0	1602731-003	12.3	SC 17.7	16.6	2.00	mg/L	NC	NC	NC
		Sulfate	EPA 300.0	1602731-003	823	SC 935	916	10.0	mg/L	NC	NC	NC
QC16030212	MS 1	Copper, Dissolved	EPA 200.8	1603050-001	ND	0.0109	0.0103	0.010	mg/L	109	103	6%
		Nickel, Dissolved	EPA 200.8	1603050-001	ND	0.0104	0.0102	0.010	mg/L	104	102	2%
QC16030234	MS 1	Barium, Dissolved	EPA 200.7	1603050-001	ND	0.901	0.932	1.00	mg/L	90	93	3%
		Beryllium, Dissolved	EPA 200.7	1603050-001	ND	0.938	0.963	1.00	mg/L	94	96	3%
		Boron, Dissolved	EPA 200.7	1603050-001	ND	0.932	0.982	1.00	mg/L	93	98	5%
		Calcium, Dissolved	EPA 200.7	1603050-001	ND	9.31	9.50	10.0	mg/L	93	95	2%
		Chromium, Dissolved	EPA 200.7	1603050-001	ND	0.924	0.950	1.00	mg/L	92	95	3%
		Cobalt, Dissolved	EPA 200.7	1603050-001	ND	0.939	0.975	1.00	mg/L	94	98	4%
		Iron, Dissolved	EPA 200.7	1603050-001	ND	0.907	0.922	1.00	mg/L	90	92	2%
		Magnesium, Dissolved	EPA 200.7	1603050-001	ND	9.21	9.32	10.0	mg/L	92	93	1%

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or &lt;RL

Page 6 of 7

**SPARKS**

475 E. Greg Street, Suite 119  
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 EPA LAB ID: NV00925 - ELAP No: 2523

**ELKO**

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 fax (702) 622-2868  
 EPA LAB ID: NV00932

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result	MS Result	MSD Result	Spike Value	Units	MS % Rec.	MSD % Rec.	RPD
		Manganese, Dissolved	EPA 200.7	1603050-001	0.008	0.935	0.958	1.00	mg/L	93	95	2%
		Molybdenum, Dissolved	EPA 200.7	1603050-001	ND	0.919	0.939	1.00	mg/L	91	93	2%
		Potassium, Dissolved	EPA 200.7	1603050-001	ND	9.70	9.73	10.0	mg/L	96	97	<1%
		Sodium, Dissolved	EPA 200.7	1603050-001	ND	9.84	10.4	10.0	mg/L	94	100	6%
		Strontium, Dissolved	EPA 200.7	1603050-001	ND	0.932	0.984	1.00	mg/L	93	98	5%
		Zinc, Dissolved	EPA 200.7	1603050-001	ND	0.907	0.947	1.00	mg/L	90	94	4%
QC16030285	MS 1	Nitrate + Nitrite Nitrogen	EPA 353.2	1602715-003	ND	5.45	5.13	1.00	mg/L	107	101	6%
QC16030285	MS 2	Nitrate + Nitrite Nitrogen	EPA 353.2	1602725-001	0.113	5.51	5.51	1.00	mg/L	108	108	<1%
QC16030302	MS 1	WAD Cyanide	SM 4500CN I,	1603012-001	ND	0.101	0.096	0.100	mg/L	100	94	5%
QC16030320	MS 1	Total Kjeldahl Nitrogen	EPA 351.2	1603012-001	ND	0.891	0.858	1.00	mg/L	96	93	4%
QC16030320	MS 2	Total Kjeldahl Nitrogen	EPA 351.2	1603012-002	ND	M 1.05	1.07	1.00	mg/L	NC	NC	NC

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# ANALYTICAL SUMMARY REPORT

March 15, 2016

Western Environmental Testing Laboratory  
475 E Greg St Ste 119  
Sparks, NV 89431-8517

Work Order: B16030731                      Quote ID: B3679

Project Name: 1602729

Energy Laboratories Inc Billings MT received the following 1 sample for Western Environmental Testing Laboratory on 3/8/2016 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B16030731-001	C773-15 B, C WK: 24-WLHCT-0120, 1602729-001	03/01/16 9:00	03/08/16	Leachate	Metals by ICP/ICPMS, Dissolved Mercury, Dissolved Digestion, Mercury by CVAA

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:





### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1602729  
**Lab ID:** B16030731-001  
**Client Sample ID:** C773-15 B, C WK: 24-WLHCT-0120, 1602729-001

**Report Date:** 03/15/16  
**Collection Date:** 03/01/16 09:00  
**Date Received:** 03/08/16  
**Matrix:** Leachate

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>METALS, DISSOLVED</b>							
Aluminum	37.0	mg/L		0.009		E200.7	03/10/16 10:43 / rjh
Antimony	0.0123	mg/L		0.0005		E200.8	03/10/16 12:30 / mas
Arsenic	1.40	mg/L		0.001		E200.8	03/10/16 12:30 / mas
Cadmium	0.00158	mg/L		0.00003		E200.8	03/10/16 12:30 / mas
Lead	0.0029	mg/L		0.0003		E200.8	03/10/16 12:30 / mas
Mercury	6.5E-06	mg/L		5E-06		E245.1	03/14/16 15:56 / ser
Phosphorus	0.737	mg/L	L	0.007		E200.7	03/10/16 10:43 / rjh
Selenium	0.002	mg/L		0.001		E200.8	03/10/16 12:30 / mas
Silicon	2.73	mg/L		0.05		E200.7	03/10/16 10:43 / rjh
Silver	ND	mg/L		0.0002		E200.8	03/10/16 12:30 / mas
Thallium	ND	mg/L		0.0002		E200.8	03/10/16 12:30 / mas
Uranium	0.0201	mg/L		0.0002		E200.8	03/10/16 12:30 / mas

**Report Definitions:**  
RL - Analyte reporting limit.  
QCL - Quality control limit.  
L - Lowest available reporting limit for the analytical method used.

MCL - Maximum contaminant level.  
ND - Not detected at the reporting limit.





# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1602729

**Report Date:** 03/15/16  
**Work Order:** B16030731

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
<b>Method: E200.7</b>							Analytical Run: ICP203-B_160310A			
<b>Lab ID: ICV</b>	Continuing Calibration Verification Standard								03/10/16 09:24	
Aluminum	2.52	mg/L	0.10	101	95	105				
Phosphorus	2.45	mg/L	0.10	98	95	105				
Silicon	4.89	mg/L	0.10	98	95	105				
<b>Method: E200.7</b>							Batch: R257738			
<b>Lab ID: MB-6500DIS160310A</b>	Method Blank								03/10/16 09:31	
Aluminum	0.02	mg/L	0.007							
Phosphorus	0.03	mg/L	0.007							
Silicon	ND	mg/L	0.01							
<b>Lab ID: LFB-6500DIS160310A</b>	Laboratory Fortified Blank								03/10/16 09:38	
Aluminum	4.93	mg/L	0.10	98	85	115				
Phosphorus	9.19	mg/L	0.10	92	85	115				
Silicon	9.56	mg/L	0.10	96	85	115				
<b>Lab ID: B16030731-001AMS2</b>	Sample Matrix Spike								03/10/16 11:37	
Aluminum	42.0	mg/L	0.030		70	130			A	
Phosphorus	9.44	mg/L	0.10	87	70	130				
Silicon	12.2	mg/L	0.10	94	70	130				
<b>Lab ID: B16030731-001AMSD2</b>	Sample Matrix Spike Duplicate								03/10/16 11:40	
Aluminum	41.1	mg/L	0.030		70	130	2.2	20	A	
Phosphorus	9.18	mg/L	0.10	84	70	130	2.8	20		
Silicon	12.1	mg/L	0.10	94	70	130	0.4	20		

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory

**Report Date:** 03/15/16

**Project:** 1602729

**Work Order:** B16030731

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E200.8</b>							Analytical Run: ICPMS202-B_160310A		
<b>Lab ID: QCS</b>	Initial Calibration Verification Standard						03/10/16 13:51		
Antimony	0.0474	mg/L	0.050	95	90	110			
Arsenic	0.0503	mg/L	0.0050	101	90	110			
Cadmium	0.0253	mg/L	0.0010	101	90	110			
Lead	0.0495	mg/L	0.010	99	90	110			
Selenium	0.0494	mg/L	0.0050	99	90	110			
Silver	0.0255	mg/L	0.0050	102	90	110			
Thallium	0.0488	mg/L	0.10	98	90	110			
Uranium	0.0194	mg/L	0.0010	97	90	110			
<b>Method: E200.8</b>							Batch: R257775		
<b>Lab ID: LFB</b>	Laboratory Fortified Blank						Run: ICPMS202-B_160310A 03/10/16 10:10		
Antimony	0.0458	mg/L	0.050	92	85	115			
Arsenic	0.0488	mg/L	0.0050	98	85	115			
Cadmium	0.0494	mg/L	0.0010	99	85	115			
Lead	0.0507	mg/L	0.010	101	85	115			
Selenium	0.0469	mg/L	0.0050	94	85	115			
Silver	0.0209	mg/L	0.0050	104	85	115			
Thallium	0.0500	mg/L	0.10	100	85	115			
Uranium	0.0487	mg/L	0.0010	97	85	115			
<b>Lab ID: LRB</b>	Method Blank						Run: ICPMS202-B_160310A 03/10/16 10:29		
Antimony	ND	mg/L	4E-05						
Arsenic	ND	mg/L	9E-05						
Cadmium	ND	mg/L	9E-06						
Lead	ND	mg/L	2E-05						
Selenium	ND	mg/L	0.0002						
Silver	ND	mg/L	4E-05						
Thallium	ND	mg/L	1E-05						
Uranium	ND	mg/L	1E-05						
<b>Lab ID: B16030620-001AMS</b>	Sample Matrix Spike						Run: ICPMS202-B_160310A 03/10/16 12:05		
Antimony	0.0435	mg/L	0.0010	87	70	130			
Arsenic	0.0509	mg/L	0.0010	102	70	130			
Cadmium	0.0500	mg/L	0.0010	100	70	130			
Lead	0.0506	mg/L	0.0010	101	70	130			
Selenium	0.0516	mg/L	0.0010	103	70	130			
Silver	0.0203	mg/L	0.0010	101	70	130			
Thallium	0.0488	mg/L	0.00050	98	70	130			
Uranium	0.0451	mg/L	0.00030	90	70	130			
<b>Lab ID: B16030620-001AMSD</b>	Sample Matrix Spike Duplicate						Run: ICPMS202-B_160310A 03/10/16 12:08		
Antimony	0.0450	mg/L	0.0010	90	70	130	3.5	20	
Arsenic	0.0508	mg/L	0.0010	102	70	130	0.1	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1602729

**Report Date:** 03/15/16  
**Work Order:** B16030731

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E200.8									Batch: R257775
<b>Lab ID:</b> B16030620-001AMSD	Sample Matrix Spike Duplicate			Run: ICPMS202-B_160310A				03/10/16 12:08	
Cadmium	0.0509	mg/L	0.0010	102	70	130	1.8	20	
Lead	0.0516	mg/L	0.0010	103	70	130	2.0	20	
Selenium	0.0519	mg/L	0.0010	104	70	130	0.6	20	
Silver	0.0211	mg/L	0.0010	106	70	130	4.2	20	
Thallium	0.0498	mg/L	0.00050	100	70	130	2.0	20	
Uranium	0.0464	mg/L	0.00030	93	70	130	2.7	20	

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Western Environmental Testing Laboratory  
**Project:** 1602729

**Report Date:** 03/15/16  
**Work Order:** B16030731

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> E245.1									Analytical Run: HGCV203-B_160314A
<b>Lab ID:</b> ICV	Initial Calibration Verification Standard								
Mercury	0.000194	mg/L	1.0E-05	97	90	110	03/14/16 14:54		
<b>Method:</b> E245.1									Batch: 97564
<b>Lab ID:</b> MB-97564	Method Blank								
Mercury	ND	mg/L	1E-06	Run: HGCV203-B_160314A			03/14/16 15:49		
<b>Lab ID:</b> LCS-97564	Laboratory Control Sample								
Mercury	0.000197	mg/L	1.0E-05	98	85	115	03/14/16 15:51		
<b>Lab ID:</b> B16031098-005BMS	Sample Matrix Spike								
Mercury	0.000203	mg/L	1.0E-05	102	70	130	03/14/16 16:14		
<b>Lab ID:</b> B16031098-005BMSD	Sample Matrix Spike Duplicate								
Mercury	0.000200	mg/L	1.0E-05	100	70	130	1.5	30	03/14/16 16:16

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



# Work Order Receipt Checklist

Western Environmental Testing Laboratory B16030731

Login completed by: Gina McCartney

Date Received: 3/8/2016

Reviewed by: BL2000\jmueller

Received by: dlf

Reviewed Date: 3/9/2016

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	17.0°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

---

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.


Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

## Contact and Corrective Action Comments:

None

# CHAIN OF CUSTODY RECORD

Western Environmental Testing Laboratory 475 E. Greg Street #119 Sparks, NV 89431 Logan Greenwood Ph: (775) 355-0202 LoganG@wetlaboratory.com Fax: (775) 355-0817		Total # of sample containers 1 WLHCT-0120		Subcontractor Energy		All Samples Refrigerated?: Y N X Compliance: Y X N N X CA Write ON: Y X N N QC: Y X N N		Water System #:	
Sample Receipt Condition: Temperature:		Job ID 1602729		Notes: Quote #3679					
Sample Date/Time 3/1/2016 9:00 AM		Sample ID - Site ID C773-15 B, C WK. 24 - WLHCT-0120		Matrix Leachate		Parameter Various Metals (Subcontracted)		Sample Number 1602729-001	
Relinquished by: (Signature) 		Date: 3/2/15/14:00		Received by: (Signature) UPS					
Relinquished by: (Signature)		Date:		Received by: (Signature)					
Relinquished by: (Signature)		Date:		Received by: (Signature)		Submission 3/1/16 0910			

UPS Grd  
 17.0  
 NO ice  
 NO Seals

