
2019 SECOND QUARTER REPORT
WATER RESOURCES MONITORING
BLACK BUTTE COPPER

Prepared for:

Tintina Montana, Inc.
17 East Main Street
White Sulphur Springs, Montana, USA 59645

Prepared by:

Hydrometrics, Inc.
3020 Bozeman Avenue
Helena, Montana 59601

May 2020

TABLE OF CONTENTS

LIST OF TABLES	ii
LIST OF FIGURES	iii
LIST OF APPENDICES.....	iii
1.0 INTRODUCTION	1-1
2.0 WATER RESOURCES MONITORING	2-1
2.1 SURFACE WATER	2-1
2.2 SPRINGS	2-2
2.3 GROUNDWATER	2-3
3.0 RESULTS	3-1
3.1 STREAMFLOW	3-1
3.2 SPRING FLOW	3-2
3.3 GROUNDWATER LEVELS	3-2
3.4 WATER QUALITY DATA	3-5
3.5 QUALITY CONTROL.....	3-17
4.0 REFERENCES	4-1

LIST OF TABLES

TABLE 1.	BASELINE MONITORING SITE DESCRIPTION AND SUMMARY	1-3
TABLE 2.	PARAMETERS, METHODS, AND DETECTION LIMITS FOR SURFACE WATER MONITORING	1-12
TABLE 3.	PARAMETERS, METHODS, AND DETECTION LIMITS FOR GROUNDWATER MONITORING	1-13
TABLE 4.	JUNE 2019 WATER LEVEL DATA SUMMARY	3-3
TABLE 5.	SUMMARY OF VERTICAL HYDRAULIC GRADIENTS	3-5
TABLE 6.	SECOND QUARTER 2019 SURFACE WATER QUALITY SUMMARY	3-6

TABLE 7.	SECOND QUARTER 2019 SPRING WATER QUALITY SUMMARY	3-8
TABLE 8.	SECOND QUARTER 2019 GROUNDWATER QUALITY SUMMARY	3-15

LIST OF FIGURES

FIGURE 1.	LOCATION MAP	1-2
FIGURE 2.	SURFACE WATER, SPRING & SEEP MONITORING SITES.....	1-10
FIGURE 3.	GROUNDWATER MONITORING SITES	1-11
FIGURE 4.	2019 SECOND QUARTER POTENTIOMETRIC SURFACE MAP	3-4

LIST OF APPENDICES

APPENDIX A	LABORATORY ANALYTICAL REPORT
APPENDIX B	QA/QC REPORTS

**2019 SECOND QUARTER REPORT
WATER RESOURCES MONITORING
BLACK BUTTE COPPER**

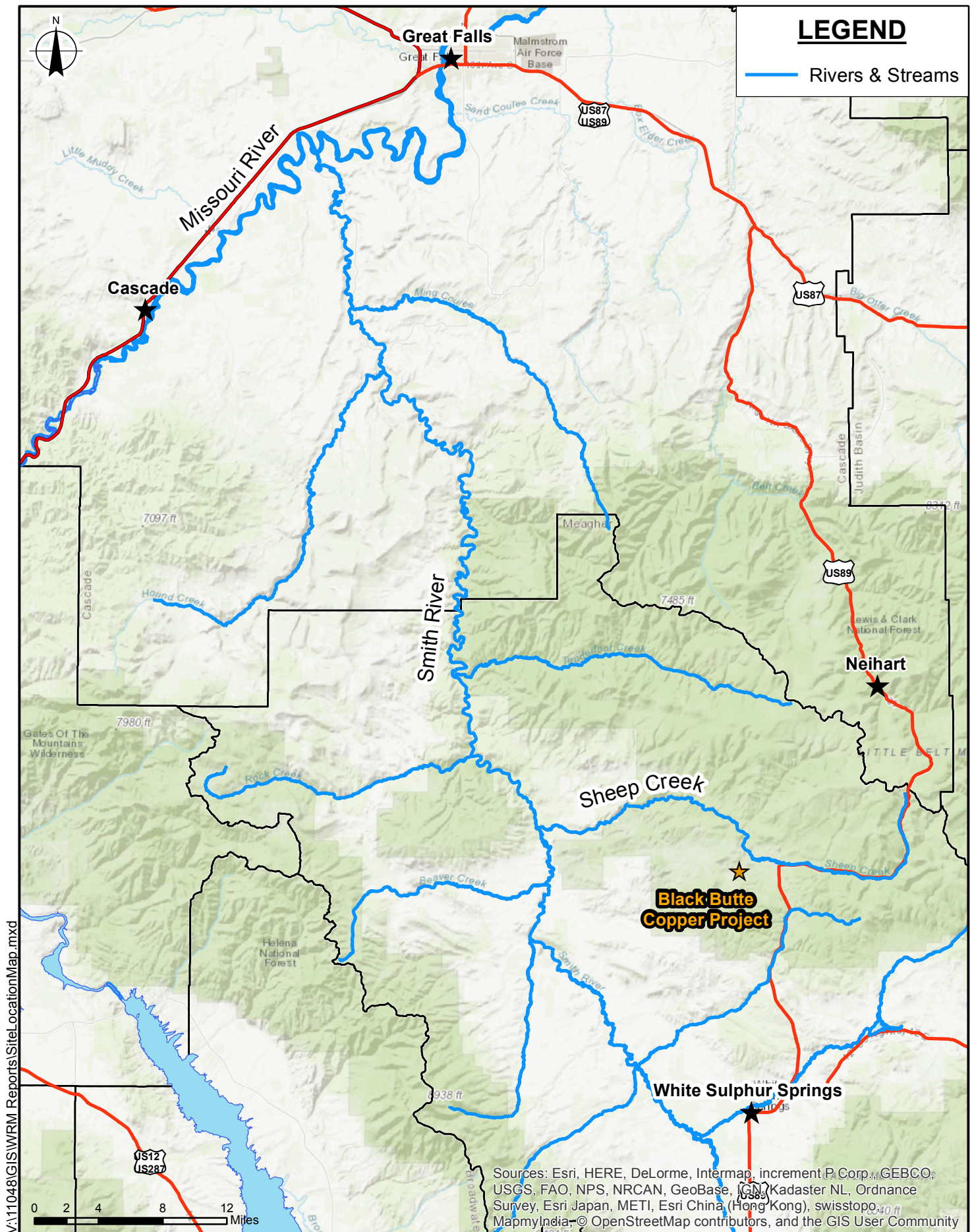
1.0 INTRODUCTION

Tintina Montana, Inc., a wholly owned subsidiary of Sandfire America Resources, Inc., contracted Hydrometrics, Inc. to conduct baseline water resources monitoring for the Black Butte Copper Project (Project) during the second quarter of 2019. The Project is located 15 miles north of White Sulphur Springs, in Meagher County, Montana (Figure 1). Baseline water resources monitoring and hydrologic investigations have been conducted at the Project since 2011 (Hydrometrics, 2015). The monitoring and investigations are being conducted in support of permitting activities for the exploration and development of copper-bearing massive sulfide deposits within the lower Newland Formation.

Water resources monitoring for the Project consists of monthly, quarterly, and annual monitoring programs which are conducted in accordance with the 2016 Field Sampling and Analysis Plan (FSAP) (Hydrometrics, 2016). Additional water resources monitoring sites were added to the monthly monitoring program in the second quarter of 2019, including one surface water site (SW-19) near the headwaters of Black Butte Creek and five developed springs (DS-7, DS-8, DS-9, DS-10, and DS-11) as shown on Figure 2. The water resources monitoring programs are summarized below and the location, sampling schedule, and description of each water resources monitoring site is listed in Table 1.

Monthly Monitoring Program

The monthly monitoring program includes monitoring at eight surface water sites, consisting of collecting flow and stage measurements (where staff gages are present) and field parameters at all sites and water quality samples from seven of the sites; and monitoring at 17 spring sites (including nine developed springs), consisting of collecting flow measurements and field parameters at all sites and water quality samples from 11 of the sites.



LEGEND

— Rivers & Streams

V:\11048\GIS\WRM Reports\Site\LocationMap.mxd

0 2 4 8 12 Miles

Sources: Esri, HERE, DeLorme, Intermap, increment P. Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Figure 1
Location Map
Black Butte Copper Project
Meagher County, Montana

TABLE 1. BASELINE MONITORING SITE DESCRIPTION AND SUMMARY

Monitoring Site	Easting (meters)	Northing (meters)	Monitoring Frequency	Flow or Water Level	Field Parameters	Lab Analysis	Location / Monitoring Well Construction
	WGS 1984 - UTM Zone 12 N						
Surface Water Sites							
SW-1	507148	5182710	M	X	X	X	Sheep Creek - Downgradient site; at bridge on County Road 119.
SW-2	511040	5179844	M	X	X	X	Sheep Creek - Upgradient site; Highway 89 right-of-way, approximately 0.6 miles east of county road intersection.
SW-3	506996	5180581	M	X	X	X	Unnamed tributary to Sheep Creek - at intersection of County Road 119 and USFS Road 64992.
SW-4	506308	5180114	Q	X	X	--	Unnamed tributary to Sheep Creek - approximately 0.6 miles southwest of County Road 119/USFS Road 6492 intersection.
SW-5	503914	5181465	Q	X	X	X	Unnamed tributary To Butte Creek - West of Moose Pass, where jeep trail crosses drainage.
SW-6	507919	5179536	Q	X	X	X	Unnamed tributary to Little Sheep Creek - approximately 0.25 miles south of County Road 119.
SW-8	509575	5179476	Q	X	X	--	Little Sheep Creek - Approximately 0.5 miles from Highway 89.
SW-9	503944	5179271	Q	X	X	--	Butte Creek - at USFS Road 6492 crossing.
SW-10	504665	5178322	Q	X	X	--	Butte Creek - approximately 0.7 miles upstream of SW-9.
SW-11	501951	5181021	Q	X	X	X	Butte Creek - Downgradient of confluence with Unnamed tributary to Butte Creek (west of Moose Pass).
SW-14	507876	5180008	M	X	X	X	Little Sheep Creek - Downstream of SW-8, approximately 1.0 miles from Highway 89.
SW-17	506919	5181218	M	X	X	X	Coon Creek - approximately 150 feet upstream of the confluence with Sheep Creek.
SW-18	507876	5180008	M	X	X	X	Coon Creek - head of drainage, upgradient of wetlands, south of USFS Road 6492.
SW-19	504745	5177675	M	X	X	--	
USGS-SC1	514509	5179419	M	X	X	X	Approximately 2.4 miles upstream of SW-2 on Sheep Creek.

TABLE 1. BASELINE MONITORING SITE DESCRIPTION AND SUMMARY (CONTINUED)

Monitoring Site	Easting (meters)	Northing (meters)	Monitoring Frequency	Flow or Water Level	Field Parameters	Lab Analysis	Location / Monitoring Well Construction
	WGS 1984 - UTM Zone 12 N						
Springs							
SP-1	506283.07	5180101.39	A	X	X	--	Spring/Seep on west bank of Coon Creek approximately 150 feet downgradient of surface water site SW-4.
SP-2	505833.97	5180907.34	A	X	X	--	Spring in small unnamed tributary drainage to lower Coon Creek in SESW Section 24 T12N R06E.
SP-3	506370.58	5182241.55	M	X	X	X	Spring in small unnamed tributary to Sheep Creek in NWNE Section 24 T12N R06E.
SP-4	506425.17	5180468.94	M	X	X	X	Spring at head of unnamed tributary to Coon Creek, in E2NE Section 25 T12N R06E.
SP-5	506478.82	5178985.42	M	X	X	X	Spring in upper Brush Creek drainage (formerly known as surface water SW-7 location).
SP-6	506219.58	5181027.89	M	X	X	X	Unnamed tributary drainage near mine site, located in SESW Section 24 T12N R06E.
SP-7	507693.69	5181137.92	M	X	X	X	North side of Strawberry Butte above tributary drainage to Sheep Creek.
SP-8	507995.89	5178745.24	A	X	X	--	North of unnamed tributary to Little Sheep Creek, approximately 0.75 miles south of USFS Road 6492 in SENW Section 31 T12N R07E.
SP-9	507502.03	5178577.92	A	X	X	--	North of unnamed tributary to Little Sheep Creek, approximately 0.3 miles west-southwest of SP-8 in SWNW Section 31 T12N R07E.
SP-10	506335.42	5178351.00	M	X	X	X	Headwaters of the southfork of Brush Creek, south of proposed portal, near the center of Section 36 T12N R06E.
SP-11*	506708	5181875	M	X	X	X	Hill slope east of Sheep Creek, in the SWNE Section 24 T12N R06E.
SP-12*	507098	5180685	M	X	X	X	Hay meadow area approximately 560 feet north of County Road 116 and USFS Road 6492 intersection.
SP-13*	507567	5181875	A	X	X	--	Unnamed tributary drainage of Sheep Creek, located approximately 730 feet west of SP-7 in the SESW Section 19 T12N R07E.

TABLE 1. BASELINE MONITORING SITE DESCRIPTION AND SUMMARY (CONTINUED)

Monitoring Site	Easting (meters)	Northing (meters)	Monitoring Frequency	Flow or Water Level	Field Parameters	Lab Analysis	Location / Monitoring Well Construction
	WGS 1984 - UTM Zone 12 N						
Developed Springs							
DS-1	506507.08	5178870.81	M	X	X	X	Developed spring, near surface water site SW-7 in upper drainage of Little Sheep Creek trib.
DS-2	505263.49	5180150.61	M	X	X	--	Developed seep/spring, southeast side of Black Butte upgradient of SP-1.
DS-3	505037.62	5181520.61	M	X	X	X	South of Moose Pass in Butte Creek drainage (upgradient of surface water site SW-5).
DS-4	506056.53	5181588.64	M	X	X	X	Unnamed tributary to Sheep Creek in Section 24 T12N R06E, north of mine area and southeast of Moose Pass.
DS-5	504761.45	5182484.96	A	X	X	--	Unnamed tributary to Sheep Creek, north of Moose Pass.
DS-6	504949.66	5182827.88	A	X	X	--	Unnamed tributary to Sheep Creek, north of Moose Pass and downstream of DS-5.
DS-7	506035.65	5181047.77	M	X	X	--	Developed spring in unnamed tributary of Coon Creek, located in SESW Section 24 T12N R06E.
DS-8	502530.17	5179153.21	M	X	X	--	Developed spring in unnamed tributary of Copper Creek, located in NWNW Section 34 T12N R06E.
DS-9	502734.06	5178282.03	M	X	X	--	Developed spring in unnamed tributary of Copper Creek, located in NESW Section 34 T12N R06E.
DS-10	503469.32	5177225.48	M	X	X	--	Developed spring in unnamed tributary of Black Butte Creek, in center of NE Sec. 03 T11N R06E.
DS-11	503314.85	5176650.87	M	X	X	--	Developed spring in unnamed tributary of Black Butte Creek, located in NWSE Sec. 03 T11N R06E.

TABLE 1. BASELINE MONITORING SITE DESCRIPTION AND SUMMARY (CONTINUED)

Monitoring Site	Easting (meters)	Northing (meters)	Monitoring Frequency	Flow or Water Level	Field Parameters	Lab Analysis	Location / Monitoring Well Construction
	WGS 1984 - UTM Zone 12 N						
Seeps							
Seep-1	507876.19	5179570.54	A	--	X	--	Seep on tributary to Little Sheep Creek (approximately 15' west of SW-6).
Seep-2	506310.6	5180089.2	A	--	X	--	Seep on east bank of Coon Creek (approximately 150 feet downgradient of SW-4).
Seep-3	507821.16	5180537.25	A	--	X	--	Seep located on eastern side of Strawberry Butte.
Seep-4	507530.57	5182486.29	A	--	X	--	Seep on hillside in SWSW Section 18 T12N R07E.
Seep-5	507768.38	5182748.77	A	--	X	--	Seep on hillside in SESW Section 18 T12N R07E.
Seep-6	507853.49	5182587.27	A	--	X	--	Seep on hillside in SESW Section 18 T12N R07E.
Seep-7	507155.4	5182821.06	A	--	X	--	Seep on eastern side of County Road 119 approximately 200 feet north of Sheep Creek bridge at SW-1.
Seep-8	506701.44	5180381.64	A	--	X	--	Seep area on west hillside adjacent to lower Coon Creek.
Seep-9	504825.48	5182475.68	A	--	X	--	Seep in unnamed tributary to Sheep Creek North of Moose Pass (downgradient of DS-5).
Seep-10	507270.05	5179164.8	A	--	X	--	Spring in upper Brush Creek, upstream of Seep 1, in NWNW Section 31 T12N R07E.

TABLE 1. BASELINE MONITORING SITE DESCRIPTION AND SUMMARY (CONTINUED)

Monitoring Site	Easting (meters)	Northing (meters)	Monitoring Frequency	Flow or Water Level	Field Parameters	Lab Analysis	Location / Monitoring Well Construction		
	WGS 1984 - UTM Zone 12 N						Total Depth	Perforated / Screen Interval	Gravel / Sand Pack Interval
Monitoring Wells							feet, below ground surface		
MW-1A	506935.22	5180841.55	Q	X	X	X	38	25 - 34	25 - 34
MW-1B	506934.19	5180845.46	Q	X	X	X	98	88 - 98	88 - 98
MW-2A	506598.18	5180331.93	Q	X	X	X	62	52 - 62	47 - 62
MW-2B	506596.96	5180328.73	Q	X	X	X	80	70 - 80	65 - 80
MW-3	506484.07	5180740.22	Q	X	X	X	305	285 - 305	278 - 305
MW-4A	507201.47	5180855.43	Q	X	X	X	23	14-23	11 - 23
MW-4B	507200.12	5180858.49	Q	X	X	X	59	39-59	37-59
MW-6A	507809.18	5179492.85	Q	X	X	X	15	5-15	3-15
MW-6B	507792.76	5179490.71	Q	X	X	X	50	40-50	37-50
MW-7	507451.70	5179500.71	Q	X	X	X	50	40-50	37-50
MW-8	507036.00	5179398.31	Q	X	X	X	80	70-80	67-80
MW-9	506592.96	5180725.46	Q	X	X	X	143	108-128	98-144
MW-10	506578.57	5179215.05	Q	X	X	X	90	70-90	67-90
MW-11	506464.72	5179117.47	Q	X	X	X	70	50-70	46-70
MW-12	506412.82	5179010.38	Q	X	X	X	61	40-61	37-61
MW-13	506477.79	5178855.81	Q	X	X	X	40	20-40	17-40
MW-14	508255.63	5179376.77	Q	X	--	--	68	56-66	53-68
MW-15	508290.89	5179071.07	Q	X	--	--	80	70-80	66-80
MW-16	507036.30	5180586.21	Q	X	X	X	57	37-57	34-57
MW-17	506654.57	5180130.74	Q	X	X	X	75	55-75	54-78
MW-18	506257.38	5179707.93	Q	X	X	X	32	12-32	10-32
MW-19	506878.42	5178925.74	Q	X	X	X	28	8-28	6-28
MW-20	507426.69	5179631.58	Q	X	X	X	37.5	17.5-37.5	14.5-37.5
SC12-116*	507030.00	5180380.00	Q	X	--	--	--	--	--
SC15-184*	507047.34	5178972.53	Q	--	X	X	99	55-85	49-90
SC15-185*	506355.46	5179094.24	Q	X	X	X	99	60-80	56.3-85
SC15-194*	506014.14	5179854.92	Q	X	X	X	99	60-80	56.3-85
SC15-198*	506621.36	5179854.92	Q	X	X	X	99	60-70	51.7-74

TABLE 1. BASELINE MONITORING SITE DESCRIPTION AND SUMMARY (CONTINUED)

Monitoring Site	Eastings (meters)	Northing (meters)	Monitoring Frequency	Flow or Water Level	Field Parameters	Lab Analysis	Location / Monitoring Well Construction		
	WGS 1984 - UTM Zone 12 N						Total Depth	Perforated / Screen Interval	Gravel / Sand Pack Interval
Test Wells							feet, below ground surface		
PW-1	506301.42	5180698.40	Q	X	--	--	213	171-211	108-213
PW-2	506443.15	5180865.03	Q	X	X	X	215	132-212	121-215
PW-3	506846.43	5180479.42	Q	X	X	X	131	90-127	80-131
PW-4	506849.44	5180701.75	Q	X	X	X	242	200-239	191-242
PW-5	506490.68	5181172.77	Q	X	--	--	565	515-555	508-560
PW-6N	506477.44	5181085.67	Q	X	--	--	1358	Open Hole	1159-1358
PW-7	507122.89	5180867.59	Q	--	X	X	1350	1306-1350	1300-1350
PW-8	506846.19	5180695.53	Q	X	X	X	184	139-179	132-179
PW-9	506598.38	5180721.88	Q	X	X	X	256	216-256	208-256
PW-10	506593.55	5180721.88	Q	X	X	X	370	319-359	310-370
Piezometers									
PZ-01	507650.01	5180255.63	Q	X	--	--	5.3	2.3-5.3	--
PZ-02	507400.72	5180778.79	Q	X	--	--	5.3	2.3-5.3	--
PZ-03	507249.21	5180618.91	Q	X	--	--	9.3	6.3-9.3	--
PZ-04	506991.74	5181110.82	Q	X	--	--	7.7	4.7-7.7	--
PZ-05	507080.04	5181214.68	Q	X	--	--	5.4	2.4-5.4	--
PZ-07A	506258.39	5180074.65	Q	X	--	--	6	3-6	--
PZ-07B	506258.47	5180075.00	Q	X	--	--	11	8-11	--
PZ-08	507090.31	5180573.81	Q	X	--	--	12	7-12	5-12
PZ-09	507883.78	5180178.58	Q	X	--	--	10	5-10	3-10
PZ-10	506590.91	5180679.01	Q	X	--	--	11	9-11	--
PZ-11R	507031.15	5180654.89	Q	X	--	--	11	9-11	--
PZ-12	506839.49	5180509.42	Q	X	--	--	7	5-7	--
PZ-13	507793.88	5180289.38	Q	X	--	--	7.5	5-7.5	--
PZ-14	507492.91	5180412.13	Q	X	--	--	5.5	3-5.5	--
PZ-15	507193.65	5180762.85	Q	X	--	--	8.5	6-8.5	--

Notes: *Northings and Eastings are approximate.

M: Monthly; Q: Quarterly; and A: Annual monitoring program frequency

Surface water, springs, and seep monitoring sites are shown on Figure 2; groundwater monitoring sites are shown on Figure 3.

Quarterly Monitoring Program

The quarterly monitoring program includes monitoring at seven surface water sites, consisting of collecting flow and stage measurements (where staff gages are present) and field parameters at all sites and water quality samples from three of the sites; and monitoring at 25 monitoring wells, 10 test wells, and 15 piezometers, consisting of collecting static water level (SWL) measurements at all sites and field parameters water quality samples from 32 of the wells.

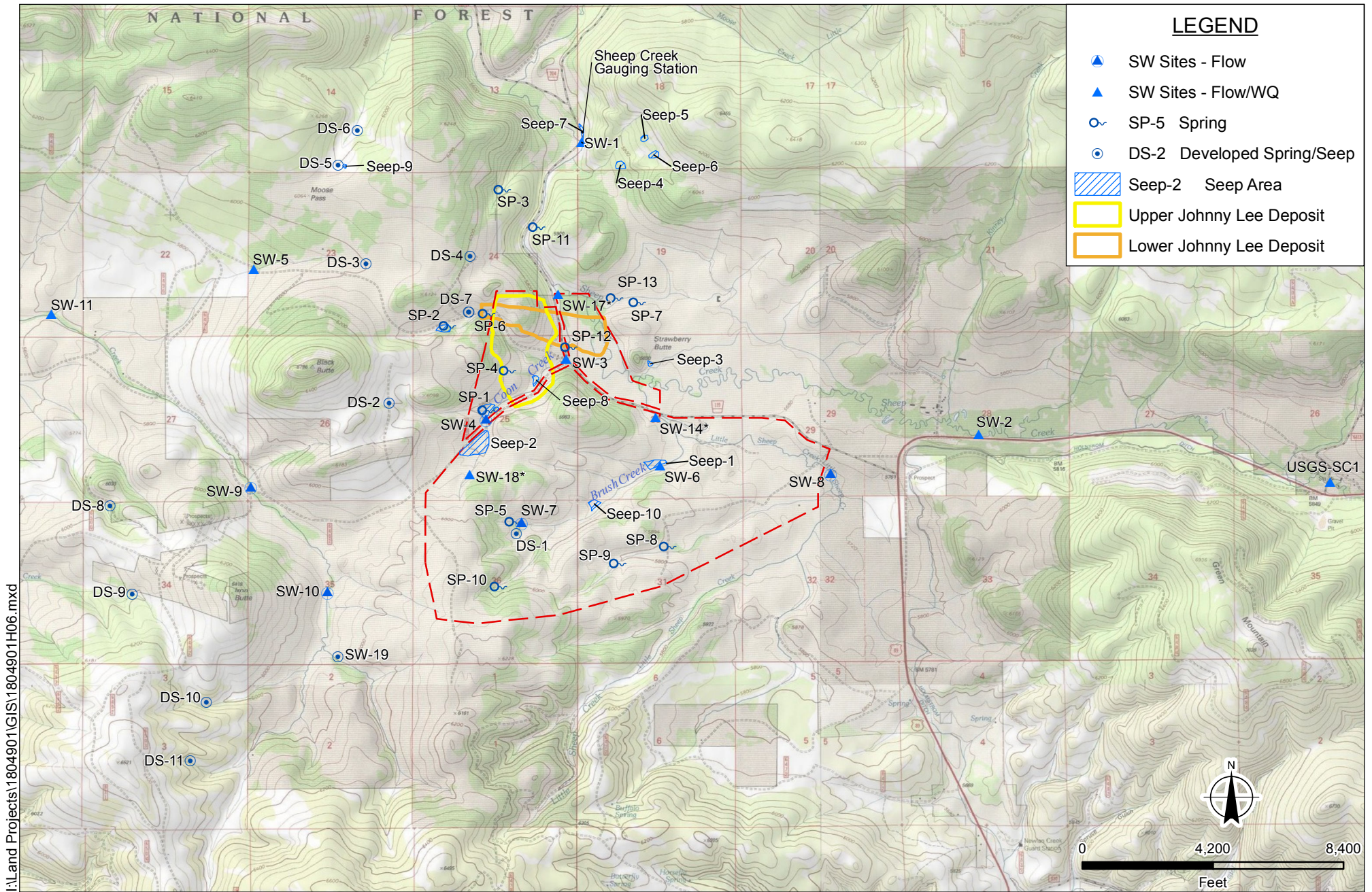
Annual Monitoring Program

The annual monitoring program includes monitoring at seven spring sites (includes two developed springs), consisting of collecting flow measurements and field parameters at all sites; and monitoring at 10 seep sites, consisting of collecting field parameters at all sites.

The locations of the surface water, spring, and seep monitoring sites are shown on Figure 2 and the groundwater monitoring sites are shown on Figure 3. This report summarizes the results of the water resource monitoring programs conducted during the second quarter of 2019, including:

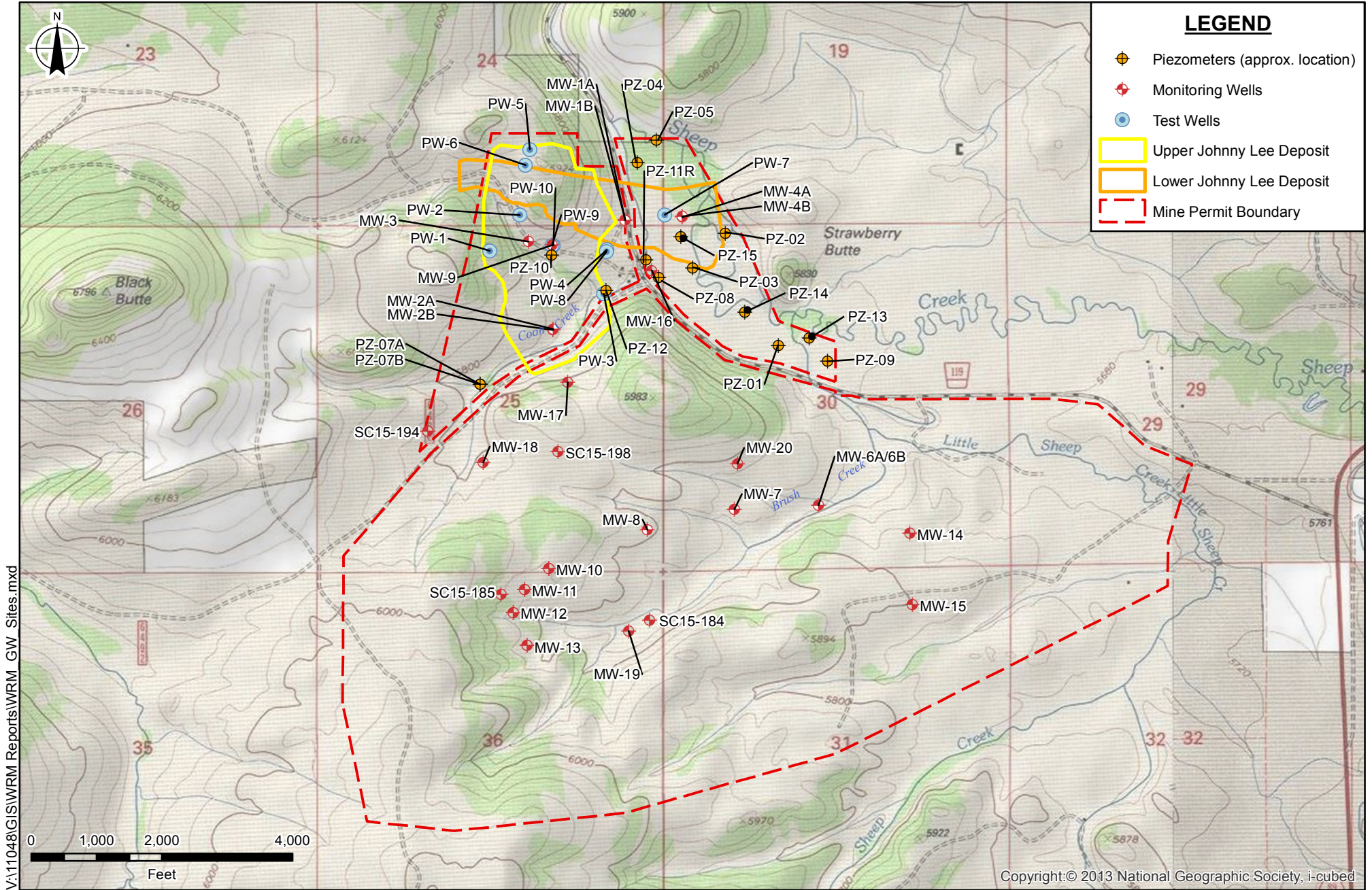
- Monthly monitoring in April 2019;
- Monthly monitoring in May 2019; and
- Monthly and quarterly monitoring in June 2019.

Water quality samples were submitted to Energy Laboratories in Helena, Montana for analysis of physical parameters, common ions, nutrients, and a comprehensive suite of trace constituents. The water quality parameters, analytical methods, and detection limits are listed in Tables 2 and 3 for surface water and groundwater, respectively. Samples collected from springs were submitted for analysis as groundwater according to the parameters, analytical methods, and detection limits in Table 3. For surface water quality samples, trace metals (with the exception of aluminum) were analyzed for the total recoverable concentration; aluminum was analyzed for the dissolved fraction. For groundwater quality samples, all trace metals were analyzed for the dissolved fraction.



I:\Land Projects\1804901\GIS\1804901H06.mxd

Figure 2
Surface Water, Spring & Seep Monitoring Sites
Black Butte Copper Project
Meagher County, Montana



V:\11048\GIS\Worm Reports\WORM GW Sites.mxd

Figure 3
Groundwater Monitoring Sites
Black Butte Copper Project
Meagher County, Montana

**TABLE 2. PARAMETERS, METHODS, AND DETECTION LIMITS
FOR SURFACE WATER MONITORING**

Parameter	Analytical Method ⁽¹⁾	Project-Required Detection Limit (mg/L)
Physical Parameters		
TDS	SM 2540C	4
TSS	SM 2540C	4
Common Ions		
Alkalinity	SM 2320B	4
Sulfate	300.0	1
Chloride	300.0/SM 4500CL-B	1
Fluoride	A4500-F C	0.1
Calcium	215.1/200.7	1
Magnesium	242.1/200.7	1
Sodium	273.1/200.7	1
Potassium	258.1/200.7	1
Nutrients		
Nitrate+Nitrite as N	353.2	0.003
Total Persulfate Nitrogen	A 4500-N-C	0.04
Total Phosphorus	E365.1	0.003
Trace Constituents (Total Recoverable except Aluminum [Diss]⁽²⁾		
Aluminum (Al)	200.7/200.8	0.009
Antimony (Sb)	200.7/200.8	0.0005
Arsenic (As)	200.8/SM 3114B	0.001
Barium (Ba)	200.7/200.8	0.003
Beryllium (Be)	200.7/200.8	0.0008
Cadmium (Cd)	200.7/200.8	0.00003
Chromium (Cr)	200.7/200.8	0.01
Cobalt (Co)	200.7/200.8	0.01
Copper (Cu)	200.7/200.8	0.002
Iron (Fe)	200.7/200.8	0.02
Lead (Pb)	200.7/200.8	0.0003
Manganese (Mn)	200.7/200.8	0.005
Mercury (Hg)	245.2/245.1/200.8/SM 3112B	0.000005
Molybdenum (Mo)	200.7/200.8	0.002
Nickel (Ni)	200.7/200.8	0.001
Selenium (Se)	200.7/200.8/SM 3114B	0.0002
Silver (Ag)	200.7/200.8	0.0002
Strontium (Sr)	200.7/200.8	0.0002
Thallium (Tl)	200.7/200.8	0.0002
Uranium	200.7/200.8	0.008
Zinc (Zn)	200.7/200.8	0.002
Field Parameters		
Stream Flow	HF-SOP-37/-44/-46	NA
Water Temperature	HF-SOP-20	0.1 °C
Dissolved Oxygen (DO)	HF-SOP-22	0.1 mg/L
pH	HF-SOP-20	0.1 s.u.
Specific Conductance (SC)	HF-SOP-79	1 µmhos/cm

Notes:

(1) Analytical methods are from *Standard Methods for the Examination of Water and Wastewater* (SM) or EPA's *Methods for Chemical Analysis of Water and Waste* (1983).

(2) Samples to be analyzed for dissolved constituents will be field-filtered through a 0.45 µm filter.

**TABLE 3. PARAMETERS, METHODS, AND DETECTION LIMITS
FOR GROUNDWATER MONITORING**

Parameter	Analytical Method ⁽¹⁾	Project-Required Detection Limit (mg/L)
Physical Parameters		
TDS	SM 2540C	10
TSS	SM 2540C	10
Common Ions		
Alkalinity	SM 2320B	4
Sulfate	300.0	1
Chloride	300.0/SM 4500CL-B	1
Fluoride	A4500-F C	0.1
Calcium	215.1/200.7	1
Magnesium	242.1/200.7	1
Sodium	273.1/200.7	1
Potassium	258.1/200.7	1
Nutrients		
Nitrate+Nitrite as N	353.2	0.01
Trace Constituents (Dissolved)⁽²⁾		
Aluminum (Al)	200.7/200.8	0.009
Antimony (Sb)	200.7/200.8	0.0005
Arsenic (As)	200.8/SM 3114B	0.001
Barium (Ba)	200.7/200.8	0.003
Beryllium (Be)	200.7/200.8	0.0008
Cadmium (Cd)	200.7/200.8	0.00003
Chromium (Cr)	200.7/200.8	0.01
Cobalt (Co)	200.7/200.8	0.01
Copper (Cu)	200.7/200.8	0.002
Iron (Fe)	200.7/200.8	0.02
Lead (Pb)	200.7/200.8	0.0003
Manganese (Mn)	200.7/200.8	0.005
Mercury (Hg)	245.2/245.1/200.8/SM 3112B	0.000005
Molybdenum (Mo)	200.7/200.8	0.002
Nickel (Ni)	200.7/200.8	0.001
Selenium (Se)	200.7/200.8/SM 3114B	0.0002
Silver (Ag)	200.7/200.8	0.0002
Strontium (Sr)	200.7/200.8	0.0002
Thallium (Tl)	200.7/200.8	0.0002
Uranium	200.7/200.8	0.008
Zinc (Zn)	200.7/200.8	0.002
Field Parameters		
Water Level	HF-SOP-10	0.01 ft
Water Temperature	HF-SOP-20	0.1 °C
Dissolved Oxygen (DO)	HF-SOP-22	0.1 mg/L
pH	HF-SOP-20	0.1 s.u.
Specific Conductance (SC)	HF-SOP-79	1 µmhos/cm

Notes:

(1) Analytical methods are from *Standard Methods for the Examination of Water and Wastewater* (SM) or EPA's *Methods for Chemical Analysis of Water and Waste* (1983).

(2) Samples to be analyzed for dissolved constituents will be field-filtered through a 0.45 µm filter.

2.0 WATER RESOURCES MONITORING

2.1 SURFACE WATER

Surface water monitoring was conducted in accordance with methodologies described in the FSAP, which consist of the following steps:

1. Collection of field parameter;
2. Water quality sample collection; and
3. Collection of flow and stage (where applicable) measurements.

The monthly surface water monitoring was conducted in accordance with the schedule described in Section 1.0. The monthly monitoring, conducted during the April and May 2019, included the collection of field parameter measurements and water quality samples from seven sites in April and six sites in May. Flow measurements were collected from four sites in April and five sites in May; unsafe wading and flooding conditions precluded the collection of flow measurements at other sites during these monitoring events. Surface water monitoring site SW-18 appeared to be direct snowmelt runoff with no channelized flow during the April monitoring event and the site was dry during the May monitoring event. Duplicate samples were collected at surface water sites SW-1 in April and at SW-14 in May.

The quarterly surface water monitoring (which includes the monthly monitoring sites) was conducted in June 2019 in accordance with the schedule described in Section 1.0. The quarterly monitoring included the collection of field parameter measurements, water quality samples, and flow measurements at eight sites and field parameter and flow measurements at five sites. Surface water monitoring sites SW-5 and SW-18 were dry during the quarterly monitoring event and therefore measurements and samples were not collected. A duplicate sample was collected at surface water site SW-6 in June.

2.2 SPRINGS

The spring and seep monitoring was conducted in accordance with methodologies described in the FSAP, which consist of the following steps:

- Collection of field parameter measurements;
- Water quality sample collection; and
- Collection of flow measurements.

The monthly spring monitoring was conducted in accordance with the schedule described in Section 1.0.

The April monthly spring monitoring included the collection of field parameters, water quality samples, and flow measurements at five sites; field parameters and flow measurements at five sites; and field parameter measurements and water quality samples at five sites. The spring DS-2 and SP-11 were not monitored in April due to frozen (DS-2) and unsafe access due to wading conditions (SP-11). A duplicate sample was collected from SP-7 in April.

The May monthly spring monitoring included the collection of field parameters, water quality samples, and flow measurements at eight sites; field parameters and flow measurements at six sites; and field parameter measurements and water quality samples at two sites. The monitoring site SP-11 was not monitored in May due to unsafe access due to wading conditions. A duplicate sample was collected from DS-1 in May.

The June spring monthly monitoring included the collection of field parameters, water quality samples, and flow measurements at eight sites; field parameters and flow measurements at six sites; and field parameter measurements and water quality samples at three sites. Flow measurements were not collected at DS-4, SP-11, and SP-12 due to the flow not being within a discernable channel (DS-4 and SP-11) and unsafe access (SP-12). A duplicate sample was collected at monitoring site SP-5 in June.

2.3 GROUNDWATER

The groundwater monitoring conducted in the second quarter of 2019 consisted of the measurement of SWL and collection of field parameter measurements and water quality samples during the quarterly monitoring event in June, according to the schedule described in Section 1.0. Supplemental water level monitoring is conducted at core hole SC12-116 and from five vibrating wire piezometers (VWP) in core holes SC19-246 (GEOT18-7; 1 VWP), SC19-248 (GEOT18-8 (2 VWPs), and SC19-249 (GEOT18-9; 2 VWPs) for purpose of constructing the potentiometric surface for the site (Figure 4). Water quality monitoring is not conducted at the test wells when the ground is frozen or fully saturated to assure purge water does not discharge to any surface waters. Monitoring well SC15-184 and test well PW-7 are flowing artesian wells, which are shut in, and therefore SWL measurements are not collected from these sites.

The groundwater monitoring was conducted in accordance with methodologies described in the FSAP, which consist of the following steps:

1. Measurement of SWL;
2. Well purging and monitoring for field parameter stabilization; and
3. Water quality sample collection.

In June 2019, SWL measurements were collected from 26 monitoring wells, nine test wells, 15 piezometers, and five vibrating wire piezometers. Field parameter measurements and water quality samples were collected from 25 monitoring wells and six test wells. Water quality monitoring was not conducted at test well PW-7 during the second quarter due to no field access. Additionally, water quality samples, field parameter measurements, and SWL measurements were not collected from wells MW-14 and MW-15 due to the remaining dye in the wells from the Eastern underground irrigation galleries (UIG) tracer study. A duplicate sample was collected from PW-8 in June.

3.0 RESULTS

The water level data collected during the second quarter of 2019 are provided in Table 4 and a comparison of vertical hydraulic gradients is provided in Table 5. The field parameter measurements and analytical results for samples collected during the second quarter of 2019 are presented in Table 6 (surface water), Table 7 (springs), and Table 8 (groundwater). The laboratory analytical data reports for these monitoring events are in Appendix A and the quality assurance/quality control (QA/QC) program review summaries are in Appendix B. Below is a brief summary of the monitoring results.

3.1 STREAMFLOW

Stream flows measured at surface water monitoring sites during the fourth quarter of 2019 were within the range of previous data and are summarized by water body and described below.

Sheep Creek

Flow measurements at Sheep Creek surface water monitoring sites (SW-1, SW-2, and USGS-SC1) were consistent with previous values and ranged from 62.3 cfs at the upstream site (USGS-SC1) in June to 199.5 cfs at the downstream site (SW-1) in May. Flow measurements were not collected at USGS-SC1 in April and USGS-SC1 and SW-2 in May due to frozen conditions precluding safe access and accurate measurements at USGS-SC1 (April) and unsafe wading conditions at USGS-SC1 and SW-2 in May.

Little Sheep Creek

Flow measurements at Little Sheep Creek surface water monitoring sites (SW-8 and SW-14) in the second quarter of 2019 were consistent with the range of previous values, ranging from approximately 1.5 cfs at the upstream site (SW-8) in June to 15.5 cfs at the downstream site (SW-14) in April.

Coon Creek

Flow measurements at Coon Creek surface water monitoring sites SW-3 and SW-18 were not collected in April due to flooding conditions (SW-3) and non-channelized flow (SW-18).

Additionally, flow measurements were not collected at SW-18 in May and June due to dry conditions. The flow measurements at SW-3, SW-4, and SW-17 were consistent with previous values, ranging from approximately 4.4 cfs at the downstream site (SW-17) in April to 0.1 cfs at the medial site (SW-3) in June.

Brush Creek

The flow measurement at the Brush Creek surface water monitoring site (SW-6) in June was consistent with previously measured values at a flow rate of approximately 0.6 cfs.

Black Butte Creek

Flow measurements at Black Butte Creek surface water monitoring sites SW-9, SW-10, SW-11, and SW-19 ranged from approximately 0.8 cfs at the upstream site (SW-19) to 2.7 cfs at the downstream site (SW-11) in June. Flow measurements were not collected at SW-19 in April due to flooding conditions; however, the measurement collected at the site in May was 1.3 cfs. Additionally, flow measurements were not collected at SW-5 (tributary to Black Butte Creek) due to dry conditions.

3.2 SPRING FLOW

The flow measurements collected during the second quarter of 2019 were consistent with previous values; measurements were collected from SP-4 and SP-7 in April, SP-7 in May, and DS-1, SP-4, SP-6, and SP-7 in June. The flow rate at SP-7 ranged from 15.3 gpm (April) to 8.1 gpm (May) and the flow rate at SP-4 ranged from 3.4 gpm (April) to 2.6 gpm (June). The flow measurements at DS-1 and SP-6 in June were 2.6 gpm and 0.8 gpm, respectively. Flow measurements were not collected at other springs due to ice or dry conditions.

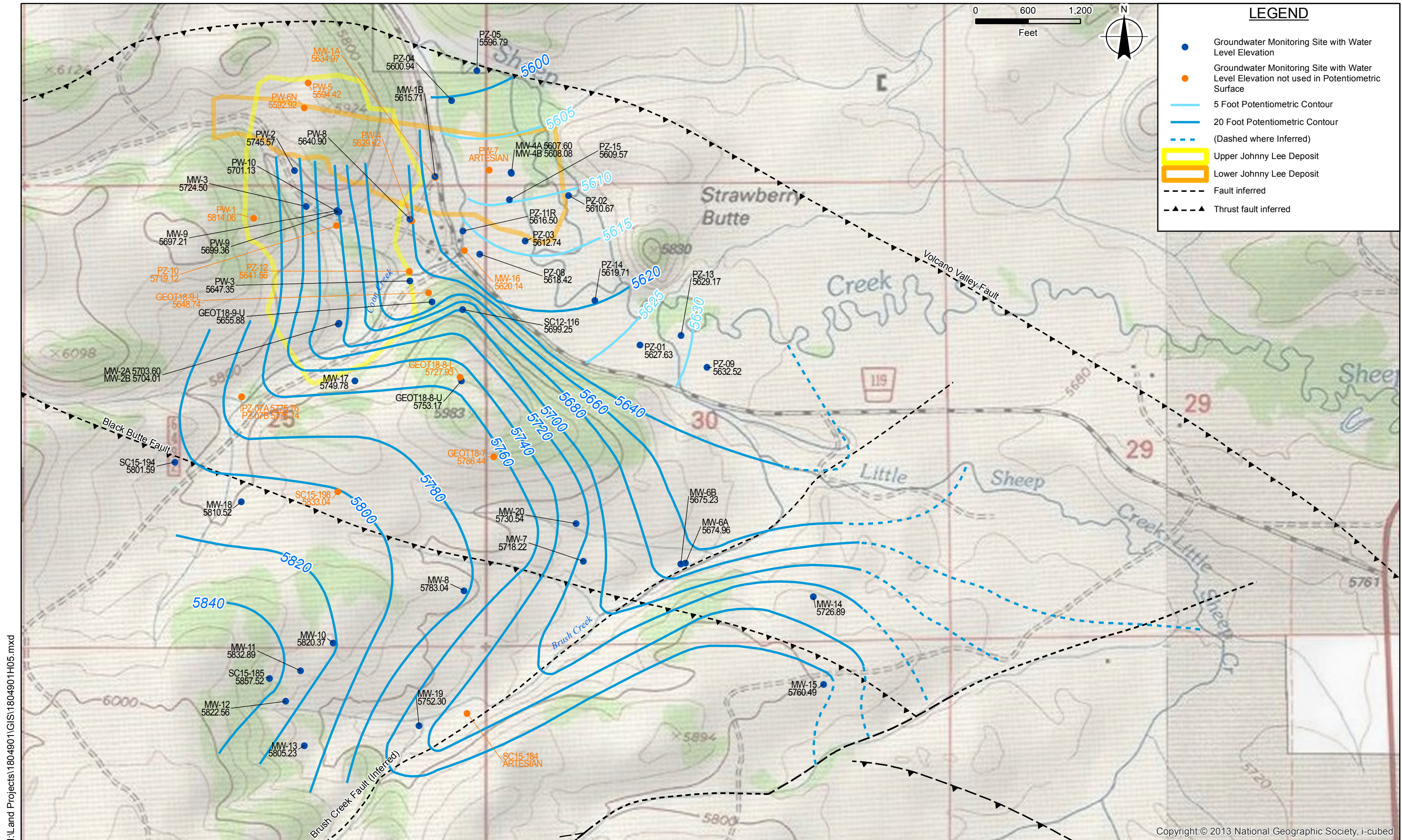
3.3 GROUNDWATER LEVELS

Groundwater levels measured in June 2019 were consistent with previous data collected during. The groundwater elevations were calculated for each well and piezometer from the SWL measurements and measuring point elevations and are listed in Table 4. The groundwater elevations were used to construct the potentiometric surface map shown on Figure 4. The potentiometric data show that the overall groundwater flow direction in the

TABLE 4. JUNE 2019 WATER LEVEL DATA SUMMARY

Well Name	Eastings	Northing	Ground Surface Elev.	Measuring Point Elev.	Static Water Level	Static Water Level	Water Level Elev.
	WGS 1984 UTM Zone 12 North		NGVD 29		Water Level	Level	Elev.
	meters		(feet, amsl ¹)		(feet, bmp ¹)	(feet, bgs ¹)	(feet, amsl)
Monitoring Wells							
MW-1A	506935.22	5180841.55	5635.81	5637.73	2.76	0.84	5634.97
MW-1B	506934.19	5180845.46	5636.14	5637.90	22.19	20.43	5615.71
MW-2A	506598.18	5180331.93	5743.72	5745.31	41.71	40.12	5703.60
MW-2B	506596.96	5180328.73	5743.44	5745.53	41.52	39.43	5704.01
MW-3	506484.07	5180740.22	5760.06	5762.17	37.67	35.56	5724.50
MW-4A	507201.47	5180855.43	5610.12	5612.12	4.52	2.52	5607.60
MW-4B	507200.12	5180858.49	5610.07	5612.07	3.99	1.99	5608.08
MW-6A	507809.18	5179492.90	5680.08	5681.87	6.91	5.12	5674.96
MW-6B	507792.76	5179490.70	5683.41	5685.31	10.08	8.18	5675.23
MW-7	507451.70	5179500.70	5747.48	5749.46	31.24	29.26	5718.22
MW-8	507036.00	5179398.30	5809.10	5810.93	27.89	26.06	5783.04
MW-9	506592.96	5180725.46	5744.35	5745.80	48.59	47.13	5697.21
MW-10	506578.57	5179215.05	5882.78	5886.11	65.74	62.41	5820.37
MW-11	506464.72	5179117.47	5854.74	5857.86	24.97	21.85	5832.89
MW-12	506412.82	5179010.38	5841.51	5844.75	22.19	18.95	5822.56
MW-13	506477.79	5178855.81	5819.07	5822.48	17.25	13.84	5805.23
MW-14	508255.63	5179376.77	5761.16	5763.87	36.98	34.27	5726.89
MW-15	508290.89	5179071.07	5795.26	5797.34	36.85	34.77	5760.49
MW-16	507036.30	5180586.21	5623.73	5625.59	5.45	3.59	5620.14
MW-17	506654.57	5180130.74	5793.51	5796.06	46.28	43.73	5749.78
MW-18	506257.38	5179707.93	5819.62	5821.97	11.45	9.10	5810.52
MW-19	506878.42	5178925.74	5758.95	5761.07	8.77	6.65	5752.30
MW-20	507426.69	5179631.58	5748.75	5750.62	20.08	18.21	5730.54
SC12-116	507030.00	5180380.00	--	5793.89	94.64	--	5699.25
SC15-184	507045.30	5178968.70	5743.83	5745.56	Artesian	--	--
SC15-185	506355.52	5179091.15	5879.64	5881.72	24.20	22.12	5857.52
SC15-194	506025.67	5179847.22	5817.96	5819.82	18.23	16.37	5801.59
SC15-198	506594.08	5179743.42	5865.75	5867.60	34.56	32.71	5833.04
Test Wells							
PW-1	506301.42	5180698.40	5912.07	5913.74	99.68	98.01	5814.06
PW-2	506443.15	5180865.00	5793.08	5794.88	49.31	47.51	5745.57
PW-3	506846.43	5180479.42	5655.21	5657.42	10.07	7.86	5647.35
PW-4	506849.44	5180688.26	5678.13	5680.01	50.39	48.51	5629.62
PW-5	506490.68	5181172.77	5913.22	5915.49	321.07	318.80	5594.42
PW-6N	506477.44	5181085.67	5895.43	5897.40	304.48	302.51	5592.92
PW-7	507122.89	5180867.59	5609.11	5611.15	Artesian	--	--
PW-8	506846.19	5180695.53	5679.12	5680.60	39.70	38.22	5640.90
PW-9	506598.38	5180721.88	5743.59	5745.05	45.69	44.23	5699.36
PW-10	506593.55	5180721.88	5743.57	5744.84	43.72	42.44	5701.12
Piezometers							
PZ-01	507650.00	5180256.00	5628.69	5630.34	2.71	1.06	5627.63
PZ-02	507400.70	5180779.00	5611.81	5613.51	2.84	1.14	5610.67
PZ-03	507249.20	5180619.00	5616.08	5617.74	5	3.34	5612.74
PZ-04	506991.70	5181111.00	5599.34	5602.7	1.76	-1.6	5600.94
PZ-05	507080.00	5181215.00	5598.16	5599.79	3	1.37	5596.79
PZ-07A	506258.39	5180074.65	5776.57	5777.5	1.74	0.81	5775.76
PZ-07B	506258.47	5180075.00	5776.57	5777.59	2.45	1.43	5775.14
PZ-08	507090.31	5180573.81	5618.9	5621.29	2.87	0.48	5618.42
PZ-09	507883.78	5180178.58	5634.73	5637.27	4.75	2.21	5632.52
PZ-10	506589.19	5180672.48	5723.51	5727.42	8.30	4.39	5719.12
PZ-11R	507031.15	5180654.89	5618.31	5622.24	5.74	1.81	5616.5
PZ-12	506844.43	5180513.76	5644.56	5646.55	4.99	3	5641.56
PZ-13	507793.88	5180289.38	5633.16	5637.27	8.10	3.98	5629.17
PZ-14	507492.91	5180412.13	5622.66	5625.68	5.97	2.95	5619.71
PZ-15	507193.65	5180762.85	5611.60	5614.45	4.88	2.03	5609.57
GEOT18-7	507127.93	5179860.23	5955.09	--	--	--	5786.44
GEOT18-8	507026.14	5180131.59	5972.28	--	--	--	5753.17
	507021.60	5180144.08	5972.28	--	--	--	5727.93
GEOT18-9	506923.28	5180406.49	5790.95	--	--	--	5655.88
	506911.63	5180438.52	5790.95	--	--	--	5648.74

¹amsl: above mean sea level; bmp: below measuring point; bgs: below ground surface



I:\Land Projects\1804901\GIS\1804901\H05.mxd

Copyright:© 2013 National Geographic Society, i-cubed

bedrock is generally towards Sheep Creek, with an eastward flow direction in the vicinity of the Johnny Lee Deposit and a northeastern flow direction in the area between Coon Creek and Brush Creek (Figure 4). The hydraulic gradients in the bedrock aquifer were consistent with previous results, ranging from 0.04 to 0.07; the steepest gradient is located in the northern portion of the study area near wells MW-3 and PW-4; and the lower gradient is located in the area north of MW-8. Within the alluvial system, the gradient is approximately an order of magnitude lower (0.008), as evaluated from PZ-14 to PZ-05 and PZ-09 to PZ-14.

Vertical hydraulic gradients were evaluated in the areas where there are paired wells and triplicate wells as shown in Figure 4. The vertical gradients calculated from water level data in the second quarter of 2019 are similar to historic data and are listed in Table 5.

TABLE 5. SUMMARY OF VERTICAL HYDRAULIC GRADIENTS

Shallow Well	Deep Well	Location	Head Differential (ft)	Vertical Gradient (ft/ft)	Direction
MW-1A	MW-1B	Eastern edge of the Upper Johnny Lee Deposit	16.55	-0.261	Down
MW-2A	MW-2B	Southern portion of the Upper Johnny Lee Deposit	0.33	0.018	Up
MW-4A	MW-4B	Sheep Creek alluvial valley	0.45	0.015	Up
MW-6A	MW-6B	Near Brush Creek	0.15	<0.01	ND ¹
PW-8	PW-4	Eastern edge of the Upper Johnny Lee Deposit	9.40	-0.155	Down
MW-9	PW-9	Central area of the Upper Johnny Lee Deposit	2.47	0.021	Up
PW-9	PW-10	Central area of the Upper Johnny Lee Deposit	1.66	0.016	Up

¹ ND – vertical gradient is not discernable

3.4 WATER QUALITY DATA

The concentration of dissolved aluminum and iron exceeded Chronic Aquatic Life Standards in April 2019 at three sites on Sheep Creek (SW-1, SW-2, and USGS-SC1). There were no exceedances of applicable Aquatic Life or Human Health Standards for other surface water sites or springs during the second quarter of 2019 (Table 6 and Table 7).

TABLE 6. SECOND QUARTER 2019 SURFACE WATER QUALITY SUMMARY

Station Name	Reporting Units	Aquatic Life Standard Chronic*	Human Health Standard Surface water	SW-1	SW-1	SW-1	SW-1	SW-2	SW-2	SW-2	SW-3	SW-3	SW-3	SW-4	SW-5	SW-6	SW-6	SW-8	SW-9	SW-10
Sample Date				4/24/19 08:30	4/24/19 09:00	5/30/19 08:40	6/19/19 08:45	4/24/19 10:25	5/30/19 10:45	6/19/19 09:30	4/23/19 16:15	5/30/19 11:40	6/19/19 15:25	6/19/19 12:30	6/19/19 12:50	6/20/19 11:15	6/20/19 11:30	6/20/19 13:15	6/18/19 14:25	6/18/19 15:50
Sample ID				BBC-1904-113	BBC-1904-114	BBC-1905-115	BBC-1906-109	BBC-1904-116	BBC-1905-119	BBC-1906-110	BBC-1904-110	BBC-1905-121	BBC-1906-123	BBC-1906-114	BBC-1906-115	BBC-1906-129	BBC-1906-130	BBC-1906-135	BBC-1906-104	BBC-1906-107
Lab Name				Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro	Energy Labs	Energy Labs	Hydro	Hydro	Hydro
Remarks					Duplicate									No Sample	No Sample		Duplicate	No Sample	No Sample	No Sample
Lab Sample ID				H19040763-016	H19040763-017	H19050914-001	H19060536-002	H19040763-019	H19050914-005	H19060536-003	H19040763-014	H19050914-007	H19060536-006	z	z	H19060536-009	H19060536-010	z	z	z
Field Parameters																				
Dissolved Oxygen	mg/L			11.11		14	9.83	11.16	12.85	9.96	9.57	11.41	9.28	7.7		8.89		8.66	7.88	7.63
Field pH	s.u.			7.76		8.24	8.24	8.03	8.35	8.3	7.97	8.34	8.46	7.94		8.05		7.95	8.14	8.25
Field Specific Conductivity	umhos/cm			179		193	286	178	201	280	238	308	379	376		379		380	418	414
Flow	Cubic Ft Sec			174.3		199.5	91.93	93.98	NM	71.76	NM	0.18	0.089	0.127	NF-DRY	0.63		1.45	2.32	1.66
Staff Gauge	Feet			1.72		1.98	1.4	1.1	1.75	1.05	0.95							0.28		
Water Temperature	Deg C			1.7		5.1	7.8	1.4	4.9	7.3	5.9	8.9	11	10.1		7.5		9.1	11.1	13.5
Physical Parameters																				
Total Dissolved Solids	mg/L			135 D	136 D	116 D	186 D	128 D	115 D	183 D	149 D	200 D	247 D			246 D	252 D			
Total Suspended Solids	mg/L			<4	54 J	16	9	<4	15	8	16 J	<4	5			13	13			
Major Constituents - Commons Ions																				
Alkalinity as CaCO3	mg/L			87	86	98	150	85	100	140	120	180	180			190	190			
Calcium (DIS)	mg/L			24	25	28	42	25	28	41	27	44	44			49	49			
Chloride	mg/L			2	2	1	1	2	1	1	2	2	2			<1	<1			
Fluoride	mg/L	4		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2			0.1	0.1			
Hardness as CaCO3	mg/L			88	90	100	148	89	98	143	116	195	198			205	205			
Magnesium (DIS)	mg/L			7	7	7	10	6	7	10	12	21	21			20	20			
Potassium (DIS)	mg/L			2	2	<1	1	1	<1	1	2	<1	<1			<1	<1			
Sodium (DIS)	mg/L			2	2	1	2	2	2	2	1	2	2			3	3			
Sulfate	mg/L			4	4	4	5	4	4	5	7	18	17			10	10			
Nutrients																				
Nitrate + Nitrite as N	mg/L		10	0.05	0.05	<0.01	0.01	0.03	<0.01	<0.01	0.02	<0.01	<0.01			0.03	0.03			
Phosphorus (TOT)	mg/L			0.095	0.089	0.021	0.018 J	0.066	0.017	0.013 J	0.076	0.006	0.009 J			0.018 J	0.025 J			
Total Nitrogen as N (Persulfate)	mg/L			0.48	0.52	0.15	0.17	0.4	0.12	0.12	0.41	0.12	0.1			0.2	0.19			
Metals - Trace Constituents																				
Aluminum (DIS)	mg/L	0.087		0.409	0.332	0.062	0.015	0.47	0.051	0.012	0.047	<0.009	<0.009			<0.009	<0.009			
Antimony (TRC)	mg/L		0.0056	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005			<0.0005	<0.0005			
Arsenic (TRC)	mg/L	0.15	0.01	0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001			<0.001	<0.001			
Barium (TRC)	mg/L		1	0.116	0.111	0.081	0.095	0.106	0.073	0.078	0.115	0.133	0.146			0.11	0.111			
Beryllium (TRC)	mg/L		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			
Cadmium (TRC)	mg/L	0.00026	0.005	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	0.00005	<0.00003	<0.00003			<0.00003	<0.00003			
Chromium (TRC)	mg/L		0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			<0.01	<0.01			
Cobalt (TRC)	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			
Copper (TRC)	mg/L	0.0029	1.3	0.003	0.003	<0.002	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002			<0.002	<0.002			
Iron (TRC)	mg/L	1		2.11 J	1.45 J	0.6	0.26	1.45 J	0.55	0.23	0.7 J	0.03 B	0.07			0.64	0.63			
Lead (TRC)	mg/L	0.00054	0.015	0.0013	0.0011	0.0003	<0.0003	0.0009	<0.0003	<0.0003	0.0018	<0.0003	<0.0003			0.0003	0.0003			
Manganese (TRC)	mg/L			0.05	0.046	0.015	0.017	0.035	0.012	0.011	0.025	<0.005	<0.005			0.043	0.046			
Mercury (TRC)	ug/L			0.023	0.025	0.011	<0.005	0.025	0.01	<0.005	0.009	<0.005	<0.005			<0.005	<0.005			
Molybdenum (TRC)	mg/L			<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002			<0.002	<0.002			
Nickel (TRC)	mg/L	0.016	0.1	0.004	0.003	0.001	<0.001	0.003	0.001	<0.001	<0.001	<0.001	<0.001			<0.001	<0.001			
Selenium (TRC)	mg/L	0.005	0.05	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002			<0.0002	<0.0002			
Silver (TRC)	mg/L		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			
Strontium (TRC)	mg/L		4	0.0708 D	0.0697 D	0.0896 L	0.124 L	0.0772 D	0.0946 L	0.126 L	0.0665 D	0.1 L	0.11 L			0.154 L	0.156 L			
Thallium (TRC)	mg/L		0.00024	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002			<0.0002	<0.0002			
Uranium (TRC)	mg/L		0.03	0.0003	0.0003	0.0002	0.0003	0.0003	0.0002	0.0003	0.0004	0.0006	0.0006			0.0006	0.0006			
Zinc (TRC)	mg/L	0.037	2	0.009	0.007	0.002 B	0.003 J	0.007	0.004 B	0.002 J	0.006	<0.002	0.002 J			0.006 J	0.003 J			

Definitions:

- J = Field Duplicate sample exceeded QA/QC comparison control limits
- U = Field Blank sample exceeded QA/QC comparison control limits
- H = Holding time exceeded QA/QC comparison control limits
- D = Reporting limit increased due to sample matrix interference
- L = The lowest available reporting limit was used per method used for analysis
- NM = Not measured
- NF-ICE = Not flowing; ice on ground
- NM-ICE = Not measured; ice prohibitive
- NF-DRY = Not flowing; Dry ground

Analyte concentration exceeds the standard for:

Aquatic Life Standard Chronic*
Human Health Standard Surface water

Calculated @ 25mg/L Hardness - detected result; Aquatic Life Standard Chronic

Source:

Montana DEQ7 June 2019

TABLE 6. SECOND QUARTER 2019 SURFACE WATER QUALITY SUMMARY (CONTINUED)

Station Name	Reporting Units	Aquatic Life Standard Chronic*	Human Health Standard Surface water	SW-11	SW-14	SW-14	SW-14	SW-14	SW-17	SW-17	SW-17	SW-18	SW-18	SW-18	SW-19	SW-19	SW-19	USGS-SC1	USGS-SC1	USGS-SC1
Sample Date				6/18/19 13:40	4/23/19 17:30	5/30/19 10:10	5/30/19 10:20	6/19/19 18:15	4/24/19 09:45	5/30/19 09:55	6/19/19 15:10	4/23/19 15:35	5/29/19 15:35	6/20/19 11:45	4/23/19 13:55	5/29/19 11:50	6/18/19 15:35	4/24/19 11:00	5/30/19 11:10	6/19/19 10:30
Sample ID				BBC-1906-103	BBC-1904-112	BBC-1905-117	BBC-1905-118	BBC-1906-126	BBC-1904-115	BBC-1905-116	BBC-1906-122	BBC-1904-109	BBC-1905-111	BBC-1906-131	BBC-1904-105	BBC-1905-101	BBC-1906-106	BBC-1904-117	BBC-1905-120	BBC-1906-111
Lab Name				Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro	Hydro	Hydro	Hydro	Energy Labs	Energy Labs	Energy Labs
Remarks							Duplicate						No Sample	No Sample	No Sample	No Sample	No Sample			
Lab Sample ID				H19060536-001	H19040763-015	H19050914-003	H19050914-004	H19060536-007	H19040763-018	H19050914-002	H19060536-005	H19040763-013	z	z	z	z	z	H19040763-020	H19050914-006	H19060536-004
Field Parameters																				
Dissolved Oxygen	mg/L			8.31	8.43	10.99		8.22	9.88	12.9	8.46	0			9.27	9.05	7.99	11.09	12.86	9.98
Field pH	s.u.			8.27	7.98	8.02		7.99	7.8	8.07	8.14	8.19			8.03	8.27	8.23	8.16	8.41	8.35
Field Specific Conductivity	umhos/cm			392	274	387		392	326	360	458	75			244	364	381	272	251	306
Flow	Cubic Ft Sec			2.68	15.54	5.87		6.53	4.36	1.37	0.75	NM	NM	NF-DRY	NM	1.34	0.79	NM-ICE	NM	62.28
Staff Gauge	Feet			0.64	1.05	0.8		0.8												
Water Temperature	Deg C			10.1	10	8.3		11.7	2.9	7.01	13.9	1			6.9	11.3	12.4	1.6	4.6	6.9
Physical Parameters																				
Total Dissolved Solids	mg/L			226 D	167 D	222 D	216 D	266 D	191 D	201 D	314 D	53 D						164 D	132 D	209 D
Total Suspended Solids	mg/L			10	18 J	<4	<4	5	54 J	<4	6	<4						40 J	19	10
Major Constituents - Commons Ions																				
Alkalinity as CaCO3	mg/L			190	130	200	200	190	150	170	190	39						130	130	150
Calcium (DIS)	mg/L			50	33	53	49	53	38	45	56	8						38	37	45
Chloride	mg/L			<1	1	2	2	4	7	5	14	<1						4	1	1
Fluoride	mg/L	4		0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	<0.1						<0.1	<0.1	<0.1
Hardness as CaCO3	mg/L			208	136	210	196	203	167	194	234	35						134	128	158
Magnesium (DIS)	mg/L			20	13	19	18	17	17	20	23	3						9	9	11
Potassium (DIS)	mg/L			1	2	1	1	1	2	<1	1	2						1	1	1
Sodium (DIS)	mg/L			2	2	2	2	2	2	2	3	<1						3	2	2
Sulfate	mg/L			16	8	11	11	8	16	18	23	<1						5	5	5
Nutrients																				
Nitrate + Nitrite as N	mg/L		10	0.09	0.04	0.04	0.05	0.05	0.07	0.03	0.03	0.03						0.05	<0.01	0.01
Phosphorus (TOT)	mg/L			0.03 J	0.028	0.008	0.008	0.011 J	0.023	0.01	0.025 J	0.095						0.054	0.018	0.009 J
Total Nitrogen as N (Persulfate)	mg/L			0.26	0.37	0.2	0.21	0.2	0.33	0.2	0.49	0.39						0.3	0.12	0.1
Metals - Trace Constituents																				
Aluminum (DIS)	mg/L	0.087		<0.009	0.029	<0.009	<0.009	<0.009	0.012	<0.009	<0.009	<0.009						0.124	0.023	<0.009
Antimony (TRC)	mg/L		0.0056	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005						<0.0005	<0.0005	<0.0005
Arsenic (TRC)	mg/L	0.15		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						<0.001	<0.001	<0.001
Barium (TRC)	mg/L		1	0.095	0.081	0.103	0.103	0.112	0.112	0.122	0.152	0.019						0.072	0.061	0.068
Beryllium (TRC)	mg/L		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
Cadmium (TRC)	mg/L	0.00026		0.005	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	0.00004						<0.00003	<0.00003	<0.00003
Chromium (TRC)	mg/L		0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01						<0.01	<0.01	<0.01
Cobalt (TRC)	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
Copper (TRC)	mg/L	0.0029	1.3	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002						<0.002	<0.002	<0.002
Iron (TRC)	mg/L	1		0.44	0.15 J	0.06 B	0.06 B	0.11	0.11 J	0.16	0.31	0.17 J						1.22	0.67	0.16
Lead (TRC)	mg/L	0.00054	0.015	0.0004	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0003						0.0007	0.0003	<0.0003
Manganese (TRC)	mg/L			0.027	<0.005	0.005	0.005	0.007	0.012	0.016	0.032	0.011						0.033	0.013	0.008
Mercury (TRC)	ug/L			<0.005	0.009	0.005	0.005	<0.005	0.005	0.007	0.007	0.01						0.011	0.01 D	<0.005
Molybdenum (TRC)	mg/L			<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002						<0.002	<0.002	<0.002
Nickel (TRC)	mg/L	0.016	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						0.002	0.002	<0.001
Selenium (TRC)	mg/L	0.005	0.05	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002						<0.0002	<0.0002	<0.0002
Silver (TRC)	mg/L		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
Strontium (TRC)	mg/L		4	0.178 L	0.079 D	0.115 L	0.116 L	0.127 L	0.115 L	0.127 L	0.0854 D	0.111 L	0.145 L	0.0172 D				0.119 D	0.119 L	0.141 L
Thallium (TRC)	mg/L		0.00024	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002						<0.0002	<0.0002	<0.0002
Uranium (TRC)	mg/L		0.03	0.0009	0.0004	0.0005	0.0005	0.0005	0.0005	0.0005	0.0008	<0.0002						0.0003	0.0003	0.0003
Zinc (TRC)	mg/L	0.037	2	0.004 J	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	0.004 J	0.003						0.004	0.002 B	0.002 J

Definitions:

- J = Field Duplicate sample exceeded QA/QC comparison control limits
- U = Field Blank sample exceeded QA/QC comparison control limits
- H = Holding time exceeded QA/QC comparison control limits
- D = Reporting limit increased due to sample matrix interference
- L = The lowest available reporting limit was used per method used for analysis
- NM = Not measured
- NF-ICE = Not flowing; ice on ground
- NM-ICE = Not measured; ice prohibitive
- NF-DRY = Not flowing; Dry ground

Analyte concentration exceeds the standard for:

Aquatic Life Standard Chronic*
Human Health Standard Surface water

Calculated @ 25mg/L Hardness - detected result; Aquatic Life Standard Chronic

Source:

Montana DEQ7 June 2019

TABLE 7. SECOND QUARTER 2019 SPRING WATER QUALITY SUMMARY

Station Name	Reporting Units	Human Health Standard Groundwater	DS-1	DS-1	DS-1	DS-1	DS-2	DS-2	DS-2	DS-3	DS-3	DS-3	DS-4	DS-4	DS-4	DS-7	DS-7	DS-7	DS-8	DS-8	DS-8	
Sample Date			4/23/19 14:40	5/29/19 14:50	5/29/19 15:00	6/20/19 12:00	4/23/19 13:00	5/29/19 13:55	6/19/19 12:05	4/24/19 12:00	5/29/19 16:15	6/19/19 13:00	4/24/19 12:25	5/29/19 16:40	6/19/19 13:20	4/24/19 13:15	5/30/19 12:00	6/19/19 14:10	4/23/19 10:30	5/29/19 12:20	6/18/19 12:30	
Sample ID			BBC-1904-107	BBC-1905-107	BBC-1905-108	BBC-1906-132	BBC-1904-104	BBC-1905-105	BBC-1906-113	BBC-1904-118	BBC-1905-112	BBC-1906-116	BBC-1904-119	BBC-1905-113	BBC-1906-117	BBC-1904-121	BBC-1905-122	BBC-1906-119	BBC-1904-100	BBC-1905-102	BBC-1906-100	
Lab Name			Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro	Hydro	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro	Hydro	Hydro	Hydro	Hydro
Remarks					Duplicate		No Sample	No Sample	No Sample								No Sample	No Sample	No Sample	No Sample	No Sample	No Sample
Lab Sample ID		H19040763-002	H19050915-002	H19050915-003	H19060535-011	z	z	z	H19040763-005	H19050915-005	H19060535-003	H19040763-006	H19050915-006	H19060535-004	z	z	z	z	z	z	z	
Field Parameters																						
Dissolved Oxygen	mg/L		8.53	916		8.83		9.9	7.69	0	7.24	6.43	9.89	8.78	7.78	9.86	11.63	9.3	10.1	10.13	9.71	
Field pH	s.u.		7.81	7.82		7.73		7.61	7.25	7.92	6.89	6.4	7.36	6.58	6.25	7.42	7.66	7.28	7.69	7.81	7.81	
Field Specific Conductivity	umhos/cm		388	421		415		193	259	32	40	45	82	92	90	229	250	228	318	395	420	
Flow	Gallons Per Min		49.8	50.9		22.67	NM	3.9	2.14	NM	12.1	13.95	NM	NM	NM	9.7	8	7.79	8.7	8.1	8	
Water Temperature	Deg C		4.5	8.3		7.1		8	8.5	7	4.7	7.3	5.4	5.9	6.9	4.9	7	7.6	5.4	4.3	5.4	
Physical Parameters																						
Total Dissolved Solids	mg/L		214	221	217	231				68	64	69	120	90	87							
Total Suspended Solids	mg/L		<10	<10	<10	<10				<10	<10	<10	<10	62	<10							
Major Constituents - Commons Ions																						
Alkalinity as CaCO3	mg/L		200	220	220	210				14	18	20	37	41	40							
Calcium (DIS)	mg/L		53	55	57	57				4	5	5	12	13	13							
Chloride	mg/L		<1	<1	<1	<1				<1	<1	<1	<1	<1	<1							
Fluoride	mg/L	4	0.1	0.1	0.1	<0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
Hardness as CaCO3	mg/L		211	220	226	227				14	19	20	41	43	42							
Magnesium (DIS)	mg/L		19	20	20	21				1	1	2	3	3	3							
Potassium (DIS)	mg/L		<1	<1	<1	<1				1	<1	1	<1	<1	<1							
Sodium (DIS)	mg/L		1	2	2	2				<1	1	1	1	1	1							
Sulfate	mg/L		14	15	15	15				1	1	1	2	3	3							
Nutrients																						
Nitrate + Nitrite as N	mg/L	10	0.24	0.13	0.13	0.16				0.05	0.11	0.15	0.27	0.24	0.25							
Metals - Trace Constituents																						
Aluminum (DIS)	mg/L		<0.009	<0.009	<0.009	<0.009				1.15	2	1.95	2.65	1.35	1.28							
Antimony (DIS)	mg/L	0.006	<0.0005	<0.0005	<0.0005	<0.0005				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005							
Arsenic (DIS)	mg/L	0.01	<0.001	<0.001	<0.001	<0.001				<0.001	<0.001	<0.001	0.002	0.001	0.001							
Barium (DIS)	mg/L	1	0.045	0.05	0.051	0.05				0.161	0.229	0.245	0.32	0.327	0.309							
Beryllium (DIS)	mg/L	0.004	<0.0008	<0.0008	<0.0008	<0.0008				<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008							
Cadmium (DIS)	mg/L	0.005	<0.00003	<0.00003	<0.00003	<0.00003				<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003							
Chromium (DIS)	mg/L	0.1	<0.01	<0.01	<0.01	<0.01				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
Cobalt (DIS)	mg/L		<0.01	<0.01	<0.01	<0.01				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
Copper (DIS)	mg/L	1.3	<0.002	<0.002	<0.002	<0.002				0.002	0.004	0.003	0.003	0.002	<0.002							
Iron (DIS)	mg/L		<0.02	<0.02	<0.02	<0.02				0.67	1.2	1.24	1.64	0.82	0.77							
Lead (DIS)	mg/L	0.015	<0.0003	<0.0003	<0.0003	<0.0003				<0.0003	0.0003	0.0003	0.0007	<0.0003	<0.0003							
Manganese (DIS)	mg/L		<0.005	<0.005	<0.005	<0.005				0.006	0.008	0.006	0.011	0.005	0.006							
Mercury (DIS)	ug/L		<0.005	<0.005	<0.005	<0.005				0.013	0.02 D	0.01	0.01	0.008	0.006							
Molybdenum (DIS)	mg/L		<0.002	<0.002	<0.002	<0.002				<0.002	<0.002	<0.002	<0.002	<0.002	<0.002							
Nickel (DIS)	mg/L	0.1	<0.001	<0.001	<0.001	<0.001				0.002	0.004	0.004	0.003	0.002	0.002							
Selenium (DIS)	mg/L	0.05	<0.0002	<0.0002	<0.0002	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002							
Silver (DIS)	mg/L	0.1	<0.0002	<0.0002	<0.0002	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002							
Strontium (DIS)	mg/L	4	0.0942	0.105	0.106	0.107				0.0185	0.0231	0.0244	0.041	0.0425	0.0396							
Thallium (DIS)	mg/L	0.002	<0.0002	<0.0002	<0.0002	<0.0002				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002							
Uranium (DIS)	mg/L	0.03	0.0005	0.0006	0.0006	0.0006				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002							
Zinc (DIS)	mg/L	2	0.01	0.009	0.009	0.007				0.004	0.006	0.006	0.006	0.004	0.006							

Definitions:
 J = Field Duplicate sample exceeded QA/QC comparison control limits
 U = Field Blank sample exceeded QA/QC comparison control limits
 H = Holding time exceeded QA/QC comparison control limits
 D = Reporting limit increased due to sample matrix interference
 L = The lowest available reporting limit was used per method used for analysis.
 NM = Not measured
 NF-ICE = Not flowing; ice on ground
 NM-ICE = Not measured; ice prohibitive
 NF-DRY = Not flowing; Dry ground

Analyte concentration exceeds the standard for:
 Human Health Standard Groundwater

Source:
 Montana DEQ7 June 2019

TABLE 7. SECOND QUARTER 2019 SPRING WATER QUALITY SUMMARY (CONTINUED)

Station Name	Reporting Units	Human Health Standard Groundwater	DS-9	DS-9	DS-9	DS-9	DS-10	DS-10	DS-10	DS-10	DS-11	DS-11	DS-11	SP-3	SP-3	SP-3	SP-4	SP-4	SP-4	SP-6	SP-6	
Sample Date			4/23/19 10:55	5/29/19 12:40	6/2/19 06:40	6/18/19 12:50	4/23/19 11:10	5/29/19 13:00	6/2/19 06:40	6/18/19 13:10	4/23/19 12:15	5/29/19 11:25	6/18/19 15:05	4/24/19 12:45	5/29/19 17:00	6/19/19 13:45	4/24/19 14:00	5/30/19 12:25	6/19/19 14:40	4/24/19 13:30	5/30/19 12:15	
Sample ID			BBC-1904-101	BBC-1905-103	BBC-1905-103	BBC-1906-101	BBC-1904-102	BBC-1905-104	BBC-1905-104	BBC-1906-102	BBC-1904-103	BBC-1905-100	BBC-1906-105	BBC-1904-120	BBC-1905-114	BBC-1906-118	BBC-1904-123	BBC-1905-124	BBC-1906-121	BBC-1904-122	BBC-1905-123	
Lab Name			Hydro	Hydro	Hydro	Hydro	Hydro	Hydro	Hydro	Hydro	Hydro	Hydro	Hydro	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
Remarks			No Sample	No Sample	No Sample	No Sample	No Sample	No Sample	No Sample	No Sample	No Sample	No Sample	No Sample									
Lab Sample ID		z	z	z	z	z	z	z	z	z	z	z	H19040763-007	H19050915-007	H19060535-005	H19040763-009	H19050915-009	H19060535-007	H19040763-008	H19050915-008		
Field Parameters																						
Dissolved Oxygen	mg/L		9.41	9.69	9.69	8.73	9.92	9.26	9.26	7.67	9.94	11.48	978	9.92	9.39	9.07	9.8	11.12	9.1	9.62	11.61	
Field pH	s.u.		7.78	7.87	7.87	7.73	7.87	7.52	7.52	7.36	7.85	7.77	7.82	7.21	7.16	7.26	7.75	7.84	7.7	7.6	7.96	
Field Specific Conductivity	umhos/cm		328	358	358	360	307	401	401	400	415	421	429	91	111	129	442	430	422	253	248	
Flow	Gallons Per Min		12.5	4	4	6.74	7.9	6.8	6.8	5	20.1	18.2	13.04	NM-ICE	8.1	2.6	42.2	34.56	25.13	4.12	3.5	
Water Temperature	Deg C		4.3	6.1	6.1	7.5	3.6	5.9	5.9	7	4.7	4.8	5.2	3.5	5.4	7.3	6.7	7.8	7.2	5.5	6.8	
Physical Parameters																						
Total Dissolved Solids	mg/L													157	119	118	248	235	241	153	149	
Total Suspended Solids	mg/L													<10	<10	<10	<10	<10	<10	<10	<10	
Major Constituents - Commons Ions																						
Alkalinity as CaCO3	mg/L													37	48	54	200	200	190	130	130	
Calcium (DIS)	mg/L													13	17	17	50	46	47	33	32	
Chloride	mg/L													1	1	<1	<1	<1	<1	<1	<1	
Fluoride	mg/L	4												0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	
Hardness as CaCO3	mg/L													46	57	58	231	214	216	133	129	
Magnesium (DIS)	mg/L													3	4	4	26	24	24	12	12	
Potassium (DIS)	mg/L													2	1	2	2	2	2	1	<1	
Sodium (DIS)	mg/L													2	2	2	2	2	2	2	2	
Sulfate	mg/L													4	7	6	39	34	33	7	10	
Nutrients																						
Nitrate + Nitrite as N	mg/L	10												0.14	0.1	0.17	0.25	0.24	0.3	0.65	0.41	
Metals - Trace Constituents																						
Aluminum (DIS)	mg/L													2.18	1.2	0.198	<0.009	<0.009	0.01	0.052	<0.009	
Antimony (DIS)	mg/L	0.006												<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Arsenic (DIS)	mg/L	0.01												0.003	0.002	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	
Barium (DIS)	mg/L	1												0.201	0.214	0.229	0.112	0.108	0.109	0.186	0.185	
Beryllium (DIS)	mg/L	0.004												<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	
Cadmium (DIS)	mg/L	0.005												<0.00003	0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	
Chromium (DIS)	mg/L	0.1												<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Cobalt (DIS)	mg/L													<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Copper (DIS)	mg/L	1.3												0.006	0.004	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	
Iron (DIS)	mg/L													1.42	0.81	0.45	<0.02	<0.02	0.03	0.03	<0.02	
Lead (DIS)	mg/L	0.015												0.0005	0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	
Manganese (DIS)	mg/L													0.009	0.005	<0.005	<0.005	<0.005	0.007	<0.005	<0.005	
Mercury (DIS)	ug/L													0.026	0.02	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	
Molybdenum (DIS)	mg/L													<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Nickel (DIS)	mg/L	0.1												0.004	0.003	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	
Selenium (DIS)	mg/L	0.05												<0.0002	<0.0002	<0.0002	0.0003	0.0003	0.0003	<0.0002	<0.0002	
Silver (DIS)	mg/L	0.1												<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Strontium (DIS)	mg/L	4												0.0398	0.0473	0.0546	0.0718	0.0698	0.0704	0.0673	0.0697	
Thallium (DIS)	mg/L	0.002												<0.0002	<0.0002	<0.0002	0.0003	0.0003	0.0003	0.0005	0.0004	
Uranium (DIS)	mg/L	0.03												<0.0002	<0.0002	<0.0002	0.0005	0.0004	0.0005	0.0004	0.0004	
Zinc (DIS)	mg/L	2												0.006	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	

Definitions:
 J = Field Duplicate sample exceeded QA/QC comparison control limits
 U = Field Blank sample exceeded QA/QC comparison control limits
 H = Holding time exceeded QA/QC comparison control limits
 D = Reporting limit increased due to sample matrix interference
 L = The lowest available reporting limit was used per method used for analysis.
 NM = Not measured
 NF-ICE = Not flowing; ice on ground
 NM-ICE = Not measured; ice prohibitive
 NF-DRY = Not flowing; Dry ground

Analyte concentration exceeds the standard for:
 Human Health Standard Groundwater

Source:
 Montana DEQ7 June 2019

TABLE 7. SECOND QUARTER 2019 SPRING WATER QUALITY SUMMARY (CONTINUED)

Station Name	Reporting Units	Human Health Standard Groundwater	SP-6	SP-7	SP-7	SP-7	SP-7	SP-10	SP-10	SP-10	SP-11	SP-11	SP-12	SP-12	SP-12	SW-7	SW-7	SW-7	SW-7	
Sample Date			6/19/19 14:30	4/24/19 14:30	4/24/19 15:00	5/30/19 13:10	6/19/19 16:40	4/23/19 14:20	5/29/19 14:20	6/18/19 16:30	5/29/19 15:30	6/19/19 11:10	4/23/19 16:45	5/30/19 12:45	6/19/19 15:55	4/23/19 15:15	5/29/19 15:15	6/20/19 12:25	6/20/19 12:50	
Sample ID			BBC-1906-120	BBC-1904-124	BBC-1904-125	BBC-1905-126	BBC-1906-125	BBC-1904-106	BBC-1905-106	BBC-1906-108	BBC-1905-110	BBC-1906-112	BBC-1904-111	BBC-1905-125	BBC-1906-124	BBC-1904-108	BBC-1905-109	BBC-1906-133	BBC-1906-134	
Lab Name			Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
Remarks					Duplicate						No Sample									Duplicate
Lab Sample ID		H19060535-006	H19040763-010	H19040763-011	H19050915-011	H19060535-009	H19040763-001	H19050915-001	H19060535-001	z	H19060535-002	H19040763-004	H19050915-010	H19060535-008	H19040763-003	H19050915-004	H19060535-012	H19060535-013		
Field Parameters																				
Dissolved Oxygen	mg/L		9.2	2.7		4.08	2.7	10.01	8.88	7.73		6.89	3.6	10.38	6.07	8.8	8.67	8.03		
Field pH	s.u.		7.67	7.65		7.36	7.24	8.03	7.98	7.69		7.27	7.51	7.84	7.71	7.8	7.84	7.76		
Field Specific Conductivity	umhos/cm		188	330		334	329	326	372	395		192	515	446	400	344	409	406		
Flow	Gallons Per Min		3.36	59.7		19.7	50.27	NM	54.8	25.13	NM	NM	NM	NM	NM	42.2	25.1	9.43		
Water Temperature	Deg C		7.2	7.4		7	7	5.6	10.1	6.2		6.5	6.5	5.5	6.8	5.3	9.3	8.4		
Physical Parameters																				
Total Dissolved Solids	mg/L		164	188	189	180	196	162	196	216		127	341	246	230	192	214	228	229	
Total Suspended Solids	mg/L		<10	<10	<10	<10	<10	399 J	<10	<10		<10	16 J	115	<10	15 J	10	<10	<10	
Major Constituents - Commons Ions																				
Alkalinity as CaCO3	mg/L		130	160	170	170	160	150	200	200		92	180	210	180	180	220	210	210	
Calcium (DIS)	mg/L		33	42	42	41	40	38	51	52		23	58	50	47	49	55	60	59	
Chloride	mg/L		<1	2	2	2	2	<1	<1	<1		<1	36	10	7	<1	<1	<1	<1	
Fluoride	mg/L	4	0.1	0.3	0.3	0.3	0.3	0.1	0.1	0.1		0.1	0.2	0.2	0.2	0.1	0.1	<0.1	<0.1	
Hardness as CaCO3	mg/L		133	163	163	161	156	147	202	204		90	254	214	200	184	209	227	221	
Magnesium (DIS)	mg/L		12	14	14	14	13	18	18	18		8	26	21	20	15	17	19	18	
Potassium (DIS)	mg/L		<1	3	3	3	3	<1	<1	<1		1	5	1	1	<1	<1	<1	<1	
Sodium (DIS)	mg/L		2	4	5	5	5	1	1	2		3	4	2	2	1	2	2	2	
Sulfate	mg/L		10	11	11	12	12	6	11	12		7	30	13	19	9	10	10	10	
Nutrients																				
Nitrate + Nitrite as N	mg/L	10	0.41	0.32	0.32	0.31	0.33	0.15	0.06	0.14		0.25	0.08	0.12	0.33	0.08	0.04	0.06	0.06	
Metals - Trace Constituents																				
Aluminum (DIS)	mg/L		<0.009	0.01	<0.009	<0.009	<0.009	0.024	<0.009	<0.009		0.079	<0.009	<0.009	<0.009	0.018	<0.009	<0.009	<0.009	
Antimony (DIS)	mg/L	0.006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Arsenic (DIS)	mg/L	0.01	<0.001	0.004	0.004	0.004	0.004	<0.001	<0.001	<0.001		0.007	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Barium (DIS)	mg/L	1	0.192	0.112	0.111	0.113	0.118	0.03	0.046	0.05		0.303	0.163	0.16	0.157	0.042	0.049	0.05	0.05	
Beryllium (DIS)	mg/L	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	<0.0008	<0.0008	
Cadmium (DIS)	mg/L	0.005	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003		<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	
Chromium (DIS)	mg/L	0.1	<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	<0.01	
Cobalt (DIS)	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	<0.01	
Copper (DIS)	mg/L	1.3	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Iron (DIS)	mg/L		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		0.04	0.78	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	
Lead (DIS)	mg/L	0.015	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	
Manganese (DIS)	mg/L		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	0.149	0.017	<0.005	<0.005	<0.005	<0.005	<0.005	
Mercury (DIS)	ug/L		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	0.023	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Molybdenum (DIS)	mg/L		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Nickel (DIS)	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Selenium (DIS)	mg/L	0.05	<0.0002	0.0003	0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002		<0.0002	0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Silver (DIS)	mg/L	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	<0.0002	<0.0002	
Strontium (DIS)	mg/L	4	0.0722	0.165	0.164	0.165	0.171	0.0748	0.102	0.109		0.104	0.112	0.103	0.0968	0.105	0.131	0.132	0.133	
Thallium (DIS)	mg/L	0.002	0.0005	0.001	0.001	0.001	0.001	<0.0002	<0.0002	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Uranium (DIS)	mg/L	0.03	0.0004	0.0009	0.0008	0.0009	0.0009	0.0004	0.0007	0.0007		0.0005	0.0006	0.0006	0.0006	0.0004	0.0006	0.0006	0.0006	
Zinc (DIS)	mg/L	2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	

Definitions:
 J = Field Duplicate sample exceeded QA/QC comparison control limits
 U = Field Blank sample exceeded QA/QC comparison control limits
 H = Holding time exceeded QA/QC comparison control limits
 D = Reporting limit increased due to sample matrix interference
 L = The lowest available reporting limit was used per method used for analysis.
 NM = Not measured
 NF-ICE = Not flowing; ice on ground
 NM-ICE = Not measured; ice prohibitive
 NF-DRY = Not flowing; Dry ground

Analyte concentration exceeds the standard for:
 Human Health Standard Groundwater

Source:
 Montana DEQ7 June 2019

The concentration of three dissolved metals exceeded Numeric Water Quality Standards (DEQ, 2019) in the second quarter of 2019, including: arsenic at MW-1B, MW-3, MW-9, PW-4, PW-8, PW-9, and PW-10; strontium at MW-3, PW-4, PW-9, and PW-10; and thallium at MW-1B, MW-2B, MW-9, and PW-8 (Table 8).

Surface Water

Surface water quality for the second quarter of 2019 was relatively similar at all of the surface water monitoring sites, which are characterized by the following:

- Calcium bicarbonate type water;
- Moderately hard to hard water;
- Near neutral to alkaline pH (6.13 s.u. to 8.23 s.u.);
- Low to moderate total dissolved solids (100 to 243 mg/L); and
- With the exception of dissolved aluminum and iron during April, detectable metals were at low level concentrations at one or more sites, including: arsenic, cadmium, copper, barium, iron, lead, manganese, mercury, strontium, uranium, zinc, and dissolved aluminum (Table 6).

The concentrations of dissolved aluminum at SW-1 (0.409 mg/L and 0.332 mg/L in the sample duplicate pair), SW-2 (0.47), and USGS-SC1 (0.124 mg/L) exceeded the 0.087 mg/L Chronic Aquatic Life Standard (DEQ, 2019) in April. Additionally, the concentrations of total recoverable iron at SW-1 (2.11 mg/L and 1.45 mg/L in the sample duplicate pair), SW-2 (1.45), and USGS-SC1 (1.22 mg/L) exceeded the 1.0 mg/L Chronic Aquatic Life Standard in April.

Springs

Water quality for the second quarter of 2019 was relatively similar at monitored sites DS-1 SP-4, SP-6, SP-7, SP-10, SP-11, and SP-12, which are characterized by the following:

- Calcium bicarbonate type water;
- Moderately hard to hard water;
- Near neutral to alkaline pH (7.1 s.u. to 8.17 s.u.);

- Low to moderate total dissolved solids (99 to 245 mg/L); and
- Low level detection of metals at one or more sites, including: dissolved aluminum, arsenic, barium, copper, iron, mercury, selenium, strontium, thallium, uranium, and zinc (Table 7).

Groundwater

Groundwater quality showed some differences related to well depths and completion zones. Brief descriptions of water quality are summarized below based on groups of wells sharing similar completion and water quality.

Wells MW-1A, MW-2A, MW-4A, and MW-6A are located in the shallow highly weathered bedrock or unconsolidated overburden and exhibited the following water quality characteristics:

- Calcium bicarbonate type water;
- Near neutral to slightly alkaline pH (7.28 s.u. to 7.73 s.u.);
- Low sulfate concentration (12 mg/L to 21 mg/L);
- Moderate total dissolved solids concentrations (187 mg/L to 274 mg/L); and
- Low concentrations of many dissolved metals, including: barium, strontium, and uranium at all wells; aluminum, copper, lead, and thallium at MW-1A; selenium at MW-2A; and manganese at MW-4A (Table 8).

The monitoring wells MW-2B, MW-4B, MW-6B, MW-7, MW-8, MW-13, MW-16, MW-17, MW-18, MW-19, MW-20, and test well PW-3 are completed in shallow bedrock and exhibit similar water quality. The water quality at the monitoring wells is characterized by the following:

- Calcium-magnesium bicarbonate type water;
- Near neutral to alkaline pH (7.29 s.u. to 8.06 s.u.);
- Low to moderate sulfate concentrations (6 mg/L to 88 mg/L) at monitoring wells and up to 149 mg/L at PW-3;

- Moderate total dissolved solids concentrations (151 mg/L to 342 mg/L) at monitoring wells and up to 463 mg/L at PW-3; and
- With the exception of thallium at MW-2B and iron at MW-16 and PW-3, there were low concentrations of numerous dissolved metals, including: barium, strontium, and uranium at all wells; arsenic, iron, manganese, selenium, and thallium at MW-2B; aluminum at MW-6B; aluminum, arsenic, iron, lead, manganese, molybdenum at MW-7; arsenic, iron, and manganese, at MW-8; arsenic, iron, manganese, and zinc at MW-16; selenium, and zinc at MW-17; aluminum and iron at MW-19; aluminum at MW-20; and arsenic, iron, manganese, and selenium at PW-3 (Table 8).

The concentration of thallium at MW-2B (0.0036 mg/L) exceeded the 0.002 mg/L groundwater Human Health Standard (DEQ, 2019) in June. The concentrations of iron at MW-16 (1.27 mg/L) and PW-3 (5.9 mg/L) in June were higher than other shallow bedrock monitoring wells (Table 8).

Monitoring wells MW-1B, MW-3, MW-9 and test wells PW-2, PW-4, PW-8, and PW-9 are completed within or near the upper sulfide zone (USZ) and exhibit similar water quality characteristics. The water quality at these wells is characterized by the following:

- Calcium-magnesium sulfate type water;
- Slightly acidic to near neutral pH (6.41 s.u. to 7.37 s.u.);
- Low to moderate sulfate concentrations (55 mg/L to 244 mg/L);
- Moderate total dissolved solids concentrations (299 mg/L to 544 mg/L); and
- With the exceptions noted below, there were low concentrations of numerous dissolved metals, including: arsenic, barium, iron, manganese, and strontium at all wells; antimony, cobalt, nickel, thallium, and zinc at MW-1B; uranium at MW-3; lead and uranium at MW-9; aluminum and uranium at PW-2; nickel, thallium, uranium, and zinc at PW-4; antimony, thallium, and uranium at PW-8; and thallium and uranium at PW-9.

The concentrations of arsenic at MW-1B (0.067 mg/L), MW-3 (0.068 mg/L), MW-9 (0.014 mg/L), PW-4 (0.06 mg/L), PW-8 (0.013 mg/L), and PW-9 (0.086 mg/L) and thallium at MW-1B (0.0113 mg/L), MW-9 (0.0027 mg/L), and PW-8 (0.026 mg/L) exceeded the 0.01 mg/L (arsenic) and 0.002 mg/L (thallium) groundwater Human Health Standards (DEQ, 2019) in June. The concentration of iron at MW-1B (18.9 mg/L) and PW-4 (11 mg/L) was elevated in comparison to its concentration at other wells, which ranged from 0.87 mg/L at PW-8 to 3.28 mg/L at PW-2 (Table 8). The concentration of strontium at MW-3 (13.6 mg/L), PW-4 (9.62 mg/L) and PW-9 (9.29 mg/L) exceeded the human health standard and were elevated in comparison to its concentration at other wells, which ranged from 0.08 mg/L at PW-2 to 1.87 mg/L at MW-1B.

The monitoring wells MW-10, MW-11, and MW-12 are completed in granodiorite and exhibit similar water quality, characterized by:

- Calcium bicarbonate water type;
- Slightly alkaline to alkaline pH (7.60 to 8.04);
- Low sulfate concentrations (4 to 11 mg/L);
- Moderate total dissolved solids concentrations (160 to 210 mg/L); and
- Low concentrations of numerous dissolved metals, including: barium, strontium, and uranium at all wells; aluminum, iron, and molybdenum at MW-10 (Table 8).

The monitoring wells SC15-184, SC15-185, SC15-194, and SC15-198 exhibit similar water quality, characterized by the following:

- Calcium bicarbonate type water;
- Slightly alkaline pH (7.71 s.u. 7.93 s.u.);
- Low sulfate concentrations (8 mg/L to 32 mg/L);
- Moderate total dissolved solids concentrations (194 mg/L to 231 mg/L); and
- Low concentrations of dissolved metals, including: barium, strontium, and uranium at all wells; selenium and zinc at SC15-184; molybdenum at SC15-185; iron at SC15-194; and selenium and zinc at SC15-198 (Table 8).

TABLE 8. SECOND QUARTER 2019 GROUNDWATER QUALITY SUMMARY

Station Name	Reporting Units	Human Health Standard Groundwater	MW-1A	MW-1B	MW-2A	MW-2B	MW-3	MW-4A	MW-4B	MW-6A	MW-6B	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-16
Sample Date			6/19/19 17:35	6/19/19 15:45	6/17/19 17:55	6/17/19 18:20	6/17/19 16:55	6/20/19 09:10	6/20/19 09:50	6/20/19 13:35	6/20/19 14:10	6/20/19 14:40	6/20/19 15:45	6/19/19 17:00	6/20/19 18:40	6/21/19 09:20	6/21/19 09:50	6/21/19 10:25	6/20/19 10:30
Sample ID			BBC-1906-215	BBC-1906-214	BBC-1906-201	BBC-1906-202	BBC-1906-200	BBC-1906-218	BBC-1906-219	BBC-1906-223	BBC-1906-224	BBC-1906-225	BBC-1906-226	BBC-1906-213	BBC-1906-227	BBC-1906-228	BBC-1906-229	BBC-1906-230	BBC-1906-220
Lab Name			Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
Remarks																			
Lab Sample ID		H19060528-016	H19060528-015	H19060528-002	H19060528-003	H19060528-001	H19060528-019	H19060528-020	H19060562-003	H19060562-004	H19060562-005	H19060562-006	H19060528-014	H19060562-007	H19060562-008	H19060562-009	H19060562-010	H19060528-021	
Field Parameters																			
Depth To Water	Feet		2.91	22.29	41.7	41.54	37.63	3.9	3.45	7.02	10.2	31.31	27.98	48.67	66.23	25.75	22.54	17.54	5.4
Dissolved Oxygen	mg/L		9.14	0.18	7.48	0.1	0.06	0.21	0.25	6.73	4.4	0.51	0.03	0.04	7.65	9.57	9.35	8.97	0.2
EH	Millivolts		191	183	284	300	166	287	224	262	244	194	84	154	272	281	284	281	156
Field pH	s.u.		7.28	6.41	7.44	7.29	7.14	7.36	7.60	7.73	7.75	7.60	8.06	7.05	8.04	7.72	7.60	7.60	7.32
Field Specific Conductivity	umhos/cm		335	555	360	418	728	484	431	397	424	509	293	708	351	296	342	388	581
Water Temperature	Deg C		8	8.6	7.8	7.7	9.6	5.1	6.5	6.1	6.5	7.9	7.3	9.2	6.5	7.6	6	5.8	6.4
Physical Parameters																			
Total Dissolved Solids	mg/L		187	422	192	248	508	274	240	223	238	308	151	505	188	160	210	221	342
Total Suspended Solids	mg/L		52	<10	<10	<10	<10	<10	<10	36	25	34	<10	<10	<10	25	<10	<10	<10
Major Constituents - Commons Ions																			
Alkalinity as CaCO3	mg/L		160	96	180	200	210	240	220	210	210	220	140	230	180	150	200	210	230
Calcium (DIS)	mg/L		44	62	41	50	72	75	64	47	41	50	23	92	44	43	58	57	71
Chloride	mg/L		1	1	1	1	1	3	2	<1	<1	4	<1	1	<1	<1	<1	<1	2
Fluoride	mg/L	4	0.2	0.2	0.3	0.3	0.8	0.1	0.1	0.2	0.6	0.3	0.2	0.5	0.2	<0.1	0.1	0.1	0.5
Hardness as CaCO3	mg/L		184	287	193	235	378	271	241	207	190	266	146	451	184	151	223	222	326
Magnesium (DIS)	mg/L		18	32	22	27	48	20	20	22	21	34	22	54	18	11	19	20	36
Potassium (DIS)	mg/L		1	3	1	2	4	1	2	<1	1	1	<1	4	2	2	<1	<1	3
Sodium (DIS)	mg/L		2	3	3	3	16	3	2	3	17	3	3	5	6	4	2	2	4
Sulfate	mg/L		15	225	21	41	221	15	15	12	22	64	16	197	4	5	11	14	88
Nutrients																			
Nitrate + Nitrite as N	mg/L	10	0.43	0.04	0.22	<0.01	<0.01	<0.01	0.06	0.15	0.11	<0.01	<0.01	<0.01	0.6	0.47	0.13	0.15	<0.01
Metals - Trace Constituents																			
Aluminum (DIS)	mg/L		0.023	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	0.011	0.011	<0.009	<0.009	0.027	<0.009	<0.009	<0.009	<0.009
Antimony (DIS)	mg/L	0.006	<0.0005	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (DIS)	mg/L	0.01	<0.001	0.067	<0.001	0.003	0.068	<0.001	<0.001	<0.001	<0.001	0.001	0.002	0.014	<0.001	<0.001	<0.001	<0.001	0.005
Barium (DIS)	mg/L	1	0.168	0.011	0.083	0.044	0.011	0.172	0.126	0.164	0.094	0.04	0.077	0.014	0.211	0.149	0.051	0.054	0.018
Beryllium (DIS)	mg/L	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	<0.0008	<0.0008	<0.0008
Cadmium (DIS)	mg/L	0.005	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Chromium (DIS)	mg/L	0.1	<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	<0.01	<0.01
Cobalt (DIS)	mg/L		<0.01	0.02	<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
Copper (DIS)	mg/L	1.3	0.007	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (DIS)	mg/L		<0.02	18.9	<0.02	0.04	1.01	<0.02	<0.02	<0.02	<0.02	0.05	0.09	0.9	0.02	<0.02	<0.02	<0.02	1.27
Lead (DIS)	mg/L	0.015	0.0004	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0005	<0.0003	0.0014	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Manganese (DIS)	mg/L		<0.005	0.075	<0.005	0.009	0.015	0.249	<0.005	<0.005	<0.005	0.007	0.018	0.083	<0.005	<0.005	<0.005	<0.005	0.041
Mercury (DIS)	ug/L		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Molybdenum (DIS)	mg/L		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.002
Nickel (DIS)	mg/L	0.1	<0.001	0.011	<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	<0.001
Selenium (DIS)	mg/L	0.05	<0.0002	<0.0002	0.0012	0.0051	<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
Silver (DIS)	mg/L	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	<0.0002	<0.0002	<0.0002
Strontium (DIS)	mg/L	4	0.0996	1.87	0.0919	0.0951	13.6	0.163	0.167	0.14	0.217	0.148	0.0787	1.34	0.893	0.322	0.136	0.0976	0.276
Thallium (DIS)	mg/L	0.002	0.0009	0.0113	<0.0002	0.0036	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0027	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Uranium (DIS)	mg/L	0.03	0.0009	<0.0002	0.0005	0.0022	0.0011	0.0004	0.0006	0.0006	0.0006	0.0019	0.0008	0.0009	0.0051	0.0015	0.0007	0.0005	0.0017
Zinc (DIS)	mg/L	2	<0.002	0.012	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004

Definitions:
 J = Field Duplicate sample exceeded QA/QC comparison control limits
 U = Field Blank sample exceeded QA/QC comparison control limits
 H = Holding time exceeded QA/QC comparison control limits
 D = Reporting limit increased due to sample matrix interference
 L = The lowest available reporting limit was used per method used for analysis.
 NM = Not measured
 NF-ICE = Not flowing; ice on ground
 NM-ICE = Not measured; ice prohibitive
 NF-DRY = Not flowing; Dry ground

Analyte concentration exceeds the standard for:
 Human Health Standard Groundwater

Source:
 Montana DEQ-7, June 2019

TABLE 8. SECOND QUARTER 2019 GROUNDWATER QUALITY SUMMARY (CONTINUED)

Station Name	Reporting Units	Human Health Standard Groundwater	MW-17	MW-18	MW-19	MW-20	SC15-184	SC15-185	SC15-194	SC15-198	PW-2	PW-3	PW-4	PW-8	PW-8	PW-9	PW-10
Sample Date			6/21/19 12:35	6/21/19 11:45	6/21/19 11:00	6/20/19 12:55	6/17/19 17:50	6/18/19 10:40	6/18/19 11:50	6/18/19 09:00	6/18/19 12:20	6/20/19 10:55	6/19/19 17:00	6/19/19 10:05	6/19/19 10:30	6/18/19 18:30	6/18/19 15:30
Sample ID			BBC-1906-232	BBC-1906-221	BBC-1906-231	BBC-1906-222	BBC-1906-203	BBC-1906-205	BBC-1906-206	BBC-1906-204	BBC-1906-207	BBC-1906-217	BBC-1906-212	BBC-1906-210	BBC-1906-211	BBC-1906-209	BBC-1906-208
Lab Name			Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
Remarks															Duplicate		
Lab Sample ID			H19060562-012	H19060562-001	H19060562-011	H19060562-002	H19060528-004	H19060528-006	H19060528-007	H19060528-005	H19060528-008	H19060528-018	H19060528-013	H19060528-011	H19060528-012	H19060528-010	H19060528-009
Field Parameters																	
Depth To Water	Feet		46.6	11.95	8.97	21.9	NM	24.18	18.22	34.64	49.29	10.1	50.36	39.76	39.76	45.69	43.78
Dissolved Oxygen	mg/L		6.62	7.72	7.67	9.25	7.32	4.5	0.42	6.94	0.04	0.02	0.26	0.03	0.03	0.02	0.77
EH	Millivolts		279	271	279	251	508	480	241	465	81	71	105	139	139	148	169
Field pH	s.u.		7.74	7.78	7.57	7.81	7.93	7.84	7.76	7.71	7.37	7.35	7.01	7.16	7.16	7.10	7.34
Field Specific Conductivity	umhos/cm		358	337	329	364	365	395	379	421	517	684	604	508	508	751	697
Water Temperature	Deg C		6.8	4.4	6	6.7	6.6	6.6	7.7	6.7	8.4	6.7	8.6	8	8	8.7	9.9
Physical Parameters																	
Total Dissolved Solids	mg/L		203	187	202	205	194	217	207	231	299	463	405	322	325	544	501
Total Suspended Solids	mg/L		<10	<10	<10	19	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10
Major Constituents - Commons Ions																	
Alkalinity as CaCO3	mg/L		190	190 H	180	190	180	200	160	210	230	250	160	180	180	210	210
Calcium (DIS)	mg/L		43	43	48	43	41	47	44	48	57	89	74	65	68	87	77
Chloride	mg/L		1	<1	<1	<1	<1	<1	<1	2	1	1	1	<1	<1	1	<1
Fluoride	mg/L	4	0.2	<0.1	0.1	0.1	0.2	0.1	0.3	0.1	0.8	0.4	0.3	0.4	0.4	0.6	0.8
Hardness as CaCO3	mg/L		206	176	196	194	206	208	211	227	283	419	340	294	308	441	394
Magnesium (DIS)	mg/L		24	17	19	21	25	22	25	26	34	48	38	32	33	54	49
Potassium (DIS)	mg/L		<1	<1	<1	<1	<1	2	<1	<1	5	4	2	2	2	3	5
Sodium (DIS)	mg/L		2	2	2	1	2	4	2	3	3	5	4	3	3	13	11
Sulfate	mg/L		9	6	13	8	15	12	32	8	55	149	163	100	101	244	204
Nutrients																	
Nitrate + Nitrite as N	mg/L	10	0.41	0.18	0.29	0.34	0.28	0.25	<0.01	0.56	0.01	0.02	0.02	<0.01	<0.01	<0.01	<0.01
Metals - Trace Constituents																	
Aluminum (DIS)	mg/L		<0.009	<0.009	0.018	0.013	<0.009	<0.009	<0.009	<0.009	0.011	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Antimony (DIS)	mg/L	0.006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	0.0008	<0.0005	<0.0005
Arsenic (DIS)	mg/L	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.005	0.006	0.06	0.013	0.013	0.086	0.059
Barium (DIS)	mg/L	1	0.253	0.092	0.077	0.176	0.086	0.065	0.034	0.307	0.033	0.012	0.041	0.037	0.037	0.012	0.036
Beryllium (DIS)	mg/L	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	<0.0008
Cadmium (DIS)	mg/L	0.005	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Chromium (DIS)	mg/L	0.1	<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
Cobalt (DIS)	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
Copper (DIS)	mg/L	1.3	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Iron (DIS)	mg/L		<0.02	<0.02	0.02	<0.02	<0.02	<0.02	0.03	<0.02	3.28	5.9	11	0.87	0.89	2.18	0.39
Lead (DIS)	mg/L	0.015	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0077	0.0076	<0.0003	<0.0003
Manganese (DIS)	mg/L		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.059	0.047	0.142	0.1	0.099	0.04	0.143
Mercury (DIS)	ug/L		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Molybdenum (DIS)	mg/L		<0.002	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nickel (DIS)	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.005 D	<0.001	<0.001	<0.001	<0.001
Selenium (DIS)	mg/L	0.05	0.001	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Silver (DIS)	mg/L	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	<0.0002
Strontium (DIS)	mg/L	4	0.105	0.0894	0.148	0.0591	0.116	0.234	0.0678	0.098	0.0846	0.331	9.62	0.745	0.755	9.29	13.2
Thallium (DIS)	mg/L	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	0.0026	0.0026	0.0009	<0.0002
Uranium (DIS)	mg/L	0.03	0.0009	0.0004	0.0007	0.0005	0.001	0.003	0.0008	0.0007	0.0003	0.0013	0.0012	0.001	0.001	0.0014	0.0009
Zinc (DIS)	mg/L	2	0.007	<0.002	<0.002	<0.002	0.013	<0.002	<0.002	0.006	<0.002	<0.002	0.005	<0.002	<0.002	<0.002	<0.002

Definitions:
 J = Field Duplicate sample exceeded QA/QC comparison control limits
 U = Field Blank sample exceeded QA/QC comparison control limits
 H = Holding time exceeded QA/QC comparison control limits
 D = Reporting limit increased due to sample matrix interference
 L = The lowest available reporting limit was used per method used for analysis.
 NM = Not measured
 NF-ICE = Not flowing; ice on ground
 NM-ICE = Not measured; ice prohibitive
 NF-DRY = Not flowing; Dry ground

Analyte concentration exceeds the standard for:
 Human Health Standard Groundwater

Source:
 Montana DEQ-7, June 2019

The test well PW-10 is completed in deeper bedrock comprised of dolomitic shale below the USZ. The groundwater at PW-10 is characterized by the following:

- Calcium-magnesium bicarbonate-sulfate type water;
- Near neutral pH (7.34 s.u.);
- Moderate sulfate concentrations (204 mg/L);
- Moderate total dissolved solids concentrations (501 mg/L); and
- With the exception of arsenic and strontium, low concentrations of dissolved metals, including: arsenic, barium, iron, manganese, strontium, and uranium (Table 8).

The concentration of arsenic (0.059 mg/L) and strontium (13.2 mg/L) at PW-10 exceeded the 0.01 mg/L (arsenic) and 4 mg/L (strontium) human health standards in June.

The concentration of arsenic (0.059 mg/L) and strontium (13.2 mg/L) and at PW-10 exceeded the 0.01 mg/L (arsenic) and 4.0 mg/L (strontium) groundwater Human Health Standard (DEQ, 2019) in June.

3.5 QUALITY CONTROL

The field quality control sample plan consists of collecting one field duplicate and one field blank sample for each source water (groundwater, surface water, and springs) and one rinsate blank for the groundwater sampling equipment during each monitoring event. Field duplicate samples are replicate samples, collected from a single sampling location, to evaluate the reproducibility (precision) of the field sampling protocols. The field blank samples are collected to evaluate potential contamination from ambient conditions during sampling, sample containers and preservatives, and laboratory processing and analysis. For the purposes of this project, field duplicates were collected by rinsing and filling two samples containers consecutively from the sampling location and preserving. The field blank samples are collected by rinsing and pouring deionized (DI) water into sample containers and preserving. The rinsate (equipment) blanks, collected for groundwater quality sample analysis, consisted of sampling DI water after being processed through decontaminated sampling equipment (including filtration equipment as appropriate), collected into sample

containers and preserved. The field quality control samples are identified with a sequential sample code and are submitted blind to the same laboratory.

The data quality for the monitoring conducted in the second quarter of 2019 was evaluated using standard laboratory QC samples and field duplicates, blanks, and rinsate blanks. Field duplicates were collected at SW-14 and SP-7 in April, SW-1 and SP-4 in May, and SW-14, SP-6, and MW-6A in June 2019. Data quality reviews and QA/QC results for the second quarter are provided in Appendix B and a summary of field QC sample quality control limit exceedances are provided below. The QA/QC data did not indicate any systematic data quality issues for the second quarter of 2019.

April monitoring event:

- Field blank and duplicate control limits were not exceeded in April.

May monitoring event:

- One field blank for spring monitoring reported concentrations for dissolved iron and strontium above the project required detection limits (PRDL).
- Field duplicate control limits were not exceeded in May.

June monitoring event:

- One field blank for spring monitoring reported concentrations for dissolved nickel above the PRDL.
- Field duplicate control limits were not exceeded in June.

4.0 REFERENCES

- DEQ, 2019. Circular DEQ-7 Montana Numeric Water Quality Standards. Montana Department of Environmental Quality – Water Quality Planning Bureau – Water Quality Standards and Modeling Section. June 2019.
- EPA, 1983. Methods for Chemical Analysis of Water and Wastes. EPA-600/14-79-020. Revised March 1983.
- Hydrometrics, Inc., 2015. Baseline Water Resources Monitoring and Hydrogeologic Investigations Report, Tintina Resources Black Butte Project. August 2015. Revised March 2017.
- Hydrometrics, Inc., 2016. Water Resources Monitoring Field Sampling and Analysis Plan, Black Butte Copper Project. June 2016.

APPENDIX A

LABORATORY ANALYTICAL REPORT



May 13, 2019

Tintina Resources Inc
PO Box 431
White Sulphur Springs, MT 59645-0431

Work Order: H19040763 Quote ID: H1216

Project Name: 18049 Black Butte Copper (GW)(SW)

Energy Laboratories Inc Helena MT received the following 21 samples for Tintina Resources Inc on 4/25/2019 for analysis.

H19040763-001	BBC-1904-106	04/23/19 14:20	04/25/19	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Fluoride Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Mercury Digestion by E245.1 Solids, Total Dissolved Solids, Total Suspended
H19040763-002	BBC-1904-107	04/23/19 14:40	04/25/19	Groundwater	Same As Above
H19040763-003	BBC-1904-108	04/23/19 15:15	04/25/19	Groundwater	Same As Above
H19040763-004	BBC-1904-111	04/23/19 16:45	04/25/19	Groundwater	Same As Above
H19040763-005	BBC-1904-118	04/24/19 12:00	04/25/19	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Fluoride Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Metals Digestion by E200.2 Mercury Digestion by E245.1 Solids, Total Dissolved Solids, Total Suspended
H19040763-006	BBC-1904-119	04/24/19 12:25	04/25/19	Groundwater	Same As Above
H19040763-007	BBC-1904-120	04/24/19 12:45	04/25/19	Groundwater	Same As Above
H19040763-008	BBC-1904-122	04/24/19 13:30	04/25/19	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Fluoride Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Mercury Digestion by E245.1 Solids, Total Dissolved Solids, Total Suspended
H19040763-009	BBC-1904-123	04/24/19 14:00	04/25/19	Groundwater	Same As Above
H19040763-010	BBC-1904-124	04/24/19 14:30	04/25/19	Groundwater	Same As Above

H19040763-011	BBC-1904-125	04/24/19 15:00	04/25/19	Groundwater	Same As Above
H19040763-012	BBC-1904-126	04/24/19 15:30	04/25/19	Groundwater	Same As Above
H19040763-013	BBC-1904-109	04/23/19 15:35	04/25/19	Surface Water	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Total Recoverable Fluoride Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by E200.2 Mercury Digestion by E245.1 E365.1 Digestion, Total P Nitrogen, Total Persulfate A4500 N-C Phosphorus, Total Solids, Total Dissolved Solids, Total Suspended
H19040763-014	BBC-1904-110	04/23/19 16:15	04/25/19	Surface Water	Same As Above
H19040763-015	BBC-1904-112	04/23/19 17:30	04/25/19	Surface Water	Same As Above
H19040763-016	BBC-1904-113	04/24/19 8:30	04/25/19	Surface Water	Same As Above
H19040763-017	BBC-1904-114	04/24/19 9:00	04/25/19	Surface Water	Same As Above
H19040763-018	BBC-1904-115	04/24/19 9:45	04/25/19	Surface Water	Same As Above
H19040763-019	BBC-1904-116	04/24/19 10:25	04/25/19	Surface Water	Same As Above
H19040763-020	BBC-1904-117	04/24/19 11:00	04/25/19	Surface Water	Same As Above
H19040763-021	BBC-1904-127	04/24/19 16:00	04/25/19	Surface Water	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, 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. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



Assistant Laboratory Manager-Helena, MT

Digitally signed by
Amanda B. Carlson
Date: 2019.05.13 14:19:27 -06:00



Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763

05/13/19

TSS was re-analyzed for sample BBC-1904-126 (H19040763-012) to confirm analytical result. The re-analysis, and analytical duplicate are reported. abc 5/13/19



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-001
BBC-1904-106

05/13/19
04/23/19 14:20
04/25/19
Groundwater

Solids, Total Suspended TSS @ 105 C	399 mg/L	10	A2540 D	04/25/19 12:06 / cmm
Solids, Total Dissolved TDS @ 180 C	162 mg/L	10	A2540 C	04/25/19 12:15 / cmm
Alkalinity, Total as CaCO3	150 mg/L	4	A2320 B	04/25/19 12:52 / SRW
Chloride	ND mg/L	1	E300.0	04/27/19 21:58 / SRW
Sulfate	6 mg/L	1	E300.0	04/27/19 21:58 / SRW
Fluoride	0.1 mg/L	0.1	4 A4500-F C	04/26/19 10:12 / SRW
Hardness as CaCO3	147 mg/L	1	A2340 B	04/30/19 08:45 / sld
Nitrogen, Nitrate+Nitrite as N	0.15 mg/L	0.01	E353.2	04/30/19 10:39 / cmm
Aluminum	0.024 mg/L	0.009	E200.8	04/26/19 19:40 / sld
Antimony	ND mg/L	0.0005	E200.8	04/26/19 19:40 / sld
Arsenic	ND mg/L	0.001	E200.8	04/26/19 19:40 / sld
Barium	0.030 mg/L	0.003	E200.8	04/26/19 19:40 / sld
Beryllium	ND mg/L	0.0008	E200.8	04/26/19 19:40 / sld
Cadmium	ND mg/L	0.00003	E200.8	04/26/19 19:40 / sld
Calcium	38 mg/L	1	E200.7	04/29/19 20:55 / sld
Chromium	ND mg/L	0.01	E200.8	04/26/19 19:40 / sld
Cobalt	ND mg/L	0.01	E200.8	04/26/19 19:40 / sld
Copper	ND mg/L	0.002	E200.8	04/26/19 19:40 / sld
Iron	ND mg/L	0.02	E200.8	04/26/19 19:40 / sld
Lead	ND mg/L	0.0003	E200.8	04/26/19 19:40 / sld
Magnesium	13 mg/L	1	E200.7	04/29/19 20:55 / sld
Manganese	ND mg/L	0.005	E200.8	04/26/19 19:40 / sld
Mercury	ND ug/L	0.005	E245.1	05/01/19 15:22 / dck
Molybdenum	ND mg/L	0.002	E200.8	04/26/19 19:40 / sld
Nickel	ND mg/L	0.001	E200.8	04/26/19 19:40 / sld
Potassium	ND mg/L	1	E200.7	04/29/19 20:55 / sld
Selenium	ND mg/L	0.0002	E200.8	04/26/19 19:40 / sld
Silver	ND mg/L	0.0002	E200.8	04/26/19 19:40 / sld
Sodium	1 mg/L	1	E200.7	04/29/19 20:55 / sld
Strontium	0.0748 mg/L	0.0002	E200.8	04/26/19 19:40 / sld
Thallium	ND mg/L	0.0002	E200.8	04/26/19 19:40 / sld
Uranium	0.0004 mg/L	0.0002	E200.8	04/26/19 19:40 / sld
Zinc	ND mg/L	0.002	E200.8	04/26/19 19:40 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-002
BBC-1904-107

05/13/19
04/23/19 14:40
04/25/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	04/25/19 12:06 / cmm
Solids, Total Dissolved TDS @ 180 C	214 mg/L	10	A2540 C	04/25/19 12:16 / cmm
Alkalinity, Total as CaCO3	200 mg/L	4	A2320 B	04/25/19 12:58 / SRW
Chloride	ND mg/L	1	E300.0	04/27/19 22:12 / SRW
Sulfate	14 mg/L	1	E300.0	04/27/19 22:12 / SRW
Fluoride	0.1 mg/L	0.1	4 A4500-F C	04/26/19 10:16 / SRW
Hardness as CaCO3	211 mg/L	1	A2340 B	04/30/19 08:45 / sld
Nitrogen, Nitrate+Nitrite as N	0.24 mg/L	0.01	E353.2	04/30/19 10:40 / cmm
Aluminum	ND mg/L	0.009	E200.8	04/26/19 19:42 / sld
Antimony	ND mg/L	0.0005	E200.8	04/26/19 19:42 / sld
Arsenic	ND mg/L	0.001	E200.8	04/26/19 19:42 / sld
Barium	0.045 mg/L	0.003	E200.8	04/26/19 19:42 / sld
Beryllium	ND mg/L	0.0008	E200.8	04/26/19 19:42 / sld
Cadmium	ND mg/L	0.00003	E200.8	04/26/19 19:42 / sld
Calcium	53 mg/L	1	E200.7	04/29/19 20:59 / sld
Chromium	ND mg/L	0.01	E200.8	04/26/19 19:42 / sld
Cobalt	ND mg/L	0.01	E200.8	04/26/19 19:42 / sld
Copper	ND mg/L	0.002	E200.8	04/26/19 19:42 / sld
Iron	ND mg/L	0.02	E200.8	04/26/19 19:42 / sld
Lead	ND mg/L	0.0003	E200.8	04/26/19 19:42 / sld
Magnesium	19 mg/L	1	E200.7	04/29/19 20:59 / sld
Manganese	ND mg/L	0.005	E200.8	04/26/19 19:42 / sld
Mercury	ND ug/L	0.005	E245.1	05/01/19 15:25 / dck
Molybdenum	ND mg/L	0.002	E200.8	04/26/19 19:42 / sld
Nickel	ND mg/L	0.001	E200.8	04/26/19 19:42 / sld
Potassium	ND mg/L	1	E200.7	04/29/19 20:59 / sld
Selenium	ND mg/L	0.0002	E200.8	04/26/19 19:42 / sld
Silver	ND mg/L	0.0002	E200.8	04/26/19 19:42 / sld
Sodium	1 mg/L	1	E200.7	04/29/19 20:59 / sld
Strontium	0.0942 mg/L	0.0002	E200.8	04/26/19 19:42 / sld
Thallium	ND mg/L	0.0002	E200.8	04/26/19 19:42 / sld
Uranium	0.0005 mg/L	0.0002	E200.8	04/26/19 19:42 / sld
Zinc	0.010 mg/L	0.002	E200.8	04/26/19 19:42 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-003
BBC-1904-108

05/13/19
04/23/19 15:15
04/25/19
Groundwater

Solids, Total Suspended TSS @ 105 C	15 mg/L	10	A2540 D	04/25/19 12:08 / cmm
Solids, Total Dissolved TDS @ 180 C	192 mg/L	10	A2540 C	04/25/19 12:16 / cmm
Alkalinity, Total as CaCO3	180 mg/L	4	A2320 B	04/25/19 13:07 / SRW
Chloride	ND mg/L	1	E300.0	04/27/19 23:37 / SRW
Sulfate	9 mg/L	1	E300.0	04/27/19 23:37 / SRW
Fluoride	0.1 mg/L	0.1	4 A4500-F C	04/26/19 10:24 / SRW
Hardness as CaCO3	184 mg/L	1	A2340 B	04/30/19 08:45 / sld
Nitrogen, Nitrate+Nitrite as N	0.08 mg/L	0.01	E353.2	04/30/19 10:41 / cmm
Aluminum	0.018 mg/L	0.009	E200.8	04/26/19 19:45 / sld
Antimony	ND mg/L	0.0005	E200.8	04/26/19 19:45 / sld
Arsenic	ND mg/L	0.001	E200.8	04/26/19 19:45 / sld
Barium	0.042 mg/L	0.003	E200.8	04/26/19 19:45 / sld
Beryllium	ND mg/L	0.0008	E200.8	04/26/19 19:45 / sld
Cadmium	ND mg/L	0.00003	E200.8	04/26/19 19:45 / sld
Calcium	49 mg/L	1	E200.7	04/29/19 21:03 / sld
Chromium	ND mg/L	0.01	E200.8	04/26/19 19:45 / sld
Cobalt	ND mg/L	0.01	E200.8	04/26/19 19:45 / sld
Copper	ND mg/L	0.002	E200.8	04/26/19 19:45 / sld
Iron	ND mg/L	0.02	E200.8	04/26/19 19:45 / sld
Lead	ND mg/L	0.0003	E200.8	04/26/19 19:45 / sld
Magnesium	15 mg/L	1	E200.7	04/29/19 21:03 / sld
Manganese	ND mg/L	0.005	E200.8	04/26/19 19:45 / sld
Mercury	ND ug/L	0.005	E245.1	05/01/19 15:29 / dck
Molybdenum	ND mg/L	0.002	E200.8	04/26/19 19:45 / sld
Nickel	ND mg/L	0.001	E200.8	04/26/19 19:45 / sld
Potassium	ND mg/L	1	E200.7	04/29/19 21:03 / sld
Selenium	ND mg/L	0.0002	E200.8	04/26/19 19:45 / sld
Silver	ND mg/L	0.0002	E200.8	04/26/19 19:45 / sld
Sodium	1 mg/L	1	E200.7	04/29/19 21:03 / sld
Strontium	0.105 mg/L	0.0002	E200.8	04/26/19 19:45 / sld
Thallium	ND mg/L	0.0002	E200.8	04/26/19 19:45 / sld
Uranium	0.0004 mg/L	0.0002	E200.8	04/26/19 19:45 / sld
Zinc	ND mg/L	0.002	E200.8	04/26/19 19:45 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-004
BBC-1904-111

05/13/19
04/23/19 16:45
04/25/19
Groundwater

Solids, Total Suspended TSS @ 105 C	16 mg/L	10	A2540 D	04/25/19 12:08 / cmm
Solids, Total Dissolved TDS @ 180 C	341 mg/L	10	A2540 C	04/25/19 12:16 / cmm
Alkalinity, Total as CaCO3	180 mg/L	4	A2320 B	04/25/19 13:15 / SRW
Chloride	36 mg/L	1	E300.0	04/27/19 23:51 / SRW
Sulfate	30 mg/L	1	E300.0	04/27/19 23:51 / SRW
Fluoride	0.2 mg/L	0.1	4 A4500-F C	04/26/19 10:28 / SRW
Hardness as CaCO3	254 mg/L	1	A2340 B	04/30/19 14:28 / sld
Nitrogen, Nitrate+Nitrite as N	0.08 mg/L	0.01	E353.2	04/30/19 10:43 / cmm
Aluminum	ND mg/L	0.009	E200.8	04/26/19 19:59 / sld
Antimony	ND mg/L	0.0005	E200.8	04/26/19 19:59 / sld
Arsenic	0.002 mg/L	0.001	E200.8	04/26/19 19:59 / sld
Barium	0.163 mg/L	0.003	E200.8	04/26/19 19:59 / sld
Beryllium	ND mg/L	0.0008	E200.8	04/26/19 19:59 / sld
Cadmium	ND mg/L	0.00003	E200.8	04/26/19 19:59 / sld
Calcium	58 mg/L	1	E200.7	04/29/19 21:06 / sld
Chromium	ND mg/L	0.01	E200.8	04/26/19 19:59 / sld
Cobalt	ND mg/L	0.01	E200.8	04/26/19 19:59 / sld
Copper	ND mg/L	0.002	E200.8	04/26/19 19:59 / sld
Iron	0.78 mg/L	0.02	E200.8	04/26/19 19:59 / sld
Lead	ND mg/L	0.0003	E200.8	04/26/19 19:59 / sld
Magnesium	26 mg/L	1	E200.8	04/26/19 19:59 / sld
Manganese	0.149 mg/L	0.005	E200.8	04/26/19 19:59 / sld
Mercury	0.023 ug/L	0.005	E245.1	05/01/19 15:32 / dck
Molybdenum	ND mg/L	0.002	E200.8	04/26/19 19:59 / sld
Nickel	0.002 mg/L	0.001	E200.8	04/26/19 19:59 / sld
Potassium	5 mg/L	1	E200.8	04/26/19 19:59 / sld
Selenium	0.0002 mg/L	0.0002	E200.8	04/30/19 02:32 / sld
Silver	ND mg/L	0.0002	E200.8	04/26/19 19:59 / sld
Sodium	4 mg/L	1	E200.8	04/26/19 19:59 / sld
Strontium	0.112 mg/L	0.0002	E200.8	04/26/19 19:59 / sld
Thallium	ND mg/L	0.0002	E200.8	04/26/19 19:59 / sld
Uranium	0.0006 mg/L	0.0002	E200.8	04/26/19 19:59 / sld
Zinc	0.005 mg/L	0.002	E200.8	04/30/19 02:32 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-005
BBC-1904-118

05/13/19
04/24/19 12:00
04/25/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	04/25/19 12:08 / cmm
Solids, Total Dissolved TDS @ 180 C	68 mg/L	10	A2540 C	04/25/19 12:16 / cmm
Alkalinity, Total as CaCO3	14 mg/L	4	A2320 B	04/25/19 13:24 / SRW
Chloride	ND mg/L	1	E300.0	04/28/19 00:05 / SRW
Sulfate	1 mg/L	1	E300.0	04/28/19 00:05 / SRW
Fluoride	ND mg/L	0.1	4 A4500-F C	04/26/19 10:32 / SRW
Hardness as CaCO3	14 mg/L	1	A2340 B	05/03/19 11:39 / sld
Nitrogen, Nitrate+Nitrite as N	0.05 mg/L	0.01	E353.2	04/30/19 10:46 / cmm
Aluminum	1.15 mg/L	0.009	E200.7	05/02/19 18:17 / sld
Antimony	ND mg/L	0.0005	E200.8	05/01/19 19:11 / sld
Arsenic	ND mg/L	0.001	E200.8	05/01/19 19:11 / sld
Barium	0.161 mg/L	0.003	E200.8	05/01/19 19:11 / sld
Beryllium	ND mg/L	0.0008	E200.8	05/01/19 19:11 / sld
Cadmium	ND mg/L	0.00003	E200.8	05/01/19 19:11 / sld
Calcium	4 mg/L	1	E200.7	05/02/19 18:17 / sld
Chromium	ND mg/L	0.01	E200.8	05/01/19 19:11 / sld
Cobalt	ND mg/L	0.01	E200.8	05/01/19 19:11 / sld
Copper	0.002 mg/L	0.002	E200.8	05/01/19 19:11 / sld
Iron	0.67 mg/L	0.02	E200.8	05/01/19 19:11 / sld
Lead	ND mg/L	0.0003	E200.8	05/01/19 19:11 / sld
Magnesium	1 mg/L	1	E200.7	05/02/19 18:17 / sld
Manganese	0.006 mg/L	0.005	E200.8	05/01/19 19:11 / sld
Mercury	0.013 ug/L	0.005	E245.1	05/01/19 15:35 / dck
Molybdenum	ND mg/L	0.002	E200.8	05/01/19 19:11 / sld
Nickel	0.002 mg/L	0.001	E200.8	05/02/19 20:44 / dck
Potassium	1 mg/L	1	E200.7	05/02/19 18:17 / sld
Selenium	ND mg/L	0.0002	E200.8	05/01/19 19:11 / sld
Silver	ND mg/L	0.0002	E200.8	05/02/19 20:44 / dck
Sodium	ND mg/L	1	E200.7	05/02/19 18:17 / sld
Strontium	0.0185 mg/L	0.0002	E200.8	05/01/19 19:11 / sld
Thallium	ND mg/L	0.0002	E200.8	05/01/19 19:11 / sld
Uranium	ND mg/L	0.0002	E200.8	05/01/19 19:11 / sld
Zinc	0.004 mg/L	0.002	E200.8	05/01/19 19:11 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-006
BBC-1904-119

05/13/19
04/24/19 12:25
04/25/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	04/25/19 12:08 / cmm
Solids, Total Dissolved TDS @ 180 C	120 mg/L	10	A2540 C	04/25/19 12:16 / cmm
Alkalinity, Total as CaCO3	37 mg/L	4	A2320 B	04/25/19 13:30 / SRW
Chloride	ND mg/L	1	E300.0	04/28/19 00:19 / SRW
Sulfate	2 mg/L	1	E300.0	04/28/19 00:19 / SRW
Fluoride	ND mg/L	0.1	4 A4500-F C	04/26/19 10:36 / SRW
Hardness as CaCO3	41 mg/L	1	A2340 B	05/03/19 11:39 / sld
Nitrogen, Nitrate+Nitrite as N	0.27 mg/L	0.01	E353.2	04/30/19 10:50 / cmm
Aluminum	2.65 mg/L	0.009	E200.7	05/02/19 18:36 / sld
Antimony	ND mg/L	0.0005	E200.8	05/01/19 19:13 / sld
Arsenic	0.002 mg/L	0.001	E200.8	05/01/19 19:13 / sld
Barium	0.320 mg/L	0.003	E200.8	05/01/19 19:13 / sld
Beryllium	ND mg/L	0.0008	E200.8	05/01/19 19:13 / sld
Cadmium	ND mg/L	0.00003	E200.8	05/01/19 19:13 / sld
Calcium	12 mg/L	1	E200.7	05/02/19 18:36 / sld
Chromium	ND mg/L	0.01	E200.8	05/01/19 19:13 / sld
Cobalt	ND mg/L	0.01	E200.8	05/01/19 19:13 / sld
Copper	0.003 mg/L	0.002	E200.8	05/01/19 19:13 / sld
Iron	1.64 mg/L	0.02	E200.8	05/01/19 19:13 / sld
Lead	0.0007 mg/L	0.0003	E200.8	05/01/19 19:13 / sld
Magnesium	3 mg/L	1	E200.7	05/02/19 18:36 / sld
Manganese	0.011 mg/L	0.005	E200.8	05/01/19 19:13 / sld
Mercury	0.010 ug/L	0.005	E245.1	05/01/19 15:38 / dck
Molybdenum	ND mg/L	0.002	E200.8	05/01/19 19:13 / sld
Nickel	0.003 mg/L	0.001	E200.8	05/02/19 20:47 / dck
Potassium	ND mg/L	1	E200.7	05/02/19 18:36 / sld
Selenium	ND mg/L	0.0002	E200.8	05/01/19 19:13 / sld
Silver	ND mg/L	0.0002	E200.8	05/02/19 20:47 / dck
Sodium	1 mg/L	1	E200.7	05/02/19 18:36 / sld
Strontium	0.0410 mg/L	0.0002	E200.8	05/01/19 19:13 / sld
Thallium	ND mg/L	0.0002	E200.8	05/01/19 19:13 / sld
Uranium	ND mg/L	0.0002	E200.8	05/01/19 19:13 / sld
Zinc	0.006 mg/L	0.002	E200.8	05/01/19 19:13 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-007
BBC-1904-120

05/13/19
04/24/19 12:45
04/25/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	04/25/19 12:09 / cmm
Solids, Total Dissolved TDS @ 180 C	157 mg/L	10	A2540 C	04/25/19 12:16 / cmm
Alkalinity, Total as CaCO3	37 mg/L	4	A2320 B	04/25/19 13:37 / SRW
Chloride	1 mg/L	1	E300.0	04/28/19 00:33 / SRW
Sulfate	4 mg/L	1	E300.0	04/28/19 00:33 / SRW
Fluoride	0.1 mg/L	0.1	4 A4500-F C	04/26/19 10:40 / SRW
Hardness as CaCO3	46 mg/L	1	A2340 B	05/03/19 11:39 / sld
Nitrogen, Nitrate+Nitrite as N	0.14 mg/L	0.01	E353.2	04/30/19 10:51 / cmm
Aluminum	2.18 mg/L	0.009	E200.7	05/02/19 18:47 / sld
Antimony	ND mg/L	0.0005	E200.8	05/01/19 19:15 / sld
Arsenic	0.003 mg/L	0.001	E200.8	05/01/19 19:15 / sld
Barium	0.201 mg/L	0.003	E200.8	05/01/19 19:15 / sld
Beryllium	ND mg/L	0.0008	E200.8	05/01/19 19:15 / sld
Cadmium	ND mg/L	0.00003	E200.8	05/01/19 19:15 / sld
Calcium	13 mg/L	1	E200.7	05/02/19 18:47 / sld
Chromium	ND mg/L	0.01	E200.8	05/01/19 19:15 / sld
Cobalt	ND mg/L	0.01	E200.8	05/01/19 19:15 / sld
Copper	0.006 mg/L	0.002	E200.8	05/01/19 19:15 / sld
Iron	1.42 mg/L	0.02	E200.8	05/01/19 19:15 / sld
Lead	0.0005 mg/L	0.0003	E200.8	05/01/19 19:15 / sld
Magnesium	3 mg/L	1	E200.7	05/02/19 18:47 / sld
Manganese	0.009 mg/L	0.005	E200.8	05/01/19 19:15 / sld
Mercury	0.026 ug/L	0.005	E245.1	05/01/19 15:41 / dck
Molybdenum	ND mg/L	0.002	E200.8	05/01/19 19:15 / sld
Nickel	0.004 mg/L	0.001	E200.8	05/02/19 20:49 / dck
Potassium	2 mg/L	1	E200.7	05/02/19 18:47 / sld
Selenium	ND mg/L	0.0002	E200.8	05/01/19 19:15 / sld
Silver	ND mg/L	0.0002	E200.8	05/02/19 20:49 / dck
Sodium	2 mg/L	1	E200.7	05/02/19 18:47 / sld
Strontium	0.0398 mg/L	0.0002	E200.8	05/01/19 19:15 / sld
Thallium	ND mg/L	0.0002	E200.8	05/01/19 19:15 / sld
Uranium	ND mg/L	0.0002	E200.8	05/01/19 19:15 / sld
Zinc	0.006 mg/L	0.002	E200.8	05/01/19 19:15 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-008
BBC-1904-122

05/13/19
04/24/19 13:30
04/25/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	04/25/19 15:02 / cmm
Solids, Total Dissolved TDS @ 180 C	153 mg/L	10	A2540 C	04/25/19 15:03 / cmm
Alkalinity, Total as CaCO3	130 mg/L	4	A2320 B	04/25/19 14:08 / SRW
Chloride	ND mg/L	1	E300.0	04/28/19 00:48 / SRW
Sulfate	7 mg/L	1	E300.0	04/28/19 00:48 / SRW
Fluoride	0.1 mg/L	0.1	4 A4500-F C	04/26/19 10:45 / SRW
Hardness as CaCO3	133 mg/L	1	A2340 B	04/30/19 08:45 / sld
Nitrogen, Nitrate+Nitrite as N	0.65 mg/L	0.01	E353.2	04/30/19 10:52 / cmm
Aluminum	0.052 mg/L	0.009	E200.8	04/26/19 20:03 / sld
Antimony	ND mg/L	0.0005	E200.8	04/26/19 20:03 / sld
Arsenic	ND mg/L	0.001	E200.8	04/26/19 20:03 / sld
Barium	0.186 mg/L	0.003	E200.8	04/26/19 20:03 / sld
Beryllium	ND mg/L	0.0008	E200.8	04/26/19 20:03 / sld
Cadmium	ND mg/L	0.00003	E200.8	04/26/19 20:03 / sld
Calcium	33 mg/L	1	E200.7	04/29/19 21:10 / sld
Chromium	ND mg/L	0.01	E200.8	04/26/19 20:03 / sld
Cobalt	ND mg/L	0.01	E200.8	04/26/19 20:03 / sld
Copper	ND mg/L	0.002	E200.8	04/26/19 20:03 / sld
Iron	0.03 mg/L	0.02	E200.8	04/26/19 20:03 / sld
Lead	ND mg/L	0.0003	E200.8	04/26/19 20:03 / sld
Magnesium	12 mg/L	1	E200.7	04/29/19 21:10 / sld
Manganese	ND mg/L	0.005	E200.8	04/26/19 20:03 / sld
Mercury	ND ug/L	0.005	E245.1	05/01/19 15:51 / dck
Molybdenum	ND mg/L	0.002	E200.8	04/26/19 20:03 / sld
Nickel	ND mg/L	0.001	E200.8	04/26/19 20:03 / sld
Potassium	1 mg/L	1	E200.7	04/29/19 21:10 / sld
Selenium	ND mg/L	0.0002	E200.8	04/26/19 20:03 / sld
Silver	ND mg/L	0.0002	E200.8	04/26/19 20:03 / sld
Sodium	2 mg/L	1	E200.7	04/29/19 21:10 / sld
Strontium	0.0673 mg/L	0.0002	E200.8	04/26/19 20:03 / sld
Thallium	0.0005 mg/L	0.0002	E200.8	04/26/19 20:03 / sld
Uranium	0.0004 mg/L	0.0002	E200.8	04/26/19 20:03 / sld
Zinc	ND mg/L	0.002	E200.8	04/26/19 20:03 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-009
BBC-1904-123

05/13/19
04/24/19 14:00
04/25/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	04/25/19 12:10 / cmm
Solids, Total Dissolved TDS @ 180 C	248 mg/L	10	A2540 C	04/25/19 12:17 / cmm
Alkalinity, Total as CaCO3	200 mg/L	4	A2320 B	04/25/19 14:26 / SRW
Chloride	ND mg/L	1	E300.0	04/28/19 01:02 / SRW
Sulfate	39 mg/L	1	E300.0	04/28/19 01:02 / SRW
Fluoride	0.2 mg/L	0.1	4 A4500-F C	04/26/19 10:57 / SRW
Hardness as CaCO3	231 mg/L	1	A2340 B	04/30/19 14:28 / sld
Nitrogen, Nitrate+Nitrite as N	0.25 mg/L	0.01	E353.2	04/30/19 10:53 / cmm
Aluminum	ND mg/L	0.009	E200.8	04/26/19 20:05 / sld
Antimony	ND mg/L	0.0005	E200.8	04/26/19 20:05 / sld
Arsenic	ND mg/L	0.001	E200.8	04/26/19 20:05 / sld
Barium	0.112 mg/L	0.003	E200.8	04/26/19 20:05 / sld
Beryllium	ND mg/L	0.0008	E200.8	04/26/19 20:05 / sld
Cadmium	ND mg/L	0.00003	E200.8	04/26/19 20:05 / sld
Calcium	50 mg/L	1	E200.7	04/29/19 21:33 / sld
Chromium	ND mg/L	0.01	E200.8	04/26/19 20:05 / sld
Cobalt	ND mg/L	0.01	E200.8	04/26/19 20:05 / sld
Copper	ND mg/L	0.002	E200.8	04/26/19 20:05 / sld
Iron	ND mg/L	0.02	E200.8	04/26/19 20:05 / sld
Lead	ND mg/L	0.0003	E200.8	04/26/19 20:05 / sld
Magnesium	26 mg/L	1	E200.7	04/29/19 21:33 / sld
Manganese	ND mg/L	0.005	E200.8	04/26/19 20:05 / sld
Mercury	ND ug/L	0.005	E245.1	05/01/19 15:54 / dck
Molybdenum	ND mg/L	0.002	E200.8	04/26/19 20:05 / sld
Nickel	ND mg/L	0.001	E200.8	04/26/19 20:05 / sld
Potassium	2 mg/L	1	E200.7	04/29/19 21:33 / sld
Selenium	0.0003 mg/L	0.0002	E200.8	04/30/19 02:40 / sld
Silver	ND mg/L	0.0002	E200.8	04/26/19 20:05 / sld
Sodium	2 mg/L	1	E200.7	04/29/19 21:33 / sld
Strontium	0.0718 mg/L	0.0002	E200.8	04/26/19 20:05 / sld
Thallium	0.0003 mg/L	0.0002	E200.8	04/26/19 20:05 / sld
Uranium	0.0005 mg/L	0.0002	E200.8	04/26/19 20:05 / sld
Zinc	ND mg/L	0.002	E200.8	04/26/19 20:05 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-010
BBC-1904-124

05/13/19
04/24/19 14:30
04/25/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	04/25/19 12:10 / cmm
Solids, Total Dissolved TDS @ 180 C	188 mg/L	10	A2540 C	04/25/19 12:17 / cmm
Alkalinity, Total as CaCO3	160 mg/L	4	A2320 B	04/25/19 14:34 / SRW
Chloride	2 mg/L	1	E300.0	04/28/19 01:16 / SRW
Sulfate	11 mg/L	1	E300.0	04/28/19 01:16 / SRW
Fluoride	0.3 mg/L	0.1	4 A4500-F C	04/26/19 11:05 / SRW
Hardness as CaCO3	163 mg/L	1	A2340 B	04/30/19 14:28 / sld
Nitrogen, Nitrate+Nitrite as N	0.32 mg/L	0.01	E353.2	04/30/19 10:54 / cmm
Aluminum	0.010 mg/L	0.009	E200.8	04/26/19 20:08 / sld
Antimony	ND mg/L	0.0005	E200.8	04/26/19 20:08 / sld
Arsenic	0.004 mg/L	0.001	E200.8	04/26/19 20:08 / sld
Barium	0.112 mg/L	0.003	E200.8	04/26/19 20:08 / sld
Beryllium	ND mg/L	0.0008	E200.8	04/26/19 20:08 / sld
Cadmium	ND mg/L	0.00003	E200.8	04/26/19 20:08 / sld
Calcium	42 mg/L	1	E200.7	04/29/19 21:37 / sld
Chromium	ND mg/L	0.01	E200.8	04/26/19 20:08 / sld
Cobalt	ND mg/L	0.01	E200.8	04/26/19 20:08 / sld
Copper	ND mg/L	0.002	E200.8	04/26/19 20:08 / sld
Iron	ND mg/L	0.02	E200.8	04/26/19 20:08 / sld
Lead	ND mg/L	0.0003	E200.8	04/26/19 20:08 / sld
Magnesium	14 mg/L	1	E200.7	04/29/19 21:37 / sld
Manganese	ND mg/L	0.005	E200.8	04/26/19 20:08 / sld
Mercury	ND ug/L	0.005	E245.1	05/01/19 15:58 / dck
Molybdenum	ND mg/L	0.002	E200.8	04/26/19 20:08 / sld
Nickel	ND mg/L	0.001	E200.8	04/26/19 20:08 / sld
Potassium	3 mg/L	1	E200.7	04/29/19 21:37 / sld
Selenium	0.0003 mg/L	0.0002	E200.8	04/30/19 02:42 / sld
Silver	ND mg/L	0.0002	E200.8	04/26/19 20:08 / sld
Sodium	4 mg/L	1	E200.7	04/29/19 21:37 / sld
Strontium	0.165 mg/L	0.0002	E200.8	04/26/19 20:08 / sld
Thallium	0.0010 mg/L	0.0002	E200.8	04/26/19 20:08 / sld
Uranium	0.0009 mg/L	0.0002	E200.8	04/26/19 20:08 / sld
Zinc	ND mg/L	0.002	E200.8	04/26/19 20:08 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-011
BBC-1904-125

05/13/19
04/24/19 15:00
04/25/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	04/25/19 12:10 / cmm
Solids, Total Dissolved TDS @ 180 C	189 mg/L	10	A2540 C	04/25/19 12:17 / cmm
Alkalinity, Total as CaCO3	170 mg/L	4	A2320 B	04/25/19 14:43 / SRW
Chloride	2 mg/L	1	E300.0	04/28/19 01:30 / SRW
Sulfate	11 mg/L	1	E300.0	04/28/19 01:30 / SRW
Fluoride	0.3 mg/L	0.1	4 A4500-F C	04/26/19 11:09 / SRW
Hardness as CaCO3	163 mg/L	1	A2340 B	04/30/19 14:28 / sld
Nitrogen, Nitrate+Nitrite as N	0.32 mg/L	0.01	E353.2	04/30/19 10:56 / cmm
Aluminum	ND mg/L	0.009	E200.8	04/26/19 20:10 / sld
Antimony	ND mg/L	0.0005	E200.8	04/26/19 20:10 / sld
Arsenic	0.004 mg/L	0.001	E200.8	04/26/19 20:10 / sld
Barium	0.111 mg/L	0.003	E200.8	04/26/19 20:10 / sld
Beryllium	ND mg/L	0.0008	E200.8	04/26/19 20:10 / sld
Cadmium	ND mg/L	0.00003	E200.8	04/26/19 20:10 / sld
Calcium	42 mg/L	1	E200.7	04/29/19 21:41 / sld
Chromium	ND mg/L	0.01	E200.8	04/26/19 20:10 / sld
Cobalt	ND mg/L	0.01	E200.8	04/26/19 20:10 / sld
Copper	ND mg/L	0.002	E200.8	04/26/19 20:10 / sld
Iron	ND mg/L	0.02	E200.8	04/26/19 20:10 / sld
Lead	ND mg/L	0.0003	E200.8	04/26/19 20:10 / sld
Magnesium	14 mg/L	1	E200.7	04/29/19 21:41 / sld
Manganese	ND mg/L	0.005	E200.8	04/26/19 20:10 / sld
Mercury	ND ug/L	0.005	E245.1	05/01/19 16:01 / dck
Molybdenum	ND mg/L	0.002	E200.8	04/26/19 20:10 / sld
Nickel	ND mg/L	0.001	E200.8	04/26/19 20:10 / sld
Potassium	3 mg/L	1	E200.7	04/29/19 21:41 / sld
Selenium	0.0002 mg/L	0.0002	E200.8	04/30/19 02:44 / sld
Silver	ND mg/L	0.0002	E200.8	04/26/19 20:10 / sld
Sodium	5 mg/L	1	E200.7	04/29/19 21:41 / sld
Strontium	0.164 mg/L	0.0002	E200.8	04/26/19 20:10 / sld
Thallium	0.0010 mg/L	0.0002	E200.8	04/26/19 20:10 / sld
Uranium	0.0008 mg/L	0.0002	E200.8	04/26/19 20:10 / sld
Zinc	ND mg/L	0.002	E200.8	04/26/19 20:10 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-012
BBC-1904-126

05/13/19
04/24/19 15:30
04/25/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	H	10	A2540 D	05/08/19 09:44 / cmm
Solids, Total Dissolved TDS @ 180 C	ND mg/L		10	A2540 C	04/25/19 12:18 / cmm
Alkalinity, Total as CaCO3	ND mg/L		4	A2320 B	04/25/19 14:51 / SRW
Chloride	ND mg/L		1	E300.0	04/28/19 01:44 / SRW
Sulfate	ND mg/L		1	E300.0	04/28/19 01:44 / SRW
Fluoride	ND mg/L		0.1	4 A4500-F C	04/26/19 11:13 / SRW
Hardness as CaCO3	ND mg/L		1	A2340 B	04/30/19 08:45 / sld
Nitrogen, Nitrate+Nitrite as N	ND mg/L		0.01	E353.2	04/30/19 10:57 / cmm
Aluminum	ND mg/L		0.009	E200.8	04/26/19 20:12 / sld
Antimony	ND mg/L		0.0005	E200.8	04/26/19 20:12 / sld
Arsenic	ND mg/L		0.001	E200.8	04/26/19 20:12 / sld
Barium	ND mg/L		0.003	E200.8	04/26/19 20:12 / sld
Beryllium	ND mg/L		0.0008	E200.8	04/26/19 20:12 / sld
Cadmium	ND mg/L		0.00003	E200.8	04/26/19 20:12 / sld
Calcium	ND mg/L		1	E200.7	04/29/19 21:44 / sld
Chromium	ND mg/L		0.01	E200.8	04/26/19 20:12 / sld
Cobalt	ND mg/L		0.01	E200.8	04/26/19 20:12 / sld
Copper	ND mg/L		0.002	E200.8	04/26/19 20:12 / sld
Iron	ND mg/L		0.02	E200.8	04/26/19 20:12 / sld
Lead	ND mg/L		0.0003	E200.8	04/26/19 20:12 / sld
Magnesium	ND mg/L		1	E200.7	04/29/19 21:44 / sld
Manganese	ND mg/L		0.005	E200.8	04/26/19 20:12 / sld
Mercury	ND ug/L		0.005	E245.1	05/01/19 16:04 / dck
Molybdenum	ND mg/L		0.002	E200.8	04/26/19 20:12 / sld
Nickel	ND mg/L		0.001	E200.8	04/26/19 20:12 / sld
Potassium	ND mg/L		1	E200.7	04/29/19 21:44 / sld
Selenium	ND mg/L		0.0002	E200.8	04/26/19 20:12 / sld
Silver	ND mg/L		0.0002	E200.8	04/26/19 20:12 / sld
Sodium	ND mg/L		1	E200.7	04/29/19 21:44 / sld
Strontium	ND mg/L		0.0002	E200.8	04/26/19 20:12 / sld
Thallium	ND mg/L		0.0002	E200.8	04/26/19 20:12 / sld
Uranium	ND mg/L		0.0002	E200.8	04/26/19 20:12 / sld
Zinc	ND mg/L		0.002	E200.8	04/26/19 20:12 / sld

RL - Analyte reporting limit.

QCL - Quality control limit.

H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-013
BBC-1904-109

05/13/19
04/23/19 15:35
04/25/19
Surface Water

Solids, Total Suspended TSS @ 105 C	ND mg/L		4	A2540 D	04/25/19 12:11 / cmm
Solids, Total Dissolved TDS @ 180 C	53 mg/L	D	10	A2540 C	04/25/19 12:18 / cmm
Alkalinity, Total as CaCO3	39 mg/L		4	A2320 B	04/25/19 14:57 / SRW
Chloride	ND mg/L		1	E300.0	04/28/19 03:09 / SRW
Sulfate	ND mg/L		1	E300.0	04/28/19 03:09 / SRW
Fluoride	ND mg/L		0.1	4 A4500-F C	04/26/19 11:17 / SRW
Hardness as CaCO3	35 mg/L		1	A2340 B	04/30/19 08:45 / sld
Nitrogen, Nitrate+Nitrite as N	0.03 mg/L		0.01	E353.2	04/30/19 10:58 / cmm
Nitrogen, Total	0.39 mg/L		0.04	A4500 N-C	04/29/19 14:16 / kmd
Phosphorus, Total as P	0.095 mg/L		0.003	E365.1	04/30/19 16:19 / kmd
Aluminum	ND mg/L		0.009	E200.8	04/26/19 20:14 / sld
Calcium	8 mg/L		1	E200.7	04/29/19 21:48 / sld
Magnesium	3 mg/L		1	E200.7	04/29/19 21:48 / sld
Potassium	2 mg/L		1	E200.7	04/29/19 21:48 / sld
Sodium	ND mg/L		1	E200.7	04/29/19 21:48 / sld
Antimony	ND mg/L		0.0005	E200.8	04/29/19 21:33 / sld
Arsenic	ND mg/L		0.001	E200.8	04/29/19 21:33 / sld
Barium	0.019 mg/L		0.003	E200.8	04/29/19 21:33 / sld
Beryllium	ND mg/L		0.0008	E200.8	04/29/19 21:33 / sld
Cadmium	0.00004 mg/L		0.00003	E200.8	04/29/19 21:33 / sld
Chromium	ND mg/L		0.01	E200.8	04/29/19 21:33 / sld
Cobalt	ND mg/L		0.01	E200.8	04/29/19 21:33 / sld
Copper	ND mg/L		0.002	E200.8	04/29/19 21:33 / sld
Iron	0.17 mg/L		0.02	E200.8	04/29/19 21:33 / sld
Lead	0.0003 mg/L		0.0003	E200.8	04/29/19 21:33 / sld
Manganese	0.011 mg/L		0.005	E200.8	04/29/19 21:33 / sld
Mercury	0.010 ug/L		0.005	E245.1	05/01/19 16:07 / dck
Molybdenum	ND mg/L		0.002	E200.8	04/29/19 21:33 / sld
Nickel	ND mg/L		0.001	E200.8	04/29/19 21:33 / sld
Selenium	ND mg/L		0.0002	E200.8	04/29/19 21:33 / sld
Silver	ND mg/L		0.0002	E200.8	05/02/19 19:52 / dck
Strontium	0.0172 mg/L	D	0.0003	E200.8	04/29/19 21:33 / sld
Thallium	ND mg/L		0.0002	E200.8	04/29/19 21:33 / sld
Uranium	ND mg/L		0.0002	E200.8	04/29/19 21:33 / sld
Zinc	0.003 mg/L		0.002	E200.8	04/29/19 21:33 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-014
BBC-1904-110

05/13/19
04/23/19 16:15
04/25/19
Surface Water

Solids, Total Suspended TSS @ 105 C	16 mg/L		4	A2540 D	04/25/19 12:11 / cmm
Solids, Total Dissolved TDS @ 180 C	149 mg/L	D	10	A2540 C	04/25/19 12:18 / cmm
Alkalinity, Total as CaCO3	120 mg/L		4	A2320 B	04/25/19 15:02 / SRW
Chloride	2 mg/L		1	E300.0	04/28/19 03:23 / SRW
Sulfate	7 mg/L		1	E300.0	04/28/19 03:23 / SRW
Fluoride	0.1 mg/L		0.1	4 A4500-F C	04/26/19 11:21 / SRW
Hardness as CaCO3	116 mg/L		1	A2340 B	04/30/19 08:45 / sld
Nitrogen, Nitrate+Nitrite as N	0.02 mg/L		0.01	E353.2	04/30/19 10:59 / cmm
Nitrogen, Total	0.41 mg/L		0.04	A4500 N-C	04/29/19 14:20 / kmd
Phosphorus, Total as P	0.076 mg/L		0.003	E365.1	04/30/19 16:20 / kmd
Aluminum	0.047 mg/L		0.009	E200.8	04/26/19 20:28 / sld
Calcium	27 mg/L		1	E200.7	04/29/19 21:52 / sld
Magnesium	12 mg/L		1	E200.7	04/29/19 21:52 / sld
Potassium	2 mg/L		1	E200.7	04/29/19 21:52 / sld
Sodium	1 mg/L		1	E200.7	04/29/19 21:52 / sld
Antimony	ND mg/L		0.0005	E200.8	04/29/19 21:35 / sld
Arsenic	ND mg/L		0.001	E200.8	04/29/19 21:35 / sld
Barium	0.115 mg/L		0.003	E200.8	04/29/19 21:35 / sld
Beryllium	ND mg/L		0.0008	E200.8	04/29/19 21:35 / sld
Cadmium	0.00005 mg/L		0.00003	E200.8	04/29/19 21:35 / sld
Chromium	ND mg/L		0.01	E200.8	04/29/19 21:35 / sld
Cobalt	ND mg/L		0.01	E200.8	04/29/19 21:35 / sld
Copper	ND mg/L		0.002	E200.8	04/29/19 21:35 / sld
Iron	0.70 mg/L		0.02	E200.8	04/29/19 21:35 / sld
Lead	0.0018 mg/L		0.0003	E200.8	04/29/19 21:35 / sld
Manganese	0.025 mg/L		0.005	E200.8	04/29/19 21:35 / sld
Mercury	0.009 ug/L		0.005	E245.1	05/01/19 16:11 / dck
Molybdenum	ND mg/L		0.002	E200.8	04/29/19 21:35 / sld
Nickel	ND mg/L		0.001	E200.8	04/29/19 21:35 / sld
Selenium	ND mg/L		0.0002	E200.8	04/29/19 21:35 / sld
Silver	ND mg/L		0.0002	E200.8	05/02/19 19:54 / dck
Strontium	0.0665 mg/L	D	0.0003	E200.8	04/29/19 21:35 / sld
Thallium	ND mg/L		0.0002	E200.8	04/29/19 21:35 / sld
Uranium	0.0004 mg/L		0.0002	E200.8	04/29/19 21:35 / sld
Zinc	0.006 mg/L		0.002	E200.8	04/29/19 21:35 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-015
BBC-1904-112

05/13/19
04/23/19 17:30
04/25/19
Surface Water

Solids, Total Suspended TSS @ 105 C	18 mg/L		4	A2540 D	04/25/19 12:11 / cmm
Solids, Total Dissolved TDS @ 180 C	167 mg/L	D	10	A2540 C	04/25/19 12:18 / cmm
Alkalinity, Total as CaCO3	130 mg/L		4	A2320 B	04/25/19 15:08 / SRW
Chloride	1 mg/L		1	E300.0	04/28/19 03:37 / SRW
Sulfate	8 mg/L		1	E300.0	04/28/19 03:37 / SRW
Fluoride	0.1 mg/L		0.1	4 A4500-F C	04/26/19 11:25 / SRW
Hardness as CaCO3	136 mg/L		1	A2340 B	04/30/19 08:45 / sld
Nitrogen, Nitrate+Nitrite as N	0.04 mg/L		0.01	E353.2	04/30/19 11:03 / cmm
Nitrogen, Total	0.37 mg/L		0.04	A4500 N-C	04/29/19 14:21 / kmd
Phosphorus, Total as P	0.028 mg/L		0.003	E365.1	04/30/19 16:21 / kmd
Aluminum	0.029 mg/L		0.009	E200.8	04/26/19 20:30 / sld
Calcium	33 mg/L		1	E200.7	04/29/19 21:56 / sld
Magnesium	13 mg/L		1	E200.7	04/29/19 21:56 / sld
Potassium	2 mg/L		1	E200.7	04/29/19 21:56 / sld
Sodium	2 mg/L		1	E200.7	04/29/19 21:56 / sld
Antimony	ND mg/L		0.0005	E200.8	04/29/19 21:37 / sld
Arsenic	ND mg/L		0.001	E200.8	04/29/19 21:37 / sld
Barium	0.081 mg/L		0.003	E200.8	04/29/19 21:37 / sld
Beryllium	ND mg/L		0.0008	E200.8	04/29/19 21:37 / sld
Cadmium	ND mg/L		0.00003	E200.8	04/29/19 21:37 / sld
Chromium	ND mg/L		0.01	E200.8	04/29/19 21:37 / sld
Cobalt	ND mg/L		0.01	E200.8	04/29/19 21:37 / sld
Copper	ND mg/L		0.002	E200.8	04/29/19 21:37 / sld
Iron	0.15 mg/L		0.02	E200.8	04/29/19 21:37 / sld
Lead	ND mg/L		0.0003	E200.8	04/29/19 21:37 / sld
Manganese	ND mg/L		0.005	E200.8	04/29/19 21:37 / sld
Mercury	0.009 ug/L		0.005	E245.1	05/01/19 16:14 / dck
Molybdenum	ND mg/L		0.002	E200.8	04/29/19 21:37 / sld
Nickel	ND mg/L		0.001	E200.8	04/29/19 21:37 / sld
Selenium	ND mg/L		0.0002	E200.8	04/29/19 21:37 / sld
Silver	ND mg/L		0.0002	E200.8	05/02/19 19:56 / dck
Strontium	0.0790 mg/L	D	0.0003	E200.8	04/29/19 21:37 / sld
Thallium	ND mg/L		0.0002	E200.8	04/29/19 21:37 / sld
Uranium	0.0004 mg/L		0.0002	E200.8	04/29/19 21:37 / sld
Zinc	ND mg/L		0.002	E200.8	04/29/19 21:37 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-016
BBC-1904-113

05/13/19
04/24/19 08:30
04/25/19
Surface Water

Solids, Total Suspended TSS @ 105 C	ND mg/L		4	A2540 D	04/25/19 12:11 / cmm
Solids, Total Dissolved TDS @ 180 C	135 mg/L	D	10	A2540 C	04/25/19 12:18 / cmm
Alkalinity, Total as CaCO3	87 mg/L		4	A2320 B	04/25/19 15:15 / SRW
Chloride	2 mg/L		1	E300.0	04/28/19 03:51 / SRW
Sulfate	4 mg/L		1	E300.0	04/28/19 03:51 / SRW
Fluoride	ND mg/L		0.1	4 A4500-F C	04/26/19 11:29 / SRW
Hardness as CaCO3	88 mg/L		1	A2340 B	04/30/19 08:45 / sld
Nitrogen, Nitrate+Nitrite as N	0.05 mg/L		0.01	E353.2	04/30/19 11:06 / cmm
Nitrogen, Total	0.48 mg/L		0.04	A4500 N-C	04/29/19 14:22 / kmd
Phosphorus, Total as P	0.095 mg/L		0.003	E365.1	04/30/19 16:25 / kmd
Aluminum	0.409 mg/L		0.009	E200.8	04/26/19 20:33 / sld
Calcium	24 mg/L		1	E200.7	04/29/19 22:19 / sld
Magnesium	7 mg/L		1	E200.7	04/29/19 22:19 / sld
Potassium	2 mg/L		1	E200.7	04/29/19 22:19 / sld
Sodium	2 mg/L		1	E200.7	04/29/19 22:19 / sld
Antimony	ND mg/L		0.0005	E200.8	04/29/19 21:39 / sld
Arsenic	0.001 mg/L		0.001	E200.8	04/29/19 21:39 / sld
Barium	0.116 mg/L		0.003	E200.8	04/29/19 21:39 / sld
Beryllium	ND mg/L		0.0008	E200.8	04/29/19 21:39 / sld
Cadmium	ND mg/L		0.00003	E200.8	04/29/19 21:39 / sld
Chromium	ND mg/L		0.01	E200.8	04/29/19 21:39 / sld
Cobalt	ND mg/L		0.01	E200.8	04/29/19 21:39 / sld
Copper	0.003 mg/L		0.002	E200.8	04/29/19 21:39 / sld
Iron	2.11 mg/L		0.02	E200.8	04/29/19 21:39 / sld
Lead	0.0013 mg/L		0.0003	E200.8	04/29/19 21:39 / sld
Manganese	0.050 mg/L		0.005	E200.8	04/29/19 21:39 / sld
Mercury	0.023 ug/L		0.005	E245.1	05/01/19 16:17 / dck
Molybdenum	ND mg/L		0.002	E200.8	04/29/19 21:39 / sld
Nickel	0.004 mg/L		0.001	E200.8	05/01/19 17:45 / sld
Selenium	ND mg/L		0.0002	E200.8	04/29/19 21:39 / sld
Silver	ND mg/L		0.0002	E200.8	05/02/19 19:58 / dck
Strontium	0.0708 mg/L	D	0.0003	E200.8	04/29/19 21:39 / sld
Thallium	ND mg/L		0.0002	E200.8	04/29/19 21:39 / sld
Uranium	0.0003 mg/L		0.0002	E200.8	04/29/19 21:39 / sld
Zinc	0.009 mg/L		0.002	E200.8	04/29/19 21:39 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-017
BBC-1904-114

05/13/19
04/24/19 09:00
04/25/19
Surface Water

Solids, Total Suspended TSS @ 105 C	54 mg/L		4	A2540 D	04/25/19 12:12 / cmm
Solids, Total Dissolved TDS @ 180 C	136 mg/L	D	10	A2540 C	04/25/19 12:18 / cmm
Alkalinity, Total as CaCO3	86 mg/L		4	A2320 B	04/25/19 15:20 / SRW
Chloride	2 mg/L		1	E300.0	04/28/19 04:05 / SRW
Sulfate	4 mg/L		1	E300.0	04/28/19 04:05 / SRW
Fluoride	ND mg/L		0.1	4 A4500-F C	04/26/19 11:34 / SRW
Hardness as CaCO3	90 mg/L		1	A2340 B	04/30/19 08:45 / sld
Nitrogen, Nitrate+Nitrite as N	0.05 mg/L		0.01	E353.2	04/30/19 11:08 / cmm
Nitrogen, Total	0.52 mg/L		0.04	A4500 N-C	04/29/19 14:23 / kmd
Phosphorus, Total as P	0.089 mg/L		0.003	E365.1	04/30/19 16:26 / kmd
Aluminum	0.332 mg/L		0.009	E200.8	04/26/19 20:35 / sld
Calcium	25 mg/L		1	E200.7	04/29/19 22:22 / sld
Magnesium	7 mg/L		1	E200.7	04/29/19 22:22 / sld
Potassium	2 mg/L		1	E200.7	04/29/19 22:22 / sld
Sodium	2 mg/L		1	E200.7	04/29/19 22:22 / sld
Antimony	ND mg/L		0.0005	E200.8	04/29/19 21:41 / sld
Arsenic	0.001 mg/L		0.001	E200.8	04/29/19 21:41 / sld
Barium	0.111 mg/L		0.003	E200.8	04/29/19 21:41 / sld
Beryllium	ND mg/L		0.0008	E200.8	04/29/19 21:41 / sld
Cadmium	ND mg/L		0.00003	E200.8	04/29/19 21:41 / sld
Chromium	ND mg/L		0.01	E200.8	04/29/19 21:41 / sld
Cobalt	ND mg/L		0.01	E200.8	04/29/19 21:41 / sld
Copper	0.003 mg/L		0.002	E200.8	04/29/19 21:41 / sld
Iron	1.45 mg/L		0.02	E200.8	04/29/19 21:41 / sld
Lead	0.0011 mg/L		0.0003	E200.8	04/29/19 21:41 / sld
Manganese	0.046 mg/L		0.005	E200.8	04/29/19 21:41 / sld
Mercury	0.025 ug/L		0.005	E245.1	05/01/19 16:20 / dck
Molybdenum	ND mg/L		0.002	E200.8	04/29/19 21:41 / sld
Nickel	0.003 mg/L		0.001	E200.8	05/01/19 17:47 / sld
Selenium	ND mg/L		0.0002	E200.8	04/29/19 21:41 / sld
Silver	ND mg/L		0.0002	E200.8	05/02/19 20:01 / dck
Strontium	0.0697 mg/L	D	0.0003	E200.8	04/29/19 21:41 / sld
Thallium	ND mg/L		0.0002	E200.8	04/29/19 21:41 / sld
Uranium	0.0003 mg/L		0.0002	E200.8	04/29/19 21:41 / sld
Zinc	0.007 mg/L		0.002	E200.8	04/29/19 21:41 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-018
BBC-1904-115

05/13/19
04/24/19 09:45
04/25/19
Surface Water

Solids, Total Suspended TSS @ 105 C	54 mg/L		4	A2540 D	04/25/19 12:12 / cmm
Solids, Total Dissolved TDS @ 180 C	191 mg/L	D	10	A2540 C	04/25/19 12:18 / cmm
Alkalinity, Total as CaCO3	150 mg/L		4	A2320 B	04/25/19 15:26 / SRW
Chloride	7 mg/L		1	E300.0	04/28/19 04:19 / SRW
Sulfate	16 mg/L		1	E300.0	04/28/19 04:19 / SRW
Fluoride	0.1 mg/L		0.1	4 A4500-F C	04/26/19 11:38 / SRW
Hardness as CaCO3	167 mg/L		1	A2340 B	04/30/19 08:45 / sld
Nitrogen, Nitrate+Nitrite as N	0.07 mg/L		0.01	E353.2	04/30/19 11:09 / cmm
Nitrogen, Total	0.33 mg/L		0.04	A4500 N-C	04/29/19 14:27 / kmd
Phosphorus, Total as P	0.023 mg/L		0.003	E365.1	04/30/19 16:27 / kmd
Aluminum	0.012 mg/L		0.009	E200.8	04/26/19 20:37 / sld
Calcium	38 mg/L		1	E200.7	04/29/19 22:26 / sld
Magnesium	17 mg/L		1	E200.7	04/29/19 22:26 / sld
Potassium	2 mg/L		1	E200.7	04/29/19 22:26 / sld
Sodium	2 mg/L		1	E200.7	04/29/19 22:26 / sld
Antimony	ND mg/L		0.0005	E200.8	04/29/19 21:43 / sld
Arsenic	ND mg/L		0.001	E200.8	04/29/19 21:43 / sld
Barium	0.112 mg/L		0.003	E200.8	04/29/19 21:43 / sld
Beryllium	ND mg/L		0.0008	E200.8	04/29/19 21:43 / sld
Cadmium	ND mg/L		0.00003	E200.8	04/29/19 21:43 / sld
Chromium	ND mg/L		0.01	E200.8	04/29/19 21:43 / sld
Cobalt	ND mg/L		0.01	E200.8	04/29/19 21:43 / sld
Copper	ND mg/L		0.002	E200.8	04/29/19 21:43 / sld
Iron	0.11 mg/L		0.02	E200.8	04/29/19 21:43 / sld
Lead	ND mg/L		0.0003	E200.8	04/29/19 21:43 / sld
Manganese	0.012 mg/L		0.005	E200.8	04/29/19 21:43 / sld
Mercury	0.005 ug/L		0.005	E245.1	05/02/19 11:16 / dck
Molybdenum	ND mg/L		0.002	E200.8	04/29/19 21:43 / sld
Nickel	ND mg/L		0.001	E200.8	04/29/19 21:43 / sld
Selenium	ND mg/L		0.0002	E200.8	04/29/19 21:43 / sld
Silver	ND mg/L		0.0002	E200.8	05/02/19 20:03 / dck
Strontium	0.0854 mg/L	D	0.0003	E200.8	04/29/19 21:43 / sld
Thallium	ND mg/L		0.0002	E200.8	04/29/19 21:43 / sld
Uranium	0.0005 mg/L		0.0002	E200.8	04/29/19 21:43 / sld
Zinc	0.002 mg/L		0.002	E200.8	04/29/19 21:43 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-019
BBC-1904-116

05/13/19
04/24/19 10:25
04/25/19
Surface Water

Solids, Total Suspended TSS @ 105 C	ND mg/L		4	A2540 D	04/25/19 12:12 / cmm
Solids, Total Dissolved TDS @ 180 C	128 mg/L	D	10	A2540 C	04/25/19 12:19 / cmm
Alkalinity, Total as CaCO3	85 mg/L		4	A2320 B	04/25/19 15:39 / SRW
Chloride	2 mg/L		1	E300.0	04/28/19 04:33 / SRW
Sulfate	4 mg/L		1	E300.0	04/28/19 04:33 / SRW
Fluoride	ND mg/L		0.1	4 A4500-F C	04/26/19 11:50 / SRW
Hardness as CaCO3	89 mg/L		1	A2340 B	05/03/19 11:39 / sld
Nitrogen, Nitrate+Nitrite as N	0.03 mg/L		0.01	E353.2	04/30/19 11:10 / cmm
Nitrogen, Total	0.40 mg/L		0.04	A4500 N-C	04/29/19 14:30 / kmd
Phosphorus, Total as P	0.066 mg/L		0.003	E365.1	04/30/19 16:30 / kmd
Aluminum	0.470 mg/L		0.009	E200.7	05/02/19 18:51 / sld
Calcium	25 mg/L		1	E200.7	05/02/19 18:51 / sld
Magnesium	6 mg/L		1	E200.7	05/02/19 18:51 / sld
Potassium	1 mg/L		1	E200.7	05/02/19 18:51 / sld
Sodium	2 mg/L		1	E200.7	05/02/19 18:51 / sld
Antimony	ND mg/L		0.0005	E200.8	04/29/19 21:58 / sld
Arsenic	0.001 mg/L		0.001	E200.8	04/29/19 21:58 / sld
Barium	0.106 mg/L		0.003	E200.8	04/29/19 21:58 / sld
Beryllium	ND mg/L		0.0008	E200.8	04/29/19 21:58 / sld
Cadmium	ND mg/L		0.00003	E200.8	04/29/19 21:58 / sld
Chromium	ND mg/L		0.01	E200.8	04/29/19 21:58 / sld
Cobalt	ND mg/L		0.01	E200.8	04/29/19 21:58 / sld
Copper	0.003 mg/L		0.002	E200.8	04/29/19 21:58 / sld
Iron	1.45 mg/L		0.02	E200.8	04/29/19 21:58 / sld
Lead	0.0009 mg/L		0.0003	E200.8	04/29/19 21:58 / sld
Manganese	0.035 mg/L		0.005	E200.8	04/29/19 21:58 / sld
Mercury	0.025 ug/L		0.005	E245.1	05/02/19 11:20 / dck
Molybdenum	ND mg/L		0.002	E200.8	04/29/19 21:58 / sld
Nickel	0.003 mg/L		0.001	E200.8	05/01/19 18:08 / sld
Selenium	ND mg/L		0.0002	E200.8	04/29/19 21:58 / sld
Silver	ND mg/L		0.0002	E200.8	05/02/19 20:19 / dck
Strontium	0.0772 mg/L	D	0.0003	E200.8	04/29/19 21:58 / sld
Thallium	ND mg/L		0.0002	E200.8	04/29/19 21:58 / sld
Uranium	0.0003 mg/L		0.0002	E200.8	04/29/19 21:58 / sld
Zinc	0.007 mg/L		0.002	E200.8	04/29/19 21:58 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-020
BBC-1904-117

05/13/19
04/24/19 11:00
04/25/19
Surface Water

Solids, Total Suspended TSS @ 105 C	40 mg/L		4	A2540 D	04/25/19 12:13 / cmm
Solids, Total Dissolved TDS @ 180 C	164 mg/L	D	10	A2540 C	04/25/19 12:20 / cmm
Alkalinity, Total as CaCO3	130 mg/L		4	A2320 B	04/25/19 15:45 / SRW
Chloride	4 mg/L		1	E300.0	04/28/19 04:47 / SRW
Sulfate	5 mg/L		1	E300.0	04/28/19 04:47 / SRW
Fluoride	ND mg/L		0.1	4 A4500-F C	04/26/19 11:58 / SRW
Hardness as CaCO3	134 mg/L		1	A2340 B	04/30/19 08:45 / sld
Nitrogen, Nitrate+Nitrite as N	0.05 mg/L		0.01	E353.2	04/30/19 11:11 / cmm
Nitrogen, Total	0.30 mg/L		0.04	A4500 N-C	04/29/19 14:32 / kmd
Phosphorus, Total as P	0.054 mg/L		0.003	E365.1	04/30/19 16:31 / kmd
Aluminum	0.124 mg/L		0.009	E200.8	04/26/19 20:41 / sld
Calcium	38 mg/L		1	E200.7	04/29/19 22:30 / sld
Magnesium	9 mg/L		1	E200.7	04/29/19 22:30 / sld
Potassium	1 mg/L		1	E200.7	04/29/19 22:30 / sld
Sodium	3 mg/L		1	E200.7	04/29/19 22:30 / sld
Antimony	ND mg/L		0.0005	E200.8	04/29/19 22:00 / sld
Arsenic	ND mg/L		0.001	E200.8	04/29/19 22:00 / sld
Barium	0.072 mg/L		0.003	E200.8	04/29/19 22:00 / sld
Beryllium	ND mg/L		0.0008	E200.8	04/29/19 22:00 / sld
Cadmium	ND mg/L		0.00003	E200.8	04/29/19 22:00 / sld
Chromium	ND mg/L		0.01	E200.8	04/29/19 22:00 / sld
Cobalt	ND mg/L		0.01	E200.8	04/29/19 22:00 / sld
Copper	ND mg/L		0.002	E200.8	04/29/19 22:00 / sld
Iron	1.22 mg/L		0.02	E200.8	04/29/19 22:00 / sld
Lead	0.0007 mg/L		0.0003	E200.8	04/29/19 22:00 / sld
Manganese	0.033 mg/L		0.005	E200.8	04/29/19 22:00 / sld
Mercury	0.011 ug/L		0.005	E245.1	05/02/19 11:23 / dck
Molybdenum	ND mg/L		0.002	E200.8	04/29/19 22:00 / sld
Nickel	0.002 mg/L		0.001	E200.8	05/01/19 18:10 / sld
Selenium	ND mg/L		0.0002	E200.8	04/29/19 22:00 / sld
Silver	ND mg/L		0.0002	E200.8	05/02/19 20:21 / dck
Strontium	0.119 mg/L	D	0.0003	E200.8	04/29/19 22:00 / sld
Thallium	ND mg/L		0.0002	E200.8	04/29/19 22:00 / sld
Uranium	0.0003 mg/L		0.0002	E200.8	04/29/19 22:00 / sld
Zinc	0.004 mg/L		0.002	E200.8	04/29/19 22:00 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)(SW)
H19040763-021
BBC-1904-127

05/13/19
04/24/19 16:00
04/25/19
Surface Water

Solids, Total Suspended TSS @ 105 C	ND mg/L		4	A2540 D	04/25/19 12:13 / cmm
Solids, Total Dissolved TDS @ 180 C	ND mg/L	D	10	A2540 C	04/25/19 12:20 / cmm
Alkalinity, Total as CaCO3	ND mg/L		4	A2320 B	04/25/19 15:51 / SRW
Chloride	ND mg/L		1	E300.0	04/28/19 05:01 / SRW
Sulfate	ND mg/L		1	E300.0	04/28/19 05:01 / SRW
Fluoride	ND mg/L		0.1	4 A4500-F C	04/26/19 12:06 / SRW
Hardness as CaCO3	ND mg/L		1	A2340 B	04/30/19 08:45 / sld
Nitrogen, Nitrate+Nitrite as N	ND mg/L		0.01	E353.2	04/30/19 11:12 / cmm
Nitrogen, Total	ND mg/L		0.04	A4500 N-C	04/29/19 14:33 / kmd
Phosphorus, Total as P	ND mg/L		0.003	E365.1	04/30/19 16:33 / kmd
Aluminum	ND mg/L		0.009	E200.8	04/26/19 20:43 / sld
Calcium	ND mg/L		1	E200.7	04/29/19 22:34 / sld
Magnesium	ND mg/L		1	E200.7	04/29/19 22:34 / sld
Potassium	ND mg/L		1	E200.7	04/29/19 22:34 / sld
Sodium	ND mg/L		1	E200.7	04/29/19 22:34 / sld
Antimony	ND mg/L		0.0005	E200.8	04/29/19 22:02 / sld
Arsenic	ND mg/L		0.001	E200.8	04/29/19 22:02 / sld
Barium	ND mg/L		0.003	E200.8	04/29/19 22:02 / sld
Beryllium	ND mg/L		0.0008	E200.8	04/29/19 22:02 / sld
Cadmium	ND mg/L		0.00003	E200.8	04/29/19 22:02 / sld
Chromium	ND mg/L		0.01	E200.8	04/29/19 22:02 / sld
Cobalt	ND mg/L		0.01	E200.8	04/29/19 22:02 / sld
Copper	ND mg/L		0.002	E200.8	04/29/19 22:02 / sld
Iron	ND mg/L		0.02	E200.8	04/29/19 22:02 / sld
Lead	ND mg/L		0.0003	E200.8	04/29/19 22:02 / sld
Manganese	ND mg/L		0.005	E200.8	04/29/19 22:02 / sld
Mercury	ND ug/L		0.005	E245.1	04/26/19 16:52 / dck
Molybdenum	ND mg/L		0.002	E200.8	04/29/19 22:02 / sld
Nickel	ND mg/L		0.001	E200.8	04/29/19 22:02 / sld
Selenium	ND mg/L		0.0002	E200.8	04/29/19 22:02 / sld
Silver	ND mg/L		0.0002	E200.8	05/02/19 20:24 / dck
Strontium	ND mg/L		0.0002	E200.7	05/02/19 17:42 / sld
Thallium	ND mg/L		0.0002	E200.8	04/29/19 22:02 / sld
Uranium	ND mg/L		0.0002	E200.8	04/29/19 22:02 / sld
Zinc	ND mg/L		0.002	E200.8	04/29/19 22:02 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--	--	--	--	--	--	--	--

							Batch: R143654
	Method Blank					Run: PHSC_101-H_190425A	04/25/19 10:07
Alkalinity, Total as CaCO3	ND mg/L	2					
	Laboratory Control Sample					Run: PHSC_101-H_190425A	04/25/19 10:13
Alkalinity, Total as CaCO3	610 mg/L	4.0	101	90	110		
	Sample Duplicate					Run: PHSC_101-H_190425A	04/25/19 11:03
Alkalinity, Total as CaCO3	290 mg/L	4.0				1.1	10
	Sample Duplicate					Run: PHSC_101-H_190425A	04/25/19 12:31
Alkalinity, Total as CaCO3	120 mg/L	4.0				0.2	10
	Laboratory Control Sample					Run: PHSC_101-H_190425A	04/25/19 13:46
Alkalinity, Total as CaCO3	580 mg/L	4.0	97	90	110		
	Method Blank					Run: PHSC_101-H_190425A	04/25/19 14:14
Alkalinity, Total as CaCO3	ND mg/L	2					
	Sample Duplicate					Run: PHSC_101-H_190425A	04/25/19 14:19
Alkalinity, Total as CaCO3	130 mg/L	4.0				1.3	10
	Sample Duplicate					Run: PHSC_101-H_190425A	04/25/19 15:33
Alkalinity, Total as CaCO3	150 mg/L	4.0				0.4	10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--	--	--	--	--	--	--	--	--	--

Batch: TDS190425A

	Method Blank					Run: ACCU-124 (14410200)_19042			04/25/19 12:15
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	10						
	Laboratory Control Sample					Run: ACCU-124 (14410200)_19042			04/25/19 12:15
Solids, Total Dissolved TDS @ 180 C	1930	mg/L	20	97	90	110			
	Sample Duplicate					Run: ACCU-124 (14410200)_19042			04/25/19 12:16
Solids, Total Dissolved TDS @ 180 C	165	mg/L	10				1.8		5
	Sample Duplicate					Run: ACCU-124 (14410200)_19042			04/25/19 12:17
Solids, Total Dissolved TDS @ 180 C	187	mg/L	10				0.5		5
	Method Blank					Run: ACCU-124 (14410200)_19042			04/25/19 12:20
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	10						
	Laboratory Control Sample					Run: ACCU-124 (14410200)_19042			04/25/19 12:20
Solids, Total Dissolved TDS @ 180 C	1910	mg/L	20	95	90	110			
	Sample Duplicate					Run: ACCU-124 (14410200)_19042			04/25/19 12:20
Solids, Total Dissolved TDS @ 180 C	159	mg/L	10				3.1		5

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--	--	--	--	--	--	--

						Batch: TSS190425A
	Sample Duplicate				Run: ACCU-124 (14410200)_19042	04/25/19 12:13
Solids, Total Suspended TSS @ 105 C	38.4 mg/L	10			3.1	5
	Method Blank				Run: ACCU-124 (14410200)_19042	04/25/19 12:02
Solids, Total Suspended TSS @ 105 C	ND mg/L	0.3				
	Laboratory Control Sample				Run: ACCU-124 (14410200)_19042	04/25/19 12:02
Solids, Total Suspended TSS @ 105 C	91.0 mg/L	10	91	80	120	
	Sample Duplicate				Run: ACCU-124 (14410200)_19042	04/25/19 12:03
Solids, Total Suspended TSS @ 105 C	3.00 mg/L	10				5
	Sample Duplicate				Run: ACCU-124 (14410200)_19042	04/25/19 12:06
Solids, Total Suspended TSS @ 105 C	419 mg/L	10			4.9	5
	Method Blank				Run: ACCU-124 (14410200)_19042	04/25/19 12:08
Solids, Total Suspended TSS @ 105 C	ND mg/L	0.3				
	Laboratory Control Sample				Run: ACCU-124 (14410200)_19042	04/25/19 12:09
Solids, Total Suspended TSS @ 105 C	93.0 mg/L	10	93	80	120	
	Sample Duplicate				Run: ACCU-124 (14410200)_19042	04/25/19 12:10
Solids, Total Suspended TSS @ 105 C	3.00 mg/L	10				5

						Batch: TSS190508A
	Method Blank				Run: ACCU-124 (14410200)_19050	05/08/19 09:44
Solids, Total Suspended TSS @ 105 C	ND mg/L	0.3				
	Laboratory Control Sample				Run: ACCU-124 (14410200)_19050	05/08/19 09:44
Solids, Total Suspended TSS @ 105 C	103 mg/L	10	103	80	120	
	Sample Duplicate				Run: ACCU-124 (14410200)_19050	05/08/19 09:44
Solids, Total Suspended TSS @ 105 C	ND mg/L	10				5
	Sample Duplicate				Run: ACCU-124 (14410200)_19050	05/08/19 13:07
Solids, Total Suspended TSS @ 105 C	5.60 mg/L	10				5

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--	--	--	--	--	--	--

							Analytical Run: FIA203-HE_190429B
	Initial Calibration Blank, Instrument Blank						04/29/19 14:04
Nitrogen, Total	-0.00691	mg/L	0.10	0	0		
	Continuing Calibration Verification Standard						04/29/19 14:05
Nitrogen, Total	0.478	mg/L	0.10	96	90	110	
	Continuing Calibration Verification Standard						04/29/19 14:24
Nitrogen, Total	0.471	mg/L	0.10	94	90	110	
							Batch: 45421
	Laboratory Fortified Blank			Run: FIA203-HE_190429B			04/29/19 14:07
Nitrogen, Total	0.972	mg/L	0.10	97	90	110	
	Method Blank			Run: FIA203-HE_190429B			04/29/19 14:08
Nitrogen, Total	ND	mg/L	0.03				
	Laboratory Control Sample			Run: FIA203-HE_190429B			04/29/19 14:09
Nitrogen, Total	7.58	mg/L	0.30	102	90	110	
	Sample Matrix Spike			Run: FIA203-HE_190429B			04/29/19 14:17
Nitrogen, Total	1.30	mg/L	0.10	92	90	110	
	Sample Matrix Spike Duplicate			Run: FIA203-HE_190429B			04/29/19 14:18
Nitrogen, Total	1.27	mg/L	0.10	88	90	110	2.6 20 S
	Sample Matrix Spike			Run: FIA203-HE_190429B			04/29/19 14:28
Nitrogen, Total	1.25	mg/L	0.10	92	90	110	
	Sample Matrix Spike Duplicate			Run: FIA203-HE_190429B			04/29/19 14:29
Nitrogen, Total	1.23	mg/L	0.10	90	90	110	1.6 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--	--	--	--	--	--	--	--

							Analytical Run: MANTECH 2_190426A
							04/26/19 09:51
Initial Calibration Verification Standard							
Fluoride	0.7	mg/L	0.1	96	90	110	
Continuing Calibration Verification Standard							
Fluoride	1.0	mg/L	0.1	102	90	110	04/26/19 10:49
Continuing Calibration Verification Standard							
Fluoride	1.0	mg/L	0.1	103	90	110	04/26/19 11:42
							Batch: R143705
Method Blank							
Fluoride	ND	mg/L	0.03				Run: MANTECH 2_190426A 04/26/19 09:56
Sample Matrix Spike							
Fluoride	1.1	mg/L	0.1	98	85	115	Run: MANTECH 2_190426A 04/26/19 10:08
Sample Duplicate							
Fluoride	0.1	mg/L	0.1			0.0	Run: MANTECH 2_190426A 04/26/19 10:20 10
Sample Duplicate							
Fluoride	0.2	mg/L	0.1			0.0	Run: MANTECH 2_190426A 04/26/19 11:01 10
Sample Matrix Spike							
Fluoride	1.0	mg/L	0.1	99	85	115	Run: MANTECH 2_190426A 04/26/19 11:54
Sample Duplicate							
Fluoride	0.0	mg/L	0.1				Run: MANTECH 2_190426A 04/26/19 12:02 10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

Analytical Run: ICP2-HE_190429B

4 Initial Calibration Verification Standard 04/29/19 11:15

Calcium	39.0	mg/L	1.0	98	95	105
Magnesium	38.7	mg/L	1.0	97	95	105
Potassium	40.2	mg/L	1.0	100	95	105
Sodium	40.3	mg/L	1.0	101	95	105

4 Continuing Calibration Verification Standard 04/29/19 11:20

Calcium	25.7	mg/L	1.0	103	95	105
Magnesium	25.2	mg/L	1.0	101	95	105
Potassium	24.9	mg/L	1.0	100	95	105
Sodium	24.8	mg/L	1.0	99	95	105

4 Interference Check Sample A 04/29/19 11:33

Calcium	482	mg/L	1.0	96	80	120
Magnesium	534	mg/L	1.0	107	80	120
Potassium	-0.00926	mg/L	1.0		0	0
Sodium	0.0166	mg/L	1.0		0	0

4 Interference Check Sample AB 04/29/19 11:36

Calcium	486	mg/L	1.0	97	80	120
Magnesium	538	mg/L	1.0	108	80	120
Potassium	20.0	mg/L	1.0	100	80	120
Sodium	19.9	mg/L	1.0	100	80	120

4 Continuing Calibration Verification Standard 04/29/19 20:40

Calcium	25.2	mg/L	1.0	101	90	110
Magnesium	24.6	mg/L	1.0	98	90	110
Potassium	24.8	mg/L	1.0	99	90	110
Sodium	24.8	mg/L	1.0	99	90	110

4 Continuing Calibration Verification Standard 04/29/19 21:25

Calcium	24.8	mg/L	1.0	99	90	110
Magnesium	24.1	mg/L	1.0	96	90	110
Potassium	23.6	mg/L	1.0	95	90	110
Sodium	23.8	mg/L	1.0	95	90	110

4 Continuing Calibration Verification Standard 04/29/19 22:11

Calcium	24.7	mg/L	1.0	99	90	110
Magnesium	24.2	mg/L	1.0	97	90	110
Potassium	24.4	mg/L	1.0	98	90	110
Sodium	24.5	mg/L	1.0	98	90	110

Batch: R143794

4 Method Blank Run: ICP2-HE_190429B 04/29/19 11:48

Calcium	ND	mg/L	0.07			
Magnesium	ND	mg/L	0.01			
Potassium	ND	mg/L	0.06			
Sodium	ND	mg/L	0.02			

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--	--	--	--	--	--	--	--

Batch: R143794

Sample ID	Element	Concentration (mg/L)	Recovery (%)	Method	Std. Dev.	Units	Notes
4 Laboratory Fortified Blank Run: ICP2-HE_190429B 04/29/19 11:52							
	Calcium	51.2	1.0	102	85	115	
	Magnesium	50.8	1.0	102	85	115	
	Potassium	51.1	1.0	102	85	115	
	Sodium	51.2	1.0	102	85	115	
4 Sample Matrix Spike Run: ICP2-HE_190429B 04/29/19 21:18							
	Calcium	84.0	1.0	102	70	130	
	Magnesium	64.4	1.0	104	70	130	
	Potassium	52.0	1.0	102	70	130	
	Sodium	52.4	1.0	101	70	130	
4 Sample Matrix Spike Duplicate Run: ICP2-HE_190429B 04/29/19 21:22							
	Calcium	81.0	1.0	96	70	130	3.7 20
	Magnesium	61.8	1.0	99	70	130	4.2 20
	Potassium	50.6	1.0	99	70	130	2.6 20
	Sodium	51.5	1.0	100	70	130	1.6 20
4 Sample Matrix Spike Run: ICP2-HE_190429B 04/29/19 22:04							
	Calcium	83.0	1.0	100	70	130	
	Magnesium	64.2	1.0	102	70	130	
	Potassium	54.4	1.0	105	70	130	
	Sodium	54.9	1.0	106	70	130	
4 Sample Matrix Spike Duplicate Run: ICP2-HE_190429B 04/29/19 22:07							
	Calcium	87.2	1.0	108	70	130	4.9 20
	Magnesium	68.3	1.0	110	70	130	6.1 20
	Potassium	57.1	1.0	111	70	130	4.8 20
	Sodium	57.6	1.0	112	70	130	4.9 20
4 Sample Matrix Spike Run: ICP2-HE_190429B 04/29/19 23:05							
	Calcium	662	1.0	102	70	130	
	Magnesium	2380	1.0		70	130	A
	Potassium	277	1.0	99	70	130	
	Sodium	1090	1.0	99	70	130	
4 Sample Matrix Spike Duplicate Run: ICP2-HE_190429B 04/29/19 23:09							
	Calcium	652	1.0	98	70	130	1.6 20
	Magnesium	2340	1.0		70	130	1.9 20 A
	Potassium	280	1.0	100	70	130	1.1 20
	Sodium	1110	1.0	108	70	130	2.0 20

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

Analytical Run: ICP2-HE_190502C

6 Initial Calibration Verification Standard 05/02/19 12:38

Aluminum	4.08	mg/L	0.10	102	95	105
Calcium	40.2	mg/L	1.0	101	95	105
Magnesium	39.5	mg/L	1.0	99	95	105
Potassium	39.7	mg/L	1.0	99	95	105
Sodium	39.7	mg/L	1.0	99	95	105
Strontium	0.819	mg/L	0.10	102	95	105

6 Continuing Calibration Verification Standard 05/02/19 12:42

Aluminum	2.48	mg/L	0.10	99	95	105
Calcium	24.8	mg/L	1.0	99	95	105
Magnesium	24.0	mg/L	1.0	96	95	105
Potassium	25.4	mg/L	1.0	101	95	105
Sodium	25.3	mg/L	1.0	101	95	105
Strontium	2.54	mg/L	0.10	102	95	105

6 Interference Check Sample A 05/02/19 12:55

Aluminum	523	mg/L	0.10	105	80	120
Calcium	486	mg/L	1.0	97	80	120
Magnesium	529	mg/L	1.0	106	80	120
Potassium	-0.0375	mg/L	1.0		0	0
Sodium	0.0129	mg/L	1.0		0	0
Strontium	-0.0291	mg/L	0.10		0	0

6 Interference Check Sample AB 05/02/19 12:59

Aluminum	528	mg/L	0.10	106	80	120
Calcium	492	mg/L	1.0	98	80	120
Magnesium	534	mg/L	1.0	107	80	120
Potassium	20.3	mg/L	1.0	101	80	120
Sodium	20.1	mg/L	1.0	100	80	120
Strontium	0.992	mg/L	0.10	99	80	120

6 Continuing Calibration Verification Standard 05/02/19 17:02

Aluminum	2.50	mg/L	0.10	100	90	110
Calcium	25.3	mg/L	1.0	101	90	110
Magnesium	25.0	mg/L	1.0	100	90	110
Potassium	24.7	mg/L	1.0	99	90	110
Sodium	24.6	mg/L	1.0	99	90	110
Strontium	2.48	mg/L	0.10	99	90	110

6 Continuing Calibration Verification Standard 05/02/19 17:53

Aluminum	2.48	mg/L	0.10	99	90	110
Calcium	25.8	mg/L	1.0	103	90	110
Magnesium	25.7	mg/L	1.0	103	90	110
Potassium	23.8	mg/L	1.0	95	90	110
Sodium	23.8	mg/L	1.0	95	90	110
Strontium	2.48	mg/L	0.10	99	90	110

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--

Analytical Run: ICP2-HE_190502C

6 Continuing Calibration Verification Standard 05/02/19 18:40

Aluminum	2.38	mg/L	0.10	95	90	110
Calcium	24.2	mg/L	1.0	97	90	110
Magnesium	24.0	mg/L	1.0	96	90	110
Potassium	23.6	mg/L	1.0	95	90	110
Sodium	23.6	mg/L	1.0	95	90	110
Strontium	2.38	mg/L	0.10	95	90	110

Batch: 45389

Strontium	Method Blank	ND	mg/L	0.0002			Run: ICP2-HE_190502C	05/02/19 17:34
Strontium	Laboratory Control Sample	0.488	mg/L	0.010	98	85	115	05/02/19 17:38
Strontium	Serial Dilution	ND	mg/L	0.010		0	0	05/02/19 17:46 10
Strontium	Sample Matrix Spike	0.465	mg/L	0.010	93	70	130	05/02/19 18:01
Strontium	Sample Matrix Spike Duplicate	0.497	mg/L	0.010	99	70	130	05/02/19 18:05 6.6 20

Batch: 45434

Aluminum	5 Method Blank	ND	mg/L	0.004			Run: ICP2-HE_190502C	05/02/19 18:09
Calcium		ND	mg/L	0.09				
Magnesium		ND	mg/L	0.009				
Potassium		ND	mg/L	0.06				
Sodium		ND	mg/L	0.03				
Aluminum	5 Laboratory Control Sample	2.31	mg/L	0.030	92	85	115	05/02/19 18:13
Calcium		23.3	mg/L	1.0	93	85	115	
Magnesium		23.1	mg/L	1.0	92	85	115	
Potassium		23.8	mg/L	1.0	95	85	115	
Sodium		23.9	mg/L	1.0	96	85	115	
Aluminum	5 Sample Matrix Spike	3.93	mg/L	0.030	112	70	130	05/02/19 18:28
Calcium		27.6	mg/L	1.0	95	70	130	
Magnesium		24.8	mg/L	1.0	95	70	130	
Potassium		25.6	mg/L	1.0	98	70	130	
Sodium		25.6	mg/L	1.0	99	70	130	
Aluminum	5 Sample Matrix Spike Duplicate	4.00	mg/L	0.030	114	70	130	05/02/19 18:32 1.7 20
Calcium		28.2	mg/L	1.0	97	70	130	2.1 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

Batch: 45434

5 Sample Matrix Spike Duplicate

Run: ICP2-HE_190502C

05/02/19 18:32

Magnesium	25.3	mg/L	1.0	97	70	130	2.1	20
Potassium	25.8	mg/L	1.0	99	70	130	0.9	20
Sodium	25.8	mg/L	1.0	99	70	130	0.7	20

Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--

Analytical Run: ICPMS205-H_190426C

23 Initial Calibration Verification Standard

04/26/19 12:30

Aluminum	0.298	mg/L	0.10	99	90	110
Antimony	0.0598	mg/L	0.050	100	90	110
Arsenic	0.0599	mg/L	0.0050	100	90	110
Barium	0.0589	mg/L	0.10	98	90	110
Beryllium	0.0297	mg/L	0.0010	99	90	110
Cadmium	0.0296	mg/L	0.0010	99	90	110
Chromium	0.0606	mg/L	0.010	101	90	110
Cobalt	0.0615	mg/L	0.010	103	90	110
Copper	0.0609	mg/L	0.010	102	90	110
Iron	0.312	mg/L	0.020	104	90	110
Lead	0.0595	mg/L	0.010	99	90	110
Magnesium	3.09	mg/L	0.50	103	90	110
Manganese	0.305	mg/L	0.010	102	90	110
Molybdenum	0.0588	mg/L	0.0050	98	90	110
Nickel	0.0612	mg/L	0.010	102	90	110
Potassium	3.06	mg/L	0.50	102	90	110
Selenium	0.0606	mg/L	0.0050	101	90	110
Silver	0.0299	mg/L	0.0050	100	90	110
Sodium	3.07	mg/L	0.50	102	90	110
Strontium	0.0602	mg/L	0.10	100	90	110
Thallium	0.0585	mg/L	0.10	97	90	110
Uranium	0.0579	mg/L	0.00030	96	90	110
Zinc	0.0608	mg/L	0.010	101	90	110

23 Interference Check Sample A

04/26/19 12:32

Aluminum	42.0	mg/L	0.10	105	70	130
Antimony	0.000675	mg/L	0.050			
Arsenic	1.97E-05	mg/L	0.0050			
Barium	0.000188	mg/L	0.10			
Beryllium	0.000157	mg/L	0.0010			
Cadmium	0.000118	mg/L	0.0010			
Chromium	0.000163	mg/L	0.010			
Cobalt	0.000260	mg/L	0.010			
Copper	7.15E-05	mg/L	0.010			
Iron	106	mg/L	0.020	106	70	130
Lead	9.93E-05	mg/L	0.010			
Magnesium	42.8	mg/L	0.50	107	70	130
Manganese	0.000200	mg/L	0.010			
Molybdenum	0.811	mg/L	0.0050	101	70	130
Nickel	0.000240	mg/L	0.010			
Potassium	41.8	mg/L	0.50	105	70	130
Selenium	0.000197	mg/L	0.0050			
Silver	0.000333	mg/L	0.0050			
Sodium	106	mg/L	0.50	106	70	130
Strontium	0.000998	mg/L	0.10			

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

Analytical Run: ICPMS205-H_190426C

23 Interference Check Sample A

04/26/19 12:32

Thallium	4.18E-05	mg/L	0.10
Uranium	3.00E-05	mg/L	0.00030
Zinc	0.000356	mg/L	0.010

23 Interference Check Sample AB

04/26/19 12:34

Aluminum	41.2	mg/L	0.10	103	70	130
Antimony	0.000371	mg/L	0.050		0	0
Arsenic	0.0107	mg/L	0.0050	107	70	130
Barium	0.000189	mg/L	0.10		0	0
Beryllium	-3.14E-05	mg/L	0.0010		0	0
Cadmium	0.0105	mg/L	0.0010	105	70	130
Chromium	0.0205	mg/L	0.010	103	70	130
Cobalt	0.0206	mg/L	0.010	103	70	130
Copper	0.0201	mg/L	0.010	101	70	130
Iron	104	mg/L	0.020	104	70	130
Lead	0.000112	mg/L	0.010		0	0
Magnesium	42.1	mg/L	0.50	105	70	130
Manganese	0.0205	mg/L	0.010	103	70	130
Molybdenum	0.805	mg/L	0.0050	101	70	130
Nickel	0.0208	mg/L	0.010	104	70	130
Potassium	40.8	mg/L	0.50	102	70	130
Selenium	0.0104	mg/L	0.0050	104	70	130
Silver	0.00510	mg/L	0.0050	102	70	130
Sodium	104	mg/L	0.50	104	70	130
Strontium	0.00101	mg/L	0.10		0	0
Thallium	2.30E-05	mg/L	0.10		0	0
Uranium	8.31E-06	mg/L	0.00030		0	0
Zinc	0.0107	mg/L	0.010	107	70	130

Batch: R143730

23 Method Blank

Run: ICPMS205-H_190426C

04/26/19 12:45

Aluminum	ND	mg/L	0.003
Antimony	ND	mg/L	9E-05
Arsenic	ND	mg/L	4E-05
Barium	ND	mg/L	2E-05
Beryllium	ND	mg/L	0.0001
Cadmium	ND	mg/L	3E-05
Chromium	ND	mg/L	0.0002
Cobalt	ND	mg/L	9E-05
Copper	ND	mg/L	0.0001
Iron	ND	mg/L	0.002
Lead	ND	mg/L	3E-05
Magnesium	ND	mg/L	0.004
Manganese	ND	mg/L	0.0003
Molybdenum	ND	mg/L	2E-05
Nickel	ND	mg/L	0.0002

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

Batch: R143730

23 Method Blank

Run: ICPMS205-H_190426C

04/26/19 12:45

Potassium	ND	mg/L	0.010
Selenium	ND	mg/L	2E-05
Silver	ND	mg/L	2E-05
Sodium	ND	mg/L	0.01
Strontium	ND	mg/L	0.0001
Thallium	ND	mg/L	1E-05
Uranium	ND	mg/L	1E-05
Zinc	ND	mg/L	0.0003

23 Laboratory Fortified Blank

Run: ICPMS205-H_190426C

04/26/19 12:47

Aluminum	0.0500	mg/L	0.10	100	85	115
Antimony	0.0490	mg/L	0.050	98	85	115
Arsenic	0.0496	mg/L	0.0050	99	85	115
Barium	0.0488	mg/L	0.10	98	85	115
Beryllium	0.0478	mg/L	0.0010	96	85	115
Cadmium	0.0490	mg/L	0.0010	98	85	115
Chromium	0.0499	mg/L	0.010	100	85	115
Cobalt	0.0495	mg/L	0.010	99	85	115
Copper	0.0501	mg/L	0.010	100	85	115
Iron	0.154	mg/L	0.020	102	85	115
Lead	0.0484	mg/L	0.010	97	85	115
Magnesium	1.01	mg/L	0.50	101	85	115
Manganese	0.0492	mg/L	0.010	99	85	115
Molybdenum	0.0480	mg/L	0.0050	96	85	115
Nickel	0.0499	mg/L	0.010	100	85	115
Potassium	0.996	mg/L	0.50	100	85	115
Selenium	0.0488	mg/L	0.0050	98	85	115
Silver	0.0194	mg/L	0.0050	97	85	115
Sodium	0.970	mg/L	0.50	97	85	115
Strontium	0.0495	mg/L	0.10	99	85	115
Thallium	0.0480	mg/L	0.10	96	85	115
Uranium	0.0474	mg/L	0.00030	95	85	115
Zinc	0.0499	mg/L	0.010	100	85	115

23 Sample Matrix Spike

Run: ICPMS205-H_190426C

04/26/19 19:47

Aluminum	0.0873	mg/L	0.030	100	70	130
Antimony	0.0502	mg/L	0.0010	100	70	130
Arsenic	0.0746	mg/L	0.0010	102	70	130
Barium	0.0712	mg/L	0.050	101	70	130
Beryllium	0.0513	mg/L	0.0010	102	70	130
Cadmium	0.0508	mg/L	0.0010	102	70	130
Chromium	0.0509	mg/L	0.0050	102	70	130
Cobalt	0.0503	mg/L	0.0050	101	70	130
Copper	0.0518	mg/L	0.0050	102	70	130
Iron	0.196	mg/L	0.020	103	70	130
Lead	0.0500	mg/L	0.0010	100	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--

Batch: R143730

23 Sample Matrix Spike

Run: ICPMS205-H_190426C

04/26/19 19:47

Magnesium	4.33	mg/L	1.0	96	70	130
Manganese	0.0561	mg/L	0.0010	100	70	130
Molybdenum	0.0521	mg/L	0.0010	99	70	130
Nickel	0.0510	mg/L	0.0050	102	70	130
Potassium	3.72	mg/L	1.0	99	70	130
Selenium	0.0506	mg/L	0.0010	101	70	130
Silver	0.0204	mg/L	0.0010	102	70	130
Sodium	21.3	mg/L	1.0		70	130
Strontium	0.164	mg/L	0.010	100	70	130
Thallium	0.0499	mg/L	0.00050	100	70	130
Uranium	0.0492	mg/L	0.00030	98	70	130
Zinc	0.0530	mg/L	0.010	104	70	130

A

23 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190426C

04/26/19 19:49

Aluminum	0.0853	mg/L	0.030	96	70	130	2.3	20
Antimony	0.0495	mg/L	0.0010	99	70	130	1.3	20
Arsenic	0.0732	mg/L	0.0010	99	70	130	1.9	20
Barium	0.0713	mg/L	0.050	101	70	130	0.2	20
Beryllium	0.0497	mg/L	0.0010	99	70	130	3.0	20
Cadmium	0.0498	mg/L	0.0010	100	70	130	1.9	20
Chromium	0.0490	mg/L	0.0050	98	70	130	3.8	20
Cobalt	0.0489	mg/L	0.0050	98	70	130	2.8	20
Copper	0.0502	mg/L	0.0050	99	70	130	3.2	20
Iron	0.190	mg/L	0.020	99	70	130	3.1	20
Lead	0.0489	mg/L	0.0010	98	70	130	2.4	20
Magnesium	4.34	mg/L	1.0	97	70	130	0.2	20
Manganese	0.0549	mg/L	0.0010	98	70	130	2.1	20
Molybdenum	0.0513	mg/L	0.0010	97	70	130	1.5	20
Nickel	0.0494	mg/L	0.0050	99	70	130	3.2	20
Potassium	3.64	mg/L	1.0	91	70	130	2.1	20
Selenium	0.0494	mg/L	0.0010	99	70	130	2.3	20
Silver	0.0200	mg/L	0.0010	100	70	130	2.1	20
Sodium	21.5	mg/L	1.0		70	130	0.9	20
Strontium	0.161	mg/L	0.010	94	70	130	1.8	20
Thallium	0.0486	mg/L	0.00050	97	70	130	2.6	20
Uranium	0.0483	mg/L	0.00030	96	70	130	1.9	20
Zinc	0.0515	mg/L	0.010	101	70	130	3.0	20

A

23 Sample Matrix Spike

Run: ICPMS205-H_190426C

04/26/19 20:16

Aluminum	0.105	mg/L	0.030	107	70	130
Antimony	0.0490	mg/L	0.0010	98	70	130
Arsenic	0.0524	mg/L	0.0010	105	70	130
Barium	0.235	mg/L	0.050	99	70	130
Beryllium	0.0521	mg/L	0.0010	104	70	130
Cadmium	0.0515	mg/L	0.0010	103	70	130
Chromium	0.0512	mg/L	0.0050	102	70	130

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.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--	--

Batch: R143730

23 Sample Matrix Spike

Run: ICPMS205-H_190426C

04/26/19 20:16

Cobalt	0.0509	mg/L	0.0050	102	70	130
Copper	0.0512	mg/L	0.0050	102	70	130
Iron	0.188	mg/L	0.020	104	70	130
Lead	0.0507	mg/L	0.0010	101	70	130
Magnesium	14.0	mg/L	1.0		70	130
Manganese	0.0511	mg/L	0.0010	101	70	130
Molybdenum	0.0499	mg/L	0.0010	99	70	130
Nickel	0.0513	mg/L	0.0050	103	70	130
Potassium	2.13	mg/L	1.0	103	70	130
Selenium	0.0538	mg/L	0.0010	107	70	130
Silver	0.0205	mg/L	0.0010	102	70	130
Sodium	2.86	mg/L	1.0	102	70	130
Strontium	0.117	mg/L	0.010	100	70	130
Thallium	0.0509	mg/L	0.00050	101	70	130
Uranium	0.0502	mg/L	0.00030	100	70	130
Zinc	0.0531	mg/L	0.010	104	70	130

A

23 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190426C

04/26/19 20:18

Aluminum	0.102	mg/L	0.030	101	70	130	2.9	20
Antimony	0.0484	mg/L	0.0010	97	70	130	1.3	20
Arsenic	0.0510	mg/L	0.0010	102	70	130	2.6	20
Barium	0.235	mg/L	0.050	98	70	130	0.3	20
Beryllium	0.0519	mg/L	0.0010	104	70	130	0.4	20
Cadmium	0.0503	mg/L	0.0010	101	70	130	2.4	20
Chromium	0.0496	mg/L	0.0050	99	70	130	3.2	20
Cobalt	0.0492	mg/L	0.0050	98	70	130	3.4	20
Copper	0.0500	mg/L	0.0050	99	70	130	2.4	20
Iron	0.184	mg/L	0.020	101	70	130	1.9	20
Lead	0.0492	mg/L	0.0010	98	70	130	2.9	20
Magnesium	14.0	mg/L	1.0		70	130	0.1	20
Manganese	0.0496	mg/L	0.0010	98	70	130	3.0	20
Molybdenum	0.0489	mg/L	0.0010	97	70	130	2.1	20
Nickel	0.0489	mg/L	0.0050	98	70	130	4.8	20
Potassium	2.08	mg/L	1.0	98	70	130	2.5	20
Selenium	0.0523	mg/L	0.0010	104	70	130	2.8	20
Silver	0.0201	mg/L	0.0010	101	70	130	1.7	20
Sodium	2.84	mg/L	1.0	101	70	130	0.4	20
Strontium	0.115	mg/L	0.010	96	70	130	1.7	20
Thallium	0.0497	mg/L	0.00050	98	70	130	2.4	20
Uranium	0.0489	mg/L	0.00030	97	70	130	2.5	20
Zinc	0.0506	mg/L	0.010	100	70	130	4.8	20

A

23 Sample Matrix Spike

Run: ICPMS205-H_190426C

04/26/19 20:45

Aluminum	0.480	mg/L	0.030		70	130
Antimony	0.0480	mg/L	0.0010	96	70	130
Arsenic	0.0528	mg/L	0.0010	104	70	130

A

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

Batch: R143730

23 Sample Matrix Spike

Run: ICPMS205-H_190426C

04/26/19 20:45

Barium	0.136	mg/L	0.050	102	70	130
Beryllium	0.0518	mg/L	0.0010	104	70	130
Cadmium	0.0517	mg/L	0.0010	103	70	130
Chromium	0.0515	mg/L	0.0050	102	70	130
Cobalt	0.0523	mg/L	0.0050	103	70	130
Copper	0.0528	mg/L	0.0050	103	70	130
Iron	0.417	mg/L	0.020	103	70	130
Lead	0.0512	mg/L	0.0010	102	70	130
Magnesium	8.33	mg/L	1.0		70	130
Manganese	0.0659	mg/L	0.0010	102	70	130
Molybdenum	0.0498	mg/L	0.0010	99	70	130
Nickel	0.0529	mg/L	0.0050	103	70	130
Potassium	2.49	mg/L	1.0	101	70	130
Selenium	0.0520	mg/L	0.0010	104	70	130
Silver	0.0207	mg/L	0.0010	104	70	130
Sodium	2.90	mg/L	1.0	111	70	130
Strontium	0.116	mg/L	0.010	99	70	130
Thallium	0.0510	mg/L	0.00050	102	70	130
Uranium	0.0506	mg/L	0.00030	101	70	130
Zinc	0.0532	mg/L	0.010	103	70	130

A

23 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190426C

04/26/19 20:47

Aluminum	0.444	mg/L	0.030		70	130	7.6	20	A
Antimony	0.0485	mg/L	0.0010	97	70	130	1.0	20	
Arsenic	0.0530	mg/L	0.0010	105	70	130	0.4	20	
Barium	0.134	mg/L	0.050	98	70	130	1.3	20	
Beryllium	0.0532	mg/L	0.0010	106	70	130	2.5	20	
Cadmium	0.0512	mg/L	0.0010	102	70	130	1.0	20	
Chromium	0.0524	mg/L	0.0050	104	70	130	1.7	20	
Cobalt	0.0527	mg/L	0.0050	104	70	130	0.7	20	
Copper	0.0536	mg/L	0.0050	104	70	130	1.6	20	
Iron	0.406	mg/L	0.020	95	70	130	2.7	20	
Lead	0.0510	mg/L	0.0010	102	70	130	0.3	20	
Magnesium	8.26	mg/L	1.0		70	130	0.9	20	A
Manganese	0.0665	mg/L	0.0010	103	70	130	0.9	20	
Molybdenum	0.0501	mg/L	0.0010	100	70	130	0.5	20	
Nickel	0.0535	mg/L	0.0050	104	70	130	1.0	20	
Potassium	2.50	mg/L	1.0	103	70	130	0.6	20	
Selenium	0.0535	mg/L	0.0010	107	70	130	2.9	20	
Silver	0.0207	mg/L	0.0010	103	70	130	0.3	20	
Sodium	2.88	mg/L	1.0	109	70	130	0.8	20	
Strontium	0.118	mg/L	0.010	102	70	130	1.1	20	
Thallium	0.0506	mg/L	0.00050	101	70	130	0.7	20	
Uranium	0.0505	mg/L	0.00030	101	70	130	0.2	20	
Zinc	0.0541	mg/L	0.010	105	70	130	1.7	20	

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.

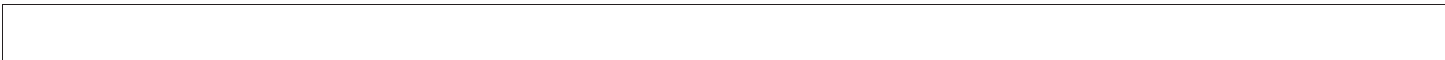


Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19



Analytical Run: ICPMS205-H_190429C

18 Initial Calibration Verification Standard

04/29/19 18:56

Antimony	0.0599	mg/L	0.050	100	90	110
Arsenic	0.0586	mg/L	0.0050	98	90	110
Barium	0.0593	mg/L	0.10	99	90	110
Beryllium	0.0298	mg/L	0.0010	99	90	110
Cadmium	0.0298	mg/L	0.0010	99	90	110
Chromium	0.0597	mg/L	0.010	100	90	110
Cobalt	0.0601	mg/L	0.010	100	90	110
Copper	0.0601	mg/L	0.010	100	90	110
Iron	0.302	mg/L	0.020	101	90	110
Lead	0.0603	mg/L	0.010	101	90	110
Manganese	0.301	mg/L	0.010	100	90	110
Molybdenum	0.0585	mg/L	0.0050	98	90	110
Nickel	0.0607	mg/L	0.010	101	90	110
Selenium	0.0587	mg/L	0.0050	98	90	110
Strontium	0.0594	mg/L	0.10	99	90	110
Thallium	0.0597	mg/L	0.10	99	90	110
Uranium	0.0582	mg/L	0.00030	97	90	110
Zinc	0.0609	mg/L	0.010	102	90	110

18 Interference Check Sample A

04/29/19 18:58

Antimony	0.000849	mg/L	0.050			
Arsenic	3.63E-06	mg/L	0.0050			
Barium	0.000148	mg/L	0.10			
Beryllium	8.01E-05	mg/L	0.0010			
Cadmium	0.000127	mg/L	0.0010			
Chromium	0.000168	mg/L	0.010			
Cobalt	0.000246	mg/L	0.010			
Copper	3.12E-05	mg/L	0.010			
Iron	99.7	mg/L	0.020	100	70	130
Lead	9.53E-05	mg/L	0.010			
Manganese	0.000163	mg/L	0.010			
Molybdenum	0.823	mg/L	0.0050	103	70	130
Nickel	-0.000205	mg/L	0.010			
Selenium	0.000144	mg/L	0.0050			
Strontium	0.000978	mg/L	0.10			
Thallium	2.35E-05	mg/L	0.10			
Uranium	3.30E-05	mg/L	0.00030			
Zinc	0.000198	mg/L	0.010			

18 Interference Check Sample AB

04/29/19 19:00

Antimony	0.000487	mg/L	0.050		0	0
Arsenic	0.0101	mg/L	0.0050	101	70	130
Barium	0.000170	mg/L	0.10		0	0
Beryllium	9.15E-05	mg/L	0.0010		0	0
Cadmium	0.0101	mg/L	0.0010	101	70	130
Chromium	0.0198	mg/L	0.010	99	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--

Analytical Run: ICPMS205-H_190429C

18 Interference Check Sample AB

04/29/19 19:00

Cobalt	0.0198	mg/L	0.010	99	70	130
Copper	0.0193	mg/L	0.010	97	70	130
Iron	100	mg/L	0.020	100	70	130
Lead	9.62E-05	mg/L	0.010		0	0
Manganese	0.0197	mg/L	0.010	99	70	130
Molybdenum	0.831	mg/L	0.0050	104	70	130
Nickel	0.0197	mg/L	0.010	99	70	130
Selenium	0.00990	mg/L	0.0050	99	70	130
Strontium	0.000949	mg/L	0.10		0	0
Thallium	1.88E-05	mg/L	0.10		0	0
Uranium	7.34E-06	mg/L	0.00030		0	0
Zinc	0.0103	mg/L	0.010	103	70	130

18 Initial Calibration Verification Standard

04/30/19 02:08

Antimony	0.0596	mg/L	0.050	99	90	110
Arsenic	0.0586	mg/L	0.0050	98	90	110
Barium	0.0603	mg/L	0.10	100	90	110
Beryllium	0.0304	mg/L	0.0010	101	90	110
Cadmium	0.0300	mg/L	0.0010	100	90	110
Chromium	0.0602	mg/L	0.010	100	90	110
Cobalt	0.0609	mg/L	0.010	101	90	110
Copper	0.0600	mg/L	0.010	100	90	110
Iron	0.304	mg/L	0.020	101	90	110
Lead	0.0592	mg/L	0.010	99	90	110
Manganese	0.299	mg/L	0.010	100	90	110
Molybdenum	0.0591	mg/L	0.0050	98	90	110
Nickel	0.0602	mg/L	0.010	100	90	110
Selenium	0.0595	mg/L	0.0050	99	90	110
Strontium	0.0594	mg/L	0.10	99	90	110
Thallium	0.0586	mg/L	0.10	98	90	110
Uranium	0.0562	mg/L	0.00030	94	90	110
Zinc	0.0616	mg/L	0.010	103	90	110

18 Interference Check Sample A

04/30/19 02:11

Antimony	0.000717	mg/L	0.050			
Arsenic	1.62E-05	mg/L	0.0050			
Barium	0.000161	mg/L	0.10			
Beryllium	0.000105	mg/L	0.0010			
Cadmium	0.000132	mg/L	0.0010			
Chromium	0.000224	mg/L	0.010			
Cobalt	0.000273	mg/L	0.010			
Copper	3.53E-05	mg/L	0.010			
Iron	101	mg/L	0.020	101	70	130
Lead	9.12E-05	mg/L	0.010			
Manganese	0.000196	mg/L	0.010			
Molybdenum	0.838	mg/L	0.0050	105	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--

Analytical Run: ICPMS205-H_190429C

18 Interference Check Sample A

04/30/19 02:11

Nickel	-4.52E-05	mg/L	0.010
Selenium	7.43E-05	mg/L	0.0050
Strontium	0.000975	mg/L	0.10
Thallium	2.99E-05	mg/L	0.10
Uranium	2.97E-05	mg/L	0.00030
Zinc	0.000224	mg/L	0.010

18 Interference Check Sample AB

04/30/19 02:13

Antimony	0.000473	mg/L	0.050		0	0
Arsenic	0.0101	mg/L	0.0050	101	70	130
Barium	0.000166	mg/L	0.10		0	0
Beryllium	-4.92E-07	mg/L	0.0010		0	0
Cadmium	0.0101	mg/L	0.0010	101	70	130
Chromium	0.0199	mg/L	0.010	99	70	130
Cobalt	0.0202	mg/L	0.010	101	70	130
Copper	0.0195	mg/L	0.010	97	70	130
Iron	102	mg/L	0.020	102	70	130
Lead	0.000103	mg/L	0.010		0	0
Manganese	0.0200	mg/L	0.010	100	70	130
Molybdenum	0.841	mg/L	0.0050	105	70	130
Nickel	0.0195	mg/L	0.010	98	70	130
Selenium	0.00992	mg/L	0.0050	99	70	130
Strontium	0.00104	mg/L	0.10		0	0
Thallium	1.63E-05	mg/L	0.10		0	0
Uranium	6.09E-06	mg/L	0.00030		0	0
Zinc	0.0102	mg/L	0.010	102	70	130

Batch: 45389

19 Method Blank

Run: ICPMS205-H_190429C

04/29/19 20:59

Antimony	ND	mg/L	0.0001
Arsenic	ND	mg/L	4E-05
Barium	ND	mg/L	9E-05
Beryllium	9E-05	mg/L	6E-05
Cadmium	ND	mg/L	3E-05
Chromium	ND	mg/L	0.0001
Cobalt	ND	mg/L	6E-05
Copper	ND	mg/L	0.0002
Iron	ND	mg/L	0.004
Lead	ND	mg/L	4E-05
Manganese	ND	mg/L	0.0003
Molybdenum	ND	mg/L	2E-05
Nickel	ND	mg/L	0.0001
Selenium	ND	mg/L	5E-05
Silver	ND	mg/L	9E-06
Strontium	ND	mg/L	0.0003
Thallium	ND	mg/L	4E-05

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--

Batch: 45389

19 Method Blank

Run: ICPMS205-H_190429C

04/29/19 20:59

Uranium	ND	mg/L	9E-06
Zinc	ND	mg/L	0.001

19 Laboratory Control Sample

Run: ICPMS205-H_190429C

04/29/19 21:18

Antimony	0.545	mg/L	0.0010	109	85	115
Arsenic	0.484	mg/L	0.0010	97	85	115
Barium	0.490	mg/L	0.050	98	85	115
Beryllium	0.239	mg/L	0.0010	96	85	115
Cadmium	0.244	mg/L	0.0010	98	85	115
Chromium	0.481	mg/L	0.0050	96	85	115
Cobalt	0.473	mg/L	0.0050	95	85	115
Copper	0.474	mg/L	0.0050	95	85	115
Iron	2.46	mg/L	0.020	99	85	115
Lead	0.530	mg/L	0.0010	106	85	115
Manganese	2.52	mg/L	0.0010	101	85	115
Molybdenum	0.491	mg/L	0.0010	98	85	115
Nickel	0.478	mg/L	0.0050	96	85	115
Selenium	0.477	mg/L	0.0010	95	85	115
Silver	0.0567	mg/L	0.0010	113	85	115
Strontium	0.486	mg/L	0.010	97	85	115
Thallium	0.518	mg/L	0.00050	104	85	115
Uranium	0.523	mg/L	0.00030	105	85	115
Zinc	0.490	mg/L	0.010	98	85	115

19 Sample Matrix Spike

Run: ICPMS205-H_190429C

04/29/19 21:45

Antimony	0.542	mg/L	0.0010	108	70	130
Arsenic	0.491	mg/L	0.0010	98	70	130
Barium	0.514	mg/L	0.050	99	70	130
Beryllium	0.243	mg/L	0.0010	97	70	130
Cadmium	0.246	mg/L	0.0010	98	70	130
Chromium	0.486	mg/L	0.0050	97	70	130
Cobalt	0.481	mg/L	0.0050	96	70	130
Copper	0.481	mg/L	0.0050	96	70	130
Iron	2.65	mg/L	0.020	99	70	130
Lead	0.537	mg/L	0.0010	107	70	130
Manganese	2.58	mg/L	0.0010	103	70	130
Molybdenum	0.489	mg/L	0.0010	98	70	130
Nickel	0.483	mg/L	0.0050	97	70	130
Selenium	0.483	mg/L	0.0010	97	70	130
Silver	0.0570	mg/L	0.0010	114	70	130
Strontium	0.516	mg/L	0.010	100	70	130
Thallium	0.523	mg/L	0.00050	105	70	130
Uranium	0.521	mg/L	0.00030	104	70	130
Zinc	0.494	mg/L	0.010	98	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

Batch: 45389

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190429C

04/29/19 21:48

Antimony	0.530	mg/L	0.0010	106	70	130	2.1	20
Arsenic	0.479	mg/L	0.0010	96	70	130	2.4	20
Barium	0.503	mg/L	0.050	97	70	130	2.2	20
Beryllium	0.233	mg/L	0.0010	93	70	130	4.3	20
Cadmium	0.241	mg/L	0.0010	97	70	130	1.9	20
Chromium	0.475	mg/L	0.0050	95	70	130	2.4	20
Cobalt	0.470	mg/L	0.0050	94	70	130	2.2	20
Copper	0.472	mg/L	0.0050	94	70	130	1.8	20
Iron	2.58	mg/L	0.020	96	70	130	2.9	20
Lead	0.525	mg/L	0.0010	105	70	130	2.3	20
Manganese	2.52	mg/L	0.0010	100	70	130	2.5	20
Molybdenum	0.481	mg/L	0.0010	96	70	130	1.7	20
Nickel	0.473	mg/L	0.0050	95	70	130	2.0	20
Selenium	0.476	mg/L	0.0010	95	70	130	1.5	20
Silver	0.0560	mg/L	0.0010	112	70	130	1.8	20
Strontium	0.501	mg/L	0.010	97	70	130	2.8	20
Thallium	0.513	mg/L	0.00050	103	70	130	1.9	20
Uranium	0.515	mg/L	0.00030	103	70	130	1.0	20
Zinc	0.484	mg/L	0.010	96	70	130	2.0	20

19 Sample Matrix Spike

Run: ICPMS205-H_190429C

04/29/19 22:04

Antimony	0.526	mg/L	0.0010	105	70	130		
Arsenic	0.473	mg/L	0.0010	95	70	130		
Barium	0.478	mg/L	0.050	96	70	130		
Beryllium	0.234	mg/L	0.0010	94	70	130		
Cadmium	0.237	mg/L	0.0010	95	70	130		
Chromium	0.471	mg/L	0.0050	94	70	130		
Cobalt	0.465	mg/L	0.0050	93	70	130		
Copper	0.466	mg/L	0.0050	93	70	130		
Iron	2.42	mg/L	0.020	97	70	130		
Lead	0.521	mg/L	0.0010	104	70	130		
Manganese	2.48	mg/L	0.0010	99	70	130		
Molybdenum	0.489	mg/L	0.0010	98	70	130		
Nickel	0.469	mg/L	0.0050	94	70	130		
Selenium	0.474	mg/L	0.0010	95	70	130		
Silver	0.0550	mg/L	0.0010	110	70	130		
Strontium	0.482	mg/L	0.010	96	70	130		
Thallium	0.506	mg/L	0.00050	101	70	130		
Uranium	0.515	mg/L	0.00030	103	70	130		
Zinc	0.477	mg/L	0.010	95	70	130		

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190429C

04/29/19 22:06

Antimony	0.533	mg/L	0.0010	107	70	130	1.4	20
Arsenic	0.487	mg/L	0.0010	97	70	130	2.9	20
Barium	0.487	mg/L	0.050	97	70	130	1.8	20
Beryllium	0.239	mg/L	0.0010	96	70	130	2.0	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--

								Batch: 45389
19 Sample Matrix Spike Duplicate				Run: ICPMS205-H_190429C			04/29/19 22:06	
Cadmium	0.242	mg/L	0.0010	97	70	130	2.3	20
Chromium	0.484	mg/L	0.0050	97	70	130	2.6	20
Cobalt	0.475	mg/L	0.0050	95	70	130	2.0	20
Copper	0.477	mg/L	0.0050	95	70	130	2.3	20
Iron	2.48	mg/L	0.020	99	70	130	2.4	20
Lead	0.530	mg/L	0.0010	106	70	130	1.7	20
Manganese	2.54	mg/L	0.0010	102	70	130	2.1	20
Molybdenum	0.480	mg/L	0.0010	96	70	130	1.8	20
Nickel	0.479	mg/L	0.0050	96	70	130	2.1	20
Selenium	0.484	mg/L	0.0010	97	70	130	2.1	20
Silver	0.0562	mg/L	0.0010	112	70	130	2.3	20
Strontium	0.495	mg/L	0.010	99	70	130	2.7	20
Thallium	0.517	mg/L	0.00050	103	70	130	2.1	20
Uranium	0.521	mg/L	0.00030	104	70	130	1.2	20
Zinc	0.490	mg/L	0.010	98	70	130	2.7	20
								Batch: R143801
2 Method Blank				Run: ICPMS205-H_190429C			04/29/19 19:10	
Selenium	ND	mg/L	2E-05					
Zinc	ND	mg/L	0.0003					
2 Laboratory Fortified Blank				Run: ICPMS205-H_190429C			04/29/19 19:13	
Selenium	0.0478	mg/L	0.0050	96	85	115		
Zinc	0.0506	mg/L	0.010	101	85	115		
2 Sample Matrix Spike				Run: ICPMS205-H_190429C			04/29/19 22:29	
Selenium	0.313	mg/L	0.0010	98	70	130		
Zinc	1.88	mg/L	0.010		70	130	A	
2 Sample Matrix Spike Duplicate				Run: ICPMS205-H_190429C			04/29/19 22:31	
Selenium	0.310	mg/L	0.0010	97	70	130	0.7	20
Zinc	1.88	mg/L	0.010		70	130	0.0	20 A
2 Method Blank				Run: ICPMS205-H_190429C			04/30/19 02:23	
Selenium	ND	mg/L	2E-05					
Zinc	ND	mg/L	0.0003					
2 Laboratory Fortified Blank				Run: ICPMS205-H_190429C			04/30/19 02:25	
Selenium	0.0480	mg/L	0.0050	96	85	115		
Zinc	0.0504	mg/L	0.010	101	85	115		
2 Sample Matrix Spike				Run: ICPMS205-H_190429C			04/30/19 02:46	
Selenium	0.0506	mg/L	0.0010	101	70	130		
Zinc	0.0541	mg/L	0.010	98	70	130		
2 Sample Matrix Spike Duplicate				Run: ICPMS205-H_190429C			04/30/19 02:48	
Selenium	0.0513	mg/L	0.0010	102	70	130	1.4	20
Zinc	0.0548	mg/L	0.010	99	70	130	1.2	20

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--

2 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190429C

Batch: R143801
04/30/19 02:48

Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

Analytical Run: ICPMS205-H_190501B

18 Initial Calibration Verification Standard

05/01/19 16:08

Antimony	0.0586	mg/L	0.050	98	90	110
Arsenic	0.0596	mg/L	0.0050	99	90	110
Barium	0.0593	mg/L	0.10	99	90	110
Beryllium	0.0299	mg/L	0.0010	100	90	110
Cadmium	0.0298	mg/L	0.0010	99	90	110
Chromium	0.0595	mg/L	0.010	99	90	110
Cobalt	0.0608	mg/L	0.010	101	90	110
Copper	0.0609	mg/L	0.010	101	90	110
Iron	0.289	mg/L	0.020	96	90	110
Lead	0.0612	mg/L	0.010	102	90	110
Manganese	0.302	mg/L	0.010	101	90	110
Molybdenum	0.0592	mg/L	0.0050	99	90	110
Nickel	0.0615	mg/L	0.010	103	90	110
Selenium	0.0596	mg/L	0.0050	99	90	110
Strontium	0.0598	mg/L	0.10	100	90	110
Thallium	0.0603	mg/L	0.10	101	90	110
Uranium	0.0587	mg/L	0.00030	98	90	110
Zinc	0.0616	mg/L	0.010	103	90	110

18 Interference Check Sample A

05/01/19 16:10

Antimony	0.000685	mg/L	0.050			
Arsenic	2.05E-06	mg/L	0.0050			
Barium	0.000382	mg/L	0.10			
Beryllium	1.13E-05	mg/L	0.0010			
Cadmium	0.000123	mg/L	0.0010			
Chromium	0.000209	mg/L	0.010			
Cobalt	0.000286	mg/L	0.010			
Copper	0.000144	mg/L	0.010			
Iron	108	mg/L	0.020	108	70	130
Lead	0.000109	mg/L	0.010			
Manganese	0.000230	mg/L	0.010			
Molybdenum	0.931	mg/L	0.0050	116	70	130
Nickel	0.000207	mg/L	0.010			
Selenium	0.000273	mg/L	0.0050			
Strontium	0.00107	mg/L	0.10			
Thallium	5.06E-05	mg/L	0.10			
Uranium	3.89E-05	mg/L	0.00030			
Zinc	0.000212	mg/L	0.010			

18 Interference Check Sample AB

05/01/19 16:12

Antimony	0.000488	mg/L	0.050		0	0
Arsenic	0.0110	mg/L	0.0050	110	70	130
Barium	0.000214	mg/L	0.10		0	0
Beryllium	-4.01E-05	mg/L	0.0010		0	0
Cadmium	0.0109	mg/L	0.0010	109	70	130
Chromium	0.0214	mg/L	0.010	107	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--

Analytical Run: ICPMS205-H_190501B

18 Interference Check Sample AB

05/01/19 16:12

Cobalt	0.0217	mg/L	0.010	109	70	130
Copper	0.0214	mg/L	0.010	107	70	130
Iron	110	mg/L	0.020	110	70	130
Lead	0.000117	mg/L	0.010		0	0
Manganese	0.0216	mg/L	0.010	108	70	130
Molybdenum	0.930	mg/L	0.0050	116	70	130
Nickel	0.0220	mg/L	0.010	110	70	130
Selenium	0.0108	mg/L	0.0050	108	70	130
Strontium	0.00110	mg/L	0.10		0	0
Thallium	2.41E-05	mg/L	0.10		0	0
Uranium	8.76E-06	mg/L	0.00030		0	0
Zinc	0.0107	mg/L	0.010	107	70	130

18 Initial Calibration Verification Standard

05/02/19 03:30

Antimony	0.0590	mg/L	0.050	98	90	110
Arsenic	0.0585	mg/L	0.0050	98	90	110
Barium	0.0593	mg/L	0.10	99	90	110
Beryllium	0.0276	mg/L	0.0010	92	90	110
Cadmium	0.0299	mg/L	0.0010	100	90	110
Chromium	0.0597	mg/L	0.010	99	90	110
Cobalt	0.0610	mg/L	0.010	102	90	110
Copper	0.0605	mg/L	0.010	101	90	110
Iron	0.285	mg/L	0.020	95	90	110
Lead	0.0597	mg/L	0.010	99	90	110
Manganese	0.300	mg/L	0.010	100	90	110
Molybdenum	0.0594	mg/L	0.0050	99	90	110
Nickel	0.0606	mg/L	0.010	101	90	110
Selenium	0.0603	mg/L	0.0050	100	90	110
Strontium	0.0594	mg/L	0.10	99	90	110
Thallium	0.0588	mg/L	0.10	98	90	110
Uranium	0.0561	mg/L	0.00030	94	90	110
Zinc	0.0603	mg/L	0.010	100	90	110

18 Interference Check Sample A

05/02/19 03:33

Antimony	0.000674	mg/L	0.050			
Arsenic	3.15E-05	mg/L	0.0050			
Barium	0.000406	mg/L	0.10			
Beryllium	4.75E-05	mg/L	0.0010			
Cadmium	0.000135	mg/L	0.0010			
Chromium	0.000204	mg/L	0.010			
Cobalt	0.000300	mg/L	0.010			
Copper	7.50E-05	mg/L	0.010			
Iron	109	mg/L	0.020	109	70	130
Lead	0.000100	mg/L	0.010			
Manganese	0.000246	mg/L	0.010			
Molybdenum	0.935	mg/L	0.0050	117	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

Analytical Run: ICPMS205-H_190501B

18 Interference Check Sample A

05/02/19 03:33

Nickel	0.000599	mg/L	0.010
Selenium	4.81E-05	mg/L	0.0050
Strontium	0.00104	mg/L	0.10
Thallium	3.59E-05	mg/L	0.10
Uranium	3.45E-05	mg/L	0.00030
Zinc	0.000356	mg/L	0.010

18 Interference Check Sample AB

05/02/19 03:35

Antimony	0.000518	mg/L	0.050	0	0
Arsenic	0.0113	mg/L	0.0050	113	70 130
Barium	0.000205	mg/L	0.10		0 0
Beryllium	0.000118	mg/L	0.0010		0 0
Cadmium	0.0112	mg/L	0.0010	112	70 130
Chromium	0.0221	mg/L	0.010	111	70 130
Cobalt	0.0223	mg/L	0.010	112	70 130
Copper	0.0217	mg/L	0.010	108	70 130
Iron	113	mg/L	0.020	113	70 130
Lead	0.000111	mg/L	0.010		0 0
Manganese	0.0222	mg/L	0.010	111	70 130
Molybdenum	0.975	mg/L	0.0050	122	70 130
Nickel	0.0221	mg/L	0.010	110	70 130
Selenium	0.0105	mg/L	0.0050	105	70 130
Strontium	0.00114	mg/L	0.10		0 0
Thallium	2.38E-05	mg/L	0.10		0 0
Uranium	8.74E-06	mg/L	0.00030		0 0
Zinc	0.0116	mg/L	0.010	116	70 130

Batch: 45389

19 Method Blank

Run: ICPMS205-H_190501B

05/01/19 17:37

Antimony	ND	mg/L	0.0001
Arsenic	ND	mg/L	4E-05
Barium	ND	mg/L	9E-05
Beryllium	6E-05	mg/L	6E-05
Cadmium	ND	mg/L	3E-05
Chromium	ND	mg/L	0.0001
Cobalt	ND	mg/L	6E-05
Copper	ND	mg/L	0.0002
Iron	ND	mg/L	0.004
Lead	6E-05	mg/L	4E-05
Manganese	ND	mg/L	0.0003
Molybdenum	ND	mg/L	2E-05
Nickel	ND	mg/L	0.0001
Selenium	0.0001	mg/L	5E-05
Silver	6E-05	mg/L	9E-06
Strontium	ND	mg/L	0.0003
Thallium	ND	mg/L	4E-05

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--	--	--	--	--	--	--	--

Batch: 45389

19 Method Blank

Run: ICPMS205-H_190501B

05/01/19 17:37

Uranium	ND	mg/L	9E-06
Zinc	ND	mg/L	0.001

19 Sample Matrix Spike

Run: ICPMS205-H_190501B

05/01/19 17:53

Antimony	0.532	mg/L	0.0010	106	70	130	
Arsenic	0.498	mg/L	0.0010	100	70	130	
Barium	0.522	mg/L	0.050	101	70	130	
Beryllium	0.239	mg/L	0.0010	96	70	130	
Cadmium	0.248	mg/L	0.0010	99	70	130	
Chromium	0.489	mg/L	0.0050	98	70	130	
Cobalt	0.492	mg/L	0.0050	98	70	130	
Copper	0.495	mg/L	0.0050	99	70	130	
Iron	2.67	mg/L	0.020	100	70	130	
Lead	0.566	mg/L	0.0010	113	70	130	
Manganese	2.66	mg/L	0.0010	106	70	130	
Molybdenum	0.500	mg/L	0.0010	100	70	130	
Nickel	0.498	mg/L	0.0050	100	70	130	
Selenium	0.490	mg/L	0.0010	98	70	130	
Silver	0.0743	mg/L	0.0010	148	70	130	S
Strontium	0.516	mg/L	0.010	100	70	130	
Thallium	0.550	mg/L	0.00050	110	70	130	
Uranium	0.542	mg/L	0.00030	108	70	130	
Zinc	0.494	mg/L	0.010	98	70	130	

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190501B

05/01/19 17:56

Antimony	0.520	mg/L	0.0010	104	70	130	2.2	20
Arsenic	0.483	mg/L	0.0010	97	70	130	3.0	20
Barium	0.508	mg/L	0.050	98	70	130	2.8	20
Beryllium	0.230	mg/L	0.0010	92	70	130	3.8	20
Cadmium	0.240	mg/L	0.0010	96	70	130	3.0	20
Chromium	0.474	mg/L	0.0050	95	70	130	3.3	20
Cobalt	0.476	mg/L	0.0050	95	70	130	3.2	20
Copper	0.478	mg/L	0.0050	96	70	130	3.4	20
Iron	2.58	mg/L	0.020	97	70	130	3.4	20
Lead	0.554	mg/L	0.0010	111	70	130	2.1	20
Manganese	2.57	mg/L	0.0010	103	70	130	3.3	20
Molybdenum	0.488	mg/L	0.0010	98	70	130	2.4	20
Nickel	0.483	mg/L	0.0050	97	70	130	3.0	20
Selenium	0.476	mg/L	0.0010	95	70	130	3.0	20
Silver	0.0728	mg/L	0.0010	146	70	130	1.9	20
Strontium	0.499	mg/L	0.010	96	70	130	3.3	20
Thallium	0.538	mg/L	0.00050	108	70	130	2.2	20
Uranium	0.534	mg/L	0.00030	107	70	130	1.5	20
Zinc	0.479	mg/L	0.010	95	70	130	3.1	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

Batch: 45389

19 Sample Matrix Spike

Run: ICPMS205-H_190501B

05/01/19 18:19

Antimony	0.511	mg/L	0.0010	102	70	130
Arsenic	0.478	mg/L	0.0010	96	70	130
Barium	0.480	mg/L	0.050	96	70	130
Beryllium	0.229	mg/L	0.0010	92	70	130
Cadmium	0.236	mg/L	0.0010	94	70	130
Chromium	0.473	mg/L	0.0050	95	70	130
Cobalt	0.476	mg/L	0.0050	95	70	130
Copper	0.474	mg/L	0.0050	95	70	130
Iron	2.45	mg/L	0.020	98	70	130
Lead	0.554	mg/L	0.0010	111	70	130
Manganese	2.56	mg/L	0.0010	102	70	130
Molybdenum	0.495	mg/L	0.0010	99	70	130
Nickel	0.483	mg/L	0.0050	97	70	130
Selenium	0.484	mg/L	0.0010	97	70	130
Silver	0.0713	mg/L	0.0010	142	70	130
Strontium	0.478	mg/L	0.010	96	70	130
Thallium	0.537	mg/L	0.00050	107	70	130
Uranium	0.537	mg/L	0.00030	107	70	130
Zinc	0.472	mg/L	0.010	94	70	130

S

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190501B

05/01/19 18:21

Antimony	0.524	mg/L	0.0010	105	70	130	2.6	20
Arsenic	0.486	mg/L	0.0010	97	70	130	1.6	20
Barium	0.496	mg/L	0.050	99	70	130	3.2	20
Beryllium	0.234	mg/L	0.0010	94	70	130	2.2	20
Cadmium	0.243	mg/L	0.0010	97	70	130	2.8	20
Chromium	0.482	mg/L	0.0050	96	70	130	1.9	20
Cobalt	0.483	mg/L	0.0050	97	70	130	1.4	20
Copper	0.485	mg/L	0.0050	97	70	130	2.3	20
Iron	2.49	mg/L	0.020	99	70	130	1.7	20
Lead	0.564	mg/L	0.0010	113	70	130	1.8	20
Manganese	2.61	mg/L	0.0010	104	70	130	1.8	20
Molybdenum	0.492	mg/L	0.0010	98	70	130	0.6	20
Nickel	0.490	mg/L	0.0050	98	70	130	1.4	20
Selenium	0.482	mg/L	0.0010	96	70	130	0.5	20
Silver	0.0735	mg/L	0.0010	147	70	130	2.9	20
Strontium	0.486	mg/L	0.010	97	70	130	1.6	20
Thallium	0.548	mg/L	0.00050	110	70	130	2.1	20
Uranium	0.543	mg/L	0.00030	109	70	130	1.1	20
Zinc	0.480	mg/L	0.010	96	70	130	1.7	20

S

Batch: 45434

19 Method Blank

Run: ICPMS205-H_190501B

05/01/19 19:09

Antimony	ND	mg/L	0.0001
Arsenic	ND	mg/L	4E-05
Barium	ND	mg/L	9E-05

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--

Batch: 45434

19 Method Blank

Run: ICPMS205-H_190501B

05/01/19 19:09

Beryllium	ND	mg/L	6E-05
Cadmium	ND	mg/L	3E-05
Chromium	ND	mg/L	0.0001
Cobalt	ND	mg/L	6E-05
Copper	ND	mg/L	0.0002
Iron	ND	mg/L	0.004
Lead	ND	mg/L	4E-05
Manganese	ND	mg/L	0.0003
Molybdenum	ND	mg/L	2E-05
Nickel	0.0002	mg/L	0.0001
Selenium	ND	mg/L	5E-05
Silver	5E-05	mg/L	9E-06
Strontium	ND	mg/L	0.0003
Thallium	ND	mg/L	4E-05
Uranium	ND	mg/L	9E-06
Zinc	ND	mg/L	0.001

19 Sample Matrix Spike

Run: ICPMS205-H_190501B

05/01/19 19:21

Antimony	0.514	mg/L	0.0010	103	70	130
Arsenic	0.490	mg/L	0.0010	98	70	130
Barium	0.659	mg/L	0.050	99	70	130
Beryllium	0.229	mg/L	0.0010	92	70	130
Cadmium	0.241	mg/L	0.0010	97	70	130
Chromium	0.481	mg/L	0.0050	96	70	130
Cobalt	0.484	mg/L	0.0050	97	70	130
Copper	0.485	mg/L	0.0050	97	70	130
Iron	3.23	mg/L	0.020	102	70	130
Lead	0.568	mg/L	0.0010	113	70	130
Manganese	2.61	mg/L	0.0010	104	70	130
Molybdenum	0.483	mg/L	0.0010	97	70	130
Nickel	0.491	mg/L	0.0050	98	70	130
Selenium	0.484	mg/L	0.0010	97	70	130
Silver	0.0731	mg/L	0.0010	146	70	130
Strontium	0.508	mg/L	0.010	98	70	130
Thallium	0.551	mg/L	0.00050	110	70	130
Uranium	0.534	mg/L	0.00030	107	70	130
Zinc	0.484	mg/L	0.010	96	70	130

S

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190501B

05/01/19 19:24

Antimony	0.522	mg/L	0.0010	104	70	130	1.4	20
Arsenic	0.496	mg/L	0.0010	99	70	130	1.2	20
Barium	0.661	mg/L	0.050	100	70	130	0.3	20
Beryllium	0.233	mg/L	0.0010	93	70	130	1.6	20
Cadmium	0.245	mg/L	0.0010	98	70	130	1.5	20
Chromium	0.489	mg/L	0.0050	97	70	130	1.7	20
Cobalt	0.491	mg/L	0.0050	98	70	130	1.4	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

Batch: 45434

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190501B

05/01/19 19:24

Copper	0.496	mg/L	0.0050	99	70	130	2.1	20	
Iron	3.26	mg/L	0.020	104	70	130	1.0	20	
Lead	0.571	mg/L	0.0010	114	70	130	0.5	20	
Manganese	2.65	mg/L	0.0010	106	70	130	1.7	20	
Molybdenum	0.487	mg/L	0.0010	97	70	130	0.9	20	
Nickel	0.499	mg/L	0.0050	99	70	130	1.7	20	
Selenium	0.486	mg/L	0.0010	97	70	130	0.2	20	
Silver	0.0741	mg/L	0.0010	148	70	130	1.3	20	S
Strontium	0.515	mg/L	0.010	99	70	130	1.5	20	
Thallium	0.553	mg/L	0.00050	111	70	130	0.3	20	
Uranium	0.527	mg/L	0.00030	105	70	130	1.2	20	
Zinc	0.490	mg/L	0.010	97	70	130	1.0	20	

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--	--	--	--	--	--	--

Analytical Run: ICPMS205-H_190502B

2 Initial Calibration Verification Standard 05/02/19 17:49

Nickel	0.0610	mg/L	0.010	102	90	110
Silver	0.0302	mg/L	0.0050	101	90	110

2 Interference Check Sample A 05/02/19 17:51

Nickel	0.000170	mg/L	0.010
Silver	3.62E-05	mg/L	0.0050

2 Interference Check Sample AB 05/02/19 17:53

Nickel	0.0212	mg/L	0.010	106	70	130
Silver	0.00536	mg/L	0.0050	107	70	130

Batch: 45389

19 Method Blank Run: ICPMS205-H_190502B 05/02/19 19:50

Antimony	ND	mg/L	0.0001
Arsenic	ND	mg/L	4E-05
Barium	ND	mg/L	9E-05
Beryllium	ND	mg/L	6E-05
Cadmium	ND	mg/L	3E-05
Chromium	0.0001	mg/L	0.0001
Cobalt	ND	mg/L	6E-05
Copper	ND	mg/L	0.0002
Iron	ND	mg/L	0.004
Lead	ND	mg/L	4E-05
Manganese	ND	mg/L	0.0003
Molybdenum	ND	mg/L	2E-05
Nickel	ND	mg/L	0.0001
Selenium	ND	mg/L	5E-05
Silver	ND	mg/L	9E-06
Strontium	ND	mg/L	0.0003
Thallium	ND	mg/L	4E-05
Uranium	ND	mg/L	9E-06
Zinc	0.001	mg/L	0.001

19 Laboratory Control Sample Run: ICPMS205-H_190502B 05/02/19 20:05

Antimony	0.528	mg/L	0.0010	106	85	115
Arsenic	0.480	mg/L	0.0010	96	85	115
Barium	0.476	mg/L	0.050	95	85	115
Beryllium	0.218	mg/L	0.0010	87	85	115
Cadmium	0.240	mg/L	0.0010	96	85	115
Chromium	0.477	mg/L	0.0050	95	85	115
Cobalt	0.505	mg/L	0.0050	101	85	115
Copper	0.483	mg/L	0.0050	97	85	115
Iron	2.44	mg/L	0.020	98	85	115
Lead	0.498	mg/L	0.0010	100	85	115
Manganese	2.47	mg/L	0.0010	99	85	115
Molybdenum	0.517	mg/L	0.0010	103	85	115

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

Batch: 45389

19 Laboratory Control Sample

Run: ICPMS205-H_190502B

05/02/19 20:05

Nickel	0.485	mg/L	0.0050	97	85	115
Selenium	0.472	mg/L	0.0010	94	85	115
Silver	0.0491	mg/L	0.0010	98	85	115
Strontium	0.467	mg/L	0.010	93	85	115
Thallium	0.487	mg/L	0.00050	97	85	115
Uranium	0.492	mg/L	0.00030	98	85	115
Zinc	0.475	mg/L	0.010	95	85	115

19 Sample Matrix Spike

Run: ICPMS205-H_190502B

05/02/19 20:07

Antimony	0.528	mg/L	0.0010	106	70	130
Arsenic	0.487	mg/L	0.0010	97	70	130
Barium	0.506	mg/L	0.050	97	70	130
Beryllium	0.224	mg/L	0.0010	90	70	130
Cadmium	0.245	mg/L	0.0010	98	70	130
Chromium	0.485	mg/L	0.0050	97	70	130
Cobalt	0.513	mg/L	0.0050	103	70	130
Copper	0.489	mg/L	0.0050	98	70	130
Iron	2.62	mg/L	0.020	99	70	130
Lead	0.508	mg/L	0.0010	102	70	130
Manganese	2.52	mg/L	0.0010	100	70	130
Molybdenum	0.519	mg/L	0.0010	104	70	130
Nickel	0.492	mg/L	0.0050	98	70	130
Selenium	0.480	mg/L	0.0010	96	70	130
Silver	0.0499	mg/L	0.0010	100	70	130
Strontium	0.491	mg/L	0.010	95	70	130
Thallium	0.501	mg/L	0.00050	100	70	130
Uranium	0.491	mg/L	0.00030	98	70	130
Zinc	0.485	mg/L	0.010	96	70	130

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190502B

05/02/19 20:09

Antimony	0.504	mg/L	0.0010	101	70	130	4.7	20
Arsenic	0.482	mg/L	0.0010	96	70	130	1.1	20
Barium	0.495	mg/L	0.050	95	70	130	2.1	20
Beryllium	0.216	mg/L	0.0010	86	70	130	3.5	20
Cadmium	0.240	mg/L	0.0010	96	70	130	2.0	20
Chromium	0.477	mg/L	0.0050	95	70	130	1.7	20
Cobalt	0.504	mg/L	0.0050	101	70	130	1.7	20
Copper	0.482	mg/L	0.0050	96	70	130	1.4	20
Iron	2.58	mg/L	0.020	97	70	130	1.9	20
Lead	0.492	mg/L	0.0010	98	70	130	3.2	20
Manganese	2.48	mg/L	0.0010	99	70	130	1.7	20
Molybdenum	0.494	mg/L	0.0010	99	70	130	4.9	20
Nickel	0.482	mg/L	0.0050	96	70	130	2.0	20
Selenium	0.470	mg/L	0.0010	94	70	130	2.2	20
Silver	0.0487	mg/L	0.0010	97	70	130	2.3	20
Strontium	0.485	mg/L	0.010	94	70	130	1.3	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--	--	--	--	--	--	--	--	--

Batch: 45389

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190502B

05/02/19 20:09

Thallium	0.485	mg/L	0.00050	97	70	130	3.2	20
Uranium	0.479	mg/L	0.00030	96	70	130	2.5	20
Zinc	0.480	mg/L	0.010	95	70	130	0.9	20

19 Sample Matrix Spike

Run: ICPMS205-H_190502B

05/02/19 20:26

Antimony	0.498	mg/L	0.0010	100	70	130		
Arsenic	0.469	mg/L	0.0010	94	70	130		
Barium	0.470	mg/L	0.050	94	70	130		
Beryllium	0.216	mg/L	0.0010	86	70	130		
Cadmium	0.237	mg/L	0.0010	95	70	130		
Chromium	0.471	mg/L	0.0050	94	70	130		
Cobalt	0.495	mg/L	0.0050	99	70	130		
Copper	0.471	mg/L	0.0050	94	70	130		
Iron	2.40	mg/L	0.020	96	70	130		
Lead	0.489	mg/L	0.0010	98	70	130		
Manganese	2.43	mg/L	0.0010	97	70	130		
Molybdenum	0.507	mg/L	0.0010	101	70	130		
Nickel	0.474	mg/L	0.0050	95	70	130		
Selenium	0.464	mg/L	0.0010	93	70	130		
Silver	0.0481	mg/L	0.0010	96	70	130		
Strontium	0.459	mg/L	0.010	92	70	130		
Thallium	0.482	mg/L	0.00050	96	70	130		
Uranium	0.480	mg/L	0.00030	96	70	130		
Zinc	0.468	mg/L	0.010	94	70	130		

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190502B

05/02/19 20:28

Antimony	0.507	mg/L	0.0010	101	70	130	1.8	20
Arsenic	0.477	mg/L	0.0010	95	70	130	1.8	20
Barium	0.481	mg/L	0.050	96	70	130	2.2	20
Beryllium	0.221	mg/L	0.0010	88	70	130	2.2	20
Cadmium	0.241	mg/L	0.0010	96	70	130	1.6	20
Chromium	0.475	mg/L	0.0050	95	70	130	0.8	20
Cobalt	0.501	mg/L	0.0050	100	70	130	1.2	20
Copper	0.480	mg/L	0.0050	96	70	130	1.7	20
Iron	2.43	mg/L	0.020	97	70	130	1.2	20
Lead	0.500	mg/L	0.0010	100	70	130	2.2	20
Manganese	2.44	mg/L	0.0010	98	70	130	0.5	20
Molybdenum	0.493	mg/L	0.0010	99	70	130	2.8	20
Nickel	0.480	mg/L	0.0050	96	70	130	1.1	20
Selenium	0.475	mg/L	0.0010	95	70	130	2.4	20
Silver	0.0490	mg/L	0.0010	98	70	130	1.9	20
Strontium	0.464	mg/L	0.010	93	70	130	1.1	20
Thallium	0.491	mg/L	0.00050	98	70	130	1.9	20
Uranium	0.487	mg/L	0.00030	97	70	130	1.5	20
Zinc	0.474	mg/L	0.010	95	70	130	1.2	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

Batch: 45434

19 Method Blank

Run: ICPMS205-H_190502B

05/02/19 20:42

Antimony	ND	mg/L	9E-05
Arsenic	ND	mg/L	4E-05
Barium	ND	mg/L	2E-05
Beryllium	ND	mg/L	0.0001
Cadmium	ND	mg/L	3E-05
Chromium	ND	mg/L	0.0002
Cobalt	ND	mg/L	9E-05
Copper	ND	mg/L	0.0001
Iron	ND	mg/L	0.002
Lead	ND	mg/L	3E-05
Manganese	ND	mg/L	0.0003
Molybdenum	ND	mg/L	2E-05
Nickel	ND	mg/L	0.0002
Selenium	ND	mg/L	2E-05
Silver	ND	mg/L	2E-05
Strontium	ND	mg/L	0.0001
Thallium	ND	mg/L	1E-05
Uranium	ND	mg/L	1E-05
Zinc	ND	mg/L	0.0003

19 Laboratory Control Sample

Run: ICPMS205-H_190502B

05/02/19 20:53

Antimony	0.498	mg/L	0.0010	100	85	115
Arsenic	0.469	mg/L	0.0010	94	85	115
Barium	0.468	mg/L	0.050	94	85	115
Beryllium	0.216	mg/L	0.0010	86	85	115
Cadmium	0.238	mg/L	0.0010	95	85	115
Chromium	0.470	mg/L	0.0050	94	85	115
Cobalt	0.492	mg/L	0.0050	99	85	115
Copper	0.472	mg/L	0.0050	94	85	115
Iron	2.39	mg/L	0.020	95	85	115
Lead	0.487	mg/L	0.0010	97	85	115
Manganese	2.42	mg/L	0.0010	97	85	115
Molybdenum	0.484	mg/L	0.0010	97	85	115
Nickel	0.475	mg/L	0.0050	95	85	115
Selenium	0.469	mg/L	0.0010	94	85	115
Silver	0.0484	mg/L	0.0010	97	85	115
Strontium	0.452	mg/L	0.010	90	85	115
Thallium	0.478	mg/L	0.00050	96	85	115
Uranium	0.467	mg/L	0.00030	93	85	115
Zinc	0.466	mg/L	0.010	93	85	115

19 Sample Matrix Spike

Run: ICPMS205-H_190502B

05/02/19 20:55

Antimony	0.501	mg/L	0.0010	100	70	130
Arsenic	0.484	mg/L	0.0010	97	70	130
Barium	0.636	mg/L	0.050	96	70	130
Beryllium	0.220	mg/L	0.0010	88	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--

Batch: 45434

19 Sample Matrix Spike

Run: ICPMS205-H_190502B

05/02/19 20:55

Cadmium	0.241	mg/L	0.0010	96	70	130
Chromium	0.483	mg/L	0.0050	96	70	130
Cobalt	0.505	mg/L	0.0050	101	70	130
Copper	0.488	mg/L	0.0050	97	70	130
Iron	3.18	mg/L	0.020	100	70	130
Lead	0.499	mg/L	0.0010	100	70	130
Manganese	2.48	mg/L	0.0010	99	70	130
Molybdenum	0.487	mg/L	0.0010	97	70	130
Nickel	0.488	mg/L	0.0050	97	70	130
Selenium	0.472	mg/L	0.0010	94	70	130
Silver	0.0492	mg/L	0.0010	98	70	130
Strontium	0.488	mg/L	0.010	94	70	130
Thallium	0.490	mg/L	0.00050	98	70	130
Uranium	0.477	mg/L	0.00030	95	70	130
Zinc	0.485	mg/L	0.010	96	70	130

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190502B

05/02/19 20:57

Antimony	0.503	mg/L	0.0010	101	70	130	0.3	20
Arsenic	0.481	mg/L	0.0010	96	70	130	0.5	20
Barium	0.638	mg/L	0.050	96	70	130	0.3	20
Beryllium	0.219	mg/L	0.0010	88	70	130	0.6	20
Cadmium	0.243	mg/L	0.0010	97	70	130	1.1	20
Chromium	0.482	mg/L	0.0050	96	70	130	0.2	20
Cobalt	0.506	mg/L	0.0050	101	70	130	0.2	20
Copper	0.485	mg/L	0.0050	96	70	130	0.7	20
Iron	3.15	mg/L	0.020	99	70	130	0.7	20
Lead	0.502	mg/L	0.0010	100	70	130	0.7	20
Manganese	2.48	mg/L	0.0010	99	70	130	0.1	20
Molybdenum	0.490	mg/L	0.0010	98	70	130	0.8	20
Nickel	0.487	mg/L	0.0050	97	70	130	0.2	20
Selenium	0.480	mg/L	0.0010	96	70	130	1.7	20
Silver	0.0496	mg/L	0.0010	99	70	130	0.8	20
Strontium	0.485	mg/L	0.010	94	70	130	0.5	20
Thallium	0.492	mg/L	0.00050	98	70	130	0.2	20
Uranium	0.470	mg/L	0.00030	94	70	130	1.6	20
Zinc	0.481	mg/L	0.010	95	70	130	1.0	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--	--	--	--	--	--	--

							Analytical Run: HGCV203-H_190426A
	Initial Calibration Verification Standard						04/26/19 12:01
Mercury	0.104	ug/L	0.0050	104	90	110	
	Continuing Calibration Verification Standard						04/26/19 15:51
Mercury	0.102	ug/L	0.0050	102	90	110	
							Batch: 45411
	Method Blank				Run: HGCV203-H_190426A		04/26/19 16:39
Mercury	ND	ug/L	0.001				
	Laboratory Control Sample				Run: HGCV203-H_190426A		04/26/19 16:42
Mercury	0.0544	ug/L	0.0050	109	90	110	
	Sample Matrix Spike				Run: HGCV203-H_190426A		04/26/19 16:55
Mercury	0.111	ug/L	0.0050	111	70	130	
	Sample Matrix Spike Duplicate				Run: HGCV203-H_190426A		04/26/19 16:58
Mercury	0.111	ug/L	0.0050	111	70	130	0.4 20
							Analytical Run: HGCV203-H_190501B
	Initial Calibration Verification Standard						05/01/19 14:56
Mercury	0.104	ug/L	0.0050	104	90	110	
	Continuing Calibration Verification Standard						05/01/19 15:45
Mercury	0.101	ug/L	0.0050	101	90	110	
							Batch: 45442
	Method Blank				Run: HGCV203-H_190501B		05/01/19 15:06
Mercury	ND	ug/L	0.001				
	Laboratory Control Sample				Run: HGCV203-H_190501B		05/01/19 15:09
Mercury	0.0522	ug/L	0.0050	104	90	110	
	Sample Matrix Spike				Run: HGCV203-H_190501B		05/01/19 15:16
Mercury	0.0662	ug/L	0.0050	103	70	130	
	Sample Matrix Spike Duplicate				Run: HGCV203-H_190501B		05/01/19 15:19
Mercury	0.0660	ug/L	0.0050	103	70	130	0.3 20
	Sample Matrix Spike				Run: HGCV203-H_190501B		05/01/19 16:24
Mercury	0.0775	ug/L	0.0050	105	70	130	
	Sample Matrix Spike Duplicate				Run: HGCV203-H_190501B		05/01/19 16:27
Mercury	0.0813	ug/L	0.0050	113	70	130	4.8 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--	--	--	--	--	--	--	--

							Analytical Run: HGCV203-H_190502A
							05/02/19 09:57
Initial Calibration Verification Standard							
Mercury	0.105	ug/L	0.0050	105	90	110	
							Batch: 45461
Method Blank							
Mercury	ND	ug/L	0.001				Run: HGCV203-H_190502A 05/02/19 10:18
Laboratory Control Sample							
Mercury	0.0533	ug/L	0.0050	107	90	110	Run: HGCV203-H_190502A 05/02/19 10:24
Sample Matrix Spike							
Mercury	0.0577	ug/L	0.0050	105	70	130	Run: HGCV203-H_190502A 05/02/19 11:10
Sample Matrix Spike Duplicate							
Mercury	0.0572	ug/L	0.0050	104	70	130	0.9 20 Run: HGCV203-H_190502A 05/02/19 11:13

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--

							Analytical Run: IC METROHM_190423A
2 Initial Calibration Verification Standard							04/23/19 11:54
Chloride	102	mg/L	1.0	102	90	110	
Sulfate	404	mg/L	1.0	101	90	110	
2 Continuing Calibration Verification Standard							04/27/19 19:22
Chloride	52.6	mg/L	1.0	105	90	110	
Sulfate	211	mg/L	1.0	105	90	110	
2 Continuing Calibration Verification Standard							04/27/19 22:54
Chloride	52.0	mg/L	1.0	104	90	110	
Sulfate	207	mg/L	1.0	104	90	110	
2 Continuing Calibration Verification Standard							04/28/19 02:26
Chloride	50.8	mg/L	1.0	102	90	110	
Sulfate	202	mg/L	1.0	101	90	110	
							Batch: R143659
2 Method Blank							Run: IC METROHM_190423A
Chloride	ND	mg/L	0.02				04/23/19 11:40
Sulfate	ND	mg/L	0.08				
2 Laboratory Fortified Blank							Run: IC METROHM_190423A
Chloride	25.3	mg/L	1.0	101	90	110	04/23/19 12:08
Sulfate	105	mg/L	1.0	105	90	110	
2 Sample Matrix Spike							Run: IC METROHM_190423A
Chloride	25.3	mg/L	1.0	99	90	110	04/27/19 22:26
Sulfate	113	mg/L	1.0	100	90	110	
2 Sample Matrix Spike Duplicate							Run: IC METROHM_190423A
Chloride	25.1	mg/L	1.0	98	90	110	04/27/19 22:40
Sulfate	114	mg/L	1.0	100	90	110	0.9 20
2 Sample Matrix Spike							Run: IC METROHM_190423A
Chloride	24.2	mg/L	1.0	97	90	110	04/28/19 01:58
Sulfate	98.3	mg/L	1.0	98	90	110	
2 Sample Matrix Spike Duplicate							Run: IC METROHM_190423A
Chloride	24.2	mg/L	1.0	97	90	110	04/28/19 02:12
Sulfate	99.2	mg/L	1.0	99	90	110	0.3 20
2 Sample Matrix Spike							Run: IC METROHM_190423A
Chloride	23.4	mg/L	1.0	94	90	110	04/28/19 05:15
Sulfate	94.8	mg/L	1.0	95	90	110	
2 Sample Matrix Spike Duplicate							Run: IC METROHM_190423A
Chloride	23.3	mg/L	1.0	93	90	110	04/28/19 05:30
Sulfate	95.3	mg/L	1.0	95	90	110	0.8 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

--	--	--	--	--	--	--

							Analytical Run: FIA203-HE_190430A
	Initial Calibration Verification Standard						04/30/19 10:09
Nitrogen, Nitrate+Nitrite as N	0.984	mg/L	0.010	98	90	110	
	Continuing Calibration Verification Standard						04/30/19 10:27
Nitrogen, Nitrate+Nitrite as N	0.465	mg/L	0.010	93	90	110	
	Continuing Calibration Verification Standard						04/30/19 10:44
Nitrogen, Nitrate+Nitrite as N	0.461	mg/L	0.010	92	90	110	
	Continuing Calibration Verification Standard						04/30/19 11:00
Nitrogen, Nitrate+Nitrite as N	0.460	mg/L	0.010	92	90	110	
							Batch: R143820
	Method Blank				Run: FIA203-HE_190430A		04/30/19 10:10
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	0.009				
	Laboratory Fortified Blank				Run: FIA203-HE_190430A		04/30/19 10:12
Nitrogen, Nitrate+Nitrite as N	0.942	mg/L	0.011	94	90	110	
	Sample Matrix Spike				Run: FIA203-HE_190430A		04/30/19 10:31
Nitrogen, Nitrate+Nitrite as N	0.994	mg/L	0.011	93	90	110	
	Sample Matrix Spike Duplicate				Run: FIA203-HE_190430A		04/30/19 10:32
Nitrogen, Nitrate+Nitrite as N	1.01	mg/L	0.011	95	90	110	1.9 10
	Sample Matrix Spike				Run: FIA203-HE_190430A		04/30/19 10:47
Nitrogen, Nitrate+Nitrite as N	1.01	mg/L	0.011	95	90	110	
	Sample Matrix Spike Duplicate				Run: FIA203-HE_190430A		04/30/19 10:49
Nitrogen, Nitrate+Nitrite as N	1.03	mg/L	0.011	98	90	110	2.7 10
	Sample Matrix Spike				Run: FIA203-HE_190430A		04/30/19 11:04
Nitrogen, Nitrate+Nitrite as N	0.971	mg/L	0.011	93	90	110	
	Sample Matrix Spike Duplicate				Run: FIA203-HE_190430A		04/30/19 11:05
Nitrogen, Nitrate+Nitrite as N	0.989	mg/L	0.011	95	90	110	1.8 10
	Sample Matrix Spike				Run: FIA203-HE_190430A		04/30/19 11:21
Nitrogen, Nitrate+Nitrite as N	0.998	mg/L	0.011	96	90	110	
	Sample Matrix Spike Duplicate				Run: FIA203-HE_190430A		04/30/19 11:22
Nitrogen, Nitrate+Nitrite as N	1.02	mg/L	0.011	98	90	110	2.2 10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19040763

05/13/19

							Analytical Run: FIA202-HE_190430C
	Initial Calibration Verification Standard						04/30/19 16:05
Phosphorus, Total as P	0.253	mg/L	0.010	101	90	110	
	Initial Calibration Blank, Instrument Blank						04/30/19 16:06
Phosphorus, Total as P	-0.000530	mg/L	0.010		0	0	
	Continuing Calibration Verification Standard						04/30/19 16:24
Phosphorus, Total as P	0.0992	mg/L	0.010	99	90	110	
							Batch: 45432
	Method Blank			Run: FIA202-HE_190430C		04/30/19 16:07	
Phosphorus, Total as P	ND	mg/L	0.002				
	Laboratory Control Sample			Run: FIA202-HE_190430C		04/30/19 16:08	
Phosphorus, Total as P	0.408	mg/L	0.010	102	90	110	
	Sample Matrix Spike			Run: FIA202-HE_190430C		04/30/19 16:10	
Phosphorus, Total as P	0.265	mg/L	0.010	105	90	110	
	Sample Matrix Spike Duplicate			Run: FIA202-HE_190430C		04/30/19 16:11	
Phosphorus, Total as P	0.263	mg/L	0.010	104	90	110	0.8 20
	Sample Matrix Spike			Run: FIA202-HE_190430C		04/30/19 16:28	
Phosphorus, Total as P	0.237	mg/L	0.010	107	90	110	
	Sample Matrix Spike Duplicate			Run: FIA202-HE_190430C		04/30/19 16:29	
Phosphorus, Total as P	0.228	mg/L	0.010	103	90	110	3.7 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Tintina Resources Inc

H19040763

Login completed by: Jessica C. Smith

Date Received: 4/25/2019

Reviewed by: BL2000\rtooke

Received by: TLL

Reviewed Date: 4/26/2019

Carrier name: Hand Del



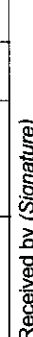
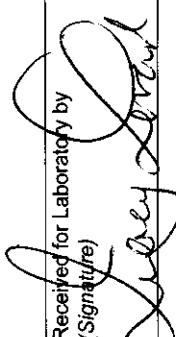
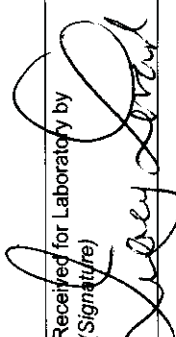
Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
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 type="checkbox"/>	No <input checked="" 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 checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	°C See Comments		
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"/>

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.

Cooler 1 was received at 0.3 °C, Cooler 2 at 0.0 °C. On Ice. Did not receive sample BBC-1904-121 that was indicated on the COC. Called client and they indicated sample should not have been on the COC. JCS 04/25/19

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME		NO. OF CONTAINERS	REMARKS							
	DATE	TIME									
18049	April Sampling Blunk Butte (6.5)		3								
SAMPLERS: (Signature) 											
DATE	TIME	SAMPLE NUMBER	COMMONS UF / RAW	NUTRIENTS UF / H ₂ SO ₄	DISS. METAL F / NaOH	CN UF / NaOH	TOTAL METALS UF / HNO ₃	TOTAL RECOVERABLE METALS UF / HNO ₃	TPH	BTX	
4/23/19	1420	BBC-1904-106	X	X	X	X	X	X			
	1440	107									
	1515	108									
	1645	111									
4/24/19	1200	118									
	1225	119									
	1245	120									
	1315	121									
	1330	122									
	1400	123									
	1430	124									
	1500	125									
	1530	126									
Relinquished (Signature)		Date / Time		Received by (Signature)		Lab		P.O. #		Shipped via: Bus FedEx UPS	
		4/25/19 0923				Energy 2 Lub		1311 Timber		Other	
Relinquished (Signature)		Date / Time		Received by (Signature)		Remarks		Air Bill #			
						C1=0.3 } TB Hand del. on ice C2=0.0					
Relinquished (Signature)		Date / Time		Received for Laboratory by (Signature)		Date / Time		Enclosed:			
						4/25/19 9:23		<input checked="" type="checkbox"/> Parameter sheet w/detection limits <input type="checkbox"/> QA / AC standard mixing instructions <input type="checkbox"/> Cover letter <input type="checkbox"/> Other			
				Split Samples:				<input type="checkbox"/> Accepted <input type="checkbox"/> Declined		Signature	

Return results & electronic copy to:
QA / QC Dept. at address at top of page

**TABLE 5. PARAMETERS, METHODS, AND DETECTION LIMITS
FOR GROUNDWATER MONITORING**

Parameter	Analytical Method ⁽¹⁾	Project-Required Detection Limit (mg/L)
Physical Parameters		
TDS	SM 2540C	10
TSS	SM 2540C	10
Common Ions		
Alkalinity	SM 2320B	4
Sulfate	300.0	1
Chloride	300.0/SM 4500CL-B	1
Fluoride	A4500-F C	0.1
Calcium	215.1/200.7	1
Magnesium	242.1/200.7	1
Sodium	273.1/200.7	1
Potassium	258.1/200.7	1
Nutrients		
Nitrate+Nitrite as N	353.2	0.01
Trace Constituents (Dissolved)⁽²⁾		
Aluminum (Al)	200.7/200.8	0.009
Antimony (Sb)	200.7/200.8	0.0005
Arsenic (As)	200.8/SM 3114B	0.001
Barium (Ba)	200.7/200.8	0.003
Beryllium (Be)	200.7/200.8	0.0008
Cadmium (Cd)	200.7/200.8	0.00003
Chromium (Cr)	200.7/200.8	0.01
Cobalt (Co)	200.7/200.8	0.01
Copper (Cu)	200.7/200.8	0.002
Iron (Fe)	200.7/200.8	0.02
Lead (Pb)	200.7/200.8	0.0003
Manganese (Mn)	200.7/200.8	0.005
Mercury (Hg)	245.2/245.1/200.8/SM 3112B	0.000005
Molybdenum (Mo)	200.7/200.8	0.002
Nickel (Ni)	200.7/200.8	0.001
Selenium (Se)	200.7/200.8/SM 3114B	0.0002
Silver (Ag)	200.7/200.8	0.0002
Strontium (Sr)	200.7/200.8	0.0002
Thallium (Tl)	200.7/200.8	0.0002
Uranium	200.7/200.8	0.008
Zinc (Zn)	200.7/200.8	0.002
Field Parameters		
Stream Flow	HF-SOP-37/-44/-46	NA
Water Temperature	HF-SOP-20	0.1 °C
Dissolved Oxygen (DO)	HF-SOP-22	0.1 mg/L
pH	HF-SOP-20	0.1 s.u.
Specific Conductance (SC)	HF-SOP-79	1 µmhos/cm

(1) Analytical methods are from *Standard Methods for the Examination of Water and Wastewater* (SM) or EPA's *Methods for Chemical Analysis of Water and Waste* (1983).

(2) Samples to be analyzed for dissolved constituents will be field-filtered through a 0.45 µm filter.

HYDROMETRICS, Inc.

3020 Bozeman Ave. • Helena, MT 59601 • (406) 443-4150



CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME	DATE		SAMPLE NUMBER	NO. OF CONTAINERS	COMMONS UF / RAW	NUTRIENTS UF / H ₂ SO ₄	DISS. METAL F / NaOH	CN UF / HNO ₃	TOTAL METALS UF / HNO ₃	TOTAL RECOVERABLE METALS UF / HNO ₃	BTEX	TPH	REMARKS
		TIME	GRAB											
18049	April Sampling Black Bl. He (SW)	4/24/14		109	41	X	X	X	X	X	X			
		1615		110		X	X	X	X	X	X			
		1730		112		X	X	X	X	X	X			
		4/24/14 0830		113		X	X	X	X	X	X			
		0900		114		X	X	X	X	X	X			
		0945		115		X	X	X	X	X	X			
		1025		116		X	X	X	X	X	X			
		1100		117		X	X	X	X	X	X			
		1600		127		X	X	X	X	X	X			
<p>Relinquished (Signature) <i>ZZ</i> Date / Time <u>4/25/14 0823</u> Received by (Signature) _____</p> <p>Relinquished (Signature) _____ Date / Time _____ Received by (Signature) _____</p> <p>Relinquished (Signature) _____ Date / Time _____ Received for Laboratory by (Signature) <i>Dagmar</i></p>														
<p>Lab <u>Energy Lub</u></p> <p>Remarks <u>C1=0.3</u> <u>C2=0.0</u> <u>7B3 Hand del. on ice</u></p>										<p>P.O. # <u>13.11</u></p> <p>Tintine</p>		<p>Shipped via: <input checked="" type="checkbox"/> Bus <input type="checkbox"/> FedEx <input type="checkbox"/> UPS</p> <p>Other _____ Air Bill # _____</p>		
<p>Enclosed: <input checked="" type="checkbox"/> Parameter sheet w/detection limits <input type="checkbox"/> QA / AC standard mixing instructions <input type="checkbox"/> Cover letter <input type="checkbox"/> Other _____</p> <p>Split Samples: <input type="checkbox"/> Accepted <input type="checkbox"/> Declined</p> <p>Signature _____</p>														

Return results & electronic copy to: QA / QC Dept. at address at top of page

**TABLE 6. PARAMETERS, METHODS, AND DETECTION LIMITS
FOR SURFACE WATER MONITORING**

Parameter	Analytical Method ⁽¹⁾	Project-Required Detection Limit (mg/L)
Physical Parameters		
TDS	SM 2540C	4
TSS	SM 2540C	4
Common Ions		
Alkalinity	SM 2320B	4
Sulfate	300.0	1
Chloride	300.0/SM 4500CL-B	1
Fluoride	A4500-F C	0.1
Calcium	215.1/200.7	1
Magnesium	242.1/200.7	1
Sodium	273.1/200.7	1
Potassium	258.1/200.7	1
Nutrients		
Nitrate+Nitrite as N	353.2	0.003
Total Persulfate Nitrogen	A 4500-N-C	0.04
Total Phosphorus	E365.1	0.003
Trace Constituents (SW - Total Recoverable except Aluminum [Diss])⁽²⁾		
Aluminum (Al)	200.7/200.8	0.009
Antimony (Sb)	200.7/200.8	0.0005
Arsenic (As)	200.8/SM 3114B	0.001
Barium (Ba)	200.7/200.8	0.003
Beryllium (Be)	200.7/200.8	0.0008
Cadmium (Cd)	200.7/200.8	0.00003
Chromium (Cr)	200.7/200.8	0.01
Cobalt (Co)	200.7/200.8	0.01
Copper (Cu)	200.7/200.8	0.002
Iron (Fe)	200.7/200.8	0.02
Lead (Pb)	200.7/200.8	0.0003
Manganese (Mn)	200.7/200.8	0.005
Mercury (Hg)	245.2/245.1/200.8/SM 3112B	0.000005
Molybdenum (Mo)	200.7/200.8	0.002
Nickel (Ni)	200.7/200.8	0.001
Selenium (Se)	200.7/200.8/SM 3114B	0.0002
Silver (Ag)	200.7/200.8	0.0002
Strontium (Sr)	200.7/200.8	0.0002
Thallium (Tl)	200.7/200.8	0.0002
Uranium	200.7/200.8	0.008
Zinc (Zn)	200.7/200.8	0.002
Field Parameters		
Stream Flow	HF-SOP-37/-44/-46	NA
Water Temperature	HF-SOP-20	0.1 °C
Dissolved Oxygen (DO)	HF-SOP-22	0.1 mg/L
pH	HF-SOP-20	0.1 s.u.
Specific Conductance (SC)	HF-SOP-79	1 µmhos/cm

(1) Analytical methods are from *Standard Methods for the Examination of Water and Wastewater* (SM) or EPA's *Methods for Chemical Analysis of Water and Waste* (1983).

(2) Samples to be analyzed for dissolved constituents will be field-filtered through a 0.45 µm filter.



June 20, 2019

Tintina Resources Inc
PO Box 431
White Sulphur Springs, MT 59645-0431

Work Order: H19050914 Quote ID: H1216

Project Name: 18049 Tintina May Monthly

Energy Laboratories Inc Helena MT received the following 8 samples for Tintina Resources Inc on 5/31/2019 for analysis.

H19050914-001	BBC-1905-115	05/30/19 8:40	05/31/19	Surface Water	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Total Recoverable Fluoride Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by E200.2 Mercury Digestion by E245.1 E365.1 Digestion, Total P Nitrogen, Total Persulfate A4500 N-C Phosphorus, Total Solids, Total Dissolved Solids, Total Suspended
H19050914-002	BBC-1905-116	05/30/19 9:55	05/31/19	Surface Water	Same As Above
H19050914-003	BBC-1905-117	05/30/19 10:10	05/31/19	Surface Water	Same As Above
H19050914-004	BBC-1905-118	05/30/19 10:20	05/31/19	Surface Water	Same As Above
H19050914-005	BBC-1905-119	05/30/19 10:45	05/31/19	Surface Water	Same As Above
H19050914-006	BBC-1905-120	05/30/19 11:10	05/31/19	Surface Water	Same As Above
H19050914-007	BBC-1905-121	05/30/19 11:40	05/31/19	Surface Water	Same As Above
H19050914-008	BBC-1905-128	05/30/19 14:10	05/31/19	Surface Water	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, 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. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

Digitally signed by
Amanda B. Carlson
Date: 2019.06.20 08:09:10 -06:00



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina May Monthly
H19050914-001
BBC-1905-115

06/20/19
05/30/19 08:40
05/31/19
Surface Water

Solids, Total Suspended TSS @ 105 C	16 mg/L		4	A2540 D	05/31/19 14:21 / cmm
Solids, Total Dissolved TDS @ 180 C	116 mg/L	D	10	A2540 C	05/31/19 14:09 / cmm
Alkalinity, Total as CaCO3	98 mg/L		4	A2320 B	06/02/19 13:37 / SRW
Chloride	1 mg/L		1	E300.0	06/03/19 04:54 / cmm
Sulfate	4 mg/L		1	E300.0	06/03/19 04:54 / cmm
Fluoride	ND mg/L		0.1	4 A4500-F C	06/04/19 09:50 / SRW
Hardness as CaCO3	100 mg/L		1	A2340 B	06/03/19 22:20 / abc
Nitrogen, Nitrate+Nitrite as N	ND mg/L		0.01	E353.2	06/06/19 10:21 / kmd
Nitrogen, Total	0.15 mg/L		0.04	A4500 N-C	06/03/19 13:04 / kmd
Phosphorus, Total as P	0.021 mg/L		0.003	E365.1	06/07/19 09:29 / kmd
Aluminum	0.062 mg/L		0.009	E200.8	06/07/19 21:54 / sld
Calcium	28 mg/L		1	E200.7	06/03/19 22:20 / sld
Magnesium	7 mg/L		1	E200.7	06/03/19 22:20 / sld
Potassium	ND mg/L		1	E200.7	06/03/19 22:20 / sld
Sodium	1 mg/L		1	E200.7	06/03/19 22:20 / sld
Antimony	ND mg/L		0.0005	E200.8	06/06/19 18:52 / sld
Arsenic	ND mg/L		0.001	E200.8	06/06/19 18:52 / sld
Barium	0.081 mg/L		0.003	E200.8	06/06/19 18:52 / sld
Beryllium	ND mg/L		0.0008	E200.8	06/06/19 18:52 / sld
Cadmium	ND mg/L		0.00003	E200.8	06/06/19 18:52 / sld
Chromium	ND mg/L		0.01	E200.8	06/06/19 18:52 / sld
Cobalt	ND mg/L		0.01	E200.8	06/06/19 18:52 / sld
Copper	ND mg/L		0.002	E200.8	06/06/19 18:52 / sld
Iron	0.60 mg/L		0.02	E200.8	06/11/19 19:23 / sld
Lead	0.0003 mg/L		0.0003	E200.8	06/11/19 19:23 / sld
Manganese	0.015 mg/L		0.005	E200.8	06/06/19 18:52 / sld
Mercury	0.011 ug/L		0.005	E245.1	06/11/19 11:21 / ber
Molybdenum	ND mg/L		0.002	E200.8	06/06/19 18:52 / sld
Nickel	0.001 mg/L		0.001	E200.8	06/11/19 19:23 / sld
Selenium	ND mg/L		0.0002	E200.8	06/06/19 18:52 / sld
Silver	ND mg/L		0.0002	E200.8	06/13/19 18:37 / sld
Strontium	0.0896 mg/L	L	0.0003	E200.8	06/06/19 18:52 / sld
Thallium	ND mg/L		0.0002	E200.8	06/06/19 18:52 / sld
Uranium	0.0002 mg/L		0.0002	E200.8	06/06/19 18:52 / sld
Zinc	0.002 mg/L		0.002	E200.8	06/06/19 18:52 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina May Monthly
H19050914-002
BBC-1905-116

06/20/19
05/30/19 09:55
05/31/19
Surface Water

Solids, Total Suspended TSS @ 105 C	ND mg/L		4	A2540 D	05/31/19 14:21 / cmm
Solids, Total Dissolved TDS @ 180 C	201 mg/L	D	10	A2540 C	05/31/19 14:09 / cmm
Alkalinity, Total as CaCO3	170 mg/L		4	A2320 B	06/02/19 13:42 / SRW
Chloride	5 mg/L		1	E300.0	06/03/19 05:08 / cmm
Sulfate	18 mg/L		1	E300.0	06/03/19 05:08 / cmm
Fluoride	0.2 mg/L		0.1	4 A4500-F C	06/04/19 09:58 / SRW
Hardness as CaCO3	194 mg/L		1	A2340 B	06/03/19 22:24 / abc
Nitrogen, Nitrate+Nitrite as N	0.03 mg/L		0.01	E353.2	06/06/19 10:22 / kmd
Nitrogen, Total	0.20 mg/L		0.04	A4500 N-C	06/03/19 13:06 / kmd
Phosphorus, Total as P	0.010 mg/L		0.003	E365.1	06/07/19 09:31 / kmd
Aluminum	ND mg/L		0.009	E200.8	06/07/19 21:56 / sld
Calcium	45 mg/L		1	E200.7	06/03/19 22:24 / sld
Magnesium	20 mg/L		1	E200.7	06/03/19 22:24 / sld
Potassium	ND mg/L		1	E200.7	06/03/19 22:24 / sld
Sodium	2 mg/L		1	E200.7	06/03/19 22:24 / sld
Antimony	ND mg/L		0.0005	E200.8	06/06/19 18:55 / sld
Arsenic	ND mg/L		0.001	E200.8	06/06/19 18:55 / sld
Barium	0.122 mg/L		0.003	E200.8	06/06/19 18:55 / sld
Beryllium	ND mg/L		0.0008	E200.8	06/06/19 18:55 / sld
Cadmium	ND mg/L		0.00003	E200.8	06/06/19 18:55 / sld
Chromium	ND mg/L		0.01	E200.8	06/06/19 18:55 / sld
Cobalt	ND mg/L		0.01	E200.8	06/06/19 18:55 / sld
Copper	ND mg/L		0.002	E200.8	06/06/19 18:55 / sld
Iron	0.16 mg/L		0.02	E200.8	06/11/19 19:26 / sld
Lead	ND mg/L		0.0003	E200.8	06/06/19 18:55 / sld
Manganese	0.016 mg/L		0.005	E200.8	06/06/19 18:55 / sld
Mercury	0.007 ug/L		0.005	E245.1	06/11/19 11:24 / ber
Molybdenum	ND mg/L		0.002	E200.8	06/06/19 18:55 / sld
Nickel	ND mg/L		0.001	E200.8	06/11/19 19:26 / sld
Selenium	ND mg/L		0.0002	E200.8	06/11/19 19:26 / sld
Silver	ND mg/L		0.0002	E200.8	06/13/19 18:39 / sld
Strontium	0.111 mg/L	L	0.0003	E200.8	06/06/19 18:55 / sld
Thallium	ND mg/L		0.0002	E200.8	06/06/19 18:55 / sld
Uranium	0.0005 mg/L		0.0002	E200.8	06/06/19 18:55 / sld
Zinc	ND mg/L		0.002	E200.8	06/06/19 18:55 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina May Monthly
H19050914-003
BBC-1905-117

06/20/19
05/30/19 10:10
05/31/19
Surface Water

Solids, Total Suspended TSS @ 105 C	ND mg/L		4	A2540 D	05/31/19 14:21 / cmm
Solids, Total Dissolved TDS @ 180 C	222 mg/L	D	10	A2540 C	05/31/19 14:09 / cmm
Alkalinity, Total as CaCO3	200 mg/L		4	A2320 B	06/02/19 13:48 / SRW
Chloride	2 mg/L		1	E300.0	06/03/19 05:22 / cmm
Sulfate	11 mg/L		1	E300.0	06/03/19 05:22 / cmm
Fluoride	0.2 mg/L		0.1	4 A4500-F C	06/04/19 10:02 / SRW
Hardness as CaCO3	210 mg/L		1	A2340 B	06/03/19 22:28 / abc
Nitrogen, Nitrate+Nitrite as N	0.04 mg/L		0.01	E353.2	06/06/19 10:24 / kmd
Nitrogen, Total	0.20 mg/L		0.04	A4500 N-C	06/03/19 13:07 / kmd
Phosphorus, Total as P	0.008 mg/L		0.003	E365.1	06/07/19 09:32 / kmd
Aluminum	ND mg/L		0.009	E200.8	06/07/19 21:58 / sld
Calcium	53 mg/L		1	E200.7	06/03/19 22:28 / sld
Magnesium	19 mg/L		1	E200.7	06/03/19 22:28 / sld
Potassium	1 mg/L		1	E200.7	06/03/19 22:28 / sld
Sodium	2 mg/L		1	E200.7	06/03/19 22:28 / sld
Antimony	ND mg/L		0.0005	E200.8	06/06/19 18:57 / sld
Arsenic	ND mg/L		0.001	E200.8	06/06/19 18:57 / sld
Barium	0.103 mg/L		0.003	E200.8	06/06/19 18:57 / sld
Beryllium	ND mg/L		0.0008	E200.8	06/06/19 18:57 / sld
Cadmium	ND mg/L		0.00003	E200.8	06/06/19 18:57 / sld
Chromium	ND mg/L		0.01	E200.8	06/06/19 18:57 / sld
Cobalt	ND mg/L		0.01	E200.8	06/06/19 18:57 / sld
Copper	ND mg/L		0.002	E200.8	06/06/19 18:57 / sld
Iron	0.06 mg/L		0.02	E200.8	06/11/19 19:28 / sld
Lead	ND mg/L		0.0003	E200.8	06/06/19 18:57 / sld
Manganese	0.005 mg/L		0.005	E200.8	06/11/19 19:28 / sld
Mercury	0.005 ug/L		0.005	E245.1	06/11/19 11:34 / ber
Molybdenum	ND mg/L		0.002	E200.8	06/06/19 18:57 / sld
Nickel	ND mg/L		0.001	E200.8	06/11/19 19:28 / sld
Selenium	ND mg/L		0.0002	E200.8	06/11/19 19:28 / sld
Silver	ND mg/L		0.0002	E200.8	06/13/19 18:41 / sld
Strontium	0.115 mg/L	L	0.0003	E200.8	06/06/19 18:57 / sld
Thallium	ND mg/L		0.0002	E200.8	06/06/19 18:57 / sld
Uranium	0.0005 mg/L		0.0002	E200.8	06/06/19 18:57 / sld
Zinc	ND mg/L		0.002	E200.8	06/06/19 18:57 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina May Monthly
H19050914-004
BBC-1905-118

06/20/19
05/30/19 10:20
05/31/19
Surface Water

Solids, Total Suspended TSS @ 105 C	ND mg/L		4	A2540 D	05/31/19 14:22 / cmm
Solids, Total Dissolved TDS @ 180 C	216 mg/L	D	10	A2540 C	05/31/19 14:12 / cmm
Alkalinity, Total as CaCO3	200 mg/L		4	A2320 B	06/02/19 13:54 / SRW
Chloride	2 mg/L		1	E300.0	06/03/19 05:36 / cmm
Sulfate	11 mg/L		1	E300.0	06/03/19 05:36 / cmm
Fluoride	0.2 mg/L		0.1	4 A4500-F C	06/04/19 10:06 / SRW
Hardness as CaCO3	196 mg/L		1	A2340 B	06/03/19 22:32 / abc
Nitrogen, Nitrate+Nitrite as N	0.05 mg/L		0.01	E353.2	06/06/19 10:25 / kmd
Nitrogen, Total	0.21 mg/L		0.04	A4500 N-C	06/03/19 13:08 / kmd
Phosphorus, Total as P	0.008 mg/L		0.003	E365.1	06/07/19 09:33 / kmd
Aluminum	ND mg/L		0.009	E200.8	06/07/19 22:00 / sld
Calcium	49 mg/L		1	E200.7	06/03/19 22:32 / sld
Magnesium	18 mg/L		1	E200.7	06/03/19 22:32 / sld
Potassium	1 mg/L		1	E200.7	06/03/19 22:32 / sld
Sodium	2 mg/L		1	E200.7	06/03/19 22:32 / sld
Antimony	ND mg/L		0.0005	E200.8	06/06/19 18:59 / sld
Arsenic	ND mg/L		0.001	E200.8	06/06/19 18:59 / sld
Barium	0.103 mg/L		0.003	E200.8	06/06/19 18:59 / sld
Beryllium	ND mg/L		0.0008	E200.8	06/06/19 18:59 / sld
Cadmium	ND mg/L		0.00003	E200.8	06/06/19 18:59 / sld
Chromium	ND mg/L		0.01	E200.8	06/06/19 18:59 / sld
Cobalt	ND mg/L		0.01	E200.8	06/06/19 18:59 / sld
Copper	ND mg/L		0.002	E200.8	06/11/19 19:30 / sld
Iron	0.06 mg/L		0.02	E200.8	06/11/19 19:30 / sld
Lead	ND mg/L		0.0003	E200.8	06/06/19 18:59 / sld
Manganese	0.005 mg/L		0.005	E200.8	06/11/19 19:30 / sld
Mercury	0.005 ug/L		0.005	E245.1	06/11/19 11:37 / ber
Molybdenum	ND mg/L		0.002	E200.8	06/06/19 18:59 / sld
Nickel	ND mg/L		0.001	E200.8	06/06/19 18:59 / sld
Selenium	ND mg/L		0.0002	E200.8	06/11/19 19:30 / sld
Silver	ND mg/L		0.0002	E200.8	06/13/19 18:43 / sld
Strontium	0.116 mg/L	L	0.0003	E200.8	06/06/19 18:59 / sld
Thallium	ND mg/L		0.0002	E200.8	06/06/19 18:59 / sld
Uranium	0.0005 mg/L		0.0002	E200.8	06/06/19 18:59 / sld
Zinc	ND mg/L		0.002	E200.8	06/06/19 18:59 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina May Monthly
H19050914-005
BBC-1905-119

06/20/19
05/30/19 10:45
05/31/19
Surface Water

Solids, Total Suspended TSS @ 105 C	15 mg/L		4	A2540 D	05/31/19 14:22 / cmm
Solids, Total Dissolved TDS @ 180 C	115 mg/L	D	10	A2540 C	05/31/19 14:12 / cmm
Alkalinity, Total as CaCO3	100 mg/L		4	A2320 B	06/02/19 13:59 / SRW
Chloride	1 mg/L		1	E300.0	06/03/19 05:50 / cmm
Sulfate	4 mg/L		1	E300.0	06/03/19 05:50 / cmm
Fluoride	ND mg/L		0.1	4 A4500-F C	06/04/19 10:10 / SRW
Hardness as CaCO3	98 mg/L		1	A2340 B	06/03/19 22:36 / abc
Nitrogen, Nitrate+Nitrite as N	ND mg/L		0.01	E353.2	06/06/19 10:28 / kmd
Nitrogen, Total	0.12 mg/L		0.04	A4500 N-C	06/06/19 15:57 / kmd
Phosphorus, Total as P	0.017 mg/L		0.003	E365.1	06/07/19 09:36 / kmd
Aluminum	0.051 mg/L		0.009	E200.8	06/07/19 22:15 / sld
Calcium	28 mg/L		1	E200.7	06/03/19 22:36 / sld
Magnesium	7 mg/L		1	E200.7	06/03/19 22:36 / sld
Potassium	ND mg/L		1	E200.7	06/03/19 22:36 / sld
Sodium	2 mg/L		1	E200.7	06/03/19 22:36 / sld
Antimony	ND mg/L		0.0005	E200.8	06/06/19 19:02 / sld
Arsenic	ND mg/L		0.001	E200.8	06/06/19 19:02 / sld
Barium	0.073 mg/L		0.003	E200.8	06/06/19 19:02 / sld
Beryllium	ND mg/L		0.0008	E200.8	06/06/19 19:02 / sld
Cadmium	ND mg/L		0.00003	E200.8	06/06/19 19:02 / sld
Chromium	ND mg/L		0.01	E200.8	06/06/19 19:02 / sld
Cobalt	ND mg/L		0.01	E200.8	06/06/19 19:02 / sld
Copper	ND mg/L		0.002	E200.8	06/06/19 19:02 / sld
Iron	0.55 mg/L		0.02	E200.8	06/11/19 19:32 / sld
Lead	ND mg/L		0.0003	E200.8	06/06/19 19:02 / sld
Manganese	0.012 mg/L		0.005	E200.8	06/06/19 19:02 / sld
Mercury	0.010 ug/L		0.005	E245.1	06/11/19 11:40 / ber
Molybdenum	ND mg/L		0.002	E200.8	06/06/19 19:02 / sld
Nickel	0.001 mg/L		0.001	E200.8	06/11/19 19:32 / sld
Selenium	ND mg/L		0.0002	E200.8	06/06/19 19:02 / sld
Silver	ND mg/L		0.0002	E200.8	06/13/19 18:45 / sld
Strontium	0.0946 mg/L	L	0.0003	E200.8	06/06/19 19:02 / sld
Thallium	ND mg/L		0.0002	E200.8	06/06/19 19:02 / sld
Uranium	0.0002 mg/L		0.0002	E200.8	06/06/19 19:02 / sld
Zinc	0.004 mg/L		0.002	E200.8	06/06/19 19:02 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina May Monthly
H19050914-006
BBC-1905-120

06/20/19
05/30/19 11:10
05/31/19
Surface Water

Solids, Total Suspended TSS @ 105 C	19 mg/L		4	A2540 D	05/31/19 14:22 / cmm
Solids, Total Dissolved TDS @ 180 C	132 mg/L	D	10	A2540 C	05/31/19 14:13 / cmm
Alkalinity, Total as CaCO3	130 mg/L		4	A2320 B	06/02/19 14:05 / SRW
Chloride	1 mg/L		1	E300.0	06/03/19 06:04 / cmm
Sulfate	5 mg/L		1	E300.0	06/03/19 06:04 / cmm
Fluoride	ND mg/L		0.1	4 A4500-F C	06/04/19 10:14 / SRW
Hardness as CaCO3	128 mg/L		1	A2340 B	06/03/19 22:51 / abc
Nitrogen, Nitrate+Nitrite as N	ND mg/L		0.01	E353.2	06/06/19 10:30 / kmd
Nitrogen, Total	0.12 mg/L		0.04	A4500 N-C	06/06/19 15:58 / kmd
Phosphorus, Total as P	0.018 mg/L		0.003	E365.1	06/07/19 09:40 / kmd
Aluminum	0.023 mg/L		0.009	E200.8	06/07/19 22:17 / sld
Calcium	37 mg/L		1	E200.7	06/03/19 22:51 / sld
Magnesium	9 mg/L		1	E200.7	06/03/19 22:51 / sld
Potassium	1 mg/L		1	E200.7	06/03/19 22:51 / sld
Sodium	2 mg/L		1	E200.7	06/03/19 22:51 / sld
Antimony	ND mg/L		0.0005	E200.8	06/04/19 14:57 / dck
Arsenic	ND mg/L		0.001	E200.8	06/04/19 14:57 / dck
Barium	0.061 mg/L		0.003	E200.8	06/04/19 14:57 / dck
Beryllium	ND mg/L		0.0008	E200.8	06/04/19 14:57 / dck
Cadmium	ND mg/L		0.00003	E200.8	06/04/19 14:57 / dck
Chromium	ND mg/L		0.01	E200.8	06/04/19 14:57 / dck
Cobalt	ND mg/L		0.01	E200.8	06/04/19 14:57 / dck
Copper	ND mg/L		0.002	E200.8	06/04/19 14:57 / dck
Iron	0.67 mg/L		0.02	E200.8	06/04/19 14:57 / dck
Lead	0.0003 mg/L		0.0003	E200.8	06/06/19 00:35 / dck
Manganese	0.013 mg/L		0.005	E200.8	06/04/19 14:57 / dck
Mercury	0.01 ug/L	D	0.01	E245.1	06/11/19 11:44 / ber
Molybdenum	ND mg/L		0.002	E200.8	06/04/19 14:57 / dck
Nickel	0.002 mg/L		0.001	E200.8	06/04/19 14:57 / dck
Selenium	ND mg/L		0.0002	E200.8	06/04/19 14:57 / dck
Silver	ND mg/L		0.0002	E200.8	06/06/19 00:35 / dck
Strontium	0.119 mg/L	L	0.0003	E200.8	06/04/19 14:57 / dck
Thallium	ND mg/L		0.0002	E200.8	06/04/19 14:57 / dck
Uranium	0.0003 mg/L		0.0002	E200.8	06/04/19 14:57 / dck
Zinc	0.002 mg/L		0.002	E200.8	06/04/19 14:57 / dck

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina May Monthly
H19050914-007
BBC-1905-121

06/20/19
05/30/19 11:40
05/31/19
Surface Water

Solids, Total Suspended TSS @ 105 C	ND mg/L		4	A2540 D	05/31/19 14:23 / cmm
Solids, Total Dissolved TDS @ 180 C	200 mg/L	D	10	A2540 C	05/31/19 14:13 / cmm
Alkalinity, Total as CaCO3	180 mg/L		4	A2320 B	06/02/19 14:10 / SRW
Chloride	2 mg/L		1	E300.0	06/03/19 06:18 / cmm
Sulfate	18 mg/L		1	E300.0	06/03/19 06:18 / cmm
Fluoride	0.2 mg/L		0.1	4 A4500-F C	06/04/19 10:18 / SRW
Hardness as CaCO3	195 mg/L		1	A2340 B	06/03/19 22:55 / abc
Nitrogen, Nitrate+Nitrite as N	ND mg/L		0.01	E353.2	06/06/19 10:33 / kmd
Nitrogen, Total	0.12 mg/L		0.04	A4500 N-C	06/06/19 15:59 / kmd
Phosphorus, Total as P	0.006 mg/L		0.003	E365.1	06/07/19 09:41 / kmd
Aluminum	ND mg/L		0.009	E200.8	06/07/19 22:19 / sld
Calcium	44 mg/L		1	E200.7	06/03/19 22:55 / sld
Magnesium	21 mg/L		1	E200.7	06/03/19 22:55 / sld
Potassium	ND mg/L		1	E200.7	06/03/19 22:55 / sld
Sodium	2 mg/L		1	E200.7	06/03/19 22:55 / sld
Antimony	ND mg/L		0.0005	E200.8	06/05/19 00:34 / dck
Arsenic	ND mg/L		0.001	E200.8	06/05/19 00:34 / dck
Barium	0.133 mg/L		0.003	E200.8	06/05/19 00:34 / dck
Beryllium	ND mg/L		0.0008	E200.8	06/05/19 00:34 / dck
Cadmium	ND mg/L		0.00003	E200.8	06/05/19 00:34 / dck
Chromium	ND mg/L		0.01	E200.8	06/05/19 00:34 / dck
Cobalt	ND mg/L		0.01	E200.8	06/05/19 00:34 / dck
Copper	ND mg/L		0.002	E200.8	06/05/19 00:34 / dck
Iron	0.03 mg/L		0.02	E200.8	06/05/19 00:34 / dck
Lead	ND mg/L		0.0003	E200.8	06/05/19 00:34 / dck
Manganese	ND mg/L		0.005	E200.8	06/05/19 00:34 / dck
Mercury	ND ug/L		0.005	E245.1	06/11/19 11:47 / ber
Molybdenum	ND mg/L		0.002	E200.8	06/05/19 00:34 / dck
Nickel	ND mg/L		0.001	E200.8	06/05/19 00:34 / dck
Selenium	ND mg/L		0.0002	E200.8	06/05/19 00:34 / dck
Silver	ND mg/L		0.0002	E200.8	06/06/19 00:37 / dck
Strontium	0.100 mg/L	L	0.0003	E200.8	06/05/19 00:34 / dck
Thallium	ND mg/L		0.0002	E200.8	06/05/19 00:34 / dck
Uranium	0.0006 mg/L		0.0002	E200.8	06/05/19 00:34 / dck
Zinc	ND mg/L		0.002	E200.8	06/05/19 00:34 / dck

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina May Monthly
H19050914-008
BBC-1905-128

06/20/19
05/30/19 14:10
05/31/19
Surface Water

Solids, Total Suspended TSS @ 105 C	ND mg/L		4	A2540 D	05/31/19 14:23 / cmm
Solids, Total Dissolved TDS @ 180 C	ND mg/L	D	10	A2540 C	05/31/19 14:13 / cmm
Alkalinity, Total as CaCO3	ND mg/L		4	A2320 B	06/02/19 14:21 / SRW
Chloride	ND mg/L		1	E300.0	06/03/19 06:32 / cmm
Sulfate	ND mg/L		1	E300.0	06/03/19 06:32 / cmm
Fluoride	ND mg/L		0.1	4 A4500-F C	06/04/19 10:22 / SRW
Hardness as CaCO3	ND mg/L		1	A2340 B	06/10/19 11:51 / sld
Nitrogen, Nitrate+Nitrite as N	ND mg/L		0.01	E353.2	06/06/19 10:34 / kmd
Nitrogen, Total	ND mg/L		0.04	A4500 N-C	06/06/19 16:01 / kmd
Phosphorus, Total as P	ND mg/L		0.003	E365.1	06/07/19 10:33 / kmd
Aluminum	ND mg/L		0.009	E200.8	06/07/19 22:21 / sld
Calcium	ND mg/L		1	E200.7	06/03/19 23:06 / sld
Magnesium	ND mg/L		1	E200.7	06/03/19 23:06 / sld
Potassium	ND mg/L		1	E200.7	06/03/19 23:06 / sld
Sodium	ND mg/L		1	E200.7	06/03/19 23:06 / sld
Antimony	ND mg/L		0.0005	E200.8	06/05/19 00:36 / dck
Arsenic	ND mg/L		0.001	E200.8	06/05/19 00:36 / dck
Barium	ND mg/L		0.003	E200.8	06/05/19 00:36 / dck
Beryllium	ND mg/L		0.0008	E200.8	06/05/19 00:36 / dck
Cadmium	ND mg/L		0.00003	E200.8	06/05/19 00:36 / dck
Chromium	ND mg/L		0.01	E200.8	06/05/19 00:36 / dck
Cobalt	ND mg/L		0.01	E200.8	06/05/19 00:36 / dck
Copper	ND mg/L		0.002	E200.8	06/05/19 00:36 / dck
Iron	0.03 mg/L		0.02	E200.8	06/05/19 00:36 / dck
Lead	ND mg/L		0.0003	E200.8	06/05/19 00:36 / dck
Manganese	ND mg/L		0.005	E200.8	06/05/19 00:36 / dck
Mercury	ND ug/L		0.005	E245.1	06/11/19 11:50 / ber
Molybdenum	ND mg/L		0.002	E200.8	06/05/19 00:36 / dck
Nickel	ND mg/L		0.001	E200.8	06/05/19 00:36 / dck
Selenium	ND mg/L		0.0002	E200.8	06/05/19 00:36 / dck
Silver	ND mg/L		0.0002	E200.8	06/06/19 00:39 / dck
Strontium	0.0004 mg/L		0.0002	E200.7	06/12/19 12:59 / sld
Thallium	ND mg/L		0.0002	E200.8	06/05/19 00:36 / dck
Uranium	ND mg/L		0.0002	E200.8	06/05/19 00:36 / dck
Zinc	0.002 mg/L		0.002	E200.8	06/05/19 00:36 / dck

-Strontium, Iron and Zinc were confirmed by duplicate analysis.

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--	--	--	--	--	--	--	--

							Batch: R144697
Alkalinity, Total as CaCO3	Method Blank				Run: PHSC_101-H_190602A		06/02/19 11:15
	ND	mg/L	2				
Alkalinity, Total as CaCO3	Laboratory Control Sample				Run: PHSC_101-H_190602A		06/02/19 11:21
	590	mg/L	4.0	98	90	110	
Alkalinity, Total as CaCO3	Sample Duplicate				Run: PHSC_101-H_190602A		06/02/19 12:59
	330	mg/L	4.0			0.8	10
Alkalinity, Total as CaCO3	Sample Duplicate				Run: PHSC_101-H_190602A		06/02/19 14:16
	180	mg/L	4.0			0.9	10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

Batch: TDS190531A

	Method Blank			Run: ACCU-124 (14410200)_19053	05/31/19 13:28
Solids, Total Dissolved TDS @ 180 C	ND mg/L	10			
	Laboratory Control Sample			Run: ACCU-124 (14410200)_19053	05/31/19 13:28
Solids, Total Dissolved TDS @ 180 C	1930 mg/L	20	97 90 110		
	Sample Duplicate			Run: ACCU-124 (14410200)_19053	05/31/19 13:29
Solids, Total Dissolved TDS @ 180 C	7740 mg/L	100		1.4	5
	Sample Duplicate			Run: ACCU-124 (14410200)_19053	05/31/19 14:09
Solids, Total Dissolved TDS @ 180 C	221 mg/L	10		0.5	5

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

Batch: TSS190531A

	Method Blank			Run: ACCU-124 (14410200)_19053	05/31/19 13:24
Solids, Total Suspended TSS @ 105 C	ND mg/L	0.3			

	Laboratory Control Sample			Run: ACCU-124 (14410200)_19053	05/31/19 13:24
Solids, Total Suspended TSS @ 105 C	88.0 mg/L	10	88	80	120

	Sample Duplicate			Run: ACCU-124 (14410200)_19053	05/31/19 13:24
Solids, Total Suspended TSS @ 105 C	14.5 mg/L	10		32	5 R

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

	Sample Duplicate			Run: ACCU-124 (14410200)_19053	05/31/19 14:22
Solids, Total Suspended TSS @ 105 C	2.80 mg/L	10			5

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

RL - Analyte reporting limit.
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--	--	--	--	--	--	--

							Analytical Run: FIA203-HE_190603B	
Nitrogen, Total	Initial Calibration Blank, Instrument Blank						06/03/19 11:58	
	-0.00309	mg/L	0.10	0	0			
Nitrogen, Total	Continuing Calibration Verification Standard						06/03/19 12:23	
	0.456	mg/L	0.10	91	90	110		
Nitrogen, Total	Initial Calibration Blank, Instrument Blank						06/03/19 12:53	
	-0.00289	mg/L	0.10	0	0			
Nitrogen, Total	Continuing Calibration Verification Standard						06/03/19 12:54	
	0.507	mg/L	0.10	101	90	110		
							Batch: 45943	
Nitrogen, Total	Laboratory Fortified Blank			Run: FIA203-HE_190603B			06/03/19 12:00	
	0.906	mg/L	0.10	91	90	110		
Nitrogen, Total	Method Blank			Run: FIA203-HE_190603B			06/03/19 12:02	
	ND	mg/L	0.03					
Nitrogen, Total	Laboratory Control Sample			Run: FIA203-HE_190603B			06/03/19 12:03	
	7.43	mg/L	0.30	100	90	110		
Nitrogen, Total	Sample Matrix Spike			Run: FIA203-HE_190603B			06/03/19 12:56	
	1.11	mg/L	0.10	97	90	110		
Nitrogen, Total	Sample Matrix Spike Duplicate			Run: FIA203-HE_190603B			06/03/19 12:57	
	1.13	mg/L	0.10	99	90	110	1.6 20	
							Analytical Run: FIA203-HE_190606C	
Nitrogen, Total	Initial Calibration Blank, Instrument Blank						06/06/19 15:46	
	0.000577	mg/L	0.10	0	0			
Nitrogen, Total	Continuing Calibration Verification Standard						06/06/19 15:48	
	0.515	mg/L	0.10	103	90	110		
							Batch: 46015	
Nitrogen, Total	Laboratory Fortified Blank			Run: FIA203-HE_190606C			06/06/19 15:49	
	1.01	mg/L	0.10	101	90	110		
Nitrogen, Total	Method Blank			Run: FIA203-HE_190606C			06/06/19 15:50	
	ND	mg/L	0.03					
Nitrogen, Total	Laboratory Control Sample			Run: FIA203-HE_190606C			06/06/19 15:51	
	7.86	mg/L	0.30	106	90	110		
Nitrogen, Total	Sample Matrix Spike			Run: FIA203-HE_190606C			06/06/19 15:54	
	1.22	mg/L	0.10	95	90	110		
Nitrogen, Total	Sample Matrix Spike Duplicate			Run: FIA203-HE_190606C			06/06/19 15:55	
	1.20	mg/L	0.10	93	90	110	1.7 20	

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--	--	--	--	--	--	--

							Analytical Run: MANTECH 2_190604A
Initial Calibration Verification Standard							06/04/19 08:36
Fluoride	0.7	mg/L	0.1	92	90	110	
Continuing Calibration Verification Standard							06/04/19 09:29
Fluoride	0.9	mg/L	0.1	95	90	110	
Method Blank							Run: MANTECH 2_190604A
Fluoride	ND	mg/L	0.03				Batch: R144758 06/04/19 08:40
Sample Duplicate							Run: MANTECH 2_190604A
Fluoride	1.2	mg/L	0.1			0.9	06/04/19 08:48 10
Sample Duplicate							Run: MANTECH 2_190604A
Fluoride	0.6	mg/L	0.1			0.0	06/04/19 09:46 10
Sample Matrix Spike							Run: MANTECH 2_190604A
Fluoride	1.0	mg/L	0.1	91	85	115	06/04/19 09:54
Sample Matrix Spike							Run: MANTECH 2_190604A
Fluoride	1.1	mg/L	0.1	96	85	115	06/04/19 10:39

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--

Analytical Run: ICP2-HE_190603D

4 Initial Calibration Verification Standard 06/03/19 12:53

Calcium	39.6	mg/L	1.0	99	95	105
Magnesium	39.1	mg/L	1.0	98	95	105
Potassium	39.3	mg/L	1.0	98	95	105
Sodium	39.3	mg/L	1.0	98	95	105

4 Continuing Calibration Verification Standard 06/03/19 12:56

Calcium	25.2	mg/L	1.0	101	95	105
Magnesium	24.7	mg/L	1.0	99	95	105
Potassium	24.3	mg/L	1.0	97	95	105
Sodium	24.3	mg/L	1.0	97	95	105

4 Interference Check Sample A 06/03/19 13:08

Calcium	475	mg/L	1.0	95	80	120
Magnesium	526	mg/L	1.0	105	80	120
Potassium	0.0109	mg/L	1.0		0	0
Sodium	0.0241	mg/L	1.0		0	0

4 Interference Check Sample AB 06/03/19 13:12

Calcium	481	mg/L	1.0	96	80	120
Magnesium	533	mg/L	1.0	107	80	120
Potassium	20.2	mg/L	1.0	101	80	120
Sodium	20.2	mg/L	1.0	101	80	120

4 Continuing Calibration Verification Standard 06/03/19 22:13

Calcium	25.4	mg/L	1.0	102	90	110
Magnesium	24.9	mg/L	1.0	100	90	110
Potassium	25.4	mg/L	1.0	102	90	110
Sodium	25.4	mg/L	1.0	102	90	110

4 Continuing Calibration Verification Standard 06/03/19 22:59

Calcium	24.7	mg/L	1.0	99	90	110
Magnesium	24.2	mg/L	1.0	97	90	110
Potassium	25.7	mg/L	1.0	103	90	110
Sodium	25.8	mg/L	1.0	103	90	110

Batch: R144732

4 Method Blank Run: ICP2-HE_190603D 06/03/19 13:23

Calcium	ND	mg/L	0.07			
Magnesium	ND	mg/L	0.01			
Potassium	ND	mg/L	0.06			
Sodium	ND	mg/L	0.02			

4 Laboratory Fortified Blank Run: ICP2-HE_190603D 06/03/19 13:27

Calcium	50.5	mg/L	1.0	101	85	115
Magnesium	50.4	mg/L	1.0	101	85	115
Potassium	49.7	mg/L	1.0	99	85	115
Sodium	49.7	mg/L	1.0	99	85	115

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--	--	--	--	--	--	--	--	--	--

									Batch: R144732
	4 Sample Matrix Spike								06/03/19 22:43
Calcium	80.4 mg/L	1.0	105	70	130				
Magnesium	59.0 mg/L	1.0	104	70	130				
Potassium	50.4 mg/L	1.0	99	70	130				
Sodium	50.8 mg/L	1.0	99	70	130				
	4 Sample Matrix Spike Duplicate								06/03/19 22:47
Calcium	76.2 mg/L	1.0	96	70	130	5.4	20		
Magnesium	55.3 mg/L	1.0	97	70	130	6.6	20		
Potassium	51.9 mg/L	1.0	102	70	130	2.9	20		
Sodium	52.7 mg/L	1.0	102	70	130	3.7	20		

									Batch: 45939
	Method Blank								06/04/19 23:10
Strontium	ND mg/L	0.0002							
	Laboratory Control Sample								06/04/19 23:14
Strontium	0.494 mg/L	0.010	99	85	115				
	Sample Matrix Spike								06/04/19 23:37
Strontium	0.621 mg/L	0.010	100	70	130				
	Sample Matrix Spike Duplicate								06/04/19 23:40
Strontium	0.607 mg/L	0.010	97	70	130	2.2	20		

									Analytical Run: ICP2-HE_190612A
	Initial Calibration Verification Standard								06/12/19 11:49
Strontium	0.785 mg/L	0.10	98	95	105				
	Continuing Calibration Verification Standard								06/12/19 11:53
Strontium	2.49 mg/L	0.10	100	95	105				
	Interference Check Sample A								06/12/19 12:06
Strontium	-0.0264 mg/L	0.10		0	0				
	Interference Check Sample AB								06/12/19 12:10
Strontium	0.991 mg/L	0.10	99	80	120				
	Continuing Calibration Verification Standard								06/12/19 12:40
Strontium	2.49 mg/L	0.10	100	90	110				

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

Analytical Run: ICPMS205-H_190604C

18 Initial Calibration Verification Standard

06/04/19 14:28

Antimony	0.0549	mg/L	0.050	91	90	110
Arsenic	0.0583	mg/L	0.0050	97	90	110
Barium	0.0590	mg/L	0.10	98	90	110
Beryllium	0.0300	mg/L	0.0010	100	90	110
Cadmium	0.0299	mg/L	0.0010	100	90	110
Chromium	0.0590	mg/L	0.010	98	90	110
Cobalt	0.0598	mg/L	0.010	100	90	110
Copper	0.0594	mg/L	0.010	99	90	110
Iron	0.297	mg/L	0.020	99	90	110
Lead	0.0593	mg/L	0.010	99	90	110
Manganese	0.298	mg/L	0.010	99	90	110
Molybdenum	0.0594	mg/L	0.0050	99	90	110
Nickel	0.0595	mg/L	0.010	99	90	110
Selenium	0.0608	mg/L	0.0050	101	90	110
Strontium	0.0583	mg/L	0.10	97	90	110
Thallium	0.0581	mg/L	0.10	97	90	110
Uranium	0.0581	mg/L	0.00030	97	90	110
Zinc	0.0607	mg/L	0.010	101	90	110

18 Interference Check Sample A

06/04/19 14:31

Antimony	0.000504	mg/L	0.050			
Arsenic	4.91E-05	mg/L	0.0050			
Barium	0.000263	mg/L	0.10			
Beryllium	6.40E-05	mg/L	0.0010			
Cadmium	0.000230	mg/L	0.0010			
Chromium	0.000300	mg/L	0.010			
Cobalt	0.000357	mg/L	0.010			
Copper	0.000158	mg/L	0.010			
Iron	116	mg/L	0.020	116	70	130
Lead	0.000224	mg/L	0.010			
Manganese	0.000344	mg/L	0.010			
Molybdenum	0.964	mg/L	0.0050	121	70	130
Nickel	0.000635	mg/L	0.010			
Selenium	0.000114	mg/L	0.0050			
Strontium	0.00111	mg/L	0.10			
Thallium	6.45E-05	mg/L	0.10			
Uranium	5.36E-05	mg/L	0.00030			
Zinc	0.000377	mg/L	0.010			

18 Interference Check Sample AB

06/04/19 14:33

Antimony	0.000269	mg/L	0.050		0	0
Arsenic	0.0115	mg/L	0.0050	115	70	130
Barium	0.000243	mg/L	0.10		0	0
Beryllium	-4.60E-05	mg/L	0.0010		0	0
Cadmium	0.0116	mg/L	0.0010	116	70	130
Chromium	0.0229	mg/L	0.010	115	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--	--

Analytical Run: ICPMS205-H_190604C

18 Interference Check Sample AB

06/04/19 14:33

Cobalt	0.0229	mg/L	0.010	115	70	130
Copper	0.0221	mg/L	0.010	110	70	130
Iron	117	mg/L	0.020	117	70	130
Lead	0.000199	mg/L	0.010		0	0
Manganese	0.0232	mg/L	0.010	116	70	130
Molybdenum	0.970	mg/L	0.0050	121	70	130
Nickel	0.0228	mg/L	0.010	114	70	130
Selenium	0.0112	mg/L	0.0050	112	70	130
Strontium	0.00112	mg/L	0.10		0	0
Thallium	4.62E-05	mg/L	0.10		0	0
Uranium	1.88E-05	mg/L	0.00030		0	0
Zinc	0.0113	mg/L	0.010	113	70	130

18 Initial Calibration Verification Standard

06/04/19 19:19

Antimony	0.0554	mg/L	0.050	92	90	110
Arsenic	0.0585	mg/L	0.0050	98	90	110
Barium	0.0598	mg/L	0.10	100	90	110
Beryllium	0.0301	mg/L	0.0010	100	90	110
Cadmium	0.0300	mg/L	0.0010	100	90	110
Chromium	0.0598	mg/L	0.010	100	90	110
Cobalt	0.0603	mg/L	0.010	100	90	110
Copper	0.0600	mg/L	0.010	100	90	110
Iron	0.300	mg/L	0.020	100	90	110
Lead	0.0604	mg/L	0.010	101	90	110
Manganese	0.300	mg/L	0.010	100	90	110
Molybdenum	0.0594	mg/L	0.0050	99	90	110
Nickel	0.0602	mg/L	0.010	100	90	110
Selenium	0.0612	mg/L	0.0050	102	90	110
Strontium	0.0595	mg/L	0.10	99	90	110
Thallium	0.0597	mg/L	0.10	99	90	110
Uranium	0.0594	mg/L	0.00030	99	90	110
Zinc	0.0608	mg/L	0.010	101	90	110

18 Interference Check Sample A

06/04/19 19:21

Antimony	0.000466	mg/L	0.050			
Arsenic	2.78E-05	mg/L	0.0050			
Barium	0.000312	mg/L	0.10			
Beryllium	0.000121	mg/L	0.0010			
Cadmium	0.000250	mg/L	0.0010			
Chromium	0.000297	mg/L	0.010			
Cobalt	0.000339	mg/L	0.010			
Copper	0.000131	mg/L	0.010			
Iron	117	mg/L	0.020	117	70	130
Lead	0.000166	mg/L	0.010			
Manganese	0.000319	mg/L	0.010			
Molybdenum	0.970	mg/L	0.0050	121	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--

Analytical Run: ICPMS205-H_190604C

18 Interference Check Sample A

06/04/19 19:21

Nickel	0.000152	mg/L	0.010
Selenium	0.000123	mg/L	0.0050
Strontium	0.00116	mg/L	0.10
Thallium	6.89E-05	mg/L	0.10
Uranium	5.64E-05	mg/L	0.00030
Zinc	0.000367	mg/L	0.010

18 Interference Check Sample AB

06/04/19 19:23

Antimony	0.000277	mg/L	0.050	0	0
Arsenic	0.0116	mg/L	0.0050	116	70 130
Barium	0.000243	mg/L	0.10		0 0
Beryllium	6.35E-05	mg/L	0.0010		0 0
Cadmium	0.0117	mg/L	0.0010	117	70 130
Chromium	0.0233	mg/L	0.010	117	70 130
Cobalt	0.0231	mg/L	0.010	116	70 130
Copper	0.0225	mg/L	0.010	112	70 130
Iron	117	mg/L	0.020	117	70 130
Lead	0.000152	mg/L	0.010		0 0
Manganese	0.0233	mg/L	0.010	117	70 130
Molybdenum	0.982	mg/L	0.0050	123	70 130
Nickel	0.0231	mg/L	0.010	115	70 130
Selenium	0.0112	mg/L	0.0050	112	70 130
Strontium	0.00115	mg/L	0.10		0 0
Thallium	4.95E-05	mg/L	0.10		0 0
Uranium	2.00E-05	mg/L	0.00030		0 0
Zinc	0.0114	mg/L	0.010	114	70 130

Batch: 45939

18 Method Blank

Run: ICPMS205-H_190604C

06/04/19 14:55

Antimony	ND	mg/L	0.0001
Arsenic	ND	mg/L	4E-05
Barium	ND	mg/L	9E-05
Beryllium	ND	mg/L	6E-05
Cadmium	ND	mg/L	3E-05
Chromium	0.0002	mg/L	0.0001
Cobalt	ND	mg/L	6E-05
Copper	0.0003	mg/L	0.0002
Iron	0.004	mg/L	0.004
Lead	ND	mg/L	4E-05
Manganese	ND	mg/L	0.0003
Molybdenum	2E-05	mg/L	2E-05
Nickel	0.0003	mg/L	0.0001
Selenium	ND	mg/L	5E-05
Strontium	ND	mg/L	0.0003
Thallium	ND	mg/L	4E-05
Uranium	ND	mg/L	9E-06

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--

Batch: 45939

Zinc	18 Method Blank	ND	mg/L	0.001	Run: ICPMS205-H_190604C	06/04/19 14:55
------	-----------------	----	------	-------	-------------------------	----------------

18 Laboratory Control Sample					Run: ICPMS205-H_190604C	06/04/19 15:23
Antimony	0.513	mg/L	0.0010	103	85	115
Arsenic	0.480	mg/L	0.0010	96	85	115
Barium	0.480	mg/L	0.050	96	85	115
Beryllium	0.232	mg/L	0.0010	93	85	115
Cadmium	0.242	mg/L	0.0010	97	85	115
Chromium	0.496	mg/L	0.0050	99	85	115
Cobalt	0.493	mg/L	0.0050	99	85	115
Copper	0.489	mg/L	0.0050	98	85	115
Iron	2.48	mg/L	0.020	99	85	115
Lead	0.499	mg/L	0.0010	100	85	115
Manganese	2.50	mg/L	0.0010	100	85	115
Molybdenum	0.506	mg/L	0.0010	101	85	115
Nickel	0.480	mg/L	0.0050	96	85	115
Selenium	0.457	mg/L	0.0010	91	85	115
Strontium	0.476	mg/L	0.010	95	85	115
Thallium	0.486	mg/L	0.00050	97	85	115
Uranium	0.472	mg/L	0.00030	94	85	115
Zinc	0.477	mg/L	0.010	95	85	115

18 Sample Matrix Spike					Run: ICPMS205-H_190604C	06/04/19 15:26
Antimony	0.502	mg/L	0.0010	100	70	130
Arsenic	0.474	mg/L	0.0010	94	70	130
Barium	0.828	mg/L	0.050	96	70	130
Beryllium	0.250	mg/L	0.0010	100	70	130
Cadmium	0.237	mg/L	0.0010	95	70	130
Chromium	0.487	mg/L	0.0050	97	70	130
Cobalt	0.479	mg/L	0.0050	96	70	130
Copper	0.490	mg/L	0.0050	95	70	130
Iron	2.43	mg/L	0.020	97	70	130
Lead	0.498	mg/L	0.0010	99	70	130
Manganese	2.46	mg/L	0.0010	99	70	130
Molybdenum	0.495	mg/L	0.0010	99	70	130
Nickel	0.465	mg/L	0.0050	93	70	130
Selenium	0.493	mg/L	0.0010	98	70	130
Strontium	0.600	mg/L	0.010	96	70	130
Thallium	0.484	mg/L	0.00050	97	70	130
Uranium	0.485	mg/L	0.00030	96	70	130
Zinc	0.498	mg/L	0.010	93	70	130

18 Sample Matrix Spike Duplicate					Run: ICPMS205-H_190604C	06/04/19 15:28		
Antimony	0.501	mg/L	0.0010	100	70	130	0.2	20
Arsenic	0.472	mg/L	0.0010	94	70	130	0.4	20
Barium	0.827	mg/L	0.050	95	70	130	0.2	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--	--

Batch: 45939

18 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190604C

06/04/19 15:28

Beryllium	0.240	mg/L	0.0010	96	70	130	4.4	20
Cadmium	0.236	mg/L	0.0010	94	70	130	0.5	20
Chromium	0.485	mg/L	0.0050	97	70	130	0.3	20
Cobalt	0.478	mg/L	0.0050	96	70	130	0.2	20
Copper	0.492	mg/L	0.0050	95	70	130	0.3	20
Iron	2.42	mg/L	0.020	96	70	130	0.5	20
Lead	0.492	mg/L	0.0010	98	70	130	1.2	20
Manganese	2.46	mg/L	0.0010	98	70	130	0.3	20
Molybdenum	0.496	mg/L	0.0010	99	70	130	0.2	20
Nickel	0.464	mg/L	0.0050	93	70	130	0.4	20
Selenium	0.466	mg/L	0.0010	93	70	130	5.5	20
Strontium	0.599	mg/L	0.010	96	70	130	0.2	20
Thallium	0.481	mg/L	0.00050	96	70	130	0.7	20
Uranium	0.478	mg/L	0.00030	95	70	130	1.5	20
Zinc	0.496	mg/L	0.010	92	70	130	0.5	20

18 Sample Matrix Spike

Run: ICPMS205-H_190604C

06/05/19 00:55

Antimony	0.501	mg/L	0.0010	100	70	130		
Arsenic	0.482	mg/L	0.0010	96	70	130		
Barium	0.565	mg/L	0.050	101	70	130		
Beryllium	0.243	mg/L	0.0010	97	70	130		
Cadmium	0.241	mg/L	0.0010	96	70	130		
Chromium	0.493	mg/L	0.0050	98	70	130		
Cobalt	0.488	mg/L	0.0050	97	70	130		
Copper	0.486	mg/L	0.0050	97	70	130		
Iron	3.14	mg/L	0.020	99	70	130		
Lead	0.513	mg/L	0.0010	103	70	130		
Manganese	2.50	mg/L	0.0010	99	70	130		
Molybdenum	0.485	mg/L	0.0010	97	70	130		
Nickel	0.477	mg/L	0.0050	95	70	130		
Selenium	0.483	mg/L	0.0010	97	70	130		
Strontium	0.635	mg/L	0.010	103	70	130		
Thallium	0.500	mg/L	0.00050	100	70	130		
Uranium	0.487	mg/L	0.00030	97	70	130		
Zinc	0.473	mg/L	0.010	94	70	130		

18 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190604C

06/05/19 00:58

Antimony	0.488	mg/L	0.0010	98	70	130	2.6	20
Arsenic	0.468	mg/L	0.0010	94	70	130	3.0	20
Barium	0.553	mg/L	0.050	99	70	130	2.0	20
Beryllium	0.239	mg/L	0.0010	96	70	130	1.7	20
Cadmium	0.237	mg/L	0.0010	95	70	130	1.5	20
Chromium	0.478	mg/L	0.0050	95	70	130	3.2	20
Cobalt	0.471	mg/L	0.0050	94	70	130	3.4	20
Copper	0.470	mg/L	0.0050	94	70	130	3.2	20
Iron	2.95	mg/L	0.020	91	70	130	6.2	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

Batch: 45939

18 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190604C

06/05/19 00:58

Lead	0.499	mg/L	0.0010	100	70	130	2.7	20
Manganese	2.44	mg/L	0.0010	97	70	130	2.6	20
Molybdenum	0.481	mg/L	0.0010	96	70	130	0.8	20
Nickel	0.460	mg/L	0.0050	92	70	130	3.5	20
Selenium	0.472	mg/L	0.0010	94	70	130	2.3	20
Strontium	0.615	mg/L	0.010	99	70	130	3.2	20
Thallium	0.489	mg/L	0.00050	98	70	130	2.1	20
Uranium	0.477	mg/L	0.00030	95	70	130	2.0	20
Zinc	0.461	mg/L	0.010	92	70	130	2.5	20



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--	--	--	--	--	--	--

Analytical Run: ICPMS205-H_190605A

2 Initial Calibration Verification Standard 06/05/19 15:38

Lead	0.0607	mg/L	0.010	101	90	110
Silver	0.0304	mg/L	0.0050	101	90	110

2 Interference Check Sample A 06/05/19 15:40

Lead	0.000148	mg/L	0.010			
Silver	2.38E-05	mg/L	0.0050			

2 Interference Check Sample AB 06/05/19 15:42

Lead	0.000183	mg/L	0.010		0	0
Silver	0.00493	mg/L	0.0050	99	70	130

Batch: 45938

18 Method Blank Run: ICPMS205-H_190605A 06/06/19 01:41

Antimony	ND	mg/L	0.0001			
Arsenic	ND	mg/L	4E-05			
Barium	0.0002	mg/L	9E-05			
Beryllium	0.0001	mg/L	6E-05			
Cadmium	ND	mg/L	3E-05			
Chromium	0.0002	mg/L	0.0001			
Cobalt	ND	mg/L	6E-05			
Copper	ND	mg/L	0.0002			
Iron	0.005	mg/L	0.004			
Lead	ND	mg/L	4E-05			
Manganese	0.0005	mg/L	0.0003			
Molybdenum	4E-05	mg/L	2E-05			
Nickel	0.002	mg/L	0.0001			
Selenium	0.0001	mg/L	5E-05			
Strontium	ND	mg/L	0.0003			
Thallium	ND	mg/L	4E-05			
Uranium	ND	mg/L	9E-06			
Zinc	ND	mg/L	0.001			

18 Laboratory Control Sample Run: ICPMS205-H_190605A 06/06/19 01:55

Antimony	0.502	mg/L	0.0010	100	85	115
Arsenic	0.466	mg/L	0.0010	93	85	115
Barium	0.484	mg/L	0.050	97	85	115
Beryllium	0.226	mg/L	0.0010	91	85	115
Cadmium	0.233	mg/L	0.0010	93	85	115
Chromium	0.474	mg/L	0.0050	95	85	115
Cobalt	0.482	mg/L	0.0050	96	85	115
Copper	0.479	mg/L	0.0050	96	85	115
Iron	2.43	mg/L	0.020	97	85	115
Lead	0.505	mg/L	0.0010	101	85	115
Manganese	2.52	mg/L	0.0010	101	85	115
Molybdenum	0.482	mg/L	0.0010	96	85	115
Nickel	0.465	mg/L	0.0050	93	85	115

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--

Batch: 45938

18 Laboratory Control Sample

Run: ICPMS205-H_190605A

06/06/19 01:55

Selenium	0.465	mg/L	0.0010	93	85	115
Strontium	0.486	mg/L	0.010	97	85	115
Thallium	0.481	mg/L	0.00050	96	85	115
Uranium	0.469	mg/L	0.00030	94	85	115
Zinc	0.467	mg/L	0.010	93	85	115

18 Sample Matrix Spike

Run: ICPMS205-H_190605A

06/06/19 01:58

Antimony	0.489	mg/L	0.0010	98	70	130
Arsenic	0.466	mg/L	0.0010	92	70	130
Barium	0.541	mg/L	0.050	98	70	130
Beryllium	0.222	mg/L	0.0010	89	70	130
Cadmium	0.229	mg/L	0.0010	91	70	130
Chromium	0.481	mg/L	0.0050	96	70	130
Cobalt	0.474	mg/L	0.0050	95	70	130
Copper	0.470	mg/L	0.0050	94	70	130
Iron	5.15	mg/L	0.020	161	70	130
Lead	0.499	mg/L	0.0010	100	70	130
Manganese	2.50	mg/L	0.0010	98	70	130
Molybdenum	0.475	mg/L	0.0010	95	70	130
Nickel	0.456	mg/L	0.0050	90	70	130
Selenium	0.457	mg/L	0.0010	91	70	130
Strontium	0.778	mg/L	0.010	103	70	130
Thallium	0.475	mg/L	0.00050	95	70	130
Uranium	0.482	mg/L	0.00030	96	70	130
Zinc	0.466	mg/L	0.010	92	70	130

S

18 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190605A

06/06/19 02:00

Antimony	0.489	mg/L	0.0010	98	70	130	0.2	20
Arsenic	0.472	mg/L	0.0010	93	70	130	1.2	20
Barium	0.545	mg/L	0.050	99	70	130	0.6	20
Beryllium	0.224	mg/L	0.0010	90	70	130	1.0	20
Cadmium	0.230	mg/L	0.0010	92	70	130	0.6	20
Chromium	0.471	mg/L	0.0050	94	70	130	2.1	20
Cobalt	0.476	mg/L	0.0050	95	70	130	0.5	20
Copper	0.466	mg/L	0.0050	93	70	130	0.9	20
Iron	5.22	mg/L	0.020	164	70	130	1.3	20
Lead	0.498	mg/L	0.0010	99	70	130	0.4	20
Manganese	2.53	mg/L	0.0010	99	70	130	0.9	20
Molybdenum	0.479	mg/L	0.0010	96	70	130	0.8	20
Nickel	0.458	mg/L	0.0050	91	70	130	0.6	20
Selenium	0.460	mg/L	0.0010	92	70	130	0.6	20
Strontium	0.781	mg/L	0.010	103	70	130	0.4	20
Thallium	0.476	mg/L	0.00050	95	70	130	0.1	20
Uranium	0.466	mg/L	0.00030	93	70	130	3.3	20
Zinc	0.469	mg/L	0.010	93	70	130	0.8	20

S

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--	--	--	--	--	--	--	--

							Batch: 45977		
		2 Method Blank			Run: ICPMS205-H_190605A			06/06/19 00:21	
Lead		ND	mg/L	4E-05					
Silver		0.0002	mg/L	9E-06					
		2 Laboratory Control Sample			Run: ICPMS205-H_190605A			06/06/19 00:47	
Lead		0.493	mg/L	0.0010	99	85	115		
Silver		0.0462	mg/L	0.0010	92	85	115		
		2 Sample Matrix Spike			Run: ICPMS205-H_190605A			06/06/19 01:27	
Lead		0.491	mg/L	0.0010	98	70	130		
Silver		0.0446	mg/L	0.0010	89	70	130		
		2 Sample Matrix Spike Duplicate			Run: ICPMS205-H_190605A			06/06/19 01:29	
Lead		0.489	mg/L	0.0010	98	70	130	0.5	20
Silver		0.0450	mg/L	0.0010	90	70	130	0.8	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

Analytical Run: ICPMS205-H_190606C

17 Initial Calibration Verification Standard

06/06/19 13:00

Antimony	0.0539	mg/L	0.050	90	90	110
Arsenic	0.0588	mg/L	0.0050	98	90	110
Barium	0.0583	mg/L	0.10	97	90	110
Beryllium	0.0301	mg/L	0.0010	100	90	110
Cadmium	0.0296	mg/L	0.0010	99	90	110
Chromium	0.0595	mg/L	0.010	99	90	110
Cobalt	0.0601	mg/L	0.010	100	90	110
Copper	0.0599	mg/L	0.010	100	90	110
Lead	0.0586	mg/L	0.010	98	90	110
Manganese	0.298	mg/L	0.010	99	90	110
Molybdenum	0.0585	mg/L	0.0050	98	90	110
Nickel	0.0600	mg/L	0.010	100	90	110
Selenium	0.0589	mg/L	0.0050	98	90	110
Strontium	0.0588	mg/L	0.10	98	90	110
Thallium	0.0574	mg/L	0.10	96	90	110
Uranium	0.0579	mg/L	0.00030	97	90	110
Zinc	0.0605	mg/L	0.010	101	90	110

17 Interference Check Sample A

06/06/19 13:02

Antimony	0.000496	mg/L	0.050			
Arsenic	7.74E-05	mg/L	0.0050			
Barium	0.000267	mg/L	0.10			
Beryllium	0.000167	mg/L	0.0010			
Cadmium	0.000175	mg/L	0.0010			
Chromium	0.000233	mg/L	0.010			
Cobalt	0.000277	mg/L	0.010			
Copper	8.00E-05	mg/L	0.010			
Lead	3.77E-06	mg/L	0.010			
Manganese	0.000200	mg/L	0.010			
Molybdenum	0.879	mg/L	0.0050	110	70	130
Nickel	0.000103	mg/L	0.010			
Selenium	6.39E-05	mg/L	0.0050			
Strontium	0.00100	mg/L	0.10			
Thallium	4.32E-05	mg/L	0.10			
Uranium	3.49E-05	mg/L	0.00030			
Zinc	0.000238	mg/L	0.010			

17 Interference Check Sample AB

06/06/19 13:05

Antimony	0.000259	mg/L	0.050		0	0
Arsenic	0.0104	mg/L	0.0050	104	70	130
Barium	0.000168	mg/L	0.10		0	0
Beryllium	0.000138	mg/L	0.0010		0	0
Cadmium	0.0103	mg/L	0.0010	103	70	130
Chromium	0.0207	mg/L	0.010	103	70	130
Cobalt	0.0207	mg/L	0.010	103	70	130
Copper	0.0202	mg/L	0.010	101	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--

Analytical Run: ICPMS205-H_190606C

17 Interference Check Sample AB

06/06/19 13:05

Lead	-1.06E-05	mg/L	0.010		0	0
Manganese	0.0206	mg/L	0.010	103	70	130
Molybdenum	0.880	mg/L	0.0050	110	70	130
Nickel	0.0206	mg/L	0.010	103	70	130
Selenium	0.0101	mg/L	0.0050	101	70	130
Strontium	0.00101	mg/L	0.10		0	0
Thallium	2.54E-05	mg/L	0.10		0	0
Uranium	8.10E-06	mg/L	0.00030		0	0
Zinc	0.0100	mg/L	0.010	100	70	130

Batch: 45938

16 Method Blank

Run: ICPMS205-H_190606C

06/06/19 18:10

Antimony	ND	mg/L	0.0001			
Arsenic	7E-05	mg/L	4E-05			
Barium	ND	mg/L	9E-05			
Beryllium	0.0001	mg/L	6E-05			
Cadmium	ND	mg/L	3E-05			
Chromium	0.0002	mg/L	0.0001			
Cobalt	ND	mg/L	6E-05			
Copper	ND	mg/L	0.0002			
Lead	ND	mg/L	4E-05			
Manganese	ND	mg/L	0.0003			
Molybdenum	ND	mg/L	2E-05			
Selenium	ND	mg/L	5E-05			
Strontium	ND	mg/L	0.0003			
Thallium	ND	mg/L	4E-05			
Uranium	ND	mg/L	9E-06			
Zinc	ND	mg/L	0.001			

18 Laboratory Control Sample

Run: ICPMS205-H_190606C

06/06/19 18:29

Antimony	0.504	mg/L	0.0010	101	85	115
Arsenic	0.474	mg/L	0.0010	95	85	115
Barium	0.480	mg/L	0.050	96	85	115
Beryllium	0.236	mg/L	0.0010	94	85	115
Cadmium	0.232	mg/L	0.0010	93	85	115
Chromium	0.507	mg/L	0.0050	101	85	115
Cobalt	0.495	mg/L	0.0050	99	85	115
Copper	0.493	mg/L	0.0050	99	85	115
Iron	2.51	mg/L	0.020	100	85	115
Lead	0.499	mg/L	0.0010	100	85	115
Manganese	2.62	mg/L	0.0010	105	85	115
Molybdenum	0.495	mg/L	0.0010	99	85	115
Nickel	0.467	mg/L	0.0050	93	85	115
Selenium	0.471	mg/L	0.0010	94	85	115
Strontium	0.489	mg/L	0.010	98	85	115
Thallium	0.481	mg/L	0.00050	96	85	115

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--	--	--	--	--	--	--

Batch: 45938

18 Laboratory Control Sample

Run: ICPMS205-H_190606C

06/06/19 18:29

Uranium	0.460	mg/L	0.00030	92	85	115
Zinc	0.467	mg/L	0.010	93	85	115

18 Sample Matrix Spike

Run: ICPMS205-H_190606C

06/06/19 18:31

Antimony	0.478	mg/L	0.0010	96	70	130
Arsenic	0.478	mg/L	0.0010	95	70	130
Barium	0.504	mg/L	0.050	97	70	130
Beryllium	0.224	mg/L	0.0010	89	70	130
Cadmium	0.209	mg/L	0.0010	84	70	130
Chromium	0.488	mg/L	0.0050	98	70	130
Cobalt	0.499	mg/L	0.0050	99	70	130
Copper	0.437	mg/L	0.0050	87	70	130
Iron	13.3	mg/L	0.020		70	130
Lead	0.515	mg/L	0.0010	103	70	130
Manganese	9.02	mg/L	0.0010	110	70	130
Molybdenum	0.529	mg/L	0.0010	105	70	130
Nickel	0.452	mg/L	0.0050	90	70	130
Selenium	0.424	mg/L	0.0010	85	70	130
Strontium	15.0	mg/L	0.010		70	130
Thallium	0.499	mg/L	0.00050	100	70	130
Uranium	0.514	mg/L	0.00030	102	70	130
Zinc	0.414	mg/L	0.010	82	70	130

A

A

18 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190606C

06/06/19 18:33

Antimony	0.486	mg/L	0.0010	97	70	130	1.6	20
Arsenic	0.480	mg/L	0.0010	95	70	130	0.3	20
Barium	0.518	mg/L	0.050	100	70	130	2.7	20
Beryllium	0.222	mg/L	0.0010	89	70	130	0.7	20
Cadmium	0.213	mg/L	0.0010	85	70	130	1.8	20
Chromium	0.487	mg/L	0.0050	97	70	130	0.3	20
Cobalt	0.498	mg/L	0.0050	99	70	130	0.2	20
Copper	0.437	mg/L	0.0050	87	70	130	0.0	20
Iron	13.1	mg/L	0.020		70	130	0.9	20
Lead	0.526	mg/L	0.0010	105	70	130	2.2	20
Manganese	8.89	mg/L	0.0010	105	70	130	1.4	20
Molybdenum	0.537	mg/L	0.0010	107	70	130	1.5	20
Nickel	0.451	mg/L	0.0050	90	70	130	0.2	20
Selenium	0.422	mg/L	0.0010	84	70	130	0.3	20
Strontium	14.7	mg/L	0.010		70	130	1.6	20
Thallium	0.508	mg/L	0.00050	102	70	130	1.9	20
Uranium	0.522	mg/L	0.00030	103	70	130	1.7	20
Zinc	0.416	mg/L	0.010	82	70	130	0.4	20

A

A

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--	--	--	--	--	--	--

							Analytical Run: ICPMS205-H_190607B
	Initial Calibration Verification Standard						06/07/19 18:09
Aluminum	0.302	mg/L	0.10	101	90	110	
	Interference Check Sample A						06/07/19 18:11
Aluminum	44.5	mg/L	0.10	111	70	130	
	Interference Check Sample AB						06/07/19 18:13
Aluminum	44.3	mg/L	0.10	111	70	130	
							Batch: R144913
	Method Blank				Run: ICPMS205-H_190607B		06/07/19 18:29
Aluminum	ND	mg/L	0.003				
	Laboratory Fortified Blank				Run: ICPMS205-H_190607B		06/07/19 18:31
Aluminum	0.0513	mg/L	0.10	103	85	115	
	Sample Matrix Spike				Run: ICPMS205-H_190607B		06/07/19 22:02
Aluminum	0.0502	mg/L	0.030	100	70	130	
	Sample Matrix Spike Duplicate				Run: ICPMS205-H_190607B		06/07/19 22:04
Aluminum	0.0512	mg/L	0.030	102	70	130	1.9 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--	--	--	--	--	--	--

Analytical Run: ICPMS205-H_190611A

6 Initial Calibration Verification Standard 06/11/19 17:09

Copper	0.0612	mg/L	0.010	102	90	110
Iron	0.314	mg/L	0.020	105	90	110
Lead	0.0595	mg/L	0.010	99	90	110
Manganese	0.305	mg/L	0.010	102	90	110
Nickel	0.0614	mg/L	0.010	102	90	110
Selenium	0.0607	mg/L	0.0050	101	90	110

6 Interference Check Sample A 06/11/19 17:11

Copper	5.09E-05	mg/L	0.010			
Iron	103	mg/L	0.020	103	70	130
Lead	0.000116	mg/L	0.010			
Manganese	0.000259	mg/L	0.010			
Nickel	0.000223	mg/L	0.010			
Selenium	0.000116	mg/L	0.0050			

6 Interference Check Sample AB 06/11/19 17:13

Copper	0.0196	mg/L	0.010	98	70	130
Iron	105	mg/L	0.020	105	70	130
Lead	0.000110	mg/L	0.010		0	0
Manganese	0.0205	mg/L	0.010	103	70	130
Nickel	0.0202	mg/L	0.010	101	70	130
Selenium	0.00993	mg/L	0.0050	99	70	130

Batch: 45938

18 Method Blank Run: ICPMS205-H_190611A 06/11/19 18:54

Antimony	ND	mg/L	0.0001			
Arsenic	ND	mg/L	4E-05			
Barium	ND	mg/L	9E-05			
Beryllium	ND	mg/L	6E-05			
Cadmium	ND	mg/L	3E-05			
Chromium	0.0002	mg/L	0.0001			
Cobalt	ND	mg/L	6E-05			
Copper	ND	mg/L	0.0002			
Iron	ND	mg/L	0.004			
Lead	ND	mg/L	4E-05			
Manganese	ND	mg/L	0.0003			
Molybdenum	ND	mg/L	2E-05			
Nickel	ND	mg/L	0.0001			
Selenium	ND	mg/L	5E-05			
Strontium	ND	mg/L	0.0003			
Thallium	ND	mg/L	4E-05			
Uranium	ND	mg/L	9E-06			
Zinc	ND	mg/L	0.001			

18 Laboratory Control Sample Run: ICPMS205-H_190611A 06/11/19 19:09

Antimony	0.488	mg/L	0.0010	98	85	115
----------	-------	------	--------	----	----	-----

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

Batch: 45938

18 Laboratory Control Sample

Run: ICPMS205-H_190611A

06/11/19 19:09

Arsenic	0.473	mg/L	0.0010	95	85	115
Barium	0.482	mg/L	0.050	96	85	115
Beryllium	0.235	mg/L	0.0010	94	85	115
Cadmium	0.242	mg/L	0.0010	97	85	115
Chromium	0.490	mg/L	0.0050	98	85	115
Cobalt	0.478	mg/L	0.0050	96	85	115
Copper	0.474	mg/L	0.0050	95	85	115
Iron	2.50	mg/L	0.020	100	85	115
Lead	0.495	mg/L	0.0010	99	85	115
Manganese	2.49	mg/L	0.0010	100	85	115
Molybdenum	0.492	mg/L	0.0010	98	85	115
Nickel	0.473	mg/L	0.0050	95	85	115
Selenium	0.472	mg/L	0.0010	94	85	115
Strontium	0.478	mg/L	0.010	96	85	115
Thallium	0.489	mg/L	0.00050	98	85	115
Uranium	0.464	mg/L	0.00030	93	85	115
Zinc	0.482	mg/L	0.010	96	85	115

18 Sample Matrix Spike

Run: ICPMS205-H_190611A

06/11/19 19:11

Antimony	0.492	mg/L	0.0010	98	70	130
Arsenic	0.472	mg/L	0.0010	94	70	130
Barium	0.500	mg/L	0.050	97	70	130
Beryllium	0.206	mg/L	0.0010	82	70	130
Cadmium	0.215	mg/L	0.0010	86	70	130
Chromium	0.496	mg/L	0.0050	99	70	130
Cobalt	0.472	mg/L	0.0050	94	70	130
Copper	0.443	mg/L	0.0050	88	70	130
Iron	13.1	mg/L	0.020		70	130
Lead	0.510	mg/L	0.0010	102	70	130
Manganese	8.55	mg/L	0.0010	103	70	130
Molybdenum	0.513	mg/L	0.0010	102	70	130
Nickel	0.445	mg/L	0.0050	89	70	130
Selenium	0.437	mg/L	0.0010	87	70	130
Strontium	14.0	mg/L	0.010		70	130
Thallium	0.506	mg/L	0.00050	101	70	130
Uranium	0.511	mg/L	0.00030	101	70	130
Zinc	0.428	mg/L	0.010	85	70	130

18 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190611A

06/11/19 19:13

Antimony	0.489	mg/L	0.0010	98	70	130	0.6	20
Arsenic	0.472	mg/L	0.0010	93	70	130	0.0	20
Barium	0.499	mg/L	0.050	96	70	130	0.2	20
Beryllium	0.202	mg/L	0.0010	81	70	130	2.2	20
Cadmium	0.216	mg/L	0.0010	86	70	130	0.2	20
Chromium	0.499	mg/L	0.0050	100	70	130	0.7	20
Cobalt	0.472	mg/L	0.0050	94	70	130	0.1	20

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--	--	--	--	--	--	--	--	--	--

Batch: 45938									
18 Sample Matrix Spike Duplicate					Run: ICPMS205-H_190611A			06/11/19 19:13	
Copper	0.439	mg/L	0.0050	87	70	130	0.9	20	
Iron	13.2	mg/L	0.020		70	130	0.7	20	A
Lead	0.518	mg/L	0.0010	103	70	130	1.6	20	
Manganese	8.57	mg/L	0.0010	104	70	130	0.2	20	
Molybdenum	0.513	mg/L	0.0010	102	70	130	0.0	20	
Nickel	0.442	mg/L	0.0050	88	70	130	0.5	20	
Selenium	0.436	mg/L	0.0010	87	70	130	0.1	20	
Strontium	13.8	mg/L	0.010		70	130	1.5	20	A
Thallium	0.514	mg/L	0.00050	103	70	130	1.5	20	
Uranium	0.509	mg/L	0.00030	101	70	130	0.3	20	
Zinc	0.428	mg/L	0.010	85	70	130	0.1	20	

Analytical Run: ICPMS205-H_190613C									
Initial Calibration Verification Standard									
06/13/19 15:57									
Silver	0.0303	mg/L	0.0050	101	90	110			
Interference Check Sample A									
06/13/19 15:59									
Silver	2.08E-05	mg/L	0.0050						
Interference Check Sample AB									
06/13/19 16:01									
Silver	0.00508	mg/L	0.0050	102	70	130			

Batch: 45977									
2 Method Blank					Run: ICPMS205-H_190613C			06/13/19 20:26	
Lead	ND	mg/L	4E-05						
Silver	ND	mg/L	9E-06						

Batch: 46097									
Method Blank					Run: ICPMS205-H_190613C			06/13/19 18:35	
Silver	ND	mg/L	9E-06						
Laboratory Control Sample					Run: ICPMS205-H_190613C			06/13/19 18:50	
Silver	0.0502	mg/L	0.0010	100	85	115			
Sample Matrix Spike					Run: ICPMS205-H_190613C			06/13/19 19:13	
Silver	0.0457	mg/L	0.0010	91	70	130			
Sample Matrix Spike Duplicate					Run: ICPMS205-H_190613C			06/13/19 19:15	
Silver	0.0444	mg/L	0.0010	89	70	130	2.7	20	

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--	--	--	--	--	--	--

							Analytical Run: HGCV203-H_190611A
	Initial Calibration Verification Standard						06/11/19 10:52
Mercury	0.102	ug/L	0.0050	102	90	110	
	Initial Calibration Verification Standard						06/11/19 10:52
Mercury	0.000102	mg/L	5.0E-06	102	90	110	
							Batch: 46038
	Method Blank				Run: HGCV203-H_190611A		06/11/19 11:15
Mercury	ND	ug/L	0.001				
	Laboratory Control Sample				Run: HGCV203-H_190611A		06/11/19 11:18
Mercury	0.0506	ug/L	0.0050	101	90	110	
	Sample Matrix Spike				Run: HGCV203-H_190611A		06/11/19 11:28
Mercury	0.0582	ug/L	0.0050	103	70	130	
	Sample Matrix Spike Duplicate				Run: HGCV203-H_190611A		06/11/19 11:31
Mercury	0.0561	ug/L	0.0050	99	70	130	3.6 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

--	--	--	--	--	--	--	--

							Analytical Run: IC METROHM_190529A	
		2 Initial Calibration Verification Standard					05/29/19 12:19	
Chloride		105	mg/L	1.0	105	90	110	
Sulfate		416	mg/L	1.0	104	90	110	
		2 Continuing Calibration Verification Standard					06/03/19 03:43	
Chloride		54.1	mg/L	1.0	108	90	110	
Sulfate		220	mg/L	1.0	110	90	110	
							Batch: R144597	
		2 Method Blank			Run: IC METROHM_190529A		05/29/19 12:05	
Chloride		ND	mg/L	0.02				
Sulfate		ND	mg/L	0.08				
		2 Laboratory Fortified Blank			Run: IC METROHM_190529A		05/29/19 13:30	
Chloride		26.1	mg/L	1.0	104	90	110	
Sulfate		108	mg/L	1.0	108	90	110	
		2 Sample Matrix Spike			Run: IC METROHM_190529A		06/03/19 03:15	
Chloride		502	mg/L	1.0	102	90	110	
Sulfate		6060	mg/L	1.1		90	110	A
		2 Sample Matrix Spike Duplicate			Run: IC METROHM_190529A		06/03/19 03:29	
Chloride		501	mg/L	1.0	101	90	110	0.1
Sulfate		6100	mg/L	1.1		90	110	0.6
		2 Sample Matrix Spike			Run: IC METROHM_190529A		06/03/19 06:46	
Chloride		26.3	mg/L	1.0	105	90	110	
Sulfate		108	mg/L	1.0	108	90	110	
		2 Sample Matrix Spike Duplicate			Run: IC METROHM_190529A		06/03/19 07:00	
Chloride		26.3	mg/L	1.0	105	90	110	0.1
Sulfate		108	mg/L	1.0	108	90	110	0.4

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

							Analytical Run: FIA203-HE_190606B
	Initial Calibration Verification Standard						06/06/19 09:18
Nitrogen, Nitrate+Nitrite as N	1.03	mg/L	0.010	103	90	110	
	Continuing Calibration Verification Standard						06/06/19 10:09
Nitrogen, Nitrate+Nitrite as N	0.465	mg/L	0.010	93	90	110	
	Continuing Calibration Verification Standard						06/06/19 10:26
Nitrogen, Nitrate+Nitrite as N	0.466	mg/L	0.010	93	90	110	
							Batch: R144840
	Method Blank			Run: FIA203-HE_190606B			06/06/19 09:19
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	0.009				
	Laboratory Fortified Blank			Run: FIA203-HE_190606B			06/06/19 09:21
Nitrogen, Nitrate+Nitrite as N	0.938	mg/L	0.011	94	90	110	
	Sample Matrix Spike			Run: FIA203-HE_190606B			06/06/19 10:13
Nitrogen, Nitrate+Nitrite as N	0.855	mg/L	0.011	86	90	110	S
	Sample Matrix Spike Duplicate			Run: FIA203-HE_190606B			06/06/19 10:14
Nitrogen, Nitrate+Nitrite as N	0.834	mg/L	0.011	83	90	110	2.5 10 S
	Sample Matrix Spike			Run: FIA203-HE_190606B			06/06/19 10:31
Nitrogen, Nitrate+Nitrite as N	0.965	mg/L	0.011	97	90	110	
	Sample Matrix Spike Duplicate			Run: FIA203-HE_190606B			06/06/19 10:32
Nitrogen, Nitrate+Nitrite as N	1.05	mg/L	0.011	105	90	110	8.4 10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050914

06/20/19

							Analytical Run: FIA202-HE_190607A
Phosphorus, Total as P	Initial Calibration Verification Standard						06/07/19 09:16
	0.246	mg/L	0.010	98	90	110	
Phosphorus, Total as P	Initial Calibration Blank, Instrument Blank						06/07/19 09:17
	0.000400	mg/L	0.010		0	0	
Phosphorus, Total as P	Continuing Calibration Verification Standard						06/07/19 09:35
	0.0948	mg/L	0.010	95	90	110	
Phosphorus, Total as P	Continuing Calibration Verification Standard						06/07/19 10:32
	0.0983	mg/L	0.010	98	90	110	
							Batch: 46009
Phosphorus, Total as P	Method Blank						06/07/19 09:18
	ND	mg/L	0.002				
Phosphorus, Total as P	Laboratory Control Sample						06/07/19 09:19
	0.415	mg/L	0.010	104	90	110	
Phosphorus, Total as P	Sample Matrix Spike						06/07/19 09:22
	0.220	mg/L	0.010	105	90	110	
Phosphorus, Total as P	Sample Matrix Spike Duplicate						06/07/19 09:23
	0.223	mg/L	0.010	106	90	110	1.4 20
Phosphorus, Total as P	Sample Matrix Spike						06/07/19 09:37
	0.229	mg/L	0.010	106	90	110	
Phosphorus, Total as P	Sample Matrix Spike Duplicate						06/07/19 09:39
	0.224	mg/L	0.010	104	90	110	1.8 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Tintina Resources Inc

H19050914

Login completed by: Jessica C. Smith

Date Received: 5/31/2019

Reviewed by: BL2000\rtooke

Received by: abc

Reviewed Date: 6/7/2019

Carrier name: Hand Del

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 checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	0.2°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"/>

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.

None

Hydrometrics, Inc.

3020 Bozeman Ave. • Helena, MT 59601 • (406) 443-4150

CHAIN OF CUSTODY RECORD



PROJ. NO. 18049	PROJECT NAME Tintine May Monthly	DATE			SAMPLER: (Signature) <i>R-Z</i>	COMMONS UF / RAW	DISS. METAL F / HNO ₃	CN UF / NaOH	TOTAL METALS UF / HNO ₃	BTEX	TPH	REMARKS
		NO.	OF	CONTAINERS								
		5/31/14			X	X	X	X			X	H19050914
		0955	116									
		1010	117									
		1020	118									
		1045	119									
		1110	120									
		1140	121									
		1410	128									

Relinquished (Signature) 	Date / Time 5/31/14 1110	Received by (Signature)
Relinquished (Signature)	Date / Time	Received by (Signature)
Relinquished (Signature)	Date / Time	Received for Laboratory by (Signature)

Lab: Energy Lub
 PO.#: 13.11 Tintine
 Shipped via: Bus FedEx UPS
 Other: _____
 Air Bill #: _____

Remarks: temp 0.2 TB vand del.
 Date / Time: 5/31/14 11:10
 Enclosed: Parameter sheet w/detection limits
 QA / AC standard mixing instructions Cover letter
 Other
 Split Samples: Accepted Declined
 Signature: _____

**TABLE 6. PARAMETERS, METHODS, AND DETECTION LIMITS
FOR SURFACE WATER MONITORING**

Parameter	Analytical Method ⁽¹⁾	Project-Required Detection Limit (mg/L)
Physical Parameters		
TDS	SM 2540C	4
TSS	SM 2540C	4
Common Ions		
Alkalinity	SM 2320B	4
Sulfate	300.0	1
Chloride	300.0/SM 4500CL-B	1
Fluoride	A4500-F C	0.1
Calcium	215.1/200.7	1
Magnesium	242.1/200.7	1
Sodium	273.1/200.7	1
Potassium	258.1/200.7	1
Nutrients		
Nitrate+Nitrite as N	353.2	0.003
Total Persulfate Nitrogen	A 4500-N-C	0.04
Total Phosphorus	E365.1	0.003
Trace Constituents (SW - Total Recoverable except Aluminum [Diss])⁽²⁾		
Aluminum (Al)	200.7/200.8	0.009
Antimony (Sb)	200.7/200.8	0.0005
Arsenic (As)	200.8/SM 3114B	0.001
Barium (Ba)	200.7/200.8	0.003
Beryllium (Be)	200.7/200.8	0.0008
Cadmium (Cd)	200.7/200.8	0.00003
Chromium (Cr)	200.7/200.8	0.01
Cobalt (Co)	200.7/200.8	0.01
Copper (Cu)	200.7/200.8	0.002
Iron (Fe)	200.7/200.8	0.02
Lead (Pb)	200.7/200.8	0.0003
Manganese (Mn)	200.7/200.8	0.005
Mercury (Hg)	245.2/245.1/200.8/SM 3112B	0.000005
Molybdenum (Mo)	200.7/200.8	0.002
Nickel (Ni)	200.7/200.8	0.001
Selenium (Se)	200.7/200.8/SM 3114B	0.0002
Silver (Ag)	200.7/200.8	0.0002
Strontium (Sr)	200.7/200.8	0.0002
Thallium (Tl)	200.7/200.8	0.0002
Uranium	200.7/200.8	0.008
Zinc (Zn)	200.7/200.8	0.002
Field Parameters		
Stream Flow	HF-SOP-37/-44/-46	NA
Water Temperature	HF-SOP-20	0.1 °C
Dissolved Oxygen (DO)	HF-SOP-22	0.1 mg/L
pH	HF-SOP-20	0.1 s.u.
Specific Conductance (SC)	HF-SOP-79	1 µmhos/cm

(1) Analytical methods are from *Standard Methods for the Examination of Water and Wastewater* (SM) or EPA's *Methods for Chemical Analysis of Water and Waste* (1983).

(2) Samples to be analyzed for dissolved constituents will be field-filtered through a 0.45 µm filter.



June 14, 2019

Tintina Resources Inc
PO Box 431
White Sulphur Springs, MT 59645-0431

Work Order: H19050915 Quote ID: H1216

Project Name: 18049 Black Butte Copper May Monthly

Energy Laboratories Inc Helena MT received the following 12 samples for Tintina Resources Inc on 5/31/2019 for analysis.

H19050915-001	BBC-1905-106	05/29/19 14:20	05/31/19	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Fluoride Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Mercury Digestion by E245.1 Solids, Total Dissolved Solids, Total Suspended
H19050915-002	BBC-1905-107	05/29/19 14:50	05/31/19	Groundwater	Same As Above
H19050915-003	BBC-1905-108	05/29/19 15:00	05/31/19	Groundwater	Same As Above
H19050915-004	BBC-1905-109	05/29/19 15:15	05/31/19	Groundwater	Same As Above
H19050915-005	BBC-1905-112	05/29/19 16:15	05/31/19	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Fluoride Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Metals Digestion by E200.2 Mercury Digestion by E245.1 Solids, Total Dissolved Solids, Total Suspended
H19050915-006	BBC-1905-113	05/29/19 16:40	05/31/19	Groundwater	Same As Above
H19050915-007	BBC-1905-114	05/29/19 17:00	05/31/19	Groundwater	Same As Above
H19050915-008	BBC-1905-123	05/30/19 12:15	05/31/19	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Fluoride Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Mercury Digestion by E245.1 Solids, Total Dissolved Solids, Total Suspended
H19050915-009	BBC-1905-124	05/30/19 12:25	05/31/19	Groundwater	Same As Above
H19050915-010	BBC-1905-125	05/30/19 12:45	05/31/19	Groundwater	Same As Above



H19050915-011	BBC-1905-126	05/30/19 13:10	05/31/19	Groundwater	Same As Above
H19050915-012	BBC-1905-127	05/30/19 13:35	05/31/19	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, 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. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:


Assistant Laboratory Manager-Helena, MT

Digitally signed by
Amanda B. Carlson
Date: 2019.06.14 12:26:34 -06:00



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper May Monthly
H19050915-001
BBC-1905-106

06/14/19
05/29/19 14:20
05/31/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	05/31/19 14:24 / cmm
Solids, Total Dissolved TDS @ 180 C	196 mg/L	10	A2540 C	05/31/19 14:13 / cmm
Alkalinity, Total as CaCO3	200 mg/L	4	A2320 B	06/02/19 14:43 / SRW
Chloride	ND mg/L	1	E300.0	06/03/19 07:57 / cmm
Sulfate	11 mg/L	1	E300.0	06/03/19 07:57 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/04/19 10:35 / SRW
Hardness as CaCO3	202 mg/L	1	A2340 B	06/03/19 23:10 / abc
Nitrogen, Nitrate+Nitrite as N	0.06 mg/L	0.01	E353.2	06/06/19 10:36 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/12/19 19:30 / sld
Antimony	ND mg/L	0.0005	E200.8	06/13/19 16:35 / sld
Arsenic	ND mg/L	0.001	E200.8	06/12/19 19:30 / sld
Barium	0.046 mg/L	0.003	E200.8	06/12/19 19:30 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/12/19 19:30 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/12/19 19:30 / sld
Calcium	51 mg/L	1	E200.7	06/03/19 23:10 / sld
Chromium	ND mg/L	0.01	E200.8	06/12/19 19:30 / sld
Cobalt	ND mg/L	0.01	E200.8	06/12/19 19:30 / sld
Copper	ND mg/L	0.002	E200.8	06/12/19 19:30 / sld
Iron	ND mg/L	0.02	E200.7	06/03/19 23:10 / sld
Lead	ND mg/L	0.0003	E200.8	06/12/19 19:30 / sld
Magnesium	18 mg/L	1	E200.7	06/03/19 23:10 / sld
Manganese	ND mg/L	0.005	E200.8	06/12/19 19:30 / sld
Mercury	ND ug/L	0.005	E245.1	06/11/19 12:00 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/12/19 19:30 / sld
Nickel	ND mg/L	0.001	E200.8	06/12/19 19:30 / sld
Potassium	ND mg/L	1	E200.7	06/03/19 23:10 / sld
Selenium	ND mg/L	0.0002	E200.8	06/12/19 19:30 / sld
Silver	ND mg/L	0.0002	E200.8	06/12/19 19:30 / sld
Sodium	1 mg/L	1	E200.7	06/03/19 23:10 / sld
Strontium	0.102 mg/L	0.0002	E200.8	06/12/19 19:30 / sld
Thallium	ND mg/L	0.0002	E200.8	06/12/19 19:30 / sld
Uranium	0.0007 mg/L	0.0002	E200.8	06/12/19 19:30 / sld
Zinc	ND mg/L	0.002	E200.8	06/12/19 19:30 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper May Monthly
H19050915-002
BBC-1905-107

06/14/19
05/29/19 14:50
05/31/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	05/31/19 14:24 / cmm
Solids, Total Dissolved TDS @ 180 C	221 mg/L	10	A2540 C	05/31/19 14:13 / cmm
Alkalinity, Total as CaCO3	220 mg/L	4	A2320 B	06/02/19 14:55 / SRW
Chloride	ND mg/L	1	E300.0	06/03/19 08:11 / cmm
Sulfate	15 mg/L	1	E300.0	06/03/19 08:11 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/04/19 10:43 / SRW
Hardness as CaCO3	220 mg/L	1	A2340 B	06/03/19 23:14 / abc
Nitrogen, Nitrate+Nitrite as N	0.13 mg/L	0.01	E353.2	06/06/19 10:37 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/12/19 19:32 / sld
Antimony	ND mg/L	0.0005	E200.8	06/13/19 16:38 / sld
Arsenic	ND mg/L	0.001	E200.8	06/12/19 19:32 / sld
Barium	0.050 mg/L	0.003	E200.8	06/12/19 19:32 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/12/19 19:32 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/12/19 19:32 / sld
Calcium	55 mg/L	1	E200.7	06/03/19 23:14 / sld
Chromium	ND mg/L	0.01	E200.8	06/12/19 19:32 / sld
Cobalt	ND mg/L	0.01	E200.8	06/12/19 19:32 / sld
Copper	ND mg/L	0.002	E200.8	06/12/19 19:32 / sld
Iron	ND mg/L	0.02	E200.7	06/03/19 23:14 / sld
Lead	ND mg/L	0.0003	E200.8	06/12/19 19:32 / sld
Magnesium	20 mg/L	1	E200.7	06/03/19 23:14 / sld
Manganese	ND mg/L	0.005	E200.8	06/12/19 19:32 / sld
Mercury	ND ug/L	0.005	E245.1	06/11/19 12:03 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/12/19 19:32 / sld
Nickel	ND mg/L	0.001	E200.8	06/12/19 19:32 / sld
Potassium	ND mg/L	1	E200.7	06/03/19 23:14 / sld
Selenium	ND mg/L	0.0002	E200.8	06/12/19 19:32 / sld
Silver	ND mg/L	0.0002	E200.8	06/12/19 19:32 / sld
Sodium	2 mg/L	1	E200.7	06/03/19 23:14 / sld
Strontium	0.105 mg/L	0.0002	E200.8	06/12/19 19:32 / sld
Thallium	ND mg/L	0.0002	E200.8	06/12/19 19:32 / sld
Uranium	0.0006 mg/L	0.0002	E200.8	06/12/19 19:32 / sld
Zinc	0.009 mg/L	0.002	E200.8	06/12/19 19:32 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper May Monthly
H19050915-003
BBC-1905-108

06/14/19
05/29/19 15:00
05/31/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	05/31/19 14:25 / cmm
Solids, Total Dissolved TDS @ 180 C	217 mg/L	10	A2540 C	05/31/19 14:13 / cmm
Alkalinity, Total as CaCO3	220 mg/L	4	A2320 B	06/02/19 15:03 / SRW
Chloride	ND mg/L	1	E300.0	06/03/19 08:25 / cmm
Sulfate	15 mg/L	1	E300.0	06/03/19 08:25 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/04/19 10:51 / SRW
Hardness as CaCO3	226 mg/L	1	A2340 B	06/03/19 23:18 / abc
Nitrogen, Nitrate+Nitrite as N	0.13 mg/L	0.01	E353.2	06/06/19 10:38 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/12/19 19:34 / sld
Antimony	ND mg/L	0.0005	E200.8	06/13/19 16:40 / sld
Arsenic	ND mg/L	0.001	E200.8	06/12/19 19:34 / sld
Barium	0.051 mg/L	0.003	E200.8	06/12/19 19:34 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/12/19 19:34 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/12/19 19:34 / sld
Calcium	57 mg/L	1	E200.7	06/03/19 23:18 / sld
Chromium	ND mg/L	0.01	E200.8	06/12/19 19:34 / sld
Cobalt	ND mg/L	0.01	E200.8	06/12/19 19:34 / sld
Copper	ND mg/L	0.002	E200.8	06/12/19 19:34 / sld
Iron	ND mg/L	0.02	E200.7	06/03/19 23:18 / sld
Lead	ND mg/L	0.0003	E200.8	06/12/19 19:34 / sld
Magnesium	20 mg/L	1	E200.7	06/03/19 23:18 / sld
Manganese	ND mg/L	0.005	E200.8	06/12/19 19:34 / sld
Mercury	ND ug/L	0.005	E245.1	06/11/19 12:06 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/12/19 19:34 / sld
Nickel	ND mg/L	0.001	E200.8	06/12/19 19:34 / sld
Potassium	ND mg/L	1	E200.7	06/03/19 23:18 / sld
Selenium	ND mg/L	0.0002	E200.8	06/12/19 19:34 / sld
Silver	ND mg/L	0.0002	E200.8	06/12/19 19:34 / sld
Sodium	2 mg/L	1	E200.7	06/03/19 23:18 / sld
Strontium	0.106 mg/L	0.0002	E200.8	06/12/19 19:34 / sld
Thallium	ND mg/L	0.0002	E200.8	06/12/19 19:34 / sld
Uranium	0.0006 mg/L	0.0002	E200.8	06/12/19 19:34 / sld
Zinc	0.009 mg/L	0.002	E200.8	06/12/19 19:34 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper May Monthly
H19050915-004
BBC-1905-109

06/14/19
05/29/19 15:15
05/31/19
Groundwater

Solids, Total Suspended TSS @ 105 C	10 mg/L	10	A2540 D	05/31/19 14:25 / cmm
Solids, Total Dissolved TDS @ 180 C	214 mg/L	10	A2540 C	05/31/19 14:14 / cmm
Alkalinity, Total as CaCO3	220 mg/L	4	A2320 B	06/02/19 15:09 / SRW
Chloride	ND mg/L	1	E300.0	06/03/19 08:39 / cmm
Sulfate	10 mg/L	1	E300.0	06/03/19 08:39 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/04/19 10:55 / SRW
Hardness as CaCO3	209 mg/L	1	A2340 B	06/03/19 23:21 / abc
Nitrogen, Nitrate+Nitrite as N	0.04 mg/L	0.01	E353.2	06/06/19 10:39 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/12/19 19:36 / sld
Antimony	ND mg/L	0.0005	E200.8	06/13/19 16:42 / sld
Arsenic	ND mg/L	0.001	E200.8	06/12/19 19:36 / sld
Barium	0.049 mg/L	0.003	E200.8	06/12/19 19:36 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/12/19 19:36 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/12/19 19:36 / sld
Calcium	55 mg/L	1	E200.7	06/03/19 23:21 / sld
Chromium	ND mg/L	0.01	E200.8	06/12/19 19:36 / sld
Cobalt	ND mg/L	0.01	E200.8	06/12/19 19:36 / sld
Copper	ND mg/L	0.002	E200.8	06/12/19 19:36 / sld
Iron	ND mg/L	0.02	E200.7	06/03/19 23:21 / sld
Lead	ND mg/L	0.0003	E200.8	06/12/19 19:36 / sld
Magnesium	17 mg/L	1	E200.7	06/03/19 23:21 / sld
Manganese	ND mg/L	0.005	E200.8	06/12/19 19:36 / sld
Mercury	ND ug/L	0.005	E245.1	06/11/19 12:10 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/12/19 19:36 / sld
Nickel	ND mg/L	0.001	E200.8	06/12/19 19:36 / sld
Potassium	ND mg/L	1	E200.7	06/03/19 23:21 / sld
Selenium	ND mg/L	0.0002	E200.8	06/12/19 19:36 / sld
Silver	ND mg/L	0.0002	E200.8	06/12/19 19:36 / sld
Sodium	2 mg/L	1	E200.7	06/03/19 23:21 / sld
Strontium	0.131 mg/L	0.0002	E200.8	06/12/19 19:36 / sld
Thallium	ND mg/L	0.0002	E200.8	06/12/19 19:36 / sld
Uranium	0.0006 mg/L	0.0002	E200.8	06/12/19 19:36 / sld
Zinc	ND mg/L	0.002	E200.8	06/12/19 19:36 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper May Monthly
H19050915-005
BBC-1905-112

06/14/19
05/29/19 16:15
05/31/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	05/31/19 14:25 / cmm
Solids, Total Dissolved TDS @ 180 C	64 mg/L	10	A2540 C	05/31/19 14:14 / cmm
Alkalinity, Total as CaCO3	18 mg/L	4	A2320 B	06/02/19 15:16 / SRW
Chloride	ND mg/L	1	E300.0	06/03/19 08:53 / cmm
Sulfate	1 mg/L	1	E300.0	06/03/19 08:53 / cmm
Fluoride	ND mg/L	0.1	4 A4500-F C	06/04/19 10:59 / SRW
Hardness as CaCO3	19 mg/L	1	A2340 B	06/07/19 21:14 / SRW
Nitrogen, Nitrate+Nitrite as N	0.11 mg/L	0.01	E353.2	06/06/19 10:40 / kmd
Aluminum	2.00 mg/L	0.009	E200.7	06/10/19 14:54 / sld
Antimony	ND mg/L	0.0005	E200.8	06/07/19 22:38 / sld
Arsenic	ND mg/L	0.001	E200.8	06/07/19 22:38 / sld
Barium	0.229 mg/L	0.003	E200.8	06/07/19 22:38 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/07/19 22:38 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/07/19 22:38 / sld
Calcium	5 mg/L	1	E200.7	06/07/19 21:14 / sld
Chromium	ND mg/L	0.01	E200.8	06/07/19 22:38 / sld
Cobalt	ND mg/L	0.01	E200.8	06/07/19 22:38 / sld
Copper	0.004 mg/L	0.002	E200.8	06/07/19 22:38 / sld
Iron	1.20 mg/L	0.02	E200.7	06/07/19 21:14 / sld
Lead	0.0003 mg/L	0.0003	E200.8	06/12/19 23:01 / sld
Magnesium	1 mg/L	1	E200.7	06/07/19 21:14 / sld
Manganese	0.008 mg/L	0.005	E200.8	06/07/19 22:38 / sld
Mercury	0.02 ug/L	D 0.01	E245.1	06/11/19 12:13 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/07/19 22:38 / sld
Nickel	0.004 mg/L	0.001	E200.8	06/07/19 22:38 / sld
Potassium	ND mg/L	1	E200.7	06/07/19 21:14 / sld
Selenium	ND mg/L	0.0002	E200.8	06/07/19 22:38 / sld
Silver	ND mg/L	0.0002	E200.8	06/07/19 22:38 / sld
Sodium	1 mg/L	1	E200.7	06/07/19 21:14 / sld
Strontium	0.0231 mg/L	0.0002	E200.8	06/07/19 22:38 / sld
Thallium	ND mg/L	0.0002	E200.8	06/07/19 22:38 / sld
Uranium	ND mg/L	0.0002	E200.8	06/07/19 22:38 / sld
Zinc	0.006 mg/L	0.002	E200.8	06/07/19 22:38 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper May Monthly
H19050915-006
BBC-1905-113

06/14/19
05/29/19 16:40
05/31/19
Groundwater

Solids, Total Suspended TSS @ 105 C	62 mg/L	10	A2540 D	05/31/19 14:26 / cmm
Solids, Total Dissolved TDS @ 180 C	90 mg/L	10	A2540 C	05/31/19 14:15 / cmm
Alkalinity, Total as CaCO3	41 mg/L	4	A2320 B	06/02/19 15:21 / SRW
Chloride	ND mg/L	1	E300.0	06/03/19 09:07 / cmm
Sulfate	3 mg/L	1	E300.0	06/03/19 09:07 / cmm
Fluoride	ND mg/L	0.1	4 A4500-F C	06/04/19 11:03 / SRW
Hardness as CaCO3	43 mg/L	1	A2340 B	06/07/19 21:06 / SRW
Nitrogen, Nitrate+Nitrite as N	0.24 mg/L	0.01	E353.2	06/06/19 10:41 / kmd
Aluminum	1.35 mg/L	0.009	E200.7	06/10/19 15:20 / sld
Antimony	ND mg/L	0.0005	E200.8	06/07/19 22:40 / sld
Arsenic	0.001 mg/L	0.001	E200.8	06/07/19 22:40 / sld
Barium	0.327 mg/L	0.003	E200.8	06/07/19 22:40 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/07/19 22:40 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/07/19 22:40 / sld
Calcium	13 mg/L	1	E200.7	06/07/19 21:06 / sld
Chromium	ND mg/L	0.01	E200.8	06/07/19 22:40 / sld
Cobalt	ND mg/L	0.01	E200.8	06/07/19 22:40 / sld
Copper	0.002 mg/L	0.002	E200.8	06/07/19 22:40 / sld
Iron	0.82 mg/L	0.02	E200.7	06/07/19 21:06 / sld
Lead	ND mg/L	0.0003	E200.8	06/12/19 23:03 / sld
Magnesium	3 mg/L	1	E200.7	06/07/19 21:06 / sld
Manganese	0.005 mg/L	0.005	E200.8	06/07/19 22:40 / sld
Mercury	0.008 ug/L	0.005	E245.1	06/11/19 12:16 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/07/19 22:40 / sld
Nickel	0.002 mg/L	0.001	E200.8	06/07/19 22:40 / sld
Potassium	ND mg/L	1	E200.7	06/07/19 21:06 / sld
Selenium	ND mg/L	0.0002	E200.8	06/07/19 22:40 / sld
Silver	ND mg/L	0.0002	E200.8	06/07/19 22:40 / sld
Sodium	1 mg/L	1	E200.7	06/07/19 21:06 / sld
Strontium	0.0425 mg/L	0.0002	E200.8	06/07/19 22:40 / sld
Thallium	ND mg/L	0.0002	E200.8	06/07/19 22:40 / sld
Uranium	ND mg/L	0.0002	E200.8	06/07/19 22:40 / sld
Zinc	0.004 mg/L	0.002	E200.8	06/07/19 22:40 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper May Monthly
H19050915-007
BBC-1905-114

06/14/19
05/29/19 17:00
05/31/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	05/31/19 14:26 / cmm
Solids, Total Dissolved TDS @ 180 C	119 mg/L	10	A2540 C	05/31/19 14:15 / cmm
Alkalinity, Total as CaCO3	48 mg/L	4	A2320 B	06/02/19 15:27 / SRW
Chloride	1 mg/L	1	E300.0	06/03/19 09:21 / cmm
Sulfate	7 mg/L	1	E300.0	06/03/19 09:21 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/04/19 11:07 / SRW
Hardness as CaCO3	57 mg/L	1	A2340 B	06/07/19 21:10 / SRW
Nitrogen, Nitrate+Nitrite as N	0.10 mg/L	0.01	E353.2	06/06/19 10:45 / kmd
Aluminum	1.20 mg/L	0.009	E200.7	06/10/19 15:24 / sld
Antimony	ND mg/L	0.0005	E200.8	06/07/19 22:42 / sld
Arsenic	0.002 mg/L	0.001	E200.8	06/07/19 22:42 / sld
Barium	0.214 mg/L	0.003	E200.8	06/07/19 22:42 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/07/19 22:42 / sld
Cadmium	0.00003 mg/L	0.00003	E200.8	06/07/19 22:42 / sld
Calcium	17 mg/L	1	E200.7	06/07/19 21:10 / sld
Chromium	ND mg/L	0.01	E200.8	06/07/19 22:42 / sld
Cobalt	ND mg/L	0.01	E200.8	06/07/19 22:42 / sld
Copper	0.004 mg/L	0.002	E200.8	06/07/19 22:42 / sld
Iron	0.81 mg/L	0.02	E200.7	06/07/19 21:10 / sld
Lead	0.0003 mg/L	0.0003	E200.8	06/12/19 23:05 / sld
Magnesium	4 mg/L	1	E200.7	06/07/19 21:10 / sld
Manganese	0.005 mg/L	0.005	E200.8	06/07/19 22:42 / sld
Mercury	0.020 ug/L	0.005	E245.1	06/11/19 12:19 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/07/19 22:42 / sld
Nickel	0.003 mg/L	0.001	E200.8	06/07/19 22:42 / sld
Potassium	1 mg/L	1	E200.7	06/07/19 21:10 / sld
Selenium	ND mg/L	0.0002	E200.8	06/07/19 22:42 / sld
Silver	ND mg/L	0.0002	E200.8	06/07/19 22:42 / sld
Sodium	2 mg/L	1	E200.7	06/07/19 21:10 / sld
Strontium	0.0473 mg/L	0.0002	E200.8	06/07/19 22:42 / sld
Thallium	ND mg/L	0.0002	E200.8	06/07/19 22:42 / sld
Uranium	ND mg/L	0.0002	E200.8	06/07/19 22:42 / sld
Zinc	0.004 mg/L	0.002	E200.8	06/07/19 22:42 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper May Monthly
H19050915-008
BBC-1905-123

06/14/19
05/30/19 12:15
05/31/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	05/31/19 14:26 / cmm
Solids, Total Dissolved TDS @ 180 C	149 mg/L	10	A2540 C	05/31/19 14:15 / cmm
Alkalinity, Total as CaCO3	130 mg/L	4	A2320 B	06/02/19 15:33 / SRW
Chloride	ND mg/L	1	E300.0	06/03/19 09:35 / cmm
Sulfate	10 mg/L	1	E300.0	06/03/19 09:35 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/04/19 11:11 / SRW
Hardness as CaCO3	129 mg/L	1	A2340 B	06/03/19 23:25 / abc
Nitrogen, Nitrate+Nitrite as N	0.41 mg/L	0.01	E353.2	06/06/19 10:46 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/12/19 19:38 / sld
Antimony	ND mg/L	0.0005	E200.8	06/13/19 16:44 / sld
Arsenic	ND mg/L	0.001	E200.8	06/12/19 19:38 / sld
Barium	0.185 mg/L	0.003	E200.8	06/12/19 19:38 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/12/19 19:38 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/12/19 19:38 / sld
Calcium	32 mg/L	1	E200.7	06/03/19 23:25 / sld
Chromium	ND mg/L	0.01	E200.8	06/12/19 19:38 / sld
Cobalt	ND mg/L	0.01	E200.8	06/12/19 19:38 / sld
Copper	ND mg/L	0.002	E200.8	06/12/19 19:38 / sld
Iron	ND mg/L	0.02	E200.7	06/03/19 23:25 / sld
Lead	ND mg/L	0.0003	E200.8	06/12/19 19:38 / sld
Magnesium	12 mg/L	1	E200.7	06/03/19 23:25 / sld
Manganese	ND mg/L	0.005	E200.8	06/12/19 19:38 / sld
Mercury	ND ug/L	0.005	E245.1	06/11/19 12:29 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/12/19 19:38 / sld
Nickel	ND mg/L	0.001	E200.8	06/12/19 19:38 / sld
Potassium	ND mg/L	1	E200.7	06/03/19 23:25 / sld
Selenium	ND mg/L	0.0002	E200.8	06/12/19 19:38 / sld
Silver	ND mg/L	0.0002	E200.8	06/12/19 19:38 / sld
Sodium	2 mg/L	1	E200.7	06/03/19 23:25 / sld
Strontium	0.0697 mg/L	0.0002	E200.8	06/12/19 19:38 / sld
Thallium	0.0004 mg/L	0.0002	E200.8	06/12/19 19:38 / sld
Uranium	0.0004 mg/L	0.0002	E200.8	06/12/19 19:38 / sld
Zinc	ND mg/L	0.002	E200.8	06/12/19 19:38 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper May Monthly
H19050915-009
BBC-1905-124

06/14/19
05/30/19 12:25
05/31/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	05/31/19 14:27 / cmm
Solids, Total Dissolved TDS @ 180 C	235 mg/L	10	A2540 C	05/31/19 14:15 / cmm
Alkalinity, Total as CaCO3	200 mg/L	4	A2320 B	06/02/19 15:38 / SRW
Chloride	ND mg/L	1	E300.0	06/03/19 09:50 / cmm
Sulfate	34 mg/L	1	E300.0	06/03/19 09:50 / cmm
Fluoride	0.2 mg/L	0.1	4 A4500-F C	06/04/19 11:16 / SRW
Hardness as CaCO3	214 mg/L	1	A2340 B	06/03/19 23:40 / abc
Nitrogen, Nitrate+Nitrite as N	0.24 mg/L	0.01	E353.2	06/06/19 10:50 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/12/19 19:40 / sld
Antimony	ND mg/L	0.0005	E200.8	06/13/19 16:46 / sld
Arsenic	ND mg/L	0.001	E200.8	06/12/19 19:40 / sld
Barium	0.108 mg/L	0.003	E200.8	06/12/19 19:40 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/12/19 19:40 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/12/19 19:40 / sld
Calcium	46 mg/L	1	E200.7	06/03/19 23:40 / sld
Chromium	ND mg/L	0.01	E200.8	06/12/19 19:40 / sld
Cobalt	ND mg/L	0.01	E200.8	06/12/19 19:40 / sld
Copper	ND mg/L	0.002	E200.8	06/12/19 19:40 / sld
Iron	ND mg/L	0.02	E200.7	06/03/19 23:40 / sld
Lead	ND mg/L	0.0003	E200.8	06/12/19 19:40 / sld
Magnesium	24 mg/L	1	E200.7	06/03/19 23:40 / sld
Manganese	ND mg/L	0.005	E200.8	06/12/19 19:40 / sld
Mercury	ND ug/L	0.005	E245.1	06/11/19 12:39 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/12/19 19:40 / sld
Nickel	ND mg/L	0.001	E200.8	06/12/19 19:40 / sld
Potassium	2 mg/L	1	E200.7	06/03/19 23:40 / sld
Selenium	0.0003 mg/L	0.0002	E200.8	06/12/19 19:40 / sld
Silver	ND mg/L	0.0002	E200.8	06/12/19 19:40 / sld
Sodium	2 mg/L	1	E200.7	06/03/19 23:40 / sld
Strontium	0.0698 mg/L	0.0002	E200.8	06/12/19 19:40 / sld
Thallium	0.0003 mg/L	0.0002	E200.8	06/12/19 19:40 / sld
Uranium	0.0004 mg/L	0.0002	E200.8	06/12/19 19:40 / sld
Zinc	ND mg/L	0.002	E200.8	06/12/19 19:40 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper May Monthly
H19050915-010
BBC-1905-125

06/14/19
05/30/19 12:45
05/31/19
Groundwater

Solids, Total Suspended TSS @ 105 C	115 mg/L	10	A2540 D	05/31/19 14:27 / cmm
Solids, Total Dissolved TDS @ 180 C	246 mg/L	10	A2540 C	05/31/19 14:16 / cmm
Alkalinity, Total as CaCO3	210 mg/L	4	A2320 B	06/02/19 15:44 / SRW
Chloride	10 mg/L	1	E300.0	06/03/19 10:04 / cmm
Sulfate	13 mg/L	1	E300.0	06/03/19 10:04 / cmm
Fluoride	0.2 mg/L	0.1	4 A4500-F C	06/04/19 11:20 / SRW
Hardness as CaCO3	214 mg/L	1	A2340 B	06/03/19 23:52 / abc
Nitrogen, Nitrate+Nitrite as N	0.12 mg/L	0.01	E353.2	06/06/19 10:51 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/12/19 19:55 / sld
Antimony	ND mg/L	0.0005	E200.8	06/13/19 16:48 / sld
Arsenic	ND mg/L	0.001	E200.8	06/12/19 19:55 / sld
Barium	0.160 mg/L	0.003	E200.8	06/12/19 19:55 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/12/19 19:55 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/12/19 19:55 / sld
Calcium	50 mg/L	1	E200.7	06/03/19 23:52 / sld
Chromium	ND mg/L	0.01	E200.8	06/12/19 19:55 / sld
Cobalt	ND mg/L	0.01	E200.8	06/12/19 19:55 / sld
Copper	ND mg/L	0.002	E200.8	06/12/19 19:55 / sld
Iron	0.07 mg/L	0.02	E200.7	06/03/19 23:52 / sld
Lead	ND mg/L	0.0003	E200.8	06/12/19 19:55 / sld
Magnesium	21 mg/L	1	E200.7	06/03/19 23:52 / sld
Manganese	0.017 mg/L	0.005	E200.8	06/12/19 19:55 / sld
Mercury	0.005 ug/L	0.005	E245.1	06/11/19 12:42 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/12/19 19:55 / sld
Nickel	ND mg/L	0.001	E200.8	06/12/19 19:55 / sld
Potassium	1 mg/L	1	E200.7	06/03/19 23:52 / sld
Selenium	0.0002 mg/L	0.0002	E200.8	06/12/19 19:55 / sld
Silver	ND mg/L	0.0002	E200.8	06/12/19 19:55 / sld
Sodium	2 mg/L	1	E200.7	06/03/19 23:52 / sld
Strontium	0.103 mg/L	0.0002	E200.8	06/12/19 19:55 / sld
Thallium	ND mg/L	0.0002	E200.8	06/12/19 19:55 / sld
Uranium	0.0006 mg/L	0.0002	E200.8	06/12/19 19:55 / sld
Zinc	ND mg/L	0.002	E200.8	06/12/19 19:55 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper May Monthly
H19050915-011
BBC-1905-126

06/14/19
05/30/19 13:10
05/31/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	05/31/19 14:27 / cmm
Solids, Total Dissolved TDS @ 180 C	180 mg/L	10	A2540 C	05/31/19 14:16 / cmm
Alkalinity, Total as CaCO3	170 mg/L	4	A2320 B	06/02/19 15:51 / SRW
Chloride	2 mg/L	1	E300.0	06/03/19 11:28 / cmm
Sulfate	12 mg/L	1	E300.0	06/03/19 11:28 / cmm
Fluoride	0.3 mg/L	0.1	4 A4500-F C	06/04/19 11:32 / SRW
Hardness as CaCO3	161 mg/L	1	A2340 B	06/03/19 23:56 / abc
Nitrogen, Nitrate+Nitrite as N	0.31 mg/L	0.01	E353.2	06/06/19 10:52 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/12/19 19:57 / sld
Antimony	ND mg/L	0.0005	E200.8	06/13/19 16:50 / sld
Arsenic	0.004 mg/L	0.001	E200.8	06/12/19 19:57 / sld
Barium	0.113 mg/L	0.003	E200.8	06/12/19 19:57 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/12/19 19:57 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/12/19 19:57 / sld
Calcium	41 mg/L	1	E200.7	06/03/19 23:56 / sld
Chromium	ND mg/L	0.01	E200.8	06/12/19 19:57 / sld
Cobalt	ND mg/L	0.01	E200.8	06/12/19 19:57 / sld
Copper	ND mg/L	0.002	E200.8	06/12/19 19:57 / sld
Iron	ND mg/L	0.02	E200.7	06/03/19 23:56 / sld
Lead	ND mg/L	0.0003	E200.8	06/12/19 19:57 / sld
Magnesium	14 mg/L	1	E200.7	06/03/19 23:56 / sld
Manganese	ND mg/L	0.005	E200.8	06/12/19 19:57 / sld
Mercury	ND ug/L	0.005	E245.1	06/11/19 12:52 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/12/19 19:57 / sld
Nickel	ND mg/L	0.001	E200.8	06/12/19 19:57 / sld
Potassium	3 mg/L	1	E200.7	06/03/19 23:56 / sld
Selenium	0.0003 mg/L	0.0002	E200.8	06/12/19 19:57 / sld
Silver	ND mg/L	0.0002	E200.8	06/12/19 19:57 / sld
Sodium	5 mg/L	1	E200.7	06/03/19 23:56 / sld
Strontium	0.165 mg/L	0.0002	E200.8	06/12/19 19:57 / sld
Thallium	0.0010 mg/L	0.0002	E200.8	06/12/19 19:57 / sld
Uranium	0.0009 mg/L	0.0002	E200.8	06/12/19 19:57 / sld
Zinc	ND mg/L	0.002	E200.8	06/12/19 19:57 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper May Monthly
H19050915-012
BBC-1905-127

06/14/19
05/30/19 13:35
05/31/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	05/31/19 14:27 / cmm
Solids, Total Dissolved TDS @ 180 C	ND mg/L	10	A2540 C	05/31/19 14:16 / cmm
Alkalinity, Total as CaCO3	ND mg/L	4	A2320 B	06/02/19 15:59 / SRW
Chloride	ND mg/L	1	E300.0	06/03/19 11:43 / cmm
Sulfate	ND mg/L	1	E300.0	06/03/19 11:43 / cmm
Fluoride	ND mg/L	0.1	4 A4500-F C	06/04/19 11:40 / SRW
Hardness as CaCO3	ND mg/L	1	A2340 B	06/14/19 07:50 / sld
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	06/06/19 10:54 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/12/19 19:59 / sld
Antimony	ND mg/L	0.0005	E200.8	06/13/19 16:52 / sld
Arsenic	ND mg/L	0.001	E200.8	06/12/19 19:59 / sld
Barium	ND mg/L	0.003	E200.8	06/12/19 19:59 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/12/19 19:59 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/12/19 19:59 / sld
Calcium	ND mg/L	1	E200.7	06/03/19 23:59 / sld
Chromium	ND mg/L	0.01	E200.8	06/12/19 19:59 / sld
Cobalt	ND mg/L	0.01	E200.8	06/12/19 19:59 / sld
Copper	ND mg/L	0.002	E200.8	06/12/19 19:59 / sld
Iron	ND mg/L	0.02	E200.7	06/03/19 23:59 / sld
Lead	ND mg/L	0.0003	E200.8	06/12/19 19:59 / sld
Magnesium	ND mg/L	1	E200.7	06/03/19 23:59 / sld
Manganese	ND mg/L	0.005	E200.8	06/12/19 19:59 / sld
Mercury	ND ug/L	0.005	E245.1	06/11/19 12:55 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/12/19 19:59 / sld
Nickel	ND mg/L	0.001	E200.8	06/12/19 19:59 / sld
Potassium	ND mg/L	1	E200.7	06/03/19 23:59 / sld
Selenium	ND mg/L	0.0002	E200.8	06/12/19 19:59 / sld
Silver	ND mg/L	0.0002	E200.8	06/12/19 19:59 / sld
Sodium	ND mg/L	1	E200.7	06/03/19 23:59 / sld
Strontium	ND mg/L	0.0002	E200.8	06/12/19 19:59 / sld
Thallium	ND mg/L	0.0002	E200.8	06/12/19 19:59 / sld
Uranium	ND mg/L	0.0002	E200.8	06/12/19 19:59 / sld
Zinc	ND mg/L	0.002	E200.8	06/12/19 19:59 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--	--	--	--	--	--	--	--

							Batch: R144697
Alkalinity, Total as CaCO3	Method Blank				Run: PHSC_101-H_190602A		06/02/19 14:27
	ND	mg/L	2				
Alkalinity, Total as CaCO3	Laboratory Control Sample				Run: PHSC_101-H_190602A		06/02/19 14:33
	610	mg/L	4.0	101	90	110	
Alkalinity, Total as CaCO3	Sample Duplicate				Run: PHSC_101-H_190602A		06/02/19 14:49
	200	mg/L	4.0			1.1	10
Alkalinity, Total as CaCO3	Sample Duplicate				Run: PHSC_101-H_190602A		06/02/19 16:47
	72	mg/L	4.0			0.3	10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--	--	--	--	--	--	--	--	--	--

Batch: TDS190531A

Solids, Total Dissolved TDS @ 180 C	Method Blank	ND	mg/L	10				Run: ACCU-124 (14410200)_19053	05/31/19 13:28
Solids, Total Dissolved TDS @ 180 C	Laboratory Control Sample	1930	mg/L	20	97	90	110	Run: ACCU-124 (14410200)_19053	05/31/19 13:28
Solids, Total Dissolved TDS @ 180 C	Sample Duplicate	7740	mg/L	100				Run: ACCU-124 (14410200)_19053	05/31/19 13:29
Solids, Total Dissolved TDS @ 180 C	Sample Duplicate	221	mg/L	10				Run: ACCU-124 (14410200)_19053	05/31/19 14:09
Solids, Total Dissolved TDS @ 180 C	Method Blank	ND	mg/L	10				Run: ACCU-124 (14410200)_19053	05/31/19 14:14
Solids, Total Dissolved TDS @ 180 C	Laboratory Control Sample	1880	mg/L	20	94	90	110	Run: ACCU-124 (14410200)_19053	05/31/19 14:14
Solids, Total Dissolved TDS @ 180 C	Sample Duplicate	64.0	mg/L	10				Run: ACCU-124 (14410200)_19053	05/31/19 14:14
Solids, Total Dissolved TDS @ 180 C	Sample Duplicate	ND	mg/L	10				Run: ACCU-124 (14410200)_19053	05/31/19 14:17



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--	--	--	--	--	--	--	--	--	--

Batch: TSS190531A

	Method Blank				Run: ACCU-124 (14410200)_19053	05/31/19 13:24
Solids, Total Suspended TSS @ 105 C	ND mg/L	0.3				
	Laboratory Control Sample				Run: ACCU-124 (14410200)_19053	05/31/19 13:24
Solids, Total Suspended TSS @ 105 C	88.0 mg/L	10	88	80	120	
	Sample Duplicate				Run: ACCU-124 (14410200)_19053	05/31/19 13:24
Solids, Total Suspended TSS @ 105 C	14.5 mg/L	10			32	5 R
- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.						
	Sample Duplicate				Run: ACCU-124 (14410200)_19053	05/31/19 14:22
Solids, Total Suspended TSS @ 105 C	2.80 mg/L	10				5
- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.						
	Method Blank				Run: ACCU-124 (14410200)_19053	05/31/19 14:25
Solids, Total Suspended TSS @ 105 C	ND mg/L	0.3				
	Laboratory Control Sample				Run: ACCU-124 (14410200)_19053	05/31/19 14:25
Solids, Total Suspended TSS @ 105 C	88.0 mg/L	10	88	80	120	
	Sample Duplicate				Run: ACCU-124 (14410200)_19053	05/31/19 14:26
Solids, Total Suspended TSS @ 105 C	ND mg/L	10				5
- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.						
	Sample Duplicate				Run: ACCU-124 (14410200)_19053	05/31/19 14:29
Solids, Total Suspended TSS @ 105 C	ND mg/L	10				5

RL - Analyte reporting limit.
R - RPD exceeds advisory limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--	--	--	--	--	--	--	--

							Analytical Run: MANTECH 2_190604A
							06/04/19 08:36
	Initial Calibration Verification Standard						
Fluoride	0.7	mg/L	0.1	92	90	110	
							06/04/19 10:26
	Continuing Calibration Verification Standard						
Fluoride	0.9	mg/L	0.1	92	90	110	
							06/04/19 11:24
	Continuing Calibration Verification Standard						
Fluoride	0.9	mg/L	0.1	94	90	110	
							Batch: R144758
	Method Blank				Run: MANTECH 2_190604A		06/04/19 08:40
Fluoride	ND	mg/L	0.03				
							06/04/19 10:39
	Sample Matrix Spike				Run: MANTECH 2_190604A		
Fluoride	1.1	mg/L	0.1	96	85	115	
							06/04/19 10:47
	Sample Duplicate				Run: MANTECH 2_190604A		
Fluoride	0.1	mg/L	0.1			0.0	10
							06/04/19 11:36
	Sample Duplicate				Run: MANTECH 2_190604A		
Fluoride	0.3	mg/L	0.1			0.0	10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

Analytical Run: ICP2-HE_190603D

5 Initial Calibration Verification Standard 06/03/19 12:53

Calcium	39.6	mg/L	1.0	99	95	105
Iron	3.94	mg/L	0.020	99	95	105
Magnesium	39.1	mg/L	1.0	98	95	105
Potassium	39.3	mg/L	1.0	98	95	105
Sodium	39.3	mg/L	1.0	98	95	105

5 Continuing Calibration Verification Standard 06/03/19 12:56

Calcium	25.2	mg/L	1.0	101	95	105
Iron	2.49	mg/L	0.020	100	95	105
Magnesium	24.7	mg/L	1.0	99	95	105
Potassium	24.3	mg/L	1.0	97	95	105
Sodium	24.3	mg/L	1.0	97	95	105

5 Interference Check Sample A 06/03/19 13:08

Calcium	475	mg/L	1.0	95	80	120
Iron	185	mg/L	0.020	92	80	120
Magnesium	526	mg/L	1.0	105	80	120
Potassium	0.0109	mg/L	1.0		0	0
Sodium	0.0241	mg/L	1.0		0	0

5 Interference Check Sample AB 06/03/19 13:12

Calcium	481	mg/L	1.0	96	80	120
Iron	186	mg/L	0.020	93	80	120
Magnesium	533	mg/L	1.0	107	80	120
Potassium	20.2	mg/L	1.0	101	80	120
Sodium	20.2	mg/L	1.0	101	80	120

5 Continuing Calibration Verification Standard 06/03/19 22:59

Calcium	24.7	mg/L	1.0	99	90	110
Iron	2.48	mg/L	0.020	99	90	110
Magnesium	24.2	mg/L	1.0	97	90	110
Potassium	25.7	mg/L	1.0	103	90	110
Sodium	25.8	mg/L	1.0	103	90	110

5 Continuing Calibration Verification Standard 06/03/19 23:44

Calcium	24.2	mg/L	1.0	97	90	110
Iron	2.45	mg/L	0.020	98	90	110
Magnesium	23.5	mg/L	1.0	94	90	110
Potassium	26.0	mg/L	1.0	104	90	110
Sodium	26.3	mg/L	1.0	105	90	110

Batch: R144732

5 Method Blank Run: ICP2-HE_190603D

06/03/19 13:23

Calcium	ND	mg/L	0.07			
Iron	ND	mg/L	0.01			
Magnesium	ND	mg/L	0.01			
Potassium	ND	mg/L	0.06			

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--	--	--	--	--	--	--	--

Batch: R144732

Element	Concentration	Unit	Recovery	Std. Dev.	Run	Time	RL
5 Method Blank							
Sodium	ND	mg/L	0.02		Run: ICP2-HE_190603D	06/03/19 13:23	
5 Laboratory Fortified Blank							
Calcium	50.5	mg/L	1.0	101	85	115	
Iron	5.06	mg/L	0.020	101	85	115	
Magnesium	50.4	mg/L	1.0	101	85	115	
Potassium	49.7	mg/L	1.0	99	85	115	
Sodium	49.7	mg/L	1.0	99	85	115	
5 Sample Matrix Spike							
Calcium	79.1	mg/L	1.0	94	70	130	
Iron	4.85	mg/L	0.020	97	70	130	
Magnesium	60.0	mg/L	1.0	96	70	130	
Potassium	54.9	mg/L	1.0	108	70	130	
Sodium	56.8	mg/L	1.0	109	70	130	
5 Sample Matrix Spike Duplicate							
Calcium	81.2	mg/L	1.0	99	70	130	2.6 20
Iron	4.86	mg/L	0.020	97	70	130	0.2 20
Magnesium	61.5	mg/L	1.0	99	70	130	2.4 20
Potassium	49.8	mg/L	1.0	98	70	130	9.7 20
Sodium	51.0	mg/L	1.0	98	70	130	11 20
5 Sample Matrix Spike							
Calcium	62.0	mg/L	1.0	99	70	130	
Iron	4.97	mg/L	0.020	99	70	130	
Magnesium	54.5	mg/L	1.0	98	70	130	
Potassium	53.1	mg/L	1.0	105	70	130	
Sodium	54.3	mg/L	1.0	107	70	130	
5 Sample Matrix Spike Duplicate							
Calcium	66.5	mg/L	1.0	108	70	130	7.1 20
Iron	5.18	mg/L	0.020	103	70	130	4.2 20
Magnesium	59.2	mg/L	1.0	108	70	130	8.1 20
Potassium	50.1	mg/L	1.0	100	70	130	5.7 20
Sodium	50.0	mg/L	1.0	98	70	130	8.1 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

Analytical Run: ICP2-HE_190607A

5 Initial Calibration Verification Standard 06/07/19 09:56

Calcium	40.4	mg/L	1.0	101	95	105
Iron	3.98	mg/L	0.020	100	95	105
Magnesium	40.2	mg/L	1.0	101	95	105
Potassium	38.9	mg/L	1.0	97	95	105
Sodium	38.6	mg/L	1.0	96	95	105

5 Continuing Calibration Verification Standard 06/07/19 10:00

Calcium	25.9	mg/L	1.0	103	95	105
Iron	2.53	mg/L	0.020	101	95	105
Magnesium	25.4	mg/L	1.0	102	95	105
Potassium	24.3	mg/L	1.0	97	95	105
Sodium	24.0	mg/L	1.0	96	95	105

5 Interference Check Sample A 06/07/19 10:12

Calcium	487	mg/L	1.0	97	80	120
Iron	188	mg/L	0.020	94	80	120
Magnesium	540	mg/L	1.0	108	80	120
Potassium	-0.0226	mg/L	1.0		0	0
Sodium	0.0128	mg/L	1.0		0	0

5 Interference Check Sample AB 06/07/19 10:15

Calcium	489	mg/L	1.0	98	80	120
Iron	188	mg/L	0.020	94	80	120
Magnesium	541	mg/L	1.0	108	80	120
Potassium	19.9	mg/L	1.0	100	80	120
Sodium	19.7	mg/L	1.0	99	80	120

5 Continuing Calibration Verification Standard 06/07/19 20:51

Calcium	24.4	mg/L	1.0	98	90	110
Iron	2.46	mg/L	0.020	98	90	110
Magnesium	23.8	mg/L	1.0	95	90	110
Potassium	25.5	mg/L	1.0	102	90	110
Sodium	25.7	mg/L	1.0	103	90	110

Batch: 45956

6 Method Blank Run: ICP2-HE_190607A 06/07/19 20:47

Aluminum	ND	mg/L	0.004			
Calcium	ND	mg/L	0.09			
Iron	ND	mg/L	0.006			
Magnesium	ND	mg/L	0.009			
Potassium	ND	mg/L	0.06			
Sodium	ND	mg/L	0.03			

6 Laboratory Control Sample Run: ICP2-HE_190607A 06/07/19 20:59

Aluminum	2.34	mg/L	0.030	94	85	115
Calcium	24.9	mg/L	1.0	100	85	115
Iron	2.48	mg/L	0.020	99	85	115

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--	--	--	--	--	--	--	--

Batch: 45956

6 Laboratory Control Sample

Run: ICP2-HE_190607A

06/07/19 20:59

Magnesium	24.7	mg/L	1.0	99	85	115		
Potassium	25.1	mg/L	1.0	100	85	115		
Sodium	25.1	mg/L	1.0	100	85	115		

6 Sample Matrix Spike

Run: ICP2-HE_190607A

06/07/19 21:25

Aluminum	5.05	mg/L	0.030	122	70	130		
Calcium	30.0	mg/L	1.0	99	70	130		
Iron	3.74	mg/L	0.020	102	70	130		
Magnesium	26.4	mg/L	1.0	100	70	130		
Potassium	25.4	mg/L	1.0	98	70	130		
Sodium	25.5	mg/L	1.0	97	70	130		

6 Sample Matrix Spike Duplicate

Run: ICP2-HE_190607A

06/07/19 21:29

Aluminum	4.84	mg/L	0.030	114	70	130	4.3	20
Calcium	29.5	mg/L	1.0	97	70	130	1.7	20
Iron	3.71	mg/L	0.020	100	70	130	0.7	20
Magnesium	26.0	mg/L	1.0	98	70	130	1.8	20
Potassium	25.8	mg/L	1.0	99	70	130	1.4	20
Sodium	25.9	mg/L	1.0	99	70	130	1.7	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--	--	--	--	--	--	--	--	--	--

Analytical Run: ICP2-HE_190610A

		Initial Calibration Verification Standard					06/10/19 12:05			
Aluminum	4.01	mg/L	0.10	100	95	105				
		Continuing Calibration Verification Standard					06/10/19 12:09			
Aluminum	2.51	mg/L	0.10	100	95	105				
		Interference Check Sample A					06/10/19 12:20			
Aluminum	523	mg/L	0.10	105	80	120				
		Interference Check Sample AB					06/10/19 12:24			
Aluminum	523	mg/L	0.10	105	80	120				
		Continuing Calibration Verification Standard					06/10/19 14:27			
Aluminum	2.62	mg/L	0.10	105	90	110				
		Continuing Calibration Verification Standard					06/10/19 15:12			
Aluminum	2.64	mg/L	0.10	106	90	110				
										Batch: 45956
		6 Method Blank			Run: ICP2-HE_190610A			06/10/19 14:46		
Aluminum	ND	mg/L	0.004							
Calcium	ND	mg/L	0.09							
Iron	ND	mg/L	0.006							
Magnesium	ND	mg/L	0.009							
Potassium	ND	mg/L	0.06							
Sodium	ND	mg/L	0.03							
		6 Laboratory Control Sample			Run: ICP2-HE_190610A			06/10/19 14:50		
Aluminum	2.49	mg/L	0.030	99	85	115				
Calcium	25.9	mg/L	1.0	103	85	115				
Iron	2.60	mg/L	0.020	104	85	115				
Magnesium	25.3	mg/L	1.0	101	85	115				
Potassium	25.7	mg/L	1.0	103	85	115				
Sodium	25.6	mg/L	1.0	103	85	115				
		6 Sample Matrix Spike			Run: ICP2-HE_190610A			06/10/19 15:05		
Aluminum	5.43	mg/L	0.030	137	70	130	S			
Calcium	31.5	mg/L	1.0	105	70	130				
Iron	3.97	mg/L	0.020	109	70	130				
Magnesium	27.2	mg/L	1.0	103	70	130				
Potassium	26.8	mg/L	1.0	103	70	130				
Sodium	26.7	mg/L	1.0	102	70	130				
		6 Sample Matrix Spike Duplicate			Run: ICP2-HE_190610A			06/10/19 15:09		
Aluminum	5.38	mg/L	0.030	135	70	130	1.0	20	S	
Calcium	31.5	mg/L	1.0	105	70	130	0.2	20		
Iron	3.94	mg/L	0.020	108	70	130	0.7	20		
Magnesium	27.2	mg/L	1.0	103	70	130	0.3	20		
Potassium	26.7	mg/L	1.0	103	70	130	0.5	20		

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

Batch: 45956

6 Sample Matrix Spike Duplicate

Run: ICP2-HE_190610A

06/10/19 15:09

Sodium	26.4	mg/L	1.0	101	70	130	1.0	20
--------	------	------	-----	-----	----	-----	-----	----

Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

Analytical Run: ICPMS205-H_190607B

17 Initial Calibration Verification Standard

06/07/19 18:09

Antimony	0.0556	mg/L	0.050	93	90	110
Arsenic	0.0594	mg/L	0.0050	99	90	110
Barium	0.0599	mg/L	0.10	100	90	110
Beryllium	0.0295	mg/L	0.0010	98	90	110
Cadmium	0.0303	mg/L	0.0010	101	90	110
Chromium	0.0602	mg/L	0.010	100	90	110
Cobalt	0.0609	mg/L	0.010	101	90	110
Copper	0.0608	mg/L	0.010	101	90	110
Manganese	0.302	mg/L	0.010	101	90	110
Molybdenum	0.0596	mg/L	0.0050	99	90	110
Nickel	0.0606	mg/L	0.010	101	90	110
Selenium	0.0604	mg/L	0.0050	101	90	110
Silver	0.0301	mg/L	0.0050	100	90	110
Strontium	0.0598	mg/L	0.10	100	90	110
Thallium	0.0593	mg/L	0.10	99	90	110
Uranium	0.0588	mg/L	0.00030	98	90	110
Zinc	0.0610	mg/L	0.010	102	90	110

17 Interference Check Sample A

06/07/19 18:11

Antimony	0.000414	mg/L	0.050			
Arsenic	-2.56E-05	mg/L	0.0050			
Barium	0.000271	mg/L	0.10			
Beryllium	4.34E-05	mg/L	0.0010			
Cadmium	0.000198	mg/L	0.0010			
Chromium	0.000259	mg/L	0.010			
Cobalt	0.000318	mg/L	0.010			
Copper	0.000103	mg/L	0.010			
Manganese	0.000266	mg/L	0.010			
Molybdenum	0.888	mg/L	0.0050	111	70	130
Nickel	0.000179	mg/L	0.010			
Selenium	9.26E-05	mg/L	0.0050			
Silver	2.81E-05	mg/L	0.0050			
Strontium	0.00103	mg/L	0.10			
Thallium	5.83E-05	mg/L	0.10			
Uranium	2.90E-05	mg/L	0.00030			
Zinc	0.000303	mg/L	0.010			

17 Interference Check Sample AB

06/07/19 18:13

Antimony	0.000211	mg/L	0.050		0	0
Arsenic	0.0107	mg/L	0.0050	107	70	130
Barium	0.000196	mg/L	0.10		0	0
Beryllium	3.83E-05	mg/L	0.0010		0	0
Cadmium	0.0106	mg/L	0.0010	106	70	130
Chromium	0.0212	mg/L	0.010	106	70	130
Cobalt	0.0214	mg/L	0.010	107	70	130
Copper	0.0208	mg/L	0.010	104	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--

Analytical Run: ICPMS205-H_190607B

17 Interference Check Sample AB

06/07/19 18:13

Manganese	0.0213	mg/L	0.010	106	70	130
Molybdenum	0.892	mg/L	0.0050	112	70	130
Nickel	0.0213	mg/L	0.010	107	70	130
Selenium	0.0103	mg/L	0.0050	103	70	130
Silver	0.00527	mg/L	0.0050	105	70	130
Strontium	0.00103	mg/L	0.10		0	0
Thallium	4.37E-05	mg/L	0.10		0	0
Uranium	6.91E-06	mg/L	0.00030		0	0
Zinc	0.0104	mg/L	0.010	104	70	130

Batch: 45956

18 Method Blank

Run: ICPMS205-H_190607B

06/07/19 22:36

Antimony	ND	mg/L	0.0001
Arsenic	ND	mg/L	4E-05
Barium	ND	mg/L	9E-05
Beryllium	ND	mg/L	6E-05
Cadmium	ND	mg/L	3E-05
Chromium	ND	mg/L	0.0001
Cobalt	ND	mg/L	6E-05
Copper	ND	mg/L	0.0002
Lead	ND	mg/L	4E-05
Manganese	ND	mg/L	0.0003
Molybdenum	ND	mg/L	2E-05
Nickel	ND	mg/L	0.0001
Selenium	ND	mg/L	5E-05
Silver	ND	mg/L	9E-06
Strontium	ND	mg/L	0.0003
Thallium	ND	mg/L	4E-05
Uranium	ND	mg/L	9E-06
Zinc	ND	mg/L	0.001

18 Laboratory Control Sample

Run: ICPMS205-H_190607B

06/07/19 22:50

Antimony	0.504	mg/L	0.0010	101	85	115
Arsenic	0.485	mg/L	0.0010	97	85	115
Barium	0.492	mg/L	0.050	98	85	115
Beryllium	0.240	mg/L	0.0010	96	85	115
Cadmium	0.243	mg/L	0.0010	97	85	115
Chromium	0.498	mg/L	0.0050	100	85	115
Cobalt	0.496	mg/L	0.0050	99	85	115
Copper	0.493	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	0.508	mg/L	0.0010	102	85	115
Nickel	0.483	mg/L	0.0050	97	85	115
Selenium	0.471	mg/L	0.0010	94	85	115
Silver	0.0482	mg/L	0.0010	96	85	115

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

Batch: 45956

18 Laboratory Control Sample

Run: ICPMS205-H_190607B

06/07/19 22:50

Strontium	0.483	mg/L	0.010	97	85	115
Thallium	0.494	mg/L	0.00050	99	85	115
Uranium	0.481	mg/L	0.00030	96	85	115
Zinc	0.478	mg/L	0.010	96	85	115

18 Sample Matrix Spike

Run: ICPMS205-H_190607B

06/07/19 22:52

Antimony	0.504	mg/L	0.0010	101	70	130
Arsenic	0.484	mg/L	0.0010	97	70	130
Barium	0.729	mg/L	0.050	100	70	130
Beryllium	0.238	mg/L	0.0010	95	70	130
Cadmium	0.242	mg/L	0.0010	97	70	130
Chromium	0.500	mg/L	0.0050	100	70	130
Cobalt	0.496	mg/L	0.0050	99	70	130
Copper	0.495	mg/L	0.0050	98	70	130
Lead	0.505	mg/L	0.0010	101	70	130
Manganese	2.51	mg/L	0.0010	100	70	130
Molybdenum	0.503	mg/L	0.0010	101	70	130
Nickel	0.485	mg/L	0.0050	96	70	130
Selenium	0.476	mg/L	0.0010	95	70	130
Silver	0.0482	mg/L	0.0010	96	70	130
Strontium	0.516	mg/L	0.010	99	70	130
Thallium	0.495	mg/L	0.00050	99	70	130
Uranium	0.479	mg/L	0.00030	96	70	130
Zinc	0.488	mg/L	0.010	96	70	130

18 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190607B

06/07/19 22:54

Antimony	0.496	mg/L	0.0010	99	70	130	1.7	20
Arsenic	0.485	mg/L	0.0010	97	70	130	0.1	20
Barium	0.722	mg/L	0.050	99	70	130	1.0	20
Beryllium	0.237	mg/L	0.0010	95	70	130	0.4	20
Cadmium	0.241	mg/L	0.0010	96	70	130	0.5	20
Chromium	0.500	mg/L	0.0050	100	70	130	0.0	20
Cobalt	0.495	mg/L	0.0050	99	70	130	0.1	20
Copper	0.497	mg/L	0.0050	99	70	130	0.4	20
Lead	0.504	mg/L	0.0010	101	70	130	0.3	20
Manganese	2.51	mg/L	0.0010	100	70	130	0.2	20
Molybdenum	0.495	mg/L	0.0010	99	70	130	1.6	20
Nickel	0.486	mg/L	0.0050	96	70	130	0.2	20
Selenium	0.473	mg/L	0.0010	95	70	130	0.7	20
Silver	0.0481	mg/L	0.0010	96	70	130	0.4	20
Strontium	0.514	mg/L	0.010	98	70	130	0.3	20
Thallium	0.495	mg/L	0.00050	99	70	130	0.1	20
Uranium	0.482	mg/L	0.00030	96	70	130	0.5	20
Zinc	0.490	mg/L	0.010	97	70	130	0.3	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

Batch: 45956

18 Sample Matrix Spike

Run: ICPMS205-H_190607B

06/07/19 23:17

Antimony	0.494	mg/L	0.0010	99	70	130
Arsenic	0.473	mg/L	0.0010	94	70	130
Barium	0.663	mg/L	0.050	97	70	130
Beryllium	0.234	mg/L	0.0010	94	70	130
Cadmium	0.237	mg/L	0.0010	95	70	130
Chromium	0.481	mg/L	0.0050	96	70	130
Cobalt	0.476	mg/L	0.0050	95	70	130
Copper	0.477	mg/L	0.0050	95	70	130
Lead	0.494	mg/L	0.0010	98	70	130
Manganese	2.45	mg/L	0.0010	97	70	130
Molybdenum	0.491	mg/L	0.0010	98	70	130
Nickel	0.464	mg/L	0.0050	93	70	130
Selenium	0.462	mg/L	0.0010	92	70	130
Silver	0.0469	mg/L	0.0010	94	70	130
Strontium	0.524	mg/L	0.010	95	70	130
Thallium	0.483	mg/L	0.00050	97	70	130
Uranium	0.470	mg/L	0.00030	94	70	130
Zinc	0.552	mg/L	0.010	92	70	130

18 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190607B

06/07/19 23:20

Antimony	0.496	mg/L	0.0010	99	70	130	0.4	20
Arsenic	0.473	mg/L	0.0010	94	70	130	0.1	20
Barium	0.665	mg/L	0.050	97	70	130	0.3	20
Beryllium	0.232	mg/L	0.0010	93	70	130	0.8	20
Cadmium	0.237	mg/L	0.0010	94	70	130	0.2	20
Chromium	0.479	mg/L	0.0050	96	70	130	0.4	20
Cobalt	0.476	mg/L	0.0050	95	70	130	0.0	20
Copper	0.473	mg/L	0.0050	94	70	130	0.9	20
Lead	0.489	mg/L	0.0010	97	70	130	1.0	20
Manganese	2.44	mg/L	0.0010	97	70	130	0.4	20
Molybdenum	0.495	mg/L	0.0010	99	70	130	0.8	20
Nickel	0.461	mg/L	0.0050	92	70	130	0.7	20
Selenium	0.462	mg/L	0.0010	92	70	130	0.0	20
Silver	0.0467	mg/L	0.0010	93	70	130	0.4	20
Strontium	0.523	mg/L	0.010	95	70	130	0.2	20
Thallium	0.479	mg/L	0.00050	96	70	130	1.0	20
Uranium	0.363	mg/L	0.00030	73	70	130	26	20 R
Zinc	0.554	mg/L	0.010	92	70	130	0.4	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

Analytical Run: ICPMS205-H_190612A

18 Initial Calibration Verification Standard

06/12/19 19:06

Aluminum	0.311	mg/L	0.10	104	90	110
Arsenic	0.0616	mg/L	0.0050	103	90	110
Barium	0.0619	mg/L	0.10	103	90	110
Beryllium	0.0296	mg/L	0.0010	99	90	110
Cadmium	0.0312	mg/L	0.0010	104	90	110
Chromium	0.0626	mg/L	0.010	104	90	110
Cobalt	0.0634	mg/L	0.010	106	90	110
Copper	0.0626	mg/L	0.010	104	90	110
Lead	0.0616	mg/L	0.010	103	90	110
Manganese	0.313	mg/L	0.010	104	90	110
Molybdenum	0.0621	mg/L	0.0050	104	90	110
Nickel	0.0631	mg/L	0.010	105	90	110
Selenium	0.0606	mg/L	0.0050	101	90	110
Silver	0.0313	mg/L	0.0050	104	90	110
Strontium	0.0618	mg/L	0.10	103	90	110
Thallium	0.0606	mg/L	0.10	101	90	110
Uranium	0.0608	mg/L	0.00030	101	90	110
Zinc	0.0638	mg/L	0.010	106	90	110

18 Interference Check Sample A

06/12/19 19:09

Aluminum	41.8	mg/L	0.10	105	70	130
Arsenic	4.41E-05	mg/L	0.0050			
Barium	0.000184	mg/L	0.10			
Beryllium	1.28E-05	mg/L	0.0010			
Cadmium	0.000151	mg/L	0.0010			
Chromium	0.000214	mg/L	0.010			
Cobalt	0.000274	mg/L	0.010			
Copper	3.78E-05	mg/L	0.010			
Lead	0.000120	mg/L	0.010			
Manganese	0.000272	mg/L	0.010			
Molybdenum	0.821	mg/L	0.0050	103	70	130
Nickel	0.000215	mg/L	0.010			
Selenium	0.000100	mg/L	0.0050			
Silver	7.29E-05	mg/L	0.0050			
Strontium	0.000980	mg/L	0.10			
Thallium	4.62E-05	mg/L	0.10			
Uranium	3.38E-05	mg/L	0.00030			
Zinc	0.000264	mg/L	0.010			

18 Interference Check Sample AB

06/12/19 19:11

Aluminum	41.8	mg/L	0.10	104	70	130
Arsenic	0.0101	mg/L	0.0050	101	70	130
Barium	0.000156	mg/L	0.10		0	0
Beryllium	2.97E-06	mg/L	0.0010		0	0
Cadmium	0.00983	mg/L	0.0010	98	70	130
Chromium	0.0202	mg/L	0.010	101	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--

Analytical Run: ICPMS205-H_190612A

18 Interference Check Sample AB

06/12/19 19:11

Cobalt	0.0203	mg/L	0.010	102	70	130
Copper	0.0198	mg/L	0.010	99	70	130
Lead	0.000110	mg/L	0.010		0	0
Manganese	0.0202	mg/L	0.010	101	70	130
Molybdenum	0.820	mg/L	0.0050	103	70	130
Nickel	0.0200	mg/L	0.010	100	70	130
Selenium	0.00979	mg/L	0.0050	98	70	130
Silver	0.00492	mg/L	0.0050	98	70	130
Strontium	0.000973	mg/L	0.10		0	0
Thallium	2.69E-05	mg/L	0.10		0	0
Uranium	9.35E-06	mg/L	0.00030		0	0
Zinc	0.00984	mg/L	0.010	98	70	130

Batch: 45956

18 Method Blank

Run: ICPMS205-H_190612A

06/12/19 22:59

Antimony	ND	mg/L	9E-05
Arsenic	ND	mg/L	4E-05
Barium	3E-05	mg/L	2E-05
Beryllium	ND	mg/L	0.0001
Cadmium	ND	mg/L	3E-05
Chromium	ND	mg/L	0.0002
Cobalt	ND	mg/L	9E-05
Copper	ND	mg/L	0.0001
Lead	ND	mg/L	3E-05
Manganese	ND	mg/L	0.0003
Molybdenum	ND	mg/L	2E-05
Nickel	ND	mg/L	0.0002
Selenium	0.0002	mg/L	2E-05
Silver	0.0004	mg/L	2E-05
Strontium	ND	mg/L	0.0001
Thallium	ND	mg/L	1E-05
Uranium	ND	mg/L	1E-05
Zinc	0.001	mg/L	0.0003

Batch: R145013

18 Method Blank

Run: ICPMS205-H_190612A

06/12/19 19:21

Aluminum	ND	mg/L	0.003
Arsenic	ND	mg/L	4E-05
Barium	ND	mg/L	2E-05
Beryllium	ND	mg/L	0.0001
Cadmium	ND	mg/L	3E-05
Chromium	ND	mg/L	0.0002
Cobalt	ND	mg/L	9E-05
Copper	ND	mg/L	0.0001
Lead	4E-05	mg/L	3E-05
Manganese	ND	mg/L	0.0003

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

Batch: R145013

18 Method Blank

Run: ICPMS205-H_190612A

06/12/19 19:21

Molybdenum	0.0002	mg/L	2E-05
Nickel	ND	mg/L	0.0002
Selenium	ND	mg/L	2E-05
Silver	ND	mg/L	2E-05
Strontium	ND	mg/L	0.0001
Thallium	ND	mg/L	1E-05
Uranium	ND	mg/L	1E-05
Zinc	ND	mg/L	0.0003

18 Laboratory Fortified Blank

Run: ICPMS205-H_190612A

06/12/19 19:23

Aluminum	0.0494	mg/L	0.10	99	85	115
Arsenic	0.0489	mg/L	0.0050	98	85	115
Barium	0.0485	mg/L	0.10	97	85	115
Beryllium	0.0479	mg/L	0.0010	96	85	115
Cadmium	0.0491	mg/L	0.0010	98	85	115
Chromium	0.0488	mg/L	0.010	98	85	115
Cobalt	0.0489	mg/L	0.010	98	85	115
Copper	0.0490	mg/L	0.010	98	85	115
Lead	0.0480	mg/L	0.010	96	85	115
Manganese	0.0488	mg/L	0.010	98	85	115
Molybdenum	0.0488	mg/L	0.0050	98	85	115
Nickel	0.0494	mg/L	0.010	99	85	115
Selenium	0.0490	mg/L	0.0050	98	85	115
Silver	0.0196	mg/L	0.0050	98	85	115
Strontium	0.0485	mg/L	0.10	97	85	115
Thallium	0.0477	mg/L	0.10	95	85	115
Uranium	0.0471	mg/L	0.00030	94	85	115
Zinc	0.0500	mg/L	0.010	100	85	115

18 Sample Matrix Spike

Run: ICPMS205-H_190612A

06/12/19 19:42

Aluminum	0.0506	mg/L	0.030	101	70	130
Arsenic	0.0502	mg/L	0.0010	100	70	130
Barium	0.0944	mg/L	0.050	97	70	130
Beryllium	0.0482	mg/L	0.0010	96	70	130
Cadmium	0.0491	mg/L	0.0010	98	70	130
Chromium	0.0488	mg/L	0.0050	98	70	130
Cobalt	0.0489	mg/L	0.0050	98	70	130
Copper	0.0489	mg/L	0.0050	97	70	130
Lead	0.0487	mg/L	0.0010	97	70	130
Manganese	0.0493	mg/L	0.0010	98	70	130
Molybdenum	0.0488	mg/L	0.0010	97	70	130
Nickel	0.0490	mg/L	0.0050	98	70	130
Selenium	0.0523	mg/L	0.0010	104	70	130
Silver	0.0195	mg/L	0.0010	98	70	130
Strontium	0.149	mg/L	0.010	95	70	130
Thallium	0.0484	mg/L	0.00050	97	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--

Batch: R145013

18 Sample Matrix Spike Run: ICPMS205-H_190612A 06/12/19 19:42

Uranium	0.0488	mg/L	0.00030	96	70	130
Zinc	0.0498	mg/L	0.010	99	70	130

18 Sample Matrix Spike Duplicate Run: ICPMS205-H_190612A 06/12/19 19:44

Aluminum	0.0511	mg/L	0.030	102	70	130	0.9	20
Arsenic	0.0498	mg/L	0.0010	99	70	130	0.7	20
Barium	0.0945	mg/L	0.050	97	70	130	0.1	20
Beryllium	0.0482	mg/L	0.0010	96	70	130	0.1	20
Cadmium	0.0493	mg/L	0.0010	99	70	130	0.4	20
Chromium	0.0486	mg/L	0.0050	97	70	130	0.5	20
Cobalt	0.0484	mg/L	0.0050	97	70	130	1.0	20
Copper	0.0488	mg/L	0.0050	97	70	130	0.2	20
Lead	0.0487	mg/L	0.0010	97	70	130	0.1	20
Manganese	0.0488	mg/L	0.0010	97	70	130	1.0	20
Molybdenum	0.0494	mg/L	0.0010	98	70	130	1.4	20
Nickel	0.0486	mg/L	0.0050	97	70	130	0.8	20
Selenium	0.0517	mg/L	0.0010	103	70	130	1.2	20
Silver	0.0197	mg/L	0.0010	98	70	130	0.6	20
Strontium	0.149	mg/L	0.010	94	70	130	0.3	20
Thallium	0.0486	mg/L	0.00050	97	70	130	0.4	20
Uranium	0.0488	mg/L	0.00030	96	70	130	0.0	20
Zinc	0.0500	mg/L	0.010	99	70	130	0.4	20

18 Sample Matrix Spike Run: ICPMS205-H_190612A 06/12/19 20:05

Aluminum	0.251	mg/L	0.030	100	70	130		
Arsenic	0.246	mg/L	0.0010	99	70	130		
Barium	0.259	mg/L	0.050	97	70	130		
Beryllium	0.238	mg/L	0.0010	95	70	130		
Cadmium	0.244	mg/L	0.0010	97	70	130		
Chromium	0.242	mg/L	0.0050	97	70	130		
Cobalt	0.249	mg/L	0.0050	97	70	130		
Copper	0.244	mg/L	0.0050	96	70	130		
Lead	0.244	mg/L	0.0010	97	70	130		
Manganese	1.46	mg/L	0.0014		70	130		A
Molybdenum	0.254	mg/L	0.0010	99	70	130		
Nickel	0.386	mg/L	0.0050	95	70	130		
Selenium	0.244	mg/L	0.0010	98	70	130		
Silver	0.0974	mg/L	0.0010	97	70	130		
Strontium	5.31	mg/L	0.010		70	130		AE
Thallium	0.244	mg/L	0.00050	97	70	130		
Uranium	0.249	mg/L	0.00030	98	70	130		
Zinc	0.260	mg/L	0.010	96	70	130		

18 Sample Matrix Spike Duplicate Run: ICPMS205-H_190612A 06/12/19 20:07

Aluminum	0.247	mg/L	0.030	99	70	130	1.4	20
Arsenic	0.248	mg/L	0.0010	99	70	130	0.6	20

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.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--	--

Batch: R145013

18 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190612A

06/12/19 20:07

Barium	0.260	mg/L	0.050	98	70	130	0.2	20	
Beryllium	0.242	mg/L	0.0010	97	70	130	1.7	20	
Cadmium	0.244	mg/L	0.0010	97	70	130	0.1	20	
Chromium	0.245	mg/L	0.0050	98	70	130	1.2	20	
Cobalt	0.251	mg/L	0.0050	97	70	130	0.8	20	
Copper	0.246	mg/L	0.0050	97	70	130	0.8	20	
Lead	0.246	mg/L	0.0010	98	70	130	0.8	20	
Manganese	1.47	mg/L	0.0014		70	130	0.5	20	A
Molybdenum	0.257	mg/L	0.0010	100	70	130	1.1	20	
Nickel	0.389	mg/L	0.0050	96	70	130	0.8	20	
Selenium	0.243	mg/L	0.0010	97	70	130	0.5	20	
Silver	0.0982	mg/L	0.0010	98	70	130	0.8	20	
Strontium	5.28	mg/L	0.010		70	130	0.6	20	AE
Thallium	0.246	mg/L	0.00050	98	70	130	0.9	20	
Uranium	0.251	mg/L	0.00030	98	70	130	0.9	20	
Zinc	0.260	mg/L	0.010	96	70	130	0.3	20	

18 Sample Matrix Spike

Run: ICPMS205-H_190612A

06/12/19 23:26

Aluminum	0.0986	mg/L	0.030	99	70	130			
Arsenic	0.103	mg/L	0.0010	101	70	130			
Barium	0.109	mg/L	0.050	96	70	130			
Beryllium	0.0913	mg/L	0.0010	91	70	130			
Cadmium	0.0944	mg/L	0.0010	94	70	130			
Chromium	0.0982	mg/L	0.0050	98	70	130			
Cobalt	0.135	mg/L	0.0050	97	70	130			
Copper	0.0975	mg/L	0.0050	95	70	130			
Lead	0.0985	mg/L	0.0010	98	70	130			
Manganese	12.2	mg/L	0.0010		70	130			AE
Molybdenum	0.102	mg/L	0.0010	100	70	130			
Nickel	0.109	mg/L	0.0050	95	70	130			
Selenium	0.0994	mg/L	0.0010	99	70	130			
Silver	0.0227	mg/L	0.0010	57	70	130			S
Strontium	8.86	mg/L	0.010		70	130			AE
Thallium	0.0990	mg/L	0.00050	99	70	130			
Uranium	0.156	mg/L	0.00030	99	70	130			
Zinc	0.106	mg/L	0.010	91	70	130			

18 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190612A

06/12/19 23:28

Aluminum	0.0991	mg/L	0.030	99	70	130	0.5	20	
Arsenic	0.103	mg/L	0.0010	101	70	130	0.2	20	
Barium	0.111	mg/L	0.050	98	70	130	1.2	20	
Beryllium	0.0907	mg/L	0.0010	91	70	130	0.6	20	
Cadmium	0.0943	mg/L	0.0010	94	70	130	0.1	20	
Chromium	0.0982	mg/L	0.0050	98	70	130	0.0	20	
Cobalt	0.134	mg/L	0.0050	96	70	130	0.3	20	
Copper	0.0970	mg/L	0.0050	95	70	130	0.4	20	

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--	--	--	--	--	--	--	--	--	--

Batch: R145013									
18 Sample Matrix Spike Duplicate				Run: ICPMS205-H_190612A				06/12/19 23:28	
Lead	0.0990	mg/L	0.0010	99	70	130	0.5	20	
Manganese	12.2	mg/L	0.0010		70	130	0.0	20	AE
Molybdenum	0.103	mg/L	0.0010	102	70	130	1.3	20	
Nickel	0.109	mg/L	0.0050	95	70	130	0.3	20	
Selenium	0.101	mg/L	0.0010	101	70	130	1.7	20	
Silver	0.0246	mg/L	0.0010	62	70	130	7.9	20	S
Strontium	8.82	mg/L	0.010		70	130	0.5	20	AE
Thallium	0.0984	mg/L	0.00050	98	70	130	0.6	20	
Uranium	0.156	mg/L	0.00030	99	70	130	0.1	20	
Zinc	0.106	mg/L	0.010	92	70	130	0.4	20	

Analytical Run: ICPMS205-H_190613C									
Initial Calibration Verification Standard									
Antimony	0.0635	mg/L	0.050	106	90	110			06/13/19 15:57
Interference Check Sample A									
Antimony	0.000721	mg/L	0.050						06/13/19 15:59
Interference Check Sample AB									
Antimony	0.000360	mg/L	0.050		0	0			06/13/19 16:01

Batch: R145058									
Method Blank									
Antimony	ND	mg/L	9E-05						06/13/19 16:14
Laboratory Fortified Blank									
Antimony	0.0547	mg/L	0.050	109	85	115			06/13/19 16:23
Sample Matrix Spike									
Antimony	0.0618	mg/L	0.0010	123	70	130			06/13/19 16:54
Sample Matrix Spike Duplicate									
Antimony	0.0617	mg/L	0.0010	123	70	130	0.0	20	06/13/19 16:56

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--	--	--	--	--	--	--

							Analytical Run: HGCV203-H_190611A
							06/11/19 10:52
	Initial Calibration Verification Standard						
Mercury	0.102	ug/L	0.0050	102	90	110	
							06/11/19 12:32
	Continuing Calibration Verification Standard						
Mercury	0.0968	ug/L	0.0050	97	90	110	
							06/11/19 10:52
	Initial Calibration Verification Standard						
Mercury	0.000102	mg/L	5.0E-06	102	90	110	
							Batch: 46038
	Method Blank			Run: HGCV203-H_190611A			06/11/19 11:15
Mercury	ND	ug/L	0.001				
							06/11/19 11:18
	Laboratory Control Sample			Run: HGCV203-H_190611A			
Mercury	0.0506	ug/L	0.0050	101	90	110	
							06/11/19 12:23
	Sample Matrix Spike			Run: HGCV203-H_190611A			
Mercury	0.0690	ug/L	0.0050	99	70	130	
							06/11/19 12:26
	Sample Matrix Spike Duplicate			Run: HGCV203-H_190611A			
Mercury	0.0710	ug/L	0.0050	103	70	130	2.9 20
							Batch: 46039
	Method Blank			Run: HGCV203-H_190611A			06/11/19 12:45
Mercury	ND	ug/L	0.001				
							06/11/19 12:48
	Laboratory Control Sample			Run: HGCV203-H_190611A			
Mercury	0.0524	ug/L	0.0050	105	90	110	
							06/11/19 12:58
	Sample Matrix Spike			Run: HGCV203-H_190611A			
Mercury	0.0504	ug/L	0.0050	98	70	130	
							06/11/19 13:02
	Sample Matrix Spike Duplicate			Run: HGCV203-H_190611A			
Mercury	0.0500	ug/L	0.0050	97	70	130	0.8 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--	--	--	--	--	--	--	--

Analytical Run: IC METROHM_190529A

2 Initial Calibration Verification Standard 05/29/19 12:19

Chloride	105	mg/L	1.0	105	90	110
Sulfate	416	mg/L	1.0	104	90	110

2 Continuing Calibration Verification Standard 06/03/19 07:14

Chloride	52.4	mg/L	1.0	105	90	110
Sulfate	209	mg/L	1.0	105	90	110

2 Continuing Calibration Verification Standard 06/03/19 10:46

Chloride	51.7	mg/L	1.0	103	90	110
Sulfate	206	mg/L	1.0	103	90	110

Batch: R144597

2 Method Blank Run: IC METROHM_190529A 05/29/19 12:05

Chloride	ND	mg/L	0.02
Sulfate	ND	mg/L	0.08

2 Laboratory Fortified Blank Run: IC METROHM_190529A 05/29/19 13:30

Chloride	26.1	mg/L	1.0	104	90	110
Sulfate	108	mg/L	1.0	108	90	110

2 Sample Matrix Spike Run: IC METROHM_190529A 06/03/19 06:46

Chloride	26.3	mg/L	1.0	105	90	110
Sulfate	108	mg/L	1.0	108	90	110

2 Sample Matrix Spike Duplicate Run: IC METROHM_190529A 06/03/19 07:00

Chloride	26.3	mg/L	1.0	105	90	110	0.1	20
Sulfate	108	mg/L	1.0	108	90	110	0.4	20

2 Sample Matrix Spike Run: IC METROHM_190529A 06/03/19 10:18

Chloride	35.4	mg/L	1.0	104	90	110
Sulfate	117	mg/L	1.0	103	90	110

2 Sample Matrix Spike Duplicate Run: IC METROHM_190529A 06/03/19 10:32

Chloride	35.2	mg/L	1.0	103	90	110	0.7	20
Sulfate	116	mg/L	1.0	103	90	110	0.5	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19050915

06/14/19

--	--	--	--	--	--	--

							Analytical Run: FIA203-HE_190606B
	Initial Calibration Verification Standard						06/06/19 09:18
Nitrogen, Nitrate+Nitrite as N	1.03	mg/L	0.010	103	90	110	
	Continuing Calibration Verification Standard						06/06/19 10:26
Nitrogen, Nitrate+Nitrite as N	0.466	mg/L	0.010	93	90	110	
	Continuing Calibration Verification Standard						06/06/19 10:43
Nitrogen, Nitrate+Nitrite as N	0.468	mg/L	0.010	94	90	110	
							Batch: R144840
	Method Blank				Run: FIA203-HE_190606B		06/06/19 09:19
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	0.009				
	Laboratory Fortified Blank				Run: FIA203-HE_190606B		06/06/19 09:21
Nitrogen, Nitrate+Nitrite as N	0.938	mg/L	0.011	94	90	110	
	Sample Matrix Spike				Run: FIA203-HE_190606B		06/06/19 10:31
Nitrogen, Nitrate+Nitrite as N	0.965	mg/L	0.011	97	90	110	
	Sample Matrix Spike Duplicate				Run: FIA203-HE_190606B		06/06/19 10:32
Nitrogen, Nitrate+Nitrite as N	1.05	mg/L	0.011	105	90	110	8.4 10
	Sample Matrix Spike				Run: FIA203-HE_190606B		06/06/19 10:48
Nitrogen, Nitrate+Nitrite as N	1.35	mg/L	0.011	93	90	110	
	Sample Matrix Spike Duplicate				Run: FIA203-HE_190606B		06/06/19 10:49
Nitrogen, Nitrate+Nitrite as N	1.34	mg/L	0.011	93	90	110	0.3 10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Tintina Resources Inc

H19050915

Login completed by: Jessica C. Smith

Date Received: 5/31/2019

Reviewed by: BL2000\rtooke

Received by: abc

Reviewed Date: 6/7/2019

Carrier name: Hand Del

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 checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	0.0°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"/>

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.

None

Hydrometrics, Inc.

3020 Bozeman Ave. • Helena, MT 59601 • (406) 443-4150

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME		DATE	TIME	SAMPLE NUMBER	NO. OF CONTAINERS	ANALYSIS							REMARKS			
	18049	Tinyon Black BnHc May Monthly					Commons UF / RAW	Nutrients UF / H ₂ SO ₄	Diss. Metal F / HNO ₃	CN UF / NaOH	Total Metals UF / HNO ₃	Total Recoverable Metals UF / HNO ₃	BTEX		TPH		
			5/20/19	1420	133C-1905-106	3	X	X	X	X	X	X	X	X	X	H19050915	
				1450	107												
				1500	108												
				1515	109												
				1530	110												
				1535	111												
				1615	112												
				1640	113												
				1700	114												
			5/30/19	1215	123												
				1225	124												
				1245	125												
				1310	126												
				1335	127												
Relinquished (Signature)			Date / Time			Received by (Signature)			Date / Time			Lab			Shipped via: Bus FedEx UPS Other Air Bill #		
RZ			5/31/19 11:10			Energy Lab			P.O. # Bill Tintine								
Relinquished (Signature)			Date / Time			Received by (Signature)			Date / Time			Remarks					
RZ									Temp 0.6 TB hand del.								
Relinquished (Signature)			Date / Time			Received for Laboratory by (Signature)			Date / Time			Enclosed: <input checked="" type="checkbox"/> Parameter sheet w/detection limits <input type="checkbox"/> QA / AC standard mixing instructions <input type="checkbox"/> Cover letter <input type="checkbox"/> Other			Split Samples: <input type="checkbox"/> Accepted <input type="checkbox"/> Declined <input type="checkbox"/> Signature		
						Jennifer Carlson			5/31/19 11:10								

Return results & electronic copy to:
QA / QC Dept. at address at top of page

**TABLE 5. PARAMETERS, METHODS, AND DETECTION LIMITS
FOR GROUNDWATER MONITORING**

Parameter	Analytical Method ⁽¹⁾	Project-Required Detection Limit (mg/L)
Physical Parameters		
TDS	SM 2540C	10
TSS	SM 2540C	10
Common Ions		
Alkalinity	SM 2320B	4
Sulfate	300.0	1
Chloride	300.0/SM 4500CL-B	1
Fluoride	A4500-F C	0.1
Calcium	215.1/200.7	1
Magnesium	242.1/200.7	1
Sodium	273.1/200.7	1
Potassium	258.1/200.7	1
Nutrients		
Nitrate+Nitrite as N	353.2	0.01
Trace Constituents (Dissolved)⁽²⁾		
Aluminum (Al)	200.7/200.8	0.009
Antimony (Sb)	200.7/200.8	0.0005
Arsenic (As)	200.8/SM 3114B	0.001
Barium (Ba)	200.7/200.8	0.003
Beryllium (Be)	200.7/200.8	0.0008
Cadmium (Cd)	200.7/200.8	0.00003
Chromium (Cr)	200.7/200.8	0.01
Cobalt (Co)	200.7/200.8	0.01
Copper (Cu)	200.7/200.8	0.002
Iron (Fe)	200.7/200.8	0.02
Lead (Pb)	200.7/200.8	0.0003
Manganese (Mn)	200.7/200.8	0.005
Mercury (Hg)	245.2/245.1/200.8/SM 3112B	0.000005
Molybdenum (Mo)	200.7/200.8	0.002
Nickel (Ni)	200.7/200.8	0.001
Selenium (Se)	200.7/200.8/SM 3114B	0.0002
Silver (Ag)	200.7/200.8	0.0002
Strontium (Sr)	200.7/200.8	0.0002
Thallium (Tl)	200.7/200.8	0.0002
Uranium	200.7/200.8	0.008
Zinc (Zn)	200.7/200.8	0.002
Field Parameters		
Stream Flow	HF-SOP-37/-44/-46	NA
Water Temperature	HF-SOP-20	0.1 °C
Dissolved Oxygen (DO)	HF-SOP-22	0.1 mg/L
pH	HF-SOP-20	0.1 s.u.
Specific Conductance (SC)	HF-SOP-79	1 µmhos/cm

(1) Analytical methods are from *Standard Methods for the Examination of Water and Wastewater* (SM) or EPA's *Methods for Chemical Analysis of Water and Waste* (1983).

(2) Samples to be analyzed for dissolved constituents will be field-filtered through a 0.45 µm filter.



July 05, 2019

Tintina Resources Inc
PO Box 431
White Sulphur Springs, MT 59645-0431

Work Order: H19060528 Quote ID: H1216
Project Name: 18049 Black Butte Copper (GW)

Energy Laboratories Inc Helena MT received the following 21 samples for Tintina Resources Inc on 6/21/2019 for analysis.

H19060528-001	BBC-1906-200	06/17/19 16:55	06/21/19	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Fluoride Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Mercury Digestion by E245.1 Solids, Total Dissolved Solids, Total Suspended
H19060528-002	BBC-1906-201	06/17/19 17:55	06/21/19	Groundwater	Same As Above
H19060528-003	BBC-1906-202	06/17/19 18:20	06/21/19	Groundwater	Same As Above
H19060528-004	BBC-1906-203	06/17/19 17:50	06/21/19	Groundwater	Same As Above
H19060528-005	BBC-1906-204	06/18/19 9:00	06/21/19	Groundwater	Same As Above
H19060528-006	BBC-1906-205	06/18/19 10:40	06/21/19	Groundwater	Same As Above
H19060528-007	BBC-1906-206	06/18/19 11:50	06/21/19	Groundwater	Same As Above
H19060528-008	BBC-1906-207	06/18/19 12:20	06/21/19	Groundwater	Same As Above
H19060528-009	BBC-1906-208	06/18/19 15:30	06/21/19	Groundwater	Same As Above
H19060528-010	BBC-1906-209	06/18/19 18:30	06/21/19	Groundwater	Same As Above
H19060528-011	BBC-1906-210	06/19/19 10:05	06/21/19	Groundwater	Same As Above
H19060528-012	BBC-1906-211	06/19/19 10:30	06/21/19	Groundwater	Same As Above
H19060528-013	BBC-1906-212	06/19/19 17:00	06/21/19	Groundwater	Same As Above
H19060528-014	BBC-1906-213	06/19/19 14:40	06/21/19	Groundwater	Same As Above
H19060528-015	BBC-1906-214	06/19/19 15:45	06/21/19	Groundwater	Same As Above
H19060528-016	BBC-1906-215	06/19/19 17:35	06/21/19	Groundwater	Same As Above
H19060528-017	BBC-1906-216	06/19/19 18:30	06/21/19	Groundwater	Same As Above
H19060528-018	BBC-1906-217	06/20/19 10:55	06/21/19	Groundwater	Same As Above
H19060528-019	BBC-1906-218	06/20/19 9:10	06/21/19	Groundwater	Same As Above
H19060528-020	BBC-1906-219	06/20/19 9:50	06/21/19	Groundwater	Same As Above
H19060528-021	BBC-1906-220	06/20/19 10:30	06/21/19	Groundwater	Same As Above



The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, 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. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

A handwritten signature in black ink that reads "Amanda Carlson". Below the signature, the text "Assistant Laboratory Manager-Helena, MT" is printed in a small, black, sans-serif font.

Assistant Laboratory Manager-Helena, MT

Digitally signed by
Amanda B. Carlson
Date: 2019.07.05 15:10:12 -06:00



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-001
BBC-1906-200

07/05/19
06/17/19 16:55
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:37 / cmm
Solids, Total Dissolved TDS @ 180 C	508 mg/L	10	A2540 C	06/21/19 13:12 / cmm
Alkalinity, Total as CaCO3	210 mg/L	4	A2320 B	06/24/19 15:26 / RAT
Chloride	1 mg/L	1	E300.0	06/21/19 17:25 / cmm
Sulfate	221 mg/L	1	E300.0	06/21/19 17:25 / cmm
Fluoride	0.8 mg/L	0.1	4 A4500-F C	06/24/19 12:15 / RAT
Hardness as CaCO3	378 mg/L	1	A2340 B	06/24/19 15:06 / abc
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 11:33 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/21/19 23:33 / sld
Antimony	ND mg/L	0.0005	E200.8	06/21/19 23:33 / sld
Arsenic	0.068 mg/L	0.001	E200.8	06/21/19 23:33 / sld
Barium	0.011 mg/L	0.003	E200.8	06/21/19 23:33 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/21/19 23:33 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/21/19 23:33 / sld
Calcium	72 mg/L	1	E200.7	06/24/19 15:06 / sld
Chromium	ND mg/L	0.01	E200.8	06/21/19 23:33 / sld
Cobalt	ND mg/L	0.01	E200.8	06/21/19 23:33 / sld
Copper	ND mg/L	0.002	E200.8	06/21/19 23:33 / sld
Iron	1.01 mg/L	0.02	E200.7	06/24/19 15:06 / sld
Lead	ND mg/L	0.0003	E200.8	06/21/19 23:33 / sld
Magnesium	48 mg/L	1	E200.7	06/24/19 15:06 / sld
Manganese	0.015 mg/L	0.005	E200.8	06/21/19 23:33 / sld
Mercury	ND ug/L	0.005	E245.1	06/24/19 12:18 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/21/19 23:33 / sld
Nickel	ND mg/L	0.001	E200.8	06/21/19 23:33 / sld
Potassium	4 mg/L	1	E200.7	06/24/19 15:06 / sld
Selenium	ND mg/L	0.0002	E200.8	06/26/19 08:33 / dck
Silver	ND mg/L	0.0002	E200.8	06/21/19 23:33 / sld
Sodium	16 mg/L	1	E200.7	06/24/19 15:06 / sld
Strontium	13.6 mg/L	0.0002	E200.7	06/24/19 15:06 / sld
Thallium	0.0003 mg/L	0.0002	E200.8	06/21/19 23:33 / sld
Uranium	0.0011 mg/L	0.0002	E200.8	06/21/19 23:33 / sld
Zinc	ND mg/L	0.002	E200.8	06/21/19 23:33 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-002
BBC-1906-201

07/05/19
06/17/19 17:55
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:38 / cmm
Solids, Total Dissolved TDS @ 180 C	192 mg/L	10	A2540 C	06/21/19 13:13 / cmm
Alkalinity, Total as CaCO3	180 mg/L	4	A2320 B	06/24/19 15:35 / RAT
Chloride	1 mg/L	1	E300.0	06/21/19 17:39 / cmm
Sulfate	21 mg/L	1	E300.0	06/21/19 17:39 / cmm
Fluoride	0.3 mg/L	0.1	4 A4500-F C	06/24/19 11:49 / RAT
Hardness as CaCO3	193 mg/L	1	A2340 B	06/24/19 15:21 / abc
Nitrogen, Nitrate+Nitrite as N	0.22 mg/L	0.01	E353.2	07/01/19 11:37 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/21/19 23:35 / sld
Antimony	ND mg/L	0.0005	E200.8	06/21/19 23:35 / sld
Arsenic	ND mg/L	0.001	E200.8	06/21/19 23:35 / sld
Barium	0.083 mg/L	0.003	E200.8	06/21/19 23:35 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/21/19 23:35 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/21/19 23:35 / sld
Calcium	41 mg/L	1	E200.7	06/24/19 15:21 / sld
Chromium	ND mg/L	0.01	E200.8	06/21/19 23:35 / sld
Cobalt	ND mg/L	0.01	E200.8	06/21/19 23:35 / sld
Copper	ND mg/L	0.002	E200.8	06/21/19 23:35 / sld
Iron	ND mg/L	0.02	E200.8	06/21/19 23:35 / sld
Lead	ND mg/L	0.0003	E200.8	06/21/19 23:35 / sld
Magnesium	22 mg/L	1	E200.7	06/24/19 15:21 / sld
Manganese	ND mg/L	0.005	E200.8	06/21/19 23:35 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 09:55 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/21/19 23:35 / sld
Nickel	ND mg/L	0.001	E200.8	06/21/19 23:35 / sld
Potassium	1 mg/L	1	E200.7	06/24/19 15:21 / sld
Selenium	0.0012 mg/L	0.0002	E200.8	06/26/19 08:35 / dck
Silver	ND mg/L	0.0002	E200.8	06/21/19 23:35 / sld
Sodium	3 mg/L	1	E200.7	06/24/19 15:21 / sld
Strontium	0.0919 mg/L	0.0002	E200.7	06/24/19 15:21 / sld
Thallium	ND mg/L	0.0002	E200.8	06/21/19 23:35 / sld
Uranium	0.0005 mg/L	0.0002	E200.8	06/21/19 23:35 / sld
Zinc	ND mg/L	0.002	E200.8	06/21/19 23:35 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-003
BBC-1906-202

07/05/19
06/17/19 18:20
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:38 / cmm
Solids, Total Dissolved TDS @ 180 C	248 mg/L	10	A2540 C	06/21/19 13:13 / cmm
Alkalinity, Total as CaCO3	200 mg/L	4	A2320 B	06/26/19 17:25 / RAT
Chloride	1 mg/L	1	E300.0	06/21/19 17:54 / cmm
Sulfate	41 mg/L	1	E300.0	06/21/19 17:54 / cmm
Fluoride	0.3 mg/L	0.1	4 A4500-F C	06/24/19 11:57 / RAT
Hardness as CaCO3	235 mg/L	1	A2340 B	06/24/19 16:56 / sld
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 11:38 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/21/19 23:37 / sld
Antimony	ND mg/L	0.0005	E200.8	06/21/19 23:37 / sld
Arsenic	0.003 mg/L	0.001	E200.8	06/21/19 23:37 / sld
Barium	0.044 mg/L	0.003	E200.8	06/21/19 23:37 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/21/19 23:37 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/21/19 23:37 / sld
Calcium	50 mg/L	1	E200.7	06/24/19 15:25 / sld
Chromium	ND mg/L	0.01	E200.8	06/21/19 23:37 / sld
Cobalt	ND mg/L	0.01	E200.8	06/21/19 23:37 / sld
Copper	ND mg/L	0.002	E200.8	06/21/19 23:37 / sld
Iron	0.04 mg/L	0.02	E200.8	06/21/19 23:37 / sld
Lead	ND mg/L	0.0003	E200.8	06/21/19 23:37 / sld
Magnesium	27 mg/L	1	E200.7	06/24/19 15:25 / sld
Manganese	0.009 mg/L	0.005	E200.8	06/21/19 23:37 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:04 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/21/19 23:37 / sld
Nickel	ND mg/L	0.001	E200.8	06/21/19 23:37 / sld
Potassium	2 mg/L	1	E200.7	06/24/19 15:25 / sld
Selenium	0.0051 mg/L	0.0002	E200.8	06/21/19 23:37 / sld
Silver	ND mg/L	0.0002	E200.8	06/21/19 23:37 / sld
Sodium	3 mg/L	1	E200.7	06/24/19 15:25 / sld
Strontium	0.0951 mg/L	0.0002	E200.8	06/21/19 23:37 / sld
Thallium	0.0036 mg/L	0.0002	E200.8	06/21/19 23:37 / sld
Uranium	0.0022 mg/L	0.0002	E200.8	06/21/19 23:37 / sld
Zinc	ND mg/L	0.002	E200.8	06/21/19 23:37 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-004
BBC-1906-203

07/05/19
06/17/19 17:50
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:38 / cmm
Solids, Total Dissolved TDS @ 180 C	194 mg/L	10	A2540 C	06/21/19 13:13 / cmm
Alkalinity, Total as CaCO3	180 mg/L	4	A2320 B	06/24/19 15:12 / RAT
Chloride	ND mg/L	1	E300.0	06/21/19 19:21 / cmm
Sulfate	15 mg/L	1	E300.0	06/21/19 19:21 / cmm
Fluoride	0.2 mg/L	0.1	4 A4500-F C	06/24/19 12:19 / RAT
Hardness as CaCO3	206 mg/L	1	A2340 B	06/24/19 15:29 / abc
Nitrogen, Nitrate+Nitrite as N	0.28 mg/L	0.01	E353.2	07/01/19 11:39 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/21/19 23:39 / sld
Antimony	ND mg/L	0.0005	E200.8	06/21/19 23:39 / sld
Arsenic	ND mg/L	0.001	E200.8	06/21/19 23:39 / sld
Barium	0.086 mg/L	0.003	E200.8	06/21/19 23:39 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/21/19 23:39 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/21/19 23:39 / sld
Calcium	41 mg/L	1	E200.7	06/24/19 15:29 / sld
Chromium	ND mg/L	0.01	E200.8	06/21/19 23:39 / sld
Cobalt	ND mg/L	0.01	E200.8	06/21/19 23:39 / sld
Copper	ND mg/L	0.002	E200.8	06/21/19 23:39 / sld
Iron	ND mg/L	0.02	E200.8	06/21/19 23:39 / sld
Lead	ND mg/L	0.0003	E200.8	06/21/19 23:39 / sld
Magnesium	25 mg/L	1	E200.7	06/24/19 15:29 / sld
Manganese	ND mg/L	0.005	E200.8	06/21/19 23:39 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:08 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/21/19 23:39 / sld
Nickel	ND mg/L	0.001	E200.8	06/21/19 23:39 / sld
Potassium	ND mg/L	1	E200.7	06/24/19 15:29 / sld
Selenium	0.0011 mg/L	0.0002	E200.8	06/26/19 08:37 / dck
Silver	ND mg/L	0.0002	E200.8	06/21/19 23:39 / sld
Sodium	2 mg/L	1	E200.7	06/24/19 15:29 / sld
Strontium	0.116 mg/L	0.0002	E200.8	06/21/19 23:39 / sld
Thallium	ND mg/L	0.0002	E200.8	06/21/19 23:39 / sld
Uranium	0.0010 mg/L	0.0002	E200.8	06/21/19 23:39 / sld
Zinc	0.013 mg/L	0.002	E200.8	06/21/19 23:39 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-005
BBC-1906-204

07/05/19
06/18/19 09:00
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:38 / cmm
Solids, Total Dissolved TDS @ 180 C	231 mg/L	10	A2540 C	06/21/19 13:13 / cmm
Alkalinity, Total as CaCO3	210 mg/L	4	A2320 B	06/24/19 15:49 / RAT
Chloride	2 mg/L	1	E300.0	06/21/19 20:19 / cmm
Sulfate	8 mg/L	1	E300.0	06/21/19 20:19 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/24/19 12:23 / RAT
Hardness as CaCO3	227 mg/L	1	A2340 B	06/24/19 15:33 / abc
Nitrogen, Nitrate+Nitrite as N	0.56 mg/L	0.01	E353.2	07/01/19 11:40 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/21/19 23:41 / sld
Antimony	ND mg/L	0.0005	E200.8	06/21/19 23:41 / sld
Arsenic	ND mg/L	0.001	E200.8	06/21/19 23:41 / sld
Barium	0.307 mg/L	0.003	E200.8	06/21/19 23:41 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/21/19 23:41 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/21/19 23:41 / sld
Calcium	48 mg/L	1	E200.7	06/24/19 15:33 / sld
Chromium	ND mg/L	0.01	E200.8	06/21/19 23:41 / sld
Cobalt	ND mg/L	0.01	E200.8	06/21/19 23:41 / sld
Copper	ND mg/L	0.002	E200.8	06/21/19 23:41 / sld
Iron	ND mg/L	0.02	E200.8	06/21/19 23:41 / sld
Lead	ND mg/L	0.0003	E200.8	06/21/19 23:41 / sld
Magnesium	26 mg/L	1	E200.7	06/24/19 15:33 / sld
Manganese	ND mg/L	0.005	E200.8	06/21/19 23:41 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:11 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/21/19 23:41 / sld
Nickel	ND mg/L	0.001	E200.8	06/21/19 23:41 / sld
Potassium	ND mg/L	1	E200.7	06/24/19 15:33 / sld
Selenium	0.0003 mg/L	0.0002	E200.8	06/26/19 08:38 / dck
Silver	ND mg/L	0.0002	E200.8	06/21/19 23:41 / sld
Sodium	3 mg/L	1	E200.7	06/24/19 15:33 / sld
Strontium	0.0980 mg/L	0.0002	E200.8	06/21/19 23:41 / sld
Thallium	ND mg/L	0.0002	E200.8	06/21/19 23:41 / sld
Uranium	0.0007 mg/L	0.0002	E200.8	06/21/19 23:41 / sld
Zinc	0.006 mg/L	0.002	E200.8	06/21/19 23:41 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-006
BBC-1906-205

07/05/19
06/18/19 10:40
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:39 / cmm
Solids, Total Dissolved TDS @ 180 C	217 mg/L	10	A2540 C	06/21/19 13:14 / cmm
Alkalinity, Total as CaCO3	200 mg/L	4	A2320 B	06/24/19 15:57 / RAT
Chloride	ND mg/L	1	E300.0	06/21/19 20:33 / cmm
Sulfate	12 mg/L	1	E300.0	06/21/19 20:33 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/24/19 12:27 / RAT
Hardness as CaCO3	208 mg/L	1	A2340 B	06/24/19 15:37 / abc
Nitrogen, Nitrate+Nitrite as N	0.25 mg/L	0.01	E353.2	07/01/19 11:42 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/21/19 23:44 / sld
Antimony	ND mg/L	0.0005	E200.8	06/21/19 23:44 / sld
Arsenic	ND mg/L	0.001	E200.8	06/21/19 23:44 / sld
Barium	0.065 mg/L	0.003	E200.8	06/21/19 23:44 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/21/19 23:44 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/21/19 23:44 / sld
Calcium	47 mg/L	1	E200.7	06/24/19 15:37 / sld
Chromium	ND mg/L	0.01	E200.8	06/21/19 23:44 / sld
Cobalt	ND mg/L	0.01	E200.8	06/21/19 23:44 / sld
Copper	ND mg/L	0.002	E200.8	06/21/19 23:44 / sld
Iron	ND mg/L	0.02	E200.8	06/21/19 23:44 / sld
Lead	ND mg/L	0.0003	E200.8	06/21/19 23:44 / sld
Magnesium	22 mg/L	1	E200.7	06/24/19 15:37 / sld
Manganese	ND mg/L	0.005	E200.8	06/21/19 23:44 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:14 / ber
Molybdenum	0.004 mg/L	0.002	E200.8	06/21/19 23:44 / sld
Nickel	ND mg/L	0.001	E200.8	06/21/19 23:44 / sld
Potassium	2 mg/L	1	E200.7	06/24/19 15:37 / sld
Selenium	ND mg/L	0.0002	E200.8	06/26/19 08:40 / dck
Silver	ND mg/L	0.0002	E200.8	06/21/19 23:44 / sld
Sodium	4 mg/L	1	E200.7	06/24/19 15:37 / sld
Strontium	0.234 mg/L	0.0002	E200.8	06/21/19 23:44 / sld
Thallium	ND mg/L	0.0002	E200.8	06/21/19 23:44 / sld
Uranium	0.0030 mg/L	0.0002	E200.8	06/21/19 23:44 / sld
Zinc	ND mg/L	0.002	E200.8	06/21/19 23:44 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-007
BBC-1906-206

07/05/19
06/18/19 11:50
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:39 / cmm
Solids, Total Dissolved TDS @ 180 C	207 mg/L	10	A2540 C	06/21/19 13:14 / cmm
Alkalinity, Total as CaCO3	160 mg/L	4	A2320 B	06/24/19 16:04 / RAT
Chloride	ND mg/L	1	E300.0	06/21/19 21:17 / cmm
Sulfate	32 mg/L	1	E300.0	06/21/19 21:17 / cmm
Fluoride	0.3 mg/L	0.1	4 A4500-F C	06/24/19 12:31 / RAT
Hardness as CaCO3	211 mg/L	1	A2340 B	06/24/19 16:56 / sld
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 11:43 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/21/19 23:46 / sld
Antimony	ND mg/L	0.0005	E200.8	06/21/19 23:46 / sld
Arsenic	ND mg/L	0.001	E200.8	06/21/19 23:46 / sld
Barium	0.034 mg/L	0.003	E200.8	06/21/19 23:46 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/21/19 23:46 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/21/19 23:46 / sld
Calcium	44 mg/L	1	E200.7	06/24/19 15:41 / sld
Chromium	ND mg/L	0.01	E200.8	06/21/19 23:46 / sld
Cobalt	ND mg/L	0.01	E200.8	06/21/19 23:46 / sld
Copper	ND mg/L	0.002	E200.8	06/21/19 23:46 / sld
Iron	0.03 mg/L	0.02	E200.8	06/21/19 23:46 / sld
Lead	ND mg/L	0.0003	E200.8	06/21/19 23:46 / sld
Magnesium	25 mg/L	1	E200.7	06/24/19 15:41 / sld
Manganese	ND mg/L	0.005	E200.8	06/21/19 23:46 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:17 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/21/19 23:46 / sld
Nickel	ND mg/L	0.001	E200.8	06/21/19 23:46 / sld
Potassium	ND mg/L	1	E200.7	06/24/19 15:41 / sld
Selenium	ND mg/L	0.0002	E200.8	06/21/19 23:46 / sld
Silver	ND mg/L	0.0002	E200.8	06/21/19 23:46 / sld
Sodium	2 mg/L	1	E200.7	06/24/19 15:41 / sld
Strontium	0.0678 mg/L	0.0002	E200.8	06/21/19 23:46 / sld
Thallium	ND mg/L	0.0002	E200.8	06/21/19 23:46 / sld
Uranium	0.0008 mg/L	0.0002	E200.8	06/21/19 23:46 / sld
Zinc	ND mg/L	0.002	E200.8	06/21/19 23:46 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-008
BBC-1906-207

07/05/19
06/18/19 12:20
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:39 / cmm
Solids, Total Dissolved TDS @ 180 C	299 mg/L	10	A2540 C	06/21/19 13:14 / cmm
Alkalinity, Total as CaCO3	230 mg/L	4	A2320 B	06/24/19 16:12 / RAT
Chloride	1 mg/L	1	E300.0	06/21/19 21:32 / cmm
Sulfate	55 mg/L	1	E300.0	06/21/19 21:32 / cmm
Fluoride	0.8 mg/L	0.1	4 A4500-F C	06/24/19 12:35 / RAT
Hardness as CaCO3	283 mg/L	1	A2340 B	06/24/19 15:52 / abc
Nitrogen, Nitrate+Nitrite as N	0.01 mg/L	0.01	E353.2	07/01/19 11:44 / kmd
Aluminum	0.011 mg/L	0.009	E200.8	06/22/19 00:00 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 00:00 / sld
Arsenic	0.005 mg/L	0.001	E200.8	06/22/19 00:00 / sld
Barium	0.033 mg/L	0.003	E200.8	06/22/19 00:00 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 00:00 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 00:00 / sld
Calcium	57 mg/L	1	E200.7	06/24/19 15:52 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 00:00 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 00:00 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 00:00 / sld
Iron	3.28 mg/L	0.02	E200.7	06/24/19 15:52 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 00:00 / sld
Magnesium	34 mg/L	1	E200.7	06/24/19 15:52 / sld
Manganese	0.059 mg/L	0.005	E200.8	06/22/19 00:00 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:20 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 00:00 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 00:00 / sld
Potassium	5 mg/L	1	E200.7	06/24/19 15:52 / sld
Selenium	ND mg/L	0.0002	E200.8	06/26/19 08:42 / dck
Silver	ND mg/L	0.0002	E200.8	06/22/19 00:00 / sld
Sodium	3 mg/L	1	E200.7	06/24/19 15:52 / sld
Strontium	0.0846 mg/L	0.0002	E200.8	06/22/19 00:00 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 00:00 / sld
Uranium	0.0003 mg/L	0.0002	E200.8	06/22/19 00:00 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 00:00 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-009
BBC-1906-208

07/05/19
06/18/19 15:30
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:39 / cmm
Solids, Total Dissolved TDS @ 180 C	501 mg/L	10	A2540 C	06/21/19 13:14 / cmm
Alkalinity, Total as CaCO3	210 mg/L	4	A2320 B	06/24/19 16:20 / RAT
Chloride	ND mg/L	1	E300.0	06/21/19 21:46 / cmm
Sulfate	204 mg/L	1	E300.0	06/21/19 21:46 / cmm
Fluoride	0.8 mg/L	0.1	4 A4500-F C	06/24/19 12:48 / RAT
Hardness as CaCO3	394 mg/L	1	A2340 B	06/24/19 15:56 / abc
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 11:45 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 00:02 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 00:02 / sld
Arsenic	0.059 mg/L	0.001	E200.8	06/22/19 00:02 / sld
Barium	0.036 mg/L	0.003	E200.8	06/22/19 00:02 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 00:02 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 00:02 / sld
Calcium	77 mg/L	1	E200.7	06/24/19 15:56 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 00:02 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 00:02 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 00:02 / sld
Iron	0.39 mg/L	0.02	E200.7	06/24/19 15:56 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 00:02 / sld
Magnesium	49 mg/L	1	E200.7	06/24/19 15:56 / sld
Manganese	0.143 mg/L	0.005	E200.8	06/22/19 00:02 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:24 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 00:02 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 00:02 / sld
Potassium	5 mg/L	1	E200.7	06/24/19 15:56 / sld
Selenium	ND mg/L	0.0002	E200.8	06/26/19 08:49 / dck
Silver	ND mg/L	0.0002	E200.8	06/22/19 00:02 / sld
Sodium	11 mg/L	1	E200.7	06/24/19 15:56 / sld
Strontium	13.2 mg/L	0.0002	E200.7	06/24/19 15:56 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 00:02 / sld
Uranium	0.0009 mg/L	0.0002	E200.8	06/22/19 00:02 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 00:02 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-010
BBC-1906-209

07/05/19
06/18/19 18:30
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:39 / cmm
Solids, Total Dissolved TDS @ 180 C	544 mg/L	10	A2540 C	06/21/19 13:15 / cmm
Alkalinity, Total as CaCO3	210 mg/L	4	A2320 B	06/24/19 16:27 / RAT
Chloride	1 mg/L	1	E300.0	06/21/19 22:01 / cmm
Sulfate	244 mg/L	1	E300.0	06/21/19 22:01 / cmm
Fluoride	0.6 mg/L	0.1	4 A4500-F C	06/24/19 12:52 / RAT
Hardness as CaCO3	441 mg/L	1	A2340 B	06/24/19 16:56 / sld
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 11:46 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 00:04 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 00:04 / sld
Arsenic	0.086 mg/L	0.001	E200.8	06/22/19 00:04 / sld
Barium	0.012 mg/L	0.003	E200.8	06/22/19 00:04 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 00:04 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 00:04 / sld
Calcium	87 mg/L	1	E200.7	06/24/19 16:00 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 00:04 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 00:04 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 00:04 / sld
Iron	2.18 mg/L	0.02	E200.7	06/24/19 16:00 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 00:04 / sld
Magnesium	54 mg/L	1	E200.7	06/24/19 16:00 / sld
Manganese	0.040 mg/L	0.005	E200.8	06/22/19 00:04 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:33 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 00:04 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 00:04 / sld
Potassium	3 mg/L	1	E200.7	06/24/19 16:00 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 00:04 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 00:04 / sld
Sodium	13 mg/L	1	E200.7	06/24/19 16:00 / sld
Strontium	9.29 mg/L	0.0002	E200.7	06/24/19 16:00 / sld
Thallium	0.0009 mg/L	0.0002	E200.8	06/22/19 00:04 / sld
Uranium	0.0014 mg/L	0.0002	E200.8	06/22/19 00:04 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 00:04 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-011
BBC-1906-210

07/05/19
06/19/19 10:05
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:40 / cmm
Solids, Total Dissolved TDS @ 180 C	322 mg/L	10	A2540 C	06/21/19 13:15 / cmm
Alkalinity, Total as CaCO3	180 mg/L	4	A2320 B	06/24/19 16:43 / RAT
Chloride	ND mg/L	1	E300.0	06/21/19 22:15 / cmm
Sulfate	100 mg/L	1	E300.0	06/21/19 22:15 / cmm
Fluoride	0.4 mg/L	0.1	4 A4500-F C	06/24/19 13:00 / RAT
Hardness as CaCO3	294 mg/L	1	A2340 B	06/24/19 16:04 / abc
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 11:50 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 00:07 / sld
Antimony	0.0009 mg/L	0.0005	E200.8	06/26/19 08:51 / dck
Arsenic	0.013 mg/L	0.001	E200.8	06/22/19 00:07 / sld
Barium	0.037 mg/L	0.003	E200.8	06/22/19 00:07 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 00:07 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 00:07 / sld
Calcium	65 mg/L	1	E200.7	06/24/19 16:04 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 00:07 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 00:07 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 00:07 / sld
Iron	0.87 mg/L	0.02	E200.7	06/24/19 16:04 / sld
Lead	0.0077 mg/L	0.0003	E200.8	06/22/19 00:07 / sld
Magnesium	32 mg/L	1	E200.7	06/24/19 16:04 / sld
Manganese	0.100 mg/L	0.005	E200.8	06/22/19 00:07 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:37 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 00:07 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 00:07 / sld
Potassium	2 mg/L	1	E200.7	06/24/19 16:04 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 00:07 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 00:07 / sld
Sodium	3 mg/L	1	E200.7	06/24/19 16:04 / sld
Strontium	0.745 mg/L	0.0002	E200.7	06/24/19 16:04 / sld
Thallium	0.0026 mg/L	0.0002	E200.8	06/22/19 00:07 / sld
Uranium	0.0010 mg/L	0.0002	E200.8	06/22/19 00:07 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 00:07 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-012
BBC-1906-211

07/05/19
06/19/19 10:30
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:40 / cmm
Solids, Total Dissolved TDS @ 180 C	325 mg/L	10	A2540 C	06/21/19 13:15 / cmm
Alkalinity, Total as CaCO3	180 mg/L	4	A2320 B	06/24/19 16:50 / RAT
Chloride	ND mg/L	1	E300.0	06/21/19 22:30 / cmm
Sulfate	101 mg/L	1	E300.0	06/21/19 22:30 / cmm
Fluoride	0.4 mg/L	0.1	4 A4500-F C	06/24/19 13:04 / RAT
Hardness as CaCO3	308 mg/L	1	A2340 B	06/24/19 16:19 / abc
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 11:54 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 00:09 / sld
Antimony	0.0008 mg/L	0.0005	E200.8	06/26/19 08:52 / dck
Arsenic	0.013 mg/L	0.001	E200.8	06/22/19 00:09 / sld
Barium	0.037 mg/L	0.003	E200.8	06/22/19 00:09 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 00:09 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 00:09 / sld
Calcium	68 mg/L	1	E200.7	06/24/19 16:19 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 00:09 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 00:09 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 00:09 / sld
Iron	0.89 mg/L	0.02	E200.7	06/24/19 16:19 / sld
Lead	0.0076 mg/L	0.0003	E200.8	06/22/19 00:09 / sld
Magnesium	33 mg/L	1	E200.7	06/24/19 16:19 / sld
Manganese	0.099 mg/L	0.005	E200.8	06/22/19 00:09 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:40 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 00:09 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 00:09 / sld
Potassium	2 mg/L	1	E200.7	06/24/19 16:19 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 00:09 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 00:09 / sld
Sodium	3 mg/L	1	E200.7	06/24/19 16:19 / sld
Strontium	0.755 mg/L	0.0002	E200.8	06/22/19 00:09 / sld
Thallium	0.0026 mg/L	0.0002	E200.8	06/22/19 00:09 / sld
Uranium	0.0010 mg/L	0.0002	E200.8	06/22/19 00:09 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 00:09 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-013
BBC-1906-212

07/05/19
06/19/19 17:00
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:40 / cmm
Solids, Total Dissolved TDS @ 180 C	405 mg/L	10	A2540 C	06/21/19 13:16 / cmm
Alkalinity, Total as CaCO3	160 mg/L	4	A2320 B	06/24/19 16:58 / RAT
Chloride	1 mg/L	1	E300.0	06/21/19 22:44 / cmm
Sulfate	163 mg/L	1	E300.0	06/21/19 22:44 / cmm
Fluoride	0.3 mg/L	0.1	4 A4500-F C	06/24/19 13:08 / RAT
Hardness as CaCO3	340 mg/L	1	A2340 B	06/24/19 16:23 / abc
Nitrogen, Nitrate+Nitrite as N	0.02 mg/L	0.01	E353.2	07/01/19 11:55 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 00:11 / sld
Antimony	ND mg/L	0.0005	E200.8	06/26/19 08:54 / dck
Arsenic	0.060 mg/L	0.001	E200.8	06/22/19 00:11 / sld
Barium	0.041 mg/L	0.003	E200.8	06/22/19 00:11 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 00:11 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 00:11 / sld
Calcium	74 mg/L	1	E200.7	06/24/19 16:23 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 00:11 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 00:11 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 00:11 / sld
Iron	11.0 mg/L	0.02	E200.7	06/24/19 16:23 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 00:11 / sld
Magnesium	38 mg/L	1	E200.7	06/24/19 16:23 / sld
Manganese	0.142 mg/L	0.005	E200.8	06/22/19 00:11 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:43 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 00:11 / sld
Nickel	0.005 mg/L	D 0.002	E200.8	06/26/19 08:54 / dck
Potassium	2 mg/L	1	E200.7	06/24/19 16:23 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 00:11 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 00:11 / sld
Sodium	4 mg/L	1	E200.7	06/24/19 16:23 / sld
Strontium	9.62 mg/L	0.0002	E200.7	06/24/19 16:23 / sld
Thallium	0.0005 mg/L	0.0002	E200.8	06/22/19 00:11 / sld
Uranium	0.0012 mg/L	0.0002	E200.8	06/22/19 00:11 / sld
Zinc	0.005 mg/L	0.002	E200.8	06/22/19 00:11 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-014
BBC-1906-213

07/05/19
06/19/19 14:40
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:43 / cmm
Solids, Total Dissolved TDS @ 180 C	505 mg/L	10	A2540 C	06/21/19 13:16 / cmm
Alkalinity, Total as CaCO3	230 mg/L	4	A2320 B	06/24/19 17:06 / RAT
Chloride	1 mg/L	1	E300.0	06/21/19 23:57 / cmm
Sulfate	197 mg/L	1	E300.0	06/21/19 23:57 / cmm
Fluoride	0.5 mg/L	0.1	4 A4500-F C	06/24/19 13:12 / RAT
Hardness as CaCO3	451 mg/L	1	A2340 B	06/24/19 16:56 / sld
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 11:56 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 00:13 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 00:13 / sld
Arsenic	0.014 mg/L	0.001	E200.8	06/22/19 00:13 / sld
Barium	0.014 mg/L	0.003	E200.8	06/22/19 00:13 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 00:13 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 00:13 / sld
Calcium	92 mg/L	1	E200.7	06/24/19 16:27 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 00:13 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 00:13 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 00:13 / sld
Iron	0.90 mg/L	0.02	E200.7	06/24/19 16:27 / sld
Lead	0.0014 mg/L	0.0003	E200.8	06/22/19 00:13 / sld
Magnesium	54 mg/L	1	E200.7	06/24/19 16:27 / sld
Manganese	0.083 mg/L	0.005	E200.8	06/22/19 00:13 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:46 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 00:13 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 00:13 / sld
Potassium	4 mg/L	1	E200.7	06/24/19 16:27 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 00:13 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 00:13 / sld
Sodium	5 mg/L	1	E200.7	06/24/19 16:27 / sld
Strontium	1.34 mg/L	0.0002	E200.7	06/24/19 16:27 / sld
Thallium	0.0027 mg/L	0.0002	E200.8	06/22/19 00:13 / sld
Uranium	0.0009 mg/L	0.0002	E200.8	06/22/19 00:13 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 00:13 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-015
BBC-1906-214

07/05/19
06/19/19 15:45
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:43 / cmm
Solids, Total Dissolved TDS @ 180 C	422 mg/L	10	A2540 C	06/21/19 13:16 / cmm
Alkalinity, Total as CaCO3	96 mg/L	4	A2320 B	06/24/19 17:14 / RAT
Chloride	1 mg/L	1	E300.0	06/22/19 00:40 / cmm
Sulfate	225 mg/L	1	E300.0	06/22/19 00:40 / cmm
Fluoride	0.2 mg/L	0.1	4 A4500-F C	06/24/19 13:16 / RAT
Hardness as CaCO3	287 mg/L	1	A2340 B	06/26/19 14:57 / sld
Nitrogen, Nitrate+Nitrite as N	0.04 mg/L	0.01	E353.2	07/01/19 11:57 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 00:15 / sld
Antimony	0.0009 mg/L	0.0005	E200.8	06/26/19 09:15 / dck
Arsenic	0.067 mg/L	0.001	E200.8	06/22/19 00:15 / sld
Barium	0.011 mg/L	0.003	E200.8	06/22/19 00:15 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 00:15 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 00:15 / sld
Calcium	62 mg/L	1	E200.7	06/24/19 16:38 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 00:15 / sld
Cobalt	0.02 mg/L	0.01	E200.8	06/22/19 00:15 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 00:15 / sld
Iron	18.9 mg/L	0.02	E200.7	06/24/19 16:38 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 00:15 / sld
Magnesium	32 mg/L	1	E200.7	06/24/19 16:38 / sld
Manganese	0.075 mg/L	0.005	E200.8	06/22/19 00:15 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:50 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 00:15 / sld
Nickel	0.011 mg/L	0.001	E200.8	06/22/19 00:15 / sld
Potassium	3 mg/L	1	E200.7	06/24/19 16:38 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 00:15 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 00:15 / sld
Sodium	3 mg/L	1	E200.7	06/24/19 16:38 / sld
Strontium	1.87 mg/L	0.0002	E200.7	06/24/19 16:38 / sld
Thallium	0.0113 mg/L	0.0002	E200.8	06/22/19 00:15 / sld
Uranium	ND mg/L	0.0002	E200.8	06/22/19 00:15 / sld
Zinc	0.012 mg/L	0.002	E200.8	06/22/19 00:15 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-016
BBC-1906-215

07/05/19
06/19/19 17:35
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	52 mg/L	10	A2540 D	06/21/19 12:43 / cmm
Solids, Total Dissolved TDS @ 180 C	187 mg/L	10	A2540 C	06/21/19 13:21 / cmm
Alkalinity, Total as CaCO3	160 mg/L	4	A2320 B	06/24/19 17:22 / RAT
Chloride	1 mg/L	1	E300.0	06/22/19 00:55 / cmm
Sulfate	15 mg/L	1	E300.0	06/22/19 00:55 / cmm
Fluoride	0.2 mg/L	0.1	4 A4500-F C	06/24/19 13:20 / RAT
Hardness as CaCO3	184 mg/L	1	A2340 B	06/24/19 16:42 / abc
Nitrogen, Nitrate+Nitrite as N	0.43 mg/L	0.01	E353.2	07/01/19 11:58 / kmd
Aluminum	0.023 mg/L	0.009	E200.8	06/22/19 00:17 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 00:17 / sld
Arsenic	ND mg/L	0.001	E200.8	06/22/19 00:17 / sld
Barium	0.168 mg/L	0.003	E200.8	06/22/19 00:17 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 00:17 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 00:17 / sld
Calcium	44 mg/L	1	E200.7	06/24/19 16:42 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 00:17 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 00:17 / sld
Copper	0.007 mg/L	0.002	E200.8	06/22/19 00:17 / sld
Iron	ND mg/L	0.02	E200.8	06/22/19 00:17 / sld
Lead	0.0004 mg/L	0.0003	E200.8	07/01/19 20:39 / sld
Magnesium	18 mg/L	1	E200.7	06/24/19 16:42 / sld
Manganese	ND mg/L	0.005	E200.8	06/22/19 00:17 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:53 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 00:17 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 00:17 / sld
Potassium	1 mg/L	1	E200.7	06/24/19 16:42 / sld
Selenium	ND mg/L	0.0002	E200.8	06/26/19 09:17 / dck
Silver	ND mg/L	0.0002	E200.8	06/22/19 00:17 / sld
Sodium	2 mg/L	1	E200.7	06/24/19 16:42 / sld
Strontium	0.0996 mg/L	0.0002	E200.7	06/24/19 16:42 / sld
Thallium	0.0009 mg/L	0.0002	E200.8	06/22/19 00:17 / sld
Uranium	0.0009 mg/L	0.0002	E200.8	06/22/19 00:17 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 00:17 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-017
BBC-1906-216

07/05/19
06/19/19 18:30
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:45 / cmm
Solids, Total Dissolved TDS @ 180 C	ND mg/L	10	A2540 C	06/21/19 13:21 / cmm
Alkalinity, Total as CaCO3	ND mg/L	4	A2320 B	06/24/19 17:30 / RAT
Chloride	ND mg/L	1	E300.0	06/22/19 01:09 / cmm
Sulfate	ND mg/L	1	E300.0	06/22/19 01:09 / cmm
Fluoride	ND mg/L	0.1	4 A4500-F C	06/24/19 13:24 / RAT
Hardness as CaCO3	ND mg/L	1	A2340 B	06/26/19 14:57 / sld
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 11:59 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 00:32 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 00:32 / sld
Arsenic	ND mg/L	0.001	E200.8	06/22/19 00:32 / sld
Barium	ND mg/L	0.003	E200.8	06/22/19 00:32 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 00:32 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 00:32 / sld
Calcium	ND mg/L	1	E200.7	06/24/19 16:46 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 00:32 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 00:32 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 00:32 / sld
Iron	ND mg/L	0.02	E200.8	06/22/19 00:32 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 00:32 / sld
Magnesium	ND mg/L	1	E200.7	06/24/19 16:46 / sld
Manganese	ND mg/L	0.005	E200.8	06/22/19 00:32 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:56 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 00:32 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 00:32 / sld
Potassium	ND mg/L	1	E200.7	06/24/19 16:46 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 00:32 / sld
Silver	ND mg/L	0.0002	E200.8	06/26/19 09:18 / dck
Sodium	ND mg/L	1	E200.7	06/24/19 16:46 / sld
Strontium	ND mg/L	0.0002	E200.8	06/22/19 00:32 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 00:32 / sld
Uranium	ND mg/L	0.0002	E200.8	06/22/19 00:32 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 00:32 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-018
BBC-1906-217

07/05/19
06/20/19 10:55
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	10 mg/L	10	A2540 D	06/21/19 12:45 / cmm
Solids, Total Dissolved TDS @ 180 C	463 mg/L	10	A2540 C	06/21/19 13:21 / cmm
Alkalinity, Total as CaCO3	250 mg/L	4	A2320 B	06/24/19 17:34 / RAT
Chloride	1 mg/L	1	E300.0	06/22/19 01:24 / cmm
Sulfate	149 mg/L	1	E300.0	06/22/19 01:24 / cmm
Fluoride	0.4 mg/L	0.1	4 A4500-F C	06/24/19 13:29 / RAT
Hardness as CaCO3	419 mg/L	1	A2340 B	06/24/19 16:50 / abc
Nitrogen, Nitrate+Nitrite as N	0.02 mg/L	0.01	E353.2	07/01/19 12:01 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 00:34 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 00:34 / sld
Arsenic	0.006 mg/L	0.001	E200.8	06/22/19 00:34 / sld
Barium	0.012 mg/L	0.003	E200.8	06/22/19 00:34 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 00:34 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 00:34 / sld
Calcium	89 mg/L	1	E200.7	06/24/19 16:50 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 00:34 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 00:34 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 00:34 / sld
Iron	5.90 mg/L	0.02	E200.7	06/24/19 16:50 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 00:34 / sld
Magnesium	48 mg/L	1	E200.7	06/24/19 16:50 / sld
Manganese	0.047 mg/L	0.005	E200.8	06/22/19 00:34 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 10:59 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 00:34 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 00:34 / sld
Potassium	4 mg/L	1	E200.7	06/24/19 16:50 / sld
Selenium	0.0008 mg/L	0.0002	E200.8	06/22/19 00:34 / sld
Silver	ND mg/L	0.0002	E200.8	06/26/19 09:20 / dck
Sodium	5 mg/L	1	E200.7	06/24/19 16:50 / sld
Strontium	0.331 mg/L	0.0002	E200.8	06/22/19 00:34 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 00:34 / sld
Uranium	0.0013 mg/L	0.0002	E200.8	06/22/19 00:34 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 00:34 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-019
BBC-1906-218

07/05/19
06/20/19 09:10
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:45 / cmm
Solids, Total Dissolved TDS @ 180 C	274 mg/L	10	A2540 C	06/21/19 13:22 / cmm
Alkalinity, Total as CaCO3	240 mg/L	4	A2320 B	06/24/19 17:42 / RAT
Chloride	3 mg/L	1	E300.0	06/22/19 01:38 / cmm
Sulfate	15 mg/L	1	E300.0	06/22/19 01:38 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/24/19 13:41 / RAT
Hardness as CaCO3	271 mg/L	1	A2340 B	06/24/19 16:54 / abc
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 12:02 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 00:36 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 00:36 / sld
Arsenic	ND mg/L	0.001	E200.8	06/22/19 00:36 / sld
Barium	0.172 mg/L	0.003	E200.8	06/22/19 00:36 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 00:36 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 00:36 / sld
Calcium	75 mg/L	1	E200.7	06/24/19 16:54 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 00:36 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 00:36 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 00:36 / sld
Iron	ND mg/L	0.02	E200.8	06/22/19 00:36 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 00:36 / sld
Magnesium	20 mg/L	1	E200.7	06/24/19 16:54 / sld
Manganese	0.249 mg/L	0.005	E200.8	06/22/19 00:36 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 11:03 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 00:36 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 00:36 / sld
Potassium	1 mg/L	1	E200.7	06/24/19 16:54 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 00:36 / sld
Silver	ND mg/L	0.0002	E200.8	06/26/19 09:21 / dck
Sodium	3 mg/L	1	E200.7	06/24/19 16:54 / sld
Strontium	0.163 mg/L	0.0002	E200.8	06/22/19 00:36 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 00:36 / sld
Uranium	0.0004 mg/L	0.0002	E200.8	06/22/19 00:36 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 00:36 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-020
BBC-1906-219

07/05/19
06/20/19 09:50
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:45 / cmm
Solids, Total Dissolved TDS @ 180 C	240 mg/L	10	A2540 C	06/21/19 13:22 / cmm
Alkalinity, Total as CaCO3	220 mg/L	4	A2320 B	06/24/19 18:16 / RAT
Chloride	2 mg/L	1	E300.0	06/22/19 01:53 / cmm
Sulfate	15 mg/L	1	E300.0	06/22/19 01:53 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/24/19 13:49 / RAT
Hardness as CaCO3	241 mg/L	1	A2340 B	06/24/19 16:58 / abc
Nitrogen, Nitrate+Nitrite as N	0.06 mg/L	0.01	E353.2	07/01/19 12:03 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 00:38 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 00:38 / sld
Arsenic	ND mg/L	0.001	E200.8	06/22/19 00:38 / sld
Barium	0.126 mg/L	0.003	E200.8	06/22/19 00:38 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 00:38 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 00:38 / sld
Calcium	64 mg/L	1	E200.7	06/24/19 16:58 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 00:38 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 00:38 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 00:38 / sld
Iron	ND mg/L	0.02	E200.8	06/22/19 00:38 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 00:38 / sld
Magnesium	20 mg/L	1	E200.7	06/24/19 16:58 / sld
Manganese	ND mg/L	0.005	E200.8	06/22/19 00:38 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 11:25 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 00:38 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 00:38 / sld
Potassium	2 mg/L	1	E200.7	06/24/19 16:58 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 00:38 / sld
Silver	ND mg/L	0.0002	E200.8	06/26/19 09:23 / dck
Sodium	2 mg/L	1	E200.7	06/24/19 16:58 / sld
Strontium	0.167 mg/L	0.0002	E200.8	06/22/19 00:38 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 00:38 / sld
Uranium	0.0006 mg/L	0.0002	E200.8	06/22/19 00:38 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 00:38 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060528-021
BBC-1906-220

07/05/19
06/20/19 10:30
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/21/19 12:46 / cmm
Solids, Total Dissolved TDS @ 180 C	342 mg/L	10	A2540 C	06/21/19 13:24 / cmm
Alkalinity, Total as CaCO3	230 mg/L	4	A2320 B	06/24/19 18:30 / RAT
Chloride	2 mg/L	1	E300.0	06/21/19 22:59 / cmm
Sulfate	88 mg/L	1	E300.0	06/21/19 22:59 / cmm
Fluoride	0.5 mg/L	0.1	4 A4500-F C	06/24/19 13:57 / RAT
Hardness as CaCO3	326 mg/L	1	A2340 B	06/24/19 17:02 / abc
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 12:07 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 00:40 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 00:40 / sld
Arsenic	0.005 mg/L	0.001	E200.8	06/22/19 00:40 / sld
Barium	0.018 mg/L	0.003	E200.8	06/22/19 00:40 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 00:40 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 00:40 / sld
Calcium	71 mg/L	1	E200.7	06/24/19 17:02 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 00:40 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 00:40 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 00:40 / sld
Iron	1.27 mg/L	0.02	E200.7	06/24/19 17:02 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 00:40 / sld
Magnesium	36 mg/L	1	E200.7	06/24/19 17:02 / sld
Manganese	0.041 mg/L	0.005	E200.8	06/22/19 00:40 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 11:35 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 00:40 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 00:40 / sld
Potassium	3 mg/L	1	E200.7	06/24/19 17:02 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 00:40 / sld
Silver	ND mg/L	0.0002	E200.8	06/26/19 09:25 / dck
Sodium	4 mg/L	1	E200.7	06/24/19 17:02 / sld
Strontium	0.276 mg/L	0.0002	E200.8	06/22/19 00:40 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 00:40 / sld
Uranium	0.0017 mg/L	0.0002	E200.8	06/22/19 00:40 / sld
Zinc	0.004 mg/L	0.002	E200.8	06/22/19 00:40 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--	--	--	--	--	--	--

							Batch: R145306
Alkalinity, Total as CaCO3	Laboratory Control Sample				Run: PHSC_101-H_190624A		06/24/19 14:38
	570 mg/L	4.0	95	90	110		
Alkalinity, Total as CaCO3	Method Blank				Run: PHSC_101-H_190624A		06/24/19 14:48
	ND mg/L	2					
Alkalinity, Total as CaCO3	Sample Duplicate				Run: PHSC_101-H_190624A		06/24/19 15:19
	180 mg/L	4.0			2.0	10	
Alkalinity, Total as CaCO3	Sample Duplicate				Run: PHSC_101-H_190624A		06/24/19 16:35
	200 mg/L	4.0			3.6	10	
Alkalinity, Total as CaCO3	Method Blank				Run: PHSC_101-H_190624A		06/24/19 17:50
	ND mg/L	2					
Alkalinity, Total as CaCO3	Laboratory Control Sample				Run: PHSC_101-H_190624A		06/24/19 17:56
	570 mg/L	4.0	96	90	110		
Alkalinity, Total as CaCO3	Sample Duplicate				Run: PHSC_101-H_190624A		06/24/19 18:22
	220 mg/L	4.0			1.2	10	
Alkalinity, Total as CaCO3	Sample Duplicate				Run: PHSC_101-H_190624A		06/24/19 19:42
	53 mg/L	4.0			4.2	10	

							Batch: R145386
Alkalinity, Total as CaCO3	Method Blank				Run: PHSC_101-H_190626A		06/26/19 14:37
	ND mg/L	2					
Alkalinity, Total as CaCO3	Laboratory Control Sample				Run: PHSC_101-H_190626A		06/26/19 15:30
	570 mg/L	4.0	95	90	110		
Alkalinity, Total as CaCO3	Sample Duplicate				Run: PHSC_101-H_190626A		06/26/19 15:55
	96 mg/L	4.0			1.4	10	
Alkalinity, Total as CaCO3	Sample Duplicate				Run: PHSC_101-H_190626A		06/26/19 18:06
	190 mg/L	4.0			1.9	10	

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--	--	--	--	--	--	--	--	--	--

Batch: TDS190621A

Solids, Total Dissolved TDS @ 180 C	Method Blank	ND	mg/L	10				Run: ACCU-124 (14410200)_19062	06/21/19 13:12
Solids, Total Dissolved TDS @ 180 C	Laboratory Control Sample	1870	mg/L	20	93	90	110	Run: ACCU-124 (14410200)_19062	06/21/19 13:12
Solids, Total Dissolved TDS @ 180 C	Sample Duplicate	514	mg/L	10				Run: ACCU-124 (14410200)_19062	06/21/19 13:13
								1.2	5
Solids, Total Dissolved TDS @ 180 C	Sample Duplicate	326	mg/L	10				Run: ACCU-124 (14410200)_19062	06/21/19 13:15
								1.2	5
Solids, Total Dissolved TDS @ 180 C	Method Blank	ND	mg/L	10				Run: ACCU-124 (14410200)_19062	06/21/19 13:23
Solids, Total Dissolved TDS @ 180 C	Laboratory Control Sample	1900	mg/L	20	95	90	110	Run: ACCU-124 (14410200)_19062	06/21/19 13:23
Solids, Total Dissolved TDS @ 180 C	Sample Duplicate	345	mg/L	10				Run: ACCU-124 (14410200)_19062	06/21/19 13:24
								0.9	5
Solids, Total Dissolved TDS @ 180 C	Sample Duplicate	63.0	mg/L	10				Run: ACCU-124 (14410200)_19062	06/21/19 13:26
								3.1	5

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--	--	--	--	--	--	--	--	--	--

Batch: TSS190621A

Solids, Total Suspended TSS @ 105 C	Method Blank	ND	mg/L	0.3				Run: ACCU-124 (14410200)_19062	06/21/19 12:37
Solids, Total Suspended TSS @ 105 C	Laboratory Control Sample	93.0	mg/L	10	93	80	120	Run: ACCU-124 (14410200)_19062	06/21/19 12:37
Solids, Total Suspended TSS @ 105 C	Sample Duplicate	4.00	mg/L	10				Run: ACCU-124 (14410200)_19062	06/21/19 12:37
Solids, Total Suspended TSS @ 105 C	Sample Duplicate	2.00	mg/L	10				Run: ACCU-124 (14410200)_19062	06/21/19 12:40
Solids, Total Suspended TSS @ 105 C	Method Blank	ND	mg/L	0.3				Run: ACCU-124 (14410200)_19062	06/21/19 12:46
Solids, Total Suspended TSS @ 105 C	Laboratory Control Sample	96.0	mg/L	10	96	80	120	Run: ACCU-124 (14410200)_19062	06/21/19 12:46
Solids, Total Suspended TSS @ 105 C	Sample Duplicate	6.00	mg/L	10				Run: ACCU-124 (14410200)_19062	06/21/19 12:46
Solids, Total Suspended TSS @ 105 C	Sample Duplicate	59.2	mg/L	10			2.7	Run: ACCU-124 (14410200)_19062	06/21/19 12:49



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--	--	--	--	--	--	--

							Analytical Run: MANTECH 2_190624A
Initial Calibration Verification Standard							06/24/19 11:41
Fluoride	0.7	mg/L	0.1	99	90	110	
Continuing Calibration Verification Standard							06/24/19 12:39
Fluoride	1.0	mg/L	0.1	101	90	110	
Continuing Calibration Verification Standard							06/24/19 13:33
Fluoride	1.0	mg/L	0.1	99	90	110	
							Batch: R145348
Method Blank							Run: MANTECH 2_190624A
Fluoride	ND	mg/L	0.03				06/24/19 11:45
Sample Matrix Spike							Run: MANTECH 2_190624A
Fluoride	1.4	mg/L	0.1	104	85	115	06/24/19 11:53
Sample Duplicate							Run: MANTECH 2_190624A
Fluoride	0.3	mg/L	0.1			0.0	06/24/19 12:01 10
Sample Duplicate							Run: MANTECH 2_190624A
Fluoride	0.6	mg/L	0.1			0.0	06/24/19 12:56 10
Sample Matrix Spike							Run: MANTECH 2_190624A
Fluoride	1.2	mg/L	0.1	102	85	115	06/24/19 13:45
Sample Duplicate							Run: MANTECH 2_190624A
Fluoride	0.1	mg/L	0.1			0.0	06/24/19 13:53 10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

Analytical Run: ICP2-HE_190624C

6 Initial Calibration Verification Standard 06/24/19 13:22

Calcium	39.6	mg/L	1.0	99	95	105
Iron	3.94	mg/L	0.020	99	95	105
Magnesium	39.3	mg/L	1.0	98	95	105
Potassium	39.9	mg/L	1.0	100	95	105
Sodium	39.9	mg/L	1.0	100	95	105
Strontium	0.789	mg/L	0.10	99	95	105

6 Continuing Calibration Verification Standard 06/24/19 13:26

Calcium	25.2	mg/L	1.0	101	95	105
Iron	2.50	mg/L	0.020	100	95	105
Magnesium	24.7	mg/L	1.0	99	95	105
Potassium	25.4	mg/L	1.0	102	95	105
Sodium	25.4	mg/L	1.0	102	95	105
Strontium	2.52	mg/L	0.10	101	95	105

6 Interference Check Sample A 06/24/19 13:38

Calcium	454	mg/L	1.0	91	80	120
Iron	178	mg/L	0.020	89	80	120
Magnesium	506	mg/L	1.0	101	80	120
Potassium	0.00209	mg/L	1.0		0	0
Sodium	0.0237	mg/L	1.0		0	0
Strontium	-0.0268	mg/L	0.10		0	0

6 Interference Check Sample AB 06/24/19 13:42

Calcium	471	mg/L	1.0	94	80	120
Iron	183	mg/L	0.020	92	80	120
Magnesium	524	mg/L	1.0	105	80	120
Potassium	21.5	mg/L	1.0	108	80	120
Sodium	21.7	mg/L	1.0	108	80	120
Strontium	1.01	mg/L	0.10	101	80	120

6 Continuing Calibration Verification Standard 06/24/19 14:58

Calcium	24.3	mg/L	1.0	97	90	110
Iron	2.46	mg/L	0.020	98	90	110
Magnesium	23.7	mg/L	1.0	95	90	110
Potassium	25.4	mg/L	1.0	102	90	110
Sodium	25.6	mg/L	1.0	102	90	110
Strontium	2.55	mg/L	0.10	102	90	110

6 Continuing Calibration Verification Standard 06/24/19 15:45

Calcium	25.1	mg/L	1.0	100	90	110
Iron	2.50	mg/L	0.020	100	90	110
Magnesium	24.1	mg/L	1.0	97	90	110
Potassium	26.9	mg/L	1.0	107	90	110
Sodium	26.9	mg/L	1.0	108	90	110
Strontium	2.58	mg/L	0.10	103	90	110

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--

Analytical Run: ICP2-HE_190624C

6 Continuing Calibration Verification Standard

06/24/19 16:31

Calcium	26.3	mg/L	1.0	105	90	110
Iron	2.57	mg/L	0.020	103	90	110
Magnesium	25.2	mg/L	1.0	101	90	110
Potassium	25.7	mg/L	1.0	103	90	110
Sodium	25.4	mg/L	1.0	101	90	110
Strontium	2.55	mg/L	0.10	102	90	110

Batch: R145339

6 Method Blank

Run: ICP2-HE_190624C

06/24/19 13:53

Calcium	ND	mg/L	0.07
Iron	ND	mg/L	0.01
Magnesium	ND	mg/L	0.01
Potassium	ND	mg/L	0.06
Sodium	ND	mg/L	0.02
Strontium	ND	mg/L	0.0002

6 Laboratory Fortified Blank

Run: ICP2-HE_190624C

06/24/19 13:57

Calcium	50.2	mg/L	1.0	100	85	115
Iron	5.05	mg/L	0.020	101	85	115
Magnesium	49.9	mg/L	1.0	100	85	115
Potassium	51.9	mg/L	1.0	104	85	115
Sodium	52.4	mg/L	1.0	105	85	115
Strontium	1.03	mg/L	0.10	103	85	115

6 Sample Matrix Spike

Run: ICP2-HE_190624C

06/24/19 15:14

Calcium	122	mg/L	1.0	99	70	130
Iron	6.06	mg/L	0.020	101	70	130
Magnesium	100.0	mg/L	1.0	104	70	130
Potassium	58.0	mg/L	1.0	109	70	130
Sodium	71.0	mg/L	1.0	110	70	130
Strontium	14.5	mg/L	0.010		70	130

A

6 Sample Matrix Spike Duplicate

Run: ICP2-HE_190624C

06/24/19 15:18

Calcium	121	mg/L	1.0	97	70	130	0.8	20
Iron	5.93	mg/L	0.020	98	70	130	2.2	20
Magnesium	98.8	mg/L	1.0	101	70	130	1.2	20
Potassium	56.5	mg/L	1.0	106	70	130	2.5	20
Sodium	69.4	mg/L	1.0	106	70	130	2.4	20
Strontium	14.3	mg/L	0.010		70	130	1.5	20

A

6 Sample Matrix Spike

Run: ICP2-HE_190624C

06/24/19 16:12

Calcium	121	mg/L	1.0	110	70	130
Iron	6.19	mg/L	0.020	107	70	130
Magnesium	87.4	mg/L	1.0	112	70	130
Potassium	53.4	mg/L	1.0	102	70	130
Sodium	53.8	mg/L	1.0	101	70	130
Strontium	1.78	mg/L	0.010	103	70	130

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--

Batch: R145339

6 Sample Matrix Spike Run: ICP2-HE_190624C 06/24/19 16:12

6 Sample Matrix Spike Duplicate Run: ICP2-HE_190624C 06/24/19 16:15

Calcium	121	mg/L	1.0	112	70	130	0.4	20
Iron	6.19	mg/L	0.020	106	70	130	0.1	20
Magnesium	87.6	mg/L	1.0	112	70	130	0.2	20
Potassium	53.9	mg/L	1.0	103	70	130	0.9	20
Sodium	54.1	mg/L	1.0	101	70	130	0.5	20
Strontium	1.76	mg/L	0.010	102	70	130	0.9	20

6 Sample Matrix Spike Run: ICP2-HE_190624C 06/24/19 17:09

Calcium	121	mg/L	1.0	100	70	130		
Iron	6.36	mg/L	0.020	102	70	130		
Magnesium	87.8	mg/L	1.0	103	70	130		
Potassium	56.4	mg/L	1.0	108	70	130		
Sodium	57.2	mg/L	1.0	107	70	130		
Strontium	1.33	mg/L	0.010	104	70	130		

6 Sample Matrix Spike Duplicate Run: ICP2-HE_190624C 06/24/19 17:13

Calcium	125	mg/L	1.0	109	70	130	3.3	20
Iron	6.56	mg/L	0.020	106	70	130	3.1	20
Magnesium	91.1	mg/L	1.0	110	70	130	3.7	20
Potassium	54.4	mg/L	1.0	104	70	130	3.6	20
Sodium	54.7	mg/L	1.0	102	70	130	4.5	20
Strontium	1.34	mg/L	0.010	105	70	130	1.0	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--

Analytical Run: ICPMS205-H_190621C

20 Initial Calibration Verification Standard

06/21/19 21:19

Aluminum	0.303	mg/L	0.10	101	90	110
Antimony	0.0599	mg/L	0.050	100	90	110
Arsenic	0.0588	mg/L	0.0050	98	90	110
Barium	0.0605	mg/L	0.10	101	90	110
Beryllium	0.0305	mg/L	0.0010	102	90	110
Cadmium	0.0304	mg/L	0.0010	101	90	110
Chromium	0.0603	mg/L	0.010	101	90	110
Cobalt	0.0611	mg/L	0.010	102	90	110
Copper	0.0606	mg/L	0.010	101	90	110
Iron	0.300	mg/L	0.020	100	90	110
Lead	0.0592	mg/L	0.010	99	90	110
Manganese	0.302	mg/L	0.010	101	90	110
Molybdenum	0.0602	mg/L	0.0050	100	90	110
Nickel	0.0603	mg/L	0.010	101	90	110
Selenium	0.0618	mg/L	0.0050	103	90	110
Silver	0.0304	mg/L	0.0050	101	90	110
Strontium	0.0600	mg/L	0.10	100	90	110
Thallium	0.0589	mg/L	0.10	98	90	110
Uranium	0.0580	mg/L	0.00030	97	90	110
Zinc	0.0615	mg/L	0.010	102	90	110

20 Interference Check Sample A

06/21/19 21:21

Aluminum	44.7	mg/L	0.10	112	70	130
Antimony	0.000467	mg/L	0.050			
Arsenic	3.20E-05	mg/L	0.0050			
Barium	0.000170	mg/L	0.10			
Beryllium	3.37E-05	mg/L	0.0010			
Cadmium	0.000158	mg/L	0.0010			
Chromium	0.000222	mg/L	0.010			
Cobalt	0.000298	mg/L	0.010			
Copper	4.63E-05	mg/L	0.010			
Iron	106	mg/L	0.020	106	70	130
Lead	9.74E-05	mg/L	0.010			
Manganese	0.000316	mg/L	0.010			
Molybdenum	0.876	mg/L	0.0050	109	70	130
Nickel	0.000261	mg/L	0.010			
Selenium	7.18E-05	mg/L	0.0050			
Silver	3.30E-05	mg/L	0.0050			
Strontium	0.00101	mg/L	0.10			
Thallium	4.85E-05	mg/L	0.10			
Uranium	2.18E-05	mg/L	0.00030			
Zinc	0.000269	mg/L	0.010			

20 Interference Check Sample AB

06/21/19 21:23

Aluminum	44.5	mg/L	0.10	111	70	130
Antimony	0.000283	mg/L	0.050		0	0

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--

Analytical Run: ICPMS205-H_190621C

20 Interference Check Sample AB

06/21/19 21:23

Arsenic	0.0105	mg/L	0.0050	105	70	130
Barium	0.000186	mg/L	0.10		0	0
Beryllium	-4.75E-06	mg/L	0.0010		0	0
Cadmium	0.0102	mg/L	0.0010	102	70	130
Chromium	0.0206	mg/L	0.010	103	70	130
Cobalt	0.0208	mg/L	0.010	104	70	130
Copper	0.0201	mg/L	0.010	101	70	130
Iron	106	mg/L	0.020	106	70	130
Lead	9.31E-05	mg/L	0.010		0	0
Manganese	0.0210	mg/L	0.010	105	70	130
Molybdenum	0.881	mg/L	0.0050	110	70	130
Nickel	0.0206	mg/L	0.010	103	70	130
Selenium	0.0100	mg/L	0.0050	100	70	130
Silver	0.00510	mg/L	0.0050	102	70	130
Strontium	0.00100	mg/L	0.10		0	0
Thallium	3.03E-05	mg/L	0.10		0	0
Uranium	4.00E-06	mg/L	0.00030		0	0
Zinc	0.0103	mg/L	0.010	103	70	130

Batch: R145294

20 Method Blank

Run: ICPMS205-H_190621C

06/21/19 21:33

Aluminum	ND	mg/L	0.003			
Antimony	ND	mg/L	9E-05			
Arsenic	ND	mg/L	4E-05			
Barium	ND	mg/L	2E-05			
Beryllium	ND	mg/L	0.0001			
Cadmium	ND	mg/L	3E-05			
Chromium	ND	mg/L	0.0002			
Cobalt	ND	mg/L	9E-05			
Copper	ND	mg/L	0.0001			
Iron	ND	mg/L	0.002			
Lead	5E-05	mg/L	3E-05			
Manganese	ND	mg/L	0.0003			
Molybdenum	ND	mg/L	2E-05			
Nickel	ND	mg/L	0.0002			
Selenium	ND	mg/L	2E-05			
Silver	ND	mg/L	2E-05			
Strontium	ND	mg/L	0.0001			
Thallium	ND	mg/L	1E-05			
Uranium	ND	mg/L	1E-05			
Zinc	ND	mg/L	0.0003			

20 Laboratory Fortified Blank

Run: ICPMS205-H_190621C

06/21/19 21:35

Aluminum	0.0506	mg/L	0.10	101	85	115
Antimony	0.0495	mg/L	0.050	99	85	115
Arsenic	0.0492	mg/L	0.0050	98	85	115

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

Batch: R145294

20 Laboratory Fortified Blank

Run: ICPMS205-H_190621C

06/21/19 21:35

Barium	0.0493	mg/L	0.10	99	85	115
Beryllium	0.0475	mg/L	0.0010	95	85	115
Cadmium	0.0491	mg/L	0.0010	98	85	115
Chromium	0.0486	mg/L	0.010	97	85	115
Cobalt	0.0491	mg/L	0.010	98	85	115
Copper	0.0494	mg/L	0.010	99	85	115
Iron	0.146	mg/L	0.020	97	85	115
Lead	0.0476	mg/L	0.010	95	85	115
Manganese	0.0485	mg/L	0.010	97	85	115
Molybdenum	0.0486	mg/L	0.0050	97	85	115
Nickel	0.0491	mg/L	0.010	98	85	115
Selenium	0.0498	mg/L	0.0050	100	85	115
Silver	0.0196	mg/L	0.0050	98	85	115
Strontium	0.0491	mg/L	0.10	98	85	115
Thallium	0.0474	mg/L	0.10	95	85	115
Uranium	0.0473	mg/L	0.00030	95	85	115
Zinc	0.0500	mg/L	0.010	100	85	115

20 Sample Matrix Spike

Run: ICPMS205-H_190621C

06/21/19 23:18

Aluminum	0.0521	mg/L	0.030	104	70	130
Antimony	0.0510	mg/L	0.0010	101	70	130
Arsenic	0.0979	mg/L	0.0010	106	70	130
Barium	0.123	mg/L	0.050	95	70	130
Beryllium	0.0461	mg/L	0.0010	92	70	130
Cadmium	0.0492	mg/L	0.0010	98	70	130
Chromium	0.0483	mg/L	0.0050	96	70	130
Cobalt	0.0480	mg/L	0.0050	96	70	130
Copper	0.0489	mg/L	0.0050	96	70	130
Iron	0.144	mg/L	0.020	95	70	130
Lead	0.0488	mg/L	0.0010	97	70	130
Manganese	0.0730	mg/L	0.0010	94	70	130
Molybdenum	0.0652	mg/L	0.0010	100	70	130
Nickel	0.0478	mg/L	0.0050	94	70	130
Selenium	0.0654	mg/L	0.0010	124	70	130
Silver	0.00951	mg/L	0.0010	48	70	130
Strontium	0.904	mg/L	0.010	70	130	A
Thallium	0.0489	mg/L	0.00050	98	70	130
Uranium	0.0779	mg/L	0.00030	100	70	130
Zinc	0.0489	mg/L	0.010	96	70	130

20 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190621C

06/21/19 23:20

Aluminum	0.0514	mg/L	0.030	103	70	130	1.3	20
Antimony	0.0511	mg/L	0.0010	102	70	130	0.3	20
Arsenic	0.0983	mg/L	0.0010	107	70	130	0.4	20
Barium	0.125	mg/L	0.050	98	70	130	1.1	20
Beryllium	0.0468	mg/L	0.0010	94	70	130	1.7	20

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.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--	--

Batch: R145294

20 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190621C

06/21/19 23:20

Cadmium	0.0497	mg/L	0.0010	99	70	130	0.9	20	
Chromium	0.0486	mg/L	0.0050	97	70	130	0.7	20	
Cobalt	0.0485	mg/L	0.0050	97	70	130	0.9	20	
Copper	0.0493	mg/L	0.0050	97	70	130	0.9	20	
Iron	0.145	mg/L	0.020	95	70	130	0.6	20	
Lead	0.0489	mg/L	0.0010	97	70	130	0.3	20	
Manganese	0.0736	mg/L	0.0010	95	70	130	0.8	20	
Molybdenum	0.0655	mg/L	0.0010	100	70	130	0.4	20	
Nickel	0.0484	mg/L	0.0050	95	70	130	1.2	20	
Selenium	0.0661	mg/L	0.0010	125	70	130	1.0	20	
Silver	0.00957	mg/L	0.0010	48	70	130	0.7	20	S
Strontium	0.902	mg/L	0.010		70	130	0.3	20	A
Thallium	0.0490	mg/L	0.00050	98	70	130	0.2	20	
Uranium	0.0781	mg/L	0.00030	100	70	130	0.3	20	
Zinc	0.0496	mg/L	0.010	97	70	130	1.3	20	

20 Sample Matrix Spike

Run: ICPMS205-H_190621C

06/21/19 23:48

Aluminum	0.0572	mg/L	0.030	99	70	130			
Antimony	0.0496	mg/L	0.0010	99	70	130			
Arsenic	0.0509	mg/L	0.0010	101	70	130			
Barium	0.116	mg/L	0.050	102	70	130			
Beryllium	0.0494	mg/L	0.0010	99	70	130			
Cadmium	0.0509	mg/L	0.0010	102	70	130			
Chromium	0.0492	mg/L	0.0050	97	70	130			
Cobalt	0.0492	mg/L	0.0050	98	70	130			
Copper	0.0501	mg/L	0.0050	99	70	130			
Iron	0.147	mg/L	0.020	98	70	130			
Lead	0.0476	mg/L	0.0010	95	70	130			
Manganese	0.0498	mg/L	0.0010	97	70	130			
Molybdenum	0.0534	mg/L	0.0010	99	70	130			
Nickel	0.0494	mg/L	0.0050	98	70	130			
Selenium	0.0554	mg/L	0.0010	110	70	130			
Silver	0.0163	mg/L	0.0010	82	70	130			
Strontium	0.282	mg/L	0.010		70	130			A
Thallium	0.0479	mg/L	0.00050	96	70	130			
Uranium	0.0511	mg/L	0.00030	96	70	130			
Zinc	0.0507	mg/L	0.010	100	70	130			

20 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190621C

06/21/19 23:50

Aluminum	0.0576	mg/L	0.030	100	70	130	0.7	20	
Antimony	0.0496	mg/L	0.0010	99	70	130	0.2	20	
Arsenic	0.0512	mg/L	0.0010	102	70	130	0.5	20	
Barium	0.116	mg/L	0.050	102	70	130	0.2	20	
Beryllium	0.0491	mg/L	0.0010	98	70	130	0.6	20	
Cadmium	0.0502	mg/L	0.0010	100	70	130	1.3	20	
Chromium	0.0487	mg/L	0.0050	96	70	130	1.1	20	

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.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--	--

Batch: R145294

20 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190621C

06/21/19 23:50

Cobalt	0.0486	mg/L	0.0050	97	70	130	1.3	20	
Copper	0.0490	mg/L	0.0050	97	70	130	2.1	20	
Iron	0.146	mg/L	0.020	97	70	130	0.9	20	
Lead	0.0478	mg/L	0.0010	96	70	130	0.4	20	
Manganese	0.0495	mg/L	0.0010	96	70	130	0.7	20	
Molybdenum	0.0533	mg/L	0.0010	99	70	130	0.2	20	
Nickel	0.0488	mg/L	0.0050	97	70	130	1.3	20	
Selenium	0.0564	mg/L	0.0010	112	70	130	1.9	20	
Silver	0.0176	mg/L	0.0010	88	70	130	7.6	20	
Strontium	0.281	mg/L	0.010		70	130	0.5	20	A
Thallium	0.0478	mg/L	0.00050	96	70	130	0.2	20	
Uranium	0.0514	mg/L	0.00030	97	70	130	0.6	20	
Zinc	0.0503	mg/L	0.010	99	70	130	0.8	20	

20 Sample Matrix Spike

Run: ICPMS205-H_190621C

06/22/19 00:19

Aluminum	0.0725	mg/L	0.030	98	70	130			
Antimony	0.0501	mg/L	0.0010	100	70	130			
Arsenic	0.0510	mg/L	0.0010	101	70	130			
Barium	0.218	mg/L	0.050	100	70	130			
Beryllium	0.0477	mg/L	0.0010	95	70	130			
Cadmium	0.0502	mg/L	0.0010	100	70	130			
Chromium	0.0485	mg/L	0.0050	97	70	130			
Cobalt	0.0492	mg/L	0.0050	98	70	130			
Copper	0.0565	mg/L	0.0050	99	70	130			
Iron	0.154	mg/L	0.020	94	70	130			
Lead	0.0473	mg/L	0.0010	94	70	130			
Manganese	0.0490	mg/L	0.0010	96	70	130			
Molybdenum	0.0499	mg/L	0.0010	99	70	130			
Nickel	0.0496	mg/L	0.0050	99	70	130			
Selenium	0.0555	mg/L	0.0010	110	70	130			
Silver	0.0151	mg/L	0.0010	76	70	130			
Strontium	0.146	mg/L	0.010	95	70	130			
Thallium	0.0480	mg/L	0.00050	94	70	130			
Uranium	0.0486	mg/L	0.00030	95	70	130			
Zinc	0.0508	mg/L	0.010	99	70	130			

20 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190621C

06/22/19 00:21

Aluminum	0.0745	mg/L	0.030	102	70	130	2.7	20	
Antimony	0.0505	mg/L	0.0010	101	70	130	0.9	20	
Arsenic	0.0515	mg/L	0.0010	102	70	130	1.0	20	
Barium	0.218	mg/L	0.050	99	70	130	0.2	20	
Beryllium	0.0490	mg/L	0.0010	98	70	130	2.8	20	
Cadmium	0.0514	mg/L	0.0010	103	70	130	2.4	20	
Chromium	0.0494	mg/L	0.0050	99	70	130	2.0	20	
Cobalt	0.0500	mg/L	0.0050	99	70	130	1.5	20	
Copper	0.0575	mg/L	0.0050	101	70	130	1.6	20	

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

Batch: R145294

20 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190621C

06/22/19 00:21

Iron	0.157	mg/L	0.020	96	70	130	1.9	20
Lead	0.0480	mg/L	0.0010	95	70	130	1.5	20
Manganese	0.0500	mg/L	0.0010	98	70	130	2.0	20
Molybdenum	0.0509	mg/L	0.0010	101	70	130	2.1	20
Nickel	0.0500	mg/L	0.0050	99	70	130	0.9	20
Selenium	0.0553	mg/L	0.0010	110	70	130	0.4	20
Silver	0.0166	mg/L	0.0010	83	70	130	9.4	20
Strontium	0.146	mg/L	0.010	96	70	130	0.4	20
Thallium	0.0489	mg/L	0.00050	96	70	130	2.1	20
Uranium	0.0491	mg/L	0.00030	96	70	130	0.9	20
Zinc	0.0510	mg/L	0.010	100	70	130	0.5	20



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--	--	--	--	--	--	--

Analytical Run: ICPMS205-H_190625A

4 Initial Calibration Verification Standard 06/25/19 12:18

Antimony	0.0572	mg/L	0.050	95	90	110
Nickel	0.0586	mg/L	0.010	98	90	110
Selenium	0.0590	mg/L	0.0050	98	90	110
Silver	0.0290	mg/L	0.0050	97	90	110

4 Interference Check Sample A 06/25/19 12:20

Antimony	0.000405	mg/L	0.050			
Nickel	0.000245	mg/L	0.010			
Selenium	9.16E-05	mg/L	0.0050			
Silver	3.10E-05	mg/L	0.0050			

4 Interference Check Sample AB 06/25/19 12:23

Antimony	0.000221	mg/L	0.050		0	0
Nickel	0.0204	mg/L	0.010	102	70	130
Selenium	0.00972	mg/L	0.0050	97	70	130
Silver	0.00506	mg/L	0.0050	101	70	130

4 Interference Check Sample A 06/26/19 07:21

Antimony	0.000268	mg/L	0.050			
Nickel	0.000211	mg/L	0.010			
Selenium	4.38E-05	mg/L	0.0050			
Silver	1.69E-05	mg/L	0.0050			

4 Interference Check Sample AB 06/26/19 07:24

Antimony	0.000196	mg/L	0.050		0	0
Nickel	0.0194	mg/L	0.010	97	70	130
Selenium	0.00968	mg/L	0.0050	97	70	130
Silver	0.00481	mg/L	0.0050	96	70	130

Batch: R145375

4 Method Blank Run: ICPMS205-H_190625A 06/25/19 12:37

Antimony	ND	mg/L	9E-05			
Nickel	0.0003	mg/L	0.0002			
Selenium	ND	mg/L	2E-05			
Silver	ND	mg/L	2E-05			

4 Laboratory Fortified Blank Run: ICPMS205-H_190625A 06/25/19 12:39

Antimony	0.0482	mg/L	0.050	96	85	115
Nickel	0.0488	mg/L	0.010	98	85	115
Selenium	0.0487	mg/L	0.0050	97	85	115
Silver	0.0191	mg/L	0.0050	96	85	115

4 Sample Matrix Spike Run: ICPMS205-H_190625A 06/26/19 08:55

Antimony	0.0463	mg/L	0.0010	93	70	130
Nickel	0.0457	mg/L	0.0050	90	70	130
Selenium	0.0478	mg/L	0.0010	96	70	130
Silver	0.0135	mg/L	0.0010	68	70	130

S

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--	--	--	--	--	--	--	--	--

								Batch: R145375
4 Sample Matrix Spike Duplicate				Run: ICPMS205-H_190625A			06/26/19 08:58	
Antimony	0.0465	mg/L	0.0010	93	70	130	0.4	20
Nickel	0.0454	mg/L	0.0050	89	70	130	0.7	20
Selenium	0.0486	mg/L	0.0010	97	70	130	1.7	20
Silver	0.0145	mg/L	0.0010	73	70	130	7.3	20
4 Sample Matrix Spike				Run: ICPMS205-H_190625A			06/26/19 09:44	
Antimony	0.0484	mg/L	0.0010	95	70	130		
Nickel	0.0559	mg/L	0.0050	92	70	130		
Selenium	0.0478	mg/L	0.0010	96	70	130		
Silver	0.0166	mg/L	0.0010	83	70	130		
4 Sample Matrix Spike Duplicate				Run: ICPMS205-H_190625A			06/26/19 09:47	
Antimony	0.0466	mg/L	0.0010	92	70	130	3.8	20
Nickel	0.0548	mg/L	0.0050	90	70	130	1.9	20
Selenium	0.0498	mg/L	0.0010	100	70	130	4.3	20
Silver	0.0184	mg/L	0.0010	92	70	130	10	20

								Analytical Run: ICPMS205-H_190701B
Initial Calibration Verification Standard								07/01/19 20:16
Lead	0.0595	mg/L	0.010	99	90	110		
Interference Check Sample A								07/01/19 20:18
Lead	8.75E-05	mg/L	0.010					
Interference Check Sample AB								07/01/19 20:20
Lead	7.94E-05	mg/L	0.010		0	0		

								Batch: R145544
Method Blank				Run: ICPMS205-H_190701B			07/01/19 20:30	
Lead	3E-05	mg/L	3E-05					
Laboratory Fortified Blank				Run: ICPMS205-H_190701B			07/01/19 20:33	
Lead	0.0489	mg/L	0.010	98	85	115		
Sample Matrix Spike				Run: ICPMS205-H_190701B			07/01/19 20:51	
Lead	0.0483	mg/L	0.0010	96	70	130		
Sample Matrix Spike Duplicate				Run: ICPMS205-H_190701B			07/01/19 20:53	
Lead	0.0491	mg/L	0.0010	97	70	130	1.7	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--	--	--	--	--	--	--

							Analytical Run: HGCV203-H_190624A
							06/24/19 09:37
	Initial Calibration Verification Standard						
Mercury	0.105	ug/L	0.0050	105	90	110	
							06/24/19 09:41
	Continuing Calibration Verification Standard						
Mercury	0.101	ug/L	0.0050	101	95	105	
							06/24/19 11:45
	Continuing Calibration Verification Standard						
Mercury	0.102	ug/L	0.0050	102	90	110	
							Batch: 46249
	Method Blank						Run: HGCV203-H_190624A
Mercury	ND	ug/L	0.001				06/24/19 11:03
							06/24/19 11:13
	Laboratory Control Sample						Run: HGCV203-H_190624A
Mercury	0.0524	ug/L	0.0050	105	90	110	
							06/24/19 12:21
	Sample Matrix Spike						Run: HGCV203-H_190624A
Mercury	0.0537	ug/L	0.0050	107	70	130	
							06/24/19 12:24
	Sample Matrix Spike Duplicate						Run: HGCV203-H_190624A
Mercury	0.0538	ug/L	0.0050	108	70	130	0.2 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--	--	--	--	--	--	--

							Analytical Run: HGCV203-H_190626A
	Initial Calibration Verification Standard						06/26/19 09:37
Mercury	0.102	ug/L	0.0050	102	90	110	
	Continuing Calibration Verification Standard						06/26/19 09:41
Mercury	0.101	ug/L	0.0050	101	95	105	
	Continuing Calibration Verification Standard						06/26/19 10:27
Mercury	0.101	ug/L	0.0050	101	90	110	
	Continuing Calibration Verification Standard						06/26/19 11:06
Mercury	0.101	ug/L	0.0050	101	90	110	
							Batch: 46265
	Method Blank				Run: HGCV203-H_190626A		06/26/19 09:48
Mercury	ND	ug/L	0.001				
	Laboratory Control Sample				Run: HGCV203-H_190626A		06/26/19 09:51
Mercury	0.0481	ug/L	0.0050	96	90	110	
	Sample Matrix Spike				Run: HGCV203-H_190626A		06/26/19 09:58
Mercury	0.0510	ug/L	0.0050	102	70	130	
	Sample Matrix Spike Duplicate				Run: HGCV203-H_190626A		06/26/19 10:01
Mercury	0.0464	ug/L	0.0050	93	70	130	9.4 20
	Sample Matrix Spike				Run: HGCV203-H_190626A		06/26/19 11:12
Mercury	0.0495	ug/L	0.0050	99	70	130	
	Sample Matrix Spike Duplicate				Run: HGCV203-H_190626A		06/26/19 11:15
Mercury	0.0522	ug/L	0.0050	104	70	130	5.3 20
							Batch: 46266
	Method Blank				Run: HGCV203-H_190626A		06/26/19 11:19
Mercury	ND	ug/L	0.001				
	Laboratory Control Sample				Run: HGCV203-H_190626A		06/26/19 11:22
Mercury	0.0513	ug/L	0.0050	103	90	110	
	Sample Matrix Spike				Run: HGCV203-H_190626A		06/26/19 11:29
Mercury	0.0540	ug/L	0.0050	103	70	130	
	Sample Matrix Spike Duplicate				Run: HGCV203-H_190626A		06/26/19 11:32
Mercury	0.0519	ug/L	0.0050	99	70	130	3.9 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--	--	--	--	--	--	--	--

								Analytical Run: IC METROHM_190621A
								06/21/19 10:39
2 Initial Calibration Verification Standard								
Chloride	99.9	mg/L	1.0	100	90	110		
Sulfate	402	mg/L	1.0	100	90	110		
2 Continuing Calibration Verification Standard								06/21/19 15:58
Chloride	50.8	mg/L	1.0	102	90	110		
Sulfate	208	mg/L	1.0	104	90	110		
2 Continuing Calibration Verification Standard								06/21/19 19:35
Chloride	49.0	mg/L	1.0	98	90	110		
Sulfate	199	mg/L	1.0	99	90	110		
2 Continuing Calibration Verification Standard								06/21/19 23:13
Chloride	49.0	mg/L	1.0	98	90	110		
Sulfate	200	mg/L	1.0	100	90	110		
								Batch: R145304
2 Method Blank								Run: IC METROHM_190621A
Chloride	ND	mg/L	0.02					06/21/19 10:24
Sulfate	ND	mg/L	0.08					
2 Laboratory Fortified Blank								Run: IC METROHM_190621A
Chloride	25.4	mg/L	1.0	102	90	110		06/21/19 10:53
Sulfate	107	mg/L	1.0	107	90	110		
2 Sample Matrix Spike								Run: IC METROHM_190621A
Chloride	40.0	mg/L	1.0	97	90	110		06/21/19 16:56
Sulfate	144	mg/L	1.0	99	90	110		
2 Sample Matrix Spike Duplicate								Run: IC METROHM_190621A
Chloride	40.4	mg/L	1.0	99	90	110	0.8	20
Sulfate	146	mg/L	1.0	101	90	110	1.1	20
2 Sample Matrix Spike								Run: IC METROHM_190621A
Chloride	25.2	mg/L	1.0	99	90	110		06/21/19 20:48
Sulfate	114	mg/L	1.0	102	90	110		
2 Sample Matrix Spike Duplicate								Run: IC METROHM_190621A
Chloride	25.6	mg/L	1.0	100	90	110	1.7	20
Sulfate	116	mg/L	1.0	104	90	110	1.9	20
2 Sample Matrix Spike								Run: IC METROHM_190621A
Chloride	25.6	mg/L	1.0	98	90	110		06/22/19 00:11
Sulfate	295	mg/L	1.0	98	90	110		
2 Sample Matrix Spike Duplicate								Run: IC METROHM_190621A
Chloride	26.0	mg/L	1.0	99	90	110	1.6	20
Sulfate	299	mg/L	1.0	102	90	110	1.2	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060528

07/05/19

--	--	--	--	--	--	--

							Analytical Run: FIA203-HE_190701B
	Initial Calibration Verification Standard						07/01/19 10:28
Nitrogen, Nitrate+Nitrite as N	0.985	mg/L	0.010	98	90	110	
	Continuing Calibration Verification Standard						07/01/19 11:31
Nitrogen, Nitrate+Nitrite as N	0.501	mg/L	0.010	100	90	110	
	Continuing Calibration Verification Standard						07/01/19 11:48
Nitrogen, Nitrate+Nitrite as N	0.507	mg/L	0.010	101	90	110	
	Continuing Calibration Verification Standard						07/01/19 12:04
Nitrogen, Nitrate+Nitrite as N	0.506	mg/L	0.010	101	90	110	
							Batch: R145540
	Method Blank				Run: FIA203-HE_190701B		07/01/19 10:29
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	0.009				
	Laboratory Fortified Blank				Run: FIA203-HE_190701B		07/01/19 10:30
Nitrogen, Nitrate+Nitrite as N	0.999	mg/L	0.011	100	90	110	
	Sample Matrix Spike				Run: FIA203-HE_190701B		07/01/19 11:34
Nitrogen, Nitrate+Nitrite as N	0.987	mg/L	0.011	99	90	110	
	Sample Matrix Spike Duplicate				Run: FIA203-HE_190701B		07/01/19 11:36
Nitrogen, Nitrate+Nitrite as N	0.947	mg/L	0.011	95	90	110	4.2 10
	Sample Matrix Spike				Run: FIA203-HE_190701B		07/01/19 11:51
Nitrogen, Nitrate+Nitrite as N	1.03	mg/L	0.011	103	90	110	
	Sample Matrix Spike Duplicate				Run: FIA203-HE_190701B		07/01/19 11:52
Nitrogen, Nitrate+Nitrite as N	0.976	mg/L	0.011	98	90	110	5.0 10
	Sample Matrix Spike				Run: FIA203-HE_190701B		07/01/19 12:08
Nitrogen, Nitrate+Nitrite as N	0.993	mg/L	0.011	99	90	110	
	Sample Matrix Spike Duplicate				Run: FIA203-HE_190701B		07/01/19 12:09
Nitrogen, Nitrate+Nitrite as N	0.960	mg/L	0.011	96	90	110	3.3 10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Tintina Resources Inc

H19060528

Login completed by: Jessica C. Smith

Date Received: 6/21/2019

Reviewed by: BL2000\acarlson

Received by: TLL

Reviewed Date: 7/5/2019

Carrier name: Hand Del

Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on all shipping container(s)/cooler(s)? Yes [] No [] Not Present [checked]
Custody seals intact on all sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Temp Blank received in all shipping container(s)/cooler(s)? Yes [checked] No [] Not Applicable []
Container/Temp Blank temperature: °C See Comments
Water - VOA vials have zero headspace? Yes [] No [] No VOA vials submitted [checked]
Water - pH acceptable upon receipt? Yes [] No [checked] Not Applicable []

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.

Cooler 1 was received at 1.0 °C, Cooler 2 at 1.1 °C. On Ice. Nutrients sample(s) BBC-1906-212 and BBC-1906-216 were preserved to pH <2 with 2 mL of sulfuric acid per 250 mL in the laboratory upon receipt. Metals samples BBC-1906-212 and BBC-1906-216 were preserved to pH <2 in laboratory upon receipt. JCS 06/21/19

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME		DATE	TIME	SAMPLE NUMBER	NO. OF CON-TAINERS	Commons UF / RAW	Nutrients UF / H ₂ SO ₄	Diss. Metal F / HNO ₃	CN UF / NaOH	Total Metals UF / HNO ₃	Total Recoverable Metals UF / HNO ₃	BTEX	TPH	REMARKS
	COMP	GRAB													
18049	Tintina - Black Butte (gw)					3									
SAMPLERS: (Signature) <i>ML</i>															
			6/7/19	1655	BBC-1906-200		X	X	X						
			6/17/19	1755	201										
			6/17/19	1820	202										
			6/17/19	1750	203										
			6/18/19	0900	204										
			6/18/19	1040	205										
			6/18/19	1150	206										
			6/18/19	1220	207										
			6/18/19	1530	208										
			6/18/19	1830	209										
			6/19/19	1005	210										
			6/19/19	1030	211										
Relinquished (Signature) <i>ML</i>			Date / Time	6/20/19 1245	Received by (Signature) <i>[Signature]</i>	Lab	Energy Labs	P.O.#	Bill	Shipped via:	Bus FedEx UPS				
Relinquished (Signature) <i>RZ</i>			Date / Time	6/21/19 910	Received by (Signature) <i>[Signature]</i>	Remarks	C1=1.0 } TB twice hand del. C2=1.1								
Relinquished (Signature) <i>[Signature]</i>			Date / Time		Received for Laboratory by (Signature) <i>[Signature]</i>	Date / Time	6/19/19 9:10	Enclosed: <input checked="" type="checkbox"/> Parameter sheet w/detection limits Table 5 <input type="checkbox"/> QA/AC standard mixing instructions <input type="checkbox"/> Cover letter <input type="checkbox"/> Other							

Return results & electronic copy to:
QA / QC Dept. at address at top of page

Split Samples:
 Accepted Declined

Signature

Hydrometrics, Inc.

3020 Bozeman Ave. • Helena, MT 59601 • (406) 443-4150

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME			NO. OF CON-TAINERS	ANALYSIS						REMARKS	
	18049 Tintina - Black Butte (aw)				COMMONS UF / RAW	NUTRIENTS UF / H ₂ SO ₄	DISS. METAL F / NaOH	CN UF / NaOH	TOTAL METALS UF / HNO ₃	BTEX		TPH
	DATE	TIME	SAMPLE NUMBER									
	SAMPLERS: (Signature) <i>ML</i>											
	6/19/19	1700	BBC-506-212	3	X	X	X	X				
	6/19/19	1440	213		X	X	X	X				
	6/19/19	1545	214		X	X	X	X				
	6/19/19	1735	215		X	X	X	X				
	6/19/19	1830	216		X	X	X	X				
	6/20/19	1055	217		X	X	X	X				
	6/20/19	0910	218		X	X	X	X				
	6/20/19	1050	219		X	X	X	X				
	6/20/19	1030	220		X	X	X	X				
Relinquished (Signature) <i>ML KLL</i>												
Received by (Signature) <i>[Signature]</i>												
Date / Time 6-20-19 12:45												
Relinquished (Signature) <i>[Signature]</i>												
Received by (Signature) <i>[Signature]</i>												
Date / Time 6/21/19 9:10												
Relinquished (Signature) <i>[Signature]</i>												
Received for Laboratory by (Signature) <i>[Signature]</i>												
Date / Time 6/21/19 9:10												

Shipped via: Bus FedEx UPS
 Other: Hand Delivered
 Air Bill #

P.O. # 13.11
 Tintina

Lab Envoy2 Lab

Remarks C1=1.0 } TB nice hand del.
 C2=1.1

Enclosed: Parameter sheet w/detection limits
 QA / AC standard mixing instructions Cover letter
 Other

Split Samples:
 Accepted Declined

Return results & electronic copy to:
 QA / QC Dept. at address at top of page

**TABLE 5. PARAMETERS, METHODS, AND DETECTION LIMITS
FOR GROUNDWATER MONITORING**

Parameter	Analytical Method⁽¹⁾	Project-Required Detection Limit (mg/L)
Physical Parameters		
TDS	SM 2540C	10
TSS	SM 2540C	10
Common Ions		
Alkalinity	SM 2320B	4
Sulfate	300.0	1
Chloride	300.0/SM 4500CL-B	1
Fluoride	A4500-F C	0.1
Calcium	215.1/200.7	1
Magnesium	242.1/200.7	1
Sodium	273.1/200.7	1
Potassium	258.1/200.7	1
Nutrients		
Nitrate+Nitrite as N	353.2	0.01
Trace Constituents (Dissolved)⁽²⁾		
Aluminum (Al)	200.7/200.8	0.009
Antimony (Sb)	200.7/200.8	0.0005
Arsenic (As)	200.8/SM 3114B	0.001
Barium (Ba)	200.7/200.8	0.003
Beryllium (Be)	200.7/200.8	0.0008
Cadmium (Cd)	200.7/200.8	0.00003
Chromium (Cr)	200.7/200.8	0.01
Cobalt (Co)	200.7/200.8	0.01
Copper (Cu)	200.7/200.8	0.002
Iron (Fe)	200.7/200.8	0.02
Lead (Pb)	200.7/200.8	0.0003
Manganese (Mn)	200.7/200.8	0.005
Mercury (Hg)	245.2/245.1/200.8/SM 3112B	0.000005
Molybdenum (Mo)	200.7/200.8	0.002
Nickel (Ni)	200.7/200.8	0.001
Selenium (Se)	200.7/200.8/SM 3114B	0.0002
Silver (Ag)	200.7/200.8	0.0002
Strontium (Sr)	200.7/200.8	0.0002
Thallium (Tl)	200.7/200.8	0.0002
Uranium	200.7/200.8	0.008
Zinc (Zn)	200.7/200.8	0.002
Field Parameters		
Stream Flow	HF-SOP-37/-44/-46	NA
Water Temperature	HF-SOP-20	0.1 °C
Dissolved Oxygen (DO)	HF-SOP-22	0.1 mg/L
pH	HF-SOP-20	0.1 s.u.
Specific Conductance (SC)	HF-SOP-79	1 µmhos/cm

(1) Analytical methods are from *Standard Methods for the Examination of Water and Wastewater* (SM) or EPA's *Methods for Chemical Analysis of Water and Waste* (1983).

(2) Samples to be analyzed for dissolved constituents will be field-filtered through a 0.45 µm filter.



July 08, 2019

Tintina Resources Inc
PO Box 431
White Sulphur Springs, MT 59645-0431

Work Order: H19060535 Quote ID: H1216

Project Name: 18049 Tintina Black Butte (Spring)

Energy Laboratories Inc Helena MT received the following 13 samples for Tintina Resources Inc on 6/21/2019 for analysis.

H19060535-001	BBC-1906-108	06/18/19 16:30	06/21/19	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Fluoride Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Mercury Digestion by E245.1 Solids, Total Dissolved Solids, Total Suspended
H19060535-002	BBC-1906-112	06/19/19 11:10	06/21/19	Groundwater	Same As Above
H19060535-003	BBC-1906-116	06/19/19 13:00	06/21/19	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Fluoride Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Metals Digestion by E200.2 Mercury Digestion by E245.1 Solids, Total Dissolved Solids, Total Suspended
H19060535-004	BBC-1906-117	06/19/19 13:20	06/21/19	Groundwater	Same As Above
H19060535-005	BBC-1906-118	06/19/19 13:45	06/21/19	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Fluoride Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Mercury Digestion by E245.1 Solids, Total Dissolved Solids, Total Suspended
H19060535-006	BBC-1906-120	06/19/19 14:30	06/21/19	Groundwater	Same As Above
H19060535-007	BBC-1906-121	06/19/19 14:40	06/21/19	Groundwater	Same As Above
H19060535-008	BBC-1906-124	06/19/19 15:55	06/21/19	Groundwater	Same As Above
H19060535-009	BBC-1906-125	06/19/19 16:40	06/21/19	Groundwater	Same As Above
H19060535-010	BBC-1906-128	06/19/19 19:00	06/21/19	Groundwater	Same As Above

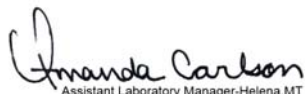
H19060535-011	BBC-1906-132	06/20/19 12:00	06/21/19	Groundwater	Same As Above
H19060535-012	BBC-1906-133	06/20/19 12:25	06/21/19	Groundwater	Same As Above
H19060535-013	BBC-1906-134	06/20/19 12:50	06/21/19	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, 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. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



Assistant Laboratory Manager-Helena, MT

Digitally signed by
Amanda B. Carlson
Date: 2019.07.08 10:58:27 -06:00



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina Black Butte (Spring)
H19060535-001
BBC-1906-108

07/08/19
06/18/19 16:30
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/24/19 09:10 / cmm
Solids, Total Dissolved TDS @ 180 C	216 mg/L	10	A2540 C	06/24/19 09:38 / cmm
Alkalinity, Total as CaCO3	200 mg/L	4	A2320 B	06/24/19 20:09 / RAT
Chloride	ND mg/L	1	E300.0	06/25/19 13:31 / cmm
Sulfate	12 mg/L	1	E300.0	06/25/19 13:31 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/24/19 14:14 / RAT
Hardness as CaCO3	204 mg/L	1	A2340 B	06/24/19 18:11 / abc
Nitrogen, Nitrate+Nitrite as N	0.14 mg/L	0.01	E353.2	07/01/19 13:31 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 01:07 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 01:07 / sld
Arsenic	ND mg/L	0.001	E200.8	06/22/19 01:07 / sld
Barium	0.050 mg/L	0.003	E200.8	06/22/19 01:07 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 01:07 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 01:07 / sld
Calcium	52 mg/L	1	E200.7	06/24/19 18:11 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 01:07 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 01:07 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 01:07 / sld
Iron	ND mg/L	0.02	E200.8	06/22/19 01:07 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 01:07 / sld
Magnesium	18 mg/L	1	E200.7	06/24/19 18:11 / sld
Manganese	ND mg/L	0.005	E200.8	06/22/19 01:07 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 11:38 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 01:07 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 01:07 / sld
Potassium	ND mg/L	1	E200.7	06/24/19 18:11 / sld
Selenium	ND mg/L	0.0002	E200.8	07/01/19 20:45 / sld
Silver	ND mg/L	0.0002	E200.8	07/01/19 20:45 / sld
Sodium	2 mg/L	1	E200.7	06/24/19 18:11 / sld
Strontium	0.109 mg/L	0.0002	E200.8	06/22/19 01:07 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 01:07 / sld
Uranium	0.0007 mg/L	0.0002	E200.8	06/22/19 01:07 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 01:07 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina Black Butte (Spring)
H19060535-002
BBC-1906-112

07/08/19
06/19/19 11:10
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/24/19 09:11 / cmm
Solids, Total Dissolved TDS @ 180 C	127 mg/L	10	A2540 C	06/24/19 09:39 / cmm
Alkalinity, Total as CaCO3	92 mg/L	4	A2320 B	06/24/19 20:15 / RAT
Chloride	ND mg/L	1	E300.0	06/25/19 13:46 / cmm
Sulfate	7 mg/L	1	E300.0	06/25/19 13:46 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/24/19 14:18 / RAT
Hardness as CaCO3	90 mg/L	1	A2340 B	06/24/19 18:15 / abc
Nitrogen, Nitrate+Nitrite as N	0.25 mg/L	0.01	E353.2	07/01/19 13:32 / kmd
Aluminum	0.079 mg/L	0.009	E200.8	06/22/19 01:09 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 01:09 / sld
Arsenic	0.007 mg/L	0.001	E200.8	06/22/19 01:09 / sld
Barium	0.303 mg/L	0.003	E200.8	06/22/19 01:09 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 01:09 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 01:09 / sld
Calcium	23 mg/L	1	E200.7	06/24/19 18:15 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 01:09 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 01:09 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 01:09 / sld
Iron	0.04 mg/L	0.02	E200.8	06/22/19 01:09 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 01:09 / sld
Magnesium	8 mg/L	1	E200.7	06/24/19 18:15 / sld
Manganese	ND mg/L	0.005	E200.8	06/22/19 01:09 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 11:42 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 01:09 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 01:09 / sld
Potassium	1 mg/L	1	E200.7	06/24/19 18:15 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 01:09 / sld
Silver	ND mg/L	0.0002	E200.8	07/02/19 13:44 / sld
Sodium	3 mg/L	1	E200.7	06/24/19 18:15 / sld
Strontium	0.104 mg/L	0.0002	E200.8	06/22/19 01:09 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 01:09 / sld
Uranium	0.0005 mg/L	0.0002	E200.8	06/22/19 01:09 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 01:09 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina Black Butte (Spring)
H19060535-003
BBC-1906-116

07/08/19
06/19/19 13:00
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/24/19 09:12 / cmm
Solids, Total Dissolved TDS @ 180 C	69 mg/L	10	A2540 C	06/24/19 09:39 / cmm
Alkalinity, Total as CaCO3	20 mg/L	4	A2320 B	06/24/19 20:22 / RAT
Chloride	ND mg/L	1	E300.0	06/25/19 14:00 / cmm
Sulfate	1 mg/L	1	E300.0	06/25/19 14:00 / cmm
Fluoride	ND mg/L	0.1	4 A4500-F C	06/24/19 14:22 / RAT
Hardness as CaCO3	20 mg/L	1	A2340 B	06/26/19 10:37 / abc
Nitrogen, Nitrate+Nitrite as N	0.15 mg/L	0.01	E353.2	07/01/19 13:35 / kmd
Aluminum	1.95 mg/L	0.009	E200.7	06/26/19 10:37 / sld
Antimony	ND mg/L	0.0005	E200.8	06/25/19 17:58 / dck
Arsenic	ND mg/L	0.001	E200.8	06/25/19 17:58 / dck
Barium	0.245 mg/L	0.003	E200.8	06/25/19 17:58 / dck
Beryllium	ND mg/L	0.0008	E200.8	06/25/19 17:58 / dck
Cadmium	ND mg/L	0.00003	E200.8	06/25/19 17:58 / dck
Calcium	5 mg/L	1	E200.8	06/25/19 17:58 / dck
Chromium	ND mg/L	0.01	E200.8	06/25/19 17:58 / dck
Cobalt	ND mg/L	0.01	E200.8	06/25/19 17:58 / dck
Copper	0.003 mg/L	0.002	E200.8	06/25/19 17:58 / dck
Iron	1.24 mg/L	0.02	E200.8	06/25/19 17:58 / dck
Lead	0.0003 mg/L	0.0003	E200.8	07/02/19 19:06 / sld
Magnesium	2 mg/L	1	E200.7	06/26/19 10:37 / sld
Manganese	0.006 mg/L	0.005	E200.8	06/25/19 17:58 / dck
Mercury	0.010 ug/L	0.005	E245.1	06/26/19 11:51 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/25/19 17:58 / dck
Nickel	0.004 mg/L	0.001	E200.8	06/25/19 17:58 / dck
Potassium	1 mg/L	1	E200.7	06/26/19 10:37 / sld
Selenium	ND mg/L	0.0002	E200.8	06/25/19 17:58 / dck
Silver	ND mg/L	0.0002	E200.8	06/25/19 17:58 / dck
Sodium	1 mg/L	1	E200.7	06/26/19 10:37 / sld
Strontium	0.0244 mg/L	0.0002	E200.8	06/25/19 17:58 / dck
Thallium	ND mg/L	0.0002	E200.8	06/25/19 17:58 / dck
Uranium	ND mg/L	0.0002	E200.8	06/25/19 17:58 / dck
Zinc	0.006 mg/L	0.002	E200.8	06/25/19 17:58 / dck

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina Black Butte (Spring)
H19060535-004
BBC-1906-117

07/08/19
06/19/19 13:20
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/24/19 09:12 / cmm
Solids, Total Dissolved TDS @ 180 C	87 mg/L	10	A2540 C	06/24/19 09:39 / cmm
Alkalinity, Total as CaCO3	40 mg/L	4	A2320 B	06/24/19 20:29 / RAT
Chloride	ND mg/L	1	E300.0	06/25/19 14:15 / cmm
Sulfate	3 mg/L	1	E300.0	06/25/19 14:15 / cmm
Fluoride	ND mg/L	0.1	4 A4500-F C	06/24/19 14:26 / RAT
Hardness as CaCO3	42 mg/L	1	A2340 B	06/26/19 14:57 / sld
Nitrogen, Nitrate+Nitrite as N	0.25 mg/L	0.01	E353.2	07/01/19 13:39 / kmd
Aluminum	1.28 mg/L	0.009	E200.7	06/26/19 10:18 / sld
Antimony	ND mg/L	0.0005	E200.8	06/25/19 18:01 / dck
Arsenic	0.001 mg/L	0.001	E200.8	06/25/19 18:01 / dck
Barium	0.309 mg/L	0.003	E200.8	06/25/19 18:01 / dck
Beryllium	ND mg/L	0.0008	E200.8	06/25/19 18:01 / dck
Cadmium	ND mg/L	0.00003	E200.8	06/25/19 18:01 / dck
Calcium	13 mg/L	1	E200.8	06/25/19 18:01 / dck
Chromium	ND mg/L	0.01	E200.8	06/25/19 18:01 / dck
Cobalt	ND mg/L	0.01	E200.8	06/25/19 18:01 / dck
Copper	ND mg/L	0.002	E200.8	06/25/19 18:01 / dck
Iron	0.77 mg/L	0.02	E200.8	06/25/19 18:01 / dck
Lead	ND mg/L	0.0003	E200.8	06/25/19 18:01 / dck
Magnesium	3 mg/L	1	E200.7	06/26/19 10:18 / sld
Manganese	0.006 mg/L	0.005	E200.8	06/25/19 18:01 / dck
Mercury	0.006 ug/L	0.005	E245.1	06/26/19 11:55 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/25/19 18:01 / dck
Nickel	0.002 mg/L	0.001	E200.8	06/25/19 18:01 / dck
Potassium	ND mg/L	1	E200.7	06/26/19 10:18 / sld
Selenium	ND mg/L	0.0002	E200.8	06/25/19 18:01 / dck
Silver	ND mg/L	0.0002	E200.8	06/25/19 18:01 / dck
Sodium	1 mg/L	1	E200.7	06/26/19 10:18 / sld
Strontium	0.0396 mg/L	0.0002	E200.8	06/25/19 18:01 / dck
Thallium	ND mg/L	0.0002	E200.8	06/25/19 18:01 / dck
Uranium	ND mg/L	0.0002	E200.8	06/25/19 18:01 / dck
Zinc	0.006 mg/L	0.002	E200.8	06/25/19 18:01 / dck

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina Black Butte (Spring)
H19060535-005
BBC-1906-118

07/08/19
06/19/19 13:45
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/24/19 09:13 / cmm
Solids, Total Dissolved TDS @ 180 C	118 mg/L	10	A2540 C	06/24/19 09:40 / cmm
Alkalinity, Total as CaCO3	54 mg/L	4	A2320 B	06/24/19 20:36 / RAT
Chloride	ND mg/L	1	E300.0	06/26/19 20:13 / cmm
Sulfate	6 mg/L	1	E300.0	06/26/19 20:13 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/24/19 14:38 / RAT
Hardness as CaCO3	58 mg/L	1	A2340 B	06/24/19 18:19 / abc
Nitrogen, Nitrate+Nitrite as N	0.17 mg/L	0.01	E353.2	07/01/19 13:40 / kmd
Aluminum	0.198 mg/L	0.009	E200.8	07/02/19 13:47 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 01:24 / sld
Arsenic	0.002 mg/L	0.001	E200.8	06/22/19 01:24 / sld
Barium	0.229 mg/L	0.003	E200.8	06/22/19 01:24 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 01:24 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 01:24 / sld
Calcium	17 mg/L	1	E200.7	06/24/19 18:19 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 01:24 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 01:24 / sld
Copper	0.003 mg/L	0.002	E200.8	06/22/19 01:24 / sld
Iron	0.45 mg/L	0.02	E200.8	06/22/19 01:24 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 01:24 / sld
Magnesium	4 mg/L	1	E200.7	06/24/19 18:19 / sld
Manganese	ND mg/L	0.005	E200.8	06/22/19 01:24 / sld
Mercury	0.009 ug/L	0.005	E245.1	06/26/19 11:58 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 01:24 / sld
Nickel	0.002 mg/L	0.001	E200.8	07/02/19 13:47 / sld
Potassium	2 mg/L	1	E200.7	06/24/19 18:19 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 01:24 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 01:24 / sld
Sodium	2 mg/L	1	E200.7	06/24/19 18:19 / sld
Strontium	0.0546 mg/L	0.0002	E200.8	06/22/19 01:24 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 01:24 / sld
Uranium	ND mg/L	0.0002	E200.8	06/22/19 01:24 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 01:24 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina Black Butte (Spring)
H19060535-006
BBC-1906-120

07/08/19
06/19/19 14:30
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/24/19 09:13 / cmm
Solids, Total Dissolved TDS @ 180 C	164 mg/L	10	A2540 C	06/24/19 09:40 / cmm
Alkalinity, Total as CaCO3	130 mg/L	4	A2320 B	06/24/19 21:04 / RAT
Chloride	ND mg/L	1	E300.0	06/26/19 20:57 / cmm
Sulfate	10 mg/L	1	E300.0	06/26/19 20:57 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/24/19 14:46 / RAT
Hardness as CaCO3	133 mg/L	1	A2340 B	06/24/19 18:42 / abc
Nitrogen, Nitrate+Nitrite as N	0.41 mg/L	0.01	E353.2	07/01/19 13:41 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 01:26 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 01:26 / sld
Arsenic	ND mg/L	0.001	E200.8	06/22/19 01:26 / sld
Barium	0.192 mg/L	0.003	E200.8	06/22/19 01:26 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 01:26 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 01:26 / sld
Calcium	33 mg/L	1	E200.7	06/24/19 18:42 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 01:26 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 01:26 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 01:26 / sld
Iron	ND mg/L	0.02	E200.8	06/22/19 01:26 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 01:26 / sld
Magnesium	12 mg/L	1	E200.7	06/24/19 18:42 / sld
Manganese	ND mg/L	0.005	E200.8	06/22/19 01:26 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 12:01 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 01:26 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 01:26 / sld
Potassium	ND mg/L	1	E200.7	06/24/19 18:42 / sld
Selenium	ND mg/L	0.0002	E200.8	07/01/19 21:04 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 01:26 / sld
Sodium	2 mg/L	1	E200.7	06/24/19 18:42 / sld
Strontium	0.0722 mg/L	0.0002	E200.8	06/22/19 01:26 / sld
Thallium	0.0005 mg/L	0.0002	E200.8	06/22/19 01:26 / sld
Uranium	0.0004 mg/L	0.0002	E200.8	06/22/19 01:26 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 01:26 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina Black Butte (Spring)
H19060535-007
BBC-1906-121

07/08/19
06/19/19 14:40
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/24/19 09:13 / cmm
Solids, Total Dissolved TDS @ 180 C	241 mg/L	10	A2540 C	06/24/19 09:40 / cmm
Alkalinity, Total as CaCO3	190 mg/L	4	A2320 B	06/24/19 21:16 / RAT
Chloride	ND mg/L	1	E300.0	06/26/19 21:11 / cmm
Sulfate	33 mg/L	1	E300.0	06/26/19 21:11 / cmm
Fluoride	0.2 mg/L	0.1	4 A4500-F C	06/24/19 14:50 / RAT
Hardness as CaCO3	216 mg/L	1	A2340 B	06/24/19 18:46 / abc
Nitrogen, Nitrate+Nitrite as N	0.30 mg/L	0.01	E353.2	07/01/19 13:43 / kmd
Aluminum	0.010 mg/L	0.009	E200.8	06/22/19 01:28 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 01:28 / sld
Arsenic	ND mg/L	0.001	E200.8	06/22/19 01:28 / sld
Barium	0.109 mg/L	0.003	E200.8	06/22/19 01:28 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 01:28 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 01:28 / sld
Calcium	47 mg/L	1	E200.7	06/24/19 18:46 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 01:28 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 01:28 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 01:28 / sld
Iron	0.03 mg/L	0.02	E200.8	06/22/19 01:28 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 01:28 / sld
Magnesium	24 mg/L	1	E200.7	06/24/19 18:46 / sld
Manganese	0.007 mg/L	0.005	E200.8	06/22/19 01:28 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 12:04 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 01:28 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 01:28 / sld
Potassium	2 mg/L	1	E200.7	06/24/19 18:46 / sld
Selenium	0.0003 mg/L	0.0002	E200.8	07/01/19 21:06 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 01:28 / sld
Sodium	2 mg/L	1	E200.7	06/24/19 18:46 / sld
Strontium	0.0704 mg/L	0.0002	E200.8	06/22/19 01:28 / sld
Thallium	0.0003 mg/L	0.0002	E200.8	06/22/19 01:28 / sld
Uranium	0.0005 mg/L	0.0002	E200.8	06/22/19 01:28 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 01:28 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina Black Butte (Spring)
H19060535-008
BBC-1906-124

07/08/19
06/19/19 15:55
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/24/19 09:14 / cmm
Solids, Total Dissolved TDS @ 180 C	230 mg/L	10	A2540 C	06/24/19 09:41 / cmm
Alkalinity, Total as CaCO3	180 mg/L	4	A2320 B	06/24/19 21:22 / RAT
Chloride	7 mg/L	1	E300.0	06/26/19 21:26 / cmm
Sulfate	19 mg/L	1	E300.0	06/26/19 21:26 / cmm
Fluoride	0.2 mg/L	0.1	4 A4500-F C	06/24/19 14:54 / RAT
Hardness as CaCO3	200 mg/L	1	A2340 B	06/25/19 08:39 / sld
Nitrogen, Nitrate+Nitrite as N	0.33 mg/L	0.01	E353.2	07/01/19 13:44 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 01:30 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 01:30 / sld
Arsenic	ND mg/L	0.001	E200.8	06/22/19 01:30 / sld
Barium	0.157 mg/L	0.003	E200.8	06/22/19 01:30 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 01:30 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 01:30 / sld
Calcium	47 mg/L	1	E200.7	06/24/19 18:50 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 01:30 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 01:30 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 01:30 / sld
Iron	ND mg/L	0.02	E200.8	06/22/19 01:30 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 01:30 / sld
Magnesium	20 mg/L	1	E200.7	06/24/19 18:50 / sld
Manganese	ND mg/L	0.005	E200.8	06/22/19 01:30 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 12:08 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 01:30 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 01:30 / sld
Potassium	1 mg/L	1	E200.7	06/24/19 18:50 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 01:30 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 01:30 / sld
Sodium	2 mg/L	1	E200.7	06/24/19 18:50 / sld
Strontium	0.0968 mg/L	0.0002	E200.8	06/22/19 01:30 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 01:30 / sld
Uranium	0.0006 mg/L	0.0002	E200.8	06/22/19 01:30 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 01:30 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina Black Butte (Spring)
H19060535-009
BBC-1906-125

07/08/19
06/19/19 16:40
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/24/19 09:14 / cmm
Solids, Total Dissolved TDS @ 180 C	196 mg/L	10	A2540 C	06/24/19 09:41 / cmm
Alkalinity, Total as CaCO3	160 mg/L	4	A2320 B	06/24/19 21:28 / RAT
Chloride	2 mg/L	1	E300.0	06/26/19 21:41 / cmm
Sulfate	12 mg/L	1	E300.0	06/26/19 21:41 / cmm
Fluoride	0.3 mg/L	0.1	4 A4500-F C	06/24/19 14:59 / RAT
Hardness as CaCO3	156 mg/L	1	A2340 B	06/24/19 18:54 / abc
Nitrogen, Nitrate+Nitrite as N	0.33 mg/L	0.01	E353.2	07/01/19 13:45 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 01:33 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 01:33 / sld
Arsenic	0.004 mg/L	0.001	E200.8	06/22/19 01:33 / sld
Barium	0.118 mg/L	0.003	E200.8	06/22/19 01:33 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 01:33 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 01:33 / sld
Calcium	40 mg/L	1	E200.7	06/24/19 18:54 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 01:33 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 01:33 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 01:33 / sld
Iron	ND mg/L	0.02	E200.8	06/22/19 01:33 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 01:33 / sld
Magnesium	13 mg/L	1	E200.7	06/24/19 18:54 / sld
Manganese	ND mg/L	0.005	E200.8	06/22/19 01:33 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 12:11 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 01:33 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 01:33 / sld
Potassium	3 mg/L	1	E200.7	06/24/19 18:54 / sld
Selenium	0.0003 mg/L	0.0002	E200.8	07/01/19 21:08 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 01:33 / sld
Sodium	5 mg/L	1	E200.7	06/24/19 18:54 / sld
Strontium	0.171 mg/L	0.0002	E200.8	06/22/19 01:33 / sld
Thallium	0.0010 mg/L	0.0002	E200.8	06/22/19 01:33 / sld
Uranium	0.0009 mg/L	0.0002	E200.8	06/22/19 01:33 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 01:33 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina Black Butte (Spring)
H19060535-010
BBC-1906-128

07/08/19
06/19/19 19:00
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/24/19 09:15 / cmm
Solids, Total Dissolved TDS @ 180 C	ND mg/L	10	A2540 C	06/24/19 09:42 / cmm
Alkalinity, Total as CaCO3	ND mg/L	4	A2320 B	06/24/19 21:36 / RAT
Chloride	ND mg/L	1	E300.0	06/26/19 21:55 / cmm
Sulfate	ND mg/L	1	E300.0	06/26/19 21:55 / cmm
Fluoride	ND mg/L	0.1	4 A4500-F C	06/24/19 15:03 / RAT
Hardness as CaCO3	ND mg/L	1	A2340 B	06/25/19 08:39 / sld
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 13:46 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 01:35 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 01:35 / sld
Arsenic	ND mg/L	0.001	E200.8	06/22/19 01:35 / sld
Barium	ND mg/L	0.003	E200.8	06/22/19 01:35 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 01:35 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 01:35 / sld
Calcium	ND mg/L	1	E200.7	06/24/19 18:58 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 01:35 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 01:35 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 01:35 / sld
Iron	ND mg/L	0.02	E200.8	06/22/19 01:35 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 01:35 / sld
Magnesium	ND mg/L	1	E200.7	06/24/19 18:58 / sld
Manganese	ND mg/L	0.005	E200.8	06/22/19 01:35 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 12:14 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 01:35 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 01:35 / sld
Potassium	ND mg/L	1	E200.7	06/24/19 18:58 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 01:35 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 01:35 / sld
Sodium	ND mg/L	1	E200.7	06/24/19 18:58 / sld
Strontium	ND mg/L	0.0002	E200.8	06/22/19 01:35 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 01:35 / sld
Uranium	ND mg/L	0.0002	E200.8	06/22/19 01:35 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 01:35 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina Black Butte (Spring)
H19060535-011
BBC-1906-132

07/08/19
06/20/19 12:00
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/24/19 09:15 / cmm
Solids, Total Dissolved TDS @ 180 C	231 mg/L	10	A2540 C	06/24/19 09:42 / cmm
Alkalinity, Total as CaCO3	210 mg/L	4	A2320 B	06/24/19 21:40 / RAT
Chloride	ND mg/L	1	E300.0	06/26/19 22:10 / cmm
Sulfate	15 mg/L	1	E300.0	06/26/19 22:10 / cmm
Fluoride	ND mg/L	0.1	4 A4500-F C	06/24/19 15:07 / RAT
Hardness as CaCO3	227 mg/L	1	A2340 B	06/24/19 19:02 / abc
Nitrogen, Nitrate+Nitrite as N	0.16 mg/L	0.01	E353.2	07/01/19 13:47 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 01:49 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 01:49 / sld
Arsenic	ND mg/L	0.001	E200.8	06/22/19 01:49 / sld
Barium	0.050 mg/L	0.003	E200.8	06/22/19 01:49 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 01:49 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 01:49 / sld
Calcium	57 mg/L	1	E200.7	06/24/19 19:02 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 01:49 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 01:49 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 01:49 / sld
Iron	ND mg/L	0.02	E200.8	06/22/19 01:49 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 01:49 / sld
Magnesium	21 mg/L	1	E200.7	06/24/19 19:02 / sld
Manganese	ND mg/L	0.005	E200.8	06/22/19 01:49 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 12:17 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 01:49 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 01:49 / sld
Potassium	ND mg/L	1	E200.7	06/24/19 19:02 / sld
Selenium	ND mg/L	0.0002	E200.8	07/01/19 21:10 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 01:49 / sld
Sodium	2 mg/L	1	E200.7	06/24/19 19:02 / sld
Strontium	0.107 mg/L	0.0002	E200.8	06/22/19 01:49 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 01:49 / sld
Uranium	0.0006 mg/L	0.0002	E200.8	06/22/19 01:49 / sld
Zinc	0.007 mg/L	0.002	E200.8	06/22/19 01:49 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina Black Butte (Spring)
H19060535-012
BBC-1906-133

07/08/19
06/20/19 12:25
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/24/19 09:16 / cmm
Solids, Total Dissolved TDS @ 180 C	228 mg/L	10	A2540 C	06/24/19 09:43 / cmm
Alkalinity, Total as CaCO3	210 mg/L	4	A2320 B	06/27/19 12:29 / RAT
Chloride	ND mg/L	1	E300.0	06/26/19 22:24 / cmm
Sulfate	10 mg/L	1	E300.0	06/26/19 22:24 / cmm
Fluoride	ND mg/L	0.1	4 A4500-F C	06/24/19 15:11 / RAT
Hardness as CaCO3	227 mg/L	1	A2340 B	06/25/19 08:39 / sld
Nitrogen, Nitrate+Nitrite as N	0.06 mg/L	0.01	E353.2	07/01/19 13:49 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 01:51 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 01:51 / sld
Arsenic	ND mg/L	0.001	E200.8	06/22/19 01:51 / sld
Barium	0.050 mg/L	0.003	E200.8	06/22/19 01:51 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 01:51 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 01:51 / sld
Calcium	60 mg/L	1	E200.7	06/24/19 19:06 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 01:51 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 01:51 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 01:51 / sld
Iron	ND mg/L	0.02	E200.8	06/22/19 01:51 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 01:51 / sld
Magnesium	19 mg/L	1	E200.7	06/24/19 19:06 / sld
Manganese	ND mg/L	0.005	E200.8	06/22/19 01:51 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 12:21 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 01:51 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 01:51 / sld
Potassium	ND mg/L	1	E200.7	06/24/19 19:06 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 01:51 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 01:51 / sld
Sodium	2 mg/L	1	E200.7	06/24/19 19:06 / sld
Strontium	0.132 mg/L	0.0002	E200.8	06/22/19 01:51 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 01:51 / sld
Uranium	0.0006 mg/L	0.0002	E200.8	06/22/19 01:51 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 01:51 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Tintina Black Butte (Spring)
H19060535-013
BBC-1906-134

07/08/19
06/20/19 12:50
06/21/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/24/19 09:16 / cmm
Solids, Total Dissolved TDS @ 180 C	229 mg/L	10	A2540 C	06/24/19 09:43 / cmm
Alkalinity, Total as CaCO3	210 mg/L	4	A2320 B	06/27/19 12:36 / RAT
Chloride	ND mg/L	1	E300.0	06/26/19 22:39 / cmm
Sulfate	10 mg/L	1	E300.0	06/26/19 22:39 / cmm
Fluoride	ND mg/L	0.1	4 A4500-F C	06/24/19 15:15 / RAT
Hardness as CaCO3	221 mg/L	1	A2340 B	06/25/19 08:39 / sld
Nitrogen, Nitrate+Nitrite as N	0.06 mg/L	0.01	E353.2	07/01/19 13:52 / kmd
Aluminum	ND mg/L	0.009	E200.8	06/22/19 01:53 / sld
Antimony	ND mg/L	0.0005	E200.8	06/22/19 01:53 / sld
Arsenic	ND mg/L	0.001	E200.8	06/22/19 01:53 / sld
Barium	0.050 mg/L	0.003	E200.8	06/22/19 01:53 / sld
Beryllium	ND mg/L	0.0008	E200.8	06/22/19 01:53 / sld
Cadmium	ND mg/L	0.00003	E200.8	06/22/19 01:53 / sld
Calcium	59 mg/L	1	E200.7	06/24/19 19:09 / sld
Chromium	ND mg/L	0.01	E200.8	06/22/19 01:53 / sld
Cobalt	ND mg/L	0.01	E200.8	06/22/19 01:53 / sld
Copper	ND mg/L	0.002	E200.8	06/22/19 01:53 / sld
Iron	ND mg/L	0.02	E200.8	06/22/19 01:53 / sld
Lead	ND mg/L	0.0003	E200.8	06/22/19 01:53 / sld
Magnesium	18 mg/L	1	E200.7	06/24/19 19:09 / sld
Manganese	ND mg/L	0.005	E200.8	06/22/19 01:53 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 12:30 / ber
Molybdenum	ND mg/L	0.002	E200.8	06/22/19 01:53 / sld
Nickel	ND mg/L	0.001	E200.8	06/22/19 01:53 / sld
Potassium	ND mg/L	1	E200.7	06/24/19 19:09 / sld
Selenium	ND mg/L	0.0002	E200.8	06/22/19 01:53 / sld
Silver	ND mg/L	0.0002	E200.8	06/22/19 01:53 / sld
Sodium	2 mg/L	1	E200.7	06/24/19 19:09 / sld
Strontium	0.133 mg/L	0.0002	E200.8	06/22/19 01:53 / sld
Thallium	ND mg/L	0.0002	E200.8	06/22/19 01:53 / sld
Uranium	0.0006 mg/L	0.0002	E200.8	06/22/19 01:53 / sld
Zinc	ND mg/L	0.002	E200.8	06/22/19 01:53 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--	--	--	--	--	--	--	--

							Batch: R145306
Alkalinity, Total as CaCO3	Method Blank					Run: PHSC_101-H_190624A	06/24/19 17:50
	ND	mg/L	2				
Alkalinity, Total as CaCO3	Laboratory Control Sample					Run: PHSC_101-H_190624A	06/24/19 17:56
	570	mg/L	4.0	96	90	110	
Alkalinity, Total as CaCO3	Sample Duplicate					Run: PHSC_101-H_190624A	06/24/19 18:22
	220	mg/L	4.0			1.2	10
Alkalinity, Total as CaCO3	Sample Duplicate					Run: PHSC_101-H_190624A	06/24/19 19:42
	53	mg/L	4.0			4.2	10
Alkalinity, Total as CaCO3	Method Blank					Run: PHSC_101-H_190624A	06/24/19 20:42
	ND	mg/L	2				
Alkalinity, Total as CaCO3	Laboratory Control Sample					Run: PHSC_101-H_190624A	06/24/19 20:48
	560	mg/L	4.0	94	90	110	
Alkalinity, Total as CaCO3	Sample Duplicate					Run: PHSC_101-H_190624A	06/24/19 21:10
	130	mg/L	4.0			1.4	10

							Batch: R145421
Alkalinity, Total as CaCO3	Method Blank					Run: PHSC_101-H_190627A	06/27/19 12:07
	ND	mg/L	2				
Alkalinity, Total as CaCO3	Laboratory Control Sample					Run: PHSC_101-H_190627A	06/27/19 12:15
	570	mg/L	4.0	94	90	110	
Alkalinity, Total as CaCO3	Sample Duplicate					Run: PHSC_101-H_190627A	06/27/19 13:11
	220	mg/L	4.0			0.6	10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

Batch: TDS190624A

	Laboratory Control Sample			Run: ACCU-124 (14410200)_19062	06/24/19 09:38
Solids, Total Dissolved TDS @ 180 C	2000 mg/L	20	100	90 110	
	Sample Duplicate			Run: ACCU-124 (14410200)_19062	06/24/19 09:38
Solids, Total Dissolved TDS @ 180 C	219 mg/L	10		1.4	5
	Sample Duplicate			Run: ACCU-124 (14410200)_19062	06/24/19 09:42
Solids, Total Dissolved TDS @ 180 C	227 mg/L	10		1.7	5
	Method Blank			Run: ACCU-124 (14410200)_19062	06/24/19 11:30
Solids, Total Dissolved TDS @ 180 C	ND mg/L	10			

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

Batch: TSS190624A

	Method Blank				Run: ACCU-124 (14410200)_19062	06/24/19 09:08
Solids, Total Suspended TSS @ 105 C	ND	mg/L	0.3			
	Laboratory Control Sample				Run: ACCU-124 (14410200)_19062	06/24/19 09:09
Solids, Total Suspended TSS @ 105 C	80.0	mg/L	10	80	80	120
	Sample Duplicate				Run: ACCU-124 (14410200)_19062	06/24/19 09:11
Solids, Total Suspended TSS @ 105 C	ND	mg/L	10			5
	Sample Duplicate				Run: ACCU-124 (14410200)_19062	06/24/19 09:15
Solids, Total Suspended TSS @ 105 C	1.00	mg/L	10			5

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--	--	--	--	--	--	--	--

							Analytical Run: MANTECH 2_190624A
							06/24/19 11:41
	Initial Calibration Verification Standard						
Fluoride	0.7	mg/L	0.1	99	90	110	
							06/24/19 13:33
	Continuing Calibration Verification Standard						
Fluoride	1.0	mg/L	0.1	99	90	110	
							06/24/19 14:30
	Continuing Calibration Verification Standard						
Fluoride	0.9	mg/L	0.1	93	90	110	
							Batch: R145348
	Method Blank				Run: MANTECH 2_190624A		06/24/19 11:45
Fluoride	ND	mg/L	0.03				
							06/24/19 13:45
	Sample Matrix Spike				Run: MANTECH 2_190624A		
Fluoride	1.2	mg/L	0.1	102	85	115	
							06/24/19 13:53
	Sample Duplicate				Run: MANTECH 2_190624A		
Fluoride	0.1	mg/L	0.1			0.0	10
							06/24/19 14:42
	Sample Duplicate				Run: MANTECH 2_190624A		
Fluoride	0.1	mg/L	0.1			0.0	10
							06/24/19 15:36
	Sample Matrix Spike				Run: MANTECH 2_190624A		
Fluoride	1.1	mg/L	0.1	100	85	115	

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--

Analytical Run: ICP2-HE_190624C

4 Initial Calibration Verification Standard 06/24/19 13:22

Calcium	39.6	mg/L	1.0	99	95	105
Magnesium	39.3	mg/L	1.0	98	95	105
Potassium	39.9	mg/L	1.0	100	95	105
Sodium	39.9	mg/L	1.0	100	95	105

4 Continuing Calibration Verification Standard 06/24/19 13:26

Calcium	25.2	mg/L	1.0	101	95	105
Magnesium	24.7	mg/L	1.0	99	95	105
Potassium	25.4	mg/L	1.0	102	95	105
Sodium	25.4	mg/L	1.0	102	95	105

4 Interference Check Sample A 06/24/19 13:38

Calcium	454	mg/L	1.0	91	80	120
Magnesium	506	mg/L	1.0	101	80	120
Potassium	0.00209	mg/L	1.0		0	0
Sodium	0.0237	mg/L	1.0		0	0

4 Interference Check Sample AB 06/24/19 13:42

Calcium	471	mg/L	1.0	94	80	120
Magnesium	524	mg/L	1.0	105	80	120
Potassium	21.5	mg/L	1.0	108	80	120
Sodium	21.7	mg/L	1.0	108	80	120

4 Continuing Calibration Verification Standard 06/24/19 17:44

Calcium	23.8	mg/L	1.0	95	90	110
Magnesium	23.0	mg/L	1.0	92	90	110
Potassium	25.8	mg/L	1.0	103	90	110
Sodium	26.2	mg/L	1.0	105	90	110

4 Continuing Calibration Verification Standard 06/24/19 18:31

Calcium	23.8	mg/L	1.0	95	90	110
Magnesium	22.9	mg/L	1.0	92	90	110
Potassium	25.9	mg/L	1.0	103	90	110
Sodium	26.3	mg/L	1.0	105	90	110

Batch: R145339

4 Method Blank Run: ICP2-HE_190624C 06/24/19 13:53

Calcium	ND	mg/L	0.07			
Magnesium	ND	mg/L	0.01			
Potassium	ND	mg/L	0.06			
Sodium	ND	mg/L	0.02			

4 Laboratory Fortified Blank Run: ICP2-HE_190624C 06/24/19 13:57

Calcium	50.2	mg/L	1.0	100	85	115
Magnesium	49.9	mg/L	1.0	100	85	115
Potassium	51.9	mg/L	1.0	104	85	115
Sodium	52.4	mg/L	1.0	105	85	115

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--	--	--	--	--	--	--	--	--	--

Batch: R145339

4 Sample Matrix Spike

Run: ICP2-HE_190624C

06/24/19 18:27

Calcium	64.9	mg/L	1.0	96	70	130
Magnesium	51.1	mg/L	1.0	95	70	130
Potassium	55.6	mg/L	1.0	108	70	130
Sodium	57.6	mg/L	1.0	110	70	130

4 Sample Matrix Spike Duplicate

Run: ICP2-HE_190624C

06/24/19 18:38

Calcium	64.5	mg/L	1.0	95	70	130	0.6	20
Magnesium	50.9	mg/L	1.0	94	70	130	0.4	20
Potassium	55.3	mg/L	1.0	108	70	130	0.5	20
Sodium	57.4	mg/L	1.0	110	70	130	0.3	20

4 Sample Matrix Spike

Run: ICP2-HE_190624C

06/24/19 19:29

Calcium	98.1	mg/L	1.0	97	70	130
Magnesium	70.2	mg/L	1.0	99	70	130
Potassium	53.3	mg/L	1.0	105	70	130
Sodium	55.2	mg/L	1.0	106	70	130

4 Sample Matrix Spike Duplicate

Run: ICP2-HE_190624C

06/24/19 19:33

Calcium	96.8	mg/L	1.0	94	70	130	1.4	20
Magnesium	69.1	mg/L	1.0	97	70	130	1.5	20
Potassium	54.6	mg/L	1.0	107	70	130	2.4	20
Sodium	56.6	mg/L	1.0	109	70	130	2.6	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--

Analytical Run: ICP2-HE_190626A

4 Initial Calibration Verification Standard 06/26/19 08:17

Aluminum	4.03	mg/L	0.10	101	95	105
Magnesium	39.6	mg/L	1.0	99	95	105
Potassium	39.8	mg/L	1.0	100	95	105
Sodium	40.1	mg/L	1.0	100	95	105

4 Continuing Calibration Verification Standard 06/26/19 08:21

Aluminum	2.47	mg/L	0.10	99	95	105
Magnesium	24.5	mg/L	1.0	98	95	105
Potassium	25.5	mg/L	1.0	102	95	105
Sodium	25.6	mg/L	1.0	103	95	105

4 Interference Check Sample A 06/26/19 08:32

Aluminum	536	mg/L	0.10	107	80	120
Magnesium	524	mg/L	1.0	105	80	120
Potassium	-0.0110	mg/L	1.0		0	0
Sodium	0.0202	mg/L	1.0		0	0

4 Interference Check Sample AB 06/26/19 08:36

Aluminum	540	mg/L	0.10	108	80	120
Magnesium	522	mg/L	1.0	104	80	120
Potassium	20.9	mg/L	1.0	105	80	120
Sodium	21.0	mg/L	1.0	105	80	120

4 Continuing Calibration Verification Standard 06/26/19 09:55

Aluminum	2.50	mg/L	0.10	100	90	110
Magnesium	24.4	mg/L	1.0	98	90	110
Potassium	24.3	mg/L	1.0	97	90	110
Sodium	24.2	mg/L	1.0	97	90	110

Batch: 46290

4 Method Blank Run: ICP2-HE_190626A 06/26/19 10:10

Aluminum	ND	mg/L	0.004			
Magnesium	ND	mg/L	0.009			
Potassium	ND	mg/L	0.06			
Sodium	ND	mg/L	0.03			

4 Laboratory Control Sample Run: ICP2-HE_190626A 06/26/19 10:14

Aluminum	2.31	mg/L	0.030	92	85	115
Magnesium	23.8	mg/L	1.0	95	85	115
Potassium	26.7	mg/L	1.0	107	85	115
Sodium	26.8	mg/L	1.0	107	85	115

4 Sample Matrix Spike Run: ICP2-HE_190626A 06/26/19 10:30

Aluminum	3.71	mg/L	0.030	97	70	130
Magnesium	26.4	mg/L	1.0	95	70	130
Potassium	26.8	mg/L	1.0	104	70	130
Sodium	27.3	mg/L	1.0	103	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

Batch: 46290

4 Sample Matrix Spike Duplicate

Run: ICP2-HE_190626A

06/26/19 10:34

Aluminum	3.73	mg/L	0.030	98	70	130	0.5	20
Magnesium	26.4	mg/L	1.0	95	70	130	0.0	20
Potassium	27.2	mg/L	1.0	106	70	130	1.8	20
Sodium	28.0	mg/L	1.0	106	70	130	2.5	20

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--

Analytical Run: ICPMS205-H_190621C

20 Initial Calibration Verification Standard

06/21/19 21:19

Aluminum	0.303	mg/L	0.10	101	90	110
Antimony	0.0599	mg/L	0.050	100	90	110
Arsenic	0.0588	mg/L	0.0050	98	90	110
Barium	0.0605	mg/L	0.10	101	90	110
Beryllium	0.0305	mg/L	0.0010	102	90	110
Cadmium	0.0304	mg/L	0.0010	101	90	110
Chromium	0.0603	mg/L	0.010	101	90	110
Cobalt	0.0611	mg/L	0.010	102	90	110
Copper	0.0606	mg/L	0.010	101	90	110
Iron	0.300	mg/L	0.020	100	90	110
Lead	0.0592	mg/L	0.010	99	90	110
Manganese	0.302	mg/L	0.010	101	90	110
Molybdenum	0.0602	mg/L	0.0050	100	90	110
Nickel	0.0603	mg/L	0.010	101	90	110
Selenium	0.0618	mg/L	0.0050	103	90	110
Silver	0.0304	mg/L	0.0050	101	90	110
Strontium	0.0600	mg/L	0.10	100	90	110
Thallium	0.0589	mg/L	0.10	98	90	110
Uranium	0.0580	mg/L	0.00030	97	90	110
Zinc	0.0615	mg/L	0.010	102	90	110

20 Interference Check Sample A

06/21/19 21:21

Aluminum	44.7	mg/L	0.10	112	70	130
Antimony	0.000467	mg/L	0.050			
Arsenic	3.20E-05	mg/L	0.0050			
Barium	0.000170	mg/L	0.10			
Beryllium	3.37E-05	mg/L	0.0010			
Cadmium	0.000158	mg/L	0.0010			
Chromium	0.000222	mg/L	0.010			
Cobalt	0.000298	mg/L	0.010			
Copper	4.63E-05	mg/L	0.010			
Iron	106	mg/L	0.020	106	70	130
Lead	9.74E-05	mg/L	0.010			
Manganese	0.000316	mg/L	0.010			
Molybdenum	0.876	mg/L	0.0050	109	70	130
Nickel	0.000261	mg/L	0.010			
Selenium	7.18E-05	mg/L	0.0050			
Silver	3.30E-05	mg/L	0.0050			
Strontium	0.00101	mg/L	0.10			
Thallium	4.85E-05	mg/L	0.10			
Uranium	2.18E-05	mg/L	0.00030			
Zinc	0.000269	mg/L	0.010			

20 Interference Check Sample AB

06/21/19 21:23

Aluminum	44.5	mg/L	0.10	111	70	130
Antimony	0.000283	mg/L	0.050		0	0

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--

Analytical Run: ICPMS205-H_190621C

20 Interference Check Sample AB

06/21/19 21:23

Arsenic	0.0105	mg/L	0.0050	105	70	130
Barium	0.000186	mg/L	0.10		0	0
Beryllium	-4.75E-06	mg/L	0.0010		0	0
Cadmium	0.0102	mg/L	0.0010	102	70	130
Chromium	0.0206	mg/L	0.010	103	70	130
Cobalt	0.0208	mg/L	0.010	104	70	130
Copper	0.0201	mg/L	0.010	101	70	130
Iron	106	mg/L	0.020	106	70	130
Lead	9.31E-05	mg/L	0.010		0	0
Manganese	0.0210	mg/L	0.010	105	70	130
Molybdenum	0.881	mg/L	0.0050	110	70	130
Nickel	0.0206	mg/L	0.010	103	70	130
Selenium	0.0100	mg/L	0.0050	100	70	130
Silver	0.00510	mg/L	0.0050	102	70	130
Strontium	0.00100	mg/L	0.10		0	0
Thallium	3.03E-05	mg/L	0.10		0	0
Uranium	4.00E-06	mg/L	0.00030		0	0
Zinc	0.0103	mg/L	0.010	103	70	130

Batch: R145294

20 Method Blank

Run: ICPMS205-H_190621C

06/21/19 21:33

Aluminum	ND	mg/L	0.003			
Antimony	ND	mg/L	9E-05			
Arsenic	ND	mg/L	4E-05			
Barium	ND	mg/L	2E-05			
Beryllium	ND	mg/L	0.0001			
Cadmium	ND	mg/L	3E-05			
Chromium	ND	mg/L	0.0002			
Cobalt	ND	mg/L	9E-05			
Copper	ND	mg/L	0.0001			
Iron	ND	mg/L	0.002			
Lead	5E-05	mg/L	3E-05			
Manganese	ND	mg/L	0.0003			
Molybdenum	ND	mg/L	2E-05			
Nickel	ND	mg/L	0.0002			
Selenium	ND	mg/L	2E-05			
Silver	ND	mg/L	2E-05			
Strontium	ND	mg/L	0.0001			
Thallium	ND	mg/L	1E-05			
Uranium	ND	mg/L	1E-05			
Zinc	ND	mg/L	0.0003			

20 Laboratory Fortified Blank

Run: ICPMS205-H_190621C

06/21/19 21:35

Aluminum	0.0506	mg/L	0.10	101	85	115
Antimony	0.0495	mg/L	0.050	99	85	115
Arsenic	0.0492	mg/L	0.0050	98	85	115

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

Batch: R145294

20 Laboratory Fortified Blank

Run: ICPMS205-H_190621C

06/21/19 21:35

Barium	0.0493	mg/L	0.10	99	85	115
Beryllium	0.0475	mg/L	0.0010	95	85	115
Cadmium	0.0491	mg/L	0.0010	98	85	115
Chromium	0.0486	mg/L	0.010	97	85	115
Cobalt	0.0491	mg/L	0.010	98	85	115
Copper	0.0494	mg/L	0.010	99	85	115
Iron	0.146	mg/L	0.020	97	85	115
Lead	0.0476	mg/L	0.010	95	85	115
Manganese	0.0485	mg/L	0.010	97	85	115
Molybdenum	0.0486	mg/L	0.0050	97	85	115
Nickel	0.0491	mg/L	0.010	98	85	115
Selenium	0.0498	mg/L	0.0050	100	85	115
Silver	0.0196	mg/L	0.0050	98	85	115
Strontium	0.0491	mg/L	0.10	98	85	115
Thallium	0.0474	mg/L	0.10	95	85	115
Uranium	0.0473	mg/L	0.00030	95	85	115
Zinc	0.0500	mg/L	0.010	100	85	115

20 Sample Matrix Spike

Run: ICPMS205-H_190621C

06/22/19 01:12

Aluminum	0.127	mg/L	0.030	103	70	130
Antimony	0.0500	mg/L	0.0010	100	70	130
Arsenic	0.0522	mg/L	0.0010	98	70	130
Barium	0.0713	mg/L	0.050	101	70	130
Beryllium	0.0499	mg/L	0.0010	100	70	130
Cadmium	0.0504	mg/L	0.0010	101	70	130
Chromium	0.0483	mg/L	0.0050	97	70	130
Cobalt	0.0490	mg/L	0.0050	98	70	130
Copper	0.0505	mg/L	0.0050	99	70	130
Iron	0.202	mg/L	0.020	94	70	130
Lead	0.0478	mg/L	0.0010	95	70	130
Manganese	0.0534	mg/L	0.0010	97	70	130
Molybdenum	0.0496	mg/L	0.0010	98	70	130
Nickel	0.0496	mg/L	0.0050	98	70	130
Selenium	0.0523	mg/L	0.0010	104	70	130
Silver	0.0154	mg/L	0.0010	77	70	130
Strontium	0.172	mg/L	0.010	96	70	130
Thallium	0.0476	mg/L	0.00050	95	70	130
Uranium	0.0483	mg/L	0.00030	96	70	130
Zinc	0.0509	mg/L	0.010	101	70	130

20 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190621C

06/22/19 01:14

Aluminum	0.125	mg/L	0.030	98	70	130	1.8	20
Antimony	0.0509	mg/L	0.0010	101	70	130	1.8	20
Arsenic	0.0524	mg/L	0.0010	99	70	130	0.4	20
Barium	0.0715	mg/L	0.050	101	70	130	0.3	20
Beryllium	0.0504	mg/L	0.0010	101	70	130	1.0	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--

Batch: R145294

20 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190621C

06/22/19 01:14

Cadmium	0.0507	mg/L	0.0010	101	70	130	0.6	20
Chromium	0.0487	mg/L	0.0050	97	70	130	0.8	20
Cobalt	0.0493	mg/L	0.0050	99	70	130	0.6	20
Copper	0.0507	mg/L	0.0050	100	70	130	0.4	20
Iron	0.204	mg/L	0.020	95	70	130	0.9	20
Lead	0.0482	mg/L	0.0010	96	70	130	0.9	20
Manganese	0.0535	mg/L	0.0010	97	70	130	0.1	20
Molybdenum	0.0500	mg/L	0.0010	99	70	130	0.7	20
Nickel	0.0498	mg/L	0.0050	99	70	130	0.2	20
Selenium	0.0526	mg/L	0.0010	105	70	130	0.6	20
Silver	0.0164	mg/L	0.0010	82	70	130	6.4	20
Strontium	0.172	mg/L	0.010	96	70	130	0.1	20
Thallium	0.0479	mg/L	0.00050	96	70	130	0.6	20
Uranium	0.0485	mg/L	0.00030	96	70	130	0.6	20
Zinc	0.0513	mg/L	0.010	101	70	130	0.7	20

20 Sample Matrix Spike

Run: ICPMS205-H_190621C

06/22/19 01:37

Aluminum	1.02	mg/L	0.030		70	130		AE
Antimony	0.0485	mg/L	0.0010	97	70	130		
Arsenic	0.0512	mg/L	0.0010	99	70	130		
Barium	0.274	mg/L	0.050		70	130		A
Beryllium	0.0492	mg/L	0.0010	98	70	130		
Cadmium	0.0501	mg/L	0.0010	100	70	130		
Chromium	0.0498	mg/L	0.0050	97	70	130		
Cobalt	0.0494	mg/L	0.0050	99	70	130		
Copper	0.0528	mg/L	0.0050	99	70	130		
Iron	0.570	mg/L	0.020	79	70	130		
Lead	0.0477	mg/L	0.0010	95	70	130		
Manganese	0.0511	mg/L	0.0010	97	70	130		
Molybdenum	0.0485	mg/L	0.0010	97	70	130		
Nickel	0.0508	mg/L	0.0050	98	70	130		
Selenium	0.0530	mg/L	0.0010	106	70	130		
Silver	0.0151	mg/L	0.0010	75	70	130		
Strontium	0.104	mg/L	0.010	99	70	130		
Thallium	0.0474	mg/L	0.00050	95	70	130		
Uranium	0.0476	mg/L	0.00030	95	70	130		
Zinc	0.0522	mg/L	0.010	101	70	130		

20 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190621C

06/22/19 01:39

Aluminum	1.03	mg/L	0.030		70	130	1.1	20	AE
Antimony	0.0497	mg/L	0.0010	99	70	130	2.5	20	
Arsenic	0.0516	mg/L	0.0010	100	70	130	0.7	20	
Barium	0.278	mg/L	0.050		70	130	1.5	20	A
Beryllium	0.0504	mg/L	0.0010	101	70	130	2.4	20	
Cadmium	0.0515	mg/L	0.0010	103	70	130	2.7	20	
Chromium	0.0502	mg/L	0.0050	98	70	130	0.8	20	

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--

Batch: R145294

20 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190621C

06/22/19 01:39

Cobalt	0.0500	mg/L	0.0050	100	70	130	1.2	20
Copper	0.0535	mg/L	0.0050	101	70	130	1.2	20
Iron	0.572	mg/L	0.020	80	70	130	0.2	20
Lead	0.0489	mg/L	0.0010	97	70	130	2.5	20
Manganese	0.0522	mg/L	0.0010	99	70	130	2.1	20
Molybdenum	0.0499	mg/L	0.0010	100	70	130	2.8	20
Nickel	0.0518	mg/L	0.0050	100	70	130	2.0	20
Selenium	0.0533	mg/L	0.0010	106	70	130	0.5	20
Silver	0.0173	mg/L	0.0010	86	70	130	13	20
Strontium	0.104	mg/L	0.010	99	70	130	0.1	20
Thallium	0.0488	mg/L	0.00050	98	70	130	3.0	20
Uranium	0.0485	mg/L	0.00030	97	70	130	1.9	20
Zinc	0.0532	mg/L	0.010	103	70	130	2.0	20

20 Sample Matrix Spike

Run: ICPMS205-H_190621C

06/22/19 02:06

Aluminum	0.0642	mg/L	0.030	99	70	130		
Antimony	0.0497	mg/L	0.0010	99	70	130		
Arsenic	0.0509	mg/L	0.0010	101	70	130		
Barium	0.143	mg/L	0.050	91	70	130		
Beryllium	0.0493	mg/L	0.0010	99	70	130		
Cadmium	0.0507	mg/L	0.0010	101	70	130		
Chromium	0.0496	mg/L	0.0050	99	70	130		
Cobalt	0.0499	mg/L	0.0050	100	70	130		
Copper	0.0504	mg/L	0.0050	100	70	130		
Iron	0.171	mg/L	0.020	97	70	130		
Lead	0.0488	mg/L	0.0010	97	70	130		
Manganese	0.0581	mg/L	0.0010	98	70	130		
Molybdenum	0.0497	mg/L	0.0010	99	70	130		
Nickel	0.0499	mg/L	0.0050	99	70	130		
Selenium	0.0541	mg/L	0.0010	108	70	130		
Silver	0.0152	mg/L	0.0010	76	70	130		
Strontium	0.172	mg/L	0.010	89	70	130		
Thallium	0.0491	mg/L	0.00050	98	70	130		
Uranium	0.0492	mg/L	0.00030	98	70	130		
Zinc	0.0515	mg/L	0.010	102	70	130		

20 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190621C

06/22/19 02:08

Aluminum	0.0632	mg/L	0.030	97	70	130	1.6	20
Antimony	0.0496	mg/L	0.0010	99	70	130	0.3	20
Arsenic	0.0508	mg/L	0.0010	100	70	130	0.2	20
Barium	0.142	mg/L	0.050	89	70	130	0.6	20
Beryllium	0.0497	mg/L	0.0010	99	70	130	0.7	20
Cadmium	0.0505	mg/L	0.0010	101	70	130	0.3	20
Chromium	0.0494	mg/L	0.0050	99	70	130	0.3	20
Cobalt	0.0497	mg/L	0.0050	99	70	130	0.4	20
Copper	0.0501	mg/L	0.0050	99	70	130	0.6	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

Batch: R145294

20 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190621C

06/22/19 02:08

Iron	0.170	mg/L	0.020	97	70	130	0.6	20	
Lead	0.0484	mg/L	0.0010	97	70	130	0.8	20	
Manganese	0.0579	mg/L	0.0010	97	70	130	0.4	20	
Molybdenum	0.0495	mg/L	0.0010	99	70	130	0.5	20	
Nickel	0.0498	mg/L	0.0050	99	70	130	0.1	20	
Selenium	0.0547	mg/L	0.0010	109	70	130	1.1	20	
Silver	0.0137	mg/L	0.0010	68	70	130	10	20	S
Strontium	0.170	mg/L	0.010	86	70	130	0.8	20	
Thallium	0.0486	mg/L	0.00050	97	70	130	0.9	20	
Uranium	0.0490	mg/L	0.00030	97	70	130	0.5	20	
Zinc	0.0506	mg/L	0.010	100	70	130	1.9	20	

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

Analytical Run: ICPMS205-H_190625A

20 Initial Calibration Verification Standard

06/25/19 12:18

Antimony	0.0572	mg/L	0.050	95	90	110
Arsenic	0.0582	mg/L	0.0050	97	90	110
Barium	0.0584	mg/L	0.10	97	90	110
Beryllium	0.0295	mg/L	0.0010	98	90	110
Cadmium	0.0294	mg/L	0.0010	98	90	110
Calcium	2.95	mg/L	0.50	98	90	110
Chromium	0.0592	mg/L	0.010	99	90	110
Cobalt	0.0588	mg/L	0.010	98	90	110
Copper	0.0581	mg/L	0.010	97	90	110
Iron	0.292	mg/L	0.020	97	90	110
Lead	0.0585	mg/L	0.010	97	90	110
Manganese	0.297	mg/L	0.010	99	90	110
Molybdenum	0.0579	mg/L	0.0050	96	90	110
Nickel	0.0586	mg/L	0.010	98	90	110
Selenium	0.0590	mg/L	0.0050	98	90	110
Silver	0.0290	mg/L	0.0050	97	90	110
Strontium	0.0586	mg/L	0.10	98	90	110
Thallium	0.0577	mg/L	0.10	96	90	110
Uranium	0.0568	mg/L	0.00030	95	90	110
Zinc	0.0607	mg/L	0.010	101	90	110

20 Interference Check Sample A

06/25/19 12:20

Antimony	0.000405	mg/L	0.050			
Arsenic	4.11E-05	mg/L	0.0050			
Barium	0.000211	mg/L	0.10			
Beryllium	1.04E-05	mg/L	0.0010			
Cadmium	0.000186	mg/L	0.0010			
Calcium	127	mg/L	0.50	106	70	130
Chromium	0.000279	mg/L	0.010			
Cobalt	0.000331	mg/L	0.010			
Copper	5.68E-05	mg/L	0.010			
Iron	109	mg/L	0.020	109	70	130
Lead	0.000166	mg/L	0.010			
Manganese	0.000362	mg/L	0.010			
Molybdenum	0.884	mg/L	0.0050	111	70	130
Nickel	0.000245	mg/L	0.010			
Selenium	9.16E-05	mg/L	0.0050			
Silver	3.10E-05	mg/L	0.0050			
Strontium	0.00107	mg/L	0.10			
Thallium	6.47E-05	mg/L	0.10			
Uranium	3.61E-05	mg/L	0.00030			
Zinc	0.000231	mg/L	0.010			

20 Interference Check Sample AB

06/25/19 12:23

Antimony	0.000221	mg/L	0.050		0	0
Arsenic	0.0106	mg/L	0.0050	106	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--

Analytical Run: ICPMS205-H_190625A

20 Interference Check Sample AB

06/25/19 12:23

Barium	0.000176	mg/L	0.10	0	0
Beryllium	-1.62E-06	mg/L	0.0010	0	0
Cadmium	0.0103	mg/L	0.0010	103	70 130
Calcium	128	mg/L	0.50	107	70 130
Chromium	0.0207	mg/L	0.010	104	70 130
Cobalt	0.0205	mg/L	0.010	102	70 130
Copper	0.0200	mg/L	0.010	100	70 130
Iron	110	mg/L	0.020	110	70 130
Lead	0.000156	mg/L	0.010		0 0
Manganese	0.0210	mg/L	0.010	105	70 130
Molybdenum	0.884	mg/L	0.0050	111	70 130
Nickel	0.0204	mg/L	0.010	102	70 130
Selenium	0.00972	mg/L	0.0050	97	70 130
Silver	0.00506	mg/L	0.0050	101	70 130
Strontium	0.00102	mg/L	0.10		0 0
Thallium	2.96E-05	mg/L	0.10		0 0
Uranium	6.14E-06	mg/L	0.00030		0 0
Zinc	0.0106	mg/L	0.010	106	70 130

Batch: 46290

20 Method Blank

Run: ICPMS205-H_190625A

06/25/19 17:53

Antimony	ND	mg/L	0.0001
Arsenic	ND	mg/L	4E-05
Barium	ND	mg/L	9E-05
Beryllium	ND	mg/L	6E-05
Cadmium	ND	mg/L	3E-05
Calcium	ND	mg/L	0.3
Chromium	0.0002	mg/L	0.0001
Cobalt	ND	mg/L	6E-05
Copper	ND	mg/L	0.0002
Iron	ND	mg/L	0.004
Lead	ND	mg/L	4E-05
Manganese	ND	mg/L	0.0003
Molybdenum	ND	mg/L	2E-05
Nickel	ND	mg/L	0.0001
Selenium	ND	mg/L	5E-05
Silver	ND	mg/L	9E-06
Strontium	ND	mg/L	0.0003
Thallium	ND	mg/L	4E-05
Uranium	ND	mg/L	9E-06
Zinc	0.002	mg/L	0.001

20 Laboratory Control Sample

Run: ICPMS205-H_190625A

06/25/19 18:09

Antimony	0.511	mg/L	0.0010	102	85	115
Arsenic	0.464	mg/L	0.0010	93	85	115
Barium	0.475	mg/L	0.050	95	85	115

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

Batch: 46290

20 Laboratory Control Sample

Run: ICPMS205-H_190625A

06/25/19 18:09

Beryllium	0.227	mg/L	0.0010	91	85	115
Cadmium	0.235	mg/L	0.0010	94	85	115
Calcium	24.6	mg/L	1.0	98	85	115
Chromium	0.524	mg/L	0.0050	105	85	115
Cobalt	0.493	mg/L	0.0050	99	85	115
Copper	0.476	mg/L	0.0050	95	85	115
Iron	2.51	mg/L	0.020	101	85	115
Lead	0.472	mg/L	0.0010	94	85	115
Manganese	2.63	mg/L	0.0010	105	85	115
Molybdenum	0.508	mg/L	0.0010	102	85	115
Nickel	0.462	mg/L	0.0050	93	85	115
Selenium	0.460	mg/L	0.0010	92	85	115
Silver	0.0445	mg/L	0.0010	89	85	115
Strontium	0.512	mg/L	0.010	102	85	115
Thallium	0.471	mg/L	0.00050	94	85	115
Uranium	0.473	mg/L	0.00030	95	85	115
Zinc	0.469	mg/L	0.010	94	85	115

20 Sample Matrix Spike

Run: ICPMS205-H_190625A

06/25/19 18:12

Antimony	0.503	mg/L	0.0010	101	70	130
Arsenic	0.462	mg/L	0.0010	92	70	130
Barium	0.777	mg/L	0.050	94	70	130
Beryllium	0.211	mg/L	0.0010	84	70	130
Cadmium	0.234	mg/L	0.0010	94	70	130
Calcium	34.3	mg/L	1.0	87	70	130
Chromium	0.519	mg/L	0.0050	103	70	130
Cobalt	0.487	mg/L	0.0050	97	70	130
Copper	0.473	mg/L	0.0050	94	70	130
Iron	3.26	mg/L	0.020	100	70	130
Lead	0.469	mg/L	0.0010	94	70	130
Manganese	2.58	mg/L	0.0010	103	70	130
Molybdenum	0.501	mg/L	0.0010	100	70	130
Nickel	0.460	mg/L	0.0050	92	70	130
Selenium	0.435	mg/L	0.0010	87	70	130
Silver	0.0444	mg/L	0.0010	89	70	130
Strontium	0.547	mg/L	0.010	101	70	130
Thallium	0.469	mg/L	0.00050	94	70	130
Uranium	0.470	mg/L	0.00030	94	70	130
Zinc	0.474	mg/L	0.010	94	70	130

20 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190625A

06/25/19 18:14

Antimony	0.511	mg/L	0.0010	102	70	130	1.5	20
Arsenic	0.466	mg/L	0.0010	93	70	130	0.8	20
Barium	0.786	mg/L	0.050	95	70	130	1.1	20
Beryllium	0.226	mg/L	0.0010	91	70	130	7.0	20
Cadmium	0.236	mg/L	0.0010	95	70	130	1.1	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--

Batch: 46290

20 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190625A

06/25/19 18:14

Calcium	36.7	mg/L	1.0	96	70	130	6.7	20
Chromium	0.520	mg/L	0.0050	104	70	130	0.3	20
Cobalt	0.489	mg/L	0.0050	98	70	130	0.3	20
Copper	0.476	mg/L	0.0050	95	70	130	0.7	20
Iron	3.30	mg/L	0.020	101	70	130	0.9	20
Lead	0.468	mg/L	0.0010	94	70	130	0.2	20
Manganese	2.60	mg/L	0.0010	104	70	130	0.5	20
Molybdenum	0.508	mg/L	0.0010	101	70	130	1.3	20
Nickel	0.464	mg/L	0.0050	92	70	130	0.9	20
Selenium	0.466	mg/L	0.0010	93	70	130	6.8	20
Silver	0.0449	mg/L	0.0010	90	70	130	1.0	20
Strontium	0.543	mg/L	0.010	101	70	130	0.8	20
Thallium	0.468	mg/L	0.00050	94	70	130	0.3	20
Uranium	0.475	mg/L	0.00030	95	70	130	1.0	20
Zinc	0.475	mg/L	0.010	94	70	130	0.3	20



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--	--	--	--	--	--	--

							Analytical Run: ICPMS205-H_190701B	
		2 Initial Calibration Verification Standard					07/01/19 20:16	
Selenium	0.0613	mg/L	0.0050	102	90	110		
Silver	0.0304	mg/L	0.0050	101	90	110		
		2 Interference Check Sample A					07/01/19 20:18	
Selenium	4.25E-05	mg/L	0.0050					
Silver	2.50E-05	mg/L	0.0050					
		2 Interference Check Sample AB					07/01/19 20:20	
Selenium	0.00956	mg/L	0.0050	96	70	130		
Silver	0.00482	mg/L	0.0050	96	70	130		
							Batch: R145544	
		2 Method Blank			Run: ICPMS205-H_190701B		07/01/19 20:30	
Selenium	ND	mg/L	2E-05					
Silver	ND	mg/L	2E-05					
		2 Laboratory Fortified Blank			Run: ICPMS205-H_190701B		07/01/19 20:33	
Selenium	0.0498	mg/L	0.0050	100	85	115		
Silver	0.0197	mg/L	0.0050	99	85	115		
		2 Sample Matrix Spike			Run: ICPMS205-H_190701B		07/01/19 20:51	
Selenium	0.0504	mg/L	0.0010	100	70	130		
Silver	0.0193	mg/L	0.0010	96	70	130		
		2 Sample Matrix Spike Duplicate			Run: ICPMS205-H_190701B		07/01/19 20:53	
Selenium	0.0512	mg/L	0.0010	102	70	130	1.6	20
Silver	0.0195	mg/L	0.0010	98	70	130	1.3	20
		2 Sample Matrix Spike			Run: ICPMS205-H_190701B		07/01/19 21:21	
Selenium	0.0528	mg/L	0.0010	104	70	130		
Silver	0.0206	mg/L	0.0010	103	70	130		
		2 Sample Matrix Spike Duplicate			Run: ICPMS205-H_190701B		07/01/19 21:23	
Selenium	0.0509	mg/L	0.0010	100	70	130	3.5	20
Silver	0.0191	mg/L	0.0010	96	70	130	7.7	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--

Analytical Run: ICPMS205-H_190702A

4 Initial Calibration Verification Standard 07/02/19 18:41

Aluminum	0.305	mg/L	0.10	102	90	110
Lead	0.0600	mg/L	0.010	100	90	110
Nickel	0.0610	mg/L	0.010	102	90	110
Silver	0.0303	mg/L	0.0050	101	90	110

4 Interference Check Sample A 07/02/19 18:43

Aluminum	43.1	mg/L	0.10	108	70	130
Lead	0.000107	mg/L	0.010			
Nickel	0.000243	mg/L	0.010			
Silver	6.24E-05	mg/L	0.0050			

4 Interference Check Sample AB 07/02/19 18:45

Aluminum	43.3	mg/L	0.10	108	70	130
Lead	8.14E-05	mg/L	0.010		0	0
Nickel	0.0206	mg/L	0.010	103	70	130
Silver	0.00491	mg/L	0.0050	98	70	130

Batch: 46290

20 Method Blank

Run: ICPMS205-H_190702A

07/02/19 14:35

Antimony	ND	mg/L	0.0001			
Arsenic	ND	mg/L	4E-05			
Barium	ND	mg/L	9E-05			
Beryllium	ND	mg/L	6E-05			
Cadmium	ND	mg/L	3E-05			
Calcium	ND	mg/L	0.3			
Chromium	0.0002	mg/L	0.0001			
Cobalt	ND	mg/L	6E-05			
Copper	ND	mg/L	0.0002			
Iron	ND	mg/L	0.004			
Lead	ND	mg/L	4E-05			
Manganese	ND	mg/L	0.0003			
Molybdenum	ND	mg/L	2E-05			
Nickel	ND	mg/L	0.0001			
Selenium	ND	mg/L	5E-05			
Silver	ND	mg/L	9E-06			
Strontium	ND	mg/L	0.0003			
Thallium	ND	mg/L	4E-05			
Uranium	ND	mg/L	9E-06			
Zinc	0.002	mg/L	0.001			

Batch: R145580

3 Method Blank

Run: ICPMS205-H_190702A

07/02/19 12:44

Aluminum	0.007	mg/L	0.003			
Nickel	ND	mg/L	0.0002			
Silver	ND	mg/L	2E-05			

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--	--	--	--	--	--	--

Batch: R145580

	3	Laboratory Fortified Blank			Run: ICPMS205-H_190702A		07/02/19 12:46
Aluminum		0.0566 mg/L	0.10	113	85	115	
Nickel		0.0483 mg/L	0.010	97	85	115	
Silver		0.0183 mg/L	0.0050	92	85	115	
	3	Sample Matrix Spike			Run: ICPMS205-H_190702A		07/02/19 13:21
Aluminum		2.33 mg/L	0.010	93	70	130	
Nickel		0.479 mg/L	0.0010	96	70	130	
Silver		0.0610 mg/L	0.0050	122	70	130	
	3	Sample Matrix Spike Duplicate			Run: ICPMS205-H_190702A		07/02/19 13:23
Aluminum		2.36 mg/L	0.010	94	70	130	1.3 20
Nickel		0.485 mg/L	0.0010	95	70	130	1.2 20
Silver		0.0610 mg/L	0.0050	113	70	130	0.1 20
	3	Sample Matrix Spike			Run: ICPMS205-H_190702A		07/02/19 13:55
Aluminum		0.104 mg/L	0.030	100	70	130	
Nickel		0.0493 mg/L	0.0050	98	70	130	
Silver		0.0207 mg/L	0.0010	103	70	130	
	3	Sample Matrix Spike Duplicate			Run: ICPMS205-H_190702A		07/02/19 13:57
Aluminum		0.102 mg/L	0.030	96	70	130	2.1 20
Nickel		0.0498 mg/L	0.0050	99	70	130	1.1 20
Silver		0.0211 mg/L	0.0010	106	70	130	2.2 20
	3	Sample Matrix Spike			Run: ICPMS205-H_190702A		07/02/19 14:54
Aluminum		0.0699 mg/L	0.030	95	70	130	
Nickel		0.0494 mg/L	0.0050	98	70	130	
Silver		0.0209 mg/L	0.0010	104	70	130	
	3	Sample Matrix Spike Duplicate			Run: ICPMS205-H_190702A		07/02/19 14:56
Aluminum		0.0695 mg/L	0.030	95	70	130	0.5 20
Nickel		0.0492 mg/L	0.0050	97	70	130	0.3 20
Silver		0.0212 mg/L	0.0010	106	70	130	1.6 20
	3	Method Blank			Run: ICPMS205-H_190702A		07/02/19 18:56
Aluminum		ND mg/L	0.003				
Nickel		ND mg/L	0.0002				
Silver		ND mg/L	2E-05				
	3	Laboratory Fortified Blank			Run: ICPMS205-H_190702A		07/02/19 18:58
Aluminum		0.0517 mg/L	0.10	103	85	115	
Nickel		0.0498 mg/L	0.010	100	85	115	
Silver		0.0194 mg/L	0.0050	97	85	115	
	3	Sample Matrix Spike			Run: ICPMS205-H_190702A		07/02/19 19:17
Aluminum		0.104 mg/L	0.030	102	70	130	
Nickel		0.0497 mg/L	0.0050	98	70	130	
Silver		0.0191 mg/L	0.0010	96	70	130	

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

Batch: R145580

3 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190702A

07/02/19 19:19

Aluminum	0.104	mg/L	0.030	98	70	130	0.0	20
Nickel	0.0504	mg/L	0.0050	100	70	130	2.2	20
Silver	0.0195	mg/L	0.0010	97	70	130	6.0	20



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--	--	--	--	--	--	--

							Analytical Run: HGCV203-H_190626A
	Initial Calibration Verification Standard						06/26/19 09:37
Mercury	0.102	ug/L	0.0050	102	90	110	
	Continuing Calibration Verification Standard						06/26/19 09:41
Mercury	0.101	ug/L	0.0050	101	95	105	
	Continuing Calibration Verification Standard						06/26/19 11:06
Mercury	0.101	ug/L	0.0050	101	90	110	
	Continuing Calibration Verification Standard						06/26/19 11:45
Mercury	0.100	ug/L	0.0050	100	90	110	
	Continuing Calibration Verification Standard						06/26/19 12:24
Mercury	0.100	ug/L	0.0050	100	90	110	
							Batch: 46266
	Method Blank				Run: HGCV203-H_190626A		06/26/19 11:19
Mercury	ND	ug/L	0.001				
	Laboratory Control Sample				Run: HGCV203-H_190626A		06/26/19 11:22
Mercury	0.0513	ug/L	0.0050	103	90	110	
	Sample Matrix Spike				Run: HGCV203-H_190626A		06/26/19 11:29
Mercury	0.0540	ug/L	0.0050	103	70	130	
	Sample Matrix Spike Duplicate				Run: HGCV203-H_190626A		06/26/19 11:32
Mercury	0.0519	ug/L	0.0050	99	70	130	3.9 20
	Sample Matrix Spike				Run: HGCV203-H_190626A		06/26/19 12:44
Mercury	0.0553	ug/L	0.0050	103	70	130	
	Sample Matrix Spike Duplicate				Run: HGCV203-H_190626A		06/26/19 12:47
Mercury	0.0527	ug/L	0.0050	98	70	130	4.9 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--	--	--	--	--	--	--	--

								Analytical Run: IC METROHM_190625A
								06/25/19 10:08
2 Initial Calibration Verification Standard								
Chloride	101	mg/L	1.0	101	90	110		
Sulfate	412	mg/L	1.0	103	90	110		
2 Continuing Calibration Verification Standard								06/25/19 10:51
Chloride	51.1	mg/L	1.0	102	90	110		
Sulfate	207	mg/L	1.0	104	90	110		
2 Continuing Calibration Verification Standard								06/25/19 14:29
Chloride	49.8	mg/L	1.0	100	90	110		
Sulfate	202	mg/L	1.0	101	90	110		
2 Continuing Calibration Verification Standard								06/26/19 19:30
Chloride	49.9	mg/L	1.0	100	90	110		
Sulfate	201	mg/L	1.0	101	90	110		
								Batch: R145369
2 Method Blank								Run: IC METROHM_190625A
Chloride	ND	mg/L	0.02					
Sulfate	ND	mg/L	0.08					
2 Laboratory Fortified Blank								Run: IC METROHM_190625A
Chloride	26.0	mg/L	1.0	104	90	110		
Sulfate	110	mg/L	1.0	110	90	110		
2 Sample Matrix Spike								Run: IC METROHM_190625A
Chloride	27.4	mg/L	1.0	103	90	110		
Sulfate	152	mg/L	1.0	104	90	110		
2 Sample Matrix Spike Duplicate								Run: IC METROHM_190625A
Chloride	27.4	mg/L	1.0	103	90	110	0.0	
Sulfate	153	mg/L	1.0	105	90	110	0.6	
2 Sample Matrix Spike								Run: IC METROHM_190625A
Chloride	25.9	mg/L	1.0	100	90	110		
Sulfate	108	mg/L	1.0	102	90	110		
2 Sample Matrix Spike Duplicate								Run: IC METROHM_190625A
Chloride	25.4	mg/L	1.0	98	90	110	1.9	
Sulfate	107	mg/L	1.0	101	90	110	1.4	
2 Sample Matrix Spike								Run: IC METROHM_190625A
Chloride	25.8	mg/L	1.0	98	90	110		
Sulfate	105	mg/L	1.0	101	90	110		
2 Sample Matrix Spike Duplicate								Run: IC METROHM_190625A
Chloride	25.9	mg/L	1.0	98	90	110	0.2	
Sulfate	106	mg/L	1.0	101	90	110	0.5	

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060535

07/08/19

--	--	--	--	--	--	--

							Analytical Run: FIA203-HE_190701B
	Initial Calibration Verification Standard						07/01/19 10:28
Nitrogen, Nitrate+Nitrite as N	0.985	mg/L	0.010	98	90	110	
	Continuing Calibration Verification Standard						07/01/19 13:16
Nitrogen, Nitrate+Nitrite as N	0.502	mg/L	0.010	100	90	110	
	Continuing Calibration Verification Standard						07/01/19 13:33
Nitrogen, Nitrate+Nitrite as N	0.499	mg/L	0.010	100	90	110	
	Continuing Calibration Verification Standard						07/01/19 13:50
Nitrogen, Nitrate+Nitrite as N	0.500	mg/L	0.010	100	90	110	
							Batch: R145540
	Method Blank				Run: FIA203-HE_190701B		07/01/19 10:29
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	0.009				
	Laboratory Fortified Blank				Run: FIA203-HE_190701B		07/01/19 10:30
Nitrogen, Nitrate+Nitrite as N	0.999	mg/L	0.011	100	90	110	
	Sample Matrix Spike				Run: FIA203-HE_190701B		07/01/19 13:37
Nitrogen, Nitrate+Nitrite as N	1.14	mg/L	0.011	99	90	110	
	Sample Matrix Spike Duplicate				Run: FIA203-HE_190701B		07/01/19 13:38
Nitrogen, Nitrate+Nitrite as N	1.14	mg/L	0.011	99	90	110	0.4 10
	Sample Matrix Spike				Run: FIA203-HE_190701B		07/01/19 13:53
Nitrogen, Nitrate+Nitrite as N	1.08	mg/L	0.011	102	90	110	
	Sample Matrix Spike Duplicate				Run: FIA203-HE_190701B		07/01/19 13:55
Nitrogen, Nitrate+Nitrite as N	1.05	mg/L	0.011	99	90	110	3.1 10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Tintina Resources Inc

H19060535

Login completed by: Wanda Johnson

Date Received: 6/21/2019

Reviewed by: BL2000\acarlson

Received by: TLL

Reviewed Date: 7/8/2019

Carrier name: Hand Del

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 checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	°C See Comments		
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"/>

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.

Cooler 1 was received at 0.0C, Cooler 2 at 1.8C, both coolers received on ice. Lids for the 1 liter unpreserved for samples BBC-1906-133 and 134 were switched. wj 6/21/19



PROJ. NO. PROJECT NAME

180419 Tintina Black Bath (Spring)

SAMPLERS: (Signature)

[Signature]

DATE	TIME	COMP	GRAB	SAMPLE NUMBER	NO. OF CON-TAINERS	ANALYSIS										REMARKS			
						Commons UF / RAW	Nutrients UF / H ₂ SO ₄	Diss. Metal F / HNO ₃	CN UF / NaOH	Total Metals UF / HNO ₃	Total Recoverable Metals UF / HNO ₃	BTEX	TPH						
6/6/18/19	1630		X	1313C-1906-108	3	X	X	X											HI9060535
6/19/19	1110																		
	1300																		
	1320																		
	1345																		
	1430																		
	1440																		
	1555																		
	1640																		
6/20/19	1400																		
	1200																		
	1225																		
	1250																		

Relinquished (Signature)	Date / Time	Received by (Signature)	Lab	Remarks	PO #	Shipped via:
[Signature]	6/21/19 0915		Energy Lab	CI=0.0 C2=-1.8	1311 Tintina	Bus FedEx UPS Other Hand delivered

Relinquished (Signature)	Date / Time	Received for Laboratory by (Signature)	Date / Time	Enclosed:
[Signature]		[Signature]	6/21/19 9:15	<input checked="" type="checkbox"/> Parameter sheet w/detection limits <input type="checkbox"/> QA / AC standard mixing instructions <input type="checkbox"/> Cover letter <input type="checkbox"/> Other

Return results & electronic copy to:
QA / QC Dept. at address at top of page

Split Samples:
 Accepted Declined

Signature _____

**TABLE 5. PARAMETERS, METHODS, AND DETECTION LIMITS
FOR GROUNDWATER MONITORING**

Parameter	Analytical Method ⁽¹⁾	Project-Required Detection Limit (mg/L)
Physical Parameters		
TDS ✓	SM 2540C	10
TSS ✓	SM 2540C	10
Common Ions		
Alkalinity ✓	SM 2320B	4
Sulfate ✓	300.0	1
Chloride ✓	300.0/SM 4500CL-B	1
Fluoride ✓	A4500-F C	0.1
Calcium ✓	215.1/200.7	1
Magnesium ✓	242.1/200.7	1
Sodium	273.1/200.7	1
Potassium	258.1/200.7	1
Nutrients		
Nitrate+Nitrite as N	353.2	0.01
Trace Constituents (Dissolved)⁽²⁾		
Aluminum (Al) ✓	200.7/200.8	0.009
Antimony (Sb) ✓	200.7/200.8	0.0005
Arsenic (As) ✓	200.8/SM 3114B	0.001
Barium (Ba) ✓	200.7/200.8	0.003
Beryllium (Be) ✓	200.7/200.8	0.0008
Cadmium (Cd) ✓	200.7/200.8	0.00003
Chromium (Cr) ✓	200.7/200.8	0.01
Cobalt (Co) ✓	200.7/200.8	0.01
Copper (Cu) ✓	200.7/200.8	0.002
Iron (Fe) ✓	200.7/200.8	0.02
Lead (Pb) ✓	200.7/200.8	0.0003
Manganese (Mn) ✓	200.7/200.8	0.005
Mercury (Hg)	245.2/245.1/200.8/SM 3112B	0.000005
Molybdenum (Mo) ✓	200.7/200.8	0.002
Nickel (Ni) ✓	200.7/200.8	0.001
Selenium (Se) ✓	200.7/200.8/SM 3114B	0.0002
Silver (Ag) ✓	200.7/200.8	0.0002
Strontium (Sr) ✓	200.7/200.8	0.0002
Thallium (Tl) ✓	200.7/200.8	0.0002
Uranium ✓	200.7/200.8	0.008
Zinc (Zn) ✓	200.7/200.8	0.002
Field Parameters		
Stream Flow	HF-SOP-37/-44/-46	NA
Water Temperature	HF-SOP-20	0.1 °C
Dissolved Oxygen (DO)	HF-SOP-22	0.1 mg/L
pH	HF-SOP-20	0.1 s.u.
Specific Conductance (SC)	HF-SOP-79	1 µmhos/cm

(1) Analytical methods are from *Standard Methods for the Examination of Water and Wastewater* (SM) or EPA's *Methods for Chemical Analysis of Water and Waste* (1983).

(2) Samples to be analyzed for dissolved constituents will be field-filtered through a 0.45 µm filter.

July 08, 2019

Tintina Resources Inc
PO Box 431
White Sulphur Springs, MT 59645-0431

Work Order: H19060536 Quote ID: H1216

Project Name: 18049 Black Butte Copper (SW)

Energy Laboratories Inc Helena MT received the following 10 samples for Tintina Resources Inc on 6/21/2019 for analysis.

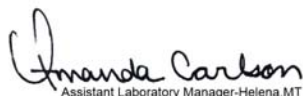
Work Order	Sample ID	Collection Date/Time	Analysis Date	Sample Type	Analysis Parameters
H19060536-001	BBC-1906-103	06/18/19 13:40	06/21/19	Surface Water	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Total Recoverable Fluoride Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Nitrogen, Total Persulfate Metals Digestion by E200.2 Mercury Digestion by E245.1 E365.1 Digestion, Total P Nitrogen, Total Persulfate A4500 N-C Phosphorus, Total Solids, Total Dissolved Solids, Total Suspended
H19060536-002	BBC-1906-109	06/19/19 8:45	06/21/19	Surface Water	Same As Above
H19060536-003	BBC-1906-110	06/19/19 9:30	06/21/19	Surface Water	Same As Above
H19060536-004	BBC-1906-111	06/19/19 10:30	06/21/19	Surface Water	Same As Above
H19060536-005	BBC-1906-122	06/19/19 15:10	06/21/19	Surface Water	Same As Above
H19060536-006	BBC-1906-123	06/19/19 15:25	06/21/19	Surface Water	Same As Above
H19060536-007	BBC-1906-126	06/19/19 18:15	06/21/19	Surface Water	Same As Above
H19060536-008	BBC-1906-127	06/19/19 18:25	06/21/19	Surface Water	Same As Above
H19060536-009	BBC-1906-129	06/20/19 11:15	06/21/19	Surface Water	Same As Above
H19060536-010	BBC-1906-130	06/20/19 11:30	06/21/19	Surface Water	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, 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. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



Assistant Laboratory Manager-Helena, MT

Digitally signed by
Amanda B. Carlson
Date: 2019.07.08 11:26:48 -06:00



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (SW)
H19060536-001
BBC-1906-103

07/08/19
06/18/19 13:40
06/21/19
Surface Water

Solids, Total Suspended TSS @ 105 C	10 mg/L		4	A2540 D	06/24/19 09:17 / cmm
Solids, Total Dissolved TDS @ 180 C	226 mg/L	D	10	A2540 C	06/24/19 09:43 / cmm
Alkalinity, Total as CaCO3	190 mg/L		4	A2320 B	06/26/19 17:57 / RAT
Chloride	ND mg/L		1	E300.0	06/26/19 22:53 / cmm
Sulfate	16 mg/L		1	E300.0	06/26/19 22:53 / cmm
Fluoride	0.1 mg/L		0.1	4 A4500-F C	06/24/19 15:19 / RAT
Hardness as CaCO3	208 mg/L		1	A2340 B	06/25/19 08:39 / sld
Nitrogen, Nitrate+Nitrite as N	0.09 mg/L		0.01	E353.2	07/01/19 13:56 / kmd
Nitrogen, Total	0.26 mg/L		0.04	A4500 N-C	06/24/19 14:39 / kmd
Phosphorus, Total as P	0.030 mg/L		0.003	E365.1	07/01/19 12:09 / kmd
Aluminum	ND mg/L		0.009	E200.8	06/22/19 01:56 / sld
Calcium	50 mg/L		1	E200.7	06/24/19 19:13 / sld
Magnesium	20 mg/L		1	E200.7	06/24/19 19:13 / sld
Potassium	1 mg/L		1	E200.7	06/24/19 19:13 / sld
Sodium	2 mg/L		1	E200.7	06/24/19 19:13 / sld
Antimony	ND mg/L		0.0005	E200.8	07/01/19 19:01 / sld
Arsenic	ND mg/L		0.001	E200.8	07/01/19 19:01 / sld
Barium	0.095 mg/L		0.003	E200.8	07/01/19 19:01 / sld
Beryllium	ND mg/L		0.0008	E200.8	07/01/19 19:01 / sld
Cadmium	ND mg/L		0.00003	E200.8	07/01/19 19:01 / sld
Chromium	ND mg/L		0.01	E200.8	07/01/19 19:01 / sld
Cobalt	ND mg/L		0.01	E200.8	07/01/19 19:01 / sld
Copper	ND mg/L		0.002	E200.8	07/01/19 19:01 / sld
Iron	0.44 mg/L		0.02	E200.8	07/01/19 19:01 / sld
Lead	0.0004 mg/L		0.0003	E200.8	07/01/19 19:01 / sld
Manganese	0.027 mg/L		0.005	E200.8	07/01/19 19:01 / sld
Mercury	ND ug/L		0.005	E245.1	06/26/19 12:34 / ber
Molybdenum	ND mg/L		0.002	E200.8	07/01/19 19:01 / sld
Nickel	ND mg/L		0.001	E200.8	07/01/19 19:01 / sld
Selenium	ND mg/L		0.0002	E200.8	07/01/19 19:01 / sld
Silver	ND mg/L		0.0002	E200.8	07/01/19 19:01 / sld
Strontium	0.178 mg/L	L	0.0003	E200.8	07/01/19 19:01 / sld
Thallium	ND mg/L		0.0002	E200.8	07/01/19 19:01 / sld
Uranium	0.0009 mg/L		0.0002	E200.8	07/01/19 19:01 / sld
Zinc	0.004 mg/L		0.002	E200.8	07/01/19 19:01 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (SW)
H19060536-002
BBC-1906-109

07/08/19
06/19/19 08:45
06/21/19
Surface Water

Solids, Total Suspended TSS @ 105 C	9 mg/L		4	A2540 D	06/24/19 09:18 / cmm
Solids, Total Dissolved TDS @ 180 C	186 mg/L	D	10	A2540 C	06/24/19 09:44 / cmm
Alkalinity, Total as CaCO3	150 mg/L		4	A2320 B	06/26/19 18:23 / RAT
Chloride	1 mg/L		1	E300.0	06/26/19 23:51 / cmm
Sulfate	5 mg/L		1	E300.0	06/26/19 23:51 / cmm
Fluoride	ND mg/L		0.1	4 A4500-F C	06/24/19 15:31 / RAT
Hardness as CaCO3	148 mg/L		1	A2340 B	06/25/19 08:39 / sld
Nitrogen, Nitrate+Nitrite as N	0.01 mg/L		0.01	E353.2	07/01/19 13:57 / kmd
Nitrogen, Total	0.17 mg/L		0.04	A4500 N-C	06/24/19 14:41 / kmd
Phosphorus, Total as P	0.018 mg/L		0.003	E365.1	07/01/19 12:10 / kmd
Aluminum	0.015 mg/L		0.009	E200.8	06/22/19 01:58 / sld
Calcium	42 mg/L		1	E200.7	06/24/19 19:36 / sld
Magnesium	10 mg/L		1	E200.7	06/24/19 19:36 / sld
Potassium	1 mg/L		1	E200.7	06/24/19 19:36 / sld
Sodium	2 mg/L		1	E200.7	06/24/19 19:36 / sld
Antimony	ND mg/L		0.0005	E200.8	07/01/19 19:03 / sld
Arsenic	ND mg/L		0.001	E200.8	07/01/19 19:03 / sld
Barium	0.095 mg/L		0.003	E200.8	07/01/19 19:03 / sld
Beryllium	ND mg/L		0.0008	E200.8	07/01/19 19:03 / sld
Cadmium	ND mg/L		0.00003	E200.8	07/01/19 19:03 / sld
Chromium	ND mg/L		0.01	E200.8	07/01/19 19:03 / sld
Cobalt	ND mg/L		0.01	E200.8	07/01/19 19:03 / sld
Copper	ND mg/L		0.002	E200.8	07/01/19 19:03 / sld
Iron	0.26 mg/L		0.02	E200.8	07/01/19 19:03 / sld
Lead	ND mg/L		0.0003	E200.8	07/01/19 19:03 / sld
Manganese	0.017 mg/L		0.005	E200.8	07/01/19 19:03 / sld
Mercury	ND ug/L		0.005	E245.1	06/26/19 12:37 / ber
Molybdenum	ND mg/L		0.002	E200.8	07/01/19 19:03 / sld
Nickel	ND mg/L		0.001	E200.8	07/01/19 19:03 / sld
Selenium	ND mg/L		0.0002	E200.8	07/01/19 19:03 / sld
Silver	ND mg/L		0.0002	E200.8	07/01/19 19:03 / sld
Strontium	0.124 mg/L	L	0.0003	E200.8	07/01/19 19:03 / sld
Thallium	ND mg/L		0.0002	E200.8	07/01/19 19:03 / sld
Uranium	0.0003 mg/L		0.0002	E200.8	07/01/19 19:03 / sld
Zinc	0.003 mg/L		0.002	E200.8	07/01/19 19:03 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (SW)
H19060536-003
BBC-1906-110

07/08/19
06/19/19 09:30
06/21/19
Surface Water

Solids, Total Suspended TSS @ 105 C	8 mg/L		4	A2540 D	06/24/19 09:18 / cmm
Solids, Total Dissolved TDS @ 180 C	183 mg/L	D	10	A2540 C	06/24/19 09:44 / cmm
Alkalinity, Total as CaCO3	140 mg/L		4	A2320 B	06/26/19 18:30 / RAT
Chloride	1 mg/L		1	E300.0	06/27/19 00:34 / cmm
Sulfate	5 mg/L		1	E300.0	06/27/19 00:34 / cmm
Fluoride	ND mg/L		0.1	4 A4500-F C	06/24/19 15:40 / RAT
Hardness as CaCO3	143 mg/L		1	A2340 B	06/25/19 08:39 / sld
Nitrogen, Nitrate+Nitrite as N	ND mg/L		0.01	E353.2	07/01/19 13:58 / kmd
Nitrogen, Total	0.12 mg/L		0.04	A4500 N-C	06/24/19 14:42 / kmd
Phosphorus, Total as P	0.013 mg/L		0.003	E365.1	07/01/19 12:11 / kmd
Aluminum	0.012 mg/L		0.009	E200.8	06/22/19 02:00 / sld
Calcium	41 mg/L		1	E200.7	06/24/19 19:40 / sld
Magnesium	10 mg/L		1	E200.7	06/24/19 19:40 / sld
Potassium	1 mg/L		1	E200.7	06/24/19 19:40 / sld
Sodium	2 mg/L		1	E200.7	06/24/19 19:40 / sld
Antimony	ND mg/L		0.0005	E200.8	07/01/19 19:05 / sld
Arsenic	ND mg/L		0.001	E200.8	07/01/19 19:05 / sld
Barium	0.078 mg/L		0.003	E200.8	07/01/19 19:05 / sld
Beryllium	ND mg/L		0.0008	E200.8	07/01/19 19:05 / sld
Cadmium	ND mg/L		0.00003	E200.8	07/01/19 19:05 / sld
Chromium	ND mg/L		0.01	E200.8	07/01/19 19:05 / sld
Cobalt	ND mg/L		0.01	E200.8	07/01/19 19:05 / sld
Copper	ND mg/L		0.002	E200.8	07/01/19 19:05 / sld
Iron	0.23 mg/L		0.02	E200.8	07/01/19 19:05 / sld
Lead	ND mg/L		0.0003	E200.8	07/01/19 19:05 / sld
Manganese	0.011 mg/L		0.005	E200.8	07/01/19 19:05 / sld
Mercury	ND ug/L		0.005	E245.1	06/26/19 12:40 / ber
Molybdenum	ND mg/L		0.002	E200.8	07/01/19 19:05 / sld
Nickel	ND mg/L		0.001	E200.8	07/01/19 19:05 / sld
Selenium	ND mg/L		0.0002	E200.8	07/01/19 19:05 / sld
Silver	ND mg/L		0.0002	E200.8	07/01/19 19:05 / sld
Strontium	0.126 mg/L	L	0.0003	E200.8	07/01/19 19:05 / sld
Thallium	ND mg/L		0.0002	E200.8	07/01/19 19:05 / sld
Uranium	0.0003 mg/L		0.0002	E200.8	07/01/19 19:05 / sld
Zinc	0.002 mg/L		0.002	E200.8	07/01/19 19:05 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (SW)
H19060536-004
BBC-1906-111

07/08/19
06/19/19 10:30
06/21/19
Surface Water

Solids, Total Suspended TSS @ 105 C	10 mg/L		4	A2540 D	06/24/19 09:19 / cmm
Solids, Total Dissolved TDS @ 180 C	209 mg/L	D	10	A2540 C	06/24/19 09:44 / cmm
Alkalinity, Total as CaCO3	150 mg/L		4	A2320 B	06/26/19 18:38 / RAT
Chloride	1 mg/L		1	E300.0	06/27/19 00:49 / cmm
Sulfate	5 mg/L		1	E300.0	06/27/19 00:49 / cmm
Fluoride	ND mg/L		0.1	4 A4500-F C	06/24/19 15:48 / RAT
Hardness as CaCO3	158 mg/L		1	A2340 B	06/25/19 08:39 / sld
Nitrogen, Nitrate+Nitrite as N	0.01 mg/L		0.01	E353.2	07/01/19 13:59 / kmd
Nitrogen, Total	0.10 mg/L		0.04	A4500 N-C	06/24/19 14:43 / kmd
Phosphorus, Total as P	0.009 mg/L		0.003	E365.1	07/01/19 12:12 / kmd
Aluminum	ND mg/L		0.009	E200.8	06/22/19 02:02 / sld
Calcium	45 mg/L		1	E200.7	06/24/19 19:44 / sld
Magnesium	11 mg/L		1	E200.7	06/24/19 19:44 / sld
Potassium	1 mg/L		1	E200.7	06/24/19 19:44 / sld
Sodium	2 mg/L		1	E200.7	06/24/19 19:44 / sld
Antimony	ND mg/L		0.0005	E200.8	07/01/19 19:07 / sld
Arsenic	ND mg/L		0.001	E200.8	07/01/19 19:07 / sld
Barium	0.068 mg/L		0.003	E200.8	07/01/19 19:07 / sld
Beryllium	ND mg/L		0.0008	E200.8	07/01/19 19:07 / sld
Cadmium	ND mg/L		0.00003	E200.8	07/01/19 19:07 / sld
Chromium	ND mg/L		0.01	E200.8	07/01/19 19:07 / sld
Cobalt	ND mg/L		0.01	E200.8	07/01/19 19:07 / sld
Copper	ND mg/L		0.002	E200.8	07/01/19 19:07 / sld
Iron	0.16 mg/L		0.02	E200.8	07/01/19 19:07 / sld
Lead	ND mg/L		0.0003	E200.8	07/01/19 19:07 / sld
Manganese	0.008 mg/L		0.005	E200.8	07/01/19 19:07 / sld
Mercury	ND ug/L		0.005	E245.1	06/26/19 12:57 / ber
Molybdenum	ND mg/L		0.002	E200.8	07/01/19 19:07 / sld
Nickel	ND mg/L		0.001	E200.8	07/01/19 19:07 / sld
Selenium	ND mg/L		0.0002	E200.8	07/01/19 19:07 / sld
Silver	ND mg/L		0.0002	E200.8	07/01/19 19:07 / sld
Strontium	0.141 mg/L	L	0.0003	E200.8	07/01/19 19:07 / sld
Thallium	ND mg/L		0.0002	E200.8	07/01/19 19:07 / sld
Uranium	0.0003 mg/L		0.0002	E200.8	07/01/19 19:07 / sld
Zinc	0.002 mg/L		0.002	E200.8	07/01/19 19:07 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (SW)
H19060536-005
BBC-1906-122

07/08/19
06/19/19 15:10
06/21/19
Surface Water

Solids, Total Suspended TSS @ 105 C	6 mg/L		4	A2540 D	06/24/19 09:19 / cmm
Solids, Total Dissolved TDS @ 180 C	314 mg/L	D	10	A2540 C	06/24/19 09:45 / cmm
Alkalinity, Total as CaCO3	190 mg/L		4	A2320 B	06/26/19 18:45 / RAT
Chloride	14 mg/L		1	E300.0	06/27/19 01:03 / cmm
Sulfate	23 mg/L		1	E300.0	06/27/19 01:03 / cmm
Fluoride	0.2 mg/L		0.1	4 A4500-F C	06/24/19 15:52 / RAT
Hardness as CaCO3	234 mg/L		1	A2340 B	06/25/19 08:39 / sld
Nitrogen, Nitrate+Nitrite as N	0.03 mg/L		0.01	E353.2	07/01/19 14:00 / kmd
Nitrogen, Total	0.49 mg/L		0.04	A4500 N-C	06/24/19 12:51 / kmd
Phosphorus, Total as P	0.025 mg/L		0.003	E365.1	07/01/19 12:13 / kmd
Aluminum	ND mg/L		0.009	E200.8	06/22/19 02:04 / sld
Calcium	56 mg/L		1	E200.7	06/24/19 19:48 / sld
Magnesium	23 mg/L		1	E200.7	06/24/19 19:48 / sld
Potassium	1 mg/L		1	E200.7	06/24/19 19:48 / sld
Sodium	3 mg/L		1	E200.7	06/24/19 19:48 / sld
Antimony	ND mg/L		0.0005	E200.8	07/01/19 19:10 / sld
Arsenic	ND mg/L		0.001	E200.8	07/01/19 19:10 / sld
Barium	0.152 mg/L		0.003	E200.8	07/01/19 19:10 / sld
Beryllium	ND mg/L		0.0008	E200.8	07/01/19 19:10 / sld
Cadmium	ND mg/L		0.00003	E200.8	07/01/19 19:10 / sld
Chromium	ND mg/L		0.01	E200.8	07/01/19 19:10 / sld
Cobalt	ND mg/L		0.01	E200.8	07/01/19 19:10 / sld
Copper	ND mg/L		0.002	E200.8	07/01/19 19:10 / sld
Iron	0.31 mg/L		0.02	E200.8	07/01/19 19:10 / sld
Lead	ND mg/L		0.0003	E200.8	07/01/19 19:10 / sld
Manganese	0.032 mg/L		0.005	E200.8	07/01/19 19:10 / sld
Mercury	0.007 ug/L		0.005	E245.1	06/26/19 13:13 / ber
Molybdenum	ND mg/L		0.002	E200.8	07/01/19 19:10 / sld
Nickel	ND mg/L		0.001	E200.8	07/01/19 19:10 / sld
Selenium	ND mg/L		0.0002	E200.8	07/01/19 19:10 / sld
Silver	ND mg/L		0.0002	E200.8	07/01/19 19:10 / sld
Strontium	0.145 mg/L	L	0.0003	E200.8	07/01/19 19:10 / sld
Thallium	ND mg/L		0.0002	E200.8	07/01/19 19:10 / sld
Uranium	0.0008 mg/L		0.0002	E200.8	07/01/19 19:10 / sld
Zinc	0.004 mg/L		0.002	E200.8	07/01/19 19:10 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (SW)
H19060536-006
BBC-1906-123

07/08/19
06/19/19 15:25
06/21/19
Surface Water

Solids, Total Suspended TSS @ 105 C	5 mg/L		4	A2540 D	06/24/19 09:20 / cmm
Solids, Total Dissolved TDS @ 180 C	247 mg/L	D	10	A2540 C	06/24/19 09:45 / cmm
Alkalinity, Total as CaCO3	180 mg/L		4	A2320 B	06/26/19 18:53 / RAT
Chloride	2 mg/L		1	E300.0	06/27/19 01:18 / cmm
Sulfate	17 mg/L		1	E300.0	06/27/19 01:18 / cmm
Fluoride	0.2 mg/L		0.1	4 A4500-F C	06/24/19 15:56 / RAT
Hardness as CaCO3	198 mg/L		1	A2340 B	06/25/19 08:39 / sld
Nitrogen, Nitrate+Nitrite as N	ND mg/L		0.01	E353.2	07/01/19 14:02 / kmd
Nitrogen, Total	0.10 mg/L		0.04	A4500 N-C	06/24/19 12:54 / kmd
Phosphorus, Total as P	0.009 mg/L		0.003	E365.1	07/01/19 12:14 / kmd
Aluminum	ND mg/L		0.009	E200.8	06/22/19 02:19 / sld
Calcium	44 mg/L		1	E200.7	06/24/19 19:52 / sld
Magnesium	21 mg/L		1	E200.7	06/24/19 19:52 / sld
Potassium	ND mg/L		1	E200.7	06/24/19 19:52 / sld
Sodium	2 mg/L		1	E200.7	06/24/19 19:52 / sld
Antimony	ND mg/L		0.0005	E200.8	07/01/19 17:54 / sld
Arsenic	ND mg/L		0.001	E200.8	07/01/19 17:54 / sld
Barium	0.146 mg/L		0.003	E200.8	07/01/19 17:54 / sld
Beryllium	ND mg/L		0.0008	E200.8	07/01/19 17:54 / sld
Cadmium	ND mg/L		0.00003	E200.8	07/01/19 17:54 / sld
Chromium	ND mg/L		0.01	E200.8	07/01/19 17:54 / sld
Cobalt	ND mg/L		0.01	E200.8	07/01/19 17:54 / sld
Copper	ND mg/L		0.002	E200.8	07/01/19 17:54 / sld
Iron	0.07 mg/L		0.02	E200.8	07/01/19 17:54 / sld
Lead	ND mg/L		0.0003	E200.8	07/01/19 17:54 / sld
Manganese	ND mg/L		0.005	E200.8	07/01/19 17:54 / sld
Mercury	ND ug/L		0.005	E245.1	06/26/19 13:16 / ber
Molybdenum	ND mg/L		0.002	E200.8	07/01/19 17:54 / sld
Nickel	ND mg/L		0.001	E200.8	07/01/19 17:54 / sld
Selenium	ND mg/L		0.0002	E200.8	07/01/19 17:54 / sld
Silver	ND mg/L		0.0002	E200.8	07/01/19 17:54 / sld
Strontium	0.110 mg/L	L	0.0003	E200.8	07/01/19 17:54 / sld
Thallium	ND mg/L		0.0002	E200.8	07/01/19 17:54 / sld
Uranium	0.0006 mg/L		0.0002	E200.8	07/01/19 17:54 / sld
Zinc	0.002 mg/L		0.002	E200.8	07/01/19 17:54 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (SW)
H19060536-007
BBC-1906-126

07/08/19
06/19/19 18:15
06/21/19
Surface Water

Solids, Total Suspended TSS @ 105 C	5 mg/L		4	A2540 D	06/24/19 09:21 / cmm
Solids, Total Dissolved TDS @ 180 C	266 mg/L	D	10	A2540 C	06/24/19 09:46 / cmm
Alkalinity, Total as CaCO3	190 mg/L		4	A2320 B	06/26/19 19:01 / RAT
Chloride	4 mg/L		1	E300.0	06/27/19 01:32 / cmm
Sulfate	8 mg/L		1	E300.0	06/27/19 01:32 / cmm
Fluoride	0.1 mg/L		0.1	4 A4500-F C	06/24/19 16:00 / RAT
Hardness as CaCO3	203 mg/L		1	A2340 B	06/25/19 08:39 / sld
Nitrogen, Nitrate+Nitrite as N	0.05 mg/L		0.01	E353.2	07/01/19 14:03 / kmd
Nitrogen, Total	0.20 mg/L		0.04	A4500 N-C	06/24/19 12:56 / kmd
Phosphorus, Total as P	0.011 mg/L		0.003	E365.1	07/01/19 13:31 / kmd
Aluminum	ND mg/L		0.009	E200.8	06/22/19 02:21 / sld
Calcium	53 mg/L		1	E200.7	06/24/19 19:56 / sld
Magnesium	17 mg/L		1	E200.7	06/24/19 19:56 / sld
Potassium	1 mg/L		1	E200.7	06/24/19 19:56 / sld
Sodium	2 mg/L		1	E200.7	06/24/19 19:56 / sld
Antimony	ND mg/L		0.0005	E200.8	07/01/19 17:56 / sld
Arsenic	ND mg/L		0.001	E200.8	07/01/19 17:56 / sld
Barium	0.112 mg/L		0.003	E200.8	07/01/19 17:56 / sld
Beryllium	ND mg/L		0.0008	E200.8	07/01/19 17:56 / sld
Cadmium	ND mg/L		0.00003	E200.8	07/01/19 17:56 / sld
Chromium	ND mg/L		0.01	E200.8	07/01/19 17:56 / sld
Cobalt	ND mg/L		0.01	E200.8	07/01/19 17:56 / sld
Copper	ND mg/L		0.002	E200.8	07/01/19 17:56 / sld
Iron	0.11 mg/L		0.02	E200.8	07/01/19 17:56 / sld
Lead	ND mg/L		0.0003	E200.8	07/01/19 17:56 / sld
Manganese	0.007 mg/L		0.005	E200.8	07/01/19 17:56 / sld
Mercury	ND ug/L		0.005	E245.1	06/26/19 13:20 / ber
Molybdenum	ND mg/L		0.002	E200.8	07/01/19 17:56 / sld
Nickel	ND mg/L		0.001	E200.8	07/01/19 17:56 / sld
Selenium	ND mg/L		0.0002	E200.8	07/01/19 17:56 / sld
Silver	ND mg/L		0.0002	E200.8	07/01/19 17:56 / sld
Strontium	0.127 mg/L	L	0.0003	E200.8	07/01/19 17:56 / sld
Thallium	ND mg/L		0.0002	E200.8	07/01/19 17:56 / sld
Uranium	0.0005 mg/L		0.0002	E200.8	07/01/19 17:56 / sld
Zinc	ND mg/L		0.002	E200.8	07/01/19 17:56 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (SW)
H19060536-008
BBC-1906-127

07/08/19
06/19/19 18:25
06/21/19
Surface Water

Solids, Total Suspended TSS @ 105 C	ND mg/L		4	A2540 D	06/24/19 09:23 / cmm
Solids, Total Dissolved TDS @ 180 C	ND mg/L	D	10	A2540 C	06/24/19 11:33 / cmm
Alkalinity, Total as CaCO3	ND mg/L		4	A2320 B	06/27/19 12:42 / RAT
Chloride	ND mg/L		1	E300.0	06/27/19 01:47 / cmm
Sulfate	ND mg/L		1	E300.0	06/27/19 01:47 / cmm
Fluoride	ND mg/L		0.1	4 A4500-F C	06/24/19 16:04 / RAT
Hardness as CaCO3	ND mg/L		1	A2340 B	06/25/19 08:39 / sld
Nitrogen, Nitrate+Nitrite as N	ND mg/L		0.01	E353.2	07/01/19 14:04 / kmd
Nitrogen, Total	ND mg/L		0.04	A4500 N-C	06/24/19 12:57 / kmd
Phosphorus, Total as P	ND mg/L		0.003	E365.1	07/01/19 13:32 / kmd
Aluminum	ND mg/L		0.009	E200.8	06/22/19 02:23 / sld
Calcium	ND mg/L		1	E200.7	06/24/19 20:00 / sld
Magnesium	ND mg/L		1	E200.7	06/24/19 20:00 / sld
Potassium	ND mg/L		1	E200.7	06/24/19 20:00 / sld
Sodium	ND mg/L		1	E200.7	06/24/19 20:00 / sld
Antimony	ND mg/L		0.0005	E200.8	07/01/19 17:58 / sld
Arsenic	ND mg/L		0.001	E200.8	07/01/19 17:58 / sld
Barium	ND mg/L		0.003	E200.8	07/01/19 17:58 / sld
Beryllium	ND mg/L		0.0008	E200.8	07/01/19 17:58 / sld
Cadmium	ND mg/L		0.00003	E200.8	07/01/19 17:58 / sld
Chromium	ND mg/L		0.01	E200.8	07/01/19 17:58 / sld
Cobalt	ND mg/L		0.01	E200.8	07/01/19 17:58 / sld
Copper	ND mg/L		0.002	E200.8	07/01/19 17:58 / sld
Iron	ND mg/L		0.02	E200.8	07/01/19 17:58 / sld
Lead	ND mg/L		0.0003	E200.8	07/01/19 17:58 / sld
Manganese	ND mg/L		0.005	E200.8	07/01/19 17:58 / sld
Mercury	ND ug/L		0.005	E245.1	06/26/19 13:23 / ber
Molybdenum	ND mg/L		0.002	E200.8	07/01/19 17:58 / sld
Nickel	ND mg/L		0.001	E200.8	07/01/19 17:58 / sld
Selenium	ND mg/L		0.0002	E200.8	07/01/19 17:58 / sld
Silver	ND mg/L		0.0002	E200.8	07/01/19 17:58 / sld
Strontium	ND mg/L	L	0.0003	E200.8	07/01/19 17:58 / sld
Thallium	ND mg/L		0.0002	E200.8	07/01/19 17:58 / sld
Uranium	ND mg/L		0.0002	E200.8	07/01/19 17:58 / sld
Zinc	ND mg/L		0.002	E200.8	07/01/19 17:58 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (SW)
H19060536-009
BBC-1906-129

07/08/19
06/20/19 11:15
06/21/19
Surface Water

Solids, Total Suspended TSS @ 105 C	13 mg/L		4	A2540 D	06/24/19 09:23 / cmm
Solids, Total Dissolved TDS @ 180 C	246 mg/L	D	10	A2540 C	06/24/19 11:34 / cmm
Alkalinity, Total as CaCO3	190 mg/L		4	A2320 B	06/28/19 17:46 / cmm
Chloride	ND mg/L		1	E300.0	06/27/19 02:01 / cmm
Sulfate	10 mg/L		1	E300.0	06/27/19 02:01 / cmm
Fluoride	0.1 mg/L		0.1	4 A4500-F C	06/24/19 16:08 / RAT
Hardness as CaCO3	205 mg/L		1	A2340 B	06/25/19 08:39 / sld
Nitrogen, Nitrate+Nitrite as N	0.03 mg/L		0.01	E353.2	07/01/19 14:05 / kmd
Nitrogen, Total	0.20 mg/L		0.04	A4500 N-C	06/24/19 13:18 / kmd
Phosphorus, Total as P	0.018 mg/L		0.003	E365.1	07/01/19 13:33 / kmd
Aluminum	ND mg/L		0.009	E200.8	06/22/19 02:25 / sld
Calcium	49 mg/L		1	E200.7	06/24/19 20:11 / sld
Magnesium	20 mg/L		1	E200.7	06/24/19 20:11 / sld
Potassium	ND mg/L		1	E200.7	06/24/19 20:11 / sld
Sodium	3 mg/L		1	E200.7	06/24/19 20:11 / sld
Antimony	ND mg/L		0.0005	E200.8	07/01/19 18:00 / sld
Arsenic	ND mg/L		0.001	E200.8	07/01/19 18:00 / sld
Barium	0.110 mg/L		0.003	E200.8	07/01/19 18:00 / sld
Beryllium	ND mg/L		0.0008	E200.8	07/01/19 18:00 / sld
Cadmium	ND mg/L		0.00003	E200.8	07/01/19 18:00 / sld
Chromium	ND mg/L		0.01	E200.8	07/01/19 18:00 / sld
Cobalt	ND mg/L		0.01	E200.8	07/01/19 18:00 / sld
Copper	ND mg/L		0.002	E200.8	07/01/19 18:00 / sld
Iron	0.64 mg/L		0.02	E200.8	07/01/19 18:00 / sld
Lead	0.0003 mg/L		0.0003	E200.8	07/01/19 18:00 / sld
Manganese	0.043 mg/L		0.005	E200.8	07/01/19 18:00 / sld
Mercury	ND ug/L		0.005	E245.1	06/26/19 13:26 / ber
Molybdenum	ND mg/L		0.002	E200.8	07/01/19 18:00 / sld
Nickel	ND mg/L		0.001	E200.8	07/01/19 18:00 / sld
Selenium	ND mg/L		0.0002	E200.8	07/01/19 18:00 / sld
Silver	ND mg/L		0.0002	E200.8	07/01/19 18:00 / sld
Strontium	0.154 mg/L	L	0.0003	E200.8	07/01/19 18:00 / sld
Thallium	ND mg/L		0.0002	E200.8	07/01/19 18:00 / sld
Uranium	0.0006 mg/L		0.0002	E200.8	07/01/19 18:00 / sld
Zinc	0.006 mg/L		0.002	E200.8	07/01/19 18:00 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (SW)
H19060536-010
BBC-1906-130

07/08/19
06/20/19 11:30
06/21/19
Surface Water

Solids, Total Suspended TSS @ 105 C	13 mg/L		4	A2540 D	06/24/19 09:24 / cmm
Solids, Total Dissolved TDS @ 180 C	252 mg/L	D	10	A2540 C	06/24/19 11:34 / cmm
Alkalinity, Total as CaCO3	190 mg/L		4	A2320 B	07/02/19 12:43 / abc
Chloride	ND mg/L		1	E300.0	06/27/19 02:16 / cmm
Sulfate	10 mg/L		1	E300.0	06/27/19 02:16 / cmm
Fluoride	0.1 mg/L		0.1	4 A4500-F C	06/24/19 16:12 / RAT
Hardness as CaCO3	205 mg/L		1	A2340 B	06/25/19 08:39 / sld
Nitrogen, Nitrate+Nitrite as N	0.03 mg/L		0.01	E353.2	07/01/19 14:13 / kmd
Nitrogen, Total	0.19 mg/L		0.04	A4500 N-C	06/24/19 12:59 / kmd
Phosphorus, Total as P	0.025 mg/L		0.003	E365.1	07/01/19 13:36 / kmd
Aluminum	ND mg/L		0.009	E200.8	06/22/19 02:27 / sld
Calcium	49 mg/L		1	E200.7	06/24/19 20:15 / sld
Magnesium	20 mg/L		1	E200.7	06/24/19 20:15 / sld
Potassium	ND mg/L		1	E200.7	06/24/19 20:15 / sld
Sodium	3 mg/L		1	E200.7	06/24/19 20:15 / sld
Antimony	ND mg/L		0.0005	E200.8	07/01/19 18:03 / sld
Arsenic	ND mg/L		0.001	E200.8	07/01/19 18:03 / sld
Barium	0.111 mg/L		0.003	E200.8	07/01/19 18:03 / sld
Beryllium	ND mg/L		0.0008	E200.8	07/01/19 18:03 / sld
Cadmium	ND mg/L		0.00003	E200.8	07/01/19 18:03 / sld
Chromium	ND mg/L		0.01	E200.8	07/01/19 18:03 / sld
Cobalt	ND mg/L		0.01	E200.8	07/01/19 18:03 / sld
Copper	ND mg/L		0.002	E200.8	07/01/19 18:03 / sld
Iron	0.63 mg/L		0.02	E200.8	07/01/19 18:03 / sld
Lead	0.0003 mg/L		0.0003	E200.8	07/01/19 18:03 / sld
Manganese	0.046 mg/L		0.005	E200.8	07/01/19 18:03 / sld
Mercury	ND ug/L		0.005	E245.1	06/26/19 13:30 / ber
Molybdenum	ND mg/L		0.002	E200.8	07/01/19 18:03 / sld
Nickel	ND mg/L		0.001	E200.8	07/01/19 18:03 / sld
Selenium	ND mg/L		0.0002	E200.8	07/01/19 18:03 / sld
Silver	ND mg/L		0.0002	E200.8	07/01/19 18:03 / sld
Strontium	0.156 mg/L	L	0.0003	E200.8	07/01/19 18:03 / sld
Thallium	ND mg/L		0.0002	E200.8	07/01/19 18:03 / sld
Uranium	0.0006 mg/L		0.0002	E200.8	07/01/19 18:03 / sld
Zinc	0.003 mg/L		0.002	E200.8	07/01/19 18:03 / sld

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--	--	--	--	--	--	--	--	--	--

										Batch: R145386
Alkalinity, Total as CaCO3	Method Blank	ND	mg/L	2				Run: PHSC_101-H_190626A		06/26/19 14:37
Alkalinity, Total as CaCO3	Laboratory Control Sample	570	mg/L	4.0	95	90	110	Run: PHSC_101-H_190626A		06/26/19 15:30
Alkalinity, Total as CaCO3	Sample Duplicate	96	mg/L	4.0				Run: PHSC_101-H_190626A	1.4	06/26/19 15:55 10
Alkalinity, Total as CaCO3	Sample Duplicate	190	mg/L	4.0				Run: PHSC_101-H_190626A	1.9	06/26/19 18:06 10
										Batch: R145421
Alkalinity, Total as CaCO3	Method Blank	ND	mg/L	2				Run: PHSC_101-H_190627A		06/27/19 12:07
Alkalinity, Total as CaCO3	Laboratory Control Sample	570	mg/L	4.0	94	90	110	Run: PHSC_101-H_190627A		06/27/19 12:15
Alkalinity, Total as CaCO3	Sample Duplicate	220	mg/L	4.0				Run: PHSC_101-H_190627A	0.6	06/27/19 13:11 10
										Batch: R145458
Alkalinity, Total as CaCO3	Method Blank	ND	mg/L	2				Run: PHSC_101-H_190628A		06/28/19 15:39
Alkalinity, Total as CaCO3	Laboratory Control Sample	550	mg/L	4.0	92	90	110	Run: PHSC_101-H_190628A		06/28/19 15:46
Alkalinity, Total as CaCO3	Sample Duplicate	92	mg/L	4.0				Run: PHSC_101-H_190628A	0.7	06/28/19 16:06 10
Alkalinity, Total as CaCO3	Sample Duplicate	120	mg/L	4.0				Run: PHSC_101-H_190628A	3.0	06/28/19 17:05 10
Alkalinity, Total as CaCO3	Sample Duplicate	200	mg/L	4.0				Run: PHSC_101-H_190628A	3.4	06/28/19 18:12 10
										Batch: R145558
Alkalinity, Total as CaCO3	Laboratory Control Sample	550	mg/L	4.0	92	90	110	Run: PHSC_101-H_190702A		07/02/19 11:41
Alkalinity, Total as CaCO3	Method Blank	ND	mg/L	2				Run: PHSC_101-H_190702A		07/02/19 11:58
Alkalinity, Total as CaCO3	Sample Duplicate	ND	mg/L	4.0				Run: PHSC_101-H_190702A		07/02/19 12:08 10
Alkalinity, Total as CaCO3	Sample Duplicate	38	mg/L	4.0				Run: PHSC_101-H_190702A	2.2	07/02/19 13:11 10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--	--	--	--	--	--	--	--

Batch: TDS190624A

	Laboratory Control Sample				Run: ACCU-124 (14410200)_19062	06/24/19 09:38
Solids, Total Dissolved TDS @ 180 C	2000 mg/L	20	100	90	110	
	Sample Duplicate				Run: ACCU-124 (14410200)_19062	06/24/19 09:38
Solids, Total Dissolved TDS @ 180 C	219 mg/L	10			1.4	5
	Sample Duplicate				Run: ACCU-124 (14410200)_19062	06/24/19 09:42
Solids, Total Dissolved TDS @ 180 C	227 mg/L	10			1.7	5
	Method Blank				Run: ACCU-124 (14410200)_19062	06/24/19 11:30
Solids, Total Dissolved TDS @ 180 C	ND mg/L	10				
	Method Blank				Run: ACCU-124 (14410200)_19062	06/24/19 11:33
Solids, Total Dissolved TDS @ 180 C	ND mg/L	10				
	Laboratory Control Sample				Run: ACCU-124 (14410200)_19062	06/24/19 11:33
Solids, Total Dissolved TDS @ 180 C	2030 mg/L	20	101	90	110	
	Sample Duplicate				Run: ACCU-124 (14410200)_19062	06/24/19 11:33
Solids, Total Dissolved TDS @ 180 C	ND mg/L	10				5

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--	--	--	--	--	--	--	--

Batch: TSS190624A

Solids, Total Suspended TSS @ 105 C	Method Blank	ND	mg/L	0.3				Run: ACCU-124 (14410200)_19062	06/24/19 09:08
Solids, Total Suspended TSS @ 105 C	Laboratory Control Sample	80.0	mg/L	10	80	80	120	Run: ACCU-124 (14410200)_19062	06/24/19 09:09
Solids, Total Suspended TSS @ 105 C	Sample Duplicate	ND	mg/L	10				Run: ACCU-124 (14410200)_19062	06/24/19 09:11 5
Solids, Total Suspended TSS @ 105 C	Sample Duplicate	1.00	mg/L	10				Run: ACCU-124 (14410200)_19062	06/24/19 09:15 5
Solids, Total Suspended TSS @ 105 C	Method Blank	ND	mg/L	0.3				Run: ACCU-124 (14410200)_19062	06/24/19 09:22
Solids, Total Suspended TSS @ 105 C	Laboratory Control Sample	108	mg/L	10	108	80	120	Run: ACCU-124 (14410200)_19062	06/24/19 09:22
Solids, Total Suspended TSS @ 105 C	Sample Duplicate	0.800	mg/L	10				Run: ACCU-124 (14410200)_19062	06/24/19 09:23 5

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--	--	--	--	--	--	--

							Analytical Run: FIA203-HE_190624A	
	Initial Calibration Blank, Instrument Blank						06/24/19 12:04	
Nitrogen, Total	-0.000301	mg/L	0.10	0	0			
	Continuing Calibration Verification Standard						06/24/19 12:45	
Nitrogen, Total	0.505	mg/L	0.10	101	90	110		
	Continuing Calibration Verification Standard						06/24/19 13:05	
Nitrogen, Total	0.504	mg/L	0.10	101	90	110		
	Continuing Calibration Verification Standard						06/24/19 14:27	
Nitrogen, Total	0.509	mg/L	0.10	102	90	110		
							Batch: 46253	
	Laboratory Fortified Blank			Run: FIA203-HE_190624A			06/24/19 14:10	
Nitrogen, Total	0.999	mg/L	0.10	100	90	110		
	Method Blank			Run: FIA203-HE_190624A			06/24/19 14:11	
Nitrogen, Total	ND	mg/L	0.03					
	Laboratory Control Sample			Run: FIA203-HE_190624A			06/24/19 14:12	
Nitrogen, Total	7.64	mg/L	0.30	103	90	110		
	Sample Matrix Spike			Run: FIA203-HE_190624A			06/24/19 14:37	
Nitrogen, Total	0.996	mg/L	0.10	100	90	110		
	Sample Matrix Spike Duplicate			Run: FIA203-HE_190624A			06/24/19 14:38	
Nitrogen, Total	0.953	mg/L	0.10	95	90	110	4.4 20	
							Batch: 46261	
	Laboratory Fortified Blank			Run: FIA203-HE_190624A			06/24/19 12:47	
Nitrogen, Total	0.961	mg/L	0.10	96	90	110		
	Method Blank			Run: FIA203-HE_190624A			06/24/19 12:48	
Nitrogen, Total	ND	mg/L	0.03					
	Laboratory Control Sample			Run: FIA203-HE_190624A			06/24/19 12:50	
Nitrogen, Total	7.46	mg/L	0.30	100	90	110		
	Sample Matrix Spike			Run: FIA203-HE_190624A			06/24/19 12:52	
Nitrogen, Total	1.41	mg/L	0.10	91	90	110		
	Sample Matrix Spike Duplicate			Run: FIA203-HE_190624A			06/24/19 12:53	
Nitrogen, Total	1.36	mg/L	0.10	87	90	110	3.0 20 S	
	Sample Matrix Spike			Run: FIA203-HE_190624A			06/24/19 13:09	
Nitrogen, Total	1.07	mg/L	0.10	93	90	110		
	Sample Matrix Spike Duplicate			Run: FIA203-HE_190624A			06/24/19 13:10	
Nitrogen, Total	1.07	mg/L	0.10	93	90	110	0.1 20	

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--	--	--	--	--	--	--	--

							Analytical Run: MANTECH 2_190624A
Initial Calibration Verification Standard							06/24/19 11:41
Fluoride	0.7	mg/L	0.1	99	90	110	
Continuing Calibration Verification Standard							06/24/19 14:30
Fluoride	0.9	mg/L	0.1	93	90	110	
Continuing Calibration Verification Standard							06/24/19 15:23
Fluoride	0.9	mg/L	0.1	95	90	110	
							Batch: R145348
Method Blank							Run: MANTECH 2_190624A
Fluoride	ND	mg/L	0.03				06/24/19 11:45
Sample Matrix Spike							Run: MANTECH 2_190624A
Fluoride	1.1	mg/L	0.1	100	85	115	06/24/19 15:36
Sample Duplicate							Run: MANTECH 2_190624A
Fluoride	0.1	mg/L	0.1				06/24/19 15:44 10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--

Analytical Run: ICP2-HE_190624C

4 Initial Calibration Verification Standard 06/24/19 13:22

Calcium	39.6	mg/L	1.0	99	95	105
Magnesium	39.3	mg/L	1.0	98	95	105
Potassium	39.9	mg/L	1.0	100	95	105
Sodium	39.9	mg/L	1.0	100	95	105

4 Continuing Calibration Verification Standard 06/24/19 13:26

Calcium	25.2	mg/L	1.0	101	95	105
Magnesium	24.7	mg/L	1.0	99	95	105
Potassium	25.4	mg/L	1.0	102	95	105
Sodium	25.4	mg/L	1.0	102	95	105

4 Interference Check Sample A 06/24/19 13:38

Calcium	454	mg/L	1.0	91	80	120
Magnesium	506	mg/L	1.0	101	80	120
Potassium	0.00209	mg/L	1.0		0	0
Sodium	0.0237	mg/L	1.0		0	0

4 Interference Check Sample AB 06/24/19 13:42

Calcium	471	mg/L	1.0	94	80	120
Magnesium	524	mg/L	1.0	105	80	120
Potassium	21.5	mg/L	1.0	108	80	120
Sodium	21.7	mg/L	1.0	108	80	120

4 Continuing Calibration Verification Standard 06/24/19 18:31

Calcium	23.8	mg/L	1.0	95	90	110
Magnesium	22.9	mg/L	1.0	92	90	110
Potassium	25.9	mg/L	1.0	103	90	110
Sodium	26.3	mg/L	1.0	105	90	110

4 Continuing Calibration Verification Standard 06/24/19 19:17

Calcium	24.3	mg/L	1.0	97	90	110
Magnesium	23.4	mg/L	1.0	94	90	110
Potassium	25.8	mg/L	1.0	103	90	110
Sodium	26.1	mg/L	1.0	105	90	110

4 Continuing Calibration Verification Standard 06/24/19 20:04

Calcium	24.3	mg/L	1.0	97	90	110
Magnesium	23.5	mg/L	1.0	94	90	110
Potassium	24.9	mg/L	1.0	99	90	110
Sodium	25.1	mg/L	1.0	100	90	110

Batch: R145339

4 Method Blank Run: ICP2-HE_190624C 06/24/19 13:53

Calcium	ND	mg/L	0.07			
Magnesium	ND	mg/L	0.01			
Potassium	ND	mg/L	0.06			
Sodium	ND	mg/L	0.02			

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--	--	--	--	--	--	--	--

Batch: R145339

4 Laboratory Fortified Blank

Run: ICP2-HE_190624C

06/24/19 13:57

Calcium	50.2	mg/L	1.0	100	85	115		
Magnesium	49.9	mg/L	1.0	100	85	115		
Potassium	51.9	mg/L	1.0	104	85	115		
Sodium	52.4	mg/L	1.0	105	85	115		

4 Sample Matrix Spike

Run: ICP2-HE_190624C

06/24/19 19:29

Calcium	98.1	mg/L	1.0	97	70	130		
Magnesium	70.2	mg/L	1.0	99	70	130		
Potassium	53.3	mg/L	1.0	105	70	130		
Sodium	55.2	mg/L	1.0	106	70	130		

4 Sample Matrix Spike Duplicate

Run: ICP2-HE_190624C

06/24/19 19:33

Calcium	96.8	mg/L	1.0	94	70	130	1.4	20
Magnesium	69.1	mg/L	1.0	97	70	130	1.5	20
Potassium	54.6	mg/L	1.0	107	70	130	2.4	20
Sodium	56.6	mg/L	1.0	109	70	130	2.6	20

4 Sample Matrix Spike

Run: ICP2-HE_190624C

06/24/19 20:27

Calcium	117	mg/L	1.0	93	70	130		
Magnesium	148	mg/L	1.0	99	70	130		
Potassium	52.7	mg/L	1.0	103	70	130		
Sodium	104	mg/L	1.0	103	70	130		

4 Sample Matrix Spike Duplicate

Run: ICP2-HE_190624C

06/24/19 20:31

Calcium	117	mg/L	1.0	94	70	130	0.3	20
Magnesium	149	mg/L	1.0	102	70	130	0.7	20
Potassium	51.8	mg/L	1.0	101	70	130	1.7	20
Sodium	103	mg/L	1.0	101	70	130	1.1	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--	--	--	--	--	--	--

							Analytical Run: ICPMS205-H_190621C
							06/21/19 21:19
	Initial Calibration Verification Standard						
Aluminum	0.303	mg/L	0.10	101	90	110	
							06/21/19 21:21
	Interference Check Sample A						
Aluminum	44.7	mg/L	0.10	112	70	130	
							06/21/19 21:23
	Interference Check Sample AB						
Aluminum	44.5	mg/L	0.10	111	70	130	
							Batch: R145294
	Method Blank						Run: ICPMS205-H_190621C
Aluminum	ND	mg/L	0.003				06/21/19 21:33
							06/21/19 21:35
	Laboratory Fortified Blank						Run: ICPMS205-H_190621C
Aluminum	0.0506	mg/L	0.10	101	85	115	
							06/22/19 02:06
	Sample Matrix Spike						Run: ICPMS205-H_190621C
Aluminum	0.0642	mg/L	0.030	99	70	130	
							06/22/19 02:08
	Sample Matrix Spike Duplicate						Run: ICPMS205-H_190621C
Aluminum	0.0632	mg/L	0.030	97	70	130	1.6 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

Analytical Run: ICPMS205-H_190701B

19 Initial Calibration Verification Standard

07/01/19 14:08

Antimony	0.0582	mg/L	0.050	97	90	110
Arsenic	0.0598	mg/L	0.0050	100	90	110
Barium	0.0600	mg/L	0.10	100	90	110
Beryllium	0.0296	mg/L	0.0010	99	90	110
Cadmium	0.0304	mg/L	0.0010	101	90	110
Chromium	0.0604	mg/L	0.010	101	90	110
Cobalt	0.0614	mg/L	0.010	102	90	110
Copper	0.0606	mg/L	0.010	101	90	110
Iron	0.305	mg/L	0.020	102	90	110
Lead	0.0596	mg/L	0.010	99	90	110
Manganese	0.303	mg/L	0.010	101	90	110
Molybdenum	0.0599	mg/L	0.0050	100	90	110
Nickel	0.0608	mg/L	0.010	101	90	110
Selenium	0.0610	mg/L	0.0050	102	90	110
Silver	0.0304	mg/L	0.0050	101	90	110
Strontium	0.0600	mg/L	0.10	100	90	110
Thallium	0.0594	mg/L	0.10	99	90	110
Uranium	0.0578	mg/L	0.00030	96	90	110
Zinc	0.0616	mg/L	0.010	103	90	110

19 Interference Check Sample A

07/01/19 14:10

Antimony	0.000343	mg/L	0.050			
Arsenic	2.24E-05	mg/L	0.0050			
Barium	0.000191	mg/L	0.10			
Beryllium	2.58E-05	mg/L	0.0010			
Cadmium	0.000148	mg/L	0.0010			
Chromium	0.000198	mg/L	0.010			
Cobalt	0.000366	mg/L	0.010			
Copper	-4.59E-05	mg/L	0.010			
Iron	101	mg/L	0.020	101	70	130
Lead	9.94E-05	mg/L	0.010			
Manganese	0.000420	mg/L	0.010			
Molybdenum	0.816	mg/L	0.0050	102	70	130
Nickel	0.000247	mg/L	0.010			
Selenium	4.64E-05	mg/L	0.0050			
Silver	2.56E-05	mg/L	0.0050			
Strontium	0.000958	mg/L	0.10			
Thallium	6.03E-05	mg/L	0.10			
Uranium	2.81E-05	mg/L	0.00030			
Zinc	0.000234	mg/L	0.010			

19 Interference Check Sample AB

07/01/19 14:12

Antimony	0.000210	mg/L	0.050		0	0
Arsenic	0.0101	mg/L	0.0050	101	70	130
Barium	0.000161	mg/L	0.10		0	0
Beryllium	8.95E-06	mg/L	0.0010		0	0

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--

Analytical Run: ICPMS205-H_190701B

19 Interference Check Sample AB

07/01/19 14:12

Cadmium	0.00954	mg/L	0.0010	95	70	130
Chromium	0.0203	mg/L	0.010	101	70	130
Cobalt	0.0203	mg/L	0.010	102	70	130
Copper	0.0194	mg/L	0.010	97	70	130
Iron	103	mg/L	0.020	103	70	130
Lead	8.49E-05	mg/L	0.010		0	0
Manganese	0.0204	mg/L	0.010	102	70	130
Molybdenum	0.818	mg/L	0.0050	102	70	130
Nickel	0.0199	mg/L	0.010	100	70	130
Selenium	0.00961	mg/L	0.0050	96	70	130
Silver	0.00477	mg/L	0.0050	95	70	130
Strontium	0.000959	mg/L	0.10		0	0
Thallium	3.85E-05	mg/L	0.10		0	0
Uranium	7.64E-06	mg/L	0.00030		0	0
Zinc	0.00992	mg/L	0.010	99	70	130

Batch: 46255

19 Method Blank

Run: ICPMS205-H_190701B

07/01/19 18:23

Antimony	ND	mg/L	0.0001			
Arsenic	ND	mg/L	4E-05			
Barium	ND	mg/L	9E-05			
Beryllium	ND	mg/L	6E-05			
Cadmium	ND	mg/L	3E-05			
Chromium	ND	mg/L	0.0001			
Cobalt	ND	mg/L	6E-05			
Copper	ND	mg/L	0.0002			
Iron	ND	mg/L	0.004			
Lead	ND	mg/L	4E-05			
Manganese	ND	mg/L	0.0003			
Molybdenum	ND	mg/L	2E-05			
Nickel	ND	mg/L	0.0001			
Selenium	ND	mg/L	5E-05			
Silver	ND	mg/L	9E-06			
Strontium	ND	mg/L	0.0003			
Thallium	ND	mg/L	4E-05			
Uranium	ND	mg/L	9E-06			
Zinc	0.002	mg/L	0.001			

19 Laboratory Control Sample

Run: ICPMS205-H_190701B

07/01/19 18:38

Antimony	0.518	mg/L	0.0010	104	85	115
Arsenic	0.481	mg/L	0.0010	96	85	115
Barium	0.489	mg/L	0.050	98	85	115
Beryllium	0.234	mg/L	0.0010	94	85	115
Cadmium	0.240	mg/L	0.0010	96	85	115
Chromium	0.502	mg/L	0.0050	100	85	115
Cobalt	0.489	mg/L	0.0050	98	85	115

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

Batch: 46255

19 Laboratory Control Sample

Run: ICPMS205-H_190701B

07/01/19 18:38

Copper	0.490	mg/L	0.0050	98	85	115
Iron	2.48	mg/L	0.020	99	85	115
Lead	0.501	mg/L	0.0010	100	85	115
Manganese	2.52	mg/L	0.0010	101	85	115
Molybdenum	0.503	mg/L	0.0010	101	85	115
Nickel	0.480	mg/L	0.0050	96	85	115
Selenium	0.477	mg/L	0.0010	95	85	115
Silver	0.0457	mg/L	0.0010	91	85	115
Strontium	0.508	mg/L	0.010	102	85	115
Thallium	0.488	mg/L	0.00050	98	85	115
Uranium	0.498	mg/L	0.00030	100	85	115
Zinc	0.484	mg/L	0.010	97	85	115

19 Sample Matrix Spike

Run: ICPMS205-H_190701B

07/01/19 18:40

Antimony	0.520	mg/L	0.0010	104	70	130
Arsenic	0.492	mg/L	0.0010	97	70	130
Barium	0.586	mg/L	0.050	101	70	130
Beryllium	0.227	mg/L	0.0010	91	70	130
Cadmium	0.243	mg/L	0.0010	97	70	130
Chromium	0.513	mg/L	0.0050	102	70	130
Cobalt	0.497	mg/L	0.0050	99	70	130
Copper	0.500	mg/L	0.0050	99	70	130
Iron	6.73	mg/L	0.020	106	70	130
Lead	0.506	mg/L	0.0010	101	70	130
Manganese	2.65	mg/L	0.0010	102	70	130
Molybdenum	0.508	mg/L	0.0010	102	70	130
Nickel	0.487	mg/L	0.0050	96	70	130
Selenium	0.479	mg/L	0.0010	96	70	130
Silver	0.0458	mg/L	0.0010	91	70	130
Strontium	0.682	mg/L	0.010	105	70	130
Thallium	0.493	mg/L	0.00050	99	70	130
Uranium	0.490	mg/L	0.00030	98	70	130
Zinc	0.498	mg/L	0.010	97	70	130

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190701B

07/01/19 18:42

Antimony	0.520	mg/L	0.0010	104	70	130	0.0	20
Arsenic	0.487	mg/L	0.0010	96	70	130	1.0	20
Barium	0.583	mg/L	0.050	100	70	130	0.5	20
Beryllium	0.227	mg/L	0.0010	91	70	130	0.1	20
Cadmium	0.242	mg/L	0.0010	97	70	130	0.4	20
Chromium	0.512	mg/L	0.0050	101	70	130	0.3	20
Cobalt	0.490	mg/L	0.0050	98	70	130	1.4	20
Copper	0.496	mg/L	0.0050	98	70	130	0.8	20
Iron	6.52	mg/L	0.020	98	70	130	3.3	20
Lead	0.504	mg/L	0.0010	100	70	130	0.2	20
Manganese	2.62	mg/L	0.0010	101	70	130	1.0	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--

Batch: 46255

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190701B

07/01/19 18:42

Molybdenum	0.506	mg/L	0.0010	101	70	130	0.4	20
Nickel	0.480	mg/L	0.0050	95	70	130	1.4	20
Selenium	0.480	mg/L	0.0010	96	70	130	0.2	20
Silver	0.0452	mg/L	0.0010	90	70	130	1.2	20
Strontium	0.674	mg/L	0.010	103	70	130	1.2	20
Thallium	0.492	mg/L	0.00050	98	70	130	0.2	20
Uranium	0.498	mg/L	0.00030	99	70	130	1.6	20
Zinc	0.492	mg/L	0.010	96	70	130	1.3	20

19 Sample Matrix Spike

Run: ICPMS205-H_190701B

07/01/19 19:33

Antimony	0.535	mg/L	0.0010	107	70	130		
Arsenic	0.483	mg/L	0.0010	96	70	130		
Barium	0.485	mg/L	0.050	95	70	130		
Beryllium	0.183	mg/L	0.0010	73	70	130		
Cadmium	0.212	mg/L	0.0010	85	70	130		
Chromium	0.501	mg/L	0.0050	100	70	130		
Cobalt	0.472	mg/L	0.0050	94	70	130		
Copper	0.443	mg/L	0.0050	88	70	130		
Iron	2.50	mg/L	0.020	97	70	130		
Lead	0.520	mg/L	0.0010	104	70	130		
Manganese	2.62	mg/L	0.0010	102	70	130		
Molybdenum	0.524	mg/L	0.0010	104	70	130		
Nickel	0.469	mg/L	0.0050	86	70	130		
Selenium	0.446	mg/L	0.0010	89	70	130		
Silver	0.0394	mg/L	0.0010	79	70	130		
Strontium	9.42	mg/L	0.010		70	130		A
Thallium	0.512	mg/L	0.00050	102	70	130		
Uranium	0.596	mg/L	0.00030	106	70	130		
Zinc	0.413	mg/L	0.010	82	70	130		

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190701B

07/01/19 19:35

Antimony	0.520	mg/L	0.0010	104	70	130	2.8	20
Arsenic	0.473	mg/L	0.0010	94	70	130	2.1	20
Barium	0.480	mg/L	0.050	94	70	130	1.0	20
Beryllium	0.180	mg/L	0.0010	72	70	130	2.0	20
Cadmium	0.211	mg/L	0.0010	84	70	130	0.8	20
Chromium	0.493	mg/L	0.0050	99	70	130	1.5	20
Cobalt	0.464	mg/L	0.0050	93	70	130	1.7	20
Copper	0.438	mg/L	0.0050	87	70	130	1.2	20
Iron	2.46	mg/L	0.020	96	70	130	1.4	20
Lead	0.512	mg/L	0.0010	102	70	130	1.5	20
Manganese	2.57	mg/L	0.0010	100	70	130	1.7	20
Molybdenum	0.510	mg/L	0.0010	101	70	130	2.7	20
Nickel	0.460	mg/L	0.0050	84	70	130	1.8	20
Selenium	0.443	mg/L	0.0010	89	70	130	0.7	20
Silver	0.0389	mg/L	0.0010	78	70	130	1.2	20

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--

19 Sample Matrix Spike Duplicate				Run: ICPMS205-H_190701B			Batch: 46255	
Strontium	9.16	mg/L	0.010	70	130	2.7	20	A
Thallium	0.504	mg/L	0.00050	101	70	130	1.6	20
Uranium	0.576	mg/L	0.00030	102	70	130	3.4	20
Zinc	0.407	mg/L	0.010	81	70	130	1.6	20

19 Method Blank				Run: ICPMS205-H_190701B			Batch: 46256	
Antimony	ND	mg/L	0.0001					
Arsenic	ND	mg/L	4E-05					
Barium	ND	mg/L	9E-05					
Beryllium	ND	mg/L	6E-05					
Cadmium	ND	mg/L	3E-05					
Chromium	ND	mg/L	0.0001					
Cobalt	ND	mg/L	6E-05					
Copper	ND	mg/L	0.0002					
Iron	ND	mg/L	0.004					
Lead	ND	mg/L	4E-05					
Manganese	ND	mg/L	0.0003					
Molybdenum	ND	mg/L	2E-05					
Nickel	ND	mg/L	0.0001					
Selenium	ND	mg/L	5E-05					
Silver	ND	mg/L	9E-06					
Strontium	ND	mg/L	0.0003					
Thallium	ND	mg/L	4E-05					
Uranium	ND	mg/L	9E-06					
Zinc	ND	mg/L	0.001					

19 Laboratory Control Sample				Run: ICPMS205-H_190701B			Batch: 46256	
Antimony	0.535	mg/L	0.0010	107	85	115		
Arsenic	0.495	mg/L	0.0010	99	85	115		
Barium	0.499	mg/L	0.050	100	85	115		
Beryllium	0.239	mg/L	0.0010	95	85	115		
Cadmium	0.246	mg/L	0.0010	98	85	115		
Chromium	0.523	mg/L	0.0050	105	85	115		
Cobalt	0.510	mg/L	0.0050	102	85	115		
Copper	0.511	mg/L	0.0050	102	85	115		
Iron	2.57	mg/L	0.020	103	85	115		
Lead	0.515	mg/L	0.0010	103	85	115		
Manganese	2.61	mg/L	0.0010	104	85	115		
Molybdenum	0.518	mg/L	0.0010	104	85	115		
Nickel	0.496	mg/L	0.0050	99	85	115		
Selenium	0.491	mg/L	0.0010	98	85	115		
Silver	0.0465	mg/L	0.0010	93	85	115		
Strontium	0.521	mg/L	0.010	104	85	115		
Thallium	0.502	mg/L	0.00050	100	85	115		
Uranium	0.506	mg/L	0.00030	101	85	115		

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.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--	--	--	--	--	--	--	--

Batch: 46256

19 Laboratory Control Sample				Run: ICPMS205-H_190701B			07/01/19 18:05	
Zinc	0.496	mg/L	0.010	99	85	115		
19 Sample Matrix Spike				Run: ICPMS205-H_190701B			07/01/19 18:07	
Antimony	0.528	mg/L	0.0010	106	70	130		
Arsenic	0.490	mg/L	0.0010	98	70	130		
Barium	0.607	mg/L	0.050	99	70	130		
Beryllium	0.228	mg/L	0.0010	91	70	130		
Cadmium	0.242	mg/L	0.0010	97	70	130		
Chromium	0.514	mg/L	0.0050	103	70	130		
Cobalt	0.496	mg/L	0.0050	99	70	130		
Copper	0.498	mg/L	0.0050	100	70	130		
Iron	2.66	mg/L	0.020	102	70	130		
Lead	0.510	mg/L	0.0010	102	70	130		
Manganese	2.57	mg/L	0.0010	103	70	130		
Molybdenum	0.515	mg/L	0.0010	103	70	130		
Nickel	0.482	mg/L	0.0050	96	70	130		
Selenium	0.483	mg/L	0.0010	97	70	130		
Silver	0.0457	mg/L	0.0010	91	70	130		
Strontium	0.648	mg/L	0.010	104	70	130		
Thallium	0.500	mg/L	0.00050	100	70	130		
Uranium	0.499	mg/L	0.00030	100	70	130		
Zinc	0.486	mg/L	0.010	97	70	130		
19 Sample Matrix Spike Duplicate				Run: ICPMS205-H_190701B			07/01/19 18:09	
Antimony	0.518	mg/L	0.0010	104	70	130	1.9	20
Arsenic	0.486	mg/L	0.0010	97	70	130	0.9	20
Barium	0.593	mg/L	0.050	96	70	130	2.3	20
Beryllium	0.228	mg/L	0.0010	91	70	130	0.1	20
Cadmium	0.238	mg/L	0.0010	95	70	130	2.0	20
Chromium	0.508	mg/L	0.0050	101	70	130	1.3	20
Cobalt	0.493	mg/L	0.0050	99	70	130	0.6	20
Copper	0.491	mg/L	0.0050	98	70	130	1.4	20
Iron	2.61	mg/L	0.020	100	70	130	2.0	20
Lead	0.498	mg/L	0.0010	100	70	130	2.3	20
Manganese	2.53	mg/L	0.0010	101	70	130	1.6	20
Molybdenum	0.506	mg/L	0.0010	101	70	130	1.7	20
Nickel	0.476	mg/L	0.0050	95	70	130	1.2	20
Selenium	0.474	mg/L	0.0010	95	70	130	1.8	20
Silver	0.0451	mg/L	0.0010	90	70	130	1.4	20
Strontium	0.639	mg/L	0.010	102	70	130	1.3	20
Thallium	0.488	mg/L	0.00050	98	70	130	2.3	20
Uranium	0.497	mg/L	0.00030	99	70	130	0.4	20
Zinc	0.479	mg/L	0.010	95	70	130	1.5	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--	--	--	--	--	--	--

							Analytical Run: HGCV203-H_190626A
							Batch: 46266
	Initial Calibration Verification Standard						06/26/19 09:37
Mercury	0.102	ug/L	0.0050	102	90	110	
							Batch: 46266
	Continuing Calibration Verification Standard						06/26/19 09:41
Mercury	0.101	ug/L	0.0050	101	95	105	
							Batch: 46266
	Continuing Calibration Verification Standard						06/26/19 12:24
Mercury	0.100	ug/L	0.0050	100	90	110	
							Batch: 46267
	Method Blank					Run: HGCV203-H_190626A	06/26/19 11:19
Mercury	ND	ug/L	0.001				
							Batch: 46267
	Laboratory Control Sample					Run: HGCV203-H_190626A	06/26/19 11:22
Mercury	0.0513	ug/L	0.0050	103	90	110	
							Batch: 46267
	Sample Matrix Spike					Run: HGCV203-H_190626A	06/26/19 12:44
Mercury	0.0553	ug/L	0.0050	103	70	130	
							Batch: 46267
	Sample Matrix Spike Duplicate					Run: HGCV203-H_190626A	06/26/19 12:47
Mercury	0.0527	ug/L	0.0050	98	70	130	4.9 20
							Batch: 46267
	Method Blank					Run: HGCV203-H_190626A	06/26/19 12:50
Mercury	ND	ug/L	0.001				
							Batch: 46267
	Laboratory Control Sample					Run: HGCV203-H_190626A	06/26/19 12:54
Mercury	0.0523	ug/L	0.0050	105	90	110	
							Batch: 46267
	Sample Matrix Spike					Run: HGCV203-H_190626A	06/26/19 13:00
Mercury	0.0545	ug/L	0.0050	105	70	130	
							Batch: 46267
	Sample Matrix Spike Duplicate					Run: HGCV203-H_190626A	06/26/19 13:10
Mercury	0.0534	ug/L	0.0050	103	70	130	1.9 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--	--	--	--	--	--	--	--

Analytical Run: IC METROHM_190625A

		2 Initial Calibration Verification Standard						06/25/19 10:08
Chloride	101	mg/L	1.0	101	90	110		
Sulfate	412	mg/L	1.0	103	90	110		
		2 Continuing Calibration Verification Standard						06/25/19 14:29
Chloride	49.8	mg/L	1.0	100	90	110		
Sulfate	202	mg/L	1.0	101	90	110		
		2 Continuing Calibration Verification Standard						06/26/19 19:30
Chloride	49.9	mg/L	1.0	100	90	110		
Sulfate	201	mg/L	1.0	101	90	110		
		2 Continuing Calibration Verification Standard						06/26/19 23:07
Chloride	49.6	mg/L	1.0	99	90	110		
Sulfate	200	mg/L	1.0	100	90	110		
		2 Continuing Calibration Verification Standard						06/27/19 02:45
Chloride	49.3	mg/L	1.0	99	90	110		
Sulfate	199	mg/L	1.0	99	90	110		
Batch: R145369								
		2 Method Blank		Run: IC METROHM_190625A				06/25/19 09:53
Chloride	ND	mg/L	0.02					
Sulfate	ND	mg/L	0.08					
		2 Laboratory Fortified Blank		Run: IC METROHM_190625A				06/25/19 10:22
Chloride	26.0	mg/L	1.0	104	90	110		
Sulfate	110	mg/L	1.0	110	90	110		
		2 Sample Matrix Spike		Run: IC METROHM_190625A				06/27/19 00:05
Chloride	25.8	mg/L	1.0	98	90	110		
Sulfate	105	mg/L	1.0	101	90	110		
		2 Sample Matrix Spike Duplicate		Run: IC METROHM_190625A				06/27/19 00:20
Chloride	25.9	mg/L	1.0	98	90	110	0.2	
Sulfate	106	mg/L	1.0	101	90	110	0.5	
		2 Sample Matrix Spike		Run: IC METROHM_190625A				06/27/19 03:57
Chloride	35.8	mg/L	1.0	97	90	110		
Sulfate	107	mg/L	1.0	100	90	110		
		2 Sample Matrix Spike Duplicate		Run: IC METROHM_190625A				06/27/19 04:12
Chloride	36.0	mg/L	1.0	98	90	110	0.6	
Sulfate	108	mg/L	1.0	101	90	110	1.2	

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--	--	--	--	--	--	--

							Analytical Run: FIA203-HE_190701B
							07/01/19 10:28
Initial Calibration Verification Standard							
Nitrogen, Nitrate+Nitrite as N	0.985	mg/L	0.010	98	90	110	
Continuing Calibration Verification Standard							07/01/19 13:50
Nitrogen, Nitrate+Nitrite as N	0.500	mg/L	0.010	100	90	110	
Continuing Calibration Verification Standard							07/01/19 14:06
Nitrogen, Nitrate+Nitrite as N	0.501	mg/L	0.010	100	90	110	
							Batch: R145540
Method Blank							Run: FIA203-HE_190701B
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	0.009				07/01/19 10:29
Laboratory Fortified Blank							Run: FIA203-HE_190701B
Nitrogen, Nitrate+Nitrite as N	0.999	mg/L	0.011	100	90	110	07/01/19 10:30
Sample Matrix Spike							Run: FIA203-HE_190701B
Nitrogen, Nitrate+Nitrite as N	1.08	mg/L	0.011	102	90	110	07/01/19 13:53
Sample Matrix Spike Duplicate							Run: FIA203-HE_190701B
Nitrogen, Nitrate+Nitrite as N	1.05	mg/L	0.011	99	90	110	07/01/19 13:55 3.1 10
Sample Matrix Spike							Run: FIA203-HE_190701B
Nitrogen, Nitrate+Nitrite as N	1.06	mg/L	0.011	103	90	110	07/01/19 14:14
Sample Matrix Spike Duplicate							Run: FIA203-HE_190701B
Nitrogen, Nitrate+Nitrite as N	1.02	mg/L	0.011	99	90	110	07/01/19 14:15 3.5 10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060536

07/08/19

--	--	--	--	--	--	--

							Analytical Run: FIA202-HE_190701B
	Initial Calibration Verification Standard						07/01/19 10:35
Phosphorus, Total as P	0.245	mg/L	0.010	98	90	110	
	Initial Calibration Blank, Instrument Blank						07/01/19 10:36
Phosphorus, Total as P	0.000450	mg/L	0.010		0	0	
	Continuing Calibration Verification Standard						07/01/19 12:01
Phosphorus, Total as P	0.0996	mg/L	0.010	100	90	110	
	Continuing Calibration Verification Standard						07/01/19 12:17
Phosphorus, Total as P	0.0986	mg/L	0.010	99	90	110	
	Initial Calibration Verification Standard						07/01/19 13:28
Phosphorus, Total as P	0.239	mg/L	0.010	96	90	110	
	Initial Calibration Blank, Instrument Blank						07/01/19 13:30
Phosphorus, Total as P	-0.000350	mg/L	0.010		0	0	
							Batch: 46335
	Method Blank				Run: FIA202-HE_190701B		07/01/19 11:40
Phosphorus, Total as P	ND	mg/L	0.002				
	Laboratory Control Sample				Run: FIA202-HE_190701B		07/01/19 11:41
Phosphorus, Total as P	0.442	mg/L	0.010	110	90	110	
	Sample Matrix Spike				Run: FIA202-HE_190701B		07/01/19 12:03
Phosphorus, Total as P	0.211	mg/L	0.010	105	90	110	
	Sample Matrix Spike Duplicate				Run: FIA202-HE_190701B		07/01/19 12:04
Phosphorus, Total as P	0.221	mg/L	0.010	111	90	110	4.7 20 S
							Batch: 46336
	Sample Matrix Spike				Run: FIA202-HE_190701B		07/01/19 13:37
Phosphorus, Total as P	0.244	mg/L	0.010	110	90	110	
	Sample Matrix Spike Duplicate				Run: FIA202-HE_190701B		07/01/19 13:39
Phosphorus, Total as P	0.246	mg/L	0.010	111	90	110	1.0 20 S

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



Tintina Resources Inc

H19060536

Login completed by: Jessica C. Smith

Date Received: 6/21/2019

Reviewed by: BL2000\acarlson

Received by: TLL

Reviewed Date: 7/8/2019

Carrier name: Hand Del

Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on all shipping container(s)/cooler(s)? Yes [] No [] Not Present [checked]
Custody seals intact on all sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [] No [checked]
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Temp Blank received in all shipping container(s)/cooler(s)? Yes [checked] No [] Not Applicable []
Container/Temp Blank temperature: 0.6°C On Ice
Water - VOA vials have zero headspace? Yes [] No [] No VOA vials submitted [checked]
Water - pH acceptable upon receipt? Yes [checked] No [] Not Applicable []

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.

ID on nutrients bottle in sample set BBC-1906-103 is BBC-1906-. Used ID from COC. No time on bottle for dissolved metals in sample set BBC-1906-111. Used time from COC. JCS 06/21/19

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME	NO. OF CON-TAINERS		COMMONS UF / RAW	NUTRIENTS UF / H ₂ SO ₄	DIS. METAL F / HNO ₃	CN UF / NaOH	TOTAL METALS UF / HNO ₃	TOTAL RECOVERABLE METALS UF / HNO ₃	BTEX	TPH	REMARKS
		COMP	GRAB									
180419	Tintina Black Butte (SW)											
SAMPLERS: (Signature) <i>RZ</i>												
DATE	TIME	SAMPLE NUMBER										
6/18/19	1340	BBC-1906-103	X	X	X	X	X	X	X	X	X	H19010536
6/19/19	0845	109										
	0930	110										
	1030	111										
	1510	122										
	1525	123										
	1815	126										
	1825	127										
6/20/19	1115	129										
	1130	130										
Relinquished (Signature) <i>RZ</i>			Date / Time	Received by (Signature)	Lab	Remarks	P.O. #		Shipped via: Bus FedEx UPS Other <u>Hand delivered</u> Air Bill #			
Relinquished (Signature)			6/21/19 0915		Energy 2 Lab	0.6° TB once hand del.	1311 Tintina					
Relinquished (Signature)			Date / Time	Received by (Signature)	Enclosed: <input checked="" type="checkbox"/> Parameter sheet w/detection limits <input type="checkbox"/> QA / AC standard mixing instructions <input type="checkbox"/> Cover letter <input type="checkbox"/> Other							
Relinquished (Signature)			Date / Time	Received for Laboratory by (Signature)	Date / Time	Date / Time						
				<i>Ragland</i>	6/19 915							
Split Samples: <input type="checkbox"/> Accepted <input type="checkbox"/> Declined												
Signature												

Return results & electronic copy to:
QA / QC Dept. at address at top of page

**TABLE 6. PARAMETERS, METHODS, AND DETECTION LIMITS
FOR SURFACE WATER MONITORING**

Parameter	Analytical Method ⁽¹⁾	Project-Required Detection Limit (mg/L)
Physical Parameters		
TDS	SM 2540C	4
TSS	SM 2540C	4
Common Ions		
Alkalinity	SM 2320B	4
Sulfate	300.0	1
Chloride	300.0/SM 4500CL-B	1
Fluoride	A4500-F C	0.1
Calcium	215.1/200.7	1
Magnesium	242.1/200.7	1
Sodium	273.1/200.7	1
Potassium	258.1/200.7	1
Nutrients		
Nitrate+Nitrite as N	353.2	0.003
Total Persulfate Nitrogen	A 4500-N-C	0.04
Total Phosphorus	E365.1	0.003
Trace Constituents (SW - Total Recoverable except Aluminum [Diss]⁽²⁾		
Aluminum (Al)	200.7/200.8	0.009
Antimony (Sb)	200.7/200.8	0.0005
Arsenic (As)	200.8/SM 3114B	0.001
Barium (Ba)	200.7/200.8	0.003
Beryllium (Be)	200.7/200.8	0.0008
Cadmium (Cd)	200.7/200.8	0.00003
Chromium (Cr)	200.7/200.8	0.01
Cobalt (Co)	200.7/200.8	0.01
Copper (Cu)	200.7/200.8	0.002
Iron (Fe)	200.7/200.8	0.02
Lead (Pb)	200.7/200.8	0.0003
Manganese (Mn)	200.7/200.8	0.005
Mercury (Hg)	245.2/245.1/200.8/SM 3112B	0.000005
Molybdenum (Mo)	200.7/200.8	0.002
Nickel (Ni)	200.7/200.8	0.001
Selenium (Se)	200.7/200.8/SM 3114B	0.0002
Silver (Ag)	200.7/200.8	0.0002
Strontium (Sr)	200.7/200.8	0.0002
Thallium (Tl)	200.7/200.8	0.0002
Uranium	200.7/200.8	0.008
Zinc (Zn)	200.7/200.8	0.002
Field Parameters		
Stream Flow	HF-SOP-37/-44/-46	NA
Water Temperature	HF-SOP-20	0.1 °C
Dissolved Oxygen (DO)	HF-SOP-22	0.1 mg/L
pH	HF-SOP-20	0.1 s.u.
Specific Conductance (SC)	HF-SOP-79	1 µmhos/cm

(1) Analytical methods are from *Standard Methods for the Examination of Water and Wastewater* (SM) or EPA's *Methods for Chemical Analysis of Water and Waste* (1983).

(2) Samples to be analyzed for dissolved constituents will be field-filtered through a 0.45 µm filter.



July 09, 2019

Tintina Resources Inc
PO Box 431
White Sulphur Springs, MT 59645-0431

Work Order: H19060562 Quote ID: H1216

Project Name: 18049 Black Butte Copper (GW)

Energy Laboratories Inc Helena MT received the following 13 samples for Tintina Resources Inc on 6/24/2019 for analysis.

H19060562-001	BBC-1906-221	06/21/19 11:45	06/24/19	Groundwater	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Fluoride Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Mercury Digestion by E245.1 Solids, Total Dissolved Solids, Total Suspended
H19060562-002	BBC-1906-222	06/20/19 12:55	06/24/19	Groundwater	Same As Above
H19060562-003	BBC-1906-223	06/20/19 13:35	06/24/19	Groundwater	Same As Above
H19060562-004	BBC-1906-224	06/20/19 14:10	06/24/19	Groundwater	Same As Above
H19060562-005	BBC-1906-225	06/20/19 14:40	06/24/19	Groundwater	Same As Above
H19060562-006	BBC-1906-226	06/20/19 15:45	06/24/19	Groundwater	Same As Above
H19060562-007	BBC-1906-227	06/20/19 18:40	06/24/19	Groundwater	Same As Above
H19060562-008	BBC-1906-228	06/21/19 9:20	06/24/19	Groundwater	Same As Above
H19060562-009	BBC-1906-229	06/21/19 9:50	06/24/19	Groundwater	Same As Above
H19060562-010	BBC-1906-230	06/21/19 10:25	06/24/19	Groundwater	Same As Above
H19060562-011	BBC-1906-231	06/21/19 11:00	06/24/19	Groundwater	Same As Above
H19060562-012	BBC-1906-232	06/21/19 12:35	06/24/19	Groundwater	Same As Above
H19060562-013	BBC-1906-233	06/21/19 12:50	06/24/19	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, 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. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

Assistant Laboratory Manager-Helena, MT

Digitally signed by
Amanda B. Carlson
Date: 2019.07.09 14:49:26 -06:00



Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060562

07/09/19

H19060562-001 (BBC-1906-221) was re-analyzed past the method recommended holding time to confirm the analytical result. The result of the re-analysis is reported.abc 7/9/19



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060562-001
BBC-1906-221

07/09/19
06/21/19 11:45
06/24/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L		10	A2540 D	06/25/19 10:56 / cmm
Solids, Total Dissolved TDS @ 180 C	187 mg/L		10	A2540 C	06/25/19 11:02 / cmm
Alkalinity, Total as CaCO3	190 mg/L	H	4	A2320 B	07/05/19 14:48 / cmm
Chloride	ND mg/L		1	E300.0	06/26/19 10:19 / cmm
Sulfate	6 mg/L		1	E300.0	06/26/19 10:19 / cmm
Fluoride	ND mg/L		0.1	4 A4500-F C	06/26/19 12:26 / RAT
Hardness as CaCO3	176 mg/L		1	A2340 B	07/02/19 09:57 / sld
Nitrogen, Nitrate+Nitrite as N	0.18 mg/L		0.01	E353.2	07/01/19 14:34 / kmd
Aluminum	ND mg/L		0.009	E200.8	07/01/19 21:16 / sld
Antimony	ND mg/L		0.0005	E200.8	07/01/19 21:16 / sld
Arsenic	ND mg/L		0.001	E200.8	07/01/19 21:16 / sld
Barium	0.092 mg/L		0.003	E200.8	07/01/19 21:16 / sld
Beryllium	ND mg/L		0.0008	E200.8	07/01/19 21:16 / sld
Cadmium	ND mg/L		0.00003	E200.8	07/01/19 21:16 / sld
Calcium	43 mg/L		1	E200.7	06/25/19 01:26 / sld
Chromium	ND mg/L		0.01	E200.8	07/01/19 21:16 / sld
Cobalt	ND mg/L		0.01	E200.8	07/01/19 21:16 / sld
Copper	ND mg/L		0.002	E200.8	07/01/19 21:16 / sld
Iron	ND mg/L		0.02	E200.8	07/01/19 21:16 / sld
Lead	ND mg/L		0.0003	E200.8	07/01/19 21:16 / sld
Magnesium	17 mg/L		1	E200.7	06/25/19 01:26 / sld
Manganese	ND mg/L		0.005	E200.8	07/01/19 21:16 / sld
Mercury	ND ug/L		0.005	E245.1	06/26/19 13:33 / ber
Molybdenum	ND mg/L		0.002	E200.8	07/01/19 21:16 / sld
Nickel	ND mg/L		0.001	E200.8	07/01/19 21:16 / sld
Potassium	ND mg/L		1	E200.7	06/25/19 01:26 / sld
Selenium	ND mg/L		0.0002	E200.8	07/01/19 21:16 / sld
Silver	ND mg/L		0.0002	E200.8	07/01/19 21:16 / sld
Sodium	2 mg/L		1	E200.7	06/25/19 01:26 / sld
Strontium	0.0894 mg/L		0.0002	E200.7	06/25/19 01:26 / sld
Thallium	ND mg/L		0.0002	E200.8	07/01/19 21:16 / sld
Uranium	0.0004 mg/L		0.0002	E200.8	07/01/19 21:16 / sld
Zinc	ND mg/L		0.002	E200.8	07/01/19 21:16 / sld

RL - Analyte reporting limit.

QCL - Quality control limit.

H - Analysis performed past recommended holding time.

MCL - Maximum contaminant level.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060562-002
BBC-1906-222

07/09/19
06/20/19 12:55
06/24/19
Groundwater

Solids, Total Suspended TSS @ 105 C	19 mg/L	10	A2540 D	06/25/19 10:57 / cmm
Solids, Total Dissolved TDS @ 180 C	205 mg/L	10	A2540 C	06/25/19 11:02 / cmm
Alkalinity, Total as CaCO3	190 mg/L	4	A2320 B	06/27/19 12:48 / RAT
Chloride	ND mg/L	1	E300.0	06/26/19 11:02 / cmm
Sulfate	8 mg/L	1	E300.0	06/26/19 11:02 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/26/19 12:34 / RAT
Hardness as CaCO3	194 mg/L	1	A2340 B	06/25/19 01:29 / abc
Nitrogen, Nitrate+Nitrite as N	0.34 mg/L	0.01	E353.2	07/01/19 14:36 / kmd
Aluminum	0.013 mg/L	0.009	E200.8	07/02/19 19:10 / sld
Antimony	ND mg/L	0.0005	E200.8	07/01/19 21:19 / sld
Arsenic	ND mg/L	0.001	E200.8	07/01/19 21:19 / sld
Barium	0.176 mg/L	0.003	E200.8	07/01/19 21:19 / sld
Beryllium	ND mg/L	0.0008	E200.8	07/01/19 21:19 / sld
Cadmium	ND mg/L	0.00003	E200.8	07/01/19 21:19 / sld
Calcium	43 mg/L	1	E200.7	06/25/19 01:29 / sld
Chromium	ND mg/L	0.01	E200.8	07/01/19 21:19 / sld
Cobalt	ND mg/L	0.01	E200.8	07/01/19 21:19 / sld
Copper	ND mg/L	0.002	E200.8	07/01/19 21:19 / sld
Iron	ND mg/L	0.02	E200.8	07/01/19 21:19 / sld
Lead	ND mg/L	0.0003	E200.8	07/01/19 21:19 / sld
Magnesium	21 mg/L	1	E200.7	06/25/19 01:29 / sld
Manganese	ND mg/L	0.005	E200.8	07/01/19 21:19 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 13:36 / ber
Molybdenum	ND mg/L	0.002	E200.8	07/01/19 21:19 / sld
Nickel	ND mg/L	0.001	E200.8	07/01/19 21:19 / sld
Potassium	ND mg/L	1	E200.7	06/25/19 01:29 / sld
Selenium	ND mg/L	0.0002	E200.8	07/01/19 21:19 / sld
Silver	ND mg/L	0.0002	E200.8	07/01/19 21:19 / sld
Sodium	1 mg/L	1	E200.7	06/25/19 01:29 / sld
Strontium	0.0591 mg/L	0.0002	E200.7	06/25/19 01:29 / sld
Thallium	ND mg/L	0.0002	E200.8	07/01/19 21:19 / sld
Uranium	0.0005 mg/L	0.0002	E200.8	07/01/19 21:19 / sld
Zinc	ND mg/L	0.002	E200.8	07/01/19 21:19 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060562-003
BBC-1906-223

07/09/19
06/20/19 13:35
06/24/19
Groundwater

Solids, Total Suspended TSS @ 105 C	36 mg/L	10	A2540 D	06/25/19 10:57 / cmm
Solids, Total Dissolved TDS @ 180 C	223 mg/L	10	A2540 C	06/25/19 11:02 / cmm
Alkalinity, Total as CaCO3	210 mg/L	4	A2320 B	06/27/19 12:53 / RAT
Chloride	ND mg/L	1	E300.0	06/26/19 11:17 / cmm
Sulfate	12 mg/L	1	E300.0	06/26/19 11:17 / cmm
Fluoride	0.2 mg/L	0.1	4 A4500-F C	06/26/19 12:42 / RAT
Hardness as CaCO3	207 mg/L	1	A2340 B	06/25/19 01:33 / abc
Nitrogen, Nitrate+Nitrite as N	0.15 mg/L	0.01	E353.2	07/01/19 14:37 / kmd
Aluminum	ND mg/L	0.009	E200.8	07/01/19 21:33 / sld
Antimony	ND mg/L	0.0005	E200.8	07/01/19 21:33 / sld
Arsenic	ND mg/L	0.001	E200.8	07/01/19 21:33 / sld
Barium	0.164 mg/L	0.003	E200.8	07/01/19 21:33 / sld
Beryllium	ND mg/L	0.0008	E200.8	07/01/19 21:33 / sld
Cadmium	ND mg/L	0.00003	E200.8	07/01/19 21:33 / sld
Calcium	47 mg/L	1	E200.7	06/25/19 01:33 / sld
Chromium	ND mg/L	0.01	E200.8	07/01/19 21:33 / sld
Cobalt	ND mg/L	0.01	E200.8	07/01/19 21:33 / sld
Copper	ND mg/L	0.002	E200.8	07/01/19 21:33 / sld
Iron	ND mg/L	0.02	E200.8	07/01/19 21:33 / sld
Lead	ND mg/L	0.0003	E200.8	07/01/19 21:33 / sld
Magnesium	22 mg/L	1	E200.7	06/25/19 01:33 / sld
Manganese	ND mg/L	0.005	E200.8	07/01/19 21:33 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 13:40 / ber
Molybdenum	ND mg/L	0.002	E200.8	07/01/19 21:33 / sld
Nickel	ND mg/L	0.001	E200.8	07/01/19 21:33 / sld
Potassium	ND mg/L	1	E200.7	06/25/19 01:33 / sld
Selenium	ND mg/L	0.0002	E200.8	07/01/19 21:33 / sld
Silver	ND mg/L	0.0002	E200.8	07/01/19 21:33 / sld
Sodium	3 mg/L	1	E200.7	06/25/19 01:33 / sld
Strontium	0.140 mg/L	0.0002	E200.7	06/25/19 01:33 / sld
Thallium	ND mg/L	0.0002	E200.8	07/01/19 21:33 / sld
Uranium	0.0006 mg/L	0.0002	E200.8	07/01/19 21:33 / sld
Zinc	ND mg/L	0.002	E200.8	07/01/19 21:33 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060562-004
BBC-1906-224

07/09/19
06/20/19 14:10
06/24/19
Groundwater

Solids, Total Suspended TSS @ 105 C	25 mg/L	10	A2540 D	06/25/19 10:57 / cmm
Solids, Total Dissolved TDS @ 180 C	238 mg/L	10	A2540 C	06/25/19 11:02 / cmm
Alkalinity, Total as CaCO3	210 mg/L	4	A2320 B	06/27/19 12:59 / RAT
Chloride	ND mg/L	1	E300.0	06/26/19 11:31 / cmm
Sulfate	22 mg/L	1	E300.0	06/26/19 11:31 / cmm
Fluoride	0.6 mg/L	0.1	4 A4500-F C	06/26/19 12:46 / RAT
Hardness as CaCO3	190 mg/L	1	A2340 B	06/25/19 01:37 / abc
Nitrogen, Nitrate+Nitrite as N	0.11 mg/L	0.01	E353.2	07/01/19 14:38 / kmd
Aluminum	0.011 mg/L	0.009	E200.8	07/02/19 19:13 / sld
Antimony	ND mg/L	0.0005	E200.8	07/01/19 21:35 / sld
Arsenic	ND mg/L	0.001	E200.8	07/01/19 21:35 / sld
Barium	0.094 mg/L	0.003	E200.8	07/01/19 21:35 / sld
Beryllium	ND mg/L	0.0008	E200.8	07/01/19 21:35 / sld
Cadmium	ND mg/L	0.00003	E200.8	07/01/19 21:35 / sld
Calcium	41 mg/L	1	E200.7	06/25/19 01:37 / sld
Chromium	ND mg/L	0.01	E200.8	07/01/19 21:35 / sld
Cobalt	ND mg/L	0.01	E200.8	07/01/19 21:35 / sld
Copper	ND mg/L	0.002	E200.8	07/01/19 21:35 / sld
Iron	ND mg/L	0.02	E200.8	07/01/19 21:35 / sld
Lead	ND mg/L	0.0003	E200.8	07/01/19 21:35 / sld
Magnesium	21 mg/L	1	E200.7	06/25/19 01:37 / sld
Manganese	ND mg/L	0.005	E200.8	07/01/19 21:35 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 13:49 / ber
Molybdenum	ND mg/L	0.002	E200.8	07/01/19 21:35 / sld
Nickel	ND mg/L	0.001	E200.8	07/01/19 21:35 / sld
Potassium	1 mg/L	1	E200.7	06/25/19 01:37 / sld
Selenium	ND mg/L	0.0002	E200.8	07/01/19 21:35 / sld
Silver	ND mg/L	0.0002	E200.8	07/01/19 21:35 / sld
Sodium	17 mg/L	1	E200.7	06/25/19 01:37 / sld
Strontium	0.217 mg/L	0.0002	E200.7	06/25/19 01:37 / sld
Thallium	ND mg/L	0.0002	E200.8	07/01/19 21:35 / sld
Uranium	0.0006 mg/L	0.0002	E200.8	07/01/19 21:35 / sld
Zinc	ND mg/L	0.002	E200.8	07/01/19 21:35 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060562-005
BBC-1906-225

07/09/19
06/20/19 14:40
06/24/19
Groundwater

Solids, Total Suspended TSS @ 105 C	34 mg/L	10	A2540 D	06/25/19 10:57 / cmm
Solids, Total Dissolved TDS @ 180 C	308 mg/L	10	A2540 C	06/25/19 11:03 / cmm
Alkalinity, Total as CaCO3	220 mg/L	4	A2320 B	06/27/19 13:05 / RAT
Chloride	4 mg/L	1	E300.0	06/26/19 11:45 / cmm
Sulfate	64 mg/L	1	E300.0	06/26/19 11:45 / cmm
Fluoride	0.3 mg/L	0.1	4 A4500-F C	06/26/19 12:50 / RAT
Hardness as CaCO3	266 mg/L	1	A2340 B	06/25/19 01:41 / abc
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 14:39 / kmd
Aluminum	0.011 mg/L	0.009	E200.8	07/02/19 19:15 / sld
Antimony	ND mg/L	0.0005	E200.8	07/01/19 21:37 / sld
Arsenic	0.001 mg/L	0.001	E200.8	07/01/19 21:37 / sld
Barium	0.040 mg/L	0.003	E200.8	07/01/19 21:37 / sld
Beryllium	ND mg/L	0.0008	E200.8	07/01/19 21:37 / sld
Cadmium	ND mg/L	0.00003	E200.8	07/01/19 21:37 / sld
Calcium	50 mg/L	1	E200.7	06/25/19 01:41 / sld
Chromium	ND mg/L	0.01	E200.8	07/01/19 21:37 / sld
Cobalt	ND mg/L	0.01	E200.8	07/01/19 21:37 / sld
Copper	ND mg/L	0.002	E200.8	07/01/19 21:37 / sld
Iron	0.05 mg/L	0.02	E200.8	07/01/19 21:37 / sld
Lead	0.0005 mg/L	0.0003	E200.8	07/01/19 21:37 / sld
Magnesium	34 mg/L	1	E200.7	06/25/19 01:41 / sld
Manganese	0.007 mg/L	0.005	E200.8	07/01/19 21:37 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 13:53 / ber
Molybdenum	0.004 mg/L	0.002	E200.8	07/01/19 21:37 / sld
Nickel	ND mg/L	0.001	E200.8	07/01/19 21:37 / sld
Potassium	1 mg/L	1	E200.7	06/25/19 01:41 / sld
Selenium	ND mg/L	0.0002	E200.8	07/01/19 21:37 / sld
Silver	ND mg/L	0.0002	E200.8	07/01/19 21:37 / sld
Sodium	3 mg/L	1	E200.7	06/25/19 01:41 / sld
Strontium	0.148 mg/L	0.0002	E200.7	06/25/19 01:41 / sld
Thallium	ND mg/L	0.0002	E200.8	07/01/19 21:37 / sld
Uranium	0.0019 mg/L	0.0002	E200.8	07/01/19 21:37 / sld
Zinc	ND mg/L	0.002	E200.8	07/01/19 21:37 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060562-006
BBC-1906-226

07/09/19
06/20/19 15:45
06/24/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/25/19 10:57 / cmm
Solids, Total Dissolved TDS @ 180 C	151 mg/L	10	A2540 C	06/25/19 11:03 / cmm
Alkalinity, Total as CaCO3	140 mg/L	4	A2320 B	06/27/19 13:17 / RAT
Chloride	ND mg/L	1	E300.0	06/26/19 12:00 / cmm
Sulfate	16 mg/L	1	E300.0	06/26/19 12:00 / cmm
Fluoride	0.2 mg/L	0.1	4 A4500-F C	06/26/19 12:54 / RAT
Hardness as CaCO3	146 mg/L	1	A2340 B	06/25/19 01:45 / abc
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 14:40 / kmd
Aluminum	ND mg/L	0.009	E200.8	07/01/19 21:39 / sld
Antimony	ND mg/L	0.0005	E200.8	07/01/19 21:39 / sld
Arsenic	0.002 mg/L	0.001	E200.8	07/01/19 21:39 / sld
Barium	0.077 mg/L	0.003	E200.8	07/01/19 21:39 / sld
Beryllium	ND mg/L	0.0008	E200.8	07/01/19 21:39 / sld
Cadmium	ND mg/L	0.00003	E200.8	07/01/19 21:39 / sld
Calcium	23 mg/L	1	E200.7	06/25/19 01:45 / sld
Chromium	ND mg/L	0.01	E200.8	07/01/19 21:39 / sld
Cobalt	ND mg/L	0.01	E200.8	07/01/19 21:39 / sld
Copper	ND mg/L	0.002	E200.8	07/01/19 21:39 / sld
Iron	0.09 mg/L	0.02	E200.8	07/01/19 21:39 / sld
Lead	ND mg/L	0.0003	E200.8	07/01/19 21:39 / sld
Magnesium	22 mg/L	1	E200.7	06/25/19 01:45 / sld
Manganese	0.018 mg/L	0.005	E200.8	07/01/19 21:39 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 13:56 / ber
Molybdenum	ND mg/L	0.002	E200.8	07/01/19 21:39 / sld
Nickel	ND mg/L	0.001	E200.8	07/01/19 21:39 / sld
Potassium	ND mg/L	1	E200.7	06/25/19 01:45 / sld
Selenium	ND mg/L	0.0002	E200.8	07/01/19 21:39 / sld
Silver	ND mg/L	0.0002	E200.8	07/01/19 21:39 / sld
Sodium	3 mg/L	1	E200.7	06/25/19 01:45 / sld
Strontium	0.0787 mg/L	0.0002	E200.7	06/25/19 01:45 / sld
Thallium	ND mg/L	0.0002	E200.8	07/01/19 21:39 / sld
Uranium	0.0008 mg/L	0.0002	E200.8	07/01/19 21:39 / sld
Zinc	ND mg/L	0.002	E200.8	07/01/19 21:39 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060562-007
BBC-1906-227

07/09/19
06/20/19 18:40
06/24/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/25/19 10:58 / cmm
Solids, Total Dissolved TDS @ 180 C	188 mg/L	10	A2540 C	06/25/19 11:03 / cmm
Alkalinity, Total as CaCO3	180 mg/L	4	A2320 B	06/27/19 13:22 / RAT
Chloride	ND mg/L	1	E300.0	06/26/19 12:14 / cmm
Sulfate	4 mg/L	1	E300.0	06/26/19 12:14 / cmm
Fluoride	0.2 mg/L	0.1	4 A4500-F C	06/26/19 12:58 / RAT
Hardness as CaCO3	184 mg/L	1	A2340 B	06/25/19 02:39 / abc
Nitrogen, Nitrate+Nitrite as N	0.60 mg/L	0.01	E353.2	07/01/19 14:42 / kmd
Aluminum	0.027 mg/L	0.009	E200.8	07/02/19 19:29 / sld
Antimony	ND mg/L	0.0005	E200.8	07/01/19 21:42 / sld
Arsenic	ND mg/L	0.001	E200.8	07/01/19 21:42 / sld
Barium	0.211 mg/L	0.003	E200.8	07/01/19 21:42 / sld
Beryllium	ND mg/L	0.0008	E200.8	07/01/19 21:42 / sld
Cadmium	ND mg/L	0.00003	E200.8	07/01/19 21:42 / sld
Calcium	44 mg/L	1	E200.7	06/25/19 02:39 / sld
Chromium	ND mg/L	0.01	E200.8	07/01/19 21:42 / sld
Cobalt	ND mg/L	0.01	E200.8	07/01/19 21:42 / sld
Copper	ND mg/L	0.002	E200.8	07/01/19 21:42 / sld
Iron	0.02 mg/L	0.02	E200.8	07/01/19 21:42 / sld
Lead	ND mg/L	0.0003	E200.8	07/01/19 21:42 / sld
Magnesium	18 mg/L	1	E200.7	06/25/19 02:39 / sld
Manganese	ND mg/L	0.005	E200.8	07/01/19 21:42 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 13:59 / ber
Molybdenum	0.004 mg/L	0.002	E200.8	07/01/19 21:42 / sld
Nickel	ND mg/L	0.001	E200.8	07/01/19 21:42 / sld
Potassium	2 mg/L	1	E200.7	06/25/19 02:39 / sld
Selenium	ND mg/L	0.0002	E200.8	07/01/19 21:42 / sld
Silver	ND mg/L	0.0002	E200.8	07/01/19 21:42 / sld
Sodium	6 mg/L	1	E200.7	06/25/19 02:39 / sld
Strontium	0.893 mg/L	0.0002	E200.7	06/25/19 02:39 / sld
Thallium	ND mg/L	0.0002	E200.8	07/01/19 21:42 / sld
Uranium	0.0051 mg/L	0.0002	E200.8	07/01/19 21:42 / sld
Zinc	ND mg/L	0.002	E200.8	07/01/19 21:42 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060562-008
BBC-1906-228

07/09/19
06/21/19 09:20
06/24/19
Groundwater

Solids, Total Suspended TSS @ 105 C	25 mg/L	10	A2540 D	06/25/19 10:58 / cmm
Solids, Total Dissolved TDS @ 180 C	160 mg/L	10	A2540 C	06/25/19 11:03 / cmm
Alkalinity, Total as CaCO3	150 mg/L	4	A2320 B	06/27/19 13:28 / RAT
Chloride	ND mg/L	1	E300.0	06/26/19 12:29 / cmm
Sulfate	5 mg/L	1	E300.0	06/26/19 12:29 / cmm
Fluoride	ND mg/L	0.1	4 A4500-F C	06/26/19 13:02 / RAT
Hardness as CaCO3	151 mg/L	1	A2340 B	06/25/19 02:43 / abc
Nitrogen, Nitrate+Nitrite as N	0.47 mg/L	0.01	E353.2	07/01/19 14:43 / kmd
Aluminum	ND mg/L	0.009	E200.8	07/01/19 21:44 / sld
Antimony	ND mg/L	0.0005	E200.8	07/01/19 21:44 / sld
Arsenic	ND mg/L	0.001	E200.8	07/01/19 21:44 / sld
Barium	0.149 mg/L	0.003	E200.8	07/01/19 21:44 / sld
Beryllium	ND mg/L	0.0008	E200.8	07/01/19 21:44 / sld
Cadmium	ND mg/L	0.00003	E200.8	07/01/19 21:44 / sld
Calcium	43 mg/L	1	E200.7	06/25/19 02:43 / sld
Chromium	ND mg/L	0.01	E200.8	07/01/19 21:44 / sld
Cobalt	ND mg/L	0.01	E200.8	07/01/19 21:44 / sld
Copper	ND mg/L	0.002	E200.8	07/01/19 21:44 / sld
Iron	ND mg/L	0.02	E200.8	07/01/19 21:44 / sld
Lead	ND mg/L	0.0003	E200.8	07/01/19 21:44 / sld
Magnesium	11 mg/L	1	E200.7	06/25/19 02:43 / sld
Manganese	ND mg/L	0.005	E200.8	07/01/19 21:44 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 14:03 / ber
Molybdenum	ND mg/L	0.002	E200.8	07/01/19 21:44 / sld
Nickel	ND mg/L	0.001	E200.8	07/01/19 21:44 / sld
Potassium	2 mg/L	1	E200.7	06/25/19 02:43 / sld
Selenium	ND mg/L	0.0002	E200.8	07/01/19 21:44 / sld
Silver	ND mg/L	0.0002	E200.8	07/01/19 21:44 / sld
Sodium	4 mg/L	1	E200.7	06/25/19 02:43 / sld
Strontium	0.322 mg/L	0.0002	E200.7	06/25/19 02:43 / sld
Thallium	ND mg/L	0.0002	E200.8	07/01/19 21:44 / sld
Uranium	0.0015 mg/L	0.0002	E200.8	07/01/19 21:44 / sld
Zinc	ND mg/L	0.002	E200.8	07/01/19 21:44 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060562-009
BBC-1906-229

07/09/19
06/21/19 09:50
06/24/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/25/19 10:58 / cmm
Solids, Total Dissolved TDS @ 180 C	210 mg/L	10	A2540 C	06/25/19 11:03 / cmm
Alkalinity, Total as CaCO3	200 mg/L	4	A2320 B	06/27/19 13:33 / RAT
Chloride	ND mg/L	1	E300.0	06/26/19 12:43 / cmm
Sulfate	11 mg/L	1	E300.0	06/26/19 12:43 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/26/19 13:06 / RAT
Hardness as CaCO3	223 mg/L	1	A2340 B	06/25/19 02:47 / abc
Nitrogen, Nitrate+Nitrite as N	0.13 mg/L	0.01	E353.2	07/01/19 14:46 / kmd
Aluminum	ND mg/L	0.009	E200.8	07/01/19 21:46 / sld
Antimony	ND mg/L	0.0005	E200.8	07/01/19 21:46 / sld
Arsenic	ND mg/L	0.001	E200.8	07/01/19 21:46 / sld
Barium	0.051 mg/L	0.003	E200.8	07/01/19 21:46 / sld
Beryllium	ND mg/L	0.0008	E200.8	07/01/19 21:46 / sld
Cadmium	ND mg/L	0.00003	E200.8	07/01/19 21:46 / sld
Calcium	58 mg/L	1	E200.7	06/25/19 02:47 / sld
Chromium	ND mg/L	0.01	E200.8	07/01/19 21:46 / sld
Cobalt	ND mg/L	0.01	E200.8	07/01/19 21:46 / sld
Copper	ND mg/L	0.002	E200.8	07/01/19 21:46 / sld
Iron	ND mg/L	0.02	E200.8	07/01/19 21:46 / sld
Lead	ND mg/L	0.0003	E200.8	07/01/19 21:46 / sld
Magnesium	19 mg/L	1	E200.7	06/25/19 02:47 / sld
Manganese	ND mg/L	0.005	E200.8	07/01/19 21:46 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 14:06 / ber
Molybdenum	ND mg/L	0.002	E200.8	07/01/19 21:46 / sld
Nickel	ND mg/L	0.001	E200.8	07/01/19 21:46 / sld
Potassium	ND mg/L	1	E200.7	06/25/19 02:47 / sld
Selenium	ND mg/L	0.0002	E200.8	07/01/19 21:46 / sld
Silver	ND mg/L	0.0002	E200.8	07/01/19 21:46 / sld
Sodium	2 mg/L	1	E200.7	06/25/19 02:47 / sld
Strontium	0.136 mg/L	0.0002	E200.7	06/25/19 02:47 / sld
Thallium	ND mg/L	0.0002	E200.8	07/01/19 21:46 / sld
Uranium	0.0007 mg/L	0.0002	E200.8	07/01/19 21:46 / sld
Zinc	ND mg/L	0.002	E200.8	07/01/19 21:46 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060562-010
BBC-1906-230

07/09/19
06/21/19 10:25
06/24/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/25/19 10:58 / cmm
Solids, Total Dissolved TDS @ 180 C	221 mg/L	10	A2540 C	06/25/19 11:03 / cmm
Alkalinity, Total as CaCO3	210 mg/L	4	A2320 B	07/02/19 13:32 / abc
Chloride	ND mg/L	1	E300.0	06/26/19 12:58 / cmm
Sulfate	14 mg/L	1	E300.0	06/26/19 12:58 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/26/19 13:11 / RAT
Hardness as CaCO3	222 mg/L	1	A2340 B	07/02/19 11:44 / sld
Nitrogen, Nitrate+Nitrite as N	0.15 mg/L	0.01	E353.2	07/01/19 14:50 / kmd
Aluminum	ND mg/L	0.009	E200.8	07/01/19 21:48 / sld
Antimony	ND mg/L	0.0005	E200.8	07/01/19 21:48 / sld
Arsenic	ND mg/L	0.001	E200.8	07/01/19 21:48 / sld
Barium	0.054 mg/L	0.003	E200.8	07/01/19 21:48 / sld
Beryllium	ND mg/L	0.0008	E200.8	07/01/19 21:48 / sld
Cadmium	ND mg/L	0.00003	E200.8	07/01/19 21:48 / sld
Calcium	57 mg/L	1	E200.7	06/25/19 02:51 / sld
Chromium	ND mg/L	0.01	E200.8	07/01/19 21:48 / sld
Cobalt	ND mg/L	0.01	E200.8	07/01/19 21:48 / sld
Copper	ND mg/L	0.002	E200.8	07/01/19 21:48 / sld
Iron	ND mg/L	0.02	E200.8	07/01/19 21:48 / sld
Lead	ND mg/L	0.0003	E200.8	07/01/19 21:48 / sld
Magnesium	20 mg/L	1	E200.7	06/25/19 02:51 / sld
Manganese	ND mg/L	0.005	E200.8	07/01/19 21:48 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 14:09 / ber
Molybdenum	ND mg/L	0.002	E200.8	07/01/19 21:48 / sld
Nickel	ND mg/L	0.001	E200.8	07/01/19 21:48 / sld
Potassium	ND mg/L	1	E200.7	06/25/19 02:51 / sld
Selenium	ND mg/L	0.0002	E200.8	07/01/19 21:48 / sld
Silver	ND mg/L	0.0002	E200.8	07/01/19 21:48 / sld
Sodium	2 mg/L	1	E200.7	06/25/19 02:51 / sld
Strontium	0.0976 mg/L	0.0002	E200.7	06/25/19 02:51 / sld
Thallium	ND mg/L	0.0002	E200.8	07/01/19 21:48 / sld
Uranium	0.0005 mg/L	0.0002	E200.8	07/01/19 21:48 / sld
Zinc	ND mg/L	0.002	E200.8	07/01/19 21:48 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060562-011
BBC-1906-231

07/09/19
06/21/19 11:00
06/24/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/25/19 10:59 / cmm
Solids, Total Dissolved TDS @ 180 C	202 mg/L	10	A2540 C	06/25/19 11:04 / cmm
Alkalinity, Total as CaCO3	180 mg/L	4	A2320 B	07/02/19 13:39 / abc
Chloride	ND mg/L	1	E300.0	06/26/19 13:56 / cmm
Sulfate	13 mg/L	1	E300.0	06/26/19 13:56 / cmm
Fluoride	0.1 mg/L	0.1	4 A4500-F C	06/26/19 13:23 / RAT
Hardness as CaCO3	196 mg/L	1	A2340 B	07/03/19 08:53 / sld
Nitrogen, Nitrate+Nitrite as N	0.29 mg/L	0.01	E353.2	07/01/19 14:51 / kmd
Aluminum	0.018 mg/L	0.009	E200.8	07/02/19 19:31 / sld
Antimony	ND mg/L	0.0005	E200.8	07/01/19 22:03 / sld
Arsenic	ND mg/L	0.001	E200.8	07/01/19 22:03 / sld
Barium	0.077 mg/L	0.003	E200.8	07/01/19 22:03 / sld
Beryllium	ND mg/L	0.0008	E200.8	07/01/19 22:03 / sld
Cadmium	ND mg/L	0.00003	E200.8	07/01/19 22:03 / sld
Calcium	48 mg/L	1	E200.7	06/25/19 02:55 / sld
Chromium	ND mg/L	0.01	E200.8	07/01/19 22:03 / sld
Cobalt	ND mg/L	0.01	E200.8	07/01/19 22:03 / sld
Copper	ND mg/L	0.002	E200.8	07/01/19 22:03 / sld
Iron	0.02 mg/L	0.02	E200.8	07/01/19 22:03 / sld
Lead	ND mg/L	0.0003	E200.8	07/01/19 22:03 / sld
Magnesium	19 mg/L	1	E200.7	06/25/19 02:55 / sld
Manganese	ND mg/L	0.005	E200.8	07/01/19 22:03 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 14:12 / ber
Molybdenum	ND mg/L	0.002	E200.8	07/01/19 22:03 / sld
Nickel	ND mg/L	0.001	E200.8	07/01/19 22:03 / sld
Potassium	ND mg/L	1	E200.7	06/25/19 02:55 / sld
Selenium	ND mg/L	0.0002	E200.8	07/01/19 22:03 / sld
Silver	ND mg/L	0.0002	E200.8	07/01/19 22:03 / sld
Sodium	2 mg/L	1	E200.7	06/25/19 02:55 / sld
Strontium	0.148 mg/L	0.0002	E200.7	06/25/19 02:55 / sld
Thallium	ND mg/L	0.0002	E200.8	07/01/19 22:03 / sld
Uranium	0.0007 mg/L	0.0002	E200.8	07/01/19 22:03 / sld
Zinc	ND mg/L	0.002	E200.8	07/01/19 22:03 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060562-012
BBC-1906-232

07/09/19
06/21/19 12:35
06/24/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/25/19 10:59 / cmm
Solids, Total Dissolved TDS @ 180 C	203 mg/L	10	A2540 C	06/25/19 11:04 / cmm
Alkalinity, Total as CaCO3	190 mg/L	4	A2320 B	07/02/19 13:46 / abc
Chloride	1 mg/L	1	E300.0	06/26/19 14:39 / cmm
Sulfate	9 mg/L	1	E300.0	06/26/19 14:39 / cmm
Fluoride	0.2 mg/L	0.1	4 A4500-F C	06/26/19 13:31 / RAT
Hardness as CaCO3	206 mg/L	1	A2340 B	07/02/19 11:44 / sld
Nitrogen, Nitrate+Nitrite as N	0.41 mg/L	0.01	E353.2	07/01/19 14:52 / kmd
Aluminum	ND mg/L	0.009	E200.8	07/01/19 22:05 / sld
Antimony	ND mg/L	0.0005	E200.8	07/01/19 22:05 / sld
Arsenic	ND mg/L	0.001	E200.8	07/01/19 22:05 / sld
Barium	0.253 mg/L	0.003	E200.8	07/01/19 22:05 / sld
Beryllium	ND mg/L	0.0008	E200.8	07/01/19 22:05 / sld
Cadmium	ND mg/L	0.00003	E200.8	07/01/19 22:05 / sld
Calcium	43 mg/L	1	E200.7	06/25/19 02:59 / sld
Chromium	ND mg/L	0.01	E200.8	07/01/19 22:05 / sld
Cobalt	ND mg/L	0.01	E200.8	07/01/19 22:05 / sld
Copper	ND mg/L	0.002	E200.8	07/01/19 22:05 / sld
Iron	ND mg/L	0.02	E200.8	07/01/19 22:05 / sld
Lead	ND mg/L	0.0003	E200.8	07/01/19 22:05 / sld
Magnesium	24 mg/L	1	E200.7	06/25/19 02:59 / sld
Manganese	ND mg/L	0.005	E200.8	07/01/19 22:05 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 14:16 / ber
Molybdenum	ND mg/L	0.002	E200.8	07/01/19 22:05 / sld
Nickel	ND mg/L	0.001	E200.8	07/01/19 22:05 / sld
Potassium	ND mg/L	1	E200.7	06/25/19 02:59 / sld
Selenium	0.0010 mg/L	0.0002	E200.8	07/01/19 22:05 / sld
Silver	ND mg/L	0.0002	E200.8	07/01/19 22:05 / sld
Sodium	2 mg/L	1	E200.7	06/25/19 02:59 / sld
Strontium	0.105 mg/L	0.0002	E200.7	06/25/19 02:59 / sld
Thallium	ND mg/L	0.0002	E200.8	07/01/19 22:05 / sld
Uranium	0.0009 mg/L	0.0002	E200.8	07/01/19 22:05 / sld
Zinc	0.007 mg/L	0.002	E200.8	07/01/19 22:05 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc
18049 Black Butte Copper (GW)
H19060562-013
BBC-1906-233

07/09/19
06/21/19 12:50
06/24/19
Groundwater

Solids, Total Suspended TSS @ 105 C	ND mg/L	10	A2540 D	06/25/19 10:59 / cmm
Solids, Total Dissolved TDS @ 180 C	ND mg/L	10	A2540 C	06/25/19 11:04 / cmm
Alkalinity, Total as CaCO3	ND mg/L	4	A2320 B	07/02/19 12:13 / abc
Chloride	ND mg/L	1	E300.0	06/26/19 14:54 / cmm
Sulfate	ND mg/L	1	E300.0	06/26/19 14:54 / cmm
Fluoride	ND mg/L	0.1	4 A4500-F C	06/26/19 13:35 / RAT
Hardness as CaCO3	ND mg/L	1	A2340 B	07/02/19 11:44 / sld
Nitrogen, Nitrate+Nitrite as N	ND mg/L	0.01	E353.2	07/01/19 14:54 / kmd
Aluminum	ND mg/L	0.009	E200.8	07/01/19 22:07 / sld
Antimony	ND mg/L	0.0005	E200.8	07/01/19 22:07 / sld
Arsenic	ND mg/L	0.001	E200.8	07/01/19 22:07 / sld
Barium	ND mg/L	0.003	E200.8	07/01/19 22:07 / sld
Beryllium	ND mg/L	0.0008	E200.8	07/01/19 22:07 / sld
Cadmium	ND mg/L	0.00003	E200.8	07/01/19 22:07 / sld
Calcium	ND mg/L	1	E200.7	06/25/19 03:03 / sld
Chromium	ND mg/L	0.01	E200.8	07/01/19 22:07 / sld
Cobalt	ND mg/L	0.01	E200.8	07/01/19 22:07 / sld
Copper	ND mg/L	0.002	E200.8	07/01/19 22:07 / sld
Iron	ND mg/L	0.02	E200.8	07/01/19 22:07 / sld
Lead	ND mg/L	0.0003	E200.8	07/01/19 22:07 / sld
Magnesium	ND mg/L	1	E200.7	06/25/19 03:03 / sld
Manganese	ND mg/L	0.005	E200.8	07/01/19 22:07 / sld
Mercury	ND ug/L	0.005	E245.1	06/26/19 14:19 / ber
Molybdenum	ND mg/L	0.002	E200.8	07/01/19 22:07 / sld
Nickel	ND mg/L	0.001	E200.8	07/01/19 22:07 / sld
Potassium	ND mg/L	1	E200.7	06/25/19 03:03 / sld
Selenium	ND mg/L	0.0002	E200.8	07/01/19 22:07 / sld
Silver	ND mg/L	0.0002	E200.8	07/01/19 22:07 / sld
Sodium	ND mg/L	1	E200.7	06/25/19 03:03 / sld
Strontium	ND mg/L	0.0002	E200.7	06/25/19 03:03 / sld
Thallium	ND mg/L	0.0002	E200.8	07/01/19 22:07 / sld
Uranium	ND mg/L	0.0002	E200.8	07/01/19 22:07 / sld
Zinc	ND mg/L	0.002	E200.8	07/01/19 22:07 / sld

RL - Analyte reporting limit.
QCL - Quality control limit.

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



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

--	--	--	--	--	--	--	--

							Batch: R145421
Alkalinity, Total as CaCO3	Method Blank					Run: PHSC_101-H_190627A	06/27/19 12:07
	ND	mg/L	2				
Alkalinity, Total as CaCO3	Laboratory Control Sample					Run: PHSC_101-H_190627A	06/27/19 12:15
	570	mg/L	4.0	94	90	110	
Alkalinity, Total as CaCO3	Sample Duplicate					Run: PHSC_101-H_190627A	06/27/19 13:11
	220	mg/L	4.0			0.6	10
							Batch: R145558
Alkalinity, Total as CaCO3	Laboratory Control Sample					Run: PHSC_101-H_190702A	07/02/19 11:41
	550	mg/L	4.0	92	90	110	
Alkalinity, Total as CaCO3	Method Blank					Run: PHSC_101-H_190702A	07/02/19 11:58
	ND	mg/L	2				
Alkalinity, Total as CaCO3	Sample Duplicate					Run: PHSC_101-H_190702A	07/02/19 12:08
	ND	mg/L	4.0				10
Alkalinity, Total as CaCO3	Sample Duplicate					Run: PHSC_101-H_190702A	07/02/19 13:11
	38	mg/L	4.0			2.2	10
							Batch: R145639
Alkalinity, Total as CaCO3	Method Blank					Run: PHSC_101-H_190705A	07/05/19 10:31
	ND	mg/L	2				
Alkalinity, Total as CaCO3	Laboratory Control Sample					Run: PHSC_101-H_190705A	07/05/19 10:37
	540	mg/L	4.0	90	90	110	
Alkalinity, Total as CaCO3	Sample Duplicate					Run: PHSC_101-H_190705A	07/05/19 11:23
	1200	mg/L	4.0			2.6	10
Alkalinity, Total as CaCO3	Sample Duplicate					Run: PHSC_101-H_190705A	07/05/19 12:32
	160	mg/L	4.0			1.5	10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

Batch: TDS190625A

	Method Blank				Run: ACCU-124 (14410200)_19062	06/25/19 11:01
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	10			
	Laboratory Control Sample				Run: ACCU-124 (14410200)_19062	06/25/19 11:02
Solids, Total Dissolved TDS @ 180 C	1870	mg/L	20	94	90	110
	Sample Duplicate				Run: ACCU-124 (14410200)_19062	06/25/19 11:02
Solids, Total Dissolved TDS @ 180 C	185	mg/L	10		1.1	5
	Sample Duplicate				Run: ACCU-124 (14410200)_19062	06/25/19 11:04
Solids, Total Dissolved TDS @ 180 C	202	mg/L	10		0.0	5

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

Batch: TSS190625A

	Method Blank				Run: ACCU-124 (14410200)_19062	06/25/19 10:56
Solids, Total Suspended TSS @ 105 C	ND	mg/L	0.3			
	Laboratory Control Sample				Run: ACCU-124 (14410200)_19062	06/25/19 10:56
Solids, Total Suspended TSS @ 105 C	96.0	mg/L	10	96	80 120	
	Sample Duplicate				Run: ACCU-124 (14410200)_19062	06/25/19 10:56
Solids, Total Suspended TSS @ 105 C	9.00	mg/L	10			5
	Sample Duplicate				Run: ACCU-124 (14410200)_19062	06/25/19 10:59
Solids, Total Suspended TSS @ 105 C	9.00	mg/L	10			5

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

--	--	--	--	--	--	--	--

							Analytical Run: MANTECH 2_190626A
							06/26/19 12:17
Initial Calibration Verification Standard							
Fluoride	0.7	mg/L	0.1	99	90	110	
							06/26/19 13:15
Continuing Calibration Verification Standard							
Fluoride	1.0	mg/L	0.1	99	90	110	
							Batch: R145416
							06/26/19 12:22
Method Blank							
Fluoride	ND	mg/L	0.03				Run: MANTECH 2_190626A
							06/26/19 12:30
Sample Matrix Spike							
Fluoride	1.1	mg/L	0.1	105	85	115	Run: MANTECH 2_190626A
							06/26/19 12:38
Sample Duplicate							
Fluoride	0.1	mg/L	0.1			0.0	10
							06/26/19 13:27
Sample Duplicate							
Fluoride	0.1	mg/L	0.1			0.0	10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

Analytical Run: ICP2-HE_190624C

5 Initial Calibration Verification Standard 06/24/19 13:22

Calcium	39.6	mg/L	1.0	99	95	105
Magnesium	39.3	mg/L	1.0	98	95	105
Potassium	39.9	mg/L	1.0	100	95	105
Sodium	39.9	mg/L	1.0	100	95	105
Strontium	0.789	mg/L	0.10	99	95	105

5 Continuing Calibration Verification Standard 06/24/19 13:26

Calcium	25.2	mg/L	1.0	101	95	105
Magnesium	24.7	mg/L	1.0	99	95	105
Potassium	25.4	mg/L	1.0	102	95	105
Sodium	25.4	mg/L	1.0	102	95	105
Strontium	2.52	mg/L	0.10	101	95	105

5 Interference Check Sample A 06/24/19 13:38

Calcium	454	mg/L	1.0	91	80	120
Magnesium	506	mg/L	1.0	101	80	120
Potassium	0.00209	mg/L	1.0		0	0
Sodium	0.0237	mg/L	1.0		0	0
Strontium	-0.0268	mg/L	0.10		0	0

5 Interference Check Sample AB 06/24/19 13:42

Calcium	471	mg/L	1.0	94	80	120
Magnesium	524	mg/L	1.0	105	80	120
Potassium	21.5	mg/L	1.0	108	80	120
Sodium	21.7	mg/L	1.0	108	80	120
Strontium	1.01	mg/L	0.10	101	80	120

5 Continuing Calibration Verification Standard 06/25/19 01:10

Calcium	22.8	mg/L	1.0	91	90	110
Magnesium	23.1	mg/L	1.0	93	90	110
Potassium	24.6	mg/L	1.0	99	90	110
Sodium	25.5	mg/L	1.0	102	90	110
Strontium	2.38	mg/L	0.10	95	90	110

5 Continuing Calibration Verification Standard 06/25/19 02:24

Calcium	24.2	mg/L	1.0	97	90	110
Magnesium	23.6	mg/L	1.0	95	90	110
Potassium	24.0	mg/L	1.0	96	90	110
Sodium	24.1	mg/L	1.0	96	90	110
Strontium	2.48	mg/L	0.10	99	90	110

Batch: R145339

5 Method Blank Run: ICP2-HE_190624C 06/24/19 13:53

Calcium	ND	mg/L	0.07			
Magnesium	ND	mg/L	0.01			
Potassium	ND	mg/L	0.06			
Sodium	ND	mg/L	0.02			

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

--	--	--	--	--	--	--	--	--	--

Batch: R145339

Element	Method	Unit	Value	Run	Date	Time
Strontium	5 Method Blank	mg/L	0.0002	Run: ICP2-HE_190624C	06/24/19	13:53
		ND				
Calcium	5 Laboratory Fortified Blank	mg/L	1.0	Run: ICP2-HE_190624C	06/24/19	13:57
Magnesium		mg/L	1.0			
Potassium		mg/L	1.0			
Sodium		mg/L	1.0			
Strontium		mg/L	0.10			
Calcium	5 Sample Matrix Spike	mg/L	1.0	Run: ICP2-HE_190624C	06/25/19	01:53
Magnesium		mg/L	1.0			
Potassium		mg/L	1.0			
Sodium		mg/L	1.0			
Strontium		mg/L	0.010			
Calcium	5 Sample Matrix Spike Duplicate	mg/L	1.0	Run: ICP2-HE_190624C	06/25/19	02:35
Magnesium		mg/L	1.0			
Potassium		mg/L	1.0			
Sodium		mg/L	1.0			
Strontium		mg/L	0.010			
Calcium	5 Sample Matrix Spike	mg/L	1.0	Run: ICP2-HE_190624C	06/25/19	03:18
Magnesium		mg/L	1.0			
Potassium		mg/L	1.0			
Sodium		mg/L	1.0			
Strontium		mg/L	0.010			
Calcium	5 Sample Matrix Spike Duplicate	mg/L	1.0	Run: ICP2-HE_190624C	06/25/19	03:22
Magnesium		mg/L	1.0			
Potassium		mg/L	1.0			
Sodium		mg/L	1.0			
Strontium		mg/L	0.010			

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

Analytical Run: ICPMS205-H_190701B

19 Initial Calibration Verification Standard

07/01/19 14:08

Aluminum	0.298	mg/L	0.10	99	90	110
Antimony	0.0582	mg/L	0.050	97	90	110
Arsenic	0.0598	mg/L	0.0050	100	90	110
Barium	0.0600	mg/L	0.10	100	90	110
Beryllium	0.0296	mg/L	0.0010	99	90	110
Cadmium	0.0304	mg/L	0.0010	101	90	110
Chromium	0.0604	mg/L	0.010	101	90	110
Cobalt	0.0614	mg/L	0.010	102	90	110
Copper	0.0606	mg/L	0.010	101	90	110
Iron	0.305	mg/L	0.020	102	90	110
Lead	0.0596	mg/L	0.010	99	90	110
Manganese	0.303	mg/L	0.010	101	90	110
Molybdenum	0.0599	mg/L	0.0050	100	90	110
Nickel	0.0608	mg/L	0.010	101	90	110
Selenium	0.0610	mg/L	0.0050	102	90	110
Silver	0.0304	mg/L	0.0050	101	90	110
Thallium	0.0594	mg/L	0.10	99	90	110
Uranium	0.0578	mg/L	0.00030	96	90	110
Zinc	0.0616	mg/L	0.010	103	90	110

19 Interference Check Sample A

07/01/19 14:10

Aluminum	40.4	mg/L	0.10	101	70	130
Antimony	0.000343	mg/L	0.050			
Arsenic	2.24E-05	mg/L	0.0050			
Barium	0.000191	mg/L	0.10			
Beryllium	2.58E-05	mg/L	0.0010			
Cadmium	0.000148	mg/L	0.0010			
Chromium	0.000198	mg/L	0.010			
Cobalt	0.000366	mg/L	0.010			
Copper	-4.59E-05	mg/L	0.010			
Iron	101	mg/L	0.020	101	70	130
Lead	9.94E-05	mg/L	0.010			
Manganese	0.000420	mg/L	0.010			
Molybdenum	0.816	mg/L	0.0050	102	70	130
Nickel	0.000247	mg/L	0.010			
Selenium	4.64E-05	mg/L	0.0050			
Silver	2.56E-05	mg/L	0.0050			
Thallium	6.03E-05	mg/L	0.10			
Uranium	2.81E-05	mg/L	0.00030			
Zinc	0.000234	mg/L	0.010			

19 Interference Check Sample AB

07/01/19 14:12

Aluminum	40.6	mg/L	0.10	101	70	130
Antimony	0.000210	mg/L	0.050		0	0
Arsenic	0.0101	mg/L	0.0050	101	70	130
Barium	0.000161	mg/L	0.10		0	0

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

Analytical Run: ICPMS205-H_190701B

19 Interference Check Sample AB

07/01/19 14:12

Beryllium	8.95E-06	mg/L	0.0010	0	0
Cadmium	0.00954	mg/L	0.0010	95	70 130
Chromium	0.0203	mg/L	0.010	101	70 130
Cobalt	0.0203	mg/L	0.010	102	70 130
Copper	0.0194	mg/L	0.010	97	70 130
Iron	103	mg/L	0.020	103	70 130
Lead	8.49E-05	mg/L	0.010		0 0
Manganese	0.0204	mg/L	0.010	102	70 130
Molybdenum	0.818	mg/L	0.0050	102	70 130
Nickel	0.0199	mg/L	0.010	100	70 130
Selenium	0.00961	mg/L	0.0050	96	70 130
Silver	0.00477	mg/L	0.0050	95	70 130
Thallium	3.85E-05	mg/L	0.10		0 0
Uranium	7.64E-06	mg/L	0.00030		0 0
Zinc	0.00992	mg/L	0.010	99	70 130

19 Initial Calibration Verification Standard

07/01/19 20:16

Aluminum	0.297	mg/L	0.10	99	90 110
Antimony	0.0580	mg/L	0.050	97	90 110
Arsenic	0.0600	mg/L	0.0050	100	90 110
Barium	0.0598	mg/L	0.10	100	90 110
Beryllium	0.0300	mg/L	0.0010	100	90 110
Cadmium	0.0303	mg/L	0.0010	101	90 110
Chromium	0.0598	mg/L	0.010	100	90 110
Cobalt	0.0611	mg/L	0.010	102	90 110
Copper	0.0609	mg/L	0.010	101	90 110
Iron	0.303	mg/L	0.020	101	90 110
Lead	0.0595	mg/L	0.010	99	90 110
Manganese	0.303	mg/L	0.010	101	90 110
Molybdenum	0.0601	mg/L	0.0050	100	90 110
Nickel	0.0607	mg/L	0.010	101	90 110
Selenium	0.0613	mg/L	0.0050	102	90 110
Silver	0.0304	mg/L	0.0050	101	90 110
Thallium	0.0592	mg/L	0.10	99	90 110
Uranium	0.0579	mg/L	0.00030	97	90 110
Zinc	0.0609	mg/L	0.010	102	90 110

19 Interference Check Sample A

07/01/19 20:18

Aluminum	41.2	mg/L	0.10	103	70 130
Antimony	0.000324	mg/L	0.050		
Arsenic	4.43E-05	mg/L	0.0050		
Barium	0.000163	mg/L	0.10		
Beryllium	8.99E-06	mg/L	0.0010		
Cadmium	0.000140	mg/L	0.0010		
Chromium	0.000230	mg/L	0.010		
Cobalt	0.000319	mg/L	0.010		

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

--

Analytical Run: ICPMS205-H_190701B

19 Interference Check Sample A

07/01/19 20:18

Copper	3.01E-05	mg/L	0.010			
Iron	102	mg/L	0.020	102	70	130
Lead	8.75E-05	mg/L	0.010			
Manganese	0.000360	mg/L	0.010			
Molybdenum	0.831	mg/L	0.0050	104	70	130
Nickel	0.000263	mg/L	0.010			
Selenium	4.25E-05	mg/L	0.0050			
Silver	2.50E-05	mg/L	0.0050			
Thallium	5.42E-05	mg/L	0.10			
Uranium	2.38E-05	mg/L	0.00030			
Zinc	0.000213	mg/L	0.010			

19 Interference Check Sample AB

07/01/19 20:20

Aluminum	41.1	mg/L	0.10	103	70	130
Antimony	0.000210	mg/L	0.050		0	0
Arsenic	0.0103	mg/L	0.0050	103	70	130
Barium	0.000146	mg/L	0.10		0	0
Beryllium	3.08E-06	mg/L	0.0010		0	0
Cadmium	0.00962	mg/L	0.0010	96	70	130
Chromium	0.0198	mg/L	0.010	99	70	130
Cobalt	0.0200	mg/L	0.010	100	70	130
Copper	0.0196	mg/L	0.010	98	70	130
Iron	103	mg/L	0.020	103	70	130
Lead	7.94E-05	mg/L	0.010		0	0
Manganese	0.0204	mg/L	0.010	102	70	130
Molybdenum	0.828	mg/L	0.0050	104	70	130
Nickel	0.0201	mg/L	0.010	101	70	130
Selenium	0.00956	mg/L	0.0050	96	70	130
Silver	0.00482	mg/L	0.0050	96	70	130
Thallium	2.94E-05	mg/L	0.10		0	0
Uranium	5.66E-06	mg/L	0.00030		0	0
Zinc	0.00994	mg/L	0.010	99	70	130

Batch: R145544

19 Method Blank

Run: ICPMS205-H_190701B

07/01/19 20:30

Aluminum	0.007	mg/L	0.003
Antimony	ND	mg/L	9E-05
Arsenic	ND	mg/L	4E-05
Barium	3E-05	mg/L	2E-05
Beryllium	ND	mg/L	0.0001
Cadmium	ND	mg/L	3E-05
Chromium	ND	mg/L	0.0002
Cobalt	0.0002	mg/L	9E-05
Copper	ND	mg/L	0.0001
Iron	ND	mg/L	0.002
Lead	3E-05	mg/L	3E-05

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

Batch: R145544

19 Method Blank

Run: ICPMS205-H_190701B

07/01/19 20:30

Manganese	ND	mg/L	0.0003
Molybdenum	ND	mg/L	2E-05
Nickel	ND	mg/L	0.0002
Selenium	ND	mg/L	2E-05
Silver	ND	mg/L	2E-05
Thallium	ND	mg/L	1E-05
Uranium	ND	mg/L	1E-05
Zinc	ND	mg/L	0.0003

19 Laboratory Fortified Blank

Run: ICPMS205-H_190701B

07/01/19 20:33

Aluminum	0.0576	mg/L	0.10	115	85	115
Antimony	0.0482	mg/L	0.050	96	85	115
Arsenic	0.0502	mg/L	0.0050	100	85	115
Barium	0.0490	mg/L	0.10	98	85	115
Beryllium	0.0465	mg/L	0.0010	93	85	115
Cadmium	0.0493	mg/L	0.0010	99	85	115
Chromium	0.0499	mg/L	0.010	100	85	115
Cobalt	0.0506	mg/L	0.010	101	85	115
Copper	0.0503	mg/L	0.010	101	85	115
Iron	0.152	mg/L	0.020	101	85	115
Lead	0.0489	mg/L	0.010	98	85	115
Manganese	0.0500	mg/L	0.010	100	85	115
Molybdenum	0.0489	mg/L	0.0050	98	85	115
Nickel	0.0506	mg/L	0.010	101	85	115
Selenium	0.0498	mg/L	0.0050	100	85	115
Silver	0.0197	mg/L	0.0050	99	85	115
Thallium	0.0488	mg/L	0.10	98	85	115
Uranium	0.0482	mg/L	0.00030	96	85	115
Zinc	0.0511	mg/L	0.010	102	85	115

19 Sample Matrix Spike

Run: ICPMS205-H_190701B

07/01/19 21:21

Aluminum	0.0606	mg/L	0.030	105	70	130
Antimony	0.0521	mg/L	0.0010	104	70	130
Arsenic	0.0555	mg/L	0.0010	110	70	130
Barium	0.0841	mg/L	0.050	110	70	130
Beryllium	0.0449	mg/L	0.0010	90	70	130
Cadmium	0.0525	mg/L	0.0010	105	70	130
Chromium	0.0523	mg/L	0.0050	105	70	130
Cobalt	0.0566	mg/L	0.0050	106	70	130
Copper	0.0561	mg/L	0.0050	106	70	130
Iron	0.243	mg/L	0.020	107	70	130
Lead	0.0521	mg/L	0.0010	104	70	130
Manganese	0.111	mg/L	0.0010	111	70	130
Molybdenum	0.0603	mg/L	0.0010	106	70	130
Nickel	0.0558	mg/L	0.0050	105	70	130
Selenium	0.0528	mg/L	0.0010	104	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

Batch: R145544

19 Sample Matrix Spike

Run: ICPMS205-H_190701B

07/01/19 21:21

Silver	0.0206	mg/L	0.0010	103	70	130
Thallium	0.0526	mg/L	0.00050	105	70	130
Uranium	0.0663	mg/L	0.00030	109	70	130
Zinc	0.0627	mg/L	0.010	105	70	130

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190701B

07/01/19 21:23

Aluminum	0.0579	mg/L	0.030	99	70	130	4.5	20
Antimony	0.0486	mg/L	0.0010	97	70	130	6.9	20
Arsenic	0.0516	mg/L	0.0010	103	70	130	7.2	20
Barium	0.0783	mg/L	0.050	98	70	130	7.1	20
Beryllium	0.0443	mg/L	0.0010	89	70	130	1.4	20
Cadmium	0.0485	mg/L	0.0010	97	70	130	8.0	20
Chromium	0.0494	mg/L	0.0050	99	70	130	5.6	20
Cobalt	0.0531	mg/L	0.0050	99	70	130	6.4	20
Copper	0.0525	mg/L	0.0050	99	70	130	6.6	20
Iron	0.228	mg/L	0.020	97	70	130	6.4	20
Lead	0.0488	mg/L	0.0010	98	70	130	6.6	20
Manganese	0.105	mg/L	0.0010	99	70	130	5.3	20
Molybdenum	0.0563	mg/L	0.0010	98	70	130	6.8	20
Nickel	0.0526	mg/L	0.0050	99	70	130	5.9	20
Selenium	0.0509	mg/L	0.0010	100	70	130	3.5	20
Silver	0.0191	mg/L	0.0010	96	70	130	7.7	20
Thallium	0.0492	mg/L	0.00050	98	70	130	6.8	20
Uranium	0.0619	mg/L	0.00030	100	70	130	6.8	20
Zinc	0.0585	mg/L	0.010	97	70	130	7.0	20

19 Sample Matrix Spike

Run: ICPMS205-H_190701B

07/01/19 21:50

Aluminum	0.0534	mg/L	0.030	95	70	130
Antimony	0.0476	mg/L	0.0010	95	70	130
Arsenic	0.0505	mg/L	0.0010	101	70	130
Barium	0.0990	mg/L	0.050	97	70	130
Beryllium	0.0458	mg/L	0.0010	92	70	130
Cadmium	0.0493	mg/L	0.0010	99	70	130
Chromium	0.0491	mg/L	0.0050	98	70	130
Cobalt	0.0495	mg/L	0.0050	99	70	130
Copper	0.0496	mg/L	0.0050	99	70	130
Iron	0.153	mg/L	0.020	98	70	130
Lead	0.0485	mg/L	0.0010	97	70	130
Manganese	0.0489	mg/L	0.0010	97	70	130
Molybdenum	0.0494	mg/L	0.0010	98	70	130
Nickel	0.0497	mg/L	0.0050	99	70	130
Selenium	0.0511	mg/L	0.0010	102	70	130
Silver	0.0197	mg/L	0.0010	98	70	130
Thallium	0.0487	mg/L	0.00050	97	70	130
Uranium	0.0496	mg/L	0.00030	98	70	130
Zinc	0.0497	mg/L	0.010	99	70	130

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

--

Batch: R145544

19 Sample Matrix Spike Run: ICPMS205-H_190701B 07/01/19 21:50

19 Sample Matrix Spike Duplicate Run: ICPMS205-H_190701B 07/01/19 21:52

Aluminum	0.0542	mg/L	0.030	97	70	130	1.4	20
Antimony	0.0479	mg/L	0.0010	96	70	130	0.8	20
Arsenic	0.0502	mg/L	0.0010	100	70	130	0.6	20
Barium	0.100	mg/L	0.050	100	70	130	1.5	20
Beryllium	0.0456	mg/L	0.0010	91	70	130	0.5	20
Cadmium	0.0498	mg/L	0.0010	100	70	130	1.1	20
Chromium	0.0488	mg/L	0.0050	98	70	130	0.6	20
Cobalt	0.0490	mg/L	0.0050	98	70	130	1.0	20
Copper	0.0492	mg/L	0.0050	98	70	130	0.9	20
Iron	0.151	mg/L	0.020	97	70	130	0.8	20
Lead	0.0487	mg/L	0.0010	97	70	130	0.4	20
Manganese	0.0491	mg/L	0.0010	97	70	130	0.3	20
Molybdenum	0.0497	mg/L	0.0010	99	70	130	0.8	20
Nickel	0.0493	mg/L	0.0050	99	70	130	0.7	20
Selenium	0.0513	mg/L	0.0010	102	70	130	0.4	20
Silver	0.0199	mg/L	0.0010	99	70	130	0.9	20
Thallium	0.0491	mg/L	0.00050	98	70	130	0.7	20
Uranium	0.0500	mg/L	0.00030	99	70	130	0.7	20
Zinc	0.0499	mg/L	0.010	99	70	130	0.4	20

19 Sample Matrix Spike Run: ICPMS205-H_190701B 07/01/19 22:21

Aluminum	0.0521	mg/L	0.030	98	70	130		
Antimony	0.0475	mg/L	0.0010	95	70	130		
Arsenic	0.0537	mg/L	0.0010	107	70	130		
Barium	0.0837	mg/L	0.050	99	70	130		
Beryllium	0.0444	mg/L	0.0010	89	70	130		
Cadmium	0.0487	mg/L	0.0010	97	70	130		
Chromium	0.0490	mg/L	0.0050	98	70	130		
Cobalt	0.0491	mg/L	0.0050	98	70	130		
Copper	0.0495	mg/L	0.0050	98	70	130		
Iron	0.151	mg/L	0.020	97	70	130		
Lead	0.0488	mg/L	0.0010	98	70	130		
Manganese	0.0508	mg/L	0.0010	97	70	130		
Molybdenum	0.0503	mg/L	0.0010	98	70	130		
Nickel	0.0497	mg/L	0.0050	98	70	130		
Selenium	0.0591	mg/L	0.0010	111	70	130		
Silver	0.0180	mg/L	0.0010	90	70	130		
Thallium	0.0491	mg/L	0.00050	98	70	130		
Uranium	0.0557	mg/L	0.00030	100	70	130		
Zinc	0.0501	mg/L	0.010	96	70	130		

19 Sample Matrix Spike Duplicate Run: ICPMS205-H_190701B 07/01/19 22:23

Aluminum	0.0522	mg/L	0.030	98	70	130	0.1	20
Antimony	0.0473	mg/L	0.0010	95	70	130	0.3	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

Batch: R145544

19 Sample Matrix Spike Duplicate

Run: ICPMS205-H_190701B

07/01/19 22:23

Arsenic	0.0534	mg/L	0.0010	106	70	130	0.6	20
Barium	0.0822	mg/L	0.050	96	70	130	1.8	20
Beryllium	0.0452	mg/L	0.0010	90	70	130	1.8	20
Cadmium	0.0481	mg/L	0.0010	96	70	130	1.3	20
Chromium	0.0490	mg/L	0.0050	98	70	130	0.0	20
Cobalt	0.0488	mg/L	0.0050	97	70	130	0.6	20
Copper	0.0496	mg/L	0.0050	98	70	130	0.1	20
Iron	0.151	mg/L	0.020	96	70	130	0.3	20
Lead	0.0484	mg/L	0.0010	97	70	130	0.9	20
Manganese	0.0509	mg/L	0.0010	97	70	130	0.2	20
Molybdenum	0.0499	mg/L	0.0010	98	70	130	0.9	20
Nickel	0.0495	mg/L	0.0050	98	70	130	0.4	20
Selenium	0.0590	mg/L	0.0010	111	70	130	0.1	20
Silver	0.0175	mg/L	0.0010	88	70	130	2.8	20
Thallium	0.0488	mg/L	0.00050	98	70	130	0.6	20
Uranium	0.0551	mg/L	0.00030	99	70	130	1.0	20
Zinc	0.0499	mg/L	0.010	96	70	130	0.5	20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

--	--	--	--	--	--	--

							Analytical Run: ICPMS205-H_190702A
		Initial Calibration Verification Standard					07/02/19 11:01
Aluminum	0.298	mg/L	0.10	99	90	110	
		Interference Check Sample A					07/02/19 11:03
Aluminum	42.7	mg/L	0.10	107	70	130	
		Interference Check Sample AB					07/02/19 11:05
Aluminum	42.7	mg/L	0.10	107	70	130	
		Initial Calibration Verification Standard					07/02/19 11:41
Aluminum	0.298	mg/L	0.10	99	90	110	
		Interference Check Sample A					07/02/19 11:43
Aluminum	42.8	mg/L	0.10	107	70	130	
		Interference Check Sample AB					07/02/19 11:46
Aluminum	43.1	mg/L	0.10	108	70	130	
		Initial Calibration Verification Standard					07/02/19 12:27
Aluminum	0.297	mg/L	0.10	99	90	110	
		Interference Check Sample A					07/02/19 12:29
Aluminum	42.4	mg/L	0.10	106	70	130	
		Interference Check Sample AB					07/02/19 12:31
Aluminum	43.1	mg/L	0.10	108	70	130	
		Initial Calibration Verification Standard					07/02/19 18:41
Aluminum	0.305	mg/L	0.10	102	90	110	
		Interference Check Sample A					07/02/19 18:43
Aluminum	43.1	mg/L	0.10	108	70	130	
		Interference Check Sample AB					07/02/19 18:45
Aluminum	43.3	mg/L	0.10	108	70	130	
							Batch: R145580
		Method Blank			Run: ICPMS205-H_190702A		07/02/19 12:44
Aluminum	0.007	mg/L	0.003				
		Laboratory Fortified Blank			Run: ICPMS205-H_190702A		07/02/19 12:46
Aluminum	0.0566	mg/L	0.10	113	85	115	
		Sample Matrix Spike			Run: ICPMS205-H_190702A		07/02/19 13:21
Aluminum	2.33	mg/L	0.010	93	70	130	
		Sample Matrix Spike Duplicate			Run: ICPMS205-H_190702A		07/02/19 13:23
Aluminum	2.36	mg/L	0.010	94	70	130	1.3 20
		Sample Matrix Spike			Run: ICPMS205-H_190702A		07/02/19 13:55
Aluminum	0.104	mg/L	0.030	100	70	130	

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

--	--	--	--	--	--	--	--	--	--

									Batch: R145580
Aluminum	Sample Matrix Spike Duplicate	0.102 mg/L	0.030	96	70	130	2.1		07/02/19 13:57 20
Aluminum	Sample Matrix Spike	0.0526 mg/L	0.030	105	70	130			07/02/19 14:18
Aluminum	Sample Matrix Spike Duplicate	0.0526 mg/L	0.030	105	70	130	0.0		07/02/19 14:20 20
Aluminum	Method Blank	ND mg/L	0.003						07/02/19 18:56
Aluminum	Laboratory Fortified Blank	0.0517 mg/L	0.10	103	85	115			07/02/19 18:58
Aluminum	Sample Matrix Spike	0.104 mg/L	0.030	102	70	130			07/02/19 19:17
Aluminum	Sample Matrix Spike Duplicate	0.104 mg/L	0.030	98	70	130	0.0		07/02/19 19:19 20
Aluminum	Sample Matrix Spike	0.0544 mg/L	0.030	109	70	130			07/02/19 19:46
Aluminum	Sample Matrix Spike Duplicate	0.0543 mg/L	0.030	101	70	130	0.2		07/02/19 19:48 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

--	--	--	--	--	--	--

							Analytical Run: HGCV203-H_190626A
							06/26/19 09:37
	Initial Calibration Verification Standard						
Mercury	0.102	ug/L	0.0050	102	90	110	
							06/26/19 09:41
	Continuing Calibration Verification Standard						
Mercury	0.101	ug/L	0.0050	101	95	105	
							06/26/19 13:43
	Continuing Calibration Verification Standard						
Mercury	0.103	ug/L	0.0050	103	90	110	
							Batch: 46267
	Method Blank			Run: HGCV203-H_190626A			06/26/19 12:50
Mercury	ND	ug/L	0.001				
							06/26/19 12:54
	Laboratory Control Sample			Run: HGCV203-H_190626A			
Mercury	0.0523	ug/L	0.0050	105	90	110	
							06/26/19 13:00
	Sample Matrix Spike			Run: HGCV203-H_190626A			
Mercury	0.0545	ug/L	0.0050	105	70	130	
							06/26/19 13:10
	Sample Matrix Spike Duplicate			Run: HGCV203-H_190626A			
Mercury	0.0534	ug/L	0.0050	103	70	130	1.9 20
							06/26/19 14:29
	Sample Matrix Spike			Run: HGCV203-H_190626A			
Mercury	0.0518	ug/L	0.0050	104	70	130	
							06/26/19 14:32
	Sample Matrix Spike Duplicate			Run: HGCV203-H_190626A			
Mercury	0.0527	ug/L	0.0050	105	70	130	1.8 20

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

--	--	--	--	--	--	--

Analytical Run: IC METROHM_190625A

		2 Initial Calibration Verification Standard					06/25/19 10:08
Chloride	101	mg/L	1.0	101	90	110	
Sulfate	412	mg/L	1.0	103	90	110	
		2 Continuing Calibration Verification Standard					06/26/19 09:35
Chloride	50.2	mg/L	1.0	100	90	110	
Sulfate	204	mg/L	1.0	102	90	110	
		2 Continuing Calibration Verification Standard					06/26/19 13:12
Chloride	49.5	mg/L	1.0	99	90	110	
Sulfate	200	mg/L	1.0	100	90	110	

Batch: R145369

		2 Method Blank		Run: IC METROHM_190625A			06/25/19 09:53
Chloride	ND	mg/L	0.02				
Sulfate	ND	mg/L	0.08				
		2 Laboratory Fortified Blank		Run: IC METROHM_190625A			06/25/19 10:22
Chloride	26.0	mg/L	1.0	104	90	110	
Sulfate	110	mg/L	1.0	110	90	110	
		2 Sample Matrix Spike		Run: IC METROHM_190625A			06/26/19 10:33
Chloride	25.1	mg/L	1.0	99	90	110	
Sulfate	109	mg/L	1.0	103	90	110	
		2 Sample Matrix Spike Duplicate		Run: IC METROHM_190625A			06/26/19 10:48
Chloride	25.6	mg/L	1.0	101	90	110	1.7
Sulfate	111	mg/L	1.0	105	90	110	1.9
		2 Sample Matrix Spike		Run: IC METROHM_190625A			06/26/19 14:10
Chloride	25.5	mg/L	1.0	99	90	110	
Sulfate	115	mg/L	1.0	102	90	110	
		2 Sample Matrix Spike Duplicate		Run: IC METROHM_190625A			06/26/19 14:25
Chloride	25.8	mg/L	1.0	100	90	110	1.3
Sulfate	117	mg/L	1.0	104	90	110	1.6

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Prepared by Helena, MT Branch

Tintina Resources Inc

H19060562

07/09/19

--	--	--	--	--	--	--

							Analytical Run: FIA203-HE_190701B
							07/01/19 10:28
Initial Calibration Verification Standard							
Nitrogen, Nitrate+Nitrite as N	0.985	mg/L	0.010	98	90	110	
Continuing Calibration Verification Standard							07/01/19 14:27
Nitrogen, Nitrate+Nitrite as N	0.501	mg/L	0.010	100	90	110	
Continuing Calibration Verification Standard							07/01/19 14:44
Nitrogen, Nitrate+Nitrite as N	0.498	mg/L	0.010	100	90	110	
							Batch: R145540
Method Blank							Run: FIA203-HE_190701B
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	0.009				07/01/19 10:29
Laboratory Fortified Blank							Run: FIA203-HE_190701B
Nitrogen, Nitrate+Nitrite as N	0.999	mg/L	0.011	100	90	110	07/01/19 10:30
Sample Matrix Spike							Run: FIA203-HE_190701B
Nitrogen, Nitrate+Nitrite as N	0.986	mg/L	0.011	96	90	110	07/01/19 14:31
Sample Matrix Spike Duplicate							Run: FIA203-HE_190701B
Nitrogen, Nitrate+Nitrite as N	0.958	mg/L	0.011	93	90	110	07/01/19 14:32 2.9 10
Sample Matrix Spike							Run: FIA203-HE_190701B
Nitrogen, Nitrate+Nitrite as N	1.14	mg/L	0.011	101	90	110	07/01/19 14:48
Sample Matrix Spike Duplicate							Run: FIA203-HE_190701B
Nitrogen, Nitrate+Nitrite as N	1.12	mg/L	0.011	99	90	110	07/01/19 14:49 1.7 10

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Tintina Resources Inc

H19060562

Login completed by: Jessica C. Smith

Date Received: 6/24/2019

Reviewed by: BL2000\rtooke

Received by: TLL

Reviewed Date: 7/5/2019

Carrier name: Hand Del

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 checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	3.0°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"/>

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.

None

PROJ. NO.	PROJECT NAME	SAMPLERS: (Signature)		DATE	TIME	G R A B	C O M P	SAMPLE NUMBER	NO. OF CON-TAINERS	Commons UF / RAW	Nutrients UF / H ₂ SO ₄	Diss. Metal F / HNO ₃	CN UF / NaOH	Total Metals UF / HNO ₃	Total Recoverable Metals UF / HNO ₃	BTEX	TPH	REMARKS	
		Relinquished (Signature)	Received by (Signature)																
18049	Tintina - Black Bottle (GW)			4/21/19	11:45	X		BBC-19010-221	3	X	X								
				4/20/19	12:55			-222											
					13:35			-223											
					14:10			-224											
					14:40			-225											
					15:45			-226											
					18:40			-227											
				4/21/19	09:20			-228											
					09:58			-229											
					10:25			-230											
					11:00			-231											
					12:35			-232											
					12:50			-233											
Relinquished (Signature)				Date / Time		Date / Time		Received by (Signature)		Lab		P.O. #		Shipped via: Bus FedEx UPS Other <i>Hand delivered</i> Air Bill #					
Relinquished (Signature)				Date / Time		Date / Time		Received by (Signature)		Remarks		Enclosed: <input checked="" type="checkbox"/> Parameter sheet w/detection limits <i>Table 5</i> <input type="checkbox"/> QA / AC standard mixing instructions <input type="checkbox"/> Cover letter <input type="checkbox"/> Other							
Relinquished (Signature)				Date / Time		Date / Time		Received for Laboratory by (Signature)		Split Samples: <input type="checkbox"/> Accepted <input type="checkbox"/> Declined		Signature							

APPENDIX B

QA/QC REPORTS

**QUALITY CONTROL / QUALITY ASSURANCE
DATA VERIFICATION REPORT**

**BLACK BUTTE COPPER
WATER RESOURCE MONITORING**

APRIL 2019

Prepared by
Hydrometrics, Inc.
3020 Bozeman Avenue
Helena, MT 59601

MAY 2019

TABLE OF CONTENTS

LIST OF APPENDICES	II
GLOSSARY OF TERMS.....	III
1. INTRODUCTION.....	4
2. DELIVERABLES.....	4
3. FIELD QUALITY CONTROL SAMPLES.....	4
4. LABORATORY PROCEDURES.....	4
5. INITIAL OR CONTINUING CALIBRATION VERIFICATION RESULTS.....	6
6. LABORATORY BLANKS.....	6
7. MATRIX SPIKE /MATRIX SPIKE DUPLICATES (MS/MSD).....	6
8. LABORATORY CONTROL SAMPLES.....	7
9. DATA QUALITY OBJECTIVES.....	7
REFERENCES.....	9

LIST OF APPENDICES

APPENDIX 1: TABLES

- Table 1. Data Validation Codes and Definitions
- Table 2. Summary of Flagged Data
- Table 3. Statistical Summary

APPENDIX 2: DATABASE SUMMARY REPORT

GLOSSARY OF TERMS

CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CLP	Contract Laboratory Program
CRDL.....	Contract Required Detection Limit
DI í í í í	Deionized Water
FAA	Flame Atomic Absorption
GFAA.....	Graphite Furnace Atomic Absorption
HGAA.....	Hydride Generation Atomic Absorption
ICB.....	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICV	Initial Calibration Verification
IDL.....	Instrument Detection Limit
LCS	Laboratory Control Sample
MSA.....	Method of Standard Additions
PB	Preparation Blank
PRDL	Project Required Detection Limit
QAPP	Quality Assurance Project Plan
QC.....	Quality Control
RPD.....	Relative Percent Difference
RSD.....	Relative Standard Deviation
SOW.....	Statement of Work
TDS.....	Total Dissolved Solids

DATA VALIDATION REPORT

1. INTRODUCTION

This validation applies to 28 samples collected for the Black Butte Tintina surface water and groundwater monitoring program. All sampling occurred in April 2019. All samples were submitted to Energy Laboratories in Helena, Montana and were assigned Laboratory IDs: H19040763. The total number of samples included: 17 groundwater and surface water samples including 2 field duplicates, and 2 field deionized (DI and Rinsate) blanks.

- Validation procedures used are generally consistent with:

(Check all that apply)

EPA CLP National Functional Guidelines for Inorganics Data Review

EPA CLP National Functional Guidelines for Organic Data Review

Montana Department of Environmental Quality, Data Validation Guidelines for Evaluating Analytical Data, Hydrometrics, September 2010

2. DELIVERABLES

- All laboratory document deliverables were present as specified in the CLP-Statement of Work and/or the project contract

Yes

No

- All documentation of field procedures was provided as required

Yes

No

3. FIELD QUALITY CONTROL SAMPLES

- Field blanks

Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

DI, trip, rinsate, or any other field blanks have been carried out at the proper frequency

Yes

No

Reported results on the field blanks are less than the contract required detection limits (CRDL) or the project required detection limits (PRDL) if project detection limits have been specified

Yes

No

- Field duplicates

Field duplicates have been collected at the proper frequency

Yes

No

Field duplicate relative percent differences (RPDs) were within the required control limits (25 percent or less for water matrix and 50 percent or less for soil matrix)

Yes

No ó see following table

Date	Site Code	Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Number of Flags
4/24/19	SW-1	Total Suspended Solids	<4	54	19
		Iron (TRC)	2.11	1.45	8

J ó Duplicate sample exceeded QA/QC comparison control limits.

4. LABORATORY PROCEDURES

- Laboratory Case Narrative Notes any non conformance issues with the analytical data
 - Yes
 - No
 - NA

- Samples were received by the laboratory at the proper temperature
 - Yes
 - No

- Holding times met
 - Yes
 - No - see following notes

NOTES: Sample BBC-1904-126 Total Suspended Solids analysis was reanalyzed past holding time to confirm result. Reanalysis and analytical duplicate values were reported and flagged with an H.

- Consistency with project requirements
 - Yes
 - No

- Sample Conditions met at Check-in
 - Yesó see following notes
 - No

NOTES: In the Energy Laboratory sample check in for H19040763 it was noted that the laboratory did not received sample BBC-1904-121 which was indicated on the COC. Lab confirmed analysis was not needed per discussion with Hydrometrics staff.

- Reporting units appropriate for the associated sample matrix and methods of analysis
 - Yes
 - No

- Project specified methods were used
 - Yesó see following list of methods used
 - No

NOTES: It should be noted that parameters were analyzed using different methods than requested; however, all methods used by the laboratory are comparable. The following methods were used during analyses: A2540D, A2540C, A2320B, E300.0, A4500-F C, A2340B, E353.2, A4500-N C, E365.1, E200.8, and E200.7.

- Detection Limits met project required detection limits (PRDL)

Yes ó see following notes

No

NOTES: It should be noted that total dissolved solids and strontium had a reporting limit increases due to sample matrix interference (D). TDS had a limit of 10 mg/l used not the requested 4 mg/l. Strontium had the 0.0003 mg/l reporting limit was used in place of the requested 0.0002 mg/l. In addition, a reporting limit of 0.01 mg/l was used for nitrate + nitrite as n as replacement of the 0.003 mg/l requested.

5. INITIAL OR CONTINUING CALIBRATION VERIFICATION RESULTS

- Initial or Continuing Calibration Verification samples were within acceptable limits

Yes

No

6. LABORATORY BLANKS

- **PREPARATION/METHOD BLANKS**

Preparation/Method blanks were prepared and analyzed at the required frequency

Yes

No

All analytes in the preparation blank were less than the CRDL (or PRDL if a project detection limit has been specified)

Yes

No

7. MATRIX SPIKE /MATRIX SPIKE DUPLICATES (MS/MSD)

- Matrix spike samples were analyzed at the proper frequency

Yes

No

- Matrix spike recoveries were within control limits

Yes

No ó see following table

QC Sample ID	Parameter	% REC	Lab Flag	Lab Advisory Limits (% REC)
H19040763-013CMS	Silver	148	S	70 ó 130
H19040763-021CMS3	Silver	142	S	70 ó 130
H19040763-005BMS3	Silver	146	S	70 ó 130

S ó Spike recovery outside of recovery limits

- Matrix spike RPDø were within control limits

Yes

No

- Matrix spike duplicate samples were analyzed at the proper frequency

Yes

No

- Matrix spike duplicate RPDs were within control limits
 Yes
 No
- Matrix spike duplicate recoveries were within the laboratory specified control limits.
 Yes
 No ó see following table

QC Sample ID	Parameter	% REC	Lab Flag	Lab Advisory Limits (% REC)
H19040763-013AMSD	Total Nitrogen	88	S	90-110
H19040763-013CMSD	Silver	146	S	70 ó 130
H19040763-021CMSD	Silver	147	S	70 ó 130
H19040763-005BMSD	Silver	148	S	70 ó 130

S ó Spike recovery outside of recovery limits

8. LABORATORY CONTROL SAMPLES

- LCS Samples

Laboratory Control Samples used the correct matrix and concentrations

Yes
 No
 NA

Laboratory Control Samples were prepared and analyzed at the required frequency

Yes
 No
 NA

All analytes in the laboratory control samples were less than the control limits specified

Yes
 No

9. DATA QUALITY OBJECTIVES

- Project data quality objectives (DQOs) met

Yes
 No

Accuracy

Accuracy for this project is the degree of agreement between an analytical measurement and a reference accepted as a true value. The accuracy of a measurement system can be affected by errors introduced by field contamination, sample preservation, sample handling, sample preparation and analytical techniques. Analysis of MS/MSD samples, laboratory control spikes (LCS) or blank spikes, surrogate standards and method blanks are typically used to calculate the percent recovery for evaluating accuracy. Accuracy for this sampling event was 97 percent.

Precision

Precision for this project is the degree of mutual agreement between individual measurements of the same property under similar conditions. Combined field and laboratory precision is evaluated by collecting and analyzing field duplicate and then calculating the variance between

the samples, typically as a relative percent difference (RPD). Laboratory analytical precision is evaluated by analyzing matrix spike/matrix spike duplicate samples and using the results to calculate an RPD. The combined precision was 97 percent for this sampling event for both laboratory and field.

Representativeness

Representativeness for this project is the degree to which sample data accurately and precisely represent the characteristics of a population, and variations in a parameter at a sampling point or an environmental condition that they are intended to represent. Typically representative data will be obtained through careful selection of sampling locations and analytical parameters; proper collection and handling of samples and through use and consistent application of established field and laboratory procedures. Evaluation of field and laboratory blank samples for presence of contaminants can be useful in evaluating representativeness of sample results. Both laboratory and field representativeness for this sampling event was 100 percent.

Completeness

The target completeness for this project is the percent of the measurements valid (not rejected). Valid data are obtained when samples are collected and analyzed in accordance with quality control procedures outlined in the SAP, and when none of the QC criteria that affect data usability are exceeded. Once data validation is complete the number of useable sample results is divided by the total number of sample results planned for the investigation to determine the percent completeness. Completeness for this sampling event was 100 percent.

Comparability

Comparability is the expression of the confidence with which one data set can be compared with another. Comparability of data is achieved by consistently following standard field and laboratory procedures and by using standard measurement units in reporting analytical data. This criterion was met.

REFERENCES

- Montana Department of Environmental Quality, Data Validation Guidelines for Evaluating Analytical Data (Updated August 5, 2010)
- EPA, 2017a. National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-2017-002. Office of Superfund Remediation and Technology Innovation. January 2017.
- EPA, 2017b. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-540-R-2017-001. Office of Superfund Remediation and Technology Innovation. January 2017.
- Hem, J.D., 1992. Study and Interpretation of the Chemical Characteristics of Natural Water, 3rd edition. US Geological Survey Water Supply Paper 2254.

APPENDIX 1

TABLES

TABLE 1.

DATA VALIDATION CODES AND DEFINITIONS

<u>CODE</u>	<u>DEFINITION</u>
J	-The associated numerical value is an estimated quantity because quality control criteria were not met.
U	- Blank contamination. Indicates possible high bias and / or false positive. The associated value is an estimate.
R	- Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.
A	- Anomalous data. No apparent explanation for discrepancy in data. (Not an EPA code.)

Table 2. Summary of Flagged Data

StationName	Sample Date	Field Sample Id	Lab Name	Lab Sample Id	Parameter Name	Sample Result	Reporting Units	Validation Flag	Exceedance Type
DI-Blank	4/24/2019	BBC-1904-126	Energy Labs	H19040763-012	Total Suspended Solids	<10	mg/L H		Holding Time Exceeded
DS-1	4/23/2019	BBC-1904-107	Energy Labs	H19040763-002	Total Suspended Solids	<10	mg/L J		Duplicate Exceedance
DS-3	4/24/2019	BBC-1904-118	Energy Labs	H19040763-005	Total Suspended Solids	<10	mg/L J		Duplicate Exceedance
DS-4	4/24/2019	BBC-1904-119	Energy Labs	H19040763-006	Total Suspended Solids	<10	mg/L J		Duplicate Exceedance
SP-10	4/23/2019	BBC-1904-106	Energy Labs	H19040763-001	Total Suspended Solids	399	mg/L J		Duplicate Exceedance
SP-12	4/23/2019	BBC-1904-111	Energy Labs	H19040763-004	Total Suspended Solids	16	mg/L J		Duplicate Exceedance
SP-3	4/24/2019	BBC-1904-120	Energy Labs	H19040763-007	Total Suspended Solids	<10	mg/L J		Duplicate Exceedance
SP-4	4/24/2019	BBC-1904-123	Energy Labs	H19040763-009	Total Suspended Solids	<10	mg/L J		Duplicate Exceedance
SP-6	4/24/2019	BBC-1904-122	Energy Labs	H19040763-008	Total Suspended Solids	<10	mg/L J		Duplicate Exceedance
SP-7	4/24/2019	BBC-1904-125	Energy Labs	H19040763-011	Total Suspended Solids	<10	mg/L J		Duplicate Exceedance
SP-7	4/24/2019	BBC-1904-124	Energy Labs	H19040763-010	Total Suspended Solids	<10	mg/L J		Duplicate Exceedance
SW-1	4/24/2019	BBC-1904-114	Energy Labs	H19040763-017	Total Suspended Solids	54	mg/L J		Duplicate Exceedance
SW-1	4/24/2019	BBC-1904-113	Energy Labs	H19040763-016	Total Suspended Solids	<4	mg/L J		Duplicate Exceedance
SW-1	4/24/2019	BBC-1904-113	Energy Labs	H19040763-016	Iron (TRC)	2.11	mg/L J		Duplicate Exceedance
SW-1	4/24/2019	BBC-1904-114	Energy Labs	H19040763-017	Iron (TRC)	1.45	mg/L J		Duplicate Exceedance
SW-14	4/23/2019	BBC-1904-112	Energy Labs	H19040763-015	Total Suspended Solids	18	mg/L J		Duplicate Exceedance
SW-14	4/23/2019	BBC-1904-112	Energy Labs	H19040763-015	Iron (TRC)	0.15	mg/L J		Duplicate Exceedance
SW-17	4/24/2019	BBC-1904-115	Energy Labs	H19040763-018	Total Suspended Solids	54	mg/L J		Duplicate Exceedance
SW-17	4/24/2019	BBC-1904-115	Energy Labs	H19040763-018	Iron (TRC)	0.11	mg/L J		Duplicate Exceedance
SW-18	4/23/2019	BBC-1904-109	Energy Labs	H19040763-013	Total Suspended Solids	<4	mg/L J		Duplicate Exceedance
SW-18	4/23/2019	BBC-1904-109	Energy Labs	H19040763-013	Iron (TRC)	0.17	mg/L J		Duplicate Exceedance
SW-2	4/24/2019	BBC-1904-116	Energy Labs	H19040763-019	Total Suspended Solids	<4	mg/L J		Duplicate Exceedance
SW-2	4/24/2019	BBC-1904-116	Energy Labs	H19040763-019	Iron (TRC)	1.45	mg/L J		Duplicate Exceedance
SW-3	4/23/2019	BBC-1904-110	Energy Labs	H19040763-014	Total Suspended Solids	16	mg/L J		Duplicate Exceedance
SW-3	4/23/2019	BBC-1904-110	Energy Labs	H19040763-014	Iron (TRC)	0.7	mg/L J		Duplicate Exceedance
SW-7	4/23/2019	BBC-1904-108	Energy Labs	H19040763-003	Total Suspended Solids	15	mg/L J		Duplicate Exceedance
USGS-SC1	4/24/2019	BBC-1904-117	Energy Labs	H19040763-020	Total Suspended Solids	40	mg/L J		Duplicate Exceedance
USGS-SC1	4/24/2019	BBC-1904-117	Energy Labs	H19040763-020	Iron (TRC)	1.22	mg/L J		Duplicate Exceedance

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

04/23/19		LAB NO: H19040763-002		STATION:DS-1								
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	8.53	03/25/15-04/23/19	O	32	32	8.15	13.4	9.63	9.49	1.25	0.88	
pH Fld (s.u.)	7.81	03/25/15-04/23/19	O	31	31	7.36	8.56	7.78	7.79	0.28	0.09	
SC Fld (umhos/cm)	388	03/25/15-04/23/19	O	32	32	337.0	698.7	417.8	418	51.9	0.6	
Flow (Gallons Per Min)	49.8	03/25/15-04/23/19	O	28	28	0.1	62.3	5.3	6.1	13.3	3.3 *	
Water Temp (Deg C)	4.5	03/25/15-04/23/19	O	32	32	0.5	18.3	5.2	6.3	3.7	0.2	
TDS (mg/L)	214	03/25/15-04/23/19	O	32	32	203.0	245.0	229.3	230.5	10.7	1.4	
TSS (mg/L)	< 10	03/25/15-04/23/19	O	32	11	< 10	1130.0					
Tot Alk (mg/L)	200	03/25/15-04/23/19	O	32	32	180.0	220.0	213.5	220	9.4	1.4	
Ca (mg/L)	53	03/25/15-04/23/19	O	32	32	46.0	62.0	56.3	57	3	1.1	
Cl (mg/L)	< 1	03/25/15-04/23/19	O	32	0	< 1	< 1					
F (mg/L)	0.1	03/25/15-04/23/19	O	32	30	0.1	0.1	0.1	0.1	0	0.0 H	
Tot Hard (mg/L)	211	03/25/15-04/23/19	O	32	32	185.0	249.0	227.3	229	12.4	1.3	
Mg (mg/L)	19	03/25/15-04/23/19	O	32	32	17.0	23.0	21.0	21	1.3	1.6	
K (mg/L)	< 1	03/25/15-04/23/19	O	32	0	< 1	< 1					
Na (mg/L)	1	03/25/15-04/23/19	O	32	32	1.0	2.0	1.8	2	0.4	2.0 L	
SO4 (mg/L)	14	03/25/15-04/23/19	O	32	32	11.0	18.0	14.6	15	1.7	0.4	
N+N (mg/L)	0.24	03/25/15-04/23/19	O	32	32	0.03	0.26	0.17	0.2	0.06	1.09	
Al (DIS) (mg/L)	< 0.009	03/25/15-04/23/19	O	32	1	< 0.009	0.024					
Sb (DIS) (mg/L)	< 0.0005	03/25/15-04/23/19	O	31	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	03/25/15-04/23/19	O	31	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.045	03/25/15-04/23/19	O	31	31	0.041	0.074	0.051	0.049	0.007	0.851	
Be (DIS) (mg/L)	< 0.0008	03/25/15-04/23/19	O	31	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	03/25/15-04/23/19	O	31	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	03/25/15-04/23/19	O	31	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	03/25/15-04/23/19	O	31	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	03/25/15-04/23/19	O	31	1	< 0.002	0.007					
Fe (DIS) (mg/L)	< 0.02	03/25/15-04/23/19	O	31	2	< 0.02	0.06					
Pb (DIS) (mg/L)	< 0.0003	03/25/15-04/23/19	O	31	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	03/25/15-04/23/19	O	31	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	03/25/15-04/23/19	O	30	0	< 0	< .005					
Mo (DIS) (mg/L)	< 0.002	03/25/15-04/23/19	O	31	0	< 0.002	< 0.002					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Ni (DIS) (mg/L)	< 0.001	03/25/15-04/23/19	O	31	0	< 0.001	< 0.001				
Se (DIS) (mg/L)	< 0.0002	03/25/15-04/23/19	O	31	9	< 0.0002	: 0.0002				
Ag (DIS) (mg/L)	< 0.0002	03/25/15-04/23/19	O	31	0	< 0.0002	: 0.0002				
Sr (DIS) (mg/L)	0.0942	03/25/15-04/23/19	O	31	31	0.0847	0.119	0.1063	0.106	0.007	1.735
Tl (DIS) (mg/L)	< 0.0002	03/25/15-04/23/19	O	31	0	< 0.0002	: 0.0002				
U (DIS) (mg/L)	0.0005	03/25/15-04/23/19	O	31	3	0.0005	< .008				
Zn (DIS) (mg/L)	0.01	03/25/15-04/23/19	O	31	24	< 0	0.03	0.01	0.01	0.01	0.39

SAMPLE NO BBC-1904-104 LAB NO: z

STATION:DS-2

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Flow (Gallons Per Min)	-9999	10/12/11-08/19/14	OBS	2	2	0.3	0.8	0.4	0.5	2.2	4545.2 *L

SAMPLE NO BBC-1904-118 LAB NO: H19040763-005

STATION:DS-3

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	0	08/06/14-04/24/19	O	29	29	0.0	10.8	4.5	7	2.6	1.7 L
pH Fld (s.u.)	7.92	08/06/14-04/24/19	O	29	29	5.56	8.7	7.03	7.17	0.97	0.91
SC Fld (umhos/cm)	32	08/06/14-04/24/19	O	29	29	32.0	132.0	56.8	56	19.6	1.3 L
Flow (Gallons Per Min)	-9999	08/06/14-04/24/19	O	25	25	-9999.0	159.0	2.6	4.9	22.2	450.5 *L
Water Temp (Deg C)	7	08/06/14-04/24/19	O	29	29	3.8	15.1	8.3	9.2	2.9	0.5
TDS (mg/L)	68	08/06/14-04/24/19	O	29	29	47.0	128.0	70.5	67	22.8	0.1
TSS (mg/L)	< 10	08/06/14-04/24/19	O	29	4	< 4	95.0				
Tot Alk (mg/L)	14	08/06/14-04/24/19	O	29	29	14.0	29.0	22.0	23	3.1	2.6 L
Ca (mg/L)	4	08/06/14-04/24/19	O	29	29	4.0	7.0	5.9	6	0.6	3.2 *L
Cl (mg/L)	< 1	08/06/14-04/24/19	O	29	3	< 1	< 1				
F (mg/L)	< 0.1	08/06/14-04/24/19	O	29	2	0.0	< .1				
Tot Hard (mg/L)	14	08/06/14-04/24/19	O	29	29	14.0	26.0	22.6	23	2.2	3.9 *L
Mg (mg/L)	1	08/06/14-04/24/19	O	29	29	1.0	2.0	1.9	2	0.2	4.5 *L
K (mg/L)	1	08/06/14-04/24/19	O	29	26	< 1	2.0	1.0	1	0.2	0.2 L
Na (mg/L)	< 1	08/06/14-04/24/19	O	29	28	1.0	2.0	1.4	1	0.5	0.7 L
SO4 (mg/L)	1	08/06/14-04/24/19	O	29	29	1.0	2.0	1.3	1	0.4	0.7 L
N+N (mg/L)	0.05	08/06/14-04/24/19	O	29	29	0.05	0.48	0.26	0.29	0.09	2.37 L
Al (DIS) (mg/L)	1.15	08/06/14-04/24/19	O	29	29	0.11	8.17	1.46	1.41	1.82	0.17
Sb (DIS) (mg/L)	< 0.0005	08/06/14-04/24/19	O	28	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	< 0.001	08/06/14-04/24/19	O	28	7	< 0.001	0.002				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Ba (DIS) (mg/L)	0.161	08/06/14-04/24/19	O	28	28	0.161	0.345	0.276	0.278	0.032	3.585	*L
Be (DIS) (mg/L)	< 0.0008	08/06/14-04/24/19	O	28	0	< 0.0008 : 0 .0008						
Cd (DIS) (mg/L)	< 0	08/06/14-04/24/19	O	28	2	< 0 : .00003						
Cr (DIS) (mg/L)	< 0.01	08/06/14-04/24/19	O	28	0	< 0.01 < .01						
Co (DIS) (mg/L)	< 0.01	08/06/14-04/24/19	O	28	0	< 0.01 < .01						
Cu (DIS) (mg/L)	0.002	08/06/14-04/24/19	O	28	18	< 0.002	0.005	0.003	0.002	0.001	0.524	L
Fe (DIS) (mg/L)	0.67	08/06/14-04/24/19	O	28	28	0.08	3.69	0.73	0.78	0.97	0.07	
Pb (DIS) (mg/L)	< 0.0003	08/06/14-04/24/19	O	28	11	0.0001	0.0011					
Mn (DIS) (mg/L)	0.006	08/06/14-04/24/19	O	28	21	< 0.001	0.024	0.006	0.005	0.006	0.074	
Hg (DIS) (ug/L)	0.013	08/06/14-04/24/19	O	28	17	0.0	0.013	0.0	0	0.002	6.496	*H
Mo (DIS) (mg/L)	< 0.002	08/06/14-04/24/19	O	28	0	< 0.001	< .002					
Ni (DIS) (mg/L)	0.002	08/06/14-04/24/19	O	28	27	< 0.001	0.006	0.003	0.003	0.001	1.309	
Se (DIS) (mg/L)	< 0.0002	08/06/14-04/24/19	O	28	5	0.0001	< .0002					
Ag (DIS) (mg/L)	< 0.0002	08/06/14-04/24/19	O	28	0	< 0.0002 : 0 .0002						
Sr (DIS) (mg/L)	0.0185	08/06/14-04/24/19	O	28	28	0.0185	0.0324	0.029	0.0299	0.0027	3.8746	*L
Tl (DIS) (mg/L)	< 0.0002	08/06/14-04/24/19	O	28	0	< 0.0002 : 0 .0002						
U (DIS) (mg/L)	< 0.0002	08/06/14-04/24/19	O	28	0	< 0.0002	< .008					
Zn (DIS) (mg/L)	0.004	08/06/14-04/24/19	O	28	22	< 0.002	0.015	0.004	0.004	0.004	0.0	

SAMPLE NO	BBC-1904-119	LAB NO:	H19040763-006	STATION:DS-4
-----------	--------------	---------	---------------	--------------

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	9.89	10/13/11-04/24/19	O	26	26	2.45	11.98	7.28	7.74	2.08	1.25	
pH Fld (s.u.)	7.36	10/13/11-04/24/19	O	25	25	5.86	8.83	7.22	7.36	0.72	0.2	
SC Fld (umhos/cm)	82	10/13/11-04/24/19	O	26	26	73.0	203.0	101.6	99.5	27.6	0.7	
Flow (Gallons Per Min)	-9999	10/13/11-04/24/19	O	11	9	-9999.0	7.5	1.0	2.2	3.5	2857.2	*L
Water Temp (Deg C)	5.4	10/13/11-04/24/19	O	26	26	0.2	20.2	7.3	8.5	4.3	0.4	
TDS (mg/L)	120	10/13/11-04/24/19	O	26	26	60.0	143.0	94.4	92	19.7	1.3	
TSS (mg/L)	< 10	08/06/14-04/24/19	O	25	13	< 10	868.0	32.8	24	186.9	0.1	L
Tot Alk (mg/L)	37	10/13/11-04/24/19	O	26	26	36.0	84.0	46.2	45.5	10.5	0.9	
Ca (mg/L)	12	10/13/11-04/24/19	O	26	26	11.0	22.0	14.1	14	2.4	0.9	
Cl (mg/L)	< 1	10/13/11-04/24/19	O	26	4	< 1	2.0					
F (mg/L)	< 0.1	10/13/11-04/24/19	O	26	10	0.1	< .1					
Tot Hard (mg/L)	41	10/13/11-04/24/19	O	26	26	38.0	71.0	47.2	47	7	0.9	
Mg (mg/L)	3	10/13/11-04/24/19	O	26	26	2.0	4.0	3.0	3	0.3	0.1	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

K (mg/L)	< 1	10/13/11-04/24/19	O	26	11	< 1	2.0					
Na (mg/L)	1	10/13/11-04/24/19	O	26	26	1.0	2.0	1.2	1	0.5	0.5	L
SO4 (mg/L)	2	10/13/11-04/24/19	O	26	25	< 1	4.0	2.1	2	0.7	0.1	
N+N (mg/L)	0.27	10/13/11-04/24/19	O	26	21	< 0.01	0.47	0.11	0.27	0.16	0.99	
Al (DIS) (mg/L)	2.65	10/13/11-04/24/19	O	26	24	< 0.01	8.22	0.32	0.4	1.86	1.25	
Sb (DIS) (mg/L)	< 0.0005	10/13/11-04/24/19	O	25	1	0.0001	< .003					
As (DIS) (mg/L)	0.002	10/13/11-04/24/19	O	25	18	< 0.001	0.004	0.002	0.002	0.001	0.282	
Ba (DIS) (mg/L)	0.32	10/13/11-04/24/19	O	25	25	0.24	0.43	0.32	0.32	0.04	0.12	
Be (DIS) (mg/L)	< 0.0008	10/13/11-04/24/19	O	25	0	< 0.0008	< .001					
Cd (DIS) (mg/L)	< 0	10/13/11-04/24/19	O	25	0	< 0	< .00008					
Cr (DIS) (mg/L)	< 0.01	10/13/11-04/24/19	O	25	0	< 0	< .01					
Co (DIS) (mg/L)	< 0.01	10/13/11-04/24/19	O	25	2	0.0	< .01					
Cu (DIS) (mg/L)	0.003	10/13/11-04/24/19	O	25	7	< 0.001	0.006					
Fe (DIS) (mg/L)	1.64	10/13/11-04/24/19	O	25	24	< 0.02	3.82	0.5	0.42	0.95	1.2	
Pb (DIS) (mg/L)	0.0007	10/13/11-04/24/19	O	25	8	< 0.0003	0.0013					
Mn (DIS) (mg/L)	0.011	10/13/11-04/24/19	O	25	24	< 0.005	0.86	0.029	0.017	0.176	0.1	
Hg (DIS) (ug/L)	0.01	10/13/11-04/24/19	O	24	8	< 0	0.01					
Mo (DIS) (mg/L)	< 0.002	10/13/11-04/24/19	O	25	0	< 0.001	< .005					
Ni (DIS) (mg/L)	0.003	10/13/11-04/24/19	O	25	24	0.001	< .01	0.002	0.002	0.002	0.57	
Se (DIS) (mg/L)	< 0.0002	10/13/11-04/24/19	O	25	0	< 0.0002	< .001					
Ag (DIS) (mg/L)	< 0.0002	10/13/11-04/24/19	O	25	0	< 0.0002	< .0005					
Sr (DIS) (mg/L)	0.041	10/13/11-04/24/19	O	25	24	0.039	< .1	0.048	0.045	0.013	0.555	
Tl (DIS) (mg/L)	< 0.0002	10/13/11-04/24/19	O	25	0	< 0.0002	: 0 .0002					
U (DIS) (mg/L)	< 0.0002	10/13/11-04/24/19	O	25	0	< 0.0002	< .008					
Zn (DIS) (mg/L)	0.006	10/13/11-04/24/19	O	25	17	0.001	0.014	0.004	0.004	0.004	0.446	

SAMPLE NO BBC-1904-106 LAB NO: H19040763-001

STATION:SP-10

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	10.01	05/23/18-04/23/19	O	10	10	6.76	10.01	8.1	8.03	1.14	1.67	H
pH Fld (s.u.)	8.03	05/23/18-04/23/19	O	10	10	6.92	8.09	7.59	7.57	0.31	1.42	
SC Fld (umhos/cm)	326	05/23/18-04/23/19	O	10	10	305.0	434.0	389.2	409.5	37.9	1.7	
Flow (Gallons Per Min)	-9999	05/23/18-04/23/19	O	9	9	-9999.0	59.7	0.7	1.9	14.8	675.7	*L
Water Temp (Deg C)	5.6	05/23/18-04/23/19	O	10	10	3.8	8.1	6.3	6.6	2.5	0.3	
TDS (mg/L)	162	05/23/18-04/23/19	O	10	10	162.0	234.0	216.7	227	21.5	2.5	L

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

TSS (mg/L)	399	05/23/18-04/23/19	O	10	4	< 10	399.0						
Tot Alk (mg/L)	150	05/23/18-04/23/19	O	10	10	150.0	220.0	202.7	215	22	2.4	L	
Ca (mg/L)	38	05/23/18-04/23/19	O	10	10	38.0	61.0	54.2	55.5	6.5	2.5	L	
Cl (mg/L)	< 1	05/23/18-04/23/19	O	10	0	< 1	< 1						
F (mg/L)	0.1	05/23/18-04/23/19	O	10	10	0.1	0.1	0.1	0.1	0	0.0	H	
Tot Hard (mg/L)	147	05/23/18-04/23/19	O	10	10	147.0	245.0	214.9	220.5	27.3	2.5	L	
Mg (mg/L)	13	05/23/18-04/23/19	O	10	10	13.0	22.0	19.3	20	2.6	2.4	L	
K (mg/L)	< 1	05/23/18-04/23/19	O	10	5	< 1	< 1						
Na (mg/L)	1	05/23/18-04/23/19	O	10	10	1.0	2.0	1.9	2	0.3	2.9	L	
SO4 (mg/L)	6	05/23/18-04/23/19	O	10	10	6.0	17.0	12.5	14	3.8	1.7	L	
N+N (mg/L)	0.15	05/23/18-04/23/19	O	10	10	0.15	0.28	0.22	0.24	0.04	1.64	L	
Al (DIS) (mg/L)	0.024	05/23/18-04/23/19	O	10	1	< 0.009	0.024						
Sb (DIS) (mg/L)	< 0.0005	05/23/18-04/23/19	O	10	0	< 0.0005	: 0 .0005						
As (DIS) (mg/L)	< 0.001	05/23/18-04/23/19	O	10	0	< 0.001	< 0 .001						
Ba (DIS) (mg/L)	0.03	05/23/18-04/23/19	O	10	10	0.03	0.06	0.05	0.05	0.01	1.79	L	
Be (DIS) (mg/L)	< 0.0008	05/23/18-04/23/19	O	10	0	< 0.0008	: 0 .0008						
Cd (DIS) (mg/L)	< 0	05/23/18-04/23/19	O	10	0	< 0	: .00003						
Cr (DIS) (mg/L)	< 0.01	05/23/18-04/23/19	O	10	0	< 0.01	< 0 .01						
Co (DIS) (mg/L)	< 0.01	05/23/18-04/23/19	O	10	0	< 0.01	< 0 .01						
Cu (DIS) (mg/L)	< 0.002	05/23/18-04/23/19	O	10	0	< 0.002	< 0 .002						
Fe (DIS) (mg/L)	< 0.02	05/23/18-04/23/19	O	10	0	< 0.02	< 0 .02						
Pb (DIS) (mg/L)	< 0.0003	05/23/18-04/23/19	O	10	0	< 0.0003	: 0 .0003						
Mn (DIS) (mg/L)	< 0.005	05/23/18-04/23/19	O	10	3	< 0.005	0.024						
Hg (DIS) (ug/L)	< 0.005	05/23/18-04/23/19	O	10	0	< 0	< .005						
Mo (DIS) (mg/L)	< 0.002	05/23/18-04/23/19	O	10	0	< 0.002	< 0 .002						
Ni (DIS) (mg/L)	< 0.001	05/23/18-04/23/19	O	10	0	< 0.001	< 0 .001						
Se (DIS) (mg/L)	< 0.0002	05/23/18-04/23/19	O	10	7	< 0.0002	0.0003	0.0003	0.0003	0.0001	0.5509	L	
Ag (DIS) (mg/L)	< 0.0002	05/23/18-04/23/19	O	10	0	< 0.0002	: 0 .0002						
Sr (DIS) (mg/L)	0.0748	05/23/18-04/23/19	O	10	10	0.0748	0.122	0.1068	0.111	0.0131	2.44	L	
Tl (DIS) (mg/L)	< 0.0002	05/23/18-04/23/19	O	10	0	< 0.0002	: 0 .0002						
U (DIS) (mg/L)	0.0004	05/23/18-04/23/19	O	10	4	0.0004	< .008						
Zn (DIS) (mg/L)	< 0.002	05/23/18-04/23/19	O	10	0	< 0.002	< 0 .002						

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

04/24/19		COMPARISON PERIOD OF DATA		QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
SAMPLE NO	BBC-1904-120	LAB NO:	H19040763-007									
PARAMETER	RESULT	PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	9.92	07/20/11-04/24/19	O	28	28	5.41	19.38	9.54	9.73	2.22	0.17	
pH Fld (s.u.)	7.21	07/20/11-04/24/19	O	27	27	6.2	8.66	7.35	7.42	0.57	0.25	
SC Fld (umhos/cm)	91	07/20/11-04/24/19	O	28	28	91.0	223.0	161.6	177.5	39.8	1.8	L
Flow (Gallons Per Min)	-9999	07/20/11-04/24/19	O	26	25	-9999.0	5.4	0.4	0.6	1.6	6249.6	*L
Water Temp (Deg C)	3.5	07/20/11-04/24/19	O	28	28	1.7	15.8	6.6	7.6	3.8	0.8	
TDS (mg/L)	157	07/20/11-04/24/19	O	28	28	124.0	214.0	142.5	137	21.4	0.7	
TSS (mg/L)	< 10	08/28/13-04/24/19	O	26	15	< 10	191.0	24.6	14	119	0.1	L
Tot Alk (mg/L)	37	07/20/11-04/24/19	O	28	28	37.0	100.0	74.6	83.5	21.1	1.8	L
Ca (mg/L)	13	07/20/11-04/24/19	O	28	28	13.0	32.0	23.0	25.5	5.8	1.7	L
Cl (mg/L)	1	07/20/11-04/24/19	O	28	4	< 1	2.0					
F (mg/L)	0.1	07/20/11-04/24/19	O	28	28	0.1	0.1	0.1	0.1	0	0.0	H
Tot Hard (mg/L)	46	07/20/11-04/24/19	O	28	28	46.0	109.0	78.9	86	19.1	1.7	L
Mg (mg/L)	3	07/20/11-04/24/19	O	28	28	3.0	7.0	5.2	6	1.2	1.8	L
K (mg/L)	2	07/20/11-04/24/19	O	28	28	1.0	3.0	1.4	1	0.7	0.8	
Na (mg/L)	2	07/20/11-04/24/19	O	28	28	2.0	3.0	2.4	2.5	0.5	0.9	L
SO4 (mg/L)	4	07/20/11-04/24/19	O	28	28	3.0	7.0	5.0	5	1.2	0.8	
N+N (mg/L)	0.14	07/20/11-04/24/19	O	28	28	0.14	0.43	0.29	0.3	0.07	2.07	L
Al (DIS) (mg/L)	2.18	07/20/11-04/24/19	O	28	28	0.03	10.8	0.37	0.28	2.36	0.77	
Sb (DIS) (mg/L)	< 0.0005	07/20/11-04/24/19	O	27	0	< 0.0005	< .003					
As (DIS) (mg/L)	0.003	07/20/11-04/24/19	O	27	25	0.001	0.005	0.002	0.002	0.001	1.203	
Ba (DIS) (mg/L)	0.201	07/20/11-04/24/19	O	27	27	0.201	0.53	0.284	0.292	0.059	1.407	L
Be (DIS) (mg/L)	< 0.0008	07/20/11-04/24/19	O	27	1	< 0.0008	< .001					
Cd (DIS) (mg/L)	< 0	07/20/11-04/24/19	O	27	1	< 0	0.0002					
Cr (DIS) (mg/L)	< 0.01	07/20/11-04/24/19	O	27	2	0.0	0.02					
Co (DIS) (mg/L)	< 0.01	07/20/11-04/24/19	O	27	0	< 0.01	< .01					
Cu (DIS) (mg/L)	0.006	07/20/11-04/24/19	O	27	12	0.001	0.026					
Fe (DIS) (mg/L)	1.42	07/20/11-04/24/19	O	27	27	0.02	6.89	0.19	0.09	1.44	0.86	
Pb (DIS) (mg/L)	0.0005	07/20/11-04/24/19	O	27	8	< 0.0003	0.0036					
Mn (DIS) (mg/L)	0.009	07/20/11-04/24/19	O	27	9	0.001	0.068					
Hg (DIS) (ug/L)	0.026	07/20/11-04/24/19	O	26	10	< 0	0.026					
Mo (DIS) (mg/L)	< 0.002	07/20/11-04/24/19	O	27	0	< 0.001	< .005					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Ni (DIS) (mg/L)	0.004	07/20/11-04/24/19	O	27	12	< 0.001	0.015					
Se (DIS) (mg/L)	< 0.0002	07/20/11-04/24/19	O	27	6	< 0.0002	< .001					
Ag (DIS) (mg/L)	< 0.0002	07/20/11-04/24/19	O	27	0	< 0.0002	< .0005					
Sr (DIS) (mg/L)	0.0398	07/20/11-04/24/19	O	27	25	0.0398	< .1	0.0712	0.0779	0.0169	1.8607	L
Tl (DIS) (mg/L)	< 0.0002	07/20/11-04/24/19	O	27	1	< 0.0002	: 0 .0002					
U (DIS) (mg/L)	< 0.0002	07/20/11-04/24/19	O	27	1	< 0.0002	< .008					
Zn (DIS) (mg/L)	0.006	07/20/11-04/24/19	O	27	11	< 0.002	0.029					

SAMPLE NO	BBC-1904-123	LAB NO:	H19040763-009	STATION:SP-4
-----------	--------------	---------	---------------	--------------

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	9.8	07/21/11-04/24/19	O	51	51	6.7	14.0	9.8	9.7	1.4	0.0	
pH Fld (s.u.)	7.75	07/21/11-04/24/19	O	50	50	6.95	8.63	7.7	7.72	0.29	0.17	
SC Fld (umhos/cm)	442	07/21/11-04/24/19	O	51	51	162.0	481.0	420.9	434	46.5	0.5	
Flow (Gallons Per Min)	42.2	07/21/11-04/24/19	O	43	43	0.0	50.3	3.0	5.4	10.5	3.7	*
Water Temp (Deg C)	6.7	07/21/11-04/24/19	O	50	50	0.1	12.2	5.6	6.5	2.1	0.5	
TDS (mg/L)	248	07/21/11-04/24/19	O	51	51	202.0	272.0	247.2	250	13.8	0.1	
TSS (mg/L)	< 10	08/28/13-04/24/19	O	48	29	5.0	890.0	21.0	11.5	124.6	0.1	
Tot Alk (mg/L)	200	07/21/11-04/24/19	O	51	51	190.0	210.0	201.3	200	4.5	0.3	
Ca (mg/L)	50	07/21/11-04/24/19	O	51	51	42.0	56.0	50.8	51	2.5	0.3	
Cl (mg/L)	< 1	07/21/11-04/24/19	O	51	14	1.0	1.0					
F (mg/L)	0.2	07/21/11-04/24/19	O	51	51	0.2	0.3	0.2	0.2	0	0.0	L
Tot Hard (mg/L)	231	07/21/11-04/24/19	O	51	51	208.0	255.0	236.4	238	10.9	0.5	
Mg (mg/L)	26	07/21/11-04/24/19	O	51	51	24.0	29.0	26.6	27	1.2	0.5	
K (mg/L)	2	07/21/11-04/24/19	O	51	51	1.0	2.0	1.9	2	0.3	0.4	H
Na (mg/L)	2	07/21/11-04/24/19	O	51	51	2.0	2.0	2.0	2	0	0.0	H
SO4 (mg/L)	39	07/21/11-04/24/19	O	51	51	10.0	45.0	35.5	38	6.5	0.5	
N+N (mg/L)	0.25	07/21/11-04/24/19	O	51	51	0.18	0.35	0.25	0.25	0.03	0.01	
Al (DIS) (mg/L)	< 0.009	07/21/11-04/24/19	O	51	4	< 0.009	0.031					
Sb (DIS) (mg/L)	< 0.0005	07/21/11-04/24/19	O	50	0	< 0.0005	< .003					
As (DIS) (mg/L)	< 0.001	07/21/11-04/24/19	O	50	0	< 0.001	< .003					
Ba (DIS) (mg/L)	0.112	07/21/11-04/24/19	O	50	50	0.101	0.121	0.112	0.112	0.005	0.058	
Be (DIS) (mg/L)	< 0.0008	07/21/11-04/24/19	O	50	0	< 0.0008	< .001					
Cd (DIS) (mg/L)	< 0	07/21/11-04/24/19	O	50	0	< 0	< .00008					
Cr (DIS) (mg/L)	< 0.01	07/21/11-04/24/19	O	50	0	< 0	< .01					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Co (DIS) (mg/L)	< 0.01	07/21/11-04/24/19	O	50	0	< 0.01	< .01				
Cu (DIS) (mg/L)	< 0.002	07/21/11-04/24/19	O	50	1	< 0.001	0.017				
Fe (DIS) (mg/L)	< 0.02	07/21/11-04/24/19	O	50	11	< 0.02	0.14				
Pb (DIS) (mg/L)	< 0.0003	07/21/11-04/24/19	O	50	0	< 0.0003	< .0005				
Mn (DIS) (mg/L)	< 0.005	07/21/11-04/24/19	O	50	23	0.004	0.038				
Hg (DIS) (ug/L)	< 0.005	07/21/11-04/24/19	O	49	1	< 0	< .005				
Mo (DIS) (mg/L)	< 0.002	07/21/11-04/24/19	O	50	0	< 0.001	< .005				
Ni (DIS) (mg/L)	< 0.001	07/21/11-04/24/19	O	50	0	< 0.001	< .01				
Se (DIS) (mg/L)	0.0003	07/21/11-04/24/19	O	50	46	< 0.0002	< .001	0.0004	0.0004	0.0001	1.1357
Ag (DIS) (mg/L)	< 0.0002	07/21/11-04/24/19	O	50	0	< 0.0002	< .0005				
Sr (DIS) (mg/L)	0.0718	07/21/11-04/24/19	O	50	47	0.0672	< .1	0.0739	0.0728	0.0068	0.3152
Tl (DIS) (mg/L)	0.0003	07/21/11-04/24/19	O	50	50	0.0002	0.0004	0.0003	0.0003	0.0001	0.032
U (DIS) (mg/L)	0.0005	07/21/11-04/24/19	O	50	10	0.0004	< .008				
Zn (DIS) (mg/L)	< 0.002	07/21/11-04/24/19	O	50	14	< 0.002	< .01				

SAMPLE NO BBC-1904-122 LAB NO: H19040763-008

STATION:SP-6

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.62	10/12/11-04/24/19	O	44	44	6.7	282.0	10.54	9.65	39.73	0.02
pH Fld (s.u.)	7.6	10/12/11-04/24/19	O	43	43	5.8	8.7	7.3	7.5	0.7	0.4
SC Fld (umhos/cm)	253	10/12/11-04/24/19	O	44	44	241.0	327.0	268.4	268	14.6	1.1
Flow (Gallons Per Min)	4.12	10/12/11-04/24/19	O	42	34	0.27	4.12	1.03	1	0.91	3.39 *H
Water Temp (Deg C)	5.5	10/12/11-04/24/19	O	43	43	4.4	10.3	7.1	7.5	1.5	1.0
TDS (mg/L)	153	10/12/11-04/24/19	O	44	44	145.0	188.0	161.0	160.5	7.9	1.0
TSS (mg/L)	< 10	08/28/13-04/24/19	O	42	13	< 4	216.0				
Tot Alk (mg/L)	130	10/12/11-04/24/19	O	44	44	120.0	160.0	134.6	130	6.9	0.7
Ca (mg/L)	33	10/12/11-04/24/19	O	44	44	32.0	38.0	34.9	35	1.5	1.3
Cl (mg/L)	< 1	10/12/11-04/24/19	O	44	10	< 1	2.0				
F (mg/L)	0.1	10/12/11-04/24/19	O	44	44	0.1	0.2	0.2	0.2	0	0.0 L
Tot Hard (mg/L)	133	10/12/11-04/24/19	O	44	44	129.0	160.0	140.6	141	6.5	1.2
Mg (mg/L)	12	10/12/11-04/24/19	O	44	44	12.0	16.0	12.9	13	0.9	1.0 L
K (mg/L)	1	10/12/11-04/24/19	O	44	9	< 1	< 1				
Na (mg/L)	2	10/12/11-04/24/19	O	44	44	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	7	10/12/11-04/24/19	O	44	44	7.0	12.0	8.9	9.1	1.6	1.2 L
N+N (mg/L)	0.65	10/12/11-04/24/19	O	44	44	0.31	0.68	0.39	0.37	0.08	3.26 *

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Al (DIS) (mg/L)	0.052	10/12/11-04/24/19	O	44	21	0.004	0.16				
Sb (DIS) (mg/L)	< 0.0005	10/12/11-04/24/19	O	43	0	< 0.0005	< .003				
As (DIS) (mg/L)	< 0.001	10/12/11-04/24/19	O	43	0	< 0.001	< .003				
Ba (DIS) (mg/L)	0.186	10/12/11-04/24/19	O	43	43	0.168	0.217	0.191	0.19	0.009	0.516
Be (DIS) (mg/L)	< 0.0008	10/12/11-04/24/19	O	43	0	< 0.0008	< .001				
Cd (DIS) (mg/L)	< 0	10/12/11-04/24/19	O	43	0	< 0	< .00008				
Cr (DIS) (mg/L)	< 0.01	10/12/11-04/24/19	O	43	0	< 0	< .01				
Co (DIS) (mg/L)	< 0.01	10/12/11-04/24/19	O	43	0	< 0.01	< .01				
Cu (DIS) (mg/L)	< 0.002	10/12/11-04/24/19	O	43	0	< 0.001	< .002				
Fe (DIS) (mg/L)	0.03	10/12/11-04/24/19	O	43	16	< 0.02	0.19				
Pb (DIS) (mg/L)	< 0.0003	10/12/11-04/24/19	O	43	1	< 0.0003	< .0005				
Mn (DIS) (mg/L)	< 0.005	10/12/11-04/24/19	O	43	7	< 0.001	0.102				
Hg (DIS) (ug/L)	< 0.005	10/12/11-04/24/19	O	42	1	< 0	< .005				
Mo (DIS) (mg/L)	< 0.002	10/12/11-04/24/19	O	43	0	< 0.001	< .005				
Ni (DIS) (mg/L)	< 0.001	10/12/11-04/24/19	O	43	1	< 0.001	< .01				
Se (DIS) (mg/L)	< 0.0002	10/12/11-04/24/19	O	43	12	< 0.0002	< .001				
Ag (DIS) (mg/L)	< 0.0002	10/12/11-04/24/19	O	43	0	< 0.0002	< .0005				
Sr (DIS) (mg/L)	0.0673	10/12/11-04/24/19	O	43	41	0.0654	< .1	0.0731	0.0728	0.0063	0.9283
Tl (DIS) (mg/L)	0.0005	10/12/11-04/24/19	O	43	43	0.0004	0.0007	0.0005	0.0005	0.0001	0.0107
U (DIS) (mg/L)	0.0004	10/12/11-04/24/19	O	43	13	< 0.0003	< .008				
Zn (DIS) (mg/L)	< 0.002	10/12/11-04/24/19	O	43	7	0.001	< .01				

SAMPLE NO		LAB NO:		STATION:SP-7								
04/24/19		H19040763-010										
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	2.7	03/26/15-04/24/19	O	48	48	2.3	11.0	3.7	3.5	1.6	0.6	
pH Fld (s.u.)	7.65	03/26/15-04/24/19	O	47	47	6.17	8.18	7.38	7.38	0.33	0.8	
SC Fld (umhos/cm)	330	03/26/15-04/24/19	O	48	48	196.0	354.0	320.9	330	28.5	0.3	
Flow (Gallons Per Min)	59.7	03/26/15-04/24/19	O	41	41	6.7	136.0	18.4	15.3	25.6	1.6	
Water Temp (Deg C)	7.4	03/26/15-04/24/19	O	47	47	5.1	7.4	6.5	6.6	0.6	1.5 H	
TDS (mg/L)	188	03/26/15-04/24/19	O	48	48	173.0	200.0	187.1	187	6.7	0.1	
TDS (mg/L)	189	03/26/15-04/24/19	DUP	48	48	173.0	200.0	187.1	187	6.7	0.3	
TSS (mg/L)	< 10	03/26/15-04/24/19	DUP	48	7	< 4	146.0					
TSS (mg/L)	< 10	03/26/15-04/24/19	O	48	7	< 4	146.0					
Tot Alk (mg/L)	160	03/26/15-04/24/19	O	48	48	160.0	170.0	166.2	170	4.7	1.3 L	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Tot Alk (mg/L)	170	03/26/15-04/24/19	DUP	48	48	160.0	170.0	166.2	170	4.7	0.8	H
Ca (mg/L)	42	03/26/15-04/24/19	DUP	48	48	40.0	46.0	42.9	43	1.4	0.6	
Ca (mg/L)	42	03/26/15-04/24/19	O	48	48	40.0	46.0	42.9	43	1.4	0.6	
Cl (mg/L)	2	03/26/15-04/24/19	DUP	48	48	1.0	2.0	1.8	2	0.3	0.8	H
Cl (mg/L)	2	03/26/15-04/24/19	O	48	48	1.0	2.0	1.8	2	0.3	0.8	H
F (mg/L)	0.3	03/26/15-04/24/19	O	48	48	0.3	0.4	0.3	0.3	0	0.0	L
F (mg/L)	0.3	03/26/15-04/24/19	DUP	48	48	0.3	0.4	0.3	0.3	0	0.0	L
Tot Hard (mg/L)	163	03/26/15-04/24/19	DUP	48	48	153.0	178.0	168.0	168.5	5.5	0.9	
Tot Hard (mg/L)	163	03/26/15-04/24/19	O	48	48	153.0	178.0	168.0	168.5	5.5	0.9	
Mg (mg/L)	14	03/26/15-04/24/19	DUP	48	48	13.0	16.0	14.8	15	0.6	1.3	
Mg (mg/L)	14	03/26/15-04/24/19	O	48	48	13.0	16.0	14.8	15	0.6	1.3	
K (mg/L)	3	03/26/15-04/24/19	DUP	48	48	2.0	3.0	2.7	3	0.4	0.7	H
K (mg/L)	3	03/26/15-04/24/19	O	48	48	2.0	3.0	2.7	3	0.4	0.7	H
Na (mg/L)	5	03/26/15-04/24/19	DUP	48	48	4.0	5.0	4.7	5	0.5	0.7	H
Na (mg/L)	4	03/26/15-04/24/19	O	48	48	4.0	5.0	4.7	5	0.5	1.3	L
SO4 (mg/L)	11	03/26/15-04/24/19	O	48	48	7.0	12.0	9.6	10	1.1	1.2	
SO4 (mg/L)	11	03/26/15-04/24/19	DUP	48	48	7.0	12.0	9.6	10	1.1	1.2	
N+N (mg/L)	0.32	03/26/15-04/24/19	DUP	48	48	0.27	0.41	0.31	0.31	0.02	0.53	
N+N (mg/L)	0.32	03/26/15-04/24/19	O	48	48	0.27	0.41	0.31	0.31	0.02	0.53	
Al (DIS) (mg/L)	< 0.009	03/26/15-04/24/19	DUP	48	3	< 0.009	0.311					
Al (DIS) (mg/L)	0.01	03/26/15-04/24/19	O	48	3	< 0.01	0.31					
Sb (DIS) (mg/L)	< 0.0005	03/26/15-04/24/19	O	47	0	< 0.0005	: 0.0005					
Sb (DIS) (mg/L)	< 0.0005	03/26/15-04/24/19	DUP	47	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	0.004	03/26/15-04/24/19	DUP	47	47	0.003	0.004	0.004	0.004	0	0.0	H
As (DIS) (mg/L)	0.004	03/26/15-04/24/19	O	47	47	0.003	0.004	0.004	0.004	0	0.0	H
Ba (DIS) (mg/L)	0.112	03/26/15-04/24/19	O	47	47	0.1	0.122	0.112	0.112	0.005	0.067	
Ba (DIS) (mg/L)	0.111	03/26/15-04/24/19	DUP	47	47	0.1	0.122	0.112	0.112	0.005	0.133	
Be (DIS) (mg/L)	< 0.0008	03/26/15-04/24/19	O	47	0	< 0.0008	: 0.0008					
Be (DIS) (mg/L)	< 0.0008	03/26/15-04/24/19	DUP	47	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	03/26/15-04/24/19	DUP	47	0	< 0	: .00003					
Cd (DIS) (mg/L)	< 0	03/26/15-04/24/19	O	47	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	03/26/15-04/24/19	O	47	0	< 0.01	< 0.01					
Cr (DIS) (mg/L)	< 0.01	03/26/15-04/24/19	DUP	47	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	03/26/15-04/24/19	DUP	47	0	< 0.01	< 0.01					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Co (DIS) (mg/L)	< 0.01	03/26/15-04/24/19	O	47	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	< 0.002	03/26/15-04/24/19	DUP	47	2	< 0.002	0.015				
Cu (DIS) (mg/L)	< 0.002	03/26/15-04/24/19	O	47	2	< 0.002	0.015				
Fe (DIS) (mg/L)	< 0.02	03/26/15-04/24/19	DUP	47	4	< 0.02	0.36				
Fe (DIS) (mg/L)	< 0.02	03/26/15-04/24/19	O	47	4	< 0.02	0.36				
Pb (DIS) (mg/L)	< 0.0003	03/26/15-04/24/19	DUP	47	1	< 0.0003	0.0006				
Pb (DIS) (mg/L)	< 0.0003	03/26/15-04/24/19	O	47	1	< 0.0003	0.0006				
Mn (DIS) (mg/L)	< 0.005	03/26/15-04/24/19	O	47	1	< 0.005	< 0.005				
Mn (DIS) (mg/L)	< 0.005	03/26/15-04/24/19	DUP	47	1	< 0.005	< 0.005				
Hg (DIS) (ug/L)	< 0.005	03/26/15-04/24/19	O	47	1	< 0	< .005				
Hg (DIS) (ug/L)	< 0.005	03/26/15-04/24/19	DUP	47	1	< 0	< .005				
Mo (DIS) (mg/L)	< 0.002	03/26/15-04/24/19	O	47	0	< 0.002	< 0.002				
Mo (DIS) (mg/L)	< 0.002	03/26/15-04/24/19	DUP	47	0	< 0.002	< 0.002				
Ni (DIS) (mg/L)	< 0.001	03/26/15-04/24/19	O	47	0	< 0.001	< 0.001				
Ni (DIS) (mg/L)	< 0.001	03/26/15-04/24/19	DUP	47	0	< 0.001	< 0.001				
Se (DIS) (mg/L)	0.0003	03/26/15-04/24/19	O	47	43	0.0002	< .0004	0.0003	0.0003	0.0001	0.1378
Se (DIS) (mg/L)	0.0002	03/26/15-04/24/19	DUP	47	43	0.0002	< .0004	0.0003	0.0003	0.0001	0.8622 L
Ag (DIS) (mg/L)	< 0.0002	03/26/15-04/24/19	O	47	0	< 0.0002	: 0.0002				
Ag (DIS) (mg/L)	< 0.0002	03/26/15-04/24/19	DUP	47	0	< 0.0002	: 0.0002				
Sr (DIS) (mg/L)	0.164	03/26/15-04/24/19	DUP	47	47	0.15	0.181	0.166	0.166	0.006	0.315
Sr (DIS) (mg/L)	0.165	03/26/15-04/24/19	O	47	47	0.15	0.181	0.166	0.166	0.006	0.148
Tl (DIS) (mg/L)	0.001	03/26/15-04/24/19	DUP	47	47	0.001	0.001	0.001	0.001	0	0.0
Tl (DIS) (mg/L)	0.001	03/26/15-04/24/19	O	47	47	0.001	0.001	0.001	0.001	0	0.0
U (DIS) (mg/L)	0.0009	03/26/15-04/24/19	O	47	6	0.0009	< .008				
U (DIS) (mg/L)	0.0008	03/26/15-04/24/19	DUP	47	6	0.0009	< .008				
Zn (DIS) (mg/L)	< 0.002	03/26/15-04/24/19	O	47	2	< 0.002	0.003				
Zn (DIS) (mg/L)	< 0.002	03/26/15-04/24/19	DUP	47	2	< 0.002	0.003				

SAMPLE NO		LAB NO:		STATION:SW-1							
04/24/19		H19040763-016									
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	11.11	05/24/11-04/24/19	O	75	75	3.91	15.0	10.96	10.9	1.93	0.08
pH Fld (s.u.)	7.76	05/24/11-04/24/19	O	74	74	5.3	8.71	7.82	8.03	0.65	0.09
SC Fld (umhos/cm)	179	05/24/11-04/24/19	O	75	75	176.0	363.0	284.4	311	53.5	2.0
Flow (Cubic Ft Sec)	174.3	05/24/11-04/24/19	O	54	54	0.0	613.0	14.9	23.8	90.8	1.8

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Gauge (Feet)	1.72	05/24/11-04/24/19	O	46	46	0.49	13.3	1.14	0.98	1.74	0.34
Water Temp (Deg C)	1.7	05/24/11-04/24/19	O	75	75	-1.0	14.5	0.5	3.3	4.8	0.3
TDS (mg/L)	136	05/24/11-04/24/19	DUP	72	72	107.0	227.0	169.2	180	27.2	1.2
TDS (mg/L)	135	05/24/11-04/24/19	O	72	72	107.0	227.0	169.2	180	27.2	1.3
TSS (mg/L)	< 4	05/30/12-04/24/19	O	68	25	< 4	43.0				
TSS (mg/L)	54	05/30/12-04/24/19	DUP	68	25	< 4	43.0				
Tot Alk (mg/L)	87	05/24/11-04/24/19	O	72	72	87.0	200.0	152.4	170	31.5	2.1 L
Tot Alk (mg/L)	86	05/24/11-04/24/19	DUP	72	72	87.0	200.0	152.4	170	31.5	2.1 L
Ca (mg/L)	24	05/24/11-04/24/19	O	72	72	23.0	55.0	42.2	46	8.9	2.0
Ca (mg/L)	25	05/24/11-04/24/19	DUP	72	72	23.0	55.0	42.2	46	8.9	1.9
Cl (mg/L)	2	05/24/11-04/24/19	O	72	71	1.0	5.0	1.4	1	0.7	0.9
Cl (mg/L)	2	05/24/11-04/24/19	DUP	72	71	1.0	5.0	1.4	1	0.7	0.9
F (mg/L)	< 0.1	05/24/11-04/24/19	O	72	22	< 0.1	0.2				
F (mg/L)	< 0.1	05/24/11-04/24/19	DUP	72	22	< 0.1	0.2				
Tot Hard (mg/L)	88	05/24/11-04/24/19	O	72	71	< 7	199.0	144.6	164	35.8	1.6
Tot Hard (mg/L)	90	05/24/11-04/24/19	DUP	72	71	< 7	199.0	144.6	164	35.8	1.5
Mg (mg/L)	7	05/24/11-04/24/19	O	72	72	6.0	15.0	11.1	12	2.5	1.7
Mg (mg/L)	7	05/24/11-04/24/19	DUP	72	72	6.0	15.0	11.1	12	2.5	1.7
K (mg/L)	2	05/24/11-04/24/19	O	72	69	1.0	3.0	1.1	1	0.5	1.8
K (mg/L)	2	05/24/11-04/24/19	DUP	72	69	1.0	3.0	1.1	1	0.5	1.8
Na (mg/L)	2	05/24/11-04/24/19	O	72	72	1.0	3.0	2.2	2	0.5	0.3
Na (mg/L)	2	05/24/11-04/24/19	DUP	72	72	1.0	3.0	2.2	2	0.5	0.3
SO4 (mg/L)	4	05/24/11-04/24/19	O	72	72	2.0	18.0	5.2	5	2.1	0.6
SO4 (mg/L)	4	05/24/11-04/24/19	DUP	72	72	2.0	18.0	5.2	5	2.1	0.6
N+N (mg/L)	0.05	05/24/11-04/24/19	O	72	35	< 0.01	0.15				
N+N (mg/L)	0.05	05/24/11-04/24/19	DUP	72	35	< 0.01	0.15				
Tot Phos (mg/L)	0.095	05/16/14-04/24/19	O	58	54	< 0.003	0.095	0.013	0.012	0.019	4.321 *H
Tot Phos (mg/L)	0.089	05/16/14-04/24/19	DUP	58	54	< 0.003	0.095	0.013	0.012	0.019	4.006 *
Tot Pers (mg/L)	0.48	04/29/15-04/24/19	O	46	42	< 0	1.12	0.13	0.15	0.17	2.05
Tot Pers (mg/L)	0.52	04/29/15-04/24/19	DUP	46	42	< 0	1.12	0.13	0.15	0.17	2.28
Al (DIS) (mg/L)	0.409	05/24/11-04/24/19	O	72	27	< 0.009	0.409				
Al (DIS) (mg/L)	0.332	05/24/11-04/24/19	DUP	72	27	< 0.009	0.409				
Sb (TRC) (mg/L)	< 0.0005	05/24/11-04/24/19	O	72	0	< 0.0005	< .005				
Sb (TRC) (mg/L)	< 0.0005	05/24/11-04/24/19	DUP	72	0	< 0.0005	< .005				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

As (TRC) (mg/L)	0.001	05/24/11-04/24/19	DUP	72	13	< 0.001	< .003				
As (TRC) (mg/L)	0.001	05/24/11-04/24/19	O	72	13	< 0.001	< .003				
Ba (TRC) (mg/L)	0.116	05/24/11-04/24/19	O	72	72	0.083	0.127	0.104	0.104	0.009	1.284
Ba (TRC) (mg/L)	0.111	05/24/11-04/24/19	DUP	72	72	0.083	0.127	0.104	0.104	0.009	0.728
Be (TRC) (mg/L)	< 0.0008	05/24/11-04/24/19	O	72	0	< 0.0008	< .001				
Be (TRC) (mg/L)	< 0.0008	05/24/11-04/24/19	DUP	72	0	< 0.0008	< .001				
Cd (TRC) (mg/L)	< 0	05/24/11-04/24/19	O	72	5	< 0	0.0002				
Cd (TRC) (mg/L)	< 0	05/24/11-04/24/19	DUP	72	5	< 0	0.0002				
Cr (TRC) (mg/L)	< 0.01	05/24/11-04/24/19	O	72	2	< 0	< .01				
Cr (TRC) (mg/L)	< 0.01	05/24/11-04/24/19	DUP	72	2	< 0	< .01				
Co (TRC) (mg/L)	< 0.01	05/24/11-04/24/19	O	72	0	< 0.01	< .01				
Co (TRC) (mg/L)	< 0.01	05/24/11-04/24/19	DUP	72	0	< 0.01	< .01				
Cu (TRC) (mg/L)	0.003	05/24/11-04/24/19	O	72	6	0.001	0.003				
Cu (TRC) (mg/L)	0.003	05/24/11-04/24/19	DUP	72	6	0.001	0.003				
Fe (TRC) (mg/L)	2.11	05/24/11-04/24/19	O	72	72	0.11	2.11	0.23	0.17	0.41	4.57 *H
Fe (TRC) (mg/L)	1.45	05/24/11-04/24/19	DUP	72	72	0.11	2.11	0.23	0.17	0.41	2.96
Pb (TRC) (mg/L)	0.0011	05/24/11-04/24/19	DUP	72	14	< 0.0003	0.0015				
Pb (TRC) (mg/L)	0.0013	05/24/11-04/24/19	O	72	14	< 0.0003	0.0015				
Mn (TRC) (mg/L)	0.046	05/24/11-04/24/19	DUP	72	72	0.009	0.053	0.017	0.017	0.011	2.595
Mn (TRC) (mg/L)	0.05	05/24/11-04/24/19	O	72	72	0.01	0.05	0.02	0.02	0.01	3.25 *
Hg (TRC) (ug/L)	0.023	05/24/11-04/24/19	O	72	12	< 0	0.023				
Hg (TRC) (ug/L)	0.025	05/24/11-04/24/19	DUP	72	12	< 0	0.023				
Mo (TRC) (mg/L)	< 0.002	05/24/11-04/24/19	DUP	72	0	< 0.001	< .005				
Mo (TRC) (mg/L)	< 0.002	05/24/11-04/24/19	O	72	0	< 0.001	< .005				
Ni (TRC) (mg/L)	0.003	05/24/11-04/24/19	DUP	72	11	< 0.001	< .01				
Ni (TRC) (mg/L)	0.004	05/24/11-04/24/19	O	72	11	< 0.001	< .01				
Se (TRC) (mg/L)	< 0.0002	05/24/11-04/24/19	DUP	72	0	< 0.0002	< .001				
Se (TRC) (mg/L)	< 0.0002	05/24/11-04/24/19	O	72	0	< 0.0002	< .001				
Ag (TRC) (mg/L)	< 0.0002	05/24/11-04/24/19	DUP	72	0	< 0.0002	< .0005				
Ag (TRC) (mg/L)	< 0.0002	05/24/11-04/24/19	O	72	0	< 0.0002	< .0005				
Sr (TRC) (mg/L)	0.0697	05/24/11-04/24/19	DUP	72	69	0.0708	0.147	0.1153	0.119	0.0167	2.7288 L
Sr (TRC) (mg/L)	0.0708	05/24/11-04/24/19	O	72	69	0.0708	0.147	0.1153	0.119	0.0167	2.6629 L
Tl (TRC) (mg/L)	< 0.0002	05/24/11-04/24/19	DUP	72	0	< 0.0002	: 0 .0002				
Tl (TRC) (mg/L)	< 0.0002	05/24/11-04/24/19	O	72	0	< 0.0002	: 0 .0002				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

U (TRC) (mg/L)	0.0003	05/24/11-04/24/19	DUP	72	13	0.0003	< .008
U (TRC) (mg/L)	0.0003	05/24/11-04/24/19	O	72	13	0.0003	< .008
Zn (TRC) (mg/L)	0.007	05/24/11-04/24/19	DUP	72	25	< 0.002	< .01
Zn (TRC) (mg/L)	0.009	05/24/11-04/24/19	O	72	25	< 0.002	< .01

SAMPLE NO	BBC-1904-116	LAB NO:	H19040763-019	STATION:SW-2
-----------	--------------	---------	---------------	--------------

PARAMETER	04/24/19 RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	11.16	05/24/11-04/24/19	O	75	75	6.35	16.18	11.04	10.96	1.71	0.07
pH Fld (s.u.)	8.03	05/24/11-04/24/19	O	74	74	0.0	8.73	6.78	8.05	1.01	1.24
SC Fld (umhos/cm)	178	05/24/11-04/24/19	O	75	75	156.0	388.0	277.2	306	54.8	1.8
Flow (Cubic Ft Sec)	93.98	05/24/11-04/24/19	O	47	47	0.0	250.0	9.52	19.11	50.47	1.67
Gauge (Feet)	1.1	05/24/11-04/24/19	O	40	40	0.2	1.7	0.6	0.7	0.4	1.1
Water Temp (Deg C)	1.4	05/24/11-04/24/19	O	75	75	-1.0	15.8	0.2	2.9	4.9	0.2
TDS (mg/L)	128	05/24/11-04/24/19	O	72	72	112.0	223.0	164.9	173	25.4	1.5
TSS (mg/L)	< 4	05/30/12-04/24/19	O	68	19	4.0	105.0				
Tot Alk (mg/L)	85	05/24/11-04/24/19	O	72	72	80.0	200.0	149.8	160	28.2	2.3
Ca (mg/L)	25	05/24/11-04/24/19	O	72	72	21.0	58.0	42.4	46	8.3	2.1
Cl (mg/L)	2	05/24/11-04/24/19	O	72	70	1.0	5.0	1.4	1	0.7	0.9
F (mg/L)	< 0.1	05/24/11-04/24/19	O	72	1	< 0.1	0.4				
Tot Hard (mg/L)	89	05/24/11-04/24/19	O	72	71	< 7	202.0	143.5	164	33.4	1.6
Mg (mg/L)	6	05/24/11-04/24/19	O	72	72	5.0	15.0	10.7	12	2.2	2.1
K (mg/L)	1	05/24/11-04/24/19	O	72	67	1.0	2.0	1.0	1	0.1	0.1 L
Na (mg/L)	2	05/24/11-04/24/19	O	72	72	1.0	3.0	2.0	2	0.3	0.1
SO4 (mg/L)	4	05/24/11-04/24/19	O	72	72	2.0	9.0	4.9	5	1.5	0.6
N+N (mg/L)	0.03	05/24/11-04/24/19	O	72	36	< 0.01	0.12				
Tot Phos (mg/L)	0.066	05/16/14-04/24/19	O	58	50	< 0.003	0.182	0.01	0.008	0.024	2.34
Tot Pers (mg/L)	0.4	04/29/15-04/24/19	O	46	40	< 0	1.4	0.1	0.1	0.2	1.5
Al (DIS) (mg/L)	0.47	05/24/11-04/24/19	O	72	32	< 0.01	0.47				
Sb (TRC) (mg/L)	< 0.0005	05/24/11-04/24/19	O	72	0	< 0.0005	< .005				
As (TRC) (mg/L)	0.001	05/24/11-04/24/19	O	72	2	< 0.001	< .003				
Ba (TRC) (mg/L)	0.106	05/24/11-04/24/19	O	72	72	0.07	0.128	0.095	0.095	0.011	1.037
Be (TRC) (mg/L)	< 0.0008	05/24/11-04/24/19	O	72	0	< 0.0008	< .001				
Cd (TRC) (mg/L)	< 0	05/24/11-04/24/19	O	72	3	< 0	< .00008				
Cr (TRC) (mg/L)	< 0.01	05/24/11-04/24/19	O	72	1	< 0	< .01				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Co (TRC) (mg/L)	< 0.01	05/24/11-04/24/19	O	72	0	< 0.01	< .01					
Cu (TRC) (mg/L)	0.003	05/24/11-04/24/19	O	72	6	< 0.001	0.004					
Fe (TRC) (mg/L)	1.45	05/24/11-04/24/19	O	72	72	0.09	2.49	0.21	0.15	0.36	3.45	*
Pb (TRC) (mg/L)	0.0009	05/24/11-04/24/19	O	72	15	< 0.0003	0.0017					
Mn (TRC) (mg/L)	0.035	05/24/11-04/24/19	O	72	72	0.006	0.116	0.011	0.01	0.013	1.821	
Hg (TRC) (ug/L)	0.025	05/24/11-04/24/19	O	72	12	< 0	0.025					
Mo (TRC) (mg/L)	< 0.002	05/24/11-04/24/19	O	72	0	< 0.001	< .005					
Ni (TRC) (mg/L)	0.003	05/24/11-04/24/19	O	72	12	< 0.001	< .01					
Se (TRC) (mg/L)	< 0.0002	05/24/11-04/24/19	O	72	0	< 0.0002	< .001					
Ag (TRC) (mg/L)	< 0.0002	05/24/11-04/24/19	O	72	0	< 0.0002	< .0005					
Sr (TRC) (mg/L)	0.0772	05/24/11-04/24/19	O	72	70	0.0772	0.15	0.1179	0.123	0.0152	2.6776	L
Tl (TRC) (mg/L)	< 0.0002	05/24/11-04/24/19	O	72	0	< 0.0002	: 0.0002					
U (TRC) (mg/L)	0.0003	05/24/11-04/24/19	O	72	11	< 0.0003	< .008					
Zn (TRC) (mg/L)	0.007	05/24/11-04/24/19	O	72	21	< 0.002	0.014					

SAMPLE NO BBC-1904-110 LAB NO: H19040763-014

STATION:SW-3

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	9.57	05/24/11-04/23/19	O	31	31	5.95	12.87	9.9	9.7	1.54	0.22	
pH Fld (s.u.)	7.97	05/24/11-04/23/19	O	31	31	7.92	8.7	8.26	8.28	0.17	1.69	
SC Fld (umhos/cm)	238	05/24/11-04/23/19	O	31	31	238.0	423.0	368.2	387	44	3.0	L
Flow (Gallons Per Min)	-9999	05/24/11-04/23/19	O	26	26	-9999.0	4.9	0.1	0.1	0.9	11110.1	*L
Gauge (Feet)	0.95	08/25/11-04/23/19	O	18	18	0.11	0.96	0.38	0.45	0.24	2.37	
Water Temp (Deg C)	5.9	05/24/11-04/23/19	O	31	31	0.0	14.5	2.9	8.3	4.8	0.6	
TDS (mg/L)	149	05/24/11-04/23/19	O	30	30	149.0	255.0	213.7	220.5	20.4	3.2	*L
TSS (mg/L)	16	05/30/12-04/23/19	O	27	11	< 4	16.0					
Tot Alk (mg/L)	120	05/24/11-04/23/19	O	30	30	120.0	210.0	191.7	200	19.1	3.8	*L
Ca (mg/L)	27	05/24/11-04/23/19	O	30	30	27.0	52.0	44.8	47	5.2	3.4	*L
Cl (mg/L)	2	05/24/11-04/23/19	O	30	28	1.0	3.0	1.5	2	0.6	0.8	
F (mg/L)	0.1	05/24/11-04/23/19	O	30	30	0.1	0.2	0.2	0.2	0	0.0	L
Tot Hard (mg/L)	116	05/24/11-04/23/19	O	30	30	116.0	234.0	201.5	214	24.6	3.5	*L
Mg (mg/L)	12	05/24/11-04/23/19	O	30	30	12.0	25.0	21.8	23	2.8	3.5	*L
K (mg/L)	2	05/24/11-04/23/19	O	30	25	1.0	4.0	1.1	1	0.5	1.8	
Na (mg/L)	1	05/24/11-04/23/19	O	30	30	1.0	2.0	2.0	2	0.2	4.8	*L
SO4 (mg/L)	7	05/24/11-04/23/19	O	30	30	5.0	26.0	15.3	17	5.3	1.6	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

N+N (mg/L)	0.02	05/24/11-04/23/19	O	30	25	< 0.01	0.12	0.04	0.05	0.03	0.56
Tot Phos (mg/L)	0.076	06/10/14-04/23/19	O	21	20	0.004	0.094	0.015	0.014	0.021	2.923
Tot Pers (mg/L)	0.41	06/24/15-04/23/19	O	18	17	< 0.04	0.6	0.15	0.14	0.12	2.16
Al (DIS) (mg/L)	0.047	05/24/11-04/23/19	O	30	5	< 0.009	0.07				
Sb (TRC) (mg/L)	< 0.0005	05/24/11-04/23/19	O	30	0	< 0.0005	< .005				
As (TRC) (mg/L)	< 0.001	05/24/11-04/23/19	O	30	0	< 0.001	< .003				
Ba (TRC) (mg/L)	0.115	05/24/11-04/23/19	O	30	30	0.115	0.176	0.147	0.152	0.016	1.969 L
Be (TRC) (mg/L)	< 0.0008	05/24/11-04/23/19	O	30	0	< 0.0008	< .001				
Cd (TRC) (mg/L)	0.00005	05/24/11-04/23/19	O	30	1	< 0	< .00008				
Cr (TRC) (mg/L)	< 0.01	05/24/11-04/23/19	O	30	0	< 0	< .01				
Co (TRC) (mg/L)	< 0.01	05/24/11-04/23/19	O	30	0	< 0.01	< .01				
Cu (TRC) (mg/L)	< 0.002	05/24/11-04/23/19	O	30	4	0.001	0.003				
Fe (TRC) (mg/L)	0.7	05/24/11-04/23/19	O	30	30	0.0	1.1	0.2	0.2	0.2	2.7
Pb (TRC) (mg/L)	0.0018	05/24/11-04/23/19	O	30	16	< 0.0003	0.0031	0.0005	0.0004	0.0006	2.1876
Mn (TRC) (mg/L)	0.025	05/24/11-04/23/19	O	30	12	< 0.005	0.2				
Hg (TRC) (ug/L)	0.009	05/24/11-04/23/19	O	30	4	< 0	0.009				
Mo (TRC) (mg/L)	< 0.002	05/24/11-04/23/19	O	30	0	< 0.001	< .005				
Ni (TRC) (mg/L)	< 0.001	05/24/11-04/23/19	O	30	0	< 0.001	< .01				
Se (TRC) (mg/L)	< 0.0002	05/24/11-04/23/19	O	30	3	< 0.0002	< .001				
Ag (TRC) (mg/L)	< 0.0002	05/24/11-04/23/19	O	30	0	< 0.0002	< .0005				
Sr (TRC) (mg/L)	0.0665	05/24/11-04/23/19	O	30	27	0.0665	0.123	0.1044	0.104	0.0117	3.2416 *L
Tl (TRC) (mg/L)	< 0.0002	05/24/11-04/23/19	O	30	3	< 0.0002	0.0004				
U (TRC) (mg/L)	0.0004	05/24/11-04/23/19	O	30	10	0.0004	< .008				
Zn (TRC) (mg/L)	0.006	05/24/11-04/23/19	O	30	17	< 0.002	0.033	0.004	0.003	0.006	0.377

SAMPLE NO		LAB NO:		STATION:SW-7							
04/23/19		H19040763-003									
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	8.8	11/26/12-04/23/19	O	22	22	2.8	11.3	7.9	8.1	1.7	0.5
pH Fld (s.u.)	7.8	11/26/12-04/23/19	O	22	22	6.2	8.0	7.6	7.7	0.4	0.5
SC Fld (umhos/cm)	344	11/26/12-04/23/19	O	22	22	344.0	426.3	402.8	408.3	21.7	2.7 L
Flow (Gallons Per Min)	42.2	11/26/12-04/23/19	O	20	20	0.0	54.8	3.4	6.7	19.7	2.0
Water Temp (Deg C)	5.3	11/26/12-04/23/19	O	22	22	0.6	13.1	6.8	8.6	3.2	0.5
TDS (mg/L)	192	11/26/12-04/23/19	O	22	22	192.0	241.0	222.6	225	12.4	2.5 L
TSS (mg/L)	15	11/26/12-04/23/19	O	22	8	< 10	219.0				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Tot Alk (mg/L)	180	11/26/12-04/23/19	O	22	22	180.0	230.0	214.7	220	10.6	3.3	*L
Ca (mg/L)	49	11/26/12-04/23/19	O	22	22	49.0	64.0	58.0	58	3.6	2.5	L
Cl (mg/L)	< 1	11/26/12-04/23/19	O	22	1	< 1	2.0					
F (mg/L)	0.1	11/26/12-04/23/19	O	22	17	< 0.1	< 0.1	0.1	0.1	0	0.0	H
Tot Hard (mg/L)	184	11/26/12-04/23/19	O	22	22	184.0	242.0	220.1	222	14.3	2.5	L
Mg (mg/L)	15	11/26/12-04/23/19	O	22	22	15.0	21.0	18.4	19	1.4	2.4	L
K (mg/L)	< 1	11/26/12-04/23/19	O	22	1	< 1	< 1					
Na (mg/L)	1	11/26/12-04/23/19	O	22	22	1.0	2.0	1.9	2	0.2	4.7	*L
SO4 (mg/L)	9	11/26/12-04/23/19	O	22	22	6.0	11.0	8.9	9.1	1.4	0.1	
N+N (mg/L)	0.08	11/26/12-04/23/19	O	22	19	< 0.01	0.13	0.03	0.04	0.03	1.58	
Al (DIS) (mg/L)	0.018	11/26/12-04/23/19	O	22	1	< 0.009	0.018					
Sb (DIS) (mg/L)	< 0.0005	04/27/16-04/23/19	O	18	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	04/27/16-04/23/19	O	18	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.042	04/27/16-04/23/19	O	18	18	0.042	0.065	0.053	0.054	0.007	1.571	L
Be (DIS) (mg/L)	< 0.0008	04/27/16-04/23/19	O	18	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	04/27/16-04/23/19	O	18	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	04/27/16-04/23/19	O	18	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	04/27/16-04/23/19	O	18	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	04/27/16-04/23/19	O	18	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	< 0.02	04/27/16-04/23/19	O	18	0	< 0.02	< 0.02					
Pb (DIS) (mg/L)	< 0.0003	04/27/16-04/23/19	O	18	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	04/27/16-04/23/19	O	18	7	< 0.005	0.017					
Hg (DIS) (ug/L)	< 0.005	04/27/16-04/23/19	O	18	0	< 0	< .005					
Mo (DIS) (mg/L)	< 0.002	04/27/16-04/23/19	O	18	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	04/27/16-04/23/19	O	18	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	04/27/16-04/23/19	O	18	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	04/27/16-04/23/19	O	18	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.105	04/27/16-04/23/19	O	18	18	0.105	0.146	0.131	0.134	0.01	2.61	L
Tl (DIS) (mg/L)	< 0.0002	04/27/16-04/23/19	O	18	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	0.0004	04/27/16-04/23/19	O	18	2	0.0004	< .008					
Zn (DIS) (mg/L)	< 0.002	04/27/16-04/23/19	O	18	1	< 0.002	0.003					

SAMPLE NO	BBC-1904-117	LAB NO:	H19040763-020	STATION:	USGS-SC1
04/24/19		COMPARISON	QC	# OF	# OF SD'S
PARAMETER	RESULT	PERIOD OF DATA	Code	DET	FROM MEAN
				MIN	MAX
				MEAN	MEDIAN
				SD	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

DO (mg/L)	11.09	03/24/14-04/24/19	O	62	62	7.12	16.55	11.15	11.14	1.59	0.04
pH Fld (s.u.)	8.16	03/24/14-04/24/19	O	61	61	6.67	8.67	7.97	8.16	0.43	0.43
SC Fld (umhos/cm)	272	03/24/14-04/24/19	O	62	62	137.0	408.0	324.3	343	50.2	1.0
Flow (Cubic Ft Sec)	-9999	05/05/14-04/24/19	O	39	39	-9999.0	111.3	5.3	18.6	37.4	267.5 *L
Water Temp (Deg C)	1.6	03/24/14-04/24/19	O	62	62	-1.0	13.1	0.3	2.6	4.2	0.3
TDS (mg/L)	164	03/24/14-04/24/19	O	60	60	134.0	230.0	188.4	195	18.9	1.3
TSS (mg/L)	40	03/24/14-04/24/19	O	60	17	< 4	40.0				
Tot Alk (mg/L)	130	03/24/14-04/24/19	O	60	60	120.0	220.0	175.4	180	21.3	2.1
Ca (mg/L)	38	03/24/14-04/24/19	O	60	60	35.0	61.0	50.3	52	5.9	2.1
Cl (mg/L)	4	03/24/14-04/24/19	O	60	60	1.0	5.0	1.5	1.6	0.9	2.8
F (mg/L)	< 0.1	03/24/14-04/24/19	O	60	1	< 0.1	< 0.1				
Tot Hard (mg/L)	134	03/24/14-04/24/19	O	60	59	< 7	214.0	167.6	185	29.2	1.2
Mg (mg/L)	9	03/24/14-04/24/19	O	60	60	8.0	15.0	12.5	13	1.6	2.2
K (mg/L)	1	03/24/14-04/24/19	O	60	60	1.0	1.0	1.0	1	0	0.0 H
Na (mg/L)	3	03/24/14-04/24/19	O	60	60	2.0	3.0	2.1	2	0.3	3.1 *H
SO4 (mg/L)	5	03/24/14-04/24/19	O	60	60	3.0	8.0	5.7	6	1.4	0.5
N+N (mg/L)	0.05	03/24/14-04/24/19	O	60	42	< 0.01	0.13	0.03	0.03	0.04	0.49
Tot Phos (mg/L)	0.054	05/16/14-04/24/19	O	57	42	< 0.003	0.054	0.007	0.007	0.01	4.662 *H
Tot Pers (mg/L)	0.3	04/29/15-04/24/19	O	46	36	< 0	1.1	0.1	0.1	0.2	1.1
Al (DIS) (mg/L)	0.124	03/24/14-04/24/19	O	60	18	< 0.009	0.189				
Sb (TRC) (mg/L)	< 0.0005	03/24/14-04/24/19	O	60	0	< 0.0005	: 0.0005				
As (TRC) (mg/L)	< 0.001	03/24/14-04/24/19	O	60	1	< 0.001	< 0.001				
Ba (TRC) (mg/L)	0.072	03/24/14-04/24/19	O	60	60	0.06	0.088	0.069	0.068	0.005	0.596
Be (TRC) (mg/L)	< 0.0008	03/24/14-04/24/19	O	60	0	< 0.0008	: 0.0008				
Cd (TRC) (mg/L)	< 0	03/24/14-04/24/19	O	60	2	< 0	0.0001				
Cr (TRC) (mg/L)	< 0.01	03/24/14-04/24/19	O	60	0	< 0.01	< .01				
Co (TRC) (mg/L)	< 0.01	03/24/14-04/24/19	O	60	0	< 0.01	< .01				
Cu (TRC) (mg/L)	< 0.002	03/24/14-04/24/19	O	60	1	0.002	0.002				
Fe (TRC) (mg/L)	1.22	03/24/14-04/24/19	O	60	60	0.07	1.71	0.17	0.13	0.3	3.49 *
Pb (TRC) (mg/L)	0.0007	03/24/14-04/24/19	O	60	8	< 0.0003	0.0011				
Mn (TRC) (mg/L)	0.033	03/24/14-04/24/19	O	60	60	0.005	0.079	0.009	0.009	0.01	2.353
Hg (TRC) (ug/L)	0.011	03/24/14-04/24/19	O	60	3	< 0	0.011				
Mo (TRC) (mg/L)	< 0.002	03/24/14-04/24/19	O	60	0	< 0.001	< .002				
Ni (TRC) (mg/L)	0.002	03/24/14-04/24/19	O	60	8	< 0.001	0.003				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Se (TRC) (mg/L)	< 0.0002	03/24/14-04/24/19	O	60	0	< 0.0002	< .0004					
Ag (TRC) (mg/L)	< 0.0002	03/24/14-04/24/19	O	60	1	< 0.0002	< .0004					
Sr (TRC) (mg/L)	0.119	03/24/14-04/24/19	O	60	60	0.119	0.16	0.142	0.144	0.009	2.525	L
Tl (TRC) (mg/L)	< 0.0002	03/24/14-04/24/19	O	60	0	< 0.0002	: 0.0002					
U (TRC) (mg/L)	0.0003	03/24/14-04/24/19	O	60	7	0.0003	< .008					
Zn (TRC) (mg/L)	0.004	03/24/14-04/24/19	O	60	18	< 0.002	0.009					

SAMPLE NO BBC-1904-127 LAB NO: H19040763-021

STATION:DI-Blank

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
TDS (mg/L)	< 10	N/A	FB	0							
TDS (mg/L)	< 10	N/A	FB	0							
TSS (mg/L)	< 4	N/A	FB	0							
TSS (mg/L)	< 10	N/A	FB	0							
Tot Alk (mg/L)	< 4	N/A	FB	0							
Tot Alk (mg/L)	< 4	N/A	FB	0							
Ca (mg/L)	< 1	N/A	FB	0							
Ca (mg/L)	< 1	N/A	FB	0							
Cl (mg/L)	< 1	N/A	FB	0							
Cl (mg/L)	< 1	N/A	FB	0							
F (mg/L)	< 0.1	N/A	FB	0							
F (mg/L)	< 0.1	N/A	FB	0							
Tot Hard (mg/L)	< 1	N/A	FB	0							
Tot Hard (mg/L)	< 1	N/A	FB	0							
Mg (mg/L)	< 1	N/A	FB	0							
Mg (mg/L)	< 1	N/A	FB	0							
K (mg/L)	< 1	N/A	FB	0							
K (mg/L)	< 1	N/A	FB	0							
Na (mg/L)	< 1	N/A	FB	0							
Na (mg/L)	< 1	N/A	FB	0							
SO4 (mg/L)	< 1	N/A	FB	0							
SO4 (mg/L)	< 1	N/A	FB	0							
N+N (mg/L)	< 0.01	N/A	FB	0							
N+N (mg/L)	< 0.01	N/A	FB	0							
Tot Phos (mg/L)	< 0.003	N/A	FB	0							

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Tot Pers (mg/L)	< 0.04	N/A	FB	0
Al (DIS) (mg/L)	< 0.009	N/A	FB	0
Al (DIS) (mg/L)	< 0.009	N/A	FB	0
Sb (DIS) (mg/L)	< 0.0005	N/A	FB	0
Sb (TRC) (mg/L)	< 0.0005	N/A	FB	0
As (DIS) (mg/L)	< 0.001	N/A	FB	0
As (TRC) (mg/L)	< 0.001	N/A	FB	0
Ba (DIS) (mg/L)	< 0.003	N/A	FB	0
Ba (TRC) (mg/L)	< 0.003	N/A	FB	0
Be (DIS) (mg/L)	< 0.0008	N/A	FB	0
Be (TRC) (mg/L)	< 0.0008	N/A	FB	0
Cd (TRC) (mg/L)	< 0	N/A	FB	0
Cd (DIS) (mg/L)	< 0	N/A	FB	0
Cr (TRC) (mg/L)	< 0.01	N/A	FB	0
Cr (DIS) (mg/L)	< 0.01	N/A	FB	0
Co (TRC) (mg/L)	< 0.01	N/A	FB	0
Co (DIS) (mg/L)	< 0.01	N/A	FB	0
Cu (DIS) (mg/L)	< 0.002	N/A	FB	0
Cu (TRC) (mg/L)	< 0.002	N/A	FB	0
Fe (DIS) (mg/L)	< 0.02	N/A	FB	0
Fe (TRC) (mg/L)	< 0.02	N/A	FB	0
Pb (DIS) (mg/L)	< 0.0003	N/A	FB	0
Pb (TRC) (mg/L)	< 0.0003	N/A	FB	0
Mn (TRC) (mg/L)	< 0.005	N/A	FB	0
Mn (DIS) (mg/L)	< 0.005	N/A	FB	0
Hg (TRC) (ug/L)	< 0.005	N/A	FB	0
Hg (DIS) (ug/L)	< 0.005	N/A	FB	0
Mo (TRC) (mg/L)	< 0.002	N/A	FB	0
Mo (DIS) (mg/L)	< 0.002	N/A	FB	0
Ni (DIS) (mg/L)	< 0.001	N/A	FB	0
Ni (TRC) (mg/L)	< 0.001	N/A	FB	0
Se (TRC) (mg/L)	< 0.0002	N/A	FB	0
Se (DIS) (mg/L)	< 0.0002	N/A	FB	0
Ag (DIS) (mg/L)	< 0.0002	N/A	FB	0

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Ag (TRC) (mg/L)	< 0.0002	N/A	FB	0
Sr (DIS) (mg/L)	< 0.0002	N/A	FB	0
Sr (TRC) (mg/L)	< 0.0002	N/A	FB	0
Tl (DIS) (mg/L)	< 0.0002	N/A	FB	0
Tl (TRC) (mg/L)	< 0.0002	N/A	FB	0
U (DIS) (mg/L)	< 0.0002	N/A	FB	0
U (TRC) (mg/L)	< 0.0002	N/A	FB	0
Zn (DIS) (mg/L)	< 0.002	N/A	FB	0
Zn (TRC) (mg/L)	< 0.002	N/A	FB	0

SAMPLE NO	BBC-1904-112	LAB NO:	H19040763-015	STATION:SW-14
-----------	--------------	---------	---------------	---------------

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	8.43	04/13/16-04/23/19	O	33	33	8.24	15.01	10.66	10.41	1.65	1.35
pH Fld (s.u.)	7.98	04/13/16-04/23/19	O	32	32	6.07	8.48	7.91	8.05	0.46	0.16
SC Fld (umhos/cm)	274	04/13/16-04/23/19	O	33	33	263.0	439.0	373.2	394	51.9	1.9
Flow (Cubic Ft Sec)	15.54	04/13/16-04/23/19	O	27	27	0.0	15.54	0.36	1.05	3.8	3.99 *H
Gauge (Feet)	1.05	04/13/16-04/23/19	O	19	19	0.3	1.05	0.47	0.45	0.17	3.43 *H
Water Temp (Deg C)	10	04/13/16-04/23/19	O	33	33	-0.9	14.7	2.2	5.4	4.6	1.7
TDS (mg/L)	167	04/13/16-04/23/19	O	33	33	157.0	244.0	219.3	226	22.1	2.4
TSS (mg/L)	18	04/13/16-04/23/19	O	33	5	< 4	18.0				
Tot Alk (mg/L)	130	04/13/16-04/23/19	O	33	33	130.0	220.0	200.0	210	26.6	2.6 L
Ca (mg/L)	33	04/13/16-04/23/19	O	33	33	33.0	61.0	52.0	54	7.1	2.7 L
Cl (mg/L)	1	04/13/16-04/23/19	O	33	33	1.0	4.0	1.9	2	0.5	1.8 L
F (mg/L)	0.1	04/13/16-04/23/19	O	33	32	< 0.1	0.2	0.2	0.2	0	0.0 L
Tot Hard (mg/L)	136	04/13/16-04/23/19	O	33	33	134.0	239.0	206.0	214	27.1	2.6
Mg (mg/L)	13	04/13/16-04/23/19	O	33	33	12.0	23.0	18.5	19	2.6	2.1
K (mg/L)	2	04/13/16-04/23/19	O	33	32	1.0	4.0	1.1	1	0.7	1.3
Na (mg/L)	2	04/13/16-04/23/19	O	33	33	1.0	3.0	2.5	3	0.6	0.8
SO4 (mg/L)	8	04/13/16-04/23/19	O	33	33	6.5	19.0	9.0	8.7	2.9	0.4
N+N (mg/L)	0.04	04/13/16-04/23/19	O	33	32	0.01	0.27	0.07	0.08	0.08	0.32
Tot Phos (mg/L)	0.028	04/13/16-04/23/19	O	33	28	< 0.003	0.18	0.008	0.008	0.034	0.586
Tot Pers (mg/L)	0.37	04/13/16-04/23/19	O	30	29	< 0	1.25	0.19	0.22	0.23	0.79
Al (DIS) (mg/L)	0.029	04/13/16-04/23/19	O	33	4	< 0.009	0.047				
Sb (TRC) (mg/L)	< 0.0005	04/13/16-04/23/19	O	33	0	< 0.0005	: 0 .0005				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

As (TRC) (mg/L)	< 0.001	04/13/16-04/23/19	O	33	0	< 0.001	< 0.001				
Ba (TRC) (mg/L)	0.081	04/13/16-04/23/19	O	33	33	0.077	0.13	0.11	0.115	0.014	2.047
Be (TRC) (mg/L)	< 0.0008	04/13/16-04/23/19	O	33	0	< 0.0008	: 0.0008				
Cd (TRC) (mg/L)	< 0	04/13/16-04/23/19	O	33	2	< 0	: .00003				
Cr (TRC) (mg/L)	< 0.01	04/13/16-04/23/19	O	33	0	< 0.01	< 0.01				
Co (TRC) (mg/L)	< 0.01	04/13/16-04/23/19	O	33	0	< 0.01	< 0.01				
Cu (TRC) (mg/L)	< 0.002	04/13/16-04/23/19	O	33	0	< 0.002	< 0.002				
Fe (TRC) (mg/L)	0.15	04/13/16-04/23/19	O	33	30	0.02	0.43	0.06	0.06	0.08	1.17
Pb (TRC) (mg/L)	< 0.0003	04/13/16-04/23/19	O	33	1	< 0.0003	0.0005				
Mn (TRC) (mg/L)	< 0.005	04/13/16-04/23/19	O	33	6	< 0.005	0.009				
Hg (TRC) (ug/L)	0.009	04/13/16-04/23/19	O	33	2	< 0	0.018				
Mo (TRC) (mg/L)	< 0.002	04/13/16-04/23/19	O	33	0	< 0.002	< 0.002				
Ni (TRC) (mg/L)	< 0.001	04/13/16-04/23/19	O	33	1	< 0.001	0.002				
Se (TRC) (mg/L)	< 0.0002	04/13/16-04/23/19	O	33	1	< 0.0002	< .0004				
Ag (TRC) (mg/L)	< 0.0002	04/13/16-04/23/19	O	33	0	< 0.0002	: 0.0002				
Sr (TRC) (mg/L)	0.079	04/13/16-04/23/19	O	33	33	0.075	0.136	0.117	0.124	0.017	2.206
Tl (TRC) (mg/L)	< 0.0002	04/13/16-04/23/19	O	33	0	< 0.0002	: 0.0002				
U (TRC) (mg/L)	0.0004	04/13/16-04/23/19	O	33	5	0.0003	< .008				
Zn (TRC) (mg/L)	< 0.002	04/13/16-04/23/19	O	33	5	< 0.002	0.006				

SAMPLE NO BBC-1904-115 LAB NO: H19040763-018

STATION:SW-17

PARAMETER	04/24/19 RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.88	01/17/18-04/24/19	O	14	14	9.32	11.38	10.38	10.44	0.66	0.75
pH Fld (s.u.)	7.8	01/17/18-04/24/19	O	14	14	7.5	8.4	8.0	8.1	0.3	0.7
SC Fld (umhos/cm)	326	01/17/18-04/24/19	O	14	14	319.0	487.0	420.1	434.5	45.9	2.0
Flow (Cubic Ft Sec)	4.36	01/17/18-04/24/19	O	9	9	0.0	4.36	0.07	0.19	1.33	3.23 *H
Water Temp (Deg C)	2.9	01/17/18-04/24/19	O	14	14	0.0	13.3	1.6	2.9	4.6	0.3
TDS (mg/L)	191	01/17/18-04/24/19	O	15	15	191.0	299.0	247.6	253	26.2	2.2 L
TSS (mg/L)	54	01/17/18-04/24/19	O	15	6	< 4	54.0				
Tot Alk (mg/L)	150	01/17/18-04/24/19	O	15	15	150.0	210.0	196.7	210	20.4	2.3 L
Ca (mg/L)	38	01/17/18-04/24/19	O	15	15	38.0	63.0	53.1	56	6	2.5 L
Cl (mg/L)	7	01/17/18-04/24/19	O	15	15	3.0	11.0	4.5	4	2	1.3
F (mg/L)	0.1	01/17/18-04/24/19	O	15	15	0.1	0.2	0.2	0.2	0	0.0 L
Tot Hard (mg/L)	167	01/17/18-04/24/19	O	15	15	167.0	262.0	227.0	240	26.4	2.3 L

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Parameter	Result	Date	QC	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	Flags
Mg (mg/L)	17	01/17/18-04/24/19	O	15	15	14.0	25.0	22.9	25	3.1	1.9	
K (mg/L)	2	01/17/18-04/24/19	O	15	13	1.0	4.0	1.1	1	0.7	1.2	
Na (mg/L)	2	01/17/18-04/24/19	O	15	15	2.0	5.0	2.4	2	0.8	0.5	L
SO4 (mg/L)	16	01/17/18-04/24/19	O	15	15	12.0	44.0	27.7	33	7.9	1.5	
N+N (mg/L)	0.07	01/17/18-04/24/19	O	15	14	< 0.01	0.19	0.08	0.1	0.06	0.16	
Tot Phos (mg/L)	0.023	01/17/18-04/24/19	O	15	15	0.004	0.088	0.014	0.014	0.021	0.434	
Tot Pers (mg/L)	0.33	04/12/18-04/24/19	O	12	12	0.12	0.7	0.25	0.25	0.15	0.56	
Al (DIS) (mg/L)	0.012	01/17/18-04/24/19	O	15	2	< 0.009	0.016					
Sb (TRC) (mg/L)	< 0.0005	01/17/18-04/24/19	O	15	0	< 0.0005	: 0.0005					
As (TRC) (mg/L)	< 0.001	01/17/18-04/24/19	O	15	0	< 0.001	< 0.001					
Ba (TRC) (mg/L)	0.112	01/17/18-04/24/19	O	15	15	0.108	0.168	0.146	0.151	0.015	2.272	
Be (TRC) (mg/L)	< 0.0008	01/17/18-04/24/19	O	15	0	< 0.0008	: 0.0008					
Cd (TRC) (mg/L)	< 0	01/17/18-04/24/19	O	15	1	< 0	0.0002					
Cr (TRC) (mg/L)	< 0.01	01/17/18-04/24/19	O	15	0	< 0.01	< 0.01					
Co (TRC) (mg/L)	< 0.01	01/17/18-04/24/19	O	15	0	< 0.01	< 0.01					
Cu (TRC) (mg/L)	< 0.002	01/17/18-04/24/19	O	15	0	< 0.002	< 0.002					
Fe (TRC) (mg/L)	0.11	01/17/18-04/24/19	O	15	15	0.07	0.36	0.14	0.13	0.08	0.41	
Pb (TRC) (mg/L)	< 0.0003	01/17/18-04/24/19	O	15	1	< 0.0003	: 0.0003					
Mn (TRC) (mg/L)	0.012	01/17/18-04/24/19	O	15	15	0.008	0.051	0.02	0.024	0.012	0.661	
Hg (TRC) (ug/L)	0.005	01/17/18-04/24/19	O	15	2	< 0	0.009					
Mo (TRC) (mg/L)	< 0.002	01/17/18-04/24/19	O	15	0	< 0.002	< 0.002					
Ni (TRC) (mg/L)	< 0.001	01/17/18-04/24/19	O	15	0	< 0.001	< .002					
Se (TRC) (mg/L)	< 0.0002	01/17/18-04/24/19	O	15	0	< 0.0002	: 0.0002					
Ag (TRC) (mg/L)	< 0.0002	01/17/18-04/24/19	O	15	0	< 0.0002	: 0.0002					
Sr (TRC) (mg/L)	0.0854	01/17/18-04/24/19	O	15	15	0.0854	0.164	0.1393	0.146	0.0195	2.765	L
Tl (TRC) (mg/L)	< 0.0002	01/17/18-04/24/19	O	15	4	< 0.0002	: 0.0002					
U (TRC) (mg/L)	0.0005	01/17/18-04/24/19	O	15	4	0.0005	< .008					
Zn (TRC) (mg/L)	0.002	01/17/18-04/24/19	O	15	9	0.002	0.008	0.003	0.002	0.002	0.377	L

SAMPLE NO	BBC-1904-109	LAB NO:	H19040763-013	STATION:	SW-18
-----------	--------------	---------	---------------	----------	-------

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	Flags
DO (mg/L)	0	04/23/19	O	1	1	0.0	0.0	0.0	0	0	0.0	H
pH Fld (s.u.)	8.19	04/23/19	O	1	1	8.19	8.19	8.19	8.19	0	0.0	H
SC Fld (umhos/cm)	75	04/23/19	O	1	1	75.0	75.0	75.0	75	0	0.0	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Flow (Gallons Per Min)	-9999	04/23/19	O	1	1	-9999.0	-9999.0	0.0	0	0	0.0	H
Water Temp (Deg C)	1	04/23/19	O	1	1	1.0	1.0	1.0	1	0	0.0	H
TDS (mg/L)	53	04/23/19	O	1	1	53.0	53.0	53.0	53	0	0.0	H
TSS (mg/L)	< 4	04/23/19	O	1	0	< 4	< 4					
Tot Alk (mg/L)	39	04/23/19	O	1	1	39.0	39.0	39.0	39	0	0.0	H
Ca (mg/L)	8	04/23/19	O	1	1	8.0	8.0	8.0	8	0	0.0	H
Cl (mg/L)	< 1	04/23/19	O	1	0	< 1	< 1					
F (mg/L)	< 0.1	04/23/19	O	1	0	< 0.1	< 0.1					
Tot Hard (mg/L)	35	04/23/19	O	1	1	35.0	35.0	35.0	35	0	0.0	H
Mg (mg/L)	3	04/23/19	O	1	1	3.0	3.0	3.0	3	0	0.0	H
K (mg/L)	2	04/23/19	O	1	1	2.0	2.0	2.0	2	0	0.0	H
Na (mg/L)	< 1	04/23/19	O	1	0	< 1	< 1					
SO4 (mg/L)	< 1	04/23/19	O	1	0	< 1	< 1					
N+N (mg/L)	0.03	04/23/19	O	1	1	0.03	0.03	0.03	0.03	0	0.0	H
Tot Phos (mg/L)	0.095	04/23/19	O	1	1	0.095	0.095	0.095	0.095	0	0.0	H
Tot Pers (mg/L)	0.39	04/23/19	O	1	1	0.39	0.39	0.39	0.39	0	0.0	H
Al (DIS) (mg/L)	< 0.009	04/23/19	O	1	0	< 0.009	< 0.009					
Sb (TRC) (mg/L)	< 0.0005	04/23/19	O	1	0	< 0.0005	: 0.0005					
As (TRC) (mg/L)	< 0.001	04/23/19	O	1	0	< 0.001	< 0.001					
Ba (TRC) (mg/L)	0.019	04/23/19	O	1	1	0.019	0.019	0.019	0.019	0	0.0	H
Be (TRC) (mg/L)	< 0.0008	04/23/19	O	1	0	< 0.0008	: 0.0008					
Cd (TRC) (mg/L)	0.00004	04/23/19	O	1	1	0.0	0.0	0.0	0	0	0.0	H
Cr (TRC) (mg/L)	< 0.01	04/23/19	O	1	0	< 0.01	< 0.01					
Co (TRC) (mg/L)	< 0.01	04/23/19	O	1	0	< 0.01	< 0.01					
Cu (TRC) (mg/L)	< 0.002	04/23/19	O	1	0	< 0.002	< 0.002					
Fe (TRC) (mg/L)	0.17	04/23/19	O	1	1	0.17	0.17	0.17	0.17	0	0.0	H
Pb (TRC) (mg/L)	0.0003	04/23/19	O	1	1	0.0003	0.0003	0.0003	0.0003	0	0.0	H
Mn (TRC) (mg/L)	0.011	04/23/19	O	1	1	0.011	0.011	0.011	0.011	0	0.0	H
Hg (TRC) (ug/L)	0.01	04/23/19	O	1	1	0.01	0.01	0.01	0.01	0	0.0	H
Mo (TRC) (mg/L)	< 0.002	04/23/19	O	1	0	< 0.002	< 0.002					
Ni (TRC) (mg/L)	< 0.001	04/23/19	O	1	0	< 0.001	< 0.001					
Se (TRC) (mg/L)	< 0.0002	04/23/19	O	1	0	< 0.0002	: 0.0002					
Ag (TRC) (mg/L)	< 0.0002	04/23/19	O	1	0	< 0.0002	: 0.0002					
Sr (TRC) (mg/L)	0.0172	04/23/19	O	1	1	0.0172	0.0172	0.0172	0.0172	0	0.0	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

TI (TRC) (mg/L)	< 0.0002	04/23/19	O	1	0	< 0.0002 : 0 .0002					
U (TRC) (mg/L)	< 0.0002	04/23/19	O	1	0	< 0.0002 : 0 .0002					
Zn (TRC) (mg/L)	0.003	04/23/19	O	1	1	0.003	0.003	0.003	0.003	0	0.0 H

SAMPLE NO BBC-1904-111 LAB NO: H19040763-004

STATION:SP-12

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	3.6	04/18/18-04/23/19	O	11	11	3.3	8.8	5.7	5.5	2.1	1.0
pH Fld (s.u.)	7.51	04/18/18-04/23/19	O	11	11	6.76	7.95	7.49	7.53	0.34	0.04
SC Fld (umhos/cm)	515	04/18/18-04/23/19	O	11	11	421.0	515.0	448.1	437	27	2.5 H
Flow (Gallons Per Min)	-9999	04/23/19	O	1	1	-9999.0	-9999.0	0.0	0	0	0.0 H
Water Temp (Deg C)	6.5	04/18/18-04/23/19	O	11	11	4.3	7.3	6.0	6.2	0.9	0.5
TDS (mg/L)	341	04/18/18-04/23/19	O	12	12	234.0	341.0	253.7	248.5	28.5	3.1 *H
TSS (mg/L)	16	04/18/18-04/23/19	O	12	7	< 10	187.0	22.7	19	51.2	0.1
Tot Alk (mg/L)	180	04/18/18-04/23/19	O	12	12	160.0	220.0	198.5	205	16.8	1.1
Ca (mg/L)	58	04/18/18-04/23/19	O	12	12	42.0	61.0	54.5	55.5	4.7	0.7
Cl (mg/L)	36	04/18/18-04/23/19	O	12	12	5.0	36.0	8.9	8	8.4	3.2 *H
F (mg/L)	0.2	04/18/18-04/23/19	O	12	12	0.1	0.2	0.2	0.2	0	0.0 H
Tot Hard (mg/L)	254	04/18/18-04/23/19	O	12	12	180.0	258.0	233.4	238.5	20.2	1.0
Mg (mg/L)	26	04/18/18-04/23/19	O	12	12	18.0	26.0	23.6	24	2.2	1.1 H
K (mg/L)	5	04/18/18-04/23/19	O	12	12	1.0	13.0	1.6	1	3.5	1.0
Na (mg/L)	4	04/18/18-04/23/19	O	12	12	2.0	4.0	2.3	2	0.7	2.4 H
SO4 (mg/L)	30	04/18/18-04/23/19	O	12	12	21.0	30.0	24.5	24.5	2.9	1.9 H
N+N (mg/L)	0.08	04/18/18-04/23/19	O	12	12	0.08	0.69	0.32	0.33	0.18	1.35 L
Al (DIS) (mg/L)	< 0.009	04/18/18-04/23/19	O	12	1	< 0.009	0.014				
Sb (DIS) (mg/L)	< 0.0005	04/18/18-04/23/19	O	12	0	< 0.0005 : 0 .0005					
As (DIS) (mg/L)	0.002	04/18/18-04/23/19	O	12	1	< 0.001	0.002				
Ba (DIS) (mg/L)	0.163	04/18/18-04/23/19	O	12	12	0.128	0.192	0.173	0.176	0.017	0.586
Be (DIS) (mg/L)	< 0.0008	04/18/18-04/23/19	O	12	0	< 0.0008 : 0 .0008					
Cd (DIS) (mg/L)	< 0	04/18/18-04/23/19	O	12	0	< 0 : .00003					
Cr (DIS) (mg/L)	< 0.01	04/18/18-04/23/19	O	12	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	04/18/18-04/23/19	O	12	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	< 0.002	04/18/18-04/23/19	O	12	1	< 0.002	< 0 .002				
Fe (DIS) (mg/L)	0.78	04/18/18-04/23/19	O	12	5	< 0.02	0.78				
Pb (DIS) (mg/L)	< 0.0003	04/18/18-04/23/19	O	12	0	< 0.0003 : 0 .0003					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Mn (DIS) (mg/L)	0.149	04/18/18-04/23/19	O	12	1	< 0.005	0.149						
Hg (DIS) (ug/L)	0.023	04/18/18-04/23/19	O	12	2	< 0	0.023						
Mo (DIS) (mg/L)	< 0.002	04/18/18-04/23/19	O	12	0	< 0.002	< 0.002						
Ni (DIS) (mg/L)	0.002	04/18/18-04/23/19	O	12	1	< 0.001	0.002						
Se (DIS) (mg/L)	0.0002	04/18/18-04/23/19	O	12	10	0.0002	0.0003	0.0002	0.0002	0	0.0	L	
Ag (DIS) (mg/L)	< 0.0002	04/18/18-04/23/19	O	12	0	< 0.0002	: 0.0002						
Sr (DIS) (mg/L)	0.112	04/18/18-04/23/19	O	12	12	0.081	0.115	0.106	0.109	0.009	0.612		
Tl (DIS) (mg/L)	< 0.0002	04/18/18-04/23/19	O	12	0	< 0.0002	: 0.0002						
U (DIS) (mg/L)	0.0006	04/18/18-04/23/19	O	12	6	0.0003	< .008						
Zn (DIS) (mg/L)	0.005	04/18/18-04/23/19	O	12	5	< 0.002	0.005						

SAMPLE NO BBC-1904-121 LAB NO: z

STATION:DS-7

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.86	N/A	OBS	0							
pH Fld (s.u.)	7.42	N/A	OBS	0							
SC Fld (umhos/cm)	229	N/A	OBS	0							
Flow (Gallons Per Min)	9.7	N/A	OBS	0							
Water Temp (Deg C)	4.9	N/A	OBS	0							

SAMPLE NO BBC-1904-102 LAB NO: z

STATION:DS-10

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.92	N/A	OBS	0							
pH Fld (s.u.)	7.87	N/A	OBS	0							
SC Fld (umhos/cm)	307	N/A	OBS	0							
Flow (Gallons Per Min)	7.9	N/A	OBS	0							
Water Temp (Deg C)	3.6	N/A	OBS	0							

SAMPLE NO BBC-1904-103 LAB NO: z

STATION:DS-11

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.94	N/A	OBS	0							
pH Fld (s.u.)	7.85	N/A	OBS	0							
SC Fld (umhos/cm)	415	N/A	OBS	0							
Flow (Gallons Per Min)	20.1	N/A	OBS	0							

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: May 30, 2019

Water Temp (Deg C) 4.7 N/A OBS 0

SAMPLE NO BBC-1904-100	LAB NO: z	STATION:DS-8
------------------------	-----------	--------------

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	10.1	N/A	OBS	0							
pH Fld (s.u.)	7.69	N/A	OBS	0							
SC Fld (umhos/cm)	318	N/A	OBS	0							
Flow (Gallons Per Min)	8.7	N/A	OBS	0							
Water Temp (Deg C)	5.4	N/A	OBS	0							

SAMPLE NO BBC-1904-101	LAB NO: z	STATION:DS-9
------------------------	-----------	--------------

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.41	N/A	OBS	0							
pH Fld (s.u.)	7.78	N/A	OBS	0							
SC Fld (umhos/cm)	328	N/A	OBS	0							
Flow (Gallons Per Min)	12.5	N/A	OBS	0							
Water Temp (Deg C)	4.3	N/A	OBS	0							

SAMPLE NO BBC-1904-105	LAB NO: z	STATION:SW-19
------------------------	-----------	---------------

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.27	N/A	OBS	0							
pH Fld (s.u.)	8.03	N/A	OBS	0							
SC Fld (umhos/cm)	244	N/A	OBS	0							
Flow (Gallons Per Min)	-9999	N/A	OBS	0							
Water Temp (Deg C)	6.9	N/A	OBS	0							

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

APPENDIX 2
DATABASE

Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	DI-Blank	DI-Blank	DS-1	DS-10	DS-11	DS-2
Water	Sample Date	4/24/2019	4/24/2019	4/23/2019	4/23/2019	4/23/2019	4/23/2019
	Sample Time						
	Lab	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro	Hydro
	Lab Number	H19040763-012	H19040763-021	H19040763-002	z	z	z
	Sample Number	BBC-1904-126	BBC-1904-127	BBC-1904-107	BBC-1904-102	BBC-1904-103	BBC-1904-104
	Remarks						

Field Parameters Multiple Units

Dissolved Oxygen	8.53	9.92	9.94	
Field pH	7.81	7.87	7.85	
Field Specific Conductivity	388	307	415	
Flow				
Flow	49.8	7.9	20.1	NM
Staff Gauge				
Water Temperature	4.5	3.6	4.7	

Physical Parameters mg/L

Total Dissolved Solids	<10	<10	214
Total Suspended Solids	<10	<4	<10

Major Constituents - Commons Ions mg/L

Alkalinity as CaCO3	<4	<4	200
Calcium (DIS)	<1	<1	53
Chloride	<1	<1	<1
Fluoride	<0.1	<0.1	0.1
Hardness as CaCO3	<1	<1	211
Magnesium (DIS)	<1	<1	19
Potassium (DIS)	<1	<1	<1
Sodium (DIS)	<1	<1	1
Sulfate	<1	<1	14

Nutrients mg/L

Nitrate + Nitrite as N	<0.01	<0.01	0.24
Phosphorus (TOT)		<0.003	
Total Persulfate Nitrogen		<0.04	

Metals - Trace Constituents Multiple Units

Aluminum (DIS)	<0.009	<0.009	<0.009
Antimony (DIS)	<0.0005		<0.0005
Antimony (TRC)		<0.0005	
Arsenic (DIS)	<0.001		<0.001
Arsenic (TRC)		<0.001	
Barium (DIS)	<0.003		0.045
Barium (TRC)		<0.003	



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

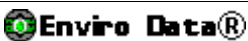
Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	DI-Blank	DI-Blank	DS-1	DS-10	DS-11	DS-2
Water	Sample Date	4/24/2019	4/24/2019	4/23/2019	4/23/2019	4/23/2019	4/23/2019
	Sample Time						
	Lab	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro	Hydro
	Lab Number	H19040763-012	H19040763-021	H19040763-002	z	z	z
	Sample Number	BBC-1904-126	BBC-1904-127	BBC-1904-107	BBC-1904-102	BBC-1904-103	BBC-1904-104
	Remarks						

Metals - Trace Constituents	Multiple Units		
Beryllium (DIS)	<0.0008		<0.0008
Beryllium (TRC)		<0.0008	
Cadmium (DIS)	<0.00003		<0.00003
Cadmium (TRC)		<0.00003	
Chromium (DIS)	<0.01		<0.01
Chromium (TRC)		<0.01	
Cobalt (DIS)	<0.01		<0.01
Cobalt (TRC)		<0.01	
Copper (DIS)	<0.002		<0.002
Copper (TRC)		<0.002	
Iron (DIS)	<0.02		<0.02
Iron (TRC)		<0.02	
Lead (DIS)	<0.0003		<0.0003
Lead (TRC)		<0.0003	
Manganese (DIS)	<0.005		<0.005
Manganese (TRC)		<0.005	
Mercury (DIS)	<0.005		<0.005
Mercury (TRC)		<0.005	
Molybdenum (DIS)	<0.002		<0.002
Molybdenum (TRC)		<0.002	
Nickel (DIS)	<0.001		<0.001
Nickel (TRC)		<0.001	
Selenium (DIS)	<0.0002		<0.0002
Selenium (TRC)		<0.0002	
Silver (DIS)	<0.0002		<0.0002
Silver (TRC)		<0.0002	
Strontium (DIS)	<0.0002		0.0942
Strontium (TRC)		<0.0002	
Thallium (DIS)	<0.0002		<0.0002
Thallium (TRC)		<0.0002	
Uranium (DIS)	<0.0002		0.0005
Uranium (TRC)		<0.0002	
Zinc (DIS)	<0.002		0.01



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	DI-Blank	DI-Blank	DS-1	DS-10	DS-11	DS-2
Water	Sample Date	4/24/2019	4/24/2019	4/23/2019	4/23/2019	4/23/2019	4/23/2019
	Sample Time						
	Lab	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro	Hydro
	Lab Number	H19040763-012	H19040763-021	H19040763-002	z	z	z
	Sample Number	BBC-1904-126	BBC-1904-127	BBC-1904-107	BBC-1904-102	BBC-1904-103	BBC-1904-104
	Remarks						

Metals - Trace Constituents Multiple Units

Zinc (TRC)	<0.002
------------	--------

Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	DS-3	DS-4	DS-7	DS-8	DS-9	SP-10
Water	Sample Date	4/24/2019	4/24/2019	4/24/2019	4/23/2019	4/23/2019	4/23/2019
	Sample Time						
	Lab	Energy Labs	Energy Labs	Hydro	Hydro	Hydro	Energy Labs
	Lab Number	H19040763-005	H19040763-006	z	z	z	H19040763-001
	Sample Number	BBC-1904-118	BBC-1904-119	BBC-1904-121	BBC-1904-100	BBC-1904-101	BBC-1904-106
	Remarks						

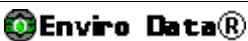
Field Parameters	Multiple Units						
Dissolved Oxygen	0	9.89	9.86	10.1	9.41	10.01	
Field pH	7.92	7.36	7.42	7.69	7.78	8.03	
Field Specific Conductivity	32	82	229	318	328	326	
Flow							
Flow	NM	NM	9.7	8.7	12.5	NM	
Staff Gauge							
Water Temperature	7	5.4	4.9	5.4	4.3	5.6	

Physical Parameters	mg/L						
Total Dissolved Solids	68	120				162	
Total Suspended Solids	<10	<10				399 J	

Major Constituents - Commons Ions	mg/L						
Alkalinity as CaCO3	14	37				150	
Calcium (DIS)	4	12				38	
Chloride	<1	<1				<1	
Fluoride	<0.1	<0.1				0.1	
Hardness as CaCO3	14	41				147	
Magnesium (DIS)	1	3				13	
Potassium (DIS)	1	<1				<1	
Sodium (DIS)	<1	1				1	
Sulfate	1	2				6	

Nutrients	mg/L						
Nitrate + Nitrite as N	0.05	0.27				0.15	
Phosphorus (TOT)							
Total Persulfate Nitrogen							

Metals - Trace Constituents	Multiple Units						
Aluminum (DIS)	1.15	2.65				0.024	
Antimony (DIS)	<0.0005	<0.0005				<0.0005	
Antimony (TRC)							
Arsenic (DIS)	<0.001	0.002				<0.001	
Arsenic (TRC)							
Barium (DIS)	0.161	0.32				0.03	
Barium (TRC)							



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS-- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

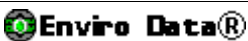
Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	DS-3	DS-4	DS-7	DS-8	DS-9	SP-10
Water	Sample Date	4/24/2019	4/24/2019	4/24/2019	4/23/2019	4/23/2019	4/23/2019
	Sample Time						
	Lab	Energy Labs	Energy Labs	Hydro	Hydro	Hydro	Energy Labs
	Lab Number	H19040763-005	H19040763-006	z	z	z	H19040763-001
	Sample Number	BBC-1904-118	BBC-1904-119	BBC-1904-121	BBC-1904-100	BBC-1904-101	BBC-1904-106
	Remarks						

Metals - Trace Constituents	Multiple Units		
Beryllium (DIS)	<0.0008	<0.0008	<0.0008
Beryllium (TRC)			
Cadmium (DIS)	<0.00003	<0.00003	<0.00003
Cadmium (TRC)			
Chromium (DIS)	<0.01	<0.01	<0.01
Chromium (TRC)			
Cobalt (DIS)	<0.01	<0.01	<0.01
Cobalt (TRC)			
Copper (DIS)	0.002	0.003	<0.002
Copper (TRC)			
Iron (DIS)	0.67	1.64	<0.02
Iron (TRC)			
Lead (DIS)	<0.0003	0.0007	<0.0003
Lead (TRC)			
Manganese (DIS)	0.006	0.011	<0.005
Manganese (TRC)			
Mercury (DIS)	0.013	0.01	<0.005
Mercury (TRC)			
Molybdenum (DIS)	<0.002	<0.002	<0.002
Molybdenum (TRC)			
Nickel (DIS)	0.002	0.003	<0.001
Nickel (TRC)			
Selenium (DIS)	<0.0002	<0.0002	<0.0002
Selenium (TRC)			
Silver (DIS)	<0.0002	<0.0002	<0.0002
Silver (TRC)			
Strontium (DIS)	0.0185	0.041	0.0748
Strontium (TRC)			
Thallium (DIS)	<0.0002	<0.0002	<0.0002
Thallium (TRC)			
Uranium (DIS)	<0.0002	<0.0002	0.0004
Uranium (TRC)			
Zinc (DIS)	0.004	0.006	<0.002



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	DS-3	DS-4	DS-7	DS-8	DS-9	SP-10
Water	Sample Date	4/24/2019	4/24/2019	4/24/2019	4/23/2019	4/23/2019	4/23/2019
	Sample Time						
	Lab	Energy Labs	Energy Labs	Hydro	Hydro	Hydro	Energy Labs
	Lab Number	H19040763-005	H19040763-006	z	z	z	H19040763-001
	Sample Number	BBC-1904-118	BBC-1904-119	BBC-1904-121	BBC-1904-100	BBC-1904-101	BBC-1904-106
	Remarks						

Metals - Trace Constituents Multiple Units

Zinc (TRC)

Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	SP-12	SP-3	SP-4	SP-6	SP-7	SP-7
Water	Sample Date	4/23/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019
	Sample Time						
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19040763-004	H19040763-007	H19040763-009	H19040763-008	H19040763-010	H19040763-011
	Sample Number	BBC-1904-111	BBC-1904-120	BBC-1904-123	BBC-1904-122	BBC-1904-124	BBC-1904-125
	Remarks						DUPLICATE

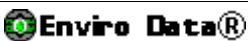
Field Parameters	Multiple Units					
Dissolved Oxygen	3.6	9.92	9.8	9.62	2.7	
Field pH	7.51	7.21	7.75	7.6	7.65	
Field Specific Conductivity	515	91	442	253	330	
Flow						
Flow	NM	NM-ICE	42.2	4.12	59.7	
Staff Gauge						
Water Temperature	6.5	3.5	6.7	5.5	7.4	

Physical Parameters	mg/L					
Total Dissolved Solids	341	157	248	153	188	189
Total Suspended Solids	16 J	<10	<10	<10	<10	<10

Major Constituents - Commons Ions	mg/L					
Alkalinity as CaCO3	180	37	200	130	160	170
Calcium (DIS)	58	13	50	33	42	42
Chloride	36	1	<1	<1	2	2
Fluoride	0.2	0.1	0.2	0.1	0.3	0.3
Hardness as CaCO3	254	46	231	133	163	163
Magnesium (DIS)	26	3	26	12	14	14
Potassium (DIS)	5	2	2	1	3	3
Sodium (DIS)	4	2	2	2	4	5
Sulfate	30	4	39	7	11	11

Nutrients	mg/L					
Nitrate + Nitrite as N	0.08	0.14	0.25	0.65	0.32	0.32
Phosphorus (TOT)						
Total Persulfate Nitrogen						

Metals - Trace Constituents	Multiple Units					
Aluminum (DIS)	<0.009	2.18	<0.009	0.052	0.01	<0.009
Antimony (DIS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Antimony (TRC)						
Arsenic (DIS)	0.002	0.003	<0.001	<0.001	0.004	0.004
Arsenic (TRC)						
Barium (DIS)	0.163	0.201	0.112	0.186	0.112	0.111
Barium (TRC)						



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS-- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

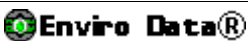
Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	SP-12	SP-3	SP-4	SP-6	SP-7	SP-7
Water	Sample Date	4/23/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019
	Sample Time						
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19040763-004	H19040763-007	H19040763-009	H19040763-008	H19040763-010	H19040763-011
	Sample Number	BBC-1904-111	BBC-1904-120	BBC-1904-123	BBC-1904-122	BBC-1904-124	BBC-1904-125
	Remarks						DUPLICATE

Metals - Trace Constituents	Multiple Units						
Beryllium (DIS)	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Beryllium (TRC)							
Cadmium (DIS)	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Cadmium (TRC)							
Chromium (DIS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium (TRC)							
Cobalt (DIS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt (TRC)							
Copper (DIS)	<0.002	0.006	<0.002	<0.002	<0.002	<0.002	<0.002
Copper (TRC)							
Iron (DIS)	0.78	1.42	<0.02	0.03	<0.02	<0.02	<0.02
Iron (TRC)							
Lead (DIS)	<0.0003	0.0005	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Lead (TRC)							
Manganese (DIS)	0.149	0.009	<0.005	<0.005	<0.005	<0.005	<0.005
Manganese (TRC)							
Mercury (DIS)	0.023	0.026	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury (TRC)							
Molybdenum (DIS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Molybdenum (TRC)							
Nickel (DIS)	0.002	0.004	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (TRC)							
Selenium (DIS)	0.0002	<0.0002	0.0003	<0.0002	0.0003	0.0003	0.0002
Selenium (TRC)							
Silver (DIS)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Silver (TRC)							
Strontium (DIS)	0.112	0.0398	0.0718	0.0673	0.165	0.164	0.164
Strontium (TRC)							
Thallium (DIS)	<0.0002	<0.0002	0.0003	0.0005	0.001	0.001	0.001
Thallium (TRC)							
Uranium (DIS)	0.0006	<0.0002	0.0005	0.0004	0.0009	0.0008	0.0008
Uranium (TRC)							
Zinc (DIS)	0.005	0.006	<0.002	<0.002	<0.002	<0.002	<0.002



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	SP-12	SP-3	SP-4	SP-6	SP-7	SP-7
Water	Sample Date	4/23/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019	4/24/2019
	Sample Time						
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19040763-004	H19040763-007	H19040763-009	H19040763-008	H19040763-010	H19040763-011
	Sample Number	BBC-1904-111	BBC-1904-120	BBC-1904-123	BBC-1904-122	BBC-1904-124	BBC-1904-125
	Remarks						DUPLICATE

Metals - Trace Constituents Multiple Units

Zinc (TRC)

Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	SW-1	SW-1	SW-14	SW-17	SW-18	SW-19
Water	Sample Date	4/24/2019	4/24/2019	4/23/2019	4/24/2019	4/23/2019	4/23/2019
	Sample Time						
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro
	Lab Number	H19040763-016	H19040763-017	H19040763-015	H19040763-018	H19040763-013	z
	Sample Number	BBC-1904-113	BBC-1904-114	BBC-1904-112	BBC-1904-115	BBC-1904-109	BBC-1904-105
	Remarks	DUPLICATE					

Field Parameters	Multiple Units					
Dissolved Oxygen	11.11		8.43	9.88	0	9.27
Field pH	7.76		7.98	7.8	8.19	8.03
Field Specific Conductivity	179		274	326	75	244
Flow	174.3		15.54	4.36		
Flow					NM	NM
Staff Gauge	1.72		1.05			
Water Temperature	1.7		10	2.9	1	6.9

Physical Parameters	mg/L					
Total Dissolved Solids	135 D	136 D	167 D	191 D	53 D	
Total Suspended Solids	<4	54 J	18 J	54 J	<4	

Major Constituents - Commons Ions	mg/L					
Alkalinity as CaCO3	87	86	130	150	39	
Calcium (DIS)	24	25	33	38	8	
Chloride	2	2	1	7	<1	
Fluoride	<0.1	<0.1	0.1	0.1	<0.1	
Hardness as CaCO3	88	90	136	167	35	
Magnesium (DIS)	7	7	13	17	3	
Potassium (DIS)	2	2	2	2	2	
Sodium (DIS)	2	2	2	2	<1	
Sulfate	4	4	8	16	<1	

Nutrients	mg/L					
Nitrate + Nitrite as N	0.05	0.05	0.04	0.07	0.03	
Phosphorus (TOT)	0.095	0.089	0.028	0.023	0.095	
Total Persulfate Nitrogen	0.48	0.52	0.37	0.33	0.39	

Metals - Trace Constituents	Multiple Units					
Aluminum (DIS)	0.409	0.332	0.029	0.012	<0.009	
Antimony (DIS)						
Antimony (TRC)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Arsenic (DIS)						
Arsenic (TRC)	0.001	0.001	<0.001	<0.001	<0.001	
Barium (DIS)						
Barium (TRC)	0.116	0.111	0.081	0.112	0.019	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	SW-1	SW-1	SW-14	SW-17	SW-18	SW-19
Water	Sample Date	4/24/2019	4/24/2019	4/23/2019	4/24/2019	4/23/2019	4/23/2019
	Sample Time						
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro
	Lab Number	H19040763-016	H19040763-017	H19040763-015	H19040763-018	H19040763-013	z
	Sample Number	BBC-1904-113	BBC-1904-114	BBC-1904-112	BBC-1904-115	BBC-1904-109	BBC-1904-105
	Remarks	DUPLICATE					

Metals - Trace Constituents	Multiple Units					
Beryllium (DIS)						
Beryllium (TRC)	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	
Cadmium (DIS)						
Cadmium (TRC)	<0.00003	<0.00003	<0.00003	<0.00003	0.00004	
Chromium (DIS)						
Chromium (TRC)	<0.01	<0.01	<0.01	<0.01	<0.01	
Cobalt (DIS)						
Cobalt (TRC)	<0.01	<0.01	<0.01	<0.01	<0.01	
Copper (DIS)						
Copper (TRC)	0.003	0.003	<0.002	<0.002	<0.002	
Iron (DIS)						
Iron (TRC)	2.11 J	1.45 J	0.15 J	0.11 J	0.17 J	
Lead (DIS)						
Lead (TRC)	0.0013	0.0011	<0.0003	<0.0003	0.0003	
Manganese (DIS)						
Manganese (TRC)	0.05	0.046	<0.005	0.012	0.011	
Mercury (DIS)						
Mercury (TRC)	0.023	0.025	0.009	0.005	0.01	
Molybdenum (DIS)						
Molybdenum (TRC)	<0.002	<0.002	<0.002	<0.002	<0.002	
Nickel (DIS)						
Nickel (TRC)	0.004	0.003	<0.001	<0.001	<0.001	
Selenium (DIS)						
Selenium (TRC)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Silver (DIS)						
Silver (TRC)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Strontium (DIS)						
Strontium (TRC)	0.0708 D	0.0697 D	0.079 D	0.0854 D	0.0172 D	
Thallium (DIS)						
Thallium (TRC)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Uranium (DIS)						
Uranium (TRC)	0.0003	0.0003	0.0004	0.0005	<0.0002	
Zinc (DIS)						

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	SW-1	SW-1	SW-14	SW-17	SW-18	SW-19
Water	Sample Date	4/24/2019	4/24/2019	4/23/2019	4/24/2019	4/23/2019	4/23/2019
	Sample Time						
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro
	Lab Number	H19040763-016	H19040763-017	H19040763-015	H19040763-018	H19040763-013	z
	Sample Number	BBC-1904-113	BBC-1904-114	BBC-1904-112	BBC-1904-115	BBC-1904-109	BBC-1904-105
	Remarks		DUPLICATE				

Metals - Trace Constituents Multiple Units

Zinc (TRC)	0.009	0.007	<0.002	0.002	0.003
------------	-------	-------	--------	-------	-------

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J:** The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S:** The associated numerical value is an estimated quantity because split quality control criteria were not met. **U:** Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R:** Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A:** Anomalous data. No apparent explanation for discrepancy in data. **D:** Reporting Limit increased due to sample matrix. **L:** Lowest available reporting limit for the analytical method used. **H:** Analysis performed past recommended holding time. **Z:** No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	SW-2	SW-3	SW-7	USGS-SC1
Water	Sample Date	4/24/2019	4/23/2019	4/23/2019	4/24/2019
	Sample Time				
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19040763-019	H19040763-014	H19040763-003	H19040763-020
	Sample Number	BBC-1904-116	BBC-1904-110	BBC-1904-108	BBC-1904-117
	Remarks				

Field Parameters Multiple Units

Dissolved Oxygen	11.16	9.57	8.8	11.09
Field pH	8.03	7.97	7.8	8.16
Field Specific Conductivity	178	238	344	272
Flow	93.98			NM-ICE
Flow		NM	42.2	
Staff Gauge	1.1	0.95		
Water Temperature	1.4	5.9	5.3	1.6

Physical Parameters mg/L

Total Dissolved Solids	128 D	149 D	192	164 D
Total Suspended Solids	<4	16 J	15 J	40 J

Major Constituents - Commons Ions mg/L

Alkalinity as CaCO3	85	120	180	130
Calcium (DIS)	25	27	49	38
Chloride	2	2	<1	4
Fluoride	<0.1	0.1	0.1	<0.1
Hardness as CaCO3	89	116	184	134
Magnesium (DIS)	6	12	15	9
Potassium (DIS)	1	2	<1	1
Sodium (DIS)	2	1	1	3
Sulfate	4	7	9	5

Nutrients mg/L

Nitrate + Nitrite as N	0.03	0.02	0.08	0.05
Phosphorus (TOT)	0.066	0.076		0.054
Total Persulfate Nitrogen	0.4	0.41		0.3

Metals - Trace Constituents Multiple Units

Aluminum (DIS)	0.47	0.047	0.018	0.124
Antimony (DIS)			<0.0005	
Antimony (TRC)	<0.0005	<0.0005		<0.0005
Arsenic (DIS)			<0.001	
Arsenic (TRC)	0.001	<0.001		<0.001
Barium (DIS)			0.042	
Barium (TRC)	0.106	0.115		0.072

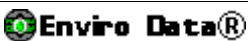
Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	SW-2	SW-3	SW-7	USGS-SC1
Water	Sample Date	4/24/2019	4/23/2019	4/23/2019	4/24/2019
	Sample Time				
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19040763-019	H19040763-014	H19040763-003	H19040763-020
	Sample Number	BBC-1904-116	BBC-1904-110	BBC-1904-108	BBC-1904-117
	Remarks				

Metals - Trace Constituents	Multiple Units			
Beryllium (DIS)			<0.0008	
Beryllium (TRC)	<0.0008	<0.0008		<0.0008
Cadmium (DIS)			<0.00003	
Cadmium (TRC)	<0.00003	0.00005		<0.00003
Chromium (DIS)			<0.01	
Chromium (TRC)	<0.01	<0.01		<0.01
Cobalt (DIS)			<0.01	
Cobalt (TRC)	<0.01	<0.01		<0.01
Copper (DIS)			<0.002	
Copper (TRC)	0.003	<0.002		<0.002
Iron (DIS)			<0.02	
Iron (TRC)	1.45 J	0.7 J		1.22 J
Lead (DIS)			<0.0003	
Lead (TRC)	0.0009	0.0018		0.0007
Manganese (DIS)			<0.005	
Manganese (TRC)	0.035	0.025		0.033
Mercury (DIS)			<0.005	
Mercury (TRC)	0.025	0.009		0.011
Molybdenum (DIS)			<0.002	
Molybdenum (TRC)	<0.002	<0.002		<0.002
Nickel (DIS)			<0.001	
Nickel (TRC)	0.003	<0.001		0.002
Selenium (DIS)			<0.0002	
Selenium (TRC)	<0.0002	<0.0002		<0.0002
Silver (DIS)			<0.0002	
Silver (TRC)	<0.0002	<0.0002		<0.0002
Strontium (DIS)			0.105	
Strontium (TRC)	0.0772 D	0.0665 D		0.119 D
Thallium (DIS)			<0.0002	
Thallium (TRC)	<0.0002	<0.0002		<0.0002
Uranium (DIS)			0.0004	
Uranium (TRC)	0.0003	0.0004		0.0003
Zinc (DIS)			<0.002	



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

5/30/2019 10:35:22 AM

Sample Type:	Station (Site)	SW-2	SW-3	SW-7	USGS-SC1
Water	Sample Date	4/24/2019	4/23/2019	4/23/2019	4/24/2019
	Sample Time				
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19040763-019	H19040763-014	H19040763-003	H19040763-020
	Sample Number	BBC-1904-116	BBC-1904-110	BBC-1904-108	BBC-1904-117
	Remarks				

Metals - Trace Constituents	Multiple Units			
-----------------------------	----------------	--	--	--

Zinc (TRC)	0.007	0.006		0.004
------------	-------	-------	--	-------

**QUALITY CONTROL / QUALITY ASSURANCE
DATA VERIFICATION REPORT**

**BLACK BUTTE COPPER
WATER RESOURCE MONITORING**

MAY 2019

Prepared by
Hydrometrics, Inc.
3020 Bozeman Avenue
Helena, MT 59601

JULY 2019

TABLE OF CONTENTS

LIST OF APPENDICES	II
GLOSSARY OF TERMS.....	III
1. INTRODUCTION.....	4
2. DELIVERABLES.....	4
3. FIELD QUALITY CONTROL SAMPLES.....	4
4. LABORATORY PROCEDURES.....	5
5. INITIAL OR CONTINUING CALIBRATION VERIFICATION RESULTS.....	5
6. LABORATORY BLANKS.....	6
7. MATRIX SPIKE /MATRIX SPIKE DUPLICATES (MS/MSD).....	6
8. LABORATORY CONTROL SAMPLES.....	6
9. DATA QUALITY OBJECTIVES.....	7
REFERENCES.....	9

LIST OF APPENDICES

APPENDIX 1: TABLES

- Table 1. Data Validation Codes and Definitions
- Table 2. Summary of Flagged Data
- Table 3. Statistical Summary

APPENDIX 2: DATABASE SUMMARY REPORT

GLOSSARY OF TERMS

CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CLP	Contract Laboratory Program
CRDL.....	Contract Required Detection Limit
DI í í í í	Deionized Water
FAA	Flame Atomic Absorption
GFAA.....	Graphite Furnace Atomic Absorption
HGAA.....	Hydride Generation Atomic Absorption
ICB.....	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICV	Initial Calibration Verification
IDL.....	Instrument Detection Limit
LCS	Laboratory Control Sample
MSA.....	Method of Standard Additions
PB	Preparation Blank
PRDL	Project Required Detection Limit
QAPP	Quality Assurance Project Plan
QC.....	Quality Control
RPD.....	Relative Percent Difference
RSD.....	Relative Standard Deviation
SOW.....	Statement of Work
TDS.....	Total Dissolved Solids

DATA VALIDATION REPORT

1. INTRODUCTION

This validation applies to 29 samples collected for the Black Butte Tintina surface water and groundwater monitoring program. All sampling occurred in May 2019. All samples were submitted to Energy Laboratories in Helena, Montana and were assigned Laboratory IDs: H19050915 and H19050914. The total number of samples included: 16 groundwater and surface water samples including 2 field duplicates, and 2 field deionized (DI and Rinsate) blanks and 9 field site observations.

- Validation procedures used are generally consistent with:

(Check all that apply)

EPA CLP National Functional Guidelines for Inorganics Data Review

EPA CLP National Functional Guidelines for Organic Data Review

Montana Department of Environmental Quality, Data Validation Guidelines for Evaluating Analytical Data, Hydrometrics, September 2010

2. DELIVERABLES

- All laboratory document deliverables were present as specified in the CLP-Statement of Work and/or the project contract

Yes

No

- All documentation of field procedures was provided as required

Yes

No

3. FIELD QUALITY CONTROL SAMPLES

- Field blanks

Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

DI, trip, rinsate, or any other field blanks have been carried out at the proper frequency

Yes

No

Reported results on the field blanks are less than the contract required detection limits (CRDL) or the project required detection limits (PRDL) if project detection limits have been specified

Yes

No ó see following table

Date	Site Code	Parameter	Sample Result (mg/L)	Reporting Limit (mg/L)	Number of Flags
5/30/19	DI Blank	Iron (TRC)	0.03	<0.02	3
		Strontium (TRC)	0.0004	<0.0002	0
		Zinc (TRC)	0.002	<0.002	7

B ó Blank sample exceeded QA/QC comparison control limits.

- NOTES:** It should be noted that the above listed analysis results exceeded the reporting limits and results were confirmed by duplicate analysis from the laboratory.

Field duplicates have been collected at the proper frequency

Yes

No

Field duplicate relative percent differences (RPDs) were within the required control limits (25 percent or less for water matrix and 50 percent or less for soil matrix)

Yes
 No

4. LABORATORY PROCEDURES

- Laboratory Case Narrative Notes any non conformance issues with the analytical data
 Yes
 No
 NA

- Samples were received by the laboratory at the proper temperature
 Yes
 No

- Holding times met
 Yes
 No

- Consistency with project requirements
 Yes
 No

- Sample Conditions met at Check-in
 Yes
 No

- Reporting units appropriate for the associated sample matrix and methods of analysis
 Yes
 No

- Project specified methods were used
 Yesó see following list of methods used
 No

NOTES: It should be noted that parameters were analyzed using different methods than requested; however, all methods used by the laboratory are comparable. The following methods were used during analyses: A2540D, A2540C, A2320B, E300.0, A4500-F C, A2340B, E353.2, A4500-N C, E365.1, E200.8, and E200.7.

- Detection Limits met project required detection limits (PRDL)
 Yesó see following notes
 No

NOTES: It should be noted that total dissolved solids and mercury had a reporting limit increases due to sample matrix interference (D). TDS had a limit of 10 mg/l used not the requested 4 mg/l. Mercury had a limit of 0.01 ug/l used not the requested 0.005 ug/l. Strontium had the 0.0003 mg/l reporting limit was used in place of the requested 0.0002 mg/l; however, values were flagged with an L to indicate that the lowest available reporting limit was used per method used for analysis. In addition, a reporting limit of 0.01 mg/l was used for nitrate + nitrite as n as replacement of the 0.003 mg/l requested.

5. INITIAL OR CONTINUING CALIBRATION VERIFICATION RESULTS

- Initial or Continuing Calibration Verification samples were within acceptable limits
 Yes
 No

6. LABORATORY BLANKS

- PREPARATION/METHOD BLANKS**

Preparation/Method blanks were prepared and analyzed at the required frequency
 Yes
 No

All analytes in the preparation blank were less than the CRDL (or PRDL if a project detection limit has been specified)
 Yes
 No

7. MATRIX SPIKE /MATRIX SPIKE DUPLICATES (MS/MSD)

- Matrix spike samples were analyzed at the proper frequency
 Yes
 No

- Matrix spike recoveries were within control limits
 Yes
 No ó see following table

QC Sample ID	Parameter	% REC	Lab Flag	Lab Advisory Limits (% REC)
H19050859-002AMS3	Iron	161	S	70-130
H19050906-002-FMS	Nitrate + Nitrite as N	86	S	90-110
H19050915-005BMS3	Aluminum	137	S	70-130
H19050906-002DMS	Silver	57	S	70-130

S ó Spike recovery outside of recovery limits

- Matrix spike RPD~~s~~ were within control limits
 Yes
 No
- Matrix spike duplicate samples were analyzed at the proper frequency
 Yes
 No
- Matrix spike duplicate RPD~~s~~ were within control limits
 Yes
 No ó see following table

QC Sample ID	Parameter	% RPD	Lab Flag	Lab Advisory Limits (%RPD)
H19050900-001ADUP	TSS	32	R	5
H19050917-008CMSD	Uranium	26	R	20

R óRelative percent difference exceeded limits

- Matrix spike duplicate recoveries were within the laboratory specified control limits.
 Yes
 No ó see following table

QC Sample ID	Parameter	% REC	Lab Flag	Lab Advisory Limits (% REC)
H19050859-002AMS3D	Iron	164	S	70-130
H19050906-002-FMSD	Nitrate + Nitrite as N	83	S	90-110
H19050915-005BMS3D	Aluminum	135	S	70-130
H19050906-002DMSD	Silver	62	S	70-130

S 6 Spike recovery outside of recovery limits

8. LABORATORY CONTROL SAMPLES

- LCS Samples

Laboratory Control Samples used the correct matrix and concentrations

Yes
 No
 NA

Laboratory Control Samples were prepared and analyzed at the required frequency

Yes
 No
 NA

All analytes in the laboratory control samples were less than the control limits specified

Yes
 No

9. DATA QUALITY OBJECTIVES

- Project data quality objectives (DQOs) met

Yes
 No

Accuracy

Accuracy for this project is the degree of agreement between an analytical measurement and a reference accepted as a true value. The accuracy of a measurement system can be affected by errors introduced by field contamination, sample preservation, sample handling, sample preparation and analytical techniques. Analysis of MS/MSD samples, laboratory control spikes (LCS) or blank spikes, surrogate standards and method blanks are typically used to calculate the percent recovery for evaluating accuracy. Accuracy for this sampling event was 99 percent.

Precision

Precision for this project is the degree of mutual agreement between individual measurements of the same property under similar conditions. Combined field and laboratory precision is evaluated by collecting and analyzing field duplicate and then calculating the variance between the samples, typically as a relative percent difference (RPD). Laboratory analytical precision is evaluated by analyzing matrix spike/matrix spike duplicate samples and using the results to calculate an RPD. The combined precision was 98 percent for this sampling event for both laboratory and field.

Representativeness

Representativeness for this project is the degree to which sample data accurately and precisely represent the characteristics of a population, and variations in a parameter at a sampling point or an environmental condition that they are intended to represent. Typically representative data will be obtained through careful selection of sampling locations and analytical parameters; proper collection and handling of samples and through use and consistent application of established field and laboratory procedures. Evaluation of field and laboratory blank samples for presence of contaminants can be useful in evaluating representativeness of sample results. Both laboratory and field representativeness for this sampling event was 100 percent.

Completeness

The target completeness for this project is the percent of the measurements valid (not rejected). Valid data are obtained when samples are collected and analyzed in accordance with quality control procedures outlined in the SAP, and when none of the QC criteria that affect data usability are exceeded. Once data validation is complete the number of useable sample results is divided by the total number of sample results planned for the investigation to determine the percent completeness. Completeness for this sampling event was 100 percent.

Comparability

Comparability is the expression of the confidence with which one data set can be compared with another. Comparability of data is achieved by consistently following standard field and laboratory procedures and by using standard measurement units in reporting analytical data. This criterion was met.

REFERENCES

- Montana Department of Environmental Quality, Data Validation Guidelines for Evaluating Analytical Data (Updated August 5, 2010)
- EPA, 2017a. National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-2017-002. Office of Superfund Remediation and Technology Innovation. January 2017.
- EPA, 2017b. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-540-R-2017-001. Office of Superfund Remediation and Technology Innovation. January 2017.
- Hem, J.D., 1992. Study and Interpretation of the Chemical Characteristics of Natural Water, 3rd edition. US Geological Survey Water Supply Paper 2254.

APPENDIX 1

TABLES

TABLE 1.

DATA VALIDATION CODES AND DEFINITIONS

<u>CODE</u>	<u>DEFINITION</u>
J	-The associated numerical value is an estimated quantity because quality control criteria were not met.
B	- Blank contamination. Indicates possible high bias and / or false positive. The associated value is an estimate.
R	- Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.
A	- Anomalous data. No apparent explanation for discrepancy in data. (Not an EPA code.)

Table 2. Summary of Flagged Data

StationName	Sample Date	Field Sample Id	Lab Name	Lab Sample Id	Parameter Name	Sample Result	Reporting Units	Validation Flag	Exceedance Type
SW-1	5/30/2019	BBC-1905-115	Energy Labs	H19050914-001	Zinc (TRC)	0.002	mg/L B		Blank Exceedance
SW-14	5/30/2019	BBC-1905-117	Energy Labs	H19050914-003	Iron (TRC)	0.06	mg/L B		Blank Exceedance
SW-14	5/30/2019	BBC-1905-117	Energy Labs	H19050914-003	Zinc (TRC)	<0.002	mg/L B		Blank Exceedance
SW-14	5/30/2019	BBC-1905-118	Energy Labs	H19050914-004	Iron (TRC)	0.06	mg/L B		Blank Exceedance
SW-14	5/30/2019	BBC-1905-118	Energy Labs	H19050914-004	Zinc (TRC)	<0.002	mg/L B		Blank Exceedance
SW-17	5/30/2019	BBC-1905-116	Energy Labs	H19050914-002	Zinc (TRC)	<0.002	mg/L B		Blank Exceedance
SW-2	5/30/2019	BBC-1905-119	Energy Labs	H19050914-005	Zinc (TRC)	0.004	mg/L B		Blank Exceedance
SW-3	5/30/2019	BBC-1905-121	Energy Labs	H19050914-007	Iron (TRC)	0.03	mg/L B		Blank Exceedance
SW-3	5/30/2019	BBC-1905-121	Energy Labs	H19050914-007	Zinc (TRC)	<0.002	mg/L B		Blank Exceedance
USGS-SC1	5/30/2019	BBC-1905-120	Energy Labs	H19050914-006	Zinc (TRC)	0.002	mg/L B		Blank Exceedance

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

SAMPLE NO BBC-1905-107		LAB NO: H19050915-002		STATION:DS-1								
05/29/19		COMPARISON PERIOD OF DATA		QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
PARAMETER	RESULT											
DO (mg/L)	916	03/25/15-05/29/19		O	31	31	8.2	916.0	11.2	9.5	149	6.1 *H
pH Fld (s.u.)	7.82	03/25/15-05/29/19		O	30	30	7.36	8.56	7.77	7.78	0.28	0.17
SC Fld (umhos/cm)	421	03/25/15-05/29/19		O	31	31	337.0	698.7	420.6	420	51.4	0.0
Flow (Gallons Per Min)	50.9	03/25/15-05/29/19		O	27	27	0.1	62.3	5.5	6.3	13.5	3.4 *
Water Temp (Deg C)	8.3	03/25/15-05/29/19		O	31	31	0.5	18.3	5.4	7	3.7	0.8
TDS (mg/L)	217	03/25/15-05/29/19		DUP	31	31	203.0	245.0	230.5	231	9.6	1.4
TDS (mg/L)	221	03/25/15-05/29/19		O	31	31	203.0	245.0	230.5	231	9.6	1.0
TSS (mg/L)	< 10	03/25/15-05/29/19		DUP	31	10	< 10	1130.0				
TSS (mg/L)	< 10	03/25/15-05/29/19		O	31	10	< 10	1130.0				
Tot Alk (mg/L)	220	03/25/15-05/29/19		O	31	31	180.0	220.0	215.0	220	8.1	0.6 H
Tot Alk (mg/L)	220	03/25/15-05/29/19		DUP	31	31	180.0	220.0	215.0	220	8.1	0.6 H
Ca (mg/L)	55	05/29/19		O	1	1	55.0	55.0	55.0	55	1.4	0.0 H
Ca (mg/L)	57	05/29/19		DUP	1	1	55.0	55.0	55.0	55	1.4	1.4 H
Chloride (mg/L)	< 1	03/25/15-05/29/19		O	31	0	< 1	< 1				
Chloride (mg/L)	< 1	03/25/15-05/29/19		DUP	31	0	< 1	< 1				
F (mg/L)	0.1	03/25/15-05/29/19		O	31	29	< 0.1	< 0.1	0.1	0.1	0	0.0 H
F (mg/L)	0.1	03/25/15-05/29/19		DUP	31	29	< 0.1	< 0.1	0.1	0.1	0	0.0 H
Tot Hard (mg/L)	226	03/25/15-05/29/19		DUP	31	31	185.0	249.0	228.3	229	11.5	0.2
Tot Hard (mg/L)	220	03/25/15-05/29/19		O	31	31	185.0	249.0	228.3	229	11.5	0.7
Mg (mg/L)	20	05/29/19		O	1	1	20.0	20.0	20.0	20	0	0.0 H
Mg (mg/L)	20	05/29/19		DUP	1	1	20.0	20.0	20.0	20	0	0.0 H
K (mg/L)	< 1	05/29/19		O	1	0	< 1	< 1				
K (mg/L)	< 1	05/29/19		DUP	1	0	< 1	< 1				
Na (mg/L)	2	05/29/19		O	1	1	2.0	2.0	2.0	2	0	0.0 H
Na (mg/L)	2	05/29/19		DUP	1	1	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	15	03/25/15-05/29/19		O	31	31	11.0	18.0	14.7	15	1.7	0.2
SO4 (mg/L)	15	03/25/15-05/29/19		DUP	31	31	11.0	18.0	14.7	15	1.7	0.2
Nitrate + (mg/L)	0.13	03/25/15-05/29/19		O	31	31	0.03	0.26	0.17	0.19	0.06	0.73
Nitrate + (mg/L)	0.13	03/25/15-05/29/19		DUP	31	31	0.03	0.26	0.17	0.19	0.06	0.73
Al (DIS) (mg/L)	< 0.009	05/29/19		O	1	0	< 0.009	< 0.009				
Al (DIS) (mg/L)	< 0.009	05/29/19		DUP	1	0	< 0.009	< 0.009				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Sb (DIS) (mg/L)	< 0.0005	05/29/19	DUP	1	0	< 0.0005	: 0 .0005						
Sb (DIS) (mg/L)	< 0.0005	05/29/19	O	1	0	< 0.0005	: 0 .0005						
As (DIS) (mg/L)	< 0.001	05/29/19	O	1	0	< 0.001	< 0 .001						
As (DIS) (mg/L)	< 0.001	05/29/19	DUP	1	0	< 0.001	< 0 .001						
Ba (DIS) (mg/L)	0.05	05/29/19	O	1	1	0.05	0.05	0.05	0.05	0	0.0	H	
Ba (DIS) (mg/L)	0.051	05/29/19	DUP	1	1	0.05	0.05	0.05	0.05	0.001	1.0	H	
Be (DIS) (mg/L)	< 0.0008	05/29/19	O	1	0	< 0.0008	: 0 .0008						
Be (DIS) (mg/L)	< 0.0008	05/29/19	DUP	1	0	< 0.0008	: 0 .0008						
Cd (DIS) (mg/L)	< 0	05/29/19	DUP	1	0	< 0	: .00003						
Cd (DIS) (mg/L)	< 0	05/29/19	O	1	0	< 0	: .00003						
Cr (DIS) (mg/L)	< 0.01	05/29/19	DUP	1	0	< 0.01	< 0 .01						
Cr (DIS) (mg/L)	< 0.01	05/29/19	O	1	0	< 0.01	< 0 .01						
Co (DIS) (mg/L)	< 0.01	05/29/19	DUP	1	0	< 0.01	< 0 .01						
Co (DIS) (mg/L)	< 0.01	05/29/19	O	1	0	< 0.01	< 0 .01						
Cu (DIS) (mg/L)	< 0.002	05/29/19	DUP	1	0	< 0.002	< 0 .002						
Cu (DIS) (mg/L)	< 0.002	05/29/19	O	1	0	< 0.002	< 0 .002						
Fe (DIS) (mg/L)	< 0.02	05/29/19	O	1	0	< 0.02	< 0 .02						
Fe (DIS) (mg/L)	< 0.02	05/29/19	DUP	1	0	< 0.02	< 0 .02						
Pb (DIS) (mg/L)	< 0.0003	05/29/19	O	1	0	< 0.0003	: 0 .0003						
Pb (DIS) (mg/L)	< 0.0003	05/29/19	DUP	1	0	< 0.0003	: 0 .0003						
Mn (DIS) (mg/L)	< 0.005	05/29/19	DUP	1	0	< 0.005	< 0 .005						
Mn (DIS) (mg/L)	< 0.005	05/29/19	O	1	0	< 0.005	< 0 .005						
Hg (DIS) (ug/L)	< 0.005	05/29/19	DUP	1	0	< 0.005	< 0 .005						
Hg (DIS) (ug/L)	< 0.005	05/29/19	O	1	0	< 0.005	< 0 .005						
Mo (DIS) (mg/L)	< 0.002	05/29/19	DUP	1	0	< 0.002	< 0 .002						
Mo (DIS) (mg/L)	< 0.002	05/29/19	O	1	0	< 0.002	< 0 .002						
Ni (DIS) (mg/L)	< 0.001	05/29/19	DUP	1	0	< 0.001	< 0 .001						
Ni (DIS) (mg/L)	< 0.001	05/29/19	O	1	0	< 0.001	< 0 .001						
Se (DIS) (mg/L)	< 0.0002	05/29/19	DUP	1	0	< 0.0002	: 0 .0002						
Se (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0 .0002						
Ag (DIS) (mg/L)	< 0.0002	05/29/19	DUP	1	0	< 0.0002	: 0 .0002						
Ag (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0 .0002						
Sr (DIS) (mg/L)	0.106	05/29/19	DUP	1	1	0.105	0.105	0.105	0.105	0.001	1.0	H	
Sr (DIS) (mg/L)	0.105	05/29/19	O	1	1	0.105	0.105	0.105	0.105	0.001	0.0	H	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

TI (DIS) (mg/L)	< 0.0002	05/29/19	DUP	1	0	< 0.0002 : 0.0002					
TI (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002 : 0.0002					
U (DIS) (mg/L)	0.0006	05/29/19	DUP	1	1	0.0006	0.0006	0.0006	0.0006	0	0.0 H
U (DIS) (mg/L)	0.0006	05/29/19	O	1	1	0.0006	0.0006	0.0006	0.0006	0	0.0 H
Zn (DIS) (mg/L)	0.009	05/29/19	O	1	1	0.009	0.009	0.009	0.009	0	0.0 H
Zn (DIS) (mg/L)	0.009	05/29/19	DUP	1	1	0.009	0.009	0.009	0.009	0	0.0 H

SAMPLE NO BBC-1905-105 LAB NO: z

STATION:DS-2

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.9	10/12/11-08/19/14	OBS	2	2	4.3	9.5	6.4	6.9	2.4	1.5 H
pH Fld (s.u.)	7.61	10/12/11-08/19/14	OBS	2	2	6.45	7.9	7.14	7.18	0.56	0.84
SC Fld (umhos/cm)	193	10/12/11-08/19/14	OBS	2	2	331.0	354.0	342.3	342.5	76.8	1.9 L
Flow (Gallons Per Min)	3.9	10/12/11-08/19/14	OBS	2	2	0.3	0.8	0.4	0.5	2.3	1.5 H
Water Temp (Deg C)	8	10/12/11-08/19/14	OBS	2	2	5.7	13.3	8.7	9.5	4.4	0.2

SAMPLE NO BBC-1905-112 LAB NO: H19050915-005

STATION:DS-3

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	7.24	08/06/14-05/29/19	O	29	29	3.72	10.8	6.68	7.04	2.26	0.25
pH Fld (s.u.)	6.89	08/06/14-05/29/19	O	29	29	5.56	8.7	7.0	7.16	0.96	0.11
SC Fld (umhos/cm)	40	08/06/14-05/29/19	O	29	29	40.0	132.0	57.3	56	19.3	0.9 L
Flow (Gallons Per Min)	12.1	08/06/14-05/29/19	O	25	25	0.5	159.0	4.2	5.8	22	0.4
Water Temp (Deg C)	4.7	08/06/14-05/29/19	O	29	29	3.8	15.1	8.2	9.2	3	1.2
TDS (mg/L)	64	08/06/14-05/29/19	O	29	29	47.0	128.0	70.4	66	22.9	0.3
TSS (mg/L)	< 10	08/06/14-05/29/19	O	29	4	< 4	95.0				
Tot Alk (mg/L)	18	08/06/14-05/29/19	O	29	29	17.0	29.0	22.2	23	2.8	1.5
Ca (mg/L)	5	05/29/19	O	1	1	5.0	5.0	5.0	5	0	0.0 H
Chloride (mg/L)	< 1	08/06/14-05/29/19	O	29	3	< 1	< 1				
F (mg/L)	< 0.1	08/06/14-05/29/19	O	29	2	0.0	< .1				
Tot Hard (mg/L)	19	08/06/14-05/29/19	O	29	29	19.0	26.0	22.8	23	1.7	2.2 L
Mg (mg/L)	1	05/29/19	O	1	1	1.0	1.0	1.0	1	0	0.0 H
K (mg/L)	< 1	05/29/19	O	1	0	< 1	< 1				
Na (mg/L)	1	05/29/19	O	1	1	1.0	1.0	1.0	1	0	0.0 H
SO4 (mg/L)	1	08/06/14-05/29/19	O	29	29	1.0	2.0	1.3	1	0.4	0.7 L
Nitrate + (mg/L)	0.11	08/06/14-05/29/19	O	29	29	0.11	0.48	0.27	0.29	0.09	1.79 L

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Element (mg/L)	Result	Date	QC	N	OF	MIN	MAX	MEAN	MEDIAN	SD	H	
Al (DIS)	2	05/29/19	O	1	1	2.0	2.0	2.0	2	0	0.0	H
Sb (DIS)	< 0.0005	05/29/19	O	1	0	< 0.0005	: 0 .0005					
As (DIS)	< 0.001	05/29/19	O	1	0	< 0.001	< 0 .001					
Ba (DIS)	0.229	05/29/19	O	1	1	0.229	0.229	0.229	0.229	0	0.0	H
Be (DIS)	< 0.0008	05/29/19	O	1	0	< 0.0008	: 0 .0008					
Cd (DIS)	< 0	05/29/19	O	1	0	< 0	: .00003					
Cr (DIS)	< 0.01	05/29/19	O	1	0	< 0.01	< 0 .01					
Co (DIS)	< 0.01	05/29/19	O	1	0	< 0.01	< 0 .01					
Cu (DIS)	0.004	05/29/19	O	1	1	0.004	0.004	0.004	0.004	0	0.0	H
Fe (DIS)	1.2	05/29/19	O	1	1	1.2	1.2	1.2	1.2	0	0.0	H
Pb (DIS)	0.0003	05/29/19	O	1	1	0.0003	0.0003	0.0003	0.0003	0	0.0	H
Mn (DIS)	0.008	05/29/19	O	1	1	0.008	0.008	0.008	0.008	0	0.0	H
Hg (DIS)	0.02	05/29/19	O	1	1	0.02	0.02	0.02	0.02	0	0.0	H
Mo (DIS)	< 0.002	05/29/19	O	1	0	< 0.002	< 0 .002					
Ni (DIS)	0.004	05/29/19	O	1	1	0.004	0.004	0.004	0.004	0	0.0	H
Se (DIS)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0 .0002					
Ag (DIS)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0 .0002					
Sr (DIS)	0.0231	05/29/19	O	1	1	0.0231	0.0231	0.0231	0.0231	0	0.0	H
Tl (DIS)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0 .0002					
U (DIS)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0 .0002					
Zn (DIS)	0.006	05/29/19	O	1	1	0.006	0.006	0.006	0.006	0	0.0	H

SAMPLE NO BBC-1905-113 LAB NO: H19050915-006

STATION:DS-4

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	8.78	10/13/11-05/29/19	O	26	26	2.45	11.98	7.25	7.74	2.05	0.75	
pH Fld (s.u.)	6.58	10/13/11-05/29/19	O	25	25	5.86	8.83	7.18	7.34	0.72	0.84	
SC Fld (umhos/cm)	92	10/13/11-05/29/19	O	26	26	73.0	203.0	102.0	99.5	27.4	0.4	
Flow (Gallons Per Min)	-9999	10/13/11-05/29/19	O	11	9	-9999.0	7.5	1.0	2.2	3.5	2857.2 *L	
Water Temp (Deg C)	5.9	10/13/11-05/29/19	O	26	26	0.2	20.2	7.3	8.5	4.3	0.3	
TDS (mg/L)	90	10/13/11-05/29/19	O	26	26	60.0	143.0	93.4	90.5	19.1	0.2	
TSS (mg/L)	62	08/06/14-05/29/19	O	25	14	< 10	868.0	35.3	32	186.2	0.1	
Tot Alk (mg/L)	41	10/13/11-05/29/19	O	26	26	36.0	84.0	46.4	45.5	10.4	0.5	
Ca (mg/L)	13	05/29/19	O	1	1	13.0	13.0	13.0	13	0	0.0	H
Chloride (mg/L)	< 1	10/13/11-05/29/19	O	26	4	< 1	2.0					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

F (mg/L)	< 0.1	10/13/11-05/29/19	O	26	10	0.1	< .1				
Tot Hard (mg/L)	43	10/13/11-05/29/19	O	26	26	38.0	71.0	47.3	47	7	0.6
Mg (mg/L)	3	05/29/19	O	1	1	3.0	3.0	3.0	3	0	0.0 H
K (mg/L)	< 1	05/29/19	O	1	0	< 1	< 1				
Na (mg/L)	1	05/29/19	O	1	1	1.0	1.0	1.0	1	0	0.0 H
SO4 (mg/L)	3	10/13/11-05/29/19	O	26	25	1.0	4.0	2.1	2	0.7	1.2
Nitrate + (mg/L)	0.24	10/13/11-05/29/19	O	26	21	< 0.01	0.47	0.11	0.25	0.16	0.81
Al (DIS) (mg/L)	1.35	05/29/19	O	1	1	1.35	1.35	1.35	1.35	0	0.0 H
Sb (DIS) (mg/L)	< 0.0005	05/29/19	O	1	0	< 0.0005	: 0 .0005				
As (DIS) (mg/L)	0.001	05/29/19	O	1	1	0.001	0.001	0.001	0.001	0	0.0 H
Ba (DIS) (mg/L)	0.327	05/29/19	O	1	1	0.327	0.327	0.327	0.327	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	05/29/19	O	1	0	< 0.0008	: 0 .0008				
Cd (DIS) (mg/L)	< 0	05/29/19	O	1	0	< 0	: .00003				
Cr (DIS) (mg/L)	< 0.01	05/29/19	O	1	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	05/29/19	O	1	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	0.002	05/29/19	O	1	1	0.002	0.002	0.002	0.002	0	0.0 H
Fe (DIS) (mg/L)	0.82	05/29/19	O	1	1	0.82	0.82	0.82	0.82	0	0.0 H
Pb (DIS) (mg/L)	< 0.0003	05/29/19	O	1	0	< 0.0003	: 0 .0003				
Mn (DIS) (mg/L)	0.005	05/29/19	O	1	1	0.005	0.005	0.005	0.005	0	0.0 H
Hg (DIS) (ug/L)	0.008	05/29/19	O	1	1	0.008	0.008	0.008	0.008	0	0.0 H
Mo (DIS) (mg/L)	< 0.002	05/29/19	O	1	0	< 0.002	< 0 .002				
Ni (DIS) (mg/L)	0.002	05/29/19	O	1	1	0.002	0.002	0.002	0.002	0	0.0 H
Se (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0 .0002				
Ag (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0 .0002				
Sr (DIS) (mg/L)	0.0425	05/29/19	O	1	1	0.0425	0.0425	0.0425	0.0425	0	0.0 H
Tl (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0 .0002				
U (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0 .0002				
Zn (DIS) (mg/L)	0.004	05/29/19	O	1	1	0.004	0.004	0.004	0.004	0	0.0 H

SAMPLE NO		LAB NO:		STATION:SP-10							
05/29/19		H19050915-001									
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	8.88	05/23/18-05/29/19	O	9	9	6.76	8.93	8.04	8.06	1.09	0.77
pH Fld (s.u.)	7.98	05/23/18-05/29/19	O	9	9	6.92	8.09	7.56	7.55	0.32	1.32
SC Fld (umhos/cm)	372	05/23/18-05/29/19	O	9	9	305.0	434.0	393.7	419	34.5	0.6

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Flow (Gallons Per Min)	54.8	05/23/18-05/29/19	O	8	8	0.6	59.7	6.0	6.6	18.7	2.6	
Water Temp (Deg C)	10.1	05/23/18-05/29/19	O	9	9	4.6	10.1	7.1	7.4	2.3	1.3	H
TDS (mg/L)	196	05/23/18-05/29/19	O	9	9	196.0	234.0	221.2	229	14.5	1.7	L
TSS (mg/L)	< 10	05/23/18-05/29/19	O	9	3	< 10	68.0					
Tot Alk (mg/L)	200	05/23/18-05/29/19	O	9	9	180.0	220.0	209.6	220	13.7	0.7	
Ca (mg/L)	51	05/29/19	O	1	1	51.0	51.0	51.0	51	0	0.0	H
Chloride (mg/L)	< 1	05/23/18-05/29/19	O	9	0	< 1	< 1					
F (mg/L)	0.1	05/23/18-05/29/19	O	9	9	0.1	0.1	0.1	0.1	0	0.0	H
Tot Hard (mg/L)	202	05/23/18-05/29/19	O	9	9	193.0	245.0	221.9	220	16.8	1.2	
Mg (mg/L)	18	05/29/19	O	1	1	18.0	18.0	18.0	18	0	0.0	H
K (mg/L)	< 1	05/29/19	O	1	0	< 1	< 1					
Na (mg/L)	1	05/29/19	O	1	1	1.0	1.0	1.0	1	0	0.0	H
SO4 (mg/L)	11	05/23/18-05/29/19	O	9	9	8.0	17.0	13.0	14	3.2	0.6	
Nitrate + (mg/L)	0.06	05/23/18-05/29/19	O	9	9	0.06	0.28	0.19	0.24	0.06	2.21	L
Al (DIS) (mg/L)	< 0.009	05/29/19	O	1	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	05/29/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	05/29/19	O	1	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.046	05/29/19	O	1	1	0.046	0.046	0.046	0.046	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	05/29/19	O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	05/29/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	05/29/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	05/29/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	05/29/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	< 0.02	05/29/19	O	1	0	< 0.02	< 0.02					
Pb (DIS) (mg/L)	< 0.0003	05/29/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	05/29/19	O	1	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	05/29/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	05/29/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	05/29/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.102	05/29/19	O	1	1	0.102	0.102	0.102	0.102	0	0.0	H
Tl (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	0.0007	05/29/19	O	1	1	0.0007	0.0007	0.0007	0.0007	0	0.0	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Zn (DIS) (mg/L) < 0.002 05/29/19 O 1 0 < 0.002 < 0.002

SAMPLE NO BBC-1905-114	LAB NO: H19050915-007	STATION:SP-3
------------------------	-----------------------	--------------

PARAMETER	05/29/19 RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.39	07/20/11-05/29/19	O	28	28	5.41	19.38	9.53	9.58	2.22	0.06
pH Fld (s.u.)	7.16	07/20/11-05/29/19	O	27	27	6.2	8.66	7.35	7.42	0.57	0.34
SC Fld (umhos/cm)	111	07/20/11-05/29/19	O	28	28	103.0	223.0	162.7	177.5	38.9	1.3
Flow (Gallons Per Min)	8.1	07/20/11-05/29/19	O	26	25	< 0	8.1	0.6	0.6	1.9	3.9 *H
Water Temp (Deg C)	5.4	07/20/11-05/29/19	O	28	28	1.7	15.8	6.7	7.6	3.7	0.3
TDS (mg/L)	119	07/20/11-05/29/19	O	28	28	119.0	214.0	141.1	135	21.7	1.0 L
TSS (mg/L)	< 10	08/28/13-05/29/19	O	26	15	< 10	191.0	24.6	14	119	0.1 L
Tot Alk (mg/L)	48	07/20/11-05/29/19	O	28	28	44.0	100.0	75.3	83.5	20.4	1.3
Ca (mg/L)	17	05/29/19	O	1	1	17.0	17.0	17.0	17	0	0.0 H
Chloride (mg/L)	1	07/20/11-05/29/19	O	28	4	< 1	2.0				
F (mg/L)	0.1	07/20/11-05/29/19	O	28	28	0.1	0.1	0.1	0.1	0	0.0 H
Tot Hard (mg/L)	57	07/20/11-05/29/19	O	28	28	48.0	109.0	79.5	86	18.5	1.2
Mg (mg/L)	4	05/29/19	O	1	1	4.0	4.0	4.0	4	0	0.0 H
K (mg/L)	1	05/29/19	O	1	1	1.0	1.0	1.0	1	0	0.0 H
Na (mg/L)	2	05/29/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	7	07/20/11-05/29/19	O	28	28	3.0	7.0	5.1	5.2	1.2	1.6 H
Nitrate + (mg/L)	0.1	07/20/11-05/29/19	O	28	28	0.1	0.4	0.3	0.3	0.1	1.8 L
Al (DIS) (mg/L)	1.2	05/29/19	O	1	1	1.2	1.2	1.2	1.2	0	0.0 H
Sb (DIS) (mg/L)	< 0.0005	05/29/19	O	1	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	0.002	05/29/19	O	1	1	0.002	0.002	0.002	0.002	0	0.0 H
Ba (DIS) (mg/L)	0.214	05/29/19	O	1	1	0.214	0.214	0.214	0.214	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	05/29/19	O	1	0	< 0.0008	: 0.0008				
Cd (DIS) (mg/L)	0.00003	05/29/19	O	1	1	0.0	0.0	0.0	0	0	0.0 H
Cr (DIS) (mg/L)	< 0.01	05/29/19	O	1	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	05/29/19	O	1	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	0.004	05/29/19	O	1	1	0.004	0.004	0.004	0.004	0	0.0 H
Fe (DIS) (mg/L)	0.81	05/29/19	O	1	1	0.81	0.81	0.81	0.81	0	0.0 H
Pb (DIS) (mg/L)	0.0003	05/29/19	O	1	1	0.0003	0.0003	0.0003	0.0003	0	0.0 H
Mn (DIS) (mg/L)	0.005	05/29/19	O	1	1	0.005	0.005	0.005	0.005	0	0.0 H
Hg (DIS) (ug/L)	0.02	05/29/19	O	1	1	0.02	0.02	0.02	0.02	0	0.0 H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Mo (DIS) (mg/L)	< 0.002	05/29/19	O	1	0	< 0.002	< 0.002				
Ni (DIS) (mg/L)	0.003	05/29/19	O	1	1	0.003	0.003	0.003	0.003	0	0.0 H
Se (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0.0002				
Ag (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0.0002				
Sr (DIS) (mg/L)	0.0473	05/29/19	O	1	1	0.0473	0.0473	0.0473	0.0473	0	0.0 H
Tl (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0.0002				
U (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0.0002				
Zn (DIS) (mg/L)	0.004	05/29/19	O	1	1	0.004	0.004	0.004	0.004	0	0.0 H

SAMPLE NO BBC-1905-124 LAB NO: H19050915-009

STATION:SP-4

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	11.12	07/21/11-05/30/19	O	50	50	6.7	13.95	9.85	9.71	1.38	0.92
pH Fld (s.u.)	7.84	07/21/11-05/30/19	O	49	49	6.95	8.63	7.69	7.71	0.29	0.5
SC Fld (umhos/cm)	430	07/21/11-05/30/19	O	50	50	162.0	481.0	420.3	433	46.8	0.2
Flow (Gallons Per Min)	34.56	07/21/11-05/30/19	O	42	42	0.0	50.27	3.02	5.39	10.11	3.12 *
Water Temp (Deg C)	7.8	07/21/11-05/30/19	O	49	49	0.1	12.2	5.6	6.5	2.2	1.0
TDS (mg/L)	235	07/21/11-05/30/19	O	51	51	202.0	272.0	247.1	250	13.9	0.9
TSS (mg/L)	< 10	08/28/13-05/30/19	O	48	30	5.0	890.0	21.3	13.5	125.7	0.1
Tot Alk (mg/L)	200	07/21/11-05/30/19	O	51	51	190.0	210.0	201.1	200	4.5	0.2
Ca (mg/L)	46	05/30/19	O	1	1	46.0	46.0	46.0	46	0	0.0 H
Chloride (mg/L)	< 1	07/21/11-05/30/19	O	51	14	1.0	1.0				
F (mg/L)	0.2	07/21/11-05/30/19	O	51	51	0.2	0.3	0.2	0.2	0	0.0 L
Tot Hard (mg/L)	214	07/21/11-05/30/19	O	50	50	208.0	255.0	236.2	238	11.4	1.9
Mg (mg/L)	24	05/30/19	O	1	1	24.0	24.0	24.0	24	0	0.0 H
K (mg/L)	2	05/30/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
Na (mg/L)	2	05/30/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	34	07/21/11-05/30/19	O	51	51	10.0	45.0	35.3	38	6.6	0.2
Nitrate + (mg/L)	0.24	07/21/11-05/30/19	O	51	51	0.18	0.35	0.25	0.25	0.03	0.33
Al (DIS) (mg/L)	< 0.009	05/30/19	O	1	0	< 0.009	< 0.009				
Sb (DIS) (mg/L)	< 0.0005	05/30/19	O	1	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001	< 0.001				
Ba (DIS) (mg/L)	0.108	05/30/19	O	1	1	0.108	0.108	0.108	0.108	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	05/30/19	O	1	0	< 0.0008	: 0.0008				
Cd (DIS) (mg/L)	< 0	05/30/19	O	1	0	< 0	: .00003				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Cr (DIS) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002				
Fe (DIS) (mg/L)	< 0.02	05/30/19	O	1	0	< 0.02	< 0.02				
Pb (DIS) (mg/L)	< 0.0003	05/30/19	O	1	0	< 0.0003	: 0.0003				
Mn (DIS) (mg/L)	< 0.005	05/30/19	O	1	0	< 0.005	< 0.005				
Hg (DIS) (ug/L)	< 0.005	05/30/19	O	1	0	< 0.005	< 0.005				
Mo (DIS) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002				
Ni (DIS) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001	< 0.001				
Se (DIS) (mg/L)	0.0003	05/30/19	O	1	1	0.0003	0.0003	0.0003	0.0003	0	0.0 H
Ag (DIS) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002				
Sr (DIS) (mg/L)	0.0698	05/30/19	O	1	1	0.0698	0.0698	0.0698	0.0698	0	0.0 H
Tl (DIS) (mg/L)	0.0003	05/30/19	O	1	1	0.0003	0.0003	0.0003	0.0003	0	0.0 H
U (DIS) (mg/L)	0.0004	05/30/19	O	1	1	0.0004	0.0004	0.0004	0.0004	0	0.0 H
Zn (DIS) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002				

SAMPLE NO BBC-1905-123 LAB NO: H19050915-008

STATION:SP-6

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	11.61	10/12/11-05/30/19	O	43	43	6.7	282.0	10.6	9.75	40.6	0.02
pH Fld (s.u.)	7.96	10/12/11-05/30/19	O	42	42	5.81	8.72	7.31	7.44	0.66	0.98
SC Fld (umhos/cm)	248	10/12/11-05/30/19	O	43	43	241.0	327.0	268.6	269	14.9	1.4
Flow (Gallons Per Min)	3.5	10/12/11-05/30/19	O	41	33	0.3	3.5	1.0	1	0.9	2.7 H
Water Temp (Deg C)	6.8	10/12/11-05/30/19	O	42	42	4.4	10.3	7.2	7.6	1.4	0.3
TDS (mg/L)	149	10/12/11-05/30/19	O	43	43	145.0	188.0	160.9	160	8.1	1.5
TSS (mg/L)	< 10	08/28/13-05/30/19	O	41	13	< 4	216.0				
Tot Alk (mg/L)	130	10/12/11-05/30/19	O	43	43	120.0	160.0	134.5	130	6.9	0.6
Ca (mg/L)	32	05/30/19	O	1	1	32.0	32.0	32.0	32	0	0.0 H
Chloride (mg/L)	< 1	10/12/11-05/30/19	O	43	10	1.0	2.0				
F (mg/L)	0.1	10/12/11-05/30/19	O	43	43	0.1	0.2	0.2	0.2	0	0.0 L
Tot Hard (mg/L)	129	10/12/11-05/30/19	O	43	43	129.0	160.0	140.5	141	6.7	1.7 L
Mg (mg/L)	12	05/30/19	O	1	1	12.0	12.0	12.0	12	0	0.0 H
K (mg/L)	< 1	05/30/19	O	1	0	< 1	< 1				
Na (mg/L)	2	05/30/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	10	10/12/11-05/30/19	O	43	43	7.0	12.0	9.0	9.3	1.6	0.7

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Nitrate + (mg/L)	0.41	10/12/11-05/30/19	O	43	43	0.31	0.68	0.38	0.37	0.07	0.36
Al (DIS) (mg/L)	< 0.009	05/30/19	O	1	0	< 0.009	< 0.009				
Sb (DIS) (mg/L)	< 0.0005	05/30/19	O	1	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001	< 0.001				
Ba (DIS) (mg/L)	0.185	05/30/19	O	1	1	0.185	0.185	0.185	0.185	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	05/30/19	O	1	0	< 0.0008	: 0.0008				
Cd (DIS) (mg/L)	< 0	05/30/19	O	1	0	< 0	: .00003				
Cr (DIS) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002				
Fe (DIS) (mg/L)	< 0.02	05/30/19	O	1	0	< 0.02	< 0.02				
Pb (DIS) (mg/L)	< 0.0003	05/30/19	O	1	0	< 0.0003	: 0.0003				
Mn (DIS) (mg/L)	< 0.005	05/30/19	O	1	0	< 0.005	< 0.005				
Hg (DIS) (ug/L)	< 0.005	05/30/19	O	1	0	< 0.005	< 0.005				
Mo (DIS) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002				
Ni (DIS) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001	< 0.001				
Se (DIS) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002				
Ag (DIS) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002				
Sr (DIS) (mg/L)	0.0697	05/30/19	O	1	1	0.0697	0.0697	0.0697	0.0697	0	0.0 H
Tl (DIS) (mg/L)	0.0004	05/30/19	O	1	1	0.0004	0.0004	0.0004	0.0004	0	0.0 H
U (DIS) (mg/L)	0.0004	05/30/19	O	1	1	0.0004	0.0004	0.0004	0.0004	0	0.0 H
Zn (DIS) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002				

SAMPLE NO BBC-1905-126 LAB NO: H19050915-011

STATION:SP-7

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	4.08	03/26/15-05/30/19	O	47	47	2.3	10.98	3.76	3.58	1.6	0.2
pH Fld (s.u.)	7.36	03/26/15-05/30/19	O	46	46	6.17	8.18	7.38	7.38	0.33	0.07
SC Fld (umhos/cm)	334	03/26/15-05/30/19	O	47	47	196.0	354.0	320.6	330	28.7	0.5
Flow (Gallons Per Min)	19.7	03/26/15-05/30/19	O	40	40	6.7	136.0	18.1	15.3	25.3	0.1
Water Temp (Deg C)	7	03/26/15-05/30/19	O	46	46	5.1	7.4	6.5	6.7	0.6	0.8
TDS (mg/L)	180	03/26/15-05/30/19	O	47	47	173.0	200.0	186.9	187	6.8	1.0
TSS (mg/L)	< 10	03/26/15-05/30/19	O	47	7	< 4	146.0				
Tot Alk (mg/L)	170	03/26/15-05/30/19	O	47	47	160.0	170.0	166.3	170	4.7	0.8 H
Ca (mg/L)	41	05/30/19	O	1	1	41.0	41.0	41.0	41	0	0.0 H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Chloride (mg/L)	2	03/26/15-05/30/19	O	47	47	1.0	2.0	1.7	2	0.3	0.8	H
F (mg/L)	0.3	03/26/15-05/30/19	O	47	47	0.3	0.4	0.3	0.3	0	0.0	L
Tot Hard (mg/L)	161	03/26/15-05/30/19	O	47	47	153.0	178.0	167.8	168	5.5	1.2	
Mg (mg/L)	14	05/30/19	O	1	1	14.0	14.0	14.0	14	0	0.0	H
K (mg/L)	3	05/30/19	O	1	1	3.0	3.0	3.0	3	0	0.0	H
Na (mg/L)	5	05/30/19	O	1	1	5.0	5.0	5.0	5	0	0.0	H
SO4 (mg/L)	12	03/26/15-05/30/19	O	47	47	7.0	12.0	9.6	10	1.2	2.0	H
Nitrate + (mg/L)	0.31	03/26/15-05/30/19	O	47	47	0.27	0.41	0.31	0.31	0.02	0.04	
Al (DIS) (mg/L)	< 0.009	05/30/19	O	1	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	05/30/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	0.004	05/30/19	O	1	1	0.004	0.004	0.004	0.004	0	0.0	H
Ba (DIS) (mg/L)	0.113	05/30/19	O	1	1	0.113	0.113	0.113	0.113	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	05/30/19	O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	05/30/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	< 0.02	05/30/19	O	1	0	< 0.02	< 0.02					
Pb (DIS) (mg/L)	< 0.0003	05/30/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	05/30/19	O	1	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	05/30/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	0.0003	05/30/19	O	1	1	0.0003	0.0003	0.0003	0.0003	0	0.0	H
Ag (DIS) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.165	05/30/19	O	1	1	0.165	0.165	0.165	0.165	0	0.0	H
Tl (DIS) (mg/L)	0.001	05/30/19	O	1	1	0.001	0.001	0.001	0.001	0	0.0	H
U (DIS) (mg/L)	0.0009	05/30/19	O	1	1	0.0009	0.0009	0.0009	0.0009	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002					

SAMPLE NO BBC-1905-115 LAB NO: H19050914-001

STATION:SW-1

PARAMETER	05/30/19 RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	14	05/24/11-05/30/19	O	79	79	3.9	15.0	10.9	10.9	2	1.5
pH Fld (s.u.)	8.24	05/24/11-05/30/19	O	78	78	5.3	8.71	7.84	8.06	0.66	0.6

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

SC Fld (umhos/cm)	193	05/24/11-05/30/19	O	79	79	176.0	363.0	282.5	310	53.4	1.7
Flow (Cubic Ft Sec)	199.5	05/24/11-05/30/19	O	59	59	0.0	613.0	17.4	25.7	91.3	2.0
Gauge (Feet)	1.98	05/24/11-10/23/18	OBS	45	45	0.49	13.3	1.12	0.96	1.75	0.49
Water Temp (Deg C)	5.1	05/24/11-05/30/19	O	79	79	-1.0	15.5	0.6	4	4.7	1.0
TDS (mg/L)	116	05/24/11-05/30/19	O	71	71	107.0	227.0	168.7	180	27.6	1.9
TSS (mg/L)	16	05/30/12-05/30/19	O	67	25	< 4	43.0				
Tot Alk (mg/L)	98	05/24/11-05/30/19	O	71	71	87.0	200.0	152.7	170	30.8	1.8
Ca (mg/L)	28	05/30/19	O	1	1	28.0	28.0	28.0	28	0	0.0 H
Chloride (mg/L)	1	05/24/11-05/30/19	O	71	70	1.0	5.0	1.3	1	0.7	0.5 L
F (mg/L)	< 0.1	05/24/11-05/30/19	O	71	22	0.1	0.2				
Tot Hard (mg/L)	100	05/24/11-05/30/19	O	70	69	< 7	199.0	144.5	164	35.4	1.3
Mg (mg/L)	7	05/30/19	O	1	1	7.0	7.0	7.0	7	0	0.0 H
K (mg/L)	< 1	05/30/19	O	1	0	< 1	< 1				
Na (mg/L)	1	05/30/19	O	1	1	1.0	1.0	1.0	1	0	0.0 H
SO4 (mg/L)	4	05/24/11-05/30/19	O	71	71	2.0	18.0	5.1	5	2.1	0.5
Nitrate + (mg/L)	< 0.01	05/24/11-05/30/19	O	71	33	< 0.01	0.15				
P (mg/L)	0.021	05/30/19	O	1	1	0.021	0.021	0.021	0.021	0	0.0 H
Total Pers (mg/L)	0.15	04/29/15-05/30/19	O	45	41	< 0	1.12	0.12	0.15	0.16	0.16
Al (DIS) (mg/L)	0.062	05/30/19	O	1	1	0.062	0.062	0.062	0.062	0	0.0 H
Sb (TRC) (mg/L)	< 0.0005	05/30/19	O	1	0	< 0.0005	: 0.0005				
As (TRC) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001	< 0.001				
Ba (TRC) (mg/L)	0.081	05/30/19	O	1	1	0.081	0.081	0.081	0.081	0	0.0 H
Be (TRC) (mg/L)	< 0.0008	05/30/19	O	1	0	< 0.0008	: 0.0008				
Cd (TRC) (mg/L)	< 0	05/30/19	O	1	0	< 0	: .00003				
Cr (TRC) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01				
Co (TRC) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01				
Cu (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002				
Fe (TRC) (mg/L)	0.6	05/30/19	O	1	1	0.6	0.6	0.6	0.6	0	0.0 H
Pb (TRC) (mg/L)	0.0003	05/30/19	O	1	1	0.0003	0.0003	0.0003	0.0003	0	0.0 H
Mn (TRC) (mg/L)	0.015	05/30/19	O	1	1	0.015	0.015	0.015	0.015	0	0.0 H
Hg (TRC) (ug/L)	0.011	05/30/19	O	1	1	0.011	0.011	0.011	0.011	0	0.0 H
Mo (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002				
Ni (TRC) (mg/L)	0.001	05/30/19	O	1	1	0.001	0.001	0.001	0.001	0	0.0 H
Se (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Ag (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002 : 0 .0002					
Sr (TRC) (mg/L)	0.0896	05/30/19	O	1	1	0.0896	0.0896	0.0896	0.0896	0	0.0 H
TI (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002 : 0 .0002					
U (TRC) (mg/L)	0.0002	05/30/19	O	1	1	0.0002	0.0002	0.0002	0.0002	0	0.0 H
Zn (TRC) (mg/L)	0.002	05/30/19	O	1	1	0.002	0.002	0.002	0.002	0	0.0 H

SAMPLE NO BBC-1905-119 LAB NO: H19050914-005

STATION:SW-2

PARAMETER	05/30/19 RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	12.85	05/24/11-05/30/19	O	78	78	6.35	16.18	11.0	10.91	1.73	1.07
pH Fld (s.u.)	8.35	05/24/11-05/30/19	O	77	77	0.0	8.73	6.82	8.04	1.02	1.5
SC Fld (umhos/cm)	201	05/24/11-05/30/19	O	78	78	156.0	388.0	275.6	303	54.5	1.4
Flow (Cubic Ft Sec)	-9999	05/24/11-05/30/19	O	51	51	-9999.0	250.0	8.4	19.3	50.5	198.2 *L
Gauge (Cubic Ft Sec)	1.75	05/24/11-05/30/19	O	40	40	0.21	1.75	0.65	0.65	0.45	2.44 H
Water Temp (Deg C)	4.9	05/24/11-05/30/19	O	78	78	-1.0	15.8	0.2	3.3	4.9	0.9
TDS (mg/L)	115	05/24/11-05/30/19	O	71	71	112.0	223.0	164.4	173	25.8	1.9
TSS (mg/L)	15	05/30/12-05/30/19	O	67	19	< 4	105.0				
Tot Alk (mg/L)	100	05/24/11-05/30/19	O	71	71	80.0	200.0	150.0	160	27.9	1.8
Ca (mg/L)	28	05/30/19	O	1	1	28.0	28.0	28.0	28	0	0.0 H
Chloride (mg/L)	1	05/24/11-05/30/19	O	71	69	1.0	5.0	1.3	1	0.7	0.5 L
F (mg/L)	< 0.1	05/24/11-05/30/19	O	71	1	< 0.1	0.4				
Tot Hard (mg/L)	98	05/24/11-05/30/19	O	71	70	< 7	202.0	143.4	164	33.3	1.4
Mg (mg/L)	7	05/30/19	O	1	1	7.0	7.0	7.0	7	0	0.0 H
K (mg/L)	< 1	05/30/19	O	1	0	< 1	< 1				
Na (mg/L)	2	05/30/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	4	05/24/11-05/30/19	O	71	71	2.0	9.0	4.9	5	1.5	0.6
Nitrate + (mg/L)	< 0.01	05/24/11-05/30/19	O	71	34	< 0.01	0.12				
P (mg/L)	0.017	05/30/19	O	1	1	0.017	0.017	0.017	0.017	0	0.0 H
Total Pers (mg/L)	0.12	04/29/15-05/30/19	O	45	39	< 0	1.39	0.1	0.1	0.25	0.07
Al (DIS) (mg/L)	0.051	05/30/19	O	1	1	0.051	0.051	0.051	0.051	0	0.0 H
Sb (TRC) (mg/L)	< 0.0005	05/30/19	O	1	0	< 0.0005 : 0 .0005					
As (TRC) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001 < 0 .001					
Ba (TRC) (mg/L)	0.073	05/30/19	O	1	1	0.073	0.073	0.073	0.073	0	0.0 H
Be (TRC) (mg/L)	< 0.0008	05/30/19	O	1	0	< 0.0008 : 0 .0008					
Cd (TRC) (mg/L)	< 0	05/30/19	O	1	0	< 0 : .00003					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Cr (TRC) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01					
Co (TRC) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01					
Cu (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002					
Fe (TRC) (mg/L)	0.55	05/30/19	O	1	1	0.55	0.55	0.55	0.55	0	0.0	H
Pb (TRC) (mg/L)	< 0.0003	05/30/19	O	1	0	< 0.0003	: 0.0003					
Mn (TRC) (mg/L)	0.012	05/30/19	O	1	1	0.012	0.012	0.012	0.012	0	0.0	H
Hg (TRC) (ug/L)	0.01	05/30/19	O	1	1	0.01	0.01	0.01	0.01	0	0.0	H
Mo (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002					
Ni (TRC) (mg/L)	0.001	05/30/19	O	1	1	0.001	0.001	0.001	0.001	0	0.0	H
Se (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002					
Ag (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002					
Sr (TRC) (mg/L)	0.0946	05/30/19	O	1	1	0.0946	0.0946	0.0946	0.0946	0	0.0	H
Tl (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002					
U (TRC) (mg/L)	0.0002	05/30/19	O	1	1	0.0002	0.0002	0.0002	0.0002	0	0.0	H
Zn (TRC) (mg/L)	0.004	05/30/19	O	1	1	0.004	0.004	0.004	0.004	0	0.0	H

SAMPLE NO	BBC-1905-121	LAB NO:	H19050914-007	STATION:	SW-3
-----------	--------------	---------	---------------	----------	------

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	11.41	05/24/11-05/30/19	O	32	32	5.95	12.87	9.9	10	1.57	0.96
pH Fld (s.u.)	8.34	05/24/11-05/30/19	O	32	32	7.92	8.7	8.28	8.3	0.16	0.4
SC Fld (umhos/cm)	308	05/24/11-05/30/19	O	32	32	269.0	423.0	374.0	385	36.5	1.8
Flow (Cubic Ft Sec)	0.18	05/24/11-05/30/19	O	28	28	0.03	4.9	0.17	0.14	0.85	0.01
Water Temp (Deg C)	8.9	05/24/11-05/30/19	O	32	32	0.0	14.5	3.3	9	4.7	1.2
TDS (mg/L)	200	05/24/11-05/30/19	O	30	30	152.0	255.0	216.2	220.5	17.2	0.9
TSS (mg/L)	< 4	05/30/12-05/30/19	O	27	10	< 4	14.0				
Tot Alk (mg/L)	180	05/24/11-05/30/19	O	30	30	150.0	210.0	196.2	200	13	1.2
Ca (mg/L)	44	05/30/19	O	1	1	44.0	44.0	44.0	44	0	0.0 H
Chloride (mg/L)	2	05/24/11-05/30/19	O	30	28	1.0	3.0	1.5	1.9	0.5	1.0
F (mg/L)	0.2	05/24/11-05/30/19	O	30	30	0.1	0.2	0.2	0.2	0	0.0 H
Tot Hard (mg/L)	195	05/24/11-05/30/19	O	30	30	139.0	234.0	206.3	214	18.8	0.6
Mg (mg/L)	21	05/30/19	O	1	1	21.0	21.0	21.0	21	0	0.0 H
K (mg/L)	< 1	05/30/19	O	1	0	< 1	< 1				
Na (mg/L)	2	05/30/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	18	05/24/11-05/30/19	O	30	30	5.0	26.0	15.5	17	5.1	0.5

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Nitrate + (mg/L)	< 0.01	05/24/11-05/30/19	O	30	25	0.01	0.12	0.04	0.05	0.03	0.93	L
P (mg/L)	0.006	05/30/19	O	1	1	0.006	0.006	0.006	0.006	0	0.0	H
Total Pers (mg/L)	0.12	06/24/15-05/30/19	O	17	16	< 0.04	0.6	0.13	0.13	0.11	0.13	
Al (DIS) (mg/L)	< 0.009	05/30/19	O	1	0	< 0.009	< 0.009					
Sb (TRC) (mg/L)	< 0.0005	05/30/19	O	1	0	< 0.0005	: 0.0005					
As (TRC) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001	< 0.001					
Ba (TRC) (mg/L)	0.133	05/30/19	O	1	1	0.133	0.133	0.133	0.133	0	0.0	H
Be (TRC) (mg/L)	< 0.0008	05/30/19	O	1	0	< 0.0008	: 0.0008					
Cd (TRC) (mg/L)	< 0	05/30/19	O	1	0	< 0	: .00003					
Cr (TRC) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01					
Co (TRC) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01					
Cu (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002					
Fe (TRC) (mg/L)	0.03	05/30/19	O	1	1	0.03	0.03	0.03	0.03	0	0.0	H
Pb (TRC) (mg/L)	< 0.0003	05/30/19	O	1	0	< 0.0003	: 0.0003					
Mn (TRC) (mg/L)	< 0.005	05/30/19	O	1	0	< 0.005	< 0.005					
Hg (TRC) (ug/L)	< 0.005	05/30/19	O	1	0	< 0.005	< 0.005					
Mo (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002					
Ni (TRC) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001	< 0.001					
Se (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002					
Ag (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002					
Sr (TRC) (mg/L)	0.1	05/30/19	O	1	1	0.1	0.1	0.1	0.1	0	0.0	H
Tl (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002					
U (TRC) (mg/L)	0.0006	05/30/19	O	1	1	0.0006	0.0006	0.0006	0.0006	0	0.0	H
Zn (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002					

SAMPLE NO		LAB NO:		STATION:SW-7								
05/29/19		H19050915-004										
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	8.67	05/24/11-05/29/19	O	22	22	2.82	11.31	8.18	8.24	1.64	0.3	
pH Fld (s.u.)	7.84	05/24/11-05/29/19	O	22	22	6.22	7.99	7.64	7.74	0.36	0.55	
SC Fld (umhos/cm)	409	05/24/11-05/29/19	O	22	22	359.0	426.3	403.7	408	19.8	0.3	
Flow (Gallons Per Min)	25.1	05/24/11-05/29/19	O	20	20	0.0	128.4	4.7	7.4	19.9	1.0	
Water Temp (Deg C)	9.3	05/24/11-05/29/19	O	22	22	0.6	13.1	7.1	9.1	3.2	0.7	
TDS (mg/L)	214	11/26/12-05/29/19	O	20	20	201.0	241.0	223.4	225	11.1	0.9	
TSS (mg/L)	10	11/26/12-05/29/19	O	20	6	< 10	219.0					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Tot Alk (mg/L)	220	11/26/12-05/29/19	O	20	20	200.0	230.0	216.4	220	7.5	0.5	
Ca (mg/L)	55	05/29/19	O	1	1	55.0	55.0	55.0	55	0	0.0	H
Chloride (mg/L)	< 1	11/26/12-05/29/19	O	20	1	< 1	2.0					
F (mg/L)	0.1	11/26/12-05/29/19	O	20	16	< 0.1	< 0.1	0.1	0.1	0	0.0	H
Tot Hard (mg/L)	209	11/26/12-05/29/19	O	20	20	193.0	242.0	221.2	222	12.7	1.0	
Mg (mg/L)	17	05/29/19	O	1	1	17.0	17.0	17.0	17	0	0.0	H
K (mg/L)	< 1	05/29/19	O	1	0	< 1	< 1					
Na (mg/L)	2	05/29/19	O	1	1	2.0	2.0	2.0	2	0	0.0	H
SO4 (mg/L)	10	11/26/12-05/29/19	O	20	20	6.0	11.0	8.8	9.1	1.4	0.9	
Nitrate + (mg/L)	0.04	11/26/12-05/29/19	O	20	17	< 0.01	0.13	0.03	0.04	0.03	0.27	
Al (DIS) (mg/L)	< 0.009	05/29/19	O	1	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	05/29/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	05/29/19	O	1	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.049	05/29/19	O	1	1	0.049	0.049	0.049	0.049	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	05/29/19	O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	05/29/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	05/29/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	05/29/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	05/29/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	< 0.02	05/29/19	O	1	0	< 0.02	< 0.02					
Pb (DIS) (mg/L)	< 0.0003	05/29/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	05/29/19	O	1	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	05/29/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	05/29/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	05/29/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.131	05/29/19	O	1	1	0.131	0.131	0.131	0.131	0	0.0	H
Tl (DIS) (mg/L)	< 0.0002	05/29/19	O	1	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	0.0006	05/29/19	O	1	1	0.0006	0.0006	0.0006	0.0006	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	05/29/19	O	1	0	< 0.002	< 0.002					

SAMPLE NO	BBC-1905-120	LAB NO:	H19050914-006	STATION:	USGS-SC1
05/30/19		COMPARISON	QC	# OF	# OF SD'S
PARAMETER	RESULT	PERIOD OF DATA	Code	DET	FROM MEAN
				MIN	MAX
				MEAN	MEDIAN
				SD	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

DO (mg/L)	12.86	03/24/14-05/30/19	O	62	62	7.12	16.55	11.18	11.17	1.62	1.04
pH Fld (s.u.)	8.41	03/24/14-05/30/19	O	61	61	6.67	8.67	7.97	8.17	0.43	1.02
SC Fld (umhos/cm)	251	03/24/14-05/30/19	O	62	62	137.0	408.0	321.7	341.5	50.7	1.4
Flow (Cubic Ft Sec)	-9999	05/05/14-05/30/19	O	40	40	-9999.0	111.3	5.6	18.6	37.4	267.5 *L
Water Temp (Deg C)	4.6	03/24/14-05/30/19	O	62	62	-1.0	13.1	0.4	2.9	4.1	1.0
TDS (mg/L)	132	03/24/14-05/30/19	O	59	59	132.0	230.0	187.6	195	20	2.8 L
TSS (mg/L)	19	03/24/14-05/30/19	O	59	16	< 4	38.0				
Tot Alk (mg/L)	130	03/24/14-05/30/19	O	59	59	120.0	220.0	175.3	180	21.4	2.1
Ca (mg/L)	37	05/30/19	O	1	1	37.0	37.0	37.0	37	0	0.0 H
Chloride (mg/L)	1	03/24/14-05/30/19	O	59	59	1.0	5.0	1.5	1	0.9	0.5 L
F (mg/L)	< 0.1	03/24/14-05/30/19	O	59	1	< 0.1	< 0.1				
Tot Hard (mg/L)	128	03/24/14-05/30/19	O	59	58	< 7	214.0	167.0	185	29.5	1.3
Mg (mg/L)	9	05/30/19	O	1	1	9.0	9.0	9.0	9	0	0.0 H
K (mg/L)	1	05/30/19	O	1	1	1.0	1.0	1.0	1	0	0.0 H
Na (mg/L)	2	05/30/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	5	03/24/14-05/30/19	O	59	59	3.0	8.0	5.7	6	1.4	0.5
Nitrate + (mg/L)	< 0.01	03/24/14-05/30/19	O	59	40	< 0.01	0.13	0.03	0.03	0.04	0.48 L
P (mg/L)	0.018	05/30/19	O	1	1	0.018	0.018	0.018	0.018	0	0.0 H
Total Pers (mg/L)	0.12	04/29/15-05/30/19	O	45	35	< 0	1.1	0.08	0.09	0.16	0.23
Al (DIS) (mg/L)	0.023	05/30/19	O	1	1	0.023	0.023	0.023	0.023	0	0.0 H
Sb (TRC) (mg/L)	< 0.0005	05/30/19	O	1	0	< 0.0005	: 0.0005				
As (TRC) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001	< 0.001				
Ba (TRC) (mg/L)	0.061	05/30/19	O	1	1	0.061	0.061	0.061	0.061	0	0.0 H
Be (TRC) (mg/L)	< 0.0008	05/30/19	O	1	0	< 0.0008	: 0.0008				
Cd (TRC) (mg/L)	< 0	05/30/19	O	1	0	< 0	: .00003				
Cr (TRC) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01				
Co (TRC) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01				
Cu (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002				
Fe (TRC) (mg/L)	0.67	05/30/19	O	1	1	0.67	0.67	0.67	0.67	0	0.0 H
Pb (TRC) (mg/L)	0.0003	05/30/19	O	1	1	0.0003	0.0003	0.0003	0.0003	0	0.0 H
Mn (TRC) (mg/L)	0.013	05/30/19	O	1	1	0.013	0.013	0.013	0.013	0	0.0 H
Hg (TRC) (ug/L)	0.01	05/30/19	O	1	1	0.01	0.01	0.01	0.01	0	0.0 H
Mo (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002				
Ni (TRC) (mg/L)	0.002	05/30/19	O	1	1	0.002	0.002	0.002	0.002	0	0.0 H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Se (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002 : 0 .0002					
Ag (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002 : 0 .0002					
Sr (TRC) (mg/L)	0.119	05/30/19	O	1	1	0.119	0.119	0.119	0.119	0	0.0 H
Tl (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002 : 0 .0002					
U (TRC) (mg/L)	0.0003	05/30/19	O	1	1	0.0003	0.0003	0.0003	0.0003	0	0.0 H
Zn (TRC) (mg/L)	0.002	05/30/19	O	1	1	0.002	0.002	0.002	0.002	0	0.0 H

SAMPLE NO BBC-1905-128 LAB NO: H19050914-008

STATION:DI-Blank

PARAMETER	05/30/19 RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
TDS (mg/L)	< 10	N/A	FB	0							
TDS (mg/L)	< 10	N/A	FB	0							
TSS (mg/L)	< 10	N/A	FB	0							
TSS (mg/L)	< 4	N/A	FB	0							
Tot Alk (mg/L)	< 4	N/A	FB	0							
Tot Alk (mg/L)	< 4	N/A	FB	0							
Ca (mg/L)	< 1	N/A	FB	0							
Ca (mg/L)	< 1	N/A	FB	0							
Chloride (mg/L)	< 1	N/A	FB	0							
Chloride (mg/L)	< 1	N/A	FB	0							
F (mg/L)	< 0.1	N/A	FB	0							
F (mg/L)	< 0.1	N/A	FB	0							
Tot Hard (mg/L)	< 1	N/A	FB	0							
Tot Hard (mg/L)	< 1	N/A	FB	0							
Mg (mg/L)	< 1	N/A	FB	0							
Mg (mg/L)	< 1	N/A	FB	0							
K (mg/L)	< 1	N/A	FB	0							
K (mg/L)	< 1	N/A	FB	0							
Na (mg/L)	< 1	N/A	FB	0							
Na (mg/L)	< 1	N/A	FB	0							
SO4 (mg/L)	< 1	N/A	FB	0							
SO4 (mg/L)	< 1	N/A	FB	0							
Nitrate + (mg/L)	< 0.01	N/A	FB	0							
Nitrate + (mg/L)	< 0.01	N/A	FB	0							
P (mg/L)	< 0.003	N/A	FB	0							

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Total Pers (mg/L)	< 0.04	N/A	FB	0
Al (DIS) (mg/L)	< 0.009	N/A	FB	0
Al (TRC) (mg/L)	< 0.009	N/A	FB	0
Sb (TRC) (mg/L)	< 0.0005	N/A	FB	0
Sb (DIS) (mg/L)	< 0.0005	N/A	FB	0
As (TRC) (mg/L)	< 0.001	N/A	FB	0
As (DIS) (mg/L)	< 0.001	N/A	FB	0
Ba (TRC) (mg/L)	< 0.003	N/A	FB	0
Ba (DIS) (mg/L)	< 0.003	N/A	FB	0
Be (DIS) (mg/L)	< 0.0008	N/A	FB	0
Be (TRC) (mg/L)	< 0.0008	N/A	FB	0
Cd (TRC) (mg/L)	< 0	N/A	FB	0
Cd (DIS) (mg/L)	< 0	N/A	FB	0
Cr (TRC) (mg/L)	< 0.01	N/A	FB	0
Cr (DIS) (mg/L)	< 0.01	N/A	FB	0
Co (DIS) (mg/L)	< 0.01	N/A	FB	0
Co (TRC) (mg/L)	< 0.01	N/A	FB	0
Cu (DIS) (mg/L)	< 0.002	N/A	FB	0
Cu (TRC) (mg/L)	< 0.002	N/A	FB	0
Fe (DIS) (mg/L)	< 0.02	N/A	FB	0
Fe (TRC) (mg/L)	0.03	N/A	FB	0
Pb (TRC) (mg/L)	< 0.0003	N/A	FB	0
Pb (DIS) (mg/L)	< 0.0003	N/A	FB	0
Mn (TRC) (mg/L)	< 0.005	N/A	FB	0
Mn (DIS) (mg/L)	< 0.005	N/A	FB	0
Hg (DIS) (ug/L)	< 0.005	N/A	FB	0
Hg (TRC) (ug/L)	< 0.005	N/A	FB	0
Mo (TRC) (mg/L)	< 0.002	N/A	FB	0
Mo (DIS) (mg/L)	< 0.002	N/A	FB	0
Ni (DIS) (mg/L)	< 0.001	N/A	FB	0
Ni (TRC) (mg/L)	< 0.001	N/A	FB	0
Se (DIS) (mg/L)	< 0.0002	N/A	FB	0
Se (TRC) (mg/L)	< 0.0002	N/A	FB	0
Ag (TRC) (mg/L)	< 0.0002	N/A	FB	0

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Ag (DIS) (mg/L)	< 0.0002	N/A	FB	0
Sr (TRC) (mg/L)	0.0004	N/A	FB	0
Sr (DIS) (mg/L)	< 0.0002	N/A	FB	0
Tl (TRC) (mg/L)	< 0.0002	N/A	FB	0
Tl (DIS) (mg/L)	< 0.0002	N/A	FB	0
U (TRC) (mg/L)	< 0.0002	N/A	FB	0
U (DIS) (mg/L)	< 0.0002	N/A	FB	0
Zn (TRC) (mg/L)	0.002	N/A	FB	0
Zn (DIS) (mg/L)	< 0.002	N/A	FB	0

SAMPLE NO	BBC-1905-117	LAB NO:	H19050914-003	STATION:SW-14
-----------	--------------	---------	---------------	---------------

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	10.99	04/13/16-05/30/19	O	35	35	7.59	15.01	10.69	10.44	1.65	0.18
pH Fld (s.u.)	8.02	04/13/16-05/30/19	O	34	34	6.07	8.48	7.92	8.07	0.47	0.2
SC Fld (umhos/cm)	387	04/13/16-05/30/19	O	35	35	263.0	439.0	379.3	394	43	0.2
Flow (Cubic Ft Sec)	5.87	02/25/16-05/30/19	O	32	32	0.0	11.75	0.47	1.07	3.12	1.73
Gauge (Feet)	0.8	04/13/16-05/30/19	O	18	18	0.3	0.8	0.5	0.5	0.1	3.4 *H
Water Temp (Deg C)	8.3	04/13/16-05/30/19	O	35	35	-0.9	14.7	2.4	6.8	4.6	1.3
TDS (mg/L)	222	04/13/16-05/30/19	O	32	32	175.0	244.0	223.5	226.5	14.8	0.1
TDS (mg/L)	216	04/13/16-05/30/19	DUP	32	32	175.0	244.0	223.5	226.5	14.8	0.5
TSS (mg/L)	< 4	04/13/16-05/30/19	O	32	4	< 4	15.0				
TSS (mg/L)	< 4	04/13/16-05/30/19	DUP	32	4	< 4	15.0				
Tot Alk (mg/L)	200	04/13/16-05/30/19	O	32	32	160.0	220.0	205.4	210	17.2	0.3
Tot Alk (mg/L)	200	04/13/16-05/30/19	DUP	32	32	160.0	220.0	205.4	210	17.2	0.3
Ca (mg/L)	49	05/30/19	DUP	1	1	53.0	53.0	53.0	53	2.8	1.4 L
Ca (mg/L)	53	05/30/19	O	1	1	53.0	53.0	53.0	53	2.8	0.0 H
Chloride (mg/L)	2	04/13/16-05/30/19	O	32	32	1.0	4.0	1.9	2	0.5	0.1
Chloride (mg/L)	2	04/13/16-05/30/19	DUP	32	32	1.0	4.0	1.9	2	0.5	0.1
F (mg/L)	0.2	04/13/16-05/30/19	DUP	32	32	0.1	0.2	0.2	0.2	0	0.0 H
F (mg/L)	0.2	04/13/16-05/30/19	O	32	32	0.1	0.2	0.2	0.2	0	0.0 H
Tot Hard (mg/L)	210	04/13/16-05/30/19	O	32	32	153.0	239.0	211.6	214.5	18.1	0.1
Tot Hard (mg/L)	196	04/13/16-05/30/19	DUP	32	32	153.0	239.0	211.6	214.5	18.1	0.9
Mg (mg/L)	19	05/30/19	O	1	1	19.0	19.0	19.0	19	0.7	0.0 H
Mg (mg/L)	18	05/30/19	DUP	1	1	19.0	19.0	19.0	19	0.7	1.4 L

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

K (mg/L)	1	05/30/19	O	1	1	1.0	1.0	1.0	1	0	0.0	H
K (mg/L)	1	05/30/19	DUP	1	1	1.0	1.0	1.0	1	0	0.0	H
Na (mg/L)	2	05/30/19	O	1	1	2.0	2.0	2.0	2	0	0.0	H
Na (mg/L)	2	05/30/19	DUP	1	1	2.0	2.0	2.0	2	0	0.0	H
SO4 (mg/L)	11	04/13/16-05/30/19	O	32	32	6.5	19.0	9.2	9	2.9	0.6	
SO4 (mg/L)	11	04/13/16-05/30/19	DUP	32	32	6.5	19.0	9.2	9	2.9	0.6	
Nitrate + (mg/L)	0.05	04/13/16-05/30/19	DUP	32	31	0.01	0.27	0.07	0.09	0.08	0.21	
Nitrate + (mg/L)	0.04	04/13/16-05/30/19	O	32	31	0.01	0.27	0.07	0.09	0.08	0.33	
P (mg/L)	0.008	05/30/19	O	1	1	0.008	0.008	0.008	0.008	0	0.0	H
P (mg/L)	0.008	05/30/19	DUP	1	1	0.008	0.008	0.008	0.008	0	0.0	H
Total Pers (mg/L)	0.2	04/13/16-05/30/19	O	29	28	< 0	1.3	0.2	0.2	0.2	0.1	
Total Pers (mg/L)	0.21	04/13/16-05/30/19	DUP	29	28	< 0	1.25	0.18	0.21	0.23	0.14	
Al (DIS) (mg/L)	< 0.009	05/30/19	O	1	0	< 0.009	< 0.009					
Al (DIS) (mg/L)	< 0.009	05/30/19	DUP	1	0	< 0.009	< 0.009					
Sb (TRC) (mg/L)	< 0.0005	05/30/19	O	1	0	< 0.0005	: 0.0005					
Sb (TRC) (mg/L)	< 0.0005	05/30/19	DUP	1	0	< 0.0005	: 0.0005					
As (TRC) (mg/L)	< 0.001	05/30/19	DUP	1	0	< 0.001	< 0.001					
As (TRC) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001	< 0.001					
Ba (TRC) (mg/L)	0.103	05/30/19	O	1	1	0.103	0.103	0.103	0.103	0	0.0	H
Ba (TRC) (mg/L)	0.103	05/30/19	DUP	1	1	0.103	0.103	0.103	0.103	0	0.0	H
Be (TRC) (mg/L)	< 0.0008	05/30/19	DUP	1	0	< 0.0008	: 0.0008					
Be (TRC) (mg/L)	< 0.0008	05/30/19	O	1	0	< 0.0008	: 0.0008					
Cd (TRC) (mg/L)	< 0	05/30/19	DUP	1	0	< 0	: .00003					
Cd (TRC) (mg/L)	< 0	05/30/19	O	1	0	< 0	: .00003					
Cr (TRC) (mg/L)	< 0.01	05/30/19	DUP	1	0	< 0.01	< 0.01					
Cr (TRC) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01					
Co (TRC) (mg/L)	< 0.01	05/30/19	DUP	1	0	< 0.01	< 0.01					
Co (TRC) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01					
Cu (TRC) (mg/L)	< 0.002	05/30/19	DUP	1	0	< 0.002	< 0.002					
Cu (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002					
Fe (TRC) (mg/L)	0.06	05/30/19	O	1	1	0.06	0.06	0.06	0.06	0	0.0	H
Fe (TRC) (mg/L)	0.06	05/30/19	DUP	1	1	0.06	0.06	0.06	0.06	0	0.0	H
Pb (TRC) (mg/L)	< 0.0003	05/30/19	O	1	0	< 0.0003	: 0.0003					
Pb (TRC) (mg/L)	< 0.0003	05/30/19	DUP	1	0	< 0.0003	: 0.0003					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Mn (TRC) (mg/L)	0.005	05/30/19	DUP	1	1	0.005	0.005	0.005	0.005	0	0.0	H
Mn (TRC) (mg/L)	0.005	05/30/19	O	1	1	0.005	0.005	0.005	0.005	0	0.0	H
Hg (TRC) (ug/L)	0.005	05/30/19	O	1	1	0.005	0.005	0.005	0.005	0	0.0	H
Hg (TRC) (ug/L)	0.005	05/30/19	DUP	1	1	0.005	0.005	0.005	0.005	0	0.0	H
Mo (TRC) (mg/L)	< 0.002	05/30/19	DUP	1	0	< 0.002	< 0.002					
Mo (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002					
Ni (TRC) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001	< 0.001					
Ni (TRC) (mg/L)	< 0.001	05/30/19	DUP	1	0	< 0.001	< 0.001					
Se (TRC) (mg/L)	< 0.0002	05/30/19	DUP	1	0	< 0.0002	: 0.0002					
Se (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002					
Ag (TRC) (mg/L)	< 0.0002	05/30/19	DUP	1	0	< 0.0002	: 0.0002					
Ag (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002					
Sr (TRC) (mg/L)	0.115	05/30/19	O	1	1	0.115	0.115	0.115	0.115	0.001	0.0	H
Sr (TRC) (mg/L)	0.116	05/30/19	DUP	1	1	0.115	0.115	0.115	0.115	0.001	1.0	H
TI (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002					
TI (TRC) (mg/L)	< 0.0002	05/30/19	DUP	1	0	< 0.0002	: 0.0002					
U (TRC) (mg/L)	0.0005	05/30/19	O	1	1	0.0005	0.0005	0.0005	0.0005	0	0.0	H
U (TRC) (mg/L)	0.0005	05/30/19	DUP	1	1	0.0005	0.0005	0.0005	0.0005	0	0.0	H
Zn (TRC) (mg/L)	< 0.002	05/30/19	DUP	1	0	< 0.002	< 0.002					
Zn (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002					

SAMPLE NO		BBC-1905-116		LAB NO:		H19050914-002		STATION:SW-17				
05/30/19												
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	12.9	01/17/18-05/30/19	O	13	13	9.3	12.9	10.6	10.8	0.9	2.5	H
pH Fld (s.u.)	8.07	01/17/18-05/30/19	O	13	13	7.47	8.41	8.06	8.07	0.25	0.04	
SC Fld (umhos/cm)	360	01/17/18-05/30/19	O	13	13	319.0	487.0	423.3	436	42.8	1.5	
Flow (Cubic Ft Sec)	1.37	01/17/18-05/30/19	O	9	9	0.0	1.8	0.06	0.19	0.6	2.19	
Water Temp (Deg C)	7.01	01/17/18-05/30/19	O	13	13	0.02	13.3	1.69	5.3	4.67	1.14	
TDS (mg/L)	201	01/17/18-05/30/19	O	14	14	197.0	299.0	248.8	253.5	25.7	1.9	
TSS (mg/L)	< 4	01/17/18-05/30/19	O	14	5	< 4	14.0					
Tot Alk (mg/L)	170	01/17/18-05/30/19	O	14	14	150.0	210.0	200.5	210	16.8	1.8	
Ca (mg/L)	45	05/30/19	O	1	1	45.0	45.0	45.0	45	0	0.0	H
Chloride (mg/L)	5	01/17/18-05/30/19	O	14	14	3.0	7.0	4.1	4	1.1	0.8	
F (mg/L)	0.2	01/17/18-05/30/19	O	14	14	0.1	0.2	0.2	0.2	0	0.0	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Tot Hard (mg/L)	194	01/17/18-05/30/19	O	14	14	167.0	262.0	230.6	240.5	23.3	1.6
Mg (mg/L)	20	05/30/19	O	1	1	20.0	20.0	20.0	20	0	0.0 H
K (mg/L)	< 1	05/30/19	O	1	0	< 1	< 1				
Na (mg/L)	2	05/30/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	18	01/17/18-05/30/19	O	14	14	12.0	44.0	27.8	33.5	7.9	1.2
Nitrate + (mg/L)	0.03	01/17/18-05/30/19	O	14	13	< 0.01	0.19	0.07	0.09	0.06	0.68
P (mg/L)	0.01	05/30/19	O	1	1	0.01	0.01	0.01	0.01	0	0.0 H
Total Pers (mg/L)	0.2	04/12/18-05/30/19	O	11	11	0.1	0.3	0.2	0.2	0.1	0.1
Al (DIS) (mg/L)	< 0.009	05/30/19	O	1	0	< 0.009	< 0.009				
Sb (TRC) (mg/L)	< 0.0005	05/30/19	O	1	0	< 0.0005	: 0.0005				
As (TRC) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001	< 0.001				
Ba (TRC) (mg/L)	0.122	05/30/19	O	1	1	0.122	0.122	0.122	0.122	0	0.0 H
Be (TRC) (mg/L)	< 0.0008	05/30/19	O	1	0	< 0.0008	: 0.0008				
Cd (TRC) (mg/L)	< 0	05/30/19	O	1	0	< 0	: .00003				
Cr (TRC) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01				
Co (TRC) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01				
Cu (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002				
Fe (TRC) (mg/L)	0.16	05/30/19	O	1	1	0.16	0.16	0.16	0.16	0	0.0 H
Pb (TRC) (mg/L)	< 0.0003	05/30/19	O	1	0	< 0.0003	: 0.0003				
Mn (TRC) (mg/L)	0.016	05/30/19	O	1	1	0.016	0.016	0.016	0.016	0	0.0 H
Hg (TRC) (ug/L)	0.007	05/30/19	O	1	1	0.007	0.007	0.007	0.007	0	0.0 H
Mo (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002				
Ni (TRC) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001	< 0.001				
Se (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002				
Ag (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002				
Sr (TRC) (mg/L)	0.111	05/30/19	O	1	1	0.111	0.111	0.111	0.111	0	0.0 H
Tl (TRC) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002	: 0.0002				
U (TRC) (mg/L)	0.0005	05/30/19	O	1	1	0.0005	0.0005	0.0005	0.0005	0	0.0 H
Zn (TRC) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002				

SAMPLE NO BCC-1905-111		LAB NO: z		STATION:SW-18							
05/29/19											
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Flow (Gallons Per Min)	-9999	N/A	OBS	0							

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

SAMPLE NO	BBC-1905-110	LAB NO:	z	STATION:SP-11							
05/29/19		COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
PARAMETER	RESULT										
Flow (Gallons Per Min)	-9999	N/A	OBS	0							

SAMPLE NO	BBC-1905-125	LAB NO:	H19050915-010	STATION:SP-12							
05/30/19		COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
PARAMETER	RESULT										
DO (mg/L)	10.38	04/18/18-05/30/19	O	10	10	3.32	10.38	6.48	7.41	2.25	1.73 H
pH Fld (s.u.)	7.84	04/18/18-05/30/19	O	10	10	6.76	7.95	7.55	7.71	0.36	0.8
SC Fld (umhos/cm)	446	04/18/18-05/30/19	O	10	10	421.0	473.0	442.8	441.5	16.4	0.2
Flow (Gallons Per Min)	-9999	05/30/19	O	1	1	-9999.0	-9999.0	0.0	0	0	0.0 H
Water Temp (Deg C)	5.5	04/18/18-05/30/19	O	10	10	5.1	7.3	6.1	6.2	0.7	0.9
TDS (mg/L)	246	04/18/18-05/30/19	O	11	11	234.0	262.0	247.1	248	9.3	0.1
TSS (mg/L)	115	04/18/18-05/30/19	O	11	7	< 10	187.0	29.3	23	56.5	1.5
Tot Alk (mg/L)	210	04/18/18-05/30/19	O	11	11	190.0	220.0	205.3	210	9.3	0.5
Ca (mg/L)	50	05/30/19	O	1	1	50.0	50.0	50.0	50	0	0.0 H
Chloride (mg/L)	10	04/18/18-05/30/19	O	11	11	5.0	10.0	7.6	8	1.6	1.5 H
F (mg/L)	0.2	04/18/18-05/30/19	O	11	11	0.2	0.2	0.2	0.2	0	0.0 H
Tot Hard (mg/L)	214	04/18/18-05/30/19	O	11	11	214.0	258.0	235.3	238	12.5	1.7 L
Mg (mg/L)	21	05/30/19	O	1	1	21.0	21.0	21.0	21	0	0.0 H
K (mg/L)	1	05/30/19	O	1	1	1.0	1.0	1.0	1	0	0.0 H
Na (mg/L)	2	05/30/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	13	04/18/18-05/30/19	O	11	11	13.0	28.0	23.0	24	4.1	2.4 L
Nitrate + (mg/L)	0.12	04/18/18-05/30/19	O	11	11	0.12	0.69	0.36	0.33	0.17	1.4 L
Al (DIS) (mg/L)	< 0.009	05/30/19	O	1	0	< 0.009	< 0.009				
Sb (DIS) (mg/L)	< 0.0005	05/30/19	O	1	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001	< 0.001				
Ba (DIS) (mg/L)	0.16	05/30/19	O	1	1	0.16	0.16	0.16	0.16	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	05/30/19	O	1	0	< 0.0008	: 0.0008				
Cd (DIS) (mg/L)	< 0	05/30/19	O	1	0	< 0	: .00003				
Cr (DIS) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	05/30/19	O	1	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002	< 0.002				
Fe (DIS) (mg/L)	0.07	05/30/19	O	1	1	0.07	0.07	0.07	0.07	0	0.0 H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Pb (DIS) (mg/L)	< 0.0003	05/30/19	O	1	0	< 0.0003 : 0 .0003					
Mn (DIS) (mg/L)	0.017	05/30/19	O	1	1	0.017	0.017	0.017	0.017	0	0.0 H
Hg (DIS) (ug/L)	0.005	05/30/19	O	1	1	0.005	0.005	0.005	0.005	0	0.0 H
Mo (DIS) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002 < 0 .002					
Ni (DIS) (mg/L)	< 0.001	05/30/19	O	1	0	< 0.001 < 0 .001					
Se (DIS) (mg/L)	0.0002	05/30/19	O	1	1	0.0002	0.0002	0.0002	0.0002	0	0.0 H
Ag (DIS) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002 : 0 .0002					
Sr (DIS) (mg/L)	0.103	05/30/19	O	1	1	0.103	0.103	0.103	0.103	0	0.0 H
Tl (DIS) (mg/L)	< 0.0002	05/30/19	O	1	0	< 0.0002 : 0 .0002					
U (DIS) (mg/L)	0.0006	05/30/19	O	1	1	0.0006	0.0006	0.0006	0.0006	0	0.0 H
Zn (DIS) (mg/L)	< 0.002	05/30/19	O	1	0	< 0.002 < 0 .002					

SAMPLE NO BBC-1905-104 LAB NO: z

STATION:DS-10

05/29/19											
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.26	N/A	OBS	0							
pH Fld (s.u.)	7.52	N/A	OBS	0							
SC Fld (umhos/cm)	401	N/A	OBS	0							
Flow (Gallons Per Min)	6.8	N/A	OBS	0							
Water Temp (Deg C)	5.9	N/A	OBS	0							

SAMPLE NO BBC-1905-100 LAB NO: z

STATION:DS-11

05/29/19											
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	11.48	N/A	OBS	0							
pH Fld (s.u.)	7.77	N/A	OBS	0							
SC Fld (umhos/cm)	421	N/A	OBS	0							
Flow (Gallons Per Min)	18.2	N/A	OBS	0							
Water Temp (Deg C)	4.8	N/A	OBS	0							

SAMPLE NO BBC-1905-122 LAB NO: z

STATION:DS-7

05/30/19											
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	11.63	N/A	OBS	0							
pH Fld (s.u.)	7.66	N/A	OBS	0							
SC Fld (umhos/cm)	250	N/A	OBS	0							

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 15, 2019

Flow (Gallons Per Min)	8	N/A	OBS	0
Water Temp (Deg C)	7	N/A	OBS	0

SAMPLE NO	BBC-1905-102	LAB NO:	z	STATION:DS-8
-----------	--------------	---------	---	--------------

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	10.13	N/A	OBS	0							
pH Fld (s.u.)	7.81	N/A	OBS	0							
SC Fld (umhos/cm)	395	N/A	OBS	0							
Flow (Gallons Per Min)	8.1	N/A	OBS	0							
Water Temp (Deg C)	4.3	N/A	OBS	0							

SAMPLE NO	BBC-1905-103	LAB NO:	z	STATION:DS-9
-----------	--------------	---------	---	--------------

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.69	N/A	OBS	0							
pH Fld (s.u.)	7.87	N/A	OBS	0							
SC Fld (umhos/cm)	358	N/A	OBS	0							
Flow (Gallons Per Min)	4	N/A	OBS	0							
Water Temp (Deg C)	6.1	N/A	OBS	0							

SAMPLE NO	BBC-1905-101	LAB NO:	z	STATION:SW-19
-----------	--------------	---------	---	---------------

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.05	N/A	OBS	0							
pH Fld (s.u.)	8.27	N/A	OBS	0							
SC Fld (umhos/cm)	364	N/A	OBS	0							
Flow (Cubic Ft Sec)	1.34	N/A	OBS	0							
Water Temp (Deg C)	11.3	N/A	OBS	0							

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

APPENDIX 2
DATABASE

Analyses Summary Report

Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	DI-Blank	DI-Blank	DS-1	DS-1	DS-10	DS-11
Water	Sample Date	5/30/2019	5/30/2019	5/29/2019	5/29/2019	5/29/2019	5/29/2019
	Sample Time	1:35:00 PM	2:10:00 PM	2:50:00 PM	3:00:00 PM	1:00:00 PM	11:25:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	H19050915-012	H19050914-008	H19050915-002	H19050915-003	z	z
	Sample Number	BBC-1905-127	BBC-1905-128	BBC-1905-107	BBC-1905-108	BBC-1905-104	BBC-1905-100
	Remarks				DUPLICATE		

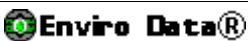
Field Parameters		Multiple Units	
Dissolved Oxygen			
		916	9.26
Field pH		7.82	7.52
Field Specific Conductivity		421	401
Flow			
Flow		50.9	6.8
Staff Gauge			
Staff Gauge			
Water Temperature		8.3	5.9
			4.8

Physical Parameters		mg/L	
Total Dissolved Solids	<10	<10	221
Total Suspended Solids	<10	<4	<10

Major Constituents - Commons Ions		mg/L	
Alkalinity as CaCO3	<4	<4	220
Calcium (DIS)	<1	<1	55
Chloride	<1	<1	<1
Fluoride	<0.1	<0.1	0.1
Hardness as CaCO3	<1	<1	220
Magnesium (DIS)	<1	<1	20
Potassium (DIS)	<1	<1	<1
Sodium (DIS)	<1	<1	2
Sulfate	<1	<1	15

Nutrients		mg/L	
Nitrate + Nitrite as N	<0.01	<0.01	0.13
Phosphorus (TOT)		<0.003	
Total Persulfate Nitrogen		<0.04	

Metals - Trace Constituents		Multiple Units	
Aluminum (DIS)	<0.009	<0.009	<0.009
Antimony (DIS)	<0.0005		<0.0005
Antimony (TRC)		<0.0005	
Arsenic (DIS)	<0.001		<0.001
Arsenic (TRC)		<0.001	
Barium (DIS)	<0.003		0.05
			0.051



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

Analyses Summary Report

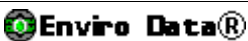
Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	DI-Blank	DI-Blank	DS-1	DS-1	DS-10	DS-11
Water	Sample Date	5/30/2019	5/30/2019	5/29/2019	5/29/2019	5/29/2019	5/29/2019
	Sample Time	1:35:00 PM	2:10:00 PM	2:50:00 PM	3:00:00 PM	1:00:00 PM	11:25:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	H19050915-012	H19050914-008	H19050915-002	H19050915-003	z	z
	Sample Number	BBC-1905-127	BBC-1905-128	BBC-1905-107	BBC-1905-108	BBC-1905-104	BBC-1905-100
	Remarks				DUPLICATE		

Metals - Trace Constituents Multiple Units

Barium (TRC)		<0.003		
Beryllium (DIS)	<0.0008		<0.0008	<0.0008
Beryllium (TRC)		<0.0008		
Cadmium (DIS)	<0.00003		<0.00003	<0.00003
Cadmium (TRC)		<0.00003		
Chromium (DIS)	<0.01		<0.01	<0.01
Chromium (TRC)		<0.01		
Cobalt (DIS)	<0.01		<0.01	<0.01
Cobalt (TRC)		<0.01		
Copper (DIS)	<0.002		<0.002	<0.002
Copper (TRC)		<0.002		
Iron (DIS)	<0.02		<0.02	<0.02
Iron (TRC)		0.03		
Lead (DIS)	<0.0003		<0.0003	<0.0003
Lead (TRC)		<0.0003		
Manganese (DIS)	<0.005		<0.005	<0.005
Manganese (TRC)		<0.005		
Mercury (DIS)	<0.005		<0.005	<0.005
Mercury (TRC)		<0.005		
Molybdenum (DIS)	<0.002		<0.002	<0.002
Molybdenum (TRC)		<0.002		
Nickel (DIS)	<0.001		<0.001	<0.001
Nickel (TRC)		<0.001		
Selenium (DIS)	<0.0002		<0.0002	<0.0002
Selenium (TRC)		<0.0002		
Silver (DIS)	<0.0002		<0.0002	<0.0002
Silver (TRC)		<0.0002		
Strontium (DIS)	<0.0002		0.105	0.106
Strontium (TRC)		0.0004		
Thallium (DIS)	<0.0002		<0.0002	<0.0002
Thallium (TRC)		<0.0002		
Uranium (DIS)	<0.0002		0.0006	0.0006
Uranium (TRC)		<0.0002		



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	DI-Blank	DI-Blank	DS-1	DS-1	DS-10	DS-11
Water	Sample Date	5/30/2019	5/30/2019	5/29/2019	5/29/2019	5/29/2019	5/29/2019
	Sample Time	1:35:00 PM	2:10:00 PM	2:50:00 PM	3:00:00 PM	1:00:00 PM	11:25:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	H19050915-012	H19050914-008	H19050915-002	H19050915-003	z	z
	Sample Number	BBC-1905-127	BBC-1905-128	BBC-1905-107	BBC-1905-108	BBC-1905-104	BBC-1905-100
	Remarks				DUPLICATE		

Metals - Trace Constituents Multiple Units

Zinc (DIS)	<0.002	0.009	0.009
Zinc (TRC)	0.002		

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J:** The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S:** The associated numerical value is an estimated quantity because split quality control criteria were not met. **U:** Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R:** Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A:** Anomalous data. No apparent explanation for discrepancy in data. **D:** Reporting Limit increased due to sample matrix. **L:** Lowest available reporting limit for the analytical method used. **H:** Analysis performed past recommended holding time. **Z:** No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	DS-2	DS-3	DS-4	DS-7	DS-8	DS-9
Water	Sample Date	5/29/2019	5/29/2019	5/29/2019	5/30/2019	5/29/2019	5/29/2019
	Sample Time	1:55:00 PM	4:15:00 PM	4:40:00 PM	12:00:00 PM	12:20:00 PM	12:40:00 PM
	Lab	Hydro	Energy Labs	Energy Labs	Hydro	Hydro	Hydro
	Lab Number	z	H19050915-005	H19050915-006	z	z	z
	Sample Number	BBC-1905-105	BBC-1905-112	BBC-1905-113	BBC-1905-122	BBC-1905-102	BBC-1905-103
	Remarks						

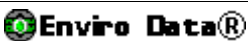
Field Parameters	Multiple Units						
Dissolved Oxygen	9.9	7.24	8.78	11.63	10.13	9.69	
Field pH	7.61	6.89	6.58	7.66	7.81	7.87	
Field Specific Conductivity	193	40	92	250	395	358	
Flow							
Flow	3.9	12.1	NM	8	8.1	4	
Staff Gauge							
Staff Gauge							
Water Temperature	8	4.7	5.9	7	4.3	6.1	

Physical Parameters	mg/L						
Total Dissolved Solids		64	90				
Total Suspended Solids		<10	62				

Major Constituents - Commons Ions	mg/L						
Alkalinity as CaCO3		18	41				
Calcium (DIS)		5	13				
Chloride		<1	<1				
Fluoride		<0.1	<0.1				
Hardness as CaCO3		19	43				
Magnesium (DIS)		1	3				
Potassium (DIS)		<1	<1				
Sodium (DIS)		1	1				
Sulfate		1	3				

Nutrients	mg/L						
Nitrate + Nitrite as N		0.11	0.24				
Phosphorus (TOT)							
Total Persulfate Nitrogen							

Metals - Trace Constituents	Multiple Units						
Aluminum (DIS)		2	1.35				
Antimony (DIS)		<0.0005	<0.0005				
Antimony (TRC)							
Arsenic (DIS)		<0.001	0.001				
Arsenic (TRC)							
Barium (DIS)		0.229	0.327				



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS-- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

Analyses Summary Report

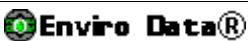
Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	DS-2	DS-3	DS-4	DS-7	DS-8	DS-9
Water	Sample Date	5/29/2019	5/29/2019	5/29/2019	5/30/2019	5/29/2019	5/29/2019
	Sample Time	1:55:00 PM	4:15:00 PM	4:40:00 PM	12:00:00 PM	12:20:00 PM	12:40:00 PM
	Lab	Hydro	Energy Labs	Energy Labs	Hydro	Hydro	Hydro
	Lab Number	z	H19050915-005	H19050915-006	z	z	z
	Sample Number	BBC-1905-105	BBC-1905-112	BBC-1905-113	BBC-1905-122	BBC-1905-102	BBC-1905-103
	Remarks						

Metals - Trace Constituents Multiple Units

Barium (TRC)		
Beryllium (DIS)	<0.0008	<0.0008
Beryllium (TRC)		
Cadmium (DIS)	<0.00003	<0.00003
Cadmium (TRC)		
Chromium (DIS)	<0.01	<0.01
Chromium (TRC)		
Cobalt (DIS)	<0.01	<0.01
Cobalt (TRC)		
Copper (DIS)	0.004	0.002
Copper (TRC)		
Iron (DIS)	1.2	0.82
Iron (TRC)		
Lead (DIS)	0.0003	<0.0003
Lead (TRC)		
Manganese (DIS)	0.008	0.005
Manganese (TRC)		
Mercury (DIS)	0.02 D	0.008
Mercury (TRC)		
Molybdenum (DIS)	<0.002	<0.002
Molybdenum (TRC)		
Nickel (DIS)	0.004	0.002
Nickel (TRC)		
Selenium (DIS)	<0.0002	<0.0002
Selenium (TRC)		
Silver (DIS)	<0.0002	<0.0002
Silver (TRC)		
Strontium (DIS)	0.0231	0.0425
Strontium (TRC)		
Thallium (DIS)	<0.0002	<0.0002
Thallium (TRC)		
Uranium (DIS)	<0.0002	<0.0002
Uranium (TRC)		



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	DS-2	DS-3	DS-4	DS-7	DS-8	DS-9
Water	Sample Date	5/29/2019	5/29/2019	5/29/2019	5/30/2019	5/29/2019	5/29/2019
	Sample Time	1:55:00 PM	4:15:00 PM	4:40:00 PM	12:00:00 PM	12:20:00 PM	12:40:00 PM
	Lab	Hydro	Energy Labs	Energy Labs	Hydro	Hydro	Hydro
	Lab Number	z	H19050915-005	H19050915-006	z	z	z
	Sample Number	BBC-1905-105	BBC-1905-112	BBC-1905-113	BBC-1905-122	BBC-1905-102	BBC-1905-103
	Remarks						

Metals - Trace Constituents Multiple Units

Zinc (DIS)	0.006	0.004
Zinc (TRC)		

Analyses Summary Report

Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	SP-10	SP-11	SP-12	SP-3	SP-4	SP-6
Water	Sample Date	5/29/2019	5/29/2019	5/30/2019	5/29/2019	5/30/2019	5/30/2019
	Sample Time	2:20:00 PM	3:30:00 PM	12:45:00 PM	5:00:00 PM	12:25:00 PM	12:15:00 PM
	Lab	Energy Labs	Hydro	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19050915-001	z	H19050915-010	H19050915-007	H19050915-009	H19050915-008
	Sample Number	BBC-1905-106	BBC-1905-110	BBC-1905-125	BBC-1905-114	BBC-1905-124	BBC-1905-123
	Remarks						

Field Parameters	Multiple Units					
Dissolved Oxygen	8.88		10.38	9.39	11.12	11.61
Field pH	7.98		7.84	7.16	7.84	7.96
Field Specific Conductivity	372		446	111	430	248
Flow						
Flow	54.8	NM	NM	8.1	34.56	3.5
Staff Gauge						
Staff Gauge						
Water Temperature	10.1		5.5	5.4	7.8	6.8

Physical Parameters	mg/L					
Total Dissolved Solids	196		246	119	235	149
Total Suspended Solids	<10		115	<10	<10	<10

Major Constituents - Commons Ions	mg/L					
Alkalinity as CaCO3	200		210	48	200	130
Calcium (DIS)	51		50	17	46	32
Chloride	<1		10	1	<1	<1
Fluoride	0.1		0.2	0.1	0.2	0.1
Hardness as CaCO3	202		214	57	214	129
Magnesium (DIS)	18		21	4	24	12
Potassium (DIS)	<1		1	1	2	<1
Sodium (DIS)	1		2	2	2	2
Sulfate	11		13	7	34	10

Nutrients	mg/L					
Nitrate + Nitrite as N	0.06		0.12	0.1	0.24	0.41
Phosphorus (TOT)						
Total Persulfate Nitrogen						

Metals - Trace Constituents	Multiple Units					
Aluminum (DIS)	<0.009		<0.009	1.2	<0.009	<0.009
Antimony (DIS)	<0.0005		<0.0005	<0.0005	<0.0005	<0.0005
Antimony (TRC)						
Arsenic (DIS)	<0.001		<0.001	0.002	<0.001	<0.001
Arsenic (TRC)						
Barium (DIS)	0.046		0.16	0.214	0.108	0.185



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS-- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

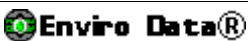
Analyses Summary Report

Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	SP-10	SP-11	SP-12	SP-3	SP-4	SP-6
Water	Sample Date	5/29/2019	5/29/2019	5/30/2019	5/29/2019	5/30/2019	5/30/2019
	Sample Time	2:20:00 PM	3:30:00 PM	12:45:00 PM	5:00:00 PM	12:25:00 PM	12:15:00 PM
	Lab	Energy Labs	Hydro	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19050915-001	z	H19050915-010	H19050915-007	H19050915-009	H19050915-008
	Sample Number	BBC-1905-106	BBC-1905-110	BBC-1905-125	BBC-1905-114	BBC-1905-124	BBC-1905-123
	Remarks						

Metals - Trace Constituents	Multiple Units					
Barium (TRC)						
Beryllium (DIS)	<0.0008		<0.0008	<0.0008	<0.0008	<0.0008
Beryllium (TRC)						
Cadmium (DIS)	<0.00003		<0.00003	0.00003	<0.00003	<0.00003
Cadmium (TRC)						
Chromium (DIS)	<0.01		<0.01	<0.01	<0.01	<0.01
Chromium (TRC)						
Cobalt (DIS)	<0.01		<0.01	<0.01	<0.01	<0.01
Cobalt (TRC)						
Copper (DIS)	<0.002		<0.002	0.004	<0.002	<0.002
Copper (TRC)						
Iron (DIS)	<0.02		0.07	0.81	<0.02	<0.02
Iron (TRC)						
Lead (DIS)	<0.0003		<0.0003	0.0003	<0.0003	<0.0003
Lead (TRC)						
Manganese (DIS)	<0.005		0.017	0.005	<0.005	<0.005
Manganese (TRC)						
Mercury (DIS)	<0.005		0.005	0.02	<0.005	<0.005
Mercury (TRC)						
Molybdenum (DIS)	<0.002		<0.002	<0.002	<0.002	<0.002
Molybdenum (TRC)						
Nickel (DIS)	<0.001		<0.001	0.003	<0.001	<0.001
Nickel (TRC)						
Selenium (DIS)	<0.0002		0.0002	<0.0002	0.0003	<0.0002
Selenium (TRC)						
Silver (DIS)	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002
Silver (TRC)						
Strontium (DIS)	0.102		0.103	0.0473	0.0698	0.0697
Strontium (TRC)						
Thallium (DIS)	<0.0002		<0.0002	<0.0002	0.0003	0.0004
Thallium (TRC)						
Uranium (DIS)	0.0007		0.0006	<0.0002	0.0004	0.0004
Uranium (TRC)						



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	SP-10	SP-11	SP-12	SP-3	SP-4	SP-6
Water	Sample Date	5/29/2019	5/29/2019	5/30/2019	5/29/2019	5/30/2019	5/30/2019
	Sample Time	2:20:00 PM	3:30:00 PM	12:45:00 PM	5:00:00 PM	12:25:00 PM	12:15:00 PM
	Lab	Energy Labs	Hydro	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19050915-001	z	H19050915-010	H19050915-007	H19050915-009	H19050915-008
	Sample Number	BBC-1905-106	BBC-1905-110	BBC-1905-125	BBC-1905-114	BBC-1905-124	BBC-1905-123
	Remarks						

Metals - Trace Constituents Multiple Units

Zinc (DIS)	<0.002	<0.002	0.004	<0.002	<0.002
Zinc (TRC)					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J:** The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S:** The associated numerical value is an estimated quantity because split quality control criteria were not met. **U:** Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R:** Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A:** Anomalous data. No apparent explanation for discrepancy in data. **D:** Reporting Limit increased due to sample matrix. **L:** Lowest available reporting limit for the analytical method used. **H:** Analysis performed past recommended holding time. **Z:** No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	SP-7	SW-1	SW-1	SW-14	SW-14	SW-17
Water	Sample Date	5/30/2019	5/30/2019	5/30/2019	5/30/2019	5/30/2019	5/30/2019
	Sample Time	1:10:00 PM	8:40:00 AM	8:40:00 AM	10:10:00 AM	10:20:00 AM	9:55:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19050915-011	H19050914-001	H19050914-001	H19050914-003	H19050914-004	H19050914-002
	Sample Number	BBC-1905-126	BBC-1905-115	BBC-1905-115	BBC-1905-117	BBC-1905-118	BBC-1905-116
	Remarks					DUPLICATE	

Field Parameters	Multiple Units				
Dissolved Oxygen	4.08		14	10.99	12.9
Field pH	7.36		8.24	8.02	8.07
Field Specific Conductivity	334		193	387	360
Flow			199.5	5.87	1.37
Flow	19.7				
Staff Gauge					
Staff Gauge		1.98		0.8	
Water Temperature	7		5.1	8.3	7.01

Physical Parameters	mg/L				
Total Dissolved Solids	180		116 D	222 D	216 D
Total Suspended Solids	<10		16	<4	<4

Major Constituents - Commons Ions	mg/L				
Alkalinity as CaCO3	170		98	200	170
Calcium (DIS)	41		28	53	45
Chloride	2		1	2	5
Fluoride	0.3		<0.1	0.2	0.2
Hardness as CaCO3	161		100	210	196
Magnesium (DIS)	14		7	19	20
Potassium (DIS)	3		<1	1	<1
Sodium (DIS)	5		1	2	2
Sulfate	12		4	11	18

Nutrients	mg/L				
Nitrate + Nitrite as N	0.31		<0.01	0.04	0.03
Phosphorus (TOT)			0.021	0.008	0.01
Total Persulfate Nitrogen			0.15	0.2	0.2

Metals - Trace Constituents	Multiple Units				
Aluminum (DIS)	<0.009		0.062	<0.009	<0.009
Antimony (DIS)	<0.0005				
Antimony (TRC)			<0.0005	<0.0005	<0.0005
Arsenic (DIS)	0.004				
Arsenic (TRC)			<0.001	<0.001	<0.001
Barium (DIS)	0.113				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

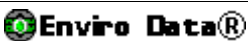
Analyses Summary Report

Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	SP-7	SW-1	SW-1	SW-14	SW-14	SW-17
Water	Sample Date	5/30/2019	5/30/2019	5/30/2019	5/30/2019	5/30/2019	5/30/2019
	Sample Time	1:10:00 PM	8:40:00 AM	8:40:00 AM	10:10:00 AM	10:20:00 AM	9:55:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19050915-011	H19050914-001	H19050914-001	H19050914-003	H19050914-004	H19050914-002
	Sample Number	BBC-1905-126	BBC-1905-115	BBC-1905-115	BBC-1905-117	BBC-1905-118	BBC-1905-116
	Remarks					DUPLICATE	

Metals - Trace Constituents	Multiple Units					
Barium (TRC)			0.081	0.103	0.103	0.122
Beryllium (DIS)	<0.0008					
Beryllium (TRC)			<0.0008	<0.0008	<0.0008	<0.0008
Cadmium (DIS)	<0.00003					
Cadmium (TRC)			<0.00003	<0.00003	<0.00003	<0.00003
Chromium (DIS)	<0.01					
Chromium (TRC)			<0.01	<0.01	<0.01	<0.01
Cobalt (DIS)	<0.01					
Cobalt (TRC)			<0.01	<0.01	<0.01	<0.01
Copper (DIS)	<0.002					
Copper (TRC)			<0.002	<0.002	<0.002	<0.002
Iron (DIS)	<0.02					
Iron (TRC)			0.6	0.06 B	0.06 B	0.16
Lead (DIS)	<0.0003					
Lead (TRC)			0.0003	<0.0003	<0.0003	<0.0003
Manganese (DIS)	<0.005					
Manganese (TRC)			0.015	0.005	0.005	0.016
Mercury (DIS)	<0.005					
Mercury (TRC)			0.011	0.005	0.005	0.007
Molybdenum (DIS)	<0.002					
Molybdenum (TRC)			<0.002	<0.002	<0.002	<0.002
Nickel (DIS)	<0.001					
Nickel (TRC)			0.001	<0.001	<0.001	<0.001
Selenium (DIS)	0.0003					
Selenium (TRC)			<0.0002	<0.0002	<0.0002	<0.0002
Silver (DIS)	<0.0002					
Silver (TRC)			<0.0002	<0.0002	<0.0002	<0.0002
Strontium (DIS)	0.165					
Strontium (TRC)			0.0896 L	0.115 L	0.116 L	0.111 L
Thallium (DIS)	0.001					
Thallium (TRC)			<0.0002	<0.0002	<0.0002	<0.0002
Uranium (DIS)	0.0009					
Uranium (TRC)			0.0002	0.0005	0.0005	0.0005



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	SP-7	SW-1	SW-1	SW-14	SW-14	SW-17
Water	Sample Date	5/30/2019	5/30/2019	5/30/2019	5/30/2019	5/30/2019	5/30/2019
	Sample Time	1:10:00 PM	8:40:00 AM	8:40:00 AM	10:10:00 AM	10:20:00 AM	9:55:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19050915-011	H19050914-001	H19050914-001	H19050914-003	H19050914-004	H19050914-002
	Sample Number	BBC-1905-126	BBC-1905-115	BBC-1905-115	BBC-1905-117	BBC-1905-118	BBC-1905-116
	Remarks					DUPLICATE	

Metals - Trace Constituents Multiple Units

Zinc (DIS)	<0.002				
Zinc (TRC)		0.002 B	<0.002	<0.002	<0.002

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J:** The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S:** The associated numerical value is an estimated quantity because split quality control criteria were not met. **U:** Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R:** Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A:** Anomalous data. No apparent explanation for discrepancy in data. **D:** Reporting Limit increased due to sample matrix. **L:** Lowest available reporting limit for the analytical method used. **H:** Analysis performed past recommended holding time. **Z:** No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	SW-18	SW-19	SW-2	SW-3	SW-7	USGS-SC1
Water	Sample Date	5/29/2019	5/29/2019	5/30/2019	5/30/2019	5/29/2019	5/30/2019
	Sample Time	3:35:00 PM	11:50:00 AM	10:45:00 AM	11:40:00 AM	3:15:00 PM	11:10:00 AM
	Lab	Hydro	Hydro	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	z	z	H19050914-005	H19050914-007	H19050915-004	H19050914-006
	Sample Number	BBC-1905-111	BBC-1905-101	BBC-1905-119	BBC-1905-121	BBC-1905-109	BBC-1905-120
	Remarks						

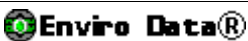
Field Parameters		Multiple Units					
Dissolved Oxygen			9.05	12.85	11.41	8.67	12.86
Field pH			8.27	8.35	8.34	7.84	8.41
Field Specific Conductivity			364	201	308	409	251
Flow			1.34	NM	0.18		NM
Flow	NM					25.1	
Staff Gauge				1.75			
Staff Gauge							
Water Temperature			11.3	4.9	8.9	9.3	4.6

Physical Parameters		mg/L					
Total Dissolved Solids				115 D	200 D	214	132 D
Total Suspended Solids				15	<4	10	19

Major Constituents - Commons Ions		mg/L					
Alkalinity as CaCO3				100	180	220	130
Calcium (DIS)				28	44	55	37
Chloride				1	2	<1	1
Fluoride				<0.1	0.2	0.1	<0.1
Hardness as CaCO3				98	195	209	128
Magnesium (DIS)				7	21	17	9
Potassium (DIS)				<1	<1	<1	1
Sodium (DIS)				2	2	2	2
Sulfate				4	18	10	5

Nutrients		mg/L					
Nitrate + Nitrite as N				<0.01	<0.01	0.04	<0.01
Phosphorus (TOT)				0.017	0.006		0.018
Total Persulfate Nitrogen				0.12	0.12		0.12

Metals - Trace Constituents		Multiple Units					
Aluminum (DIS)				0.051	<0.009	<0.009	0.023
Antimony (DIS)						<0.0005	
Antimony (TRC)				<0.0005	<0.0005		<0.0005
Arsenic (DIS)						<0.001	
Arsenic (TRC)				<0.001	<0.001		<0.001
Barium (DIS)						0.049	



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	SW-18	SW-19	SW-2	SW-3	SW-7	USGS-SC1
Water	Sample Date	5/29/2019	5/29/2019	5/30/2019	5/30/2019	5/29/2019	5/30/2019
	Sample Time	3:35:00 PM	11:50:00 AM	10:45:00 AM	11:40:00 AM	3:15:00 PM	11:10:00 AM
	Lab	Hydro	Hydro	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	z	z	H19050914-005	H19050914-007	H19050915-004	H19050914-006
	Sample Number	BBC-1905-111	BBC-1905-101	BBC-1905-119	BBC-1905-121	BBC-1905-109	BBC-1905-120
	Remarks						

Metals - Trace Constituents	Multiple Units			
Barium (TRC)		0.073	0.133	0.061
Beryllium (DIS)				<0.0008
Beryllium (TRC)		<0.0008	<0.0008	<0.0008
Cadmium (DIS)				<0.00003
Cadmium (TRC)		<0.00003	<0.00003	<0.00003
Chromium (DIS)				<0.01
Chromium (TRC)		<0.01	<0.01	<0.01
Cobalt (DIS)				<0.01
Cobalt (TRC)		<0.01	<0.01	<0.01
Copper (DIS)				<0.002
Copper (TRC)		<0.002	<0.002	<0.002
Iron (DIS)				<0.02
Iron (TRC)		0.55	0.03 B	0.67
Lead (DIS)				<0.0003
Lead (TRC)		<0.0003	<0.0003	0.0003
Manganese (DIS)				<0.005
Manganese (TRC)		0.012	<0.005	0.013
Mercury (DIS)				<0.005
Mercury (TRC)		0.01	<0.005	0.01 D
Molybdenum (DIS)				<0.002
Molybdenum (TRC)		<0.002	<0.002	<0.002
Nickel (DIS)				<0.001
Nickel (TRC)		0.001	<0.001	0.002
Selenium (DIS)				<0.0002
Selenium (TRC)		<0.0002	<0.0002	<0.0002
Silver (DIS)				<0.0002
Silver (TRC)		<0.0002	<0.0002	<0.0002
Strontium (DIS)				0.131
Strontium (TRC)		0.0946 L	0.1 L	0.119 L
Thallium (DIS)				<0.0002
Thallium (TRC)		<0.0002	<0.0002	<0.0002
Uranium (DIS)				0.0006
Uranium (TRC)		0.0002	0.0006	0.0003

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/15/2019 11:29:50 AM

Sample Type:	Station (Site)	SW-18	SW-19	SW-2	SW-3	SW-7	USGS-SC1
Water	Sample Date	5/29/2019	5/29/2019	5/30/2019	5/30/2019	5/29/2019	5/30/2019
	Sample Time	3:35:00 PM	11:50:00 AM	10:45:00 AM	11:40:00 AM	3:15:00 PM	11:10:00 AM
	Lab	Hydro	Hydro	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	z	z	H19050914-005	H19050914-007	H19050915-004	H19050914-006
	Sample Number	BBC-1905-111	BBC-1905-101	BBC-1905-119	BBC-1905-121	BBC-1905-109	BBC-1905-120
	Remarks						

Metals - Trace Constituents Multiple Units

Zinc (DIS)						<0.002	
Zinc (TRC)				0.004 B		<0.002	0.002 B

**QUALITY CONTROL / QUALITY ASSURANCE
DATA VERIFICATION REPORT**

**BLACK BUTTE COPPER
WATER RESOURCE MONITORING**

JUNE 2019

Prepared by
Hydrometrics, Inc.
3020 Bozeman Avenue
Helena, MT 59601

JULY 2019

TABLE OF CONTENTS

LIST OF APPENDICES II

GLOSSARY OF TERMS..... III

1. INTRODUCTION 4

2. DELIVERABLES..... 4

3. FIELD QUALITY CONTROL SAMPLES..... 4

4. LABORATORY PROCEDURES..... 4

5. INITIAL OR CONTINUING CALIBRATION VERIFICATION RESULTS..... 6

6. LABORATORY BLANKS 6

7. MATRIX SPIKE /MATRIX SPIKE DUPLICATES (MS/MSD)..... 6

8. LABORATORY CONTROL SAMPLES..... 7

9. DATA QUALITY OBJECTIVES..... 7

REFERENCES 9

LIST OF APPENDICES

APPENDIX 1: TABLES

- Table 1. Data Validation Codes and Definitions**
- Table 2. Summary of Flagged Data**
- Table 3. Statistical Summary**

APPENDIX 2: DATABASE SUMMARY REPORT

GLOSSARY OF TERMS

CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CLP	Contract Laboratory Program
CRDL.....	Contract Required Detection Limit
DI í í í í	Deionized Water
FAA	Flame Atomic Absorption
GFAA.....	Graphite Furnace Atomic Absorption
HGAA.....	Hydride Generation Atomic Absorption
ICB.....	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICV	Initial Calibration Verification
IDL.....	Instrument Detection Limit
LCS	Laboratory Control Sample
MSA.....	Method of Standard Additions
PB	Preparation Blank
PRDL	Project Required Detection Limit
QAPP	Quality Assurance Project Plan
QC.....	Quality Control
RPD.....	Relative Percent Difference
RSD.....	Relative Standard Deviation
SOW.....	Statement of Work
TDS.....	Total Dissolved Solids

DATA VALIDATION REPORT

1. INTRODUCTION

This validation applies to 72 samples collected for the Black Butte Tintina surface water and groundwater monitoring program. All sampling occurred in June 2019. All samples were submitted to Energy Laboratories in Helena, Montana and were assigned Laboratory IDs: H19060535, H19060528, H19060526 and H19060536. The total number of samples included: 50 groundwater and surface water samples including 3 field duplicates, and 4 field deionized (DI and Rinsate) blanks and 15 field site observations.

- Validation procedures used are generally consistent with:
(Check all that apply)
 - EPA CLP National Functional Guidelines for Inorganics Data Review
 - EPA CLP National Functional Guidelines for Organic Data Review
 - Montana Department of Environmental Quality, Data Validation Guidelines for Evaluating Analytical Data, Hydrometrics, September 2010

2. DELIVERABLES

- All laboratory document deliverables were present as specified in the CLP-Statement of Work and/or the project contract
 - Yes
 - No
- All documentation of field procedures was provided as required
 - Yes
 - No

3. FIELD QUALITY CONTROL SAMPLES

- Field blanks
 - Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.
 - DI, trip, rinsate, or any other field blanks have been carried out at the proper frequency
 - Yes
 - No
 - Reported results on the field blanks are less than the contract required detection limits (CRDL) or the project required detection limits (PRDL) if project detection limits have been specified
 - Yes
 - No
 - Field duplicates have been collected at the proper frequency
 - Yes
 - No
 - Field duplicate relative percent differences (RPDs) were within the required control limits (25 percent or less for water matrix and 50 percent or less for soil matrix)
 - Yes
 - No ó see following table

Date	Site Code	Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Number of Flags
6/20/19	SW-6	Total Phosphorus	0.018	0.025	9
		TRC Zinc	0.006	0.003	9

J óDuplicate exceeded QA/QC comparison control limits.

- **NOTES:** It should be noted that the above listed analysis results exceeded the reporting limits and results were confirmed by duplicate analysis from the laboratory.

4. LABORATORY PROCEDURES

- Laboratory Case Narrative Notes any non conformance issues with the analytical data
 Yes
 No
 NA
- Samples were received by the laboratory at the proper temperature
 Yes
 No
- Holding times met
 Yes
 No ó see following notes
NOTES: In the Energy Laboratory analytical summary reports, sample BBC-1906-221 had Total Alkalinity analysis that was flagged by the laboratory for being performed past recommended holding time (H).
- Consistency with project requirements
 Yes
 No
- Sample Conditions met at Check-in
 Yes ó see following notes
 No
NOTES: In the Energy Laboratory sample check-in receipt the following was noted:
H19060536- Sample Id on nutrients bottle in sample set BBC-1906-103 is BBC-1906-. The Sample Id from the chain of custody was used. No time was noted on bottle for dissolved metals for sample BBC-1906-111; time from COC was used.
H19060535- Lids for 1 liter unpreserved for samples BBC-1906-133 and BBC-1906-134 were switched.
H19060528- Nutrients sample(s) BBC-1906-212 and BBC-1906-216 were preserved to pH <2 with 2 ml of sulfuric acid per 250 mL in lab upon receipt. Metal samples BBC-1906-212 and BBC-1906-216 were preserved to pH <2 in lab upon receipt as well.
- Reporting units appropriate for the associated sample matrix and methods of analysis
 Yes
 No
- Project specified methods were used
 Yes ó see following list of methods used
 No
NOTES: It should be noted that parameters were analyzed using different methods than requested; however, all methods used by the laboratory are comparable. The following methods were used during analyses: A2540D, A2540C, A2320B, E300.0, A4500-F C, A2340B, E353.2, A4500-N C, E365.1, E200.8, and E200.7.
- Detection Limits met project required detection limits (PRDL)

Yes ó see following notes
 No

NOTES: It should be noted that total dissolved solids and nickel had a reporting limit increases due to sample matrix interference (D). TDS had a limit of 10 mg/l used not the requested 4 mg/l. Strontium had the 0.0003 mg/l reporting limit was used in place of the requested 0.0002 mg/l; however, values were flagged with an L to indicate that the lowest available reporting limit was used per method used for analysis. In addition, a reporting limit of 0.01 mg/l was used for nitrate + nitrite as n as replacement of the 0.003 mg/l requested.

5. INITIAL OR CONTINUING CALIBRATION VERIFICATION RESULTS

- Initial or Continuing Calibration Verification samples were within acceptable limits

Yes
 No

6. LABORATORY BLANKS

- **PREPARATION/METHOD BLANKS**

Preparation/Method blanks were prepared and analyzed at the required frequency

Yes
 No

All analytes in the preparation blank were less than the CRDL (or PRDL if a project detection limit has been specified)

Yes
 No

7. MATRIX SPIKE /MATRIX SPIKE DUPLICATES (MS/MSD)

- Matrix spike samples were analyzed at the proper frequency

Yes
 No

- Matrix spike recoveries were within control limits

Yes
 No ó see following table

QC Sample ID	Parameter	% REC	Lab Flag	Lab Advisory Limits (% REC)
H19060487-003BMS	Silver	48	S	70-130
H19060528-001BMS	Silver	68	S	70-130

S ó Spike recovery outside of recovery limits

- Matrix spike RPD ϕ s were within control limits

Yes
 No

- Matrix spike duplicate samples were analyzed at the proper frequency

Yes
 No

- Matrix spike duplicate RPD ϕ s were within control limits

Yes
 No

- Matrix spike duplicate recoveries were within the laboratory specified control limits.

Yes
 No ó see following table

QC Sample ID	Parameter	% REC	Lab Flag	Lab Advisory Limits (% REC)
H19060536-005AMSD	Total Nitrogen	87	S	90-110
H19060534-044GMSD	Total Phosphorus	111	S	90-110
H19060536-010DMSD	Total Phosphorus	111	S	90-110
H19060536-002BMSD	Silver	68	S	70-130

S ó Spike recovery outside of recovery limits

8. LABORATORY CONTROL SAMPLES

- LCS Samples

Laboratory Control Samples used the correct matrix and concentrations

Yes
 No
 NA

Laboratory Control Samples were prepared and analyzed at the required frequency

Yes
 No
 NA

All analytes in the laboratory control samples were less than the control limits specified

Yes
 No

9. DATA QUALITY OBJECTIVES

- Project data quality objectives (DQOs) met

Yes
 No

Accuracy

Accuracy for this project is the degree of agreement between an analytical measurement and a reference accepted as a true value. The accuracy of a measurement system can be affected by errors introduced by field contamination, sample preservation, sample handling, sample preparation and analytical techniques. Analysis of MS/MSD samples, laboratory control spikes (LCS) or blank spikes, surrogate standards and method blanks are typically used to calculate the percent recovery for evaluating accuracy. Accuracy for this sampling event was 99 percent.

Precision

Precision for this project is the degree of mutual agreement between individual measurements of the same property under similar conditions. Combined field and laboratory precision is evaluated by collecting and analyzing field duplicate and then calculating the variance between the samples, typically as a relative percent difference (RPD). Laboratory analytical precision is evaluated by analyzing matrix spike/matrix spike duplicate samples and using the results to calculate an RPD. The combined precision was 99 percent for this sampling event for both laboratory and field.

Representativeness

Representativeness for this project is the degree to which sample data accurately and precisely represent the characteristics of a population, and variations in a parameter at a sampling point or an environmental condition that they are intended to represent. Typically representative data will be obtained through careful selection of sampling locations and analytical parameters; proper collection and handling of samples and through use and consistent application of established field and laboratory procedures. Evaluation of field and laboratory blank samples for presence of contaminants can be useful in evaluating representativeness of sample results. Both laboratory and field representativeness for this sampling event was 100 percent.

Completeness

The target completeness for this project is the percent of the measurements valid (not rejected). Valid data are obtained when samples are collected and analyzed in accordance with quality control procedures outlined in the SAP, and when none of the QC criteria that affect data usability are exceeded. Once data validation is complete the number of useable sample results is divided by the total number of sample results planned for the investigation to determine the percent completeness. Completeness for this sampling event was 100 percent.

Comparability

Comparability is the expression of the confidence with which one data set can be compared with another. Comparability of data is achieved by consistently following standard field and laboratory procedures and by using standard measurement units in reporting analytical data. This criterion was met.

REFERENCES

- Montana Department of Environmental Quality, Data Validation Guidelines for Evaluating Analytical Data (Updated August 5, 2010)
- EPA, 2017a. National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-2017-002. Office of Superfund Remediation and Technology Innovation. January 2017.
- EPA, 2017b. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-540-R-2017-001. Office of Superfund Remediation and Technology Innovation. January 2017.
- Hem, J.D., 1992. Study and Interpretation of the Chemical Characteristics of Natural Water, 3rd edition. US Geological Survey Water Supply Paper 2254.

APPENDIX 1

TABLES

TABLE 1.

DATA VALIDATION CODES AND DEFINITIONS

<u>CODE</u>	<u>DEFINITION</u>
J	-The associated numerical value is an estimated quantity because quality control criteria were not met.
B	- Blank contamination. Indicates possible high bias and / or false positive. The associated value is an estimate.
R	- Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis is necessary for verification.
A	- Anomalous data. No apparent explanation for discrepancy in data. (Not an EPA code.)

Table 2. Summary of Flagged Data

StationName	Sample Date	Field Sample Id	Lab Name	Lab Sample Id	Parameter Name	Sample Result	Reporting Units	Validation Flag	Exceedance Type
SW-1	6/19/2019	BBC-1906-109	Energy Labs	H19060536-002	Phosphorus (TOT)	0.018	mg/L J		Duplicate Exceedance
SW-1	6/19/2019	BBC-1906-109	Energy Labs	H19060536-002	Zinc (TRC)	0.003	mg/L J		Duplicate Exceedance
SW-11	6/18/2019	BBC-1906-103	Energy Labs	H19060536-001	Phosphorus (TOT)	0.03	mg/L J		Duplicate Exceedance
SW-11	6/18/2019	BBC-1906-103	Energy Labs	H19060536-001	Zinc (TRC)	0.004	mg/L J		Duplicate Exceedance
SW-14	6/19/2019	BBC-1906-126	Energy Labs	H19060536-007	Phosphorus (TOT)	0.011	mg/L J		Duplicate Exceedance
SW-14	6/19/2019	BBC-1906-126	Energy Labs	H19060536-007	Zinc (TRC)	<0.002	mg/L J		Duplicate Exceedance
SW-17	6/19/2019	BBC-1906-122	Energy Labs	H19060536-005	Phosphorus (TOT)	0.025	mg/L J		Duplicate Exceedance
SW-17	6/19/2019	BBC-1906-122	Energy Labs	H19060536-005	Zinc (TRC)	0.004	mg/L J		Duplicate Exceedance
SW-2	6/19/2019	BBC-1906-110	Energy Labs	H19060536-003	Phosphorus (TOT)	0.013	mg/L J		Duplicate Exceedance
SW-2	6/19/2019	BBC-1906-110	Energy Labs	H19060536-003	Zinc (TRC)	0.002	mg/L J		Duplicate Exceedance
SW-3	6/19/2019	BBC-1906-123	Energy Labs	H19060536-006	Phosphorus (TOT)	0.009	mg/L J		Duplicate Exceedance
SW-3	6/19/2019	BBC-1906-123	Energy Labs	H19060536-006	Zinc (TRC)	0.002	mg/L J		Duplicate Exceedance
SW-6	6/20/2019	BBC-1906-129	Energy Labs	H19060536-009	Phosphorus (TOT)	0.018	mg/L J		Duplicate Exceedance
SW-6	6/20/2019	BBC-1906-129	Energy Labs	H19060536-009	Zinc (TRC)	0.006	mg/L J		Duplicate Exceedance
SW-6	6/20/2019	BBC-1906-130	Energy Labs	H19060536-010	Phosphorus (TOT)	0.025	mg/L J		Duplicate Exceedance
SW-6	6/20/2019	BBC-1906-130	Energy Labs	H19060536-010	Zinc (TRC)	0.003	mg/L J		Duplicate Exceedance
USGS-SC1	6/19/2019	BBC-1906-111	Energy Labs	H19060536-004	Phosphorus (TOT)	0.009	mg/L J		Duplicate Exceedance
USGS-SC1	6/19/2019	BBC-1906-111	Energy Labs	H19060536-004	Zinc (TRC)	0.002	mg/L J		Duplicate Exceedance

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

06/20/19		LAB NO: H19060535-011		STATION:DS-1								
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	8.83	03/25/15-06/20/19	O	32	32	8.15	916.0	11.11	9.49	160.22	0.01	
pH Fld (s.u.)	7.73	03/25/15-06/20/19	O	31	31	7.36	8.56	7.77	7.77	0.29	0.14	
SC Fld (umhos/cm)	415	03/25/15-06/20/19	O	32	32	337.0	698.7	420.5	419	55.4	0.1	
Flow (Gallons Per Min)	22.67	03/25/15-06/20/19	O	28	28	0.06	62.27	5.75	7.65	15.5	1.09	
Water Temp (Deg C)	7.1	03/25/15-06/20/19	O	32	32	0.5	18.3	5.4	7.1	3.3	0.5	
TDS (mg/L)	231	03/25/15-06/20/19	O	32	32	203.0	245.0	230.5	231	9.8	0.1	
TSS (mg/L)	< 10	03/25/15-06/20/19	O	32	10	< 10	1130.0					
Tot Alk (mg/L)	210	03/25/15-06/20/19	O	32	32	180.0	220.0	214.8	220	8.4	0.6	
Ca (mg/L)	57	05/29/19-06/20/19	O	2	2	55.0	57.0	56.0	56	1.4	0.7 H	
Chloride (mg/L)	< 1	03/25/15-06/20/19	O	32	0	< 1	< 1					
F (mg/L)	< 0.1	03/25/15-06/20/19	O	32	29	0.1	0.1	0.1	0.1	0	0.0 H	
Tot Hard (mg/L)	227	03/25/15-06/20/19	O	32	32	185.0	249.0	228.3	229	12.1	0.1	
Mg (mg/L)	21	05/29/19-06/20/19	O	2	2	20.0	21.0	20.5	20.5	0.7	0.7 H	
K (mg/L)	< 1	05/29/19-06/20/19	O	2	0	< 1	< 1					
Na (mg/L)	2	05/29/19-06/20/19	O	2	2	2.0	2.0	2.0	2	0	0.0 H	
SO4 (mg/L)	15	03/25/15-06/20/19	O	32	32	11.0	18.0	14.7	15	1.7	0.2	
Nitrate + (mg/L)	0.16	03/25/15-06/20/19	O	32	32	0.03	0.26	0.17	0.19	0.05	0.26	
Al (DIS) (mg/L)	< 0.009	05/29/19-06/20/19	O	2	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	05/29/19-06/20/19	O	2	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	05/29/19-06/20/19	O	2	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.05	05/29/19-06/20/19	O	2	2	0.05	0.05	0.05	0.05	0	0.0 H	
Be (DIS) (mg/L)	< 0.0008	05/29/19-06/20/19	O	2	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	05/29/19-06/20/19	O	2	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	05/29/19-06/20/19	O	2	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	05/29/19-06/20/19	O	2	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	05/29/19-06/20/19	O	2	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	< 0.02	05/29/19-06/20/19	O	2	0	< 0.02	< 0.02					
Pb (DIS) (mg/L)	< 0.0003	05/29/19-06/20/19	O	2	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	05/29/19-06/20/19	O	2	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	05/29/19-06/20/19	O	2	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	05/29/19-06/20/19	O	2	0	< 0.002	< 0.002					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Ni (DIS) (mg/L)	< 0.001	05/29/19-06/20/19	O	2	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	05/29/19-06/20/19	O	2	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	05/29/19-06/20/19	O	2	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.107	05/29/19-06/20/19	O	2	2	0.105	0.107	0.106	0.106	0.001	1.005	H
Tl (DIS) (mg/L)	< 0.0002	05/29/19-06/20/19	O	2	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	0.0006	05/29/19-06/20/19	O	2	2	0.0006	0.0006	0.0006	0.0006	0	0.0	H
Zn (DIS) (mg/L)	0.007	05/29/19-06/20/19	O	2	2	0.007	0.009	0.008	0.008	0.001	0.937	L

SAMPLE NO BBC-1906-116 LAB NO: H19060535-003

STATION:DS-3

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	6.43	08/06/14-06/19/19	O	30	30	3.72	10.8	6.67	7.01	2.14	0.11
pH Fld (s.u.)	6.4	08/06/14-06/19/19	O	30	30	5.6	8.7	7.0	7	0.9	0.6
SC Fld (umhos/cm)	45	08/06/14-06/19/19	O	30	30	40.0	132.0	56.8	55.9	20.9	0.6
Flow (Gallons Per Min)	13.95	08/06/14-06/19/19	O	26	26	0.47	159.0	4.4	6.22	30.46	0.31
Water Temp (Deg C)	7.3	08/06/14-06/19/19	O	30	30	3.8	15.1	8.2	8.9	3	0.3
TDS (mg/L)	69	08/06/14-06/19/19	O	30	30	47.0	128.0	70.3	66.5	21.6	0.1
TSS (mg/L)	< 10	08/06/14-06/19/19	O	30	4	< 4	95.0				
Tot Alk (mg/L)	20	08/06/14-06/19/19	O	30	30	17.0	29.0	22.1	23	2.8	0.7
Ca (mg/L)	5	05/29/19-06/19/19	O	2	2	5.0	5.0	5.0	5	0	0.0 H
Chloride (mg/L)	< 1	08/06/14-06/19/19	O	30	3	< 1	< 1				
F (mg/L)	< 0.1	08/06/14-06/19/19	O	30	2	0.0	< .1				
Tot Hard (mg/L)	20	08/06/14-06/19/19	O	30	30	19.0	26.0	22.7	23	1.8	1.5
Mg (mg/L)	2	05/29/19-06/19/19	O	2	2	1.0	2.0	1.4	1.5	0.7	0.8 H
K (mg/L)	1	05/29/19-06/19/19	O	2	1	1.0	1.0				
Na (mg/L)	1	05/29/19-06/19/19	O	2	2	1.0	1.0	1.0	1	0	0.0 H
SO4 (mg/L)	1	08/06/14-06/19/19	O	30	30	1.0	2.0	1.3	1	0.4	0.7 L
Nitrate + (mg/L)	0.15	08/06/14-06/19/19	O	30	30	0.11	0.48	0.27	0.29	0.09	1.28
Al (DIS) (mg/L)	1.95	05/29/19-06/19/19	O	2	2	1.95	2.0	1.97	1.98	0.04	0.62 L
Sb (DIS) (mg/L)	< 0.0005	05/29/19-06/19/19	O	2	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	< 0.001	05/29/19-06/19/19	O	2	0	< 0.001	< 0.001				
Ba (DIS) (mg/L)	0.245	05/29/19-06/19/19	O	2	2	0.229	0.245	0.237	0.237	0.011	0.74 H
Be (DIS) (mg/L)	< 0.0008	05/29/19-06/19/19	O	2	0	< 0.0008	: 0.0008				
Cd (DIS) (mg/L)	< 0	05/29/19-06/19/19	O	2	0	< 0	: .00003				
Cr (DIS) (mg/L)	< 0.01	05/29/19-06/19/19	O	2	0	< 0.01	< 0.01				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Co (DIS) (mg/L)	< 0.01	05/29/19-06/19/19	O	2	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	0.003	05/29/19-06/19/19	O	2	2	0.003	0.004	0.003	0.004	0.001	0.464	L
Fe (DIS) (mg/L)	1.24	05/29/19-06/19/19	O	2	2	1.2	1.24	1.22	1.22	0.03	0.67	H
Pb (DIS) (mg/L)	0.0003	05/29/19-06/19/19	O	2	2	0.0003	0.0003	0.0003	0.0003	0	0.0	H
Mn (DIS) (mg/L)	0.006	05/29/19-06/19/19	O	2	2	0.006	0.008	0.007	0.007	0.001	0.928	L
Hg (DIS) (ug/L)	0.01	05/29/19-06/19/19	O	2	2	0.01	0.02	0.01	0.02	0.01	0.41	L
Mo (DIS) (mg/L)	< 0.002	05/29/19-06/19/19	O	2	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	0.004	05/29/19-06/19/19	O	2	2	0.004	0.004	0.004	0.004	0	0.0	H
Se (DIS) (mg/L)	< 0.0002	05/29/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	05/29/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.0244	05/29/19-06/19/19	O	2	2	0.0231	0.0244	0.0237	0.0238	0.0009	0.7321	H
Tl (DIS) (mg/L)	< 0.0002	05/29/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	< 0.0002	05/29/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Zn (DIS) (mg/L)	0.006	05/29/19-06/19/19	O	2	2	0.006	0.006	0.006	0.006	0	0.0	H

SAMPLE NO BBC-1906-117 LAB NO: H19060535-004

STATION:DS-4

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	7.78	10/13/11-06/19/19	O	27	27	2.45	11.98	7.27	7.78	2.04	0.25
pH Fld (s.u.)	6.25	10/13/11-06/19/19	O	26	26	5.86	8.83	7.15	7.23	0.78	1.15
SC Fld (umhos/cm)	90	10/13/11-06/19/19	O	27	27	73.0	203.0	101.5	99	26.9	0.4
Water Temp (Deg C)	6.9	10/13/11-06/19/19	O	27	27	0.2	20.2	7.3	8.4	4.5	0.1
TDS (mg/L)	87	10/13/11-06/19/19	O	27	27	60.0	143.0	93.1	90	18.8	0.3
TSS (mg/L)	< 10	08/06/14-06/19/19	O	26	14	< 10	868.0	33.7	28	183.2	0.1 L
Tot Alk (mg/L)	40	10/13/11-06/19/19	O	27	27	36.0	84.0	46.1	45	10.3	0.6
Ca (mg/L)	13	05/29/19-06/19/19	O	2	2	13.0	13.0	13.0	13	0	0.0 H
Chloride (mg/L)	< 1	10/13/11-06/19/19	O	27	4	< 1	2.0				
F (mg/L)	< 0.1	10/13/11-06/19/19	O	27	10	0.1	< .1				
Tot Hard (mg/L)	42	10/13/11-06/19/19	O	27	27	38.0	71.0	47.1	47	6.9	0.7
Mg (mg/L)	3	05/29/19-06/19/19	O	2	2	3.0	3.0	3.0	3	0	0.0 H
K (mg/L)	< 1	05/29/19-06/19/19	O	2	0	< 1	< 1				
Na (mg/L)	1	05/29/19-06/19/19	O	2	2	1.0	1.0	1.0	1	0	0.0 H
SO4 (mg/L)	3	10/13/11-06/19/19	O	27	26	1.0	4.0	2.2	2	0.7	1.2
Nitrate + (mg/L)	0.25	10/13/11-06/19/19	O	27	22	< 0.01	0.47	0.11	0.25	0.15	0.9
Al (DIS) (mg/L)	1.28	05/29/19-06/19/19	O	2	2	1.28	1.35	1.31	1.32	0.05	0.69 L

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Sb (DIS) (mg/L)	< 0.0005	05/29/19-06/19/19	O	2	0	< 0.0005	: 0 .0005					
As (DIS) (mg/L)	0.001	05/29/19-06/19/19	O	2	2	0.001	0.001	0.001	0.001	0	0.0	H
Ba (DIS) (mg/L)	0.309	05/29/19-06/19/19	O	2	2	0.309	0.327	0.318	0.318	0.013	0.683	L
Be (DIS) (mg/L)	< 0.0008	05/29/19-06/19/19	O	2	0	< 0.0008	: 0 .0008					
Cd (DIS) (mg/L)	< 0	05/29/19-06/19/19	O	2	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	05/29/19-06/19/19	O	2	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	05/29/19-06/19/19	O	2	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	05/29/19-06/19/19	O	2	1	< 0.002	< 0 .002					
Fe (DIS) (mg/L)	0.77	05/29/19-06/19/19	O	2	2	0.77	0.82	0.79	0.8	0.04	0.62	L
Pb (DIS) (mg/L)	< 0.0003	05/29/19-06/19/19	O	2	0	< 0.0003	: 0 .0003					
Mn (DIS) (mg/L)	0.006	05/29/19-06/19/19	O	2	2	0.005	0.006	0.005	0.006	0.001	0.523	H
Hg (DIS) (ug/L)	0.006	05/29/19-06/19/19	O	2	2	0.006	0.008	0.007	0.007	0.001	0.928	L
Mo (DIS) (mg/L)	< 0.002	05/29/19-06/19/19	O	2	0	< 0.002	< 0 .002					
Ni (DIS) (mg/L)	0.002	05/29/19-06/19/19	O	2	2	0.002	0.002	0.002	0.002	0	0.0	H
Se (DIS) (mg/L)	< 0.0002	05/29/19-06/19/19	O	2	0	< 0.0002	: 0 .0002					
Ag (DIS) (mg/L)	< 0.0002	05/29/19-06/19/19	O	2	0	< 0.0002	: 0 .0002					
Sr (DIS) (mg/L)	0.0396	05/29/19-06/19/19	O	2	2	0.0396	0.0425	0.041	0.0411	0.0021	0.6783	L
Tl (DIS) (mg/L)	< 0.0002	05/29/19-06/19/19	O	2	0	< 0.0002	: 0 .0002					
U (DIS) (mg/L)	< 0.0002	05/29/19-06/19/19	O	2	0	< 0.0002	: 0 .0002					
Zn (DIS) (mg/L)	0.006	05/29/19-06/19/19	O	2	2	0.004	0.006	0.005	0.005	0.001	1.101	H

SAMPLE NO BBC-1906-215 LAB NO: H19060528-016

STATION:MW-1A

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Depth to W (Feet)	2.91	08/26/11-06/19/19	O	31	31	2.29	9.82	6.21	7.12	2.11	1.56
DO (mg/L)	9.14	08/26/11-06/19/19	O	30	30	5.35	17.56	9.84	9.62	2.35	0.3
EH (Millivolts)	191.44	03/21/18-06/19/19	O	5	5	191.44	305.7	262.86	280.7	45.01	1.59 L
pH Fld (s.u.)	7.28	08/26/11-06/19/19	O	31	31	6.62	7.66	7.25	7.32	0.23	0.14
SC Fld (umhos/cm)	335	08/26/11-06/19/19	O	31	31	311.0	356.0	340.5	342.6	10.1	0.5
Water Temp (Deg C)	8	08/26/11-06/19/19	O	31	31	5.9	8.0	7.0	6.9	0.5	2.1 H
TDS (mg/L)	187	08/26/11-06/19/19	O	31	31	176.0	209.0	191.6	193	7.6	0.6
TSS (mg/L)	52	03/21/13-06/19/19	O	24	23	< 10	1380.0	75.5	64	340.8	0.1
Tot Alk (mg/L)	160	08/26/11-06/19/19	O	31	31	160.0	190.0	172.8	170	6.4	2.0 L
Ca (mg/L)	44	06/19/19	O	1	1	44.0	44.0	44.0	44	0	0.0 H
Chloride (mg/L)	1	08/26/11-06/19/19	O	31	29	1.0	2.0	1.1	1	0.3	0.3 L

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Parameter	Result	Comparison Period	QC Code	N	# of Det	Min	Max	Mean	Median	SD	# of SD's from Mean
F (mg/L)	0.2	08/26/11-06/19/19	O	31	31	0.2	0.3	0.2	0.2	0	0.0 L
Tot Hard (mg/L)	184	08/26/11-06/19/19	O	31	31	157.0	191.0	178.5	179	8.4	0.6
Mg (mg/L)	18	06/19/19	O	1	1	18.0	18.0	18.0	18	0	0.0 H
K (mg/L)	1	06/19/19	O	1	1	1.0	1.0	1.0	1	0	0.0 H
Na (mg/L)	2	06/19/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	15	08/26/11-06/19/19	O	31	31	8.0	15.0	10.8	12	2	2.1 H
Nitrate + (mg/L)	0.43	08/26/11-06/19/19	O	31	31	0.18	0.53	0.42	0.44	0.06	0.14
Al (DIS) (mg/L)	0.023	06/19/19	O	1	1	0.023	0.023	0.023	0.023	0	0.0 H
Sb (DIS) (mg/L)	< 0.0005	06/19/19	O	1	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	< 0.001	06/19/19	O	1	0	< 0.001	< 0.001				
Ba (DIS) (mg/L)	0.168	06/19/19	O	1	1	0.168	0.168	0.168	0.168	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	06/19/19	O	1	0	< 0.0008	: 0.0008				
Cd (DIS) (mg/L)	< 0	06/19/19	O	1	0	< 0	: .00003				
Cr (DIS) (mg/L)	< 0.01	06/19/19	O	1	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	06/19/19	O	1	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	0.007	06/19/19	O	1	1	0.007	0.007	0.007	0.007	0	0.0 H
Fe (DIS) (mg/L)	< 0.02	06/19/19	O	1	0	< 0.02	< 0.02				
Pb (DIS) (mg/L)	0.0004	06/19/19	O	1	1	0.0004	0.0004	0.0004	0.0004	0	0.0 H
Mn (DIS) (mg/L)	< 0.005	06/19/19	O	1	0	< 0.005	< 0.005				
Hg (DIS) (ug/L)	< 0.005	06/19/19	O	1	0	< 0.005	< 0.005				
Mo (DIS) (mg/L)	< 0.002	06/19/19	O	1	0	< 0.002	< 0.002				
Ni (DIS) (mg/L)	< 0.001	06/19/19	O	1	0	< 0.001	< 0.001				
Se (DIS) (mg/L)	< 0.0002	06/19/19	O	1	0	< 0.0002	: 0.0002				
Ag (DIS) (mg/L)	< 0.0002	06/19/19	O	1	0	< 0.0002	: 0.0002				
Sr (DIS) (mg/L)	0.0996	06/19/19	O	1	1	0.0996	0.0996	0.0996	0.0996	0	0.0 H
Tl (DIS) (mg/L)	0.0009	06/19/19	O	1	1	0.0009	0.0009	0.0009	0.0009	0	0.0 H
U (DIS) (mg/L)	0.0009	06/19/19	O	1	1	0.0009	0.0009	0.0009	0.0009	0	0.0 H
Zn (DIS) (mg/L)	< 0.002	06/19/19	O	1	0	< 0.002	< 0.002				

SAMPLE NO BBC-1906-214		LAB NO: H19060528-015		STATION:MW-1B							
06/19/19											
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Depth to W (Feet)	22.29	08/26/11-06/21/19	O	30	30	11.95	24.85	22.31	22.8	2.21	0.01
Depth to W (Feet)	11.95	08/26/11-06/21/19	O	30	30	11.95	24.85	22.31	22.8	2.21	4.69 *L
DO (mg/L)	7.72	08/26/11-06/21/19	O	30	30	0.01	7.72	0.3	0.26	1.43	5.19 *H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

DO (mg/L)	0.18	08/26/11-06/21/19	O	30	30	0.01	7.72	0.3	0.26	1.43	0.08	
EH (Millivolts)	182.84	03/21/18-06/21/19	O	6	6	182.84	271.05	219.43	213.45	30.22	1.21	L
EH (Millivolts)	271.05	03/21/18-06/21/19	O	6	6	182.84	271.05	219.43	213.45	30.22	1.71	H
pH Fld (s.u.)	7.78	08/26/11-06/21/19	O	31	31	6.02	7.78	6.33	6.32	0.3	4.83	*H
pH Fld (s.u.)	6.41	08/26/11-06/21/19	O	31	31	6.02	7.78	6.33	6.32	0.3	0.27	
SC Fld (umhos/cm)	337	08/26/11-06/21/19	O	31	31	337.0	661.0	589.2	602	53.4	4.7	*L
SC Fld (umhos/cm)	555	08/26/11-06/21/19	O	31	31	337.0	661.0	589.2	602	53.4	0.6	
Water Temp (Deg C)	8.6	08/26/11-06/21/19	O	31	31	4.4	8.8	7.4	7.6	0.8	1.4	
Water Temp (Deg C)	4.4	08/26/11-06/21/19	O	31	31	4.4	8.8	7.4	7.6	0.8	3.8	*L
TDS (mg/L)	187	08/26/11-06/21/19	O	31	31	187.0	436.0	399.2	411	45.5	4.7	*L
TDS (mg/L)	422	08/26/11-06/21/19	O	31	31	187.0	436.0	399.2	411	45.5	0.5	
TSS (mg/L)	< 10	03/21/13-06/21/19	O	24	12	< 10	402.0					
TSS (mg/L)	< 10	03/21/13-06/21/19	O	24	12	< 10	402.0					
Tot Alk (mg/L)	190	08/26/11-06/21/19	O	31	31	49.0	190.0	84.3	84	22.6	4.7	*H
Tot Alk (mg/L)	96	08/26/11-06/21/19	O	31	31	49.0	190.0	84.3	84	22.6	0.5	
Ca (mg/L)	62	06/19/19-06/21/19	O	2	2	43.0	62.0	51.6	52.5	13.4	0.8	H
Ca (mg/L)	43	06/19/19-06/21/19	O	2	2	43.0	62.0	51.6	52.5	13.4	0.6	L
Chloride (mg/L)	1	08/26/11-06/21/19	O	31	26	1.0	3.0	1.1	1	0.5	0.2	L
Chloride (mg/L)	< 1	08/26/11-06/21/19	O	31	26	1.0	3.0	1.1	1	0.5	0.2	L
F (mg/L)	0.2	08/26/11-06/21/19	O	31	30	< 0.1	0.3	0.2	0.2	0	0.0	
F (mg/L)	< 0.1	08/26/11-06/21/19	O	31	30	< 0.1	0.3	0.2	0.2	0	0.0	L
Tot Hard (mg/L)	176	08/26/11-06/21/19	O	31	31	176.0	291.0	267.1	275	22.2	4.1	*L
Tot Hard (mg/L)	287	08/26/11-06/21/19	O	31	31	176.0	291.0	267.1	275	22.2	0.9	
Mg (mg/L)	32	06/19/19-06/21/19	O	2	2	17.0	32.0	23.3	24.5	10.6	0.8	H
Mg (mg/L)	17	06/19/19-06/21/19	O	2	2	17.0	32.0	23.3	24.5	10.6	0.6	L
K (mg/L)	< 1	06/19/19-06/21/19	O	2	1	< 1	3.0					
K (mg/L)	3	06/19/19-06/21/19	O	2	1	< 1	3.0					
Na (mg/L)	3	06/19/19-06/21/19	O	2	2	2.0	3.0	2.4	2.5	0.7	0.8	H
Na (mg/L)	2	06/19/19-06/21/19	O	2	2	2.0	3.0	2.4	2.5	0.7	0.6	L
SO4 (mg/L)	225	08/26/11-06/21/19	O	31	31	6.0	240.0	197.0	221	40.2	0.7	
SO4 (mg/L)	6	08/26/11-06/21/19	O	31	31	6.0	240.0	197.0	221	40.2	4.8	*L
Nitrate + (mg/L)	0.04	08/26/11-06/21/19	O	31	19	0.01	0.6	0.03	0.03	0.11	0.08	
Nitrate + (mg/L)	0.18	08/26/11-06/21/19	O	31	19	0.01	0.6	0.03	0.03	0.11	1.36	
Al (DIS) (mg/L)	< 0.009	06/19/19-06/21/19	O	2	0	< 0.009	< 0.009					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Al (DIS) (mg/L)	< 0.009	06/19/19-06/21/19	O	2	0	< 0.009	< 0.009						
Sb (DIS) (mg/L)	< 0.0005	06/19/19-06/21/19	O	2	1	< 0.0005	0.0009						
Sb (DIS) (mg/L)	0.0009	06/19/19-06/21/19	O	2	1	< 0.0005	0.0009						
As (DIS) (mg/L)	0.067	06/19/19-06/21/19	O	2	1	< 0.001	0.067						
As (DIS) (mg/L)	< 0.001	06/19/19-06/21/19	O	2	1	< 0.001	0.067						
Ba (DIS) (mg/L)	0.092	06/19/19-06/21/19	O	2	2	0.011	0.092	0.032	0.052	0.057	1.056	H	
Ba (DIS) (mg/L)	0.011	06/19/19-06/21/19	O	2	2	0.011	0.092	0.032	0.052	0.057	0.365	L	
Be (DIS) (mg/L)	< 0.0008	06/19/19-06/21/19	O	2	0	< 0.0008	: 0.0008						
Be (DIS) (mg/L)	< 0.0008	06/19/19-06/21/19	O	2	0	< 0.0008	: 0.0008						
Cd (DIS) (mg/L)	< 0	06/19/19-06/21/19	O	2	0	< 0	: .00003						
Cd (DIS) (mg/L)	< 0	06/19/19-06/21/19	O	2	0	< 0	: .00003						
Cr (DIS) (mg/L)	< 0.01	06/19/19-06/21/19	O	2	0	< 0.01	< 0.01						
Cr (DIS) (mg/L)	< 0.01	06/19/19-06/21/19	O	2	0	< 0.01	< 0.01						
Co (DIS) (mg/L)	< 0.01	06/19/19-06/21/19	O	2	1	< 0.01	0.02						
Co (DIS) (mg/L)	0.02	06/19/19-06/21/19	O	2	1	< 0.01	0.02						
Cu (DIS) (mg/L)	< 0.002	06/19/19-06/21/19	O	2	0	< 0.002	< 0.002						
Cu (DIS) (mg/L)	< 0.002	06/19/19-06/21/19	O	2	0	< 0.002	< 0.002						
Fe (DIS) (mg/L)	< 0.02	06/19/19-06/21/19	O	2	1	< 0.02	18.9						
Fe (DIS) (mg/L)	18.9	06/19/19-06/21/19	O	2	1	< 0	18.9						
Pb (DIS) (mg/L)	< 0.0003	06/19/19-06/21/19	O	2	0	< 0.0003	: 0.0003						
Pb (DIS) (mg/L)	< 0.0003	06/19/19-06/21/19	O	2	0	< 0.0003	: 0.0003						
Mn (DIS) (mg/L)	< 0.005	06/19/19-06/21/19	O	2	1	< 0.005	0.075						
Mn (DIS) (mg/L)	0.075	06/19/19-06/21/19	O	2	1	< 0.005	0.075						
Hg (DIS) (ug/L)	< 0.005	06/19/19-06/21/19	O	2	0	< 0.005	< 0.005						
Hg (DIS) (ug/L)	< 0.005	06/19/19-06/21/19	O	2	0	< 0.005	< 0.005						
Mo (DIS) (mg/L)	< 0.002	06/19/19-06/21/19	O	2	0	< 0.002	< 0.002						
Mo (DIS) (mg/L)	< 0.002	06/19/19-06/21/19	O	2	0	< 0.002	< 0.002						
Ni (DIS) (mg/L)	< 0.001	06/19/19-06/21/19	O	2	1	< 0.001	0.011						
Ni (DIS) (mg/L)	0.011	06/19/19-06/21/19	O	2	1	< 0.001	0.011						
Se (DIS) (mg/L)	< 0.0002	06/19/19-06/21/19	O	2	0	< 0.0002	: 0.0002						
Se (DIS) (mg/L)	< 0.0002	06/19/19-06/21/19	O	2	0	< 0.0002	: 0.0002						
Ag (DIS) (mg/L)	< 0.0002	06/19/19-06/21/19	O	2	0	< 0.0002	: 0.0002						
Ag (DIS) (mg/L)	< 0.0002	06/19/19-06/21/19	O	2	0	< 0.0002	: 0.0002						
Sr (DIS) (mg/L)	1.87	06/19/19-06/21/19	O	2	2	0.09	1.87	0.41	0.98	1.26	1.16	H	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Sr (DIS) (mg/L)	0.0894	06/19/19-06/21/19	O	2	2	0.0894	1.87	0.4089	0.9797	1.2591	0.2537	L
Tl (DIS) (mg/L)	< 0.0002	06/19/19-06/21/19	O	2	1	< 0.0002	0.0113					
Tl (DIS) (mg/L)	0.0113	06/19/19-06/21/19	O	2	1	< 0.0002	0.0113					
U (DIS) (mg/L)	< 0.0002	06/19/19-06/21/19	O	2	1	< 0.0002	0.0004					
U (DIS) (mg/L)	0.0004	06/19/19-06/21/19	O	2	1	< 0.0002	0.0004					
Zn (DIS) (mg/L)	< 0.002	06/19/19-06/21/19	O	2	1	< 0.002	0.012					
Zn (DIS) (mg/L)	0.012	06/19/19-06/21/19	O	2	1	< 0.002	0.012					

SAMPLE NO	BBC-1906-201	LAB NO:	H19060528-002	STATION:	MW-2A
-----------	--------------	---------	---------------	----------	-------

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
Depth to W (Feet)	41.7	11/30/11-06/17/19	O	29	29	40.8	43.2	42.2	42.2	0.4	1.2	
DO (mg/L)	7.48	11/30/11-06/17/19	O	29	29	4.3	12.96	7.2	7.45	1.75	0.16	
EH (Millivolts)	283.77	03/20/18-06/17/19	O	5	5	255.99	289.19	273.76	278.55	14.12	0.71	
pH Fld (s.u.)	7.44	11/30/11-06/17/19	O	29	29	7.07	7.52	7.3	7.3	0.13	1.08	
SC Fld (umhos/cm)	360	11/30/11-06/17/19	O	29	29	353.0	412.3	380.5	382	12.7	1.6	
Water Temp (Deg C)	7.8	11/30/11-06/17/19	O	29	29	6.3	8.1	7.1	7.2	0.5	1.4	
TDS (mg/L)	192	11/30/11-06/17/19	O	30	30	191.0	279.0	209.1	208.5	14.7	1.2	
TSS (mg/L)	< 10	03/21/13-06/17/19	O	23	6	5.0	14.0					
Tot Alk (mg/L)	180	11/30/11-06/17/19	O	30	30	180.0	220.0	191.1	190	9	1.2	L
Ca (mg/L)	41	06/17/19	O	1	1	41.0	41.0	41.0	41	0	0.0	H
Chloride (mg/L)	1	11/30/11-06/17/19	O	30	29	1.0	2.0	1.3	1	0.5	0.6	L
F (mg/L)	0.3	11/30/11-06/17/19	O	30	30	0.3	0.4	0.3	0.3	0.1	0.4	L
Tot Hard (mg/L)	193	11/30/11-06/17/19	O	30	30	190.0	268.0	203.8	202	13.1	0.8	
Mg (mg/L)	22	06/17/19	O	1	1	22.0	22.0	22.0	22	0	0.0	H
K (mg/L)	1	06/17/19	O	1	1	1.0	1.0	1.0	1	0	0.0	H
Na (mg/L)	3	06/17/19	O	1	1	3.0	3.0	3.0	3	0	0.0	H
SO4 (mg/L)	21	11/30/11-06/17/19	O	30	30	15.0	51.0	19.3	19.5	6.3	0.3	
Nitrate + (mg/L)	0.22	11/30/11-06/17/19	O	30	29	< 0.01	0.24	0.19	0.22	0.04	0.76	
Al (DIS) (mg/L)	< 0.009	06/17/19	O	1	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	06/17/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	06/17/19	O	1	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.083	06/17/19	O	1	1	0.083	0.083	0.083	0.083	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/17/19	O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	06/17/19	O	1	0	< 0	: .00003					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Cr (DIS) (mg/L)	< 0.01	06/17/19	O	1	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	06/17/19	O	1	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	< 0.002	06/17/19	O	1	0	< 0.002	< 0.002				
Fe (DIS) (mg/L)	< 0.02	06/17/19	O	1	0	< 0.02	< 0.02				
Pb (DIS) (mg/L)	< 0.0003	06/17/19	O	1	0	< 0.0003	: 0.0003				
Mn (DIS) (mg/L)	< 0.005	06/17/19	O	1	0	< 0.005	< 0.005				
Hg (DIS) (ug/L)	< 0.005	06/17/19	O	1	0	< 0.005	< 0.005				
Mo (DIS) (mg/L)	< 0.002	06/17/19	O	1	0	< 0.002	< 0.002				
Ni (DIS) (mg/L)	< 0.001	06/17/19	O	1	0	< 0.001	< 0.001				
Se (DIS) (mg/L)	0.0012	06/17/19	O	1	1	0.0012	0.0012	0.0012	0.0012	0	0.0 H
Ag (DIS) (mg/L)	< 0.0002	06/17/19	O	1	0	< 0.0002	: 0.0002				
Sr (DIS) (mg/L)	0.0919	06/17/19	O	1	1	0.0919	0.0919	0.0919	0.0919	0	0.0 H
Tl (DIS) (mg/L)	< 0.0002	06/17/19	O	1	0	< 0.0002	: 0.0002				
U (DIS) (mg/L)	0.0005	06/17/19	O	1	1	0.0005	0.0005	0.0005	0.0005	0	0.0 H
Zn (DIS) (mg/L)	< 0.002	06/17/19	O	1	0	< 0.002	< 0.002				

SAMPLE NO BBC-1906-202 LAB NO: H19060528-003

STATION: MW-2B

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Depth to W (Feet)	41.54	11/30/11-06/17/19	O	29	29	40.77	43.14	42.0	42.01	0.45	1.03
DO (mg/L)	0.1	11/30/11-06/17/19	O	29	29	0.1	10.3	0.4	0.4	1.9	0.2
EH (Millivolts)	299.79	03/20/18-06/17/19	O	5	5	230.66	299.79	261.86	266.48	26.11	1.45 H
pH Fld (s.u.)	7.29	11/30/11-06/17/19	O	29	29	6.98	7.51	7.25	7.29	0.11	0.32
SC Fld (umhos/cm)	418	11/30/11-06/17/19	O	29	29	192.0	525.0	445.1	455	57.5	0.5
Water Temp (Deg C)	7.7	11/30/11-06/17/19	O	29	29	3.0	7.9	6.9	7.2	0.9	0.9
TDS (mg/L)	248	11/30/11-06/17/19	O	29	29	208.0	292.0	255.2	251	17.1	0.4
TSS (mg/L)	< 10	03/21/13-06/17/19	O	23	1	< 4	17.0				
Tot Alk (mg/L)	200	11/30/11-06/17/19	O	29	29	180.0	260.0	215.0	210	15.3	1.0
Ca (mg/L)	50	06/17/19	O	1	1	50.0	50.0	50.0	50	0	0.0 H
Chloride (mg/L)	1	11/30/11-06/17/19	O	29	22	1.0	2.0	1.1	1	0.4	0.3 L
F (mg/L)	0.3	11/30/11-06/17/19	O	29	29	0.3	0.4	0.4	0.4	0	0.0 L
Tot Hard (mg/L)	235	11/30/11-06/17/19	O	29	29	202.0	280.0	250.5	252	15.8	1.0
Mg (mg/L)	27	06/17/19	O	1	1	27.0	27.0	27.0	27	0	0.0 H
K (mg/L)	2	06/17/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
Na (mg/L)	3	06/17/19	O	1	1	3.0	3.0	3.0	3	0	0.0 H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

SO4 (mg/L)	41	11/30/11-06/17/19	O	29	29	23.0	51.0	39.6	39	5.1	0.3
Nitrate + (mg/L)	< 0.01	11/30/11-06/17/19	O	29	1	< 0.01	< .5				
Al (DIS) (mg/L)	< 0.009	06/17/19	O	1	0	< 0.009	< 0.009				
Sb (DIS) (mg/L)	< 0.0005	06/17/19	O	1	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	0.003	06/17/19	O	1	1	0.003	0.003	0.003	0.003	0	0.0 H
Ba (DIS) (mg/L)	0.044	06/17/19	O	1	1	0.044	0.044	0.044	0.044	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	06/17/19	O	1	0	< 0.0008	: 0.0008				
Cd (DIS) (mg/L)	< 0	06/17/19	O	1	0	< 0	: .00003				
Cr (DIS) (mg/L)	< 0.01	06/17/19	O	1	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	06/17/19	O	1	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	< 0.002	06/17/19	O	1	0	< 0.002	< 0.002				
Fe (DIS) (mg/L)	0.04	06/17/19	O	1	1	0.04	0.04	0.04	0.04	0	0.0 H
Pb (DIS) (mg/L)	< 0.0003	06/17/19	O	1	0	< 0.0003	: 0.0003				
Mn (DIS) (mg/L)	0.009	06/17/19	O	1	1	0.009	0.009	0.009	0.009	0	0.0 H
Hg (DIS) (ug/L)	< 0.005	06/17/19	O	1	0	< 0.005	< 0.005				
Mo (DIS) (mg/L)	< 0.002	06/17/19	O	1	0	< 0.002	< 0.002				
Ni (DIS) (mg/L)	< 0.001	06/17/19	O	1	0	< 0.001	< 0.001				
Se (DIS) (mg/L)	0.0051	06/17/19	O	1	1	0.0051	0.0051	0.0051	0.0051	0	0.0 H
Ag (DIS) (mg/L)	< 0.0002	06/17/19	O	1	0	< 0.0002	: 0.0002				
Sr (DIS) (mg/L)	0.0951	06/17/19	O	1	1	0.0951	0.0951	0.0951	0.0951	0	0.0 H
Tl (DIS) (mg/L)	0.0036	06/17/19	O	1	1	0.0036	0.0036	0.0036	0.0036	0	0.0 H
U (DIS) (mg/L)	0.0022	06/17/19	O	1	1	0.0022	0.0022	0.0022	0.0022	0	0.0 H
Zn (DIS) (mg/L)	< 0.002	06/17/19	O	1	0	< 0.002	< 0.002				

SAMPLE NO BBC-1906-200 LAB NO: H19060528-001

STATION:MW-3

PARAMETER	06/17/19 RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Depth to W (Feet)	37.63	11/30/11-06/17/19	O	29	29	26.23	46.13	38.3	40.88	5.74	0.12
DO (mg/L)	0.06	11/30/11-06/17/19	O	29	29	0.0	2.09	0.14	0.22	0.43	0.2
EH (Millivolts)	166.47	03/19/18-06/17/19	O	5	5	152.22	222.03	179.76	173.29	27	0.49
pH Fld (s.u.)	7.14	11/30/11-06/17/19	O	29	29	6.77	7.31	7.08	7.08	0.11	0.52
SC Fld (umhos/cm)	728	11/30/11-06/17/19	O	29	29	727.0	883.0	821.6	830	40.7	2.3
Water Temp (Deg C)	9.6	11/30/11-06/17/19	O	29	29	8.1	10.3	9.3	9.5	0.6	0.5
TDS (mg/L)	508	11/30/11-06/17/19	O	29	29	508.0	607.0	567.8	571	27.4	2.2 L
TSS (mg/L)	< 10	06/03/13-06/17/19	O	23	0	< 4	< 10				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Tot Alk (mg/L)	210	11/30/11-06/17/19	O	29	29	210.0	230.0	216.5	220	5.5	1.2	L
Ca (mg/L)	72	06/17/19	O	1	1	72.0	72.0	72.0	72	0	0.0	H
Chloride (mg/L)	1	11/30/11-06/17/19	O	29	29	1.0	2.0	1.2	1	0.4	0.4	L
F (mg/L)	0.8	11/30/11-06/17/19	O	29	29	0.6	0.8	0.8	0.8	0.1	0.5	H
Tot Hard (mg/L)	378	11/30/11-06/17/19	O	29	29	361.0	523.0	418.1	422	33	1.2	
Mg (mg/L)	48	06/17/19	O	1	1	48.0	48.0	48.0	48	0	0.0	H
K (mg/L)	4	06/17/19	O	1	1	4.0	4.0	4.0	4	0	0.0	H
Na (mg/L)	16	06/17/19	O	1	1	16.0	16.0	16.0	16	0	0.0	H
SO4 (mg/L)	221	11/30/11-06/17/19	O	29	29	213.0	280.0	249.0	258	23.1	1.2	
Nitrate + (mg/L)	< 0.01	11/30/11-06/17/19	O	29	3	< 0.01	0.02					
Al (DIS) (mg/L)	< 0.009	06/17/19	O	1	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	06/17/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	0.068	06/17/19	O	1	1	0.068	0.068	0.068	0.068	0	0.0	H
Ba (DIS) (mg/L)	0.011	06/17/19	O	1	1	0.011	0.011	0.011	0.011	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/17/19	O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	06/17/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	06/17/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	06/17/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	06/17/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	1.01	06/17/19	O	1	1	1.01	1.01	1.01	1.01	0	0.0	H
Pb (DIS) (mg/L)	< 0.0003	06/17/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	0.015	06/17/19	O	1	1	0.015	0.015	0.015	0.015	0	0.0	H
Hg (DIS) (ug/L)	< 0.005	06/17/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/17/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	06/17/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	06/17/19	O	1	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	06/17/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	13.6	06/17/19	O	1	1	13.6	13.6	13.6	13.6	0	0.0	H
Tl (DIS) (mg/L)	0.0003	06/17/19	O	1	1	0.0003	0.0003	0.0003	0.0003	0	0.0	H
U (DIS) (mg/L)	0.0011	06/17/19	O	1	1	0.0011	0.0011	0.0011	0.0011	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	06/17/19	O	1	0	< 0.002	< 0.002					

SAMPLE NO	BBC-1906-218	LAB NO:	H19060528-019	STATION:	MW-4A
06/20/19		COMPARISON		# OF	
PARAMETER	RESULT	PERIOD OF DATA	QC Code	N	# OF DET
					MIN
					MAX
					MEAN
					MEDIAN
					SD
					# OF SD'S FROM MEAN

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Depth to W (Feet)	3.9	05/31/12-06/20/19	O	27	27	3.4	6.0	4.8	4.9	0.7	1.3	
DO (mg/L)	0.21	05/31/12-06/20/19	O	27	26	< 0.01	3.57	0.44	0.6	0.87	0.27	
EH (Millivolts)	287.43	03/21/18-06/20/19	O	5	5	-380.47	287.43	12.74	230.31	33.98	8.08	*H
pH Fld (s.u.)	7.36	05/31/12-06/20/19	O	27	27	6.24	7.53	7.22	7.26	0.26	0.52	
SC Fld (umhos/cm)	484	05/31/12-06/20/19	O	27	27	481.0	551.0	509.6	511	19.2	1.3	
Water Temp (Deg C)	5.1	05/31/12-06/20/19	O	27	27	4.3	8.8	6.2	6.8	1.5	0.7	
TDS (mg/L)	274	05/31/12-06/20/19	O	27	27	270.0	311.0	286.8	285	10.6	1.2	
TSS (mg/L)	< 10	03/21/13-06/20/19	O	23	1	< 4	23.0					
Tot Alk (mg/L)	240	05/31/12-06/20/19	O	27	27	240.0	290.0	266.4	270	12.1	2.2	L
Ca (mg/L)	75	06/20/19	O	1	1	75.0	75.0	75.0	75	0	0.0	H
Chloride (mg/L)	3	05/31/12-06/20/19	O	27	27	2.0	4.0	2.5	2.6	0.6	0.9	
F (mg/L)	0.1	05/31/12-06/20/19	O	27	27	0.1	0.2	0.1	0.1	0.1	0.3	L
Tot Hard (mg/L)	271	05/31/12-06/20/19	O	27	27	253.0	292.0	277.1	279	10	0.6	
Mg (mg/L)	20	06/20/19	O	1	1	20.0	20.0	20.0	20	0	0.0	H
K (mg/L)	1	06/20/19	O	1	1	1.0	1.0	1.0	1	0	0.0	H
Na (mg/L)	3	06/20/19	O	1	1	3.0	3.0	3.0	3	0	0.0	H
SO4 (mg/L)	15	05/31/12-06/20/19	O	27	27	8.0	21.0	13.7	13	3.3	0.4	
Nitrate + (mg/L)	< 0.01	05/31/12-06/20/19	O	27	2	< 0.01	0.02					
Al (DIS) (mg/L)	< 0.009	06/20/19	O	1	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	06/20/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.172	06/20/19	O	1	1	0.172	0.172	0.172	0.172	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/20/19	O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	06/20/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	< 0.02	06/20/19	O	1	0	< 0.02	< 0.02					
Pb (DIS) (mg/L)	< 0.0003	06/20/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	0.249	06/20/19	O	1	1	0.249	0.249	0.249	0.249	0	0.0	H
Hg (DIS) (ug/L)	< 0.005	06/20/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Ag (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002 : 0 .0002					
Sr (DIS) (mg/L)	0.163	06/20/19	O	1	1	0.163	0.163	0.163	0.163	0	0.0 H
Tl (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002 : 0 .0002					
U (DIS) (mg/L)	0.0004	06/20/19	O	1	1	0.0004	0.0004	0.0004	0.0004	0	0.0 H
Zn (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002 < 0 .002					

SAMPLE NO BBC-1906-219 LAB NO: H19060528-020

STATION:MW-4B

06/20/19 PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Depth to W (Feet)	3.45	05/31/12-06/20/19	O	27	27	3.02	7.26	4.38	4.39	0.85	1.09
DO (mg/L)	0.25	05/31/12-06/20/19	O	27	27	0.03	3.39	0.3	0.26	0.71	0.07
EH (Millivolts)	223.6	03/21/18-06/20/19	O	5	5	161.5	347.7	217.9	223.6	74.9	0.1
pH Fld (s.u.)	7.6	05/31/12-06/20/19	O	27	27	6.8	7.8	7.5	7.5	0.2	0.7
SC Fld (umhos/cm)	431	05/31/12-06/20/19	O	27	27	419.0	510.0	456.3	454	22.4	1.1
Water Temp (Deg C)	6.5	05/31/12-06/20/19	O	27	27	5.3	7.0	6.2	6.2	0.4	0.8
TDS (mg/L)	240	05/31/12-06/20/19	O	27	27	231.0	275.0	250.4	249	11	0.9
TSS (mg/L)	< 10	03/21/13-06/20/19	O	23	0	< 4	< 10				
Tot Alk (mg/L)	220	05/31/12-06/20/19	O	27	27	220.0	270.0	238.1	240	14.1	1.3 L
Ca (mg/L)	64	06/20/19	O	1	1	64.0	64.0	64.0	64	0	0.0 H
Chloride (mg/L)	2	05/31/12-06/20/19	O	27	27	1.0	2.0	1.7	2	0.4	0.7 H
F (mg/L)	0.1	05/31/12-06/20/19	O	27	27	0.1	0.2	0.1	0.1	0	0.0 L
Tot Hard (mg/L)	241	05/31/12-06/20/19	O	27	27	167.0	265.0	241.7	243	19.4	0.0
Mg (mg/L)	20	06/20/19	O	1	1	20.0	20.0	20.0	20	0	0.0 H
K (mg/L)	2	06/20/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
Na (mg/L)	2	06/20/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	15	05/31/12-06/20/19	O	27	27	11.0	26.0	14.2	13	3.4	0.2
Nitrate + (mg/L)	0.06	05/31/12-06/20/19	O	27	21	< 0.01	0.07	0.03	0.04	0.02	1.46
Al (DIS) (mg/L)	< 0.009	06/20/19	O	1	0	< 0.009 < 0 .009					
Sb (DIS) (mg/L)	< 0.0005	06/20/19	O	1	0	< 0.0005 : 0 .0005					
As (DIS) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001 < 0 .001					
Ba (DIS) (mg/L)	0.126	06/20/19	O	1	1	0.126	0.126	0.126	0.126	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	06/20/19	O	1	0	< 0.0008 : 0 .0008					
Cd (DIS) (mg/L)	< 0	06/20/19	O	1	0	< 0 : .00003					
Cr (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01 < 0 .01					
Co (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01 < 0 .01					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Cu (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	< 0.02	06/20/19	O	1	0	< 0.02	< 0.02					
Pb (DIS) (mg/L)	< 0.0003	06/20/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	06/20/19	O	1	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	06/20/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.167	06/20/19	O	1	1	0.167	0.167	0.167	0.167	0	0.0	H
Tl (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	0.0006	06/20/19	O	1	1	0.0006	0.0006	0.0006	0.0006	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002					

SAMPLE NO BBC-1906-223		LAB NO: H19060562-003		STATION:MW-6A							
06/20/19											
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Depth to W (Feet)	7.02	11/06/13-06/20/19	O	21	21	6.34	9.73	8.27	8.45	1.04	1.21
DO (mg/L)	6.73	11/06/13-06/20/19	O	21	21	3.07	8.09	5.45	5.63	1.34	0.95
EH (Millivolts)	262.36	03/20/18-06/20/19	O	5	5	240.46	416.95	303.39	278.71	72.75	0.56
pH Fld (s.u.)	7.73	11/06/13-06/20/19	O	21	21	6.61	7.73	7.44	7.49	0.26	1.1 H
SC Fld (umhos/cm)	397	11/06/13-06/20/19	O	21	21	397.0	489.0	435.7	434	23.7	1.6 L
Water Temp (Deg C)	6.1	11/06/13-06/20/19	O	21	21	4.9	8.1	6.6	6.4	0.9	0.5
TDS (mg/L)	223	11/06/13-06/20/19	O	21	21	223.0	266.0	244.2	246	10.4	2.0 L
TSS (mg/L)	36	03/25/14-06/20/19	O	19	13	< 10	193.0	28.8	19	58.7	0.1
Tot Alk (mg/L)	210	11/06/13-06/20/19	O	21	21	210.0	250.0	230.1	230	13.6	1.5 L
Ca (mg/L)	47	06/20/19	O	1	1	47.0	47.0	47.0	47	0	0.0 H
Chloride (mg/L)	< 1	11/06/13-06/20/19	O	21	11	1.0	1.0	1.0	1	0	0.0 H
F (mg/L)	0.2	11/06/13-06/20/19	O	21	21	0.2	0.2	0.2	0.2	0	0.0 H
Tot Hard (mg/L)	207	11/06/13-06/20/19	O	21	21	207.0	264.0	241.0	240	15.3	2.2 L
Mg (mg/L)	22	06/20/19	O	1	1	22.0	22.0	22.0	22	0	0.0 H
K (mg/L)	< 1	06/20/19	O	1	0	< 1	< 1				
Na (mg/L)	3	06/20/19	O	1	1	3.0	3.0	3.0	3	0	0.0 H
SO4 (mg/L)	12	11/06/13-06/20/19	O	21	20	< 1	18.0	12.5	15	3.8	0.1
Nitrate + (mg/L)	0.15	11/06/13-06/20/19	O	21	21	0.07	0.21	0.12	0.11	0.04	0.85

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Element (mg/L)	Result	Date	QC	N	0	Comparison	MIN	MAX	MEAN	MEDIAN	SD	H
Al (DIS)	< 0.009	06/20/19	O	1	0	< 0.009 < 0 .009						
Sb (DIS)	< 0.0005	06/20/19	O	1	0	< 0.0005 : 0 .0005						
As (DIS)	< 0.001	06/20/19	O	1	0	< 0.001 < 0 .001						
Ba (DIS)	0.164	06/20/19	O	1	1	0.164 0.164	0.164	0.164	0	0.0	H	
Be (DIS)	< 0.0008	06/20/19	O	1	0	< 0.0008 : 0 .0008						
Cd (DIS)	< 0	06/20/19	O	1	0	< 0 : .00003						
Cr (DIS)	< 0.01	06/20/19	O	1	0	< 0.01 < 0 .01						
Co (DIS)	< 0.01	06/20/19	O	1	0	< 0.01 < 0 .01						
Cu (DIS)	< 0.002	06/20/19	O	1	0	< 0.002 < 0 .002						
Fe (DIS)	< 0.02	06/20/19	O	1	0	< 0.02 < 0 .02						
Pb (DIS)	< 0.0003	06/20/19	O	1	0	< 0.0003 : 0 .0003						
Mn (DIS)	< 0.005	06/20/19	O	1	0	< 0.005 < 0 .005						
Hg (DIS)	< 0.005	06/20/19	O	1	0	< 0.005 < 0 .005						
Mo (DIS)	< 0.002	06/20/19	O	1	0	< 0.002 < 0 .002						
Ni (DIS)	< 0.001	06/20/19	O	1	0	< 0.001 < 0 .001						
Se (DIS)	< 0.0002	06/20/19	O	1	0	< 0.0002 : 0 .0002						
Ag (DIS)	< 0.0002	06/20/19	O	1	0	< 0.0002 : 0 .0002						
Sr (DIS)	0.14	06/20/19	O	1	1	0.14 0.14	0.14	0.14	0	0.0	H	
Tl (DIS)	< 0.0002	06/20/19	O	1	0	< 0.0002 : 0 .0002						
U (DIS)	0.0006	06/20/19	O	1	1	0.0006 0.0006	0.0006	0.0006	0	0.0	H	
Zn (DIS)	< 0.002	06/20/19	O	1	0	< 0.002 < 0 .002						

SAMPLE NO BBC-1906-224 LAB NO: H19060562-004

STATION:MW-6B

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	H
Depth to W (Feet)	10.2	11/06/13-06/20/19	O	21	21	10.0	13.0	11.6	11.8	1	1.4	
DO (mg/L)	4.4	11/06/13-06/20/19	O	21	21	1.8	4.6	3.1	3.2	0.8	1.6	
EH (Millivolts)	244.4	03/20/18-06/20/19	O	5	5	244.4	413.8	287.3	256.2	71.9	0.6	L
pH Fld (s.u.)	7.75	11/06/13-06/20/19	O	21	21	7.16	7.75	7.57	7.64	0.18	0.98	H
SC Fld (umhos/cm)	424	11/06/13-06/20/19	O	21	21	422.0	508.0	455.5	455	22.4	1.4	
Water Temp (Deg C)	6.5	11/06/13-06/20/19	O	21	21	5.4	6.9	6.4	6.4	0.3	0.3	
TDS (mg/L)	238	11/06/13-06/20/19	O	21	21	236.0	272.0	253.9	253	9.2	1.7	
TSS (mg/L)	25	03/25/14-06/20/19	O	19	15	< 10	1260.0	26.6	19	285.4	0.0	
Tot Alk (mg/L)	210	11/06/13-06/20/19	O	21	21	210.0	240.0	228.4	230	7.9	2.3	L
Ca (mg/L)	41	06/20/19	O	1	1	41.0	41.0	41.0	41	0	0.0	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Chloride (mg/L)	< 1	11/06/13-06/20/19	O	21	10	1.0	2.0				
F (mg/L)	0.6	11/06/13-06/20/19	O	21	21	0.5	0.8	0.6	0.6	0.1	0.1
Tot Hard (mg/L)	190	11/06/13-06/20/19	O	21	21	190.0	230.0	216.3	219	10.7	2.5 L
Mg (mg/L)	21	06/20/19	O	1	1	21.0	21.0	21.0	21	0	0.0 H
K (mg/L)	1	06/20/19	O	1	1	1.0	1.0	1.0	1	0	0.0 H
Na (mg/L)	17	06/20/19	O	1	1	17.0	17.0	17.0	17	0	0.0 H
SO4 (mg/L)	22	11/06/13-06/20/19	O	21	21	16.0	29.0	22.0	23	3.5	0.0
Nitrate + (mg/L)	0.11	11/06/13-06/20/19	O	21	21	0.06	0.14	0.09	0.08	0.03	0.71
Al (DIS) (mg/L)	0.011	06/20/19	O	1	1	0.011	0.011	0.011	0.011	0	0.0 H
Sb (DIS) (mg/L)	< 0.0005	06/20/19	O	1	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001	< 0.001				
Ba (DIS) (mg/L)	0.094	06/20/19	O	1	1	0.094	0.094	0.094	0.094	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	06/20/19	O	1	0	< 0.0008	: 0.0008				
Cd (DIS) (mg/L)	< 0	06/20/19	O	1	0	< 0	: .00003				
Cr (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002				
Fe (DIS) (mg/L)	< 0.02	06/20/19	O	1	0	< 0.02	< 0.02				
Pb (DIS) (mg/L)	< 0.0003	06/20/19	O	1	0	< 0.0003	: 0.0003				
Mn (DIS) (mg/L)	< 0.005	06/20/19	O	1	0	< 0.005	< 0.005				
Hg (DIS) (ug/L)	< 0.005	06/20/19	O	1	0	< 0.005	< 0.005				
Mo (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002				
Ni (DIS) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001	< 0.001				
Se (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002				
Ag (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002				
Sr (DIS) (mg/L)	0.217	06/20/19	O	1	1	0.217	0.217	0.217	0.217	0	0.0 H
Tl (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002				
U (DIS) (mg/L)	0.0006	06/20/19	O	1	1	0.0006	0.0006	0.0006	0.0006	0	0.0 H
Zn (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002				

SAMPLE NO BBC-1906-225 LAB NO: H19060562-005

STATION:MW-7

06/20/19	COMPARISON	QC	# OF								# OF SD'S
PARAMETER	RESULT	Code	DET	MIN	MAX	MEAN	MEDIAN	SD	FROM MEAN		
Depth to W (Feet)	31.31	O	21	30.92	33.49	31.98	32.05	0.75	0.89		
DO (mg/L)	0.51	O	21	0.07	2.4	0.61	0.69	0.65	0.15		

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

EH (Millivolts)	194.26	03/20/18-06/20/19	O	5	5	193.2	244.51	208.08	201.47	21.15	0.65	
pH Fld (s.u.)	7.6	11/06/13-06/20/19	O	21	21	6.8	7.6	7.5	7.5	0.2	0.7	
SC Fld (umhos/cm)	509	11/06/13-06/20/19	O	21	21	490.0	582.0	536.8	540	25.1	1.1	
Water Temp (Deg C)	7.9	11/06/13-06/20/19	O	21	21	6.3	8.8	7.6	7.7	0.6	0.5	
TDS (mg/L)	308	11/06/13-06/20/19	O	21	21	304.0	348.0	318.5	314	12.3	0.9	
TSS (mg/L)	34	03/25/14-06/20/19	O	19	16	10.0	1440.0	76.6	96	338.3	0.1	
Tot Alk (mg/L)	220	11/06/13-06/20/19	O	21	21	220.0	280.0	236.2	230	15.6	1.0	L
Ca (mg/L)	50	06/20/19	O	1	1	50.0	50.0	50.0	50	0	0.0	H
Chloride (mg/L)	4	11/06/13-06/20/19	O	21	21	3.0	5.0	3.9	4	0.5	0.3	
F (mg/L)	0.3	11/06/13-06/20/19	O	21	21	0.3	0.7	0.3	0.3	0.1	0.2	L
Tot Hard (mg/L)	266	11/06/13-06/20/19	O	21	21	266.0	322.0	298.1	300	13.8	2.3	L
Mg (mg/L)	34	06/20/19	O	1	1	34.0	34.0	34.0	34	0	0.0	H
K (mg/L)	1	06/20/19	O	1	1	1.0	1.0	1.0	1	0	0.0	H
Na (mg/L)	3	06/20/19	O	1	1	3.0	3.0	3.0	3	0	0.0	H
SO4 (mg/L)	64	11/06/13-06/20/19	O	21	21	54.0	84.0	66.2	65	7.8	0.3	
Nitrate + (mg/L)	< 0.01	11/06/13-06/20/19	O	21	3	< 0.01	0.05					
Al (DIS) (mg/L)	0.011	06/20/19	O	1	1	0.011	0.011	0.011	0.011	0	0.0	H
Sb (DIS) (mg/L)	< 0.0005	06/20/19	O	1	0	< 0.0005	: 0 .0005					
As (DIS) (mg/L)	0.001	06/20/19	O	1	1	0.001	0.001	0.001	0.001	0	0.0	H
Ba (DIS) (mg/L)	0.04	06/20/19	O	1	1	0.04	0.04	0.04	0.04	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/20/19	O	1	0	< 0.0008	: 0 .0008					
Cd (DIS) (mg/L)	< 0	06/20/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0 .01					
Co (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0 .01					
Cu (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0 .002					
Fe (DIS) (mg/L)	0.05	06/20/19	O	1	1	0.05	0.05	0.05	0.05	0	0.0	H
Pb (DIS) (mg/L)	0.0005	06/20/19	O	1	1	0.0005	0.0005	0.0005	0.0005	0	0.0	H
Mn (DIS) (mg/L)	0.007	06/20/19	O	1	1	0.007	0.007	0.007	0.007	0	0.0	H
Hg (DIS) (ug/L)	< 0.005	06/20/19	O	1	0	< 0.005	< 0 .005					
Mo (DIS) (mg/L)	0.004	06/20/19	O	1	1	0.004	0.004	0.004	0.004	0	0.0	H
Ni (DIS) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001	< 0 .001					
Se (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0 .0002					
Ag (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0 .0002					
Sr (DIS) (mg/L)	0.148	06/20/19	O	1	1	0.148	0.148	0.148	0.148	0	0.0	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

TI (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002 : 0 .0002						
U (DIS) (mg/L)	0.0019	06/20/19	O	1	1	0.0019	0.0019	0.0019	0.0019	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002 < 0 .002						

SAMPLE NO BBC-1906-226 LAB NO: H19060562-006

STATION:MW-8

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
Depth to W (Feet)	27.98	11/06/13-06/20/19	O	21	21	27.55	32.74	30.3	30.65	1.48	1.57	
DO (mg/L)	0.03	11/06/13-06/20/19	O	21	21	0.01	1.3	0.16	0.2	0.34	0.37	
EH (Millivolts)	83.66	03/20/18-06/20/19	O	5	5	83.66	134.86	114.43	119.18	19.29	1.6	L
pH Fld (s.u.)	8.06	11/06/13-06/20/19	O	21	21	7.46	8.08	7.89	7.96	0.18	0.92	
SC Fld (umhos/cm)	293	11/06/13-06/20/19	O	21	21	280.0	330.0	306.3	308	13.3	1.0	
Water Temp (Deg C)	7.3	11/06/13-06/20/19	O	21	21	6.0	7.3	7.0	7.2	0.4	0.8	
TDS (mg/L)	151	11/06/13-06/20/19	O	21	21	151.0	171.0	162.9	163	5	2.4	L
TSS (mg/L)	< 10	03/25/14-06/20/19	O	19	7	< 4	65.0					
Tot Alk (mg/L)	140	11/06/13-06/20/19	O	21	21	140.0	170.0	154.1	150	7.5	1.9	L
Ca (mg/L)	23	06/20/19	O	1	1	23.0	23.0	23.0	23	0	0.0	H
Chloride (mg/L)	< 1	11/06/13-06/20/19	O	21	0	< 1	< 1					
F (mg/L)	0.2	11/06/13-06/20/19	O	21	21	0.2	0.3	0.2	0.2	0	0.0	L
Tot Hard (mg/L)	146	11/06/13-06/20/19	O	21	21	146.0	173.0	162.5	165	6.2	2.7	L
Mg (mg/L)	22	06/20/19	O	1	1	22.0	22.0	22.0	22	0	0.0	H
K (mg/L)	< 1	06/20/19	O	1	0	< 1	< 1					
Na (mg/L)	3	06/20/19	O	1	1	3.0	3.0	3.0	3	0	0.0	H
SO4 (mg/L)	16	11/06/13-06/20/19	O	21	21	11.0	16.0	14.0	14	1.7	1.2	H
Nitrate + (mg/L)	< 0.01	11/06/13-06/20/19	O	21	1	< 0.01	< 0.01					
Al (DIS) (mg/L)	< 0.009	06/20/19	O	1	0	< 0.009	< 0 .009					
Sb (DIS) (mg/L)	< 0.0005	06/20/19	O	1	0	< 0.0005 : 0 .0005						
As (DIS) (mg/L)	0.002	06/20/19	O	1	1	0.002	0.002	0.002	0.002	0	0.0	H
Ba (DIS) (mg/L)	0.077	06/20/19	O	1	1	0.077	0.077	0.077	0.077	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/20/19	O	1	0	< 0.0008 : 0 .0008						
Cd (DIS) (mg/L)	< 0	06/20/19	O	1	0	< 0 : .00003						
Cr (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0 .01					
Co (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0 .01					
Cu (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002 < 0 .002						
Fe (DIS) (mg/L)	0.09	06/20/19	O	1	1	0.09	0.09	0.09	0.09	0	0.0	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Pb (DIS) (mg/L)	< 0.0003	06/20/19	O	1	0	< 0.0003 : 0 .0003						
Mn (DIS) (mg/L)	0.018	06/20/19	O	1	1	0.018 0.018	0.018	0.018	0	0.0	H	
Hg (DIS) (ug/L)	< 0.005	06/20/19	O	1	0	< 0.005 < 0 .005						
Mo (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002 < 0 .002						
Ni (DIS) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001 < 0 .001						
Se (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002 : 0 .0002						
Ag (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002 : 0 .0002						
Sr (DIS) (mg/L)	0.0787	06/20/19	O	1	1	0.0787 0.0787	0.0787	0.0787	0	0.0	H	
Tl (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002 : 0 .0002						
U (DIS) (mg/L)	0.0008	06/20/19	O	1	1	0.0008 0.0008	0.0008	0.0008	0	0.0	H	
Zn (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002 < 0 .002						

SAMPLE NO BBC-1906-213 LAB NO: H19060528-014

STATION:MW-9

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
06/19/19												
Depth to W (Feet)	48.67	11/24/14-06/19/19	O	18	18	46.89	52.22	50.41	50.66	1.3	1.34	
DO (mg/L)	0.04	11/24/14-06/19/19	O	18	18	0.02	1.25	0.16	0.13	0.41	0.29	
EH (Millivolts)	153.84	03/19/18-06/19/19	O	5	5	153.84	227.53	186.77	192.67	27.53	1.2	L
pH Fld (s.u.)	7.05	11/24/14-06/19/19	O	18	18	6.72	7.15	7.02	7.05	0.1	0.26	
SC Fld (umhos/cm)	708	11/24/14-06/19/19	O	18	18	470.0	826.0	753.2	778.5	78.4	0.6	
Water Temp (Deg C)	9.2	11/24/14-06/19/19	O	18	18	6.8	9.4	8.4	8.7	0.7	1.1	
TDS (mg/L)	505	11/24/14-06/19/19	O	18	18	501.0	548.0	524.6	527.5	11.4	1.7	
TSS (mg/L)	< 10	03/24/15-06/19/19	O	17	1	< 4	51.0					
Tot Alk (mg/L)	230	11/24/14-06/19/19	O	18	18	230.0	250.0	242.1	240	6.5	1.9	L
Ca (mg/L)	92	06/19/19	O	1	1	92.0	92.0	92.0	92	0	0.0	H
Chloride (mg/L)	1	11/24/14-06/19/19	O	18	18	1.0	2.0	1.1	1	0.2	0.3	L
F (mg/L)	0.5	11/24/14-06/19/19	O	18	18	0.5	0.6	0.6	0.6	0	0.0	L
Tot Hard (mg/L)	451	11/24/14-06/19/19	O	18	18	389.0	454.0	430.0	432	18.1	1.2	
Mg (mg/L)	54	06/19/19	O	1	1	54.0	54.0	54.0	54	0	0.0	H
K (mg/L)	4	06/19/19	O	1	1	4.0	4.0	4.0	4	0	0.0	H
Na (mg/L)	5	06/19/19	O	1	1	5.0	5.0	5.0	5	0	0.0	H
SO4 (mg/L)	197	11/24/14-06/19/19	O	18	18	190.0	216.0	202.4	201	7.8	0.7	
Nitrate + (mg/L)	< 0.01	11/24/14-06/19/19	O	18	2	< 0.01	0.02					
Al (DIS) (mg/L)	< 0.009	06/19/19	O	1	0	< 0.009 < 0 .009						
Sb (DIS) (mg/L)	< 0.0005	06/19/19	O	1	0	< 0.0005 : 0 .0005						

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

As (DIS) (mg/L)	0.014	06/19/19	O	1	1	0.014	0.014	0.014	0.014	0	0.0	H
Ba (DIS) (mg/L)	0.014	06/19/19	O	1	1	0.014	0.014	0.014	0.014	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/19/19	O	1	0	< 0.0008 : 0 .0008						
Cd (DIS) (mg/L)	< 0	06/19/19	O	1	0	< 0 : .00003						
Cr (DIS) (mg/L)	< 0.01	06/19/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	06/19/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	06/19/19	O	1	0	< 0.002	< 0 .002					
Fe (DIS) (mg/L)	0.9	06/19/19	O	1	1	0.9	0.9	0.9	0.9	0	0.0	H
Pb (DIS) (mg/L)	0.0014	06/19/19	O	1	1	0.0014	0.0014	0.0014	0.0014	0	0.0	H
Mn (DIS) (mg/L)	0.083	06/19/19	O	1	1	0.083	0.083	0.083	0.083	0	0.0	H
Hg (DIS) (ug/L)	< 0.005	06/19/19	O	1	0	< 0.005	< 0 .005					
Mo (DIS) (mg/L)	< 0.002	06/19/19	O	1	0	< 0.002	< 0 .002					
Ni (DIS) (mg/L)	< 0.001	06/19/19	O	1	0	< 0.001	< 0 .001					
Se (DIS) (mg/L)	< 0.0002	06/19/19	O	1	0	< 0.0002 : 0 .0002						
Ag (DIS) (mg/L)	< 0.0002	06/19/19	O	1	0	< 0.0002 : 0 .0002						
Sr (DIS) (mg/L)	1.34	06/19/19	O	1	1	1.34	1.34	1.34	1.34	0	0.0	H
Tl (DIS) (mg/L)	0.0027	06/19/19	O	1	1	0.0027	0.0027	0.0027	0.0027	0	0.0	H
U (DIS) (mg/L)	0.0009	06/19/19	O	1	1	0.0009	0.0009	0.0009	0.0009	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	06/19/19	O	1	0	< 0.002	< 0 .002					

SAMPLE NO BBC-1906-208 LAB NO: H19060528-009

STATION:PW-10

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Depth to W (Feet)	43.78	03/24/15-06/18/19	O	8	8	43.21	46.94	45.08	45.49	1.26	1.04
DO (mg/L)	0.77	03/24/15-06/18/19	O	8	8	0.17	0.86	0.44	0.58	0.29	1.12
EH (Millivolts)	168.92	06/13/18-06/18/19	O	3	3	156.33	175.88	166.85	168.92	9.91	0.21
pH Fld (s.u.)	7.34	03/24/15-06/18/19	O	8	8	7.02	7.54	7.34	7.35	0.15	0.03
SC Fld (umhos/cm)	697	03/24/15-06/18/19	O	8	8	697.0	806.8	747.8	750	33.9	1.5 L
Water Temp (Deg C)	9.9	03/24/15-06/18/19	O	8	8	8.0	10.3	9.5	9.8	0.8	0.5
TDS (mg/L)	501	03/24/15-06/18/19	O	8	8	489.0	544.0	510.5	501	18.5	0.5
TSS (mg/L)	< 10	03/24/15-06/18/19	O	8	1	< 10	< 10				
Tot Alk (mg/L)	210	03/24/15-06/18/19	O	8	8	210.0	230.0	218.7	220	6.4	1.4 L
Ca (mg/L)	77	06/18/19	O	1	1	77.0	77.0	77.0	77	0	0.0 H
Chloride (mg/L)	< 1	03/24/15-06/18/19	O	8	1	< 1	< 1				
F (mg/L)	0.8	03/24/15-06/18/19	O	8	8	0.8	0.9	0.8	0.8	0	0.0 L

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Tot Hard (mg/L)	394	03/24/15-06/18/19	O	8	8	356.0	414.0	384.0	390	18.8	0.5
Mg (mg/L)	49	06/18/19	O	1	1	49.0	49.0	49.0	49	0	0.0 H
K (mg/L)	5	06/18/19	O	1	1	5.0	5.0	5.0	5	0	0.0 H
Na (mg/L)	11	06/18/19	O	1	1	11.0	11.0	11.0	11	0	0.0 H
SO4 (mg/L)	204	03/24/15-06/18/19	O	8	8	185.0	204.0	196.1	199	7	1.1 H
Nitrate + (mg/L)	< 0.01	03/24/15-06/18/19	O	8	0	< 0.01	< 0.01				
Al (DIS) (mg/L)	< 0.009	06/18/19	O	1	0	< 0.009	< 0.009				
Sb (DIS) (mg/L)	< 0.0005	06/18/19	O	1	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	0.059	06/18/19	O	1	1	0.059	0.059	0.059	0.059	0	0.0 H
Ba (DIS) (mg/L)	0.036	06/18/19	O	1	1	0.036	0.036	0.036	0.036	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	06/18/19	O	1	0	< 0.0008	: 0.0008				
Cd (DIS) (mg/L)	< 0	06/18/19	O	1	0	< 0	: .00003				
Cr (DIS) (mg/L)	< 0.01	06/18/19	O	1	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	06/18/19	O	1	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002				
Fe (DIS) (mg/L)	0.39	06/18/19	O	1	1	0.39	0.39	0.39	0.39	0	0.0 H
Pb (DIS) (mg/L)	< 0.0003	06/18/19	O	1	0	< 0.0003	: 0.0003				
Mn (DIS) (mg/L)	0.143	06/18/19	O	1	1	0.143	0.143	0.143	0.143	0	0.0 H
Hg (DIS) (ug/L)	< 0.005	06/18/19	O	1	0	< 0.005	< 0.005				
Mo (DIS) (mg/L)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002				
Ni (DIS) (mg/L)	< 0.001	06/18/19	O	1	0	< 0.001	< 0.001				
Se (DIS) (mg/L)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002				
Ag (DIS) (mg/L)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002				
Sr (DIS) (mg/L)	13.2	06/18/19	O	1	1	13.2	13.2	13.2	13.2	0	0.0 H
Tl (DIS) (mg/L)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002				
U (DIS) (mg/L)	0.0009	06/18/19	O	1	1	0.0009	0.0009	0.0009	0.0009	0	0.0 H
Zn (DIS) (mg/L)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002				

SAMPLE NO BBC-1906-207 LAB NO: H19060528-008

STATION:PW-2

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Depth to W (Feet)	49.29	09/20/16-06/18/19	O	7	7	49.29	57.37	53.81	54.01	2.62	1.73 L
DO (mg/L)	0.04	09/20/16-06/18/19	O	7	7	0.04	0.52	0.09	0.06	0.19	0.28 L
EH (Millivolts)	80.57	06/12/18-06/18/19	O	3	3	80.57	118.44	95.85	92.29	19.39	0.79 L
pH Fld (s.u.)	7.37	11/22/11-06/18/19	O	8	8	7.16	7.48	7.34	7.35	0.09	0.34

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

SC Fld (umhos/cm)	517	11/22/11-06/18/19	O	8	8	517.0	782.0	567.6	539.5	87.3	0.6	L
Water Temp (Deg C)	8.4	11/22/11-06/18/19	O	8	8	6.8	8.7	7.9	8.4	0.8	0.6	
TDS (mg/L)	299	11/22/11-06/18/19	O	8	8	299.0	482.0	326.6	307.5	61.7	0.4	L
TSS (mg/L)	< 10	09/20/16-06/18/19	O	7	2	< 10	< 10					
Tot Alk (mg/L)	230	11/22/11-06/18/19	O	8	8	230.0	270.0	247.3	250	11.6	1.5	L
Ca (mg/L)	57	06/18/19	O	1	1	57.0	57.0	57.0	57	0	0.0	H
Chloride (mg/L)	1	11/22/11-06/18/19	O	8	8	1.0	2.0	1.3	1.2	0.4	0.7	L
F (mg/L)	0.8	11/22/11-06/18/19	O	8	8	0.8	0.9	0.9	0.9	0	0.0	L
Tot Hard (mg/L)	283	11/22/11-06/18/19	O	8	8	283.0	417.0	305.0	291	44.8	0.5	L
Mg (mg/L)	34	06/18/19	O	1	1	34.0	34.0	34.0	34	0	0.0	H
K (mg/L)	5	06/18/19	O	1	1	5.0	5.0	5.0	5	0	0.0	H
Na (mg/L)	3	06/18/19	O	1	1	3.0	3.0	3.0	3	0	0.0	H
SO4 (mg/L)	55	11/22/11-06/18/19	O	8	8	51.0	160.0	61.3	54.5	37.7	0.2	
Nitrate + (mg/L)	0.01	11/22/11-06/18/19	O	8	6	0.01	0.04	0.01	0.01	0.01	0.41	L
Al (DIS) (mg/L)	0.011	06/18/19	O	1	1	0.011	0.011	0.011	0.011	0	0.0	H
Sb (DIS) (mg/L)	< 0.0005	06/18/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	0.005	06/18/19	O	1	1	0.005	0.005	0.005	0.005	0	0.0	H
Ba (DIS) (mg/L)	0.033	06/18/19	O	1	1	0.033	0.033	0.033	0.033	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/18/19	O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	06/18/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	06/18/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	06/18/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	3.28	06/18/19	O	1	1	3.28	3.28	3.28	3.28	0	0.0	H
Pb (DIS) (mg/L)	< 0.0003	06/18/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	0.059	06/18/19	O	1	1	0.059	0.059	0.059	0.059	0	0.0	H
Hg (DIS) (ug/L)	< 0.005	06/18/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	06/18/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.0846	06/18/19	O	1	1	0.0846	0.0846	0.0846	0.0846	0	0.0	H
Tl (DIS) (mg/L)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	0.0003	06/18/19	O	1	1	0.0003	0.0003	0.0003	0.0003	0	0.0	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Zn (DIS) (mg/L) < 0.002 06/18/19 O 1 0 < 0.002 < 0.002

SAMPLE NO	BBC-1906-217	LAB NO:	H19060528-018	STATION:	PW-3
-----------	--------------	---------	---------------	----------	------

PARAMETER	06/20/19 RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
Depth to W (Feet)	10.1	09/21/16-06/20/19	O	7	7	10.1	13.9	12.7	13.1	1.3	2.0	L
DO (mg/L)	0.02	05/10/12-06/20/19	O	8	8	0.0	0.4	0.04	0.06	0.14	0.12	
EH (Millivolts)	70.66	06/14/18-06/20/19	O	3	3	61.44	96.83	74.91	70.66	18.36	0.23	
pH Fld (s.u.)	7.35	05/10/12-06/20/19	O	9	9	6.98	7.54	7.29	7.32	0.16	0.39	
SC Fld (umhos/cm)	684	05/10/12-06/20/19	O	9	9	629.0	835.7	742.7	754	69.2	0.8	
Water Temp (Deg C)	6.7	05/10/12-06/20/19	O	9	9	5.1	10.7	7.0	6.9	1.5	0.2	
TDS (mg/L)	463	05/10/12-06/20/19	O	9	9	360.0	507.0	467.7	492	45	0.1	
TSS (mg/L)	10	01/16/14-06/20/19	O	8	5	10.0	13.0	10.9	10	1.4	0.7	L
Tot Alk (mg/L)	250	05/10/12-06/20/19	O	9	9	250.0	280.0	272.1	270	9.7	2.3	L
Ca (mg/L)	89	06/20/19	O	1	1	89.0	89.0	89.0	89	0	0.0	H
Chloride (mg/L)	1	05/10/12-06/20/19	O	9	9	1.0	2.0	1.3	1.1	0.5	0.6	L
F (mg/L)	0.4	05/10/12-06/20/19	O	9	9	0.4	0.5	0.4	0.4	0	0.0	L
Tot Hard (mg/L)	419	05/10/12-06/20/19	O	9	9	333.0	429.0	404.3	420	33.3	0.4	
Mg (mg/L)	48	06/20/19	O	1	1	48.0	48.0	48.0	48	0	0.0	H
K (mg/L)	4	06/20/19	O	1	1	4.0	4.0	4.0	4	0	0.0	H
Na (mg/L)	5	06/20/19	O	1	1	5.0	5.0	5.0	5	0	0.0	H
SO4 (mg/L)	149	05/10/12-06/20/19	O	9	9	92.0	177.0	143.4	151	25.1	0.2	
Nitrate + (mg/L)	0.02	05/10/12-06/20/19	O	9	7	0.01	0.07	0.02	0.02	0.02	0.11	
Al (DIS) (mg/L)	< 0.009	06/20/19	O	1	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	06/20/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	0.006	06/20/19	O	1	1	0.006	0.006	0.006	0.006	0	0.0	H
Ba (DIS) (mg/L)	0.012	06/20/19	O	1	1	0.012	0.012	0.012	0.012	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/20/19	O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	06/20/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	5.9	06/20/19	O	1	1	5.9	5.9	5.9	5.9	0	0.0	H
Pb (DIS) (mg/L)	< 0.0003	06/20/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	0.047	06/20/19	O	1	1	0.047	0.047	0.047	0.047	0	0.0	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Hg (DIS) (ug/L)	< 0.005	06/20/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	0.0008	06/20/19	O	1	1	0.0008	0.0008	0.0008	0.0008	0	0.0	H
Ag (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.331	06/20/19	O	1	1	0.331	0.331	0.331	0.331	0	0.0	H
Tl (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	0.0013	06/20/19	O	1	1	0.0013	0.0013	0.0013	0.0013	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002					

SAMPLE NO BBC-1906-212 LAB NO: H19060528-013

STATION:PW-4

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
Depth to W (Feet)	50.36	09/20/16-06/19/19	O	7	7	50.36	53.9	52.48	53.05	1.43	1.48	L
DO (mg/L)	0.26	09/20/16-06/19/19	O	7	7	0.0	3.79	0.19	0.48	1.46	0.05	
EH (Millivolts)	104.84	06/13/18-06/19/19	O	3	3	104.84	161.87	133.07	138.86	28.69	0.98	L
pH Fld (s.u.)	7.01	05/17/12-06/19/19	O	8	8	7.01	7.33	7.13	7.08	0.12	0.97	L
SC Fld (umhos/cm)	604	05/17/12-06/19/19	O	8	8	543.0	722.0	626.5	637.5	57.8	0.4	
Water Temp (Deg C)	8.6	09/20/16-06/19/19	O	7	7	7.6	9.4	8.4	8.6	0.7	0.3	
TDS (mg/L)	405	05/17/12-06/19/19	O	8	8	380.0	457.0	419.8	419	25.3	0.6	
TSS (mg/L)	< 10	09/20/16-06/19/19	O	7	4	< 10	117.0	16.0	12	39.9	0.2	L
Tot Alk (mg/L)	160	05/17/12-06/19/19	O	8	8	160.0	230.0	178.9	175	22.7	0.8	L
Ca (mg/L)	74	06/19/19	O	1	1	74.0	74.0	74.0	74	0	0.0	H
Chloride (mg/L)	1	05/17/12-06/19/19	O	8	4	1.0	1.0					
F (mg/L)	0.3	05/17/12-06/19/19	O	8	8	0.3	0.4	0.3	0.3	0	0.0	L
Tot Hard (mg/L)	340	05/17/12-06/19/19	O	8	8	289.0	354.0	328.1	328.5	19.7	0.6	
Mg (mg/L)	38	06/19/19	O	1	1	38.0	38.0	38.0	38	0	0.0	H
K (mg/L)	2	06/19/19	O	1	1	2.0	2.0	2.0	2	0	0.0	H
Na (mg/L)	4	06/19/19	O	1	1	4.0	4.0	4.0	4	0	0.0	H
SO4 (mg/L)	163	05/17/12-06/19/19	O	8	8	120.0	176.0	157.9	162	17.7	0.3	
Nitrate + (mg/L)	0.02	05/17/12-06/19/19	O	8	7	< 0.01	0.09	0.03	0.03	0.03	0.29	
Al (DIS) (mg/L)	< 0.009	06/19/19	O	1	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	06/19/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	0.06	06/19/19	O	1	1	0.06	0.06	0.06	0.06	0	0.0	H
Ba (DIS) (mg/L)	0.041	06/19/19	O	1	1	0.041	0.041	0.041	0.041	0	0.0	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Be (DIS) (mg/L)	< 0.0008	06/19/19	O	1	0	< 0.0008	: 0 .0008					
Cd (DIS) (mg/L)	< 0	06/19/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	06/19/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	06/19/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	06/19/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	11	06/19/19	O	1	1	11.0	11.0	11.0	11	0	0.0	H
Pb (DIS) (mg/L)	< 0.0003	06/19/19	O	1	0	< 0.0003	: 0 .0003					
Mn (DIS) (mg/L)	0.142	06/19/19	O	1	1	0.142	0.142	0.142	0.142	0	0.0	H
Hg (DIS) (ug/L)	< 0.005	06/19/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/19/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	0.005	06/19/19	O	1	1	0.005	0.005	0.005	0.005	0	0.0	H
Se (DIS) (mg/L)	< 0.0002	06/19/19	O	1	0	< 0.0002	: 0 .0002					
Ag (DIS) (mg/L)	< 0.0002	06/19/19	O	1	0	< 0.0002	: 0 .0002					
Sr (DIS) (mg/L)	9.62	06/19/19	O	1	1	9.62	9.62	9.62	9.62	0	0.0	H
Tl (DIS) (mg/L)	0.0005	06/19/19	O	1	1	0.0005	0.0005	0.0005	0.0005	0	0.0	H
U (DIS) (mg/L)	0.0012	06/19/19	O	1	1	0.0012	0.0012	0.0012	0.0012	0	0.0	H
Zn (DIS) (mg/L)	0.005	06/19/19	O	1	1	0.005	0.005	0.005	0.005	0	0.0	H

SAMPLE NO BBC-1906-210 LAB NO: H19060528-011

STATION:PW-8

06/19/19	COMPARISON	QC	# OF							# OF SD'S
PARAMETER	PERIOD OF DATA	Code	DET	MIN	MAX	MEAN	MEDIAN	SD	FROM MEAN	
Depth to W (Feet)	08/20/14-06/19/19	O	8	39.76	88.22	48.68	46.33	15.6	0.57	L
DO (mg/L)	08/08/14-06/19/19	O	12	0.03	5.7	0.4	0.38	1.98	0.19	L
EH (Millivolts)	06/13/18-06/19/19	O	3	139.44	184.54	161.96	165.11	22.62	1.0	L
pH Fld (s.u.)	08/08/14-06/19/19	O	12	6.36	7.88	7.1	7.18	0.39	0.16	
SC Fld (umhos/cm)	08/08/14-06/19/19	O	12	496.0	608.6	547.9	549.5	31.9	1.2	
Water Temp (Deg C)	08/08/14-06/19/19	O	12	6.7	10.3	8.3	8.4	1	0.3	
TDS (mg/L)	08/08/14-06/19/19	O	12	318.0	392.0	349.0	349	20.2	1.3	
TSS (mg/L)	08/08/14-06/19/19	O	12	< 10	20.0					
Tot Alk (mg/L)	08/08/14-06/19/19	O	12	180.0	200.0	191.5	190	8.3	1.4	L
Ca (mg/L)	06/19/19	O	1	65.0	65.0	65.0	65	0	0.0	H
Chloride (mg/L)	08/08/14-06/19/19	O	12	< 1	< 1					
F (mg/L)	08/08/14-06/19/19	O	12	0.4	0.4	0.4	0.4	0	0.0	H
Tot Hard (mg/L)	08/08/14-06/19/19	O	12	276.0	321.0	293.6	297	15.2	0.0	
Mg (mg/L)	06/19/19	O	1	32.0	32.0	32.0	32	0	0.0	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Parameter	Count	Period	QC	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	Flag
K (mg/L)	2	06/19/19	O	1	1	2.0	2.0	2.0	2	0	0.0	H
Na (mg/L)	3	06/19/19	O	1	1	3.0	3.0	3.0	3	0	0.0	H
SO4 (mg/L)	100	08/08/14-06/19/19	O	12	12	91.0	126.0	103.9	101	10.5	0.4	
Nitrate + (mg/L)	< 0.01	08/08/14-06/19/19	O	12	0	< 0.01	< 0.01					
Al (DIS) (mg/L)	< 0.009	06/19/19	O	1	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	0.0009	06/19/19	O	1	1	0.0009	0.0009	0.0009	0.0009	0	0.0	H
As (DIS) (mg/L)	0.013	06/19/19	O	1	1	0.013	0.013	0.013	0.013	0	0.0	H
Ba (DIS) (mg/L)	0.037	06/19/19	O	1	1	0.037	0.037	0.037	0.037	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/19/19	O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	06/19/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	06/19/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	06/19/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	06/19/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	0.87	06/19/19	O	1	1	0.87	0.87	0.87	0.87	0	0.0	H
Pb (DIS) (mg/L)	0.0077	06/19/19	O	1	1	0.0077	0.0077	0.0077	0.0077	0	0.0	H
Mn (DIS) (mg/L)	0.1	06/19/19	O	1	1	0.1	0.1	0.1	0.1	0	0.0	H
Hg (DIS) (ug/L)	< 0.005	06/19/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/19/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	06/19/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	06/19/19	O	1	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	06/19/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.745	06/19/19	O	1	1	0.745	0.745	0.745	0.745	0	0.0	H
Tl (DIS) (mg/L)	0.0026	06/19/19	O	1	1	0.0026	0.0026	0.0026	0.0026	0	0.0	H
U (DIS) (mg/L)	0.001	06/19/19	O	1	1	0.001	0.001	0.001	0.001	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	06/19/19	O	1	0	< 0.002	< 0.002					

SAMPLE NO BBC-1906-209 LAB NO: H19060528-010

STATION:PW-9

PARAMETER	06/18/19 RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	Flag
Depth to W (Feet)	45.69	09/19/16-06/18/19	O	7	7	43.12	45.69	44.66	45.22	1.09	0.94	H
DO (mg/L)	0.02	09/18/14-06/18/19	O	12	12	0.01	4.6	0.3	0.32	1.59	0.18	
EH (Millivolts)	147.72	06/13/18-06/18/19	O	3	3	147.72	180.17	161.39	157.95	16.59	0.82	L
pH Fld (s.u.)	7.1	09/18/14-06/18/19	O	12	12	6.1	7.2	6.9	7.1	0.4	0.6	
SC Fld (umhos/cm)	751	09/18/14-06/18/19	O	12	12	744.0	900.0	801.9	810	52.6	1.0	
Water Temp (Deg C)	8.7	09/18/14-06/18/19	O	12	12	6.8	10.9	9.3	9.6	1.2	0.5	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

TDS (mg/L)	544	09/18/14-06/18/19	O	12	12	525.0	604.0	562.3	566.5	27.4	0.7	
TSS (mg/L)	< 10	09/18/14-06/18/19	O	12	0	< 10	< 10					
Tot Alk (mg/L)	210	09/18/14-06/18/19	O	12	12	200.0	210.0	207.5	210	4.5	0.6	H
Ca (mg/L)	87	06/18/19	O	1	1	87.0	87.0	87.0	87	0	0.0	H
Chloride (mg/L)	1	09/18/14-06/18/19	O	12	12	1.0	2.0	1.1	1	0.4	0.4	L
F (mg/L)	0.6	09/18/14-06/18/19	O	12	12	0.6	0.7	0.6	0.7	0.1	0.5	L
Tot Hard (mg/L)	441	09/18/14-06/18/19	O	12	12	381.0	459.0	422.8	424.5	25.4	0.7	
Mg (mg/L)	54	06/18/19	O	1	1	54.0	54.0	54.0	54	0	0.0	H
K (mg/L)	3	06/18/19	O	1	1	3.0	3.0	3.0	3	0	0.0	H
Na (mg/L)	13	06/18/19	O	1	1	13.0	13.0	13.0	13	0	0.0	H
SO4 (mg/L)	244	09/18/14-06/18/19	O	12	12	230.0	280.0	250.4	248	15.9	0.4	
Nitrate + (mg/L)	< 0.01	09/18/14-06/18/19	O	12	5	< 0.01	0.04					
Al (DIS) (mg/L)	< 0.009	06/18/19	O	1	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	06/18/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	0.086	06/18/19	O	1	1	0.086	0.086	0.086	0.086	0	0.0	H
Ba (DIS) (mg/L)	0.012	06/18/19	O	1	1	0.012	0.012	0.012	0.012	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/18/19	O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	06/18/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	06/18/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	06/18/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	2.18	06/18/19	O	1	1	2.18	2.18	2.18	2.18	0	0.0	H
Pb (DIS) (mg/L)	< 0.0003	06/18/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	0.04	06/18/19	O	1	1	0.04	0.04	0.04	0.04	0	0.0	H
Hg (DIS) (ug/L)	< 0.005	06/18/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	06/18/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	9.29	06/18/19	O	1	1	9.29	9.29	9.29	9.29	0	0.0	H
Tl (DIS) (mg/L)	0.0009	06/18/19	O	1	1	0.0009	0.0009	0.0009	0.0009	0	0.0	H
U (DIS) (mg/L)	0.0014	06/18/19	O	1	1	0.0014	0.0014	0.0014	0.0014	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

SAMPLE NO BBC-1906-203		LAB NO: H19060528-004		STATION:SC15-184									
06/17/19		COMPARISON PERIOD OF DATA		QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
PARAMETER	RESULT												
Depth to W (Feet)	-9999	06/17/19		O	1	1	-9999.0	-9999.0	0.0	0	0	0.0	H
DO (mg/L)	7.32	08/04/15-06/17/19		O	9	9	4.58	8.34	6.27	6.35	1.2	0.88	
EH (Millivolts)	507.88	06/13/18-06/17/19		O	4	4	247.81	507.88	352.43	351.81	110.89	1.4	H
pH Fld (s.u.)	7.93	08/04/15-06/17/19		O	9	9	7.32	8.01	7.84	7.92	0.21	0.45	
SC Fld (umhos/cm)	365	08/04/15-06/17/19		O	9	9	333.0	380.0	363.2	365	13.6	0.1	
Water Temp (Deg C)	6.6	08/04/15-06/17/19		O	9	9	5.8	6.8	6.4	6.5	0.4	0.6	
TDS (mg/L)	194	08/04/15-06/17/19		O	9	9	194.0	214.0	199.2	197	6.9	0.8	L
TSS (mg/L)	< 10	08/04/15-06/17/19		O	9	1	< 10	110.0					
Tot Alk (mg/L)	180	08/04/15-06/17/19		O	9	9	180.0	190.0	186.6	190	5	1.3	L
Ca (mg/L)	41	06/17/19		O	1	1	41.0	41.0	41.0	41	0	0.0	H
Chloride (mg/L)	< 1	08/04/15-06/17/19		O	9	0	< 1	< 1					
F (mg/L)	0.2	08/04/15-06/17/19		O	9	9	0.2	0.2	0.2	0.2	0	0.0	H
Tot Hard (mg/L)	206	08/04/15-06/17/19		O	9	9	192.0	215.0	203.2	203	7.7	0.4	
Mg (mg/L)	25	06/17/19		O	1	1	25.0	25.0	25.0	25	0	0.0	H
K (mg/L)	< 1	06/17/19		O	1	0	< 1	< 1					
Na (mg/L)	2	06/17/19		O	1	1	2.0	2.0	2.0	2	0	0.0	H
SO4 (mg/L)	15	08/04/15-06/17/19		O	9	9	11.0	16.0	13.8	14	1.9	0.6	
Nitrate + (mg/L)	0.28	08/04/15-06/17/19		O	9	9	0.24	0.3	0.26	0.25	0.02	1.04	
Al (DIS) (mg/L)	< 0.009	06/17/19		O	1	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	06/17/19		O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	06/17/19		O	1	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.086	06/17/19		O	1	1	0.086	0.086	0.086	0.086	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/17/19		O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	06/17/19		O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	06/17/19		O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	06/17/19		O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	06/17/19		O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	< 0.02	06/17/19		O	1	0	< 0.02	< 0.02					
Pb (DIS) (mg/L)	< 0.0003	06/17/19		O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	06/17/19		O	1	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	06/17/19		O	1	0	< 0.005	< 0.005					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Mo (DIS) (mg/L)	< 0.002	06/17/19	O	1	0	< 0.002	< 0.002				
Ni (DIS) (mg/L)	< 0.001	06/17/19	O	1	0	< 0.001	< 0.001				
Se (DIS) (mg/L)	0.0011	06/17/19	O	1	1	0.0011	0.0011	0.0011	0.0011	0	0.0 H
Ag (DIS) (mg/L)	< 0.0002	06/17/19	O	1	0	< 0.0002	: 0.0002				
Sr (DIS) (mg/L)	0.116	06/17/19	O	1	1	0.116	0.116	0.116	0.116	0	0.0 H
Tl (DIS) (mg/L)	< 0.0002	06/17/19	O	1	0	< 0.0002	: 0.0002				
U (DIS) (mg/L)	0.001	06/17/19	O	1	1	0.001	0.001	0.001	0.001	0	0.0 H
Zn (DIS) (mg/L)	0.013	06/17/19	O	1	1	0.013	0.013	0.013	0.013	0	0.0 H

SAMPLE NO BBC-1906-205 LAB NO: H19060528-006

STATION: SC15-185

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Depth to W (Feet)	24.18	08/04/15-06/18/19	O	14	14	23.4	37.21	30.53	30.96	4.07	1.56
DO (mg/L)	4.5	08/04/15-06/18/19	O	14	14	1.1	6.2	4.1	4.8	1.3	0.3
EH (Millivolts)	479.88	03/22/18-06/18/19	O	5	5	250.48	479.88	354.22	364.5	88.85	1.41 H
pH Fld (s.u.)	7.84	08/04/15-06/18/19	O	14	14	6.1	8.27	7.75	7.9	0.53	0.16
SC Fld (umhos/cm)	395	08/04/15-06/18/19	O	14	14	3.9	474.3	290.3	397	109.3	1.0
Water Temp (Deg C)	6.6	08/04/15-06/18/19	O	14	14	1.6	11.1	5.3	5.4	2.1	0.6
TDS (mg/L)	217	08/04/15-06/18/19	O	14	14	208.0	227.0	217.7	218.5	4.8	0.2
TSS (mg/L)	< 10	08/04/15-06/18/19	O	14	2	< 4	29.0				
Tot Alk (mg/L)	200	08/04/15-06/18/19	O	14	14	200.0	210.0	204.2	200	5.1	0.8 L
Ca (mg/L)	47	06/18/19	O	1	1	47.0	47.0	47.0	47	0	0.0 H
Chloride (mg/L)	< 1	08/04/15-06/18/19	O	14	1	< 1	< 1				
F (mg/L)	0.1	08/04/15-06/18/19	O	14	14	0.1	0.2	0.1	0.1	0.1	0.3 L
Tot Hard (mg/L)	208	08/04/15-06/18/19	O	14	14	191.0	219.0	205.8	207	8.2	0.3
Mg (mg/L)	22	06/18/19	O	1	1	22.0	22.0	22.0	22	0	0.0 H
K (mg/L)	2	06/18/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
Na (mg/L)	4	06/18/19	O	1	1	4.0	4.0	4.0	4	0	0.0 H
SO4 (mg/L)	12	08/04/15-06/18/19	O	14	14	8.9	15.0	10.9	11	1.8	0.6
Nitrate + (mg/L)	0.25	08/04/15-06/18/19	O	14	14	0.21	0.38	0.29	0.3	0.05	0.7
Al (DIS) (mg/L)	< 0.009	06/18/19	O	1	0	< 0.009	< 0.009				
Sb (DIS) (mg/L)	< 0.0005	06/18/19	O	1	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	< 0.001	06/18/19	O	1	0	< 0.001	< 0.001				
Ba (DIS) (mg/L)	0.065	06/18/19	O	1	1	0.065	0.065	0.065	0.065	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	06/18/19	O	1	0	< 0.0008	: 0.0008				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Element (mg/L)	Value	Date	QC	N	OF	Min	Max	Mean	Median	SD	Lowest	Highest
Cd (DIS)	< 0	06/18/19	O	1	0	< 0	.00003					
Cr (DIS)	< 0.01	06/18/19	O	1	0	< 0.01	< 0.01					
Co (DIS)	< 0.01	06/18/19	O	1	0	< 0.01	< 0.01					
Cu (DIS)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002					
Fe (DIS)	< 0.02	06/18/19	O	1	0	< 0.02	< 0.02					
Pb (DIS)	< 0.0003	06/18/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS)	< 0.005	06/18/19	O	1	0	< 0.005	< 0.005					
Hg (DIS)	< 0.005	06/18/19	O	1	0	< 0.005	< 0.005					
Mo (DIS)	0.004	06/18/19	O	1	1	0.004	0.004	0.004	0.004	0	0.0	H
Ni (DIS)	< 0.001	06/18/19	O	1	0	< 0.001	< 0.001					
Se (DIS)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
Ag (DIS)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS)	0.234	06/18/19	O	1	1	0.234	0.234	0.234	0.234	0	0.0	H
Tl (DIS)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
U (DIS)	0.003	06/18/19	O	1	1	0.003	0.003	0.003	0.003	0	0.0	H
Zn (DIS)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002					

SAMPLE NO BBC-1906-206		LAB NO: H19060528-007		STATION: SC15-194							
06/18/19		COMPARISON PERIOD OF DATA		QC Code	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Depth to W (Feet)	18.22	08/04/15-06/18/19	O	13	13	17.69	87.56	22.52	20.43	18.74	0.23
DO (mg/L)	0.42	08/04/15-06/18/19	O	14	14	0.34	10.1	1.86	2.13	2.84	0.51
EH (Millivolts)	240.79	03/22/18-06/18/19	O	5	5	106.14	240.79	182.35	200.02	53.29	1.1 H
pH Fld (s.u.)	7.76	08/04/15-06/18/19	O	14	14	6.49	8.1	7.68	7.77	0.39	0.22
SC Fld (umhos/cm)	379	08/04/15-06/18/19	O	14	14	358.0	467.2	395.9	394	25.6	0.7
Water Temp (Deg C)	7.7	08/04/15-06/18/19	O	14	14	4.5	17.9	7.1	7	3.4	0.2
TDS (mg/L)	207	08/04/15-06/18/19	O	14	14	207.0	227.0	216.1	216	5.6	1.6 L
TSS (mg/L)	< 10	08/04/15-06/18/19	O	14	4	4.0	20.0				
Tot Alk (mg/L)	160	08/04/15-06/18/19	O	14	14	160.0	180.0	177.0	180	6.1	2.8 L
Ca (mg/L)	44	06/18/19	O	1	1	44.0	44.0	44.0	44	0	0.0 H
Chloride (mg/L)	< 1	08/04/15-06/18/19	O	14	0	< 1	< 1				
F (mg/L)	0.3	08/04/15-06/18/19	O	14	14	0.3	0.4	0.3	0.3	0	0.0 L
Tot Hard (mg/L)	211	08/04/15-06/18/19	O	14	14	193.0	218.0	208.1	208.5	6.4	0.4
Mg (mg/L)	25	06/18/19	O	1	1	25.0	25.0	25.0	25	0	0.0 H
K (mg/L)	< 1	06/18/19	O	1	0	< 1	< 1				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Na (mg/L)	2	06/18/19	O	1	1	2.0	2.0	2.0	2	0	0.0	H
SO4 (mg/L)	32	08/04/15-06/18/19	O	14	14	28.0	36.0	31.6	31.5	2.4	0.2	
Nitrate + (mg/L)	< 0.01	08/04/15-06/18/19	O	14	0	< 0.01	< 0.01					
Al (DIS) (mg/L)	< 0.009	06/18/19	O	1	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	06/18/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	06/18/19	O	1	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.034	06/18/19	O	1	1	0.034	0.034	0.034	0.034	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/18/19	O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	06/18/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	06/18/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	06/18/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	0.03	06/18/19	O	1	1	0.03	0.03	0.03	0.03	0	0.0	H
Pb (DIS) (mg/L)	< 0.0003	06/18/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	06/18/19	O	1	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	06/18/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	06/18/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.0678	06/18/19	O	1	1	0.0678	0.0678	0.0678	0.0678	0	0.0	H
Tl (DIS) (mg/L)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	0.0008	06/18/19	O	1	1	0.0008	0.0008	0.0008	0.0008	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002					

SAMPLE NO		BBC-1906-204	LAB NO:		H19060528-005		STATION:SC15-198					
06/18/19		COMPARISON PERIOD OF DATA		QC Code	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
PARAMETER	RESULT				N							
Depth to W (Feet)	34.64	09/16/15-06/18/19	O	13	13	31.69	46.45	40.17	41.7	4.78	1.16	
DO (mg/L)	6.94	09/16/15-06/18/19	O	13	13	4.76	9.63	7.63	8.28	1.37	0.51	
EH (Millivolts)	464.96	03/22/18-06/18/19	O	5	5	276.92	464.96	347.62	355.42	78.56	1.49	H
pH Fld (s.u.)	7.71	09/16/15-06/18/19	O	13	13	7.39	7.93	7.67	7.7	0.16	0.22	
SC Fld (umhos/cm)	421	09/16/15-06/18/19	O	13	13	416.0	508.7	434.8	427	24.6	0.6	
Water Temp (Deg C)	6.7	09/16/15-06/18/19	O	13	13	3.4	17.5	6.6	5.9	4.6	0.0	
TDS (mg/L)	231	09/16/15-06/18/19	O	13	13	223.0	251.0	233.2	233	7.7	0.3	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

TSS (mg/L)	< 10	09/16/15-06/18/19	O	13	1	< 4	< 10					
Tot Alk (mg/L)	210	09/16/15-06/18/19	O	13	13	210.0	230.0	222.2	220	7.3	1.7	L
Ca (mg/L)	48	06/18/19	O	1	1	48.0	48.0	48.0	48	0	0.0	H
Chloride (mg/L)	2	09/16/15-06/18/19	O	13	13	1.6	4.0	2.2	2	0.7	0.3	
F (mg/L)	0.1	09/16/15-06/18/19	O	13	13	0.1	0.2	0.1	0.1	0	0.0	L
Tot Hard (mg/L)	227	09/16/15-06/18/19	O	13	13	222.0	248.0	230.6	228	7.6	0.5	
Mg (mg/L)	26	06/18/19	O	1	1	26.0	26.0	26.0	26	0	0.0	H
K (mg/L)	< 1	06/18/19	O	1	0	< 1	< 1					
Na (mg/L)	3	06/18/19	O	1	1	3.0	3.0	3.0	3	0	0.0	H
SO4 (mg/L)	8	09/16/15-06/18/19	O	13	13	6.0	9.0	7.3	7	0.9	0.8	
Nitrate + (mg/L)	0.56	09/16/15-06/18/19	O	13	13	0.52	0.72	0.62	0.61	0.06	0.94	
Al (DIS) (mg/L)	< 0.009	06/18/19	O	1	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	06/18/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	06/18/19	O	1	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.307	06/18/19	O	1	1	0.307	0.307	0.307	0.307	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/18/19	O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	06/18/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	06/18/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	06/18/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	< 0.02	06/18/19	O	1	0	< 0.02	< 0.02					
Pb (DIS) (mg/L)	< 0.0003	06/18/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	06/18/19	O	1	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	06/18/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	06/18/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	0.0003	06/18/19	O	1	1	0.0003	0.0003	0.0003	0.0003	0	0.0	H
Ag (DIS) (mg/L)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.098	06/18/19	O	1	1	0.098	0.098	0.098	0.098	0	0.0	H
Tl (DIS) (mg/L)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	0.0007	06/18/19	O	1	1	0.0007	0.0007	0.0007	0.0007	0	0.0	H
Zn (DIS) (mg/L)	0.006	06/18/19	O	1	1	0.006	0.006	0.006	0.006	0	0.0	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

06/18/19		LAB NO: H19060535-001		STATION:SP-10							
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	7.73	05/23/18-06/18/19	O	10	10	6.76	8.93	8.0	8.03	0.63	0.44
pH Fld (s.u.)	7.69	05/23/18-06/18/19	O	10	10	6.92	8.09	7.57	7.57	0.33	0.36
SC Fld (umhos/cm)	395	05/23/18-06/18/19	O	10	10	305.0	434.0	393.9	407	40.5	0.0
Flow (Gallons Per Min)	25.13	05/23/18-06/18/19	O	9	9	0.58	59.69	7.02	11.22	23.16	0.78
Water Temp (Deg C)	6.2	05/23/18-06/18/19	O	10	10	4.6	10.1	7.0	7.2	1.5	0.6
TDS (mg/L)	216	05/23/18-06/18/19	O	10	10	196.0	234.0	220.7	227	14.1	0.3
TSS (mg/L)	< 10	05/23/18-06/18/19	O	10	3	< 10	68.0				
Tot Alk (mg/L)	200	05/23/18-06/18/19	O	10	10	180.0	220.0	208.6	215	13.7	0.6
Ca (mg/L)	52	05/29/19-06/18/19	O	2	2	51.0	52.0	51.5	51.5	0.7	0.7 H
Chloride (mg/L)	< 1	05/23/18-06/18/19	O	10	0	< 1	< 1				
F (mg/L)	0.1	05/23/18-06/18/19	O	10	10	0.1	0.1	0.1	0.1	0	0.0 H
Tot Hard (mg/L)	204	05/23/18-06/18/19	O	10	10	193.0	245.0	220.1	219	17.5	0.9
Mg (mg/L)	18	05/29/19-06/18/19	O	2	2	18.0	18.0	18.0	18	0	0.0 H
K (mg/L)	< 1	05/29/19-06/18/19	O	2	0	< 1	< 1				
Na (mg/L)	2	05/29/19-06/18/19	O	2	2	1.0	2.0	1.4	1.5	0.7	0.8 H
SO4 (mg/L)	12	05/23/18-06/18/19	O	10	10	8.0	17.0	12.9	13.5	3	0.3
Nitrate + (mg/L)	0.14	05/23/18-06/18/19	O	10	10	0.06	0.28	0.19	0.22	0.07	0.66
Al (DIS) (mg/L)	< 0.009	05/29/19-06/18/19	O	2	0	< 0.009	< 0.009				
Sb (DIS) (mg/L)	< 0.0005	05/29/19-06/18/19	O	2	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	< 0.001	05/29/19-06/18/19	O	2	0	< 0.001	< 0.001				
Ba (DIS) (mg/L)	0.05	05/29/19-06/18/19	O	2	2	0.05	0.05	0.05	0.05	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	05/29/19-06/18/19	O	2	0	< 0.0008	: 0.0008				
Cd (DIS) (mg/L)	< 0	05/29/19-06/18/19	O	2	0	< 0	: .00003				
Cr (DIS) (mg/L)	< 0.01	05/29/19-06/18/19	O	2	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	05/29/19-06/18/19	O	2	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	< 0.002	05/29/19-06/18/19	O	2	0	< 0.002	< 0.002				
Fe (DIS) (mg/L)	< 0.02	05/29/19-06/18/19	O	2	0	< 0.02	< 0.02				
Pb (DIS) (mg/L)	< 0.0003	05/29/19-06/18/19	O	2	0	< 0.0003	: 0.0003				
Mn (DIS) (mg/L)	< 0.005	05/29/19-06/18/19	O	2	0	< 0.005	< 0.005				
Hg (DIS) (ug/L)	< 0.005	05/29/19-06/18/19	O	2	0	< 0.005	< 0.005				
Mo (DIS) (mg/L)	< 0.002	05/29/19-06/18/19	O	2	0	< 0.002	< 0.002				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Ni (DIS) (mg/L)	< 0.001	05/29/19-06/18/19	O	2	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	05/29/19-06/18/19	O	2	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	05/29/19-06/18/19	O	2	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.109	05/29/19-06/18/19	O	2	2	0.102	0.109	0.105	0.106	0.005	0.712	H
Tl (DIS) (mg/L)	< 0.0002	05/29/19-06/18/19	O	2	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	0.0007	05/29/19-06/18/19	O	2	2	0.0007	0.0007	0.0007	0.0007	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	05/29/19-06/18/19	O	2	0	< 0.002	< 0.002					

SAMPLE NO BBC-1906-118 LAB NO: H19060535-005

STATION:SP-3

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	9.07	07/20/11-06/19/19	O	29	29	5.41	19.38	9.51	9.53	2.37	0.19	
pH Fld (s.u.)	7.26	07/20/11-06/19/19	O	28	28	6.2	8.66	7.35	7.35	0.59	0.15	
SC Fld (umhos/cm)	129	07/20/11-06/19/19	O	29	29	103.0	223.0	161.4	177	39	0.8	
Flow (Gallons Per Min)	2.6	07/20/11-06/19/19	O	27	26	< 0	8.1	0.7	0.6	2	1.0	
Water Temp (Deg C)	7.3	07/20/11-06/19/19	O	29	29	1.7	15.8	6.7	7.4	3.6	0.2	
TDS (mg/L)	118	07/20/11-06/19/19	O	29	29	118.0	214.0	140.3	134	22.1	1.0	L
TSS (mg/L)	< 10	08/28/13-06/19/19	O	27	15	< 10	191.0	23.8	14	51.7	0.3	L
Tot Alk (mg/L)	54	07/20/11-06/19/19	O	29	29	44.0	100.0	74.4	78	20.5	1.0	
Ca (mg/L)	17	05/29/19-06/19/19	O	2	2	17.0	17.0	17.0	17	0	0.0	H
Chloride (mg/L)	< 1	07/20/11-06/19/19	O	29	4	< 1	2.0					
F (mg/L)	0.1	07/20/11-06/19/19	O	29	29	0.1	0.1	0.1	0.1	0	0.0	H
Tot Hard (mg/L)	58	07/20/11-06/19/19	O	29	29	48.0	109.0	78.6	83	18.3	1.1	
Mg (mg/L)	4	05/29/19-06/19/19	O	2	2	4.0	4.0	4.0	4	0	0.0	H
K (mg/L)	2	05/29/19-06/19/19	O	2	2	1.0	2.0	1.4	1.5	0.7	0.8	H
Na (mg/L)	2	05/29/19-06/19/19	O	2	2	2.0	2.0	2.0	2	0	0.0	H
SO4 (mg/L)	6	07/20/11-06/19/19	O	29	29	3.0	7.0	5.1	5.3	1.2	0.8	
Nitrate + (mg/L)	0.17	07/20/11-06/19/19	O	29	29	0.1	0.43	0.28	0.29	0.07	1.53	
Al (DIS) (mg/L)	0.198	05/29/19-06/19/19	O	2	2	0.198	1.2	0.487	0.699	0.709	0.408	L
Sb (DIS) (mg/L)	< 0.0005	05/29/19-06/19/19	O	2	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	0.002	05/29/19-06/19/19	O	2	2	0.002	0.002	0.002	0.002	0	0.0	H
Ba (DIS) (mg/L)	0.229	05/29/19-06/19/19	O	2	2	0.214	0.229	0.221	0.222	0.011	0.693	H
Be (DIS) (mg/L)	< 0.0008	05/29/19-06/19/19	O	2	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	05/29/19-06/19/19	O	2	1	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	05/29/19-06/19/19	O	2	0	< 0.01	< 0.01					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Co (DIS) (mg/L)	< 0.01	05/29/19-06/19/19	O	2	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	0.003	05/29/19-06/19/19	O	2	2	0.003	0.004	0.003	0.004	0.001	0.464	L
Fe (DIS) (mg/L)	0.45	05/29/19-06/19/19	O	2	2	0.45	0.81	0.6	0.63	0.25	0.61	L
Pb (DIS) (mg/L)	< 0.0003	05/29/19-06/19/19	O	2	1	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	05/29/19-06/19/19	O	2	1	< 0.005	< 0.005					
Hg (DIS) (ug/L)	0.009	05/29/19-06/19/19	O	2	2	0.009	0.02	0.013	0.015	0.008	0.552	L
Mo (DIS) (mg/L)	< 0.002	05/29/19-06/19/19	O	2	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	0.002	05/29/19-06/19/19	O	2	2	0.002	0.003	0.002	0.003	0.001	0.449	L
Se (DIS) (mg/L)	< 0.0002	05/29/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	05/29/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.0546	05/29/19-06/19/19	O	2	2	0.0473	0.0546	0.0508	0.051	0.0052	0.7271	H
Tl (DIS) (mg/L)	< 0.0002	05/29/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	< 0.0002	05/29/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Zn (DIS) (mg/L)	< 0.002	05/29/19-06/19/19	O	2	1	< 0.002	0.004					

SAMPLE NO BBC-1906-121 LAB NO: H19060535-007

STATION:SP-4

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.1	07/21/11-06/19/19	O	51	51	6.7	14.0	9.8	9.7	1.4	0.5
pH Fld (s.u.)	7.7	07/21/11-06/19/19	O	50	50	7.0	8.6	7.7	7.7	0.3	0.0
SC Fld (umhos/cm)	422	07/21/11-06/19/19	O	51	51	162.0	481.0	420.3	432	47.7	0.0
Flow (Gallons Per Min)	25.13	07/21/11-06/19/19	O	43	43	0.0	50.27	3.17	5.39	10.6	2.07
Water Temp (Deg C)	7.2	07/21/11-06/19/19	O	50	50	0.1	12.2	5.6	6.5	2.2	0.7
TDS (mg/L)	241	07/21/11-06/19/19	O	52	52	202.0	272.0	247.0	249.5	13.7	0.4
TSS (mg/L)	< 10	08/28/13-06/19/19	O	49	30	5.0	890.0	20.9	12	130.5	0.1
Tot Alk (mg/L)	190	07/21/11-06/19/19	O	52	52	190.0	210.0	200.9	200	5	2.2 L
Ca (mg/L)	47	05/30/19-06/19/19	O	2	2	46.0	47.0	46.5	46.5	0.7	0.7 H
Chloride (mg/L)	< 1	07/21/11-06/19/19	O	52	14	1.0	1.0				
F (mg/L)	0.2	07/21/11-06/19/19	O	52	52	0.2	0.3	0.2	0.2	0	0.0 L
Tot Hard (mg/L)	216	07/21/11-06/19/19	O	51	51	208.0	255.0	235.8	238	11.7	1.7
Mg (mg/L)	24	05/30/19-06/19/19	O	2	2	24.0	24.0	24.0	24	0	0.0 H
K (mg/L)	2	05/30/19-06/19/19	O	2	2	2.0	2.0	2.0	2	0	0.0 H
Na (mg/L)	2	05/30/19-06/19/19	O	2	2	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	33	07/21/11-06/19/19	O	52	52	10.0	45.0	35.2	38	6.7	0.3
Nitrate + (mg/L)	0.3	07/21/11-06/19/19	O	52	52	0.2	0.4	0.3	0.3	0	0.0

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Al (DIS) (mg/L)	0.01	05/30/19-06/19/19	O	2	1	< 0.01	0.01					
Sb (DIS) (mg/L)	< 0.0005	05/30/19-06/19/19	O	2	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.109	05/30/19-06/19/19	O	2	2	0.108	0.109	0.108	0.109	0.001	0.501	H
Be (DIS) (mg/L)	< 0.0008	05/30/19-06/19/19	O	2	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	05/30/19-06/19/19	O	2	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	0.03	05/30/19-06/19/19	O	2	1	< 0.02	0.03					
Pb (DIS) (mg/L)	< 0.0003	05/30/19-06/19/19	O	2	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	0.007	05/30/19-06/19/19	O	2	1	< 0.005	0.007					
Hg (DIS) (ug/L)	< 0.005	05/30/19-06/19/19	O	2	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	0.0003	05/30/19-06/19/19	O	2	2	0.0003	0.0003	0.0003	0.0003	0	0.0	H
Ag (DIS) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.0704	05/30/19-06/19/19	O	2	2	0.0698	0.0704	0.0701	0.0701	0.0004	0.7516	H
Tl (DIS) (mg/L)	0.0003	05/30/19-06/19/19	O	2	2	0.0003	0.0003	0.0003	0.0003	0	0.0	H
U (DIS) (mg/L)	0.0005	05/30/19-06/19/19	O	2	2	0.0004	0.0005	0.0004	0.0005	0.0001	0.5279	H
Zn (DIS) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					

SAMPLE NO		LAB NO:		STATION:SP-6								
06/19/19		H19060535-006										
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	9.2	10/12/11-06/19/19	O	44	44	6.7	282.0	10.6	9.7	41.1	0.0	
pH Fld (s.u.)	7.67	10/12/11-06/19/19	O	43	43	5.81	8.72	7.32	7.45	0.66	0.53	
SC Fld (umhos/cm)	188	10/12/11-06/19/19	O	44	44	188.0	327.0	266.4	268	19.3	4.1	*L
Flow (Gallons Per Min)	3.36	10/12/11-06/19/19	O	42	34	0.27	3.5	1.06	1	0.82	2.8	
Water Temp (Deg C)	7.2	10/12/11-06/19/19	O	43	43	4.4	10.3	7.2	7.5	1.4	0.0	
TDS (mg/L)	164	10/12/11-06/19/19	O	44	44	145.0	188.0	160.9	160.5	8.2	0.4	
TSS (mg/L)	< 10	08/28/13-06/19/19	O	42	13	< 4	216.0					
Tot Alk (mg/L)	130	10/12/11-06/19/19	O	44	44	120.0	160.0	134.4	130	7	0.6	
Ca (mg/L)	33	05/30/19-06/19/19	O	2	2	32.0	33.0	32.5	32.5	0.7	0.7	H
Chloride (mg/L)	< 1	10/12/11-06/19/19	O	44	10	1.0	2.0					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

F (mg/L)	0.1	10/12/11-06/19/19	O	44	44	0.1	0.2	0.2	0.2	0	0.0	L
Tot Hard (mg/L)	133	10/12/11-06/19/19	O	44	44	129.0	160.0	140.3	141	6.9	1.1	
Mg (mg/L)	12	05/30/19-06/19/19	O	2	2	12.0	12.0	12.0	12	0	0.0	H
K (mg/L)	< 1	05/30/19-06/19/19	O	2	0	< 1	< 1					
Na (mg/L)	2	05/30/19-06/19/19	O	2	2	2.0	2.0	2.0	2	0	0.0	H
SO4 (mg/L)	10	10/12/11-06/19/19	O	44	44	7.0	12.0	9.0	9.5	1.6	0.6	
Nitrate + (mg/L)	0.41	10/12/11-06/19/19	O	44	44	0.31	0.68	0.39	0.37	0.07	0.35	
Al (DIS) (mg/L)	< 0.009	05/30/19-06/19/19	O	2	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	05/30/19-06/19/19	O	2	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.192	05/30/19-06/19/19	O	2	2	0.185	0.192	0.188	0.189	0.005	0.706	H
Be (DIS) (mg/L)	< 0.0008	05/30/19-06/19/19	O	2	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	05/30/19-06/19/19	O	2	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	< 0.02	05/30/19-06/19/19	O	2	0	< 0.02	< 0.02					
Pb (DIS) (mg/L)	< 0.0003	05/30/19-06/19/19	O	2	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	05/30/19-06/19/19	O	2	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	05/30/19-06/19/19	O	2	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.0722	05/30/19-06/19/19	O	2	2	0.0697	0.0722	0.0709	0.071	0.0018	0.7006	H
Tl (DIS) (mg/L)	0.0005	05/30/19-06/19/19	O	2	2	0.0004	0.0005	0.0004	0.0005	0.0001	0.5279	H
U (DIS) (mg/L)	0.0004	05/30/19-06/19/19	O	2	2	0.0004	0.0004	0.0004	0.0004	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					

SAMPLE NO		LAB NO:		STATION:SP-7								
06/19/19		H19060535-009										
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	2.7	03/26/15-06/19/19	O	48	48	2.3	11.0	3.7	3.5	1.7	0.6	
pH Fld (s.u.)	7.24	03/26/15-06/19/19	O	47	47	6.17	8.18	7.38	7.37	0.33	0.43	
SC Fld (umhos/cm)	329	03/26/15-06/19/19	O	48	48	196.0	354.0	320.7	330	30	0.3	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Flow (Gallons Per Min)	50.27	03/26/15-06/19/19	O	41	41	6.7	136.0	18.54	15.3	23.18	1.37	
Water Temp (Deg C)	7	03/26/15-06/19/19	O	47	47	5.1	7.4	6.5	6.7	0.6	0.8	
TDS (mg/L)	196	03/26/15-06/19/19	O	48	48	173.0	200.0	187.1	187	6.7	1.3	
TSS (mg/L)	< 10	03/26/15-06/19/19	O	48	7	< 4	146.0					
Tot Alk (mg/L)	160	03/26/15-06/19/19	O	48	48	160.0	170.0	166.2	170	4.9	1.3	L
Ca (mg/L)	40	05/30/19-06/19/19	O	2	2	40.0	41.0	40.5	40.5	0.7	0.7	L
Chloride (mg/L)	2	03/26/15-06/19/19	O	48	48	1.0	2.0	1.8	2	0.4	0.6	H
F (mg/L)	0.3	03/26/15-06/19/19	O	48	48	0.3	0.4	0.3	0.3	0	0.0	L
Tot Hard (mg/L)	156	03/26/15-06/19/19	O	48	48	153.0	178.0	167.6	167.5	5.9	2.0	
Mg (mg/L)	13	05/30/19-06/19/19	O	2	2	13.0	14.0	13.5	13.5	0.7	0.7	L
K (mg/L)	3	05/30/19-06/19/19	O	2	2	3.0	3.0	3.0	3	0	0.0	H
Na (mg/L)	5	05/30/19-06/19/19	O	2	2	5.0	5.0	5.0	5	0	0.0	H
SO4 (mg/L)	12	03/26/15-06/19/19	O	48	48	7.0	12.0	9.7	10	1.3	1.8	H
Nitrate + (mg/L)	0.33	03/26/15-06/19/19	O	48	48	0.27	0.41	0.31	0.31	0.03	0.68	
Al (DIS) (mg/L)	< 0.009	05/30/19-06/19/19	O	2	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	05/30/19-06/19/19	O	2	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	0.004	05/30/19-06/19/19	O	2	2	0.004	0.004	0.004	0.004	0	0.0	H
Ba (DIS) (mg/L)	0.118	05/30/19-06/19/19	O	2	2	0.113	0.118	0.115	0.116	0.004	0.632	H
Be (DIS) (mg/L)	< 0.0008	05/30/19-06/19/19	O	2	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	05/30/19-06/19/19	O	2	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	< 0.02	05/30/19-06/19/19	O	2	0	< 0.02	< 0.02					
Pb (DIS) (mg/L)	< 0.0003	05/30/19-06/19/19	O	2	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	05/30/19-06/19/19	O	2	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	05/30/19-06/19/19	O	2	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	0.0003	05/30/19-06/19/19	O	2	2	0.0003	0.0003	0.0003	0.0003	0	0.0	H
Ag (DIS) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.171	05/30/19-06/19/19	O	2	2	0.165	0.171	0.168	0.168	0.004	0.757	H
Tl (DIS) (mg/L)	0.001	05/30/19-06/19/19	O	2	2	0.001	0.001	0.001	0.001	0	0.0	H
U (DIS) (mg/L)	0.0009	05/30/19-06/19/19	O	2	2	0.0009	0.0009	0.0009	0.0009	0	0.0	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Zn (DIS) (mg/L) < 0.002 05/30/19-06/19/19 O 2 0 < 0.002 < 0.002

SAMPLE NO	BBC-1906-109	LAB NO:	H19060536-002	STATION:SW-1
-----------	--------------	---------	---------------	--------------

PARAMETER	06/19/19 RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.83	05/24/11-06/19/19	O	80	80	3.91	15.0	10.9	10.84	1.98	0.54
pH Fld (s.u.)	8.24	05/24/11-06/19/19	O	79	79	5.3	8.71	7.85	8.07	0.66	0.59
SC Fld (umhos/cm)	286	05/24/11-06/19/19	O	80	80	176.0	363.0	282.5	310	52.8	0.1
Flow (Cubic Ft Sec)	91.93	05/24/11-06/19/19	O	60	60	0.0	613.0	17.88	27.97	95.28	0.78
Gauge (Feet)	1.4	05/24/11-06/19/19	O	46	46	0.5	13.3	1.1	1	1.9	0.1
Water Temp (Deg C)	7.8	05/24/11-06/19/19	O	80	80	-1.0	15.5	0.6	4.1	4.7	1.5
TDS (mg/L)	186	05/24/11-06/19/19	O	72	72	107.0	227.0	168.9	181	25.8	0.7
TSS (mg/L)	9	05/30/12-06/19/19	O	68	26	< 4	43.0				
Tot Alk (mg/L)	150	05/24/11-06/19/19	O	72	72	87.0	200.0	152.6	170	28.6	0.1
Ca (mg/L)	42	05/30/19-06/19/19	O	2	2	28.0	42.0	34.3	35	9.9	0.8 H
Chloride (mg/L)	1	05/24/11-06/19/19	O	72	71	1.0	5.0	1.3	1	0.7	0.5 L
F (mg/L)	< 0.1	05/24/11-06/19/19	O	72	22	0.1	0.2				
Tot Hard (mg/L)	148	05/24/11-06/19/19	O	71	70	< 7	199.0	144.5	164	34.1	0.1
Mg (mg/L)	10	05/30/19-06/19/19	O	2	2	7.0	10.0	8.4	8.5	2.1	0.8 H
K (mg/L)	1	05/30/19-06/19/19	O	2	1	1.0	1.0				
Na (mg/L)	2	05/30/19-06/19/19	O	2	2	1.0	2.0	1.4	1.5	0.7	0.8 H
SO4 (mg/L)	5	05/24/11-06/19/19	O	72	72	2.0	18.0	5.1	5	2.2	0.1
Nitrate + (mg/L)	0.01	05/24/11-06/19/19	O	72	34	< 0.01	0.15				
P (mg/L)	0.018	05/30/19-06/19/19	O	2	2	0.018	0.021	0.019	0.02	0.002	0.721 L
Total Pers (mg/L)	0.17	04/29/15-06/19/19	O	46	42	< 0	1.12	0.13	0.15	0.17	0.26
Al (DIS) (mg/L)	0.015	05/30/19-06/19/19	O	2	2	0.015	0.062	0.03	0.039	0.033	0.47 L
Sb (TRC) (mg/L)	< 0.0005	05/30/19-06/19/19	O	2	0	< 0.0005	: 0.0005				
As (TRC) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001				
Ba (TRC) (mg/L)	0.095	05/30/19-06/19/19	O	2	2	0.081	0.095	0.088	0.088	0.01	0.728 H
Be (TRC) (mg/L)	< 0.0008	05/30/19-06/19/19	O	2	0	< 0.0008	: 0.0008				
Cd (TRC) (mg/L)	< 0	05/30/19-06/19/19	O	2	0	< 0	: .00003				
Cr (TRC) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01				
Co (TRC) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01				
Cu (TRC) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002				
Fe (TRC) (mg/L)	0.26	05/30/19-06/19/19	O	2	2	0.26	0.6	0.39	0.43	0.24	0.56 L

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Pb (TRC) (mg/L)	< 0.0003	05/30/19-06/19/19	O	2	1	< 0.0003 : 0 .0003						
Mn (TRC) (mg/L)	0.017	05/30/19-06/19/19	O	2	2	0.015 0.017	0.016	0.016	0.001	1.031	H	
Hg (TRC) (ug/L)	< 0.005	05/30/19-06/19/19	O	2	1	< 0.005 0.011						
Mo (TRC) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002 < 0 .002						
Ni (TRC) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	1	< 0.001 < 0 .001						
Se (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002 : 0 .0002						
Ag (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002 : 0 .0002						
Sr (TRC) (mg/L)	0.124	05/30/19-06/19/19	O	2	2	0.09 0.124	0.105	0.107	0.024	0.775	H	
Tl (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002 : 0 .0002						
U (TRC) (mg/L)	0.0003	05/30/19-06/19/19	O	2	2	0.0002 0.0003	0.0002	0.0003	0.0001	0.5505	H	
Zn (TRC) (mg/L)	0.003	05/30/19-06/19/19	O	2	2	0.002 0.003	0.002	0.003	0.001	0.551	H	

SAMPLE NO BBC-1906-103 LAB NO: H19060536-001

STATION:SW-11

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	8.31	05/25/11-06/18/19	O	32	32	7.03	15.4	10.81	11.2	1.94	1.29	
pH Fld (s.u.)	8.27	05/25/11-06/18/19	O	32	32	7.45	8.69	8.21	8.25	0.29	0.22	
SC Fld (umhos/cm)	392	05/25/11-06/18/19	O	32	32	312.0	497.0	401.5	406.5	41	0.2	
Flow (Cubic Ft Sec)	2.68	05/25/11-06/18/19	O	24	24	0.0	21.4	0.79	1.02	4.26	0.44	
Gauge (Feet)	0.64	08/25/11-06/18/19	O	22	22	0.2	0.91	0.49	0.51	0.18	0.83	
Water Temp (Deg C)	10.1	05/25/11-06/18/19	O	32	32	-0.4	16.3	0.7	6.3	5.5	1.7	
TDS (mg/L)	226	05/25/11-06/18/19	O	32	32	166.0	282.0	229.2	233.5	24.4	0.1	
TSS (mg/L)	10	05/29/12-06/18/19	O	28	12	< 4	68.0					
Tot Alk (mg/L)	190	05/25/11-06/18/19	O	32	32	160.0	250.0	203.1	210	19.7	0.7	
Ca (mg/L)	50	06/18/19	O	1	1	50.0	50.0	50.0	50	0	0.0	H
Chloride (mg/L)	< 1	05/25/11-06/18/19	O	32	24	1.0	2.0	1.2	1	0.4	0.4	L
F (mg/L)	0.1	05/25/11-06/18/19	O	32	32	0.1	0.2	0.2	0.2	0	0.0	L
Tot Hard (mg/L)	208	05/25/11-06/18/19	O	32	32	156.0	267.0	216.4	225.5	26.6	0.3	
Mg (mg/L)	20	06/18/19	O	1	1	20.0	20.0	20.0	20	0	0.0	H
K (mg/L)	1	06/18/19	O	1	1	1.0	1.0	1.0	1	0	0.0	H
Na (mg/L)	2	06/18/19	O	1	1	2.0	2.0	2.0	2	0	0.0	H
SO4 (mg/L)	16	05/25/11-06/18/19	O	32	32	9.0	46.0	19.2	19	7.9	0.4	
Nitrate + (mg/L)	0.09	05/25/11-06/18/19	O	32	29	0.01	0.24	0.06	0.06	0.07	0.49	
P (mg/L)	0.03	06/18/19	O	1	1	0.03	0.03	0.03	0.03	0	0.0	H
Total Pers (mg/L)	0.26	06/24/15-06/18/19	O	16	16	0.09	0.51	0.2	0.2	0.11	0.52	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Element (mg/L)	Result	Date	QC	N	OF	MIN	MAX	MEAN	MEDIAN	SD	FROM MEAN	STATUS
Al (DIS)	< 0.009	06/18/19	O	1	0	< 0.009	< 0.009					
Sb (TRC)	< 0.0005	06/18/19	O	1	0	< 0.0005	: 0.0005					
As (TRC)	< 0.001	06/18/19	O	1	0	< 0.001	< 0.001					
Ba (TRC)	0.095	06/18/19	O	1	1	0.095	0.095	0.095	0.095	0	0.0	H
Be (TRC)	< 0.0008	06/18/19	O	1	0	< 0.0008	: 0.0008					
Cd (TRC)	< 0	06/18/19	O	1	0	< 0	: .00003					
Cr (TRC)	< 0.01	06/18/19	O	1	0	< 0.01	< 0.01					
Co (TRC)	< 0.01	06/18/19	O	1	0	< 0.01	< 0.01					
Cu (TRC)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002					
Fe (TRC)	0.44	06/18/19	O	1	1	0.44	0.44	0.44	0.44	0	0.0	H
Pb (TRC)	0.0004	06/18/19	O	1	1	0.0004	0.0004	0.0004	0.0004	0	0.0	H
Mn (TRC)	0.027	06/18/19	O	1	1	0.027	0.027	0.027	0.027	0	0.0	H
Hg (TRC) (ug/L)	< 0.005	06/18/19	O	1	0	< 0.005	< 0.005					
Mo (TRC)	< 0.002	06/18/19	O	1	0	< 0.002	< 0.002					
Ni (TRC)	< 0.001	06/18/19	O	1	0	< 0.001	< 0.001					
Se (TRC)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
Ag (TRC)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
Sr (TRC)	0.178	06/18/19	O	1	1	0.178	0.178	0.178	0.178	0	0.0	H
Tl (TRC)	< 0.0002	06/18/19	O	1	0	< 0.0002	: 0.0002					
U (TRC)	0.0009	06/18/19	O	1	1	0.0009	0.0009	0.0009	0.0009	0	0.0	H
Zn (TRC)	0.004	06/18/19	O	1	1	0.004	0.004	0.004	0.004	0	0.0	H

SAMPLE NO	BBC-1906-110	LAB NO:	H19060536-003	STATION:	SW-2
-----------	--------------	---------	---------------	----------	------

PARAMETER	06/19/19 RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	STATUS
DO (mg/L)	9.96	05/24/11-06/19/19	O	79	79	6.35	16.18	10.98	10.9	1.75	0.58	
pH Fld (s.u.)	8.3	05/24/11-06/19/19	O	78	78	0.0	8.7	6.8	8	1	1.5	
SC Fld (umhos/cm)	280	05/24/11-06/19/19	O	79	79	156.0	388.0	275.7	300	54.2	0.1	
Flow (Cubic Ft Sec)	71.76	05/24/11-06/19/19	O	51	51	0.0	250.0	10.95	20.27	50.74	1.2	
Gauge (Feet)	1.05	05/24/11-06/19/19	O	41	41	0.21	1.75	0.66	0.65	0.46	0.84	
Water Temp (Deg C)	7.3	05/24/11-06/19/19	O	79	79	-1.0	15.8	0.3	3.3	4.9	1.4	
TDS (mg/L)	183	05/24/11-06/19/19	O	72	72	112.0	223.0	164.7	173	25.3	0.7	
TSS (mg/L)	8	05/30/12-06/19/19	O	68	20	< 4	105.0					
Tot Alk (mg/L)	140	05/24/11-06/19/19	O	72	72	80.0	200.0	149.8	160	28.3	0.3	
Ca (mg/L)	41	05/30/19-06/19/19	O	2	2	28.0	41.0	33.9	34.5	9.2	0.8	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Chloride (mg/L)	1	05/24/11-06/19/19	O	72	70	1.0	5.0	1.3	1	0.7	0.5	L
F (mg/L)	< 0.1	05/24/11-06/19/19	O	72	1	< 0.1	0.4					
Tot Hard (mg/L)	143	05/24/11-06/19/19	O	72	71	< 7	202.0	143.4	162	34.1	0.0	
Mg (mg/L)	10	05/30/19-06/19/19	O	2	2	7.0	10.0	8.4	8.5	2.1	0.8	H
K (mg/L)	1	05/30/19-06/19/19	O	2	1	1.0	1.0					
Na (mg/L)	2	05/30/19-06/19/19	O	2	2	2.0	2.0	2.0	2	0	0.0	H
SO4 (mg/L)	5	05/24/11-06/19/19	O	72	72	2.0	9.0	4.9	5	1.5	0.0	
Nitrate + (mg/L)	< 0.01	05/24/11-06/19/19	O	72	34	< 0.01	0.12					
P (mg/L)	0.013	05/30/19-06/19/19	O	2	2	0.013	0.017	0.015	0.015	0.003	0.622	L
Total Pers (mg/L)	0.12	04/29/15-06/19/19	O	46	40	< 0	1.39	0.1	0.1	0.27	0.06	
Al (DIS) (mg/L)	0.012	05/30/19-06/19/19	O	2	2	0.012	0.051	0.025	0.032	0.028	0.455	L
Sb (TRC) (mg/L)	< 0.0005	05/30/19-06/19/19	O	2	0	< 0.0005	: 0.0005					
As (TRC) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001					
Ba (TRC) (mg/L)	0.078	05/30/19-06/19/19	O	2	2	0.073	0.078	0.075	0.076	0.004	0.635	H
Be (TRC) (mg/L)	< 0.0008	05/30/19-06/19/19	O	2	0	< 0.0008	: 0.0008					
Cd (TRC) (mg/L)	< 0	05/30/19-06/19/19	O	2	0	< 0	: .00003					
Cr (TRC) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Co (TRC) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Cu (TRC) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Fe (TRC) (mg/L)	0.23	05/30/19-06/19/19	O	2	2	0.23	0.55	0.36	0.39	0.23	0.55	L
Pb (TRC) (mg/L)	< 0.0003	05/30/19-06/19/19	O	2	0	< 0.0003	: 0.0003					
Mn (TRC) (mg/L)	0.011	05/30/19-06/19/19	O	2	2	0.011	0.012	0.011	0.012	0.001	0.489	L
Hg (TRC) (ug/L)	< 0.005	05/30/19-06/19/19	O	2	1	< 0.005	0.01					
Mo (TRC) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Ni (TRC) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	1	< 0.001	< 0.001					
Se (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Ag (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Sr (TRC) (mg/L)	0.126	05/30/19-06/19/19	O	2	2	0.095	0.126	0.109	0.111	0.022	0.765	H
Tl (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
U (TRC) (mg/L)	0.0003	05/30/19-06/19/19	O	2	2	0.0002	0.0003	0.0002	0.0003	0.0001	0.5505	H
Zn (TRC) (mg/L)	0.002	05/30/19-06/19/19	O	2	2	0.002	0.004	0.003	0.003	0.001	0.828	L

SAMPLE NO	BBC-1906-123	LAB NO:	H19060536-006	STATION:	SW-3
06/19/19		COMPARISON		# OF	
PARAMETER	RESULT	PERIOD OF DATA	QC Code	N	DET
				MIN	MAX
				MEAN	MEDIAN
				SD	# OF SD'S FROM MEAN

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

DO (mg/L)	9.28	05/24/11-06/19/19	O	33	33	5.95	12.87	9.88	10	1.46	0.41	
pH Fld (s.u.)	8.46	05/24/11-06/19/19	O	33	33	7.92	8.7	8.28	8.31	0.16	1.12	
SC Fld (umhos/cm)	379	05/24/11-06/19/19	O	33	33	269.0	423.0	374.1	383	36.4	0.1	
Flow (Cubic Ft Sec)	0.089	05/24/11-06/19/19	O	29	29	0.034	4.9	0.168	0.14	0.887	0.089	
Water Temp (Deg C)	11	05/24/11-06/19/19	O	33	33	0.0	14.5	3.4	9.2	4.6	1.7	
TDS (mg/L)	247	05/24/11-06/19/19	O	31	31	152.0	255.0	217.2	221	19.3	1.5	
TSS (mg/L)	5	05/30/12-06/19/19	O	28	11	< 4	14.0					
Tot Alk (mg/L)	180	05/24/11-06/19/19	O	31	31	150.0	210.0	195.7	200	13.3	1.2	
Ca (mg/L)	44	05/30/19-06/19/19	O	2	2	44.0	44.0	44.0	44	0	0.0	H
Chloride (mg/L)	2	05/24/11-06/19/19	O	31	29	1.0	3.0	1.5	1.9	0.5	1.0	
F (mg/L)	0.2	05/24/11-06/19/19	O	31	31	0.1	0.2	0.2	0.2	0	0.0	H
Tot Hard (mg/L)	198	05/24/11-06/19/19	O	31	31	139.0	234.0	206.0	213	19.3	0.4	
Mg (mg/L)	21	05/30/19-06/19/19	O	2	2	21.0	21.0	21.0	21	0	0.0	H
K (mg/L)	< 1	05/30/19-06/19/19	O	2	0	< 1	< 1					
Na (mg/L)	2	05/30/19-06/19/19	O	2	2	2.0	2.0	2.0	2	0	0.0	H
SO4 (mg/L)	17	05/24/11-06/19/19	O	31	31	5.0	26.0	15.6	17	4.8	0.3	
Nitrate + (mg/L)	< 0.01	05/24/11-06/19/19	O	31	25	< 0.01	0.12	0.04	0.05	0.03	0.88	L
P (mg/L)	0.009	05/30/19-06/19/19	O	2	2	0.006	0.009	0.007	0.008	0.002	0.826	H
Total Pers (mg/L)	0.1	06/24/15-06/19/19	O	18	17	< 0	0.6	0.1	0.1	0.1	0.3	
Al (DIS) (mg/L)	< 0.009	05/30/19-06/19/19	O	2	0	< 0.009	< 0.009					
Sb (TRC) (mg/L)	< 0.0005	05/30/19-06/19/19	O	2	0	< 0.0005	: 0.0005					
As (TRC) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001					
Ba (TRC) (mg/L)	0.146	05/30/19-06/19/19	O	2	2	0.133	0.146	0.139	0.14	0.009	0.739	H
Be (TRC) (mg/L)	< 0.0008	05/30/19-06/19/19	O	2	0	< 0.0008	: 0.0008					
Cd (TRC) (mg/L)	< 0	05/30/19-06/19/19	O	2	0	< 0	: .00003					
Cr (TRC) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Co (TRC) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Cu (TRC) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Fe (TRC) (mg/L)	0.07	05/30/19-06/19/19	O	2	2	0.03	0.07	0.05	0.05	0.03	0.81	H
Pb (TRC) (mg/L)	< 0.0003	05/30/19-06/19/19	O	2	0	< 0.0003	: 0.0003					
Mn (TRC) (mg/L)	< 0.005	05/30/19-06/19/19	O	2	0	< 0.005	< 0.005					
Hg (TRC) (ug/L)	< 0.005	05/30/19-06/19/19	O	2	0	< 0.005	< 0.005					
Mo (TRC) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Ni (TRC) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Se (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002 : 0 .0002						
Ag (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002 : 0 .0002						
Sr (TRC) (mg/L)	0.11	05/30/19-06/19/19	O	2	2	0.1	0.11	0.1	0.11	0.01	0.51	H
Tl (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002 : 0 .0002						
U (TRC) (mg/L)	0.0006	05/30/19-06/19/19	O	2	2	0.0006	0.0006	0.0006	0.0006	0	0.0	H
Zn (TRC) (mg/L)	0.002	05/30/19-06/19/19	O	2	1	0.002	0.002					

SAMPLE NO BBC-1906-129 LAB NO: H19060536-009

STATION:SW-6

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	8.89	05/25/11-06/20/19	O	30	30	5.82	14.18	9.7	9.93	1.81	0.45	
pH Fld (s.u.)	8.05	05/25/11-06/20/19	O	30	30	6.67	8.68	8.0	8.1	0.45	0.11	
SC Fld (umhos/cm)	379	05/25/11-06/20/19	O	30	30	249.0	433.0	387.8	396	35.2	0.3	
Flow (Cubic Ft Sec)	0.63	05/25/11-06/20/19	O	24	24	0.04	4.1	0.2	0.18	0.82	0.53	
Water Temp (Deg C)	7.5	05/25/11-06/20/19	O	30	30	0.0	18.3	2.1	6.7	5.7	1.0	
TDS (mg/L)	246	05/25/11-06/20/19	O	30	30	162.0	254.0	222.7	225	18.5	1.3	
TSS (mg/L)	13	05/30/12-06/20/19	O	26	20	4.0	107.0	12.7	10	28.1	0.0	
Tot Alk (mg/L)	190	05/25/11-06/20/19	O	30	30	140.0	240.0	210.0	215	19.2	1.0	
Ca (mg/L)	49	06/20/19	O	1	1	49.0	49.0	49.0	49	0	0.0	H
Chloride (mg/L)	< 1	05/25/11-06/20/19	O	30	7	1.0	2.0					
F (mg/L)	0.1	05/25/11-06/20/19	O	30	28	0.1	0.2	0.2	0.2	0	0.0	L
Tot Hard (mg/L)	205	05/25/11-06/20/19	O	30	30	119.0	239.0	210.8	216.5	23.6	0.2	
Mg (mg/L)	20	06/20/19	O	1	1	20.0	20.0	20.0	20	0	0.0	H
K (mg/L)	< 1	06/20/19	O	1	0	< 1	< 1					
Na (mg/L)	3	06/20/19	O	1	1	3.0	3.0	3.0	3	0	0.0	H
SO4 (mg/L)	10	05/25/11-06/20/19	O	30	30	6.0	34.0	11.1	11	5.3	0.2	
Nitrate + (mg/L)	0.03	05/25/11-06/20/19	O	30	27	< 0.01	0.11	0.04	0.05	0.03	0.4	
P (mg/L)	0.018	06/20/19	O	1	1	0.018	0.018	0.018	0.018	0	0.0	H
Total Pers (mg/L)	0.2	06/24/15-06/20/19	O	14	14	0.1	0.4	0.2	0.2	0.1	0.2	
Al (DIS) (mg/L)	< 0.009	06/20/19	O	1	0	< 0.009	< 0 .009					
Sb (TRC) (mg/L)	< 0.0005	06/20/19	O	1	0	< 0.0005 : 0 .0005						
As (TRC) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001 < 0 .001						
Ba (TRC) (mg/L)	0.11	06/20/19	O	1	1	0.11	0.11	0.11	0.11	0	0.0	H
Be (TRC) (mg/L)	< 0.0008	06/20/19	O	1	0	< 0.0008 : 0 .0008						
Cd (TRC) (mg/L)	< 0	06/20/19	O	1	0	< 0 : .00003						

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Cr (TRC) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0.01					
Co (TRC) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0.01					
Cu (TRC) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002					
Fe (TRC) (mg/L)	0.64	06/20/19	O	1	1	0.64	0.64	0.64	0.64	0	0.0	H
Pb (TRC) (mg/L)	0.0003	06/20/19	O	1	1	0.0003	0.0003	0.0003	0.0003	0	0.0	H
Mn (TRC) (mg/L)	0.043	06/20/19	O	1	1	0.043	0.043	0.043	0.043	0	0.0	H
Hg (TRC) (ug/L)	< 0.005	06/20/19	O	1	0	< 0.005	< 0.005					
Mo (TRC) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002					
Ni (TRC) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001	< 0.001					
Se (TRC) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002					
Ag (TRC) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002					
Sr (TRC) (mg/L)	0.154	06/20/19	O	1	1	0.154	0.154	0.154	0.154	0	0.0	H
Tl (TRC) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002					
U (TRC) (mg/L)	0.0006	06/20/19	O	1	1	0.0006	0.0006	0.0006	0.0006	0	0.0	H
Zn (TRC) (mg/L)	0.006	06/20/19	O	1	1	0.006	0.006	0.006	0.006	0	0.0	H

SAMPLE NO BBC-1906-133 LAB NO: H19060535-012

STATION:SW-7

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	8.03	05/24/11-06/20/19	O	23	23	2.82	11.31	8.17	8.15	1.64	0.09
pH Fld (s.u.)	7.76	05/24/11-06/20/19	O	23	23	6.22	7.99	7.65	7.75	0.35	0.32
SC Fld (umhos/cm)	406	05/24/11-06/20/19	O	23	23	359.0	426.3	403.8	407	14.8	0.1
Flow (Gallons Per Min)	9.43	05/24/11-06/20/19	O	21	21	0.04	128.36	4.82	8.08	28.55	0.16
Water Temp (Deg C)	8.4	05/24/11-06/20/19	O	23	23	0.6	13.1	7.1	8.8	3.2	0.4
TDS (mg/L)	228	11/26/12-06/20/19	O	21	21	201.0	241.0	223.7	225	10.8	0.4
TSS (mg/L)	< 10	11/26/12-06/20/19	O	21	6	< 10	219.0				
Tot Alk (mg/L)	210	11/26/12-06/20/19	O	21	21	200.0	230.0	216.1	220	7.4	0.8
Ca (mg/L)	60	05/29/19-06/20/19	O	2	2	55.0	60.0	57.4	57.5	3.5	0.7 H
Chloride (mg/L)	< 1	11/26/12-06/20/19	O	21	1	< 1	2.0				
F (mg/L)	< 0.1	11/26/12-06/20/19	O	21	16	< 0.1	< 0.1	0.1	0.1	0	0.0 H
Tot Hard (mg/L)	227	11/26/12-06/20/19	O	21	21	193.0	242.0	221.5	222	12.4	0.4
Mg (mg/L)	19	05/29/19-06/20/19	O	2	2	17.0	19.0	18.0	18	1.4	0.7 H
K (mg/L)	< 1	05/29/19-06/20/19	O	2	0	< 1	< 1				
Na (mg/L)	2	05/29/19-06/20/19	O	2	2	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	10	11/26/12-06/20/19	O	21	21	6.0	11.0	8.8	9.1	1.4	0.8

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Nitrate + (mg/L)	0.06	11/26/12-06/20/19	O	21	18	< 0.01	0.13	0.03	0.04	0.03	0.9
Al (DIS) (mg/L)	< 0.009	05/29/19-06/20/19	O	2	0	< 0.009	< 0.009				
Sb (DIS) (mg/L)	< 0.0005	05/29/19-06/20/19	O	2	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	< 0.001	05/29/19-06/20/19	O	2	0	< 0.001	< 0.001				
Ba (DIS) (mg/L)	0.05	05/29/19-06/20/19	O	2	2	0.05	0.05	0.05	0.05	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	05/29/19-06/20/19	O	2	0	< 0.0008	: 0.0008				
Cd (DIS) (mg/L)	< 0	05/29/19-06/20/19	O	2	0	< 0	: .00003				
Cr (DIS) (mg/L)	< 0.01	05/29/19-06/20/19	O	2	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	05/29/19-06/20/19	O	2	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	< 0.002	05/29/19-06/20/19	O	2	0	< 0.002	< 0.002				
Fe (DIS) (mg/L)	< 0.02	05/29/19-06/20/19	O	2	0	< 0.02	< 0.02				
Pb (DIS) (mg/L)	< 0.0003	05/29/19-06/20/19	O	2	0	< 0.0003	: 0.0003				
Mn (DIS) (mg/L)	< 0.005	05/29/19-06/20/19	O	2	0	< 0.005	< 0.005				
Hg (DIS) (ug/L)	< 0.005	05/29/19-06/20/19	O	2	0	< 0.005	< 0.005				
Mo (DIS) (mg/L)	< 0.002	05/29/19-06/20/19	O	2	0	< 0.002	< 0.002				
Ni (DIS) (mg/L)	< 0.001	05/29/19-06/20/19	O	2	0	< 0.001	< 0.001				
Se (DIS) (mg/L)	< 0.0002	05/29/19-06/20/19	O	2	0	< 0.0002	: 0.0002				
Ag (DIS) (mg/L)	< 0.0002	05/29/19-06/20/19	O	2	0	< 0.0002	: 0.0002				
Sr (DIS) (mg/L)	0.132	05/29/19-06/20/19	O	2	2	0.131	0.132	0.131	0.132	0.001	0.501 H
Tl (DIS) (mg/L)	< 0.0002	05/29/19-06/20/19	O	2	0	< 0.0002	: 0.0002				
U (DIS) (mg/L)	0.0006	05/29/19-06/20/19	O	2	2	0.0006	0.0006	0.0006	0.0006	0	0.0 H
Zn (DIS) (mg/L)	< 0.002	05/29/19-06/20/19	O	2	0	< 0.002	< 0.002				

SAMPLE NO BBC-1906-111 LAB NO: H19060536-004

STATION:USGS-SC1

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	9.98	03/24/14-06/19/19	O	63	63	7.12	16.55	11.16	11.16	1.62	0.73
pH Fld (s.u.)	8.35	03/24/14-06/19/19	O	62	62	6.67	8.67	7.98	8.17	0.45	0.82
SC Fld (umhos/cm)	306	03/24/14-06/19/19	O	63	63	137.0	408.0	321.5	341	50.4	0.3
Flow (Cubic Ft Sec)	62.28	05/05/14-06/19/19	O	40	40	0.0	111.32	7.89	18.73	29.16	1.87
Water Temp (Deg C)	6.9	03/24/14-06/19/19	O	63	63	-1.0	13.1	0.4	2.9	4	1.6
TDS (mg/L)	209	03/24/14-06/19/19	O	60	60	132.0	230.0	187.9	195	21.3	1.0
TSS (mg/L)	10	03/24/14-06/19/19	O	60	17	< 4	38.0				
Tot Alk (mg/L)	150	03/24/14-06/19/19	O	60	60	120.0	220.0	174.9	180	22.8	1.1
Ca (mg/L)	45	05/30/19-06/19/19	O	2	2	37.0	45.0	40.8	41	5.7	0.7 H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Chloride (mg/L)	1	03/24/14-06/19/19	O	60	60	1.0	5.0	1.4	1	0.8	0.6	L
F (mg/L)	< 0.1	03/24/14-06/19/19	O	60	1	< 0.1	< 0.1					
Tot Hard (mg/L)	158	03/24/14-06/19/19	O	60	59	< 7	214.0	166.9	185	31.4	0.3	
Mg (mg/L)	11	05/30/19-06/19/19	O	2	2	9.0	11.0	9.9	10	1.4	0.8	H
K (mg/L)	1	05/30/19-06/19/19	O	2	2	1.0	1.0	1.0	1	0	0.0	H
Na (mg/L)	2	05/30/19-06/19/19	O	2	2	2.0	2.0	2.0	2	0	0.0	H
SO4 (mg/L)	5	03/24/14-06/19/19	O	60	60	3.0	8.0	5.7	6	1.4	0.5	
Nitrate + (mg/L)	0.01	03/24/14-06/19/19	O	60	41	< 0.01	0.13	0.03	0.03	0.04	0.46	L
P (mg/L)	0.009	05/30/19-06/19/19	O	2	2	0.009	0.018	0.013	0.014	0.006	0.621	L
Total Pers (mg/L)	0.1	04/29/15-06/19/19	O	46	36	< 0	1.1	0.1	0.1	0.2	0.1	
Al (DIS) (mg/L)	< 0.009	05/30/19-06/19/19	O	2	1	< 0.009	0.023					
Sb (TRC) (mg/L)	< 0.0005	05/30/19-06/19/19	O	2	0	< 0.0005	: 0.0005					
As (TRC) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001					
Ba (TRC) (mg/L)	0.068	05/30/19-06/19/19	O	2	2	0.061	0.068	0.064	0.065	0.005	0.719	H
Be (TRC) (mg/L)	< 0.0008	05/30/19-06/19/19	O	2	0	< 0.0008	: 0.0008					
Cd (TRC) (mg/L)	< 0	05/30/19-06/19/19	O	2	0	< 0	: .00003					
Cr (TRC) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Co (TRC) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Cu (TRC) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Fe (TRC) (mg/L)	0.16	05/30/19-06/19/19	O	2	2	0.16	0.67	0.33	0.42	0.36	0.47	L
Pb (TRC) (mg/L)	< 0.0003	05/30/19-06/19/19	O	2	1	< 0.0003	: 0.0003					
Mn (TRC) (mg/L)	0.008	05/30/19-06/19/19	O	2	2	0.008	0.013	0.01	0.011	0.004	0.55	L
Hg (TRC) (ug/L)	< 0.005	05/30/19-06/19/19	O	2	1	< 0.005	0.01					
Mo (TRC) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Ni (TRC) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	1	< 0.001	0.002					
Se (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Ag (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Sr (TRC) (mg/L)	0.141	05/30/19-06/19/19	O	2	2	0.119	0.141	0.13	0.13	0.016	0.717	H
Tl (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
U (TRC) (mg/L)	0.0003	05/30/19-06/19/19	O	2	2	0.0003	0.0003	0.0003	0.0003	0	0.0	H
Zn (TRC) (mg/L)	0.002	05/30/19-06/19/19	O	2	2	0.002	0.002	0.002	0.002	0	0.0	H

SAMPLE NO BBC-1906-227 LAB NO: H19060562-007

STATION:MW-10

PARAMETER	06/20/19	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
-----------	----------	--------	---------------------------	---------	---	----------	-----	-----	------	--------	----	---------------------

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Depth to W (Feet)	66.23	03/29/16-06/20/19	O	13	13	64.92	82.88	74.36	76.92	5.97	1.36
DO (mg/L)	7.65	03/29/16-06/20/19	O	13	13	4.96	9.77	7.2	7.52	1.5	0.3
EH (Millivolts)	272	03/21/18-06/20/19	O	5	5	253.7	297.4	278.2	276.3	17.7	0.3
pH Fld (s.u.)	8.04	03/29/16-06/20/19	O	13	13	7.56	8.04	7.84	7.87	0.17	1.15 H
SC Fld (umhos/cm)	351	03/29/16-06/20/19	O	13	13	314.0	364.0	335.9	338	14.3	1.1
Water Temp (Deg C)	6.5	03/29/16-06/20/19	O	13	13	5.9	9.7	7.7	7.9	1.1	1.1
TDS (mg/L)	188	03/29/16-06/20/19	O	13	13	174.0	244.0	194.4	190	17.3	0.4
TSS (mg/L)	< 10	03/29/16-06/20/19	O	13	11	< 10	2830.0	91.3	130	759.7	0.1 L
Tot Alk (mg/L)	180	03/29/16-06/20/19	O	13	13	170.0	210.0	179.8	180	10	0.0
Ca (mg/L)	44	06/20/19	O	1	1	44.0	44.0	44.0	44	0	0.0 H
Chloride (mg/L)	< 1	03/29/16-06/20/19	O	13	3	< 1	4.0				
F (mg/L)	0.2	03/29/16-06/20/19	O	13	13	0.2	0.5	0.3	0.3	0.1	0.9 L
Tot Hard (mg/L)	184	03/29/16-06/20/19	O	13	13	156.0	185.0	170.1	167	10.6	1.3
Mg (mg/L)	18	06/20/19	O	1	1	18.0	18.0	18.0	18	0	0.0 H
K (mg/L)	2	06/20/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
Na (mg/L)	6	06/20/19	O	1	1	6.0	6.0	6.0	6	0	0.0 H
SO4 (mg/L)	4	03/29/16-06/20/19	O	13	13	3.0	8.0	4.7	4.7	1.5	0.5
Nitrate + (mg/L)	0.6	03/29/16-06/20/19	O	13	13	0.5	0.6	0.5	0.5	0	0.0
Al (DIS) (mg/L)	0.027	06/20/19	O	1	1	0.027	0.027	0.027	0.027	0	0.0 H
Sb (DIS) (mg/L)	< 0.0005	06/20/19	O	1	0	< 0.0005	: 0 .0005				
As (DIS) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001	< 0 .001				
Ba (DIS) (mg/L)	0.211	06/20/19	O	1	1	0.211	0.211	0.211	0.211	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	06/20/19	O	1	0	< 0.0008	: 0 .0008				
Cd (DIS) (mg/L)	< 0	06/20/19	O	1	0	< 0	: .00003				
Cr (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0 .01				
Co (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0 .01				
Cu (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0 .002				
Fe (DIS) (mg/L)	0.02	06/20/19	O	1	1	0.02	0.02	0.02	0.02	0	0.0 H
Pb (DIS) (mg/L)	< 0.0003	06/20/19	O	1	0	< 0.0003	: 0 .0003				
Mn (DIS) (mg/L)	< 0.005	06/20/19	O	1	0	< 0.005	< 0 .005				
Hg (DIS) (ug/L)	< 0.005	06/20/19	O	1	0	< 0.005	< 0 .005				
Mo (DIS) (mg/L)	0.004	06/20/19	O	1	1	0.004	0.004	0.004	0.004	0	0.0 H
Ni (DIS) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001	< 0 .001				
Se (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0 .0002				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Ag (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002 : 0 .0002					
Sr (DIS) (mg/L)	0.893	06/20/19	O	1	1	0.893	0.893	0.893	0.893	0	0.0 H
Tl (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002 : 0 .0002					
U (DIS) (mg/L)	0.0051	06/20/19	O	1	1	0.0051	0.0051	0.0051	0.0051	0	0.0 H
Zn (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002 < 0 .002					

SAMPLE NO	BBC-1906-228	LAB NO:	H19060562-008	STATION:	MW-11
-----------	--------------	---------	---------------	----------	-------

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Depth to W (Feet)	25.75	03/29/16-06/21/19	O	13	13	23.38	37.08	31.44	33.41	4.23	1.34
DO (mg/L)	9.57	03/29/16-06/21/19	O	13	13	5.09	9.57	7.4	7.86	1.32	1.64 H
EH (Millivolts)	281.21	03/20/18-06/21/19	O	5	5	255.64	293.82	274.68	280.32	15.13	0.43
pH Fld (s.u.)	7.72	03/29/16-06/21/19	O	13	13	7.4	7.73	7.65	7.7	0.11	0.68
SC Fld (umhos/cm)	296	03/29/16-06/21/19	O	13	13	295.0	393.0	319.6	309	27	0.9
Water Temp (Deg C)	7.6	03/29/16-06/21/19	O	13	13	6.7	8.1	7.6	7.6	0.5	0.0
TDS (mg/L)	160	03/29/16-06/21/19	O	13	13	160.0	238.0	183.0	180	18.1	1.3 L
TSS (mg/L)	25	03/29/16-06/21/19	O	13	12	< 10	501.0	61.5	58	166.2	0.2
Tot Alk (mg/L)	150	03/29/16-06/21/19	O	13	13	150.0	180.0	165.2	160	8.8	1.7 L
Ca (mg/L)	43	06/21/19	O	1	1	43.0	43.0	43.0	43	0	0.0 H
Chloride (mg/L)	< 1	03/29/16-06/21/19	O	13	1	< 1	2.0				
F (mg/L)	< 0.1	03/29/16-06/21/19	O	13	8	< 0.1	< 0.1	0.1	0.1	0	0.0 H
Tot Hard (mg/L)	151	03/29/16-06/21/19	O	13	13	148.0	163.0	156.8	159	5.5	1.1
Mg (mg/L)	11	06/21/19	O	1	1	11.0	11.0	11.0	11	0	0.0 H
K (mg/L)	2	06/21/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
Na (mg/L)	4	06/21/19	O	1	1	4.0	4.0	4.0	4	0	0.0 H
SO4 (mg/L)	5	03/29/16-06/21/19	O	13	13	4.0	31.0	6.6	5	7.3	0.2
Nitrate + (mg/L)	0.47	03/29/16-06/21/19	O	13	13	0.37	0.53	0.44	0.45	0.05	0.56
Al (DIS) (mg/L)	< 0.009	06/21/19	O	1	0	< 0.009 < 0 .009					
Sb (DIS) (mg/L)	< 0.0005	06/21/19	O	1	0	< 0.0005 : 0 .0005					
As (DIS) (mg/L)	< 0.001	06/21/19	O	1	0	< 0.001 < 0 .001					
Ba (DIS) (mg/L)	0.149	06/21/19	O	1	1	0.149	0.149	0.149	0.149	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	06/21/19	O	1	0	< 0.0008 : 0 .0008					
Cd (DIS) (mg/L)	< 0	06/21/19	O	1	0	< 0 : .00003					
Cr (DIS) (mg/L)	< 0.01	06/21/19	O	1	0	< 0.01 < 0 .01					
Co (DIS) (mg/L)	< 0.01	06/21/19	O	1	0	< 0.01 < 0 .01					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Cu (DIS) (mg/L)	< 0.002	06/21/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	< 0.02	06/21/19	O	1	0	< 0.02	< 0.02					
Pb (DIS) (mg/L)	< 0.0003	06/21/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	06/21/19	O	1	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	06/21/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/21/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	06/21/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	06/21/19	O	1	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	06/21/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.322	06/21/19	O	1	1	0.322	0.322	0.322	0.322	0	0.0	H
Tl (DIS) (mg/L)	< 0.0002	06/21/19	O	1	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	0.0015	06/21/19	O	1	1	0.0015	0.0015	0.0015	0.0015	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	06/21/19	O	1	0	< 0.002	< 0.002					

SAMPLE NO BBC-1906-229		LAB NO: H19060562-009		STATION:MW-12								
06/21/19												
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
Depth to W (Feet)	22.54	03/29/16-06/21/19	O	13	13	21.19	31.17	26.37	27.44	3.2	1.2	
DO (mg/L)	9.35	03/29/16-06/21/19	O	13	13	6.27	9.88	8.36	8.43	1.19	0.83	
EH (Millivolts)	283.58	03/20/18-06/21/19	O	5	5	265.01	304.8	288.6	288.61	16.17	0.31	
pH Fld (s.u.)	7.6	03/29/16-06/21/19	O	13	13	7.2	7.6	7.5	7.6	0.1	1.0	
SC Fld (umhos/cm)	342	03/29/16-06/21/19	O	13	13	342.0	437.0	404.5	409	24.5	2.6 L	
Water Temp (Deg C)	6	03/29/16-06/21/19	O	13	13	5.4	7.0	6.3	6.4	0.4	0.8	
TDS (mg/L)	210	03/29/16-06/21/19	O	13	13	210.0	233.0	222.3	223	6.5	1.9 L	
TSS (mg/L)	< 10	03/29/16-06/21/19	O	13	2	< 4	26.0					
Tot Alk (mg/L)	200	03/29/16-06/21/19	O	13	13	200.0	220.0	211.4	210	6.9	1.7 L	
Ca (mg/L)	58	06/21/19	O	1	1	58.0	58.0	58.0	58	0	0.0 H	
Chloride (mg/L)	< 1	03/29/16-06/21/19	O	13	0	< 1	< 1					
F (mg/L)	0.1	03/29/16-06/21/19	O	13	13	0.1	0.1	0.1	0.1	0	0.0 H	
Tot Hard (mg/L)	223	03/29/16-06/21/19	O	13	13	212.0	239.0	225.0	223	6.7	0.3	
Mg (mg/L)	19	06/21/19	O	1	1	19.0	19.0	19.0	19	0	0.0 H	
K (mg/L)	< 1	06/21/19	O	1	0	< 1	< 1					
Na (mg/L)	2	06/21/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H	
SO4 (mg/L)	11	03/29/16-06/21/19	O	13	13	10.0	13.0	11.5	12	1	0.5	
Nitrate + (mg/L)	0.13	03/29/16-06/21/19	O	13	13	0.13	0.19	0.16	0.16	0.02	1.61 L	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Element (mg/L)	Result	Date	QC	N	0	1	2	3	4	5	6	7	8	9	10	11	12
Al (DIS)	< 0.009	06/21/19	O	1	0	< 0.009	< 0.009										
Sb (DIS)	< 0.0005	06/21/19	O	1	0	< 0.0005	: 0.0005										
As (DIS)	< 0.001	06/21/19	O	1	0	< 0.001	< 0.001										
Ba (DIS)	0.051	06/21/19	O	1	1	0.051	0.051	0.051	0.051	0	0.0	H					
Be (DIS)	< 0.0008	06/21/19	O	1	0	< 0.0008	: 0.0008										
Cd (DIS)	< 0	06/21/19	O	1	0	< 0	: .00003										
Cr (DIS)	< 0.01	06/21/19	O	1	0	< 0.01	< 0.01										
Co (DIS)	< 0.01	06/21/19	O	1	0	< 0.01	< 0.01										
Cu (DIS)	< 0.002	06/21/19	O	1	0	< 0.002	< 0.002										
Fe (DIS)	< 0.02	06/21/19	O	1	0	< 0.02	< 0.02										
Pb (DIS)	< 0.0003	06/21/19	O	1	0	< 0.0003	: 0.0003										
Mn (DIS)	< 0.005	06/21/19	O	1	0	< 0.005	< 0.005										
Hg (DIS)	< 0.005	06/21/19	O	1	0	< 0.005	< 0.005										
Mo (DIS)	< 0.002	06/21/19	O	1	0	< 0.002	< 0.002										
Ni (DIS)	< 0.001	06/21/19	O	1	0	< 0.001	< 0.001										
Se (DIS)	< 0.0002	06/21/19	O	1	0	< 0.0002	: 0.0002										
Ag (DIS)	< 0.0002	06/21/19	O	1	0	< 0.0002	: 0.0002										
Sr (DIS)	0.136	06/21/19	O	1	1	0.136	0.136	0.136	0.136	0	0.0	H					
Tl (DIS)	< 0.0002	06/21/19	O	1	0	< 0.0002	: 0.0002										
U (DIS)	0.0007	06/21/19	O	1	1	0.0007	0.0007	0.0007	0.0007	0	0.0	H					
Zn (DIS)	< 0.002	06/21/19	O	1	0	< 0.002	< 0.002										

SAMPLE NO BBC-1906-230 LAB NO: H19060562-010

STATION: MW-13

PARAMETER	06/21/19 RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Depth to W (Feet)	17.54	03/29/16-06/21/19	O	13	13	16.68	22.5	20.32	21.16	1.92	1.45
DO (mg/L)	8.97	03/29/16-06/21/19	O	13	13	6.32	9.05	7.58	7.64	0.93	1.5
EH (Millivolts)	280.61	03/20/18-06/21/19	O	5	5	272.88	302.18	288.69	289.71	12.32	0.66
pH Fld (s.u.)	7.6	03/29/16-06/21/19	O	13	13	6.3	7.7	7.4	7.6	0.4	0.6
SC Fld (umhos/cm)	388	03/29/16-06/21/19	O	13	13	388.0	458.7	423.4	424	21.8	1.6 L
Water Temp (Deg C)	5.8	03/29/16-06/21/19	O	13	13	5.8	7.0	6.4	6.4	0.4	1.4 L
TDS (mg/L)	221	03/29/16-06/21/19	O	13	13	221.0	248.0	232.5	231	7.5	1.5 L
TSS (mg/L)	< 10	03/29/16-06/21/19	O	13	9	< 10	319.0	22.6	14	88.6	0.1 L
Tot Alk (mg/L)	210	03/29/16-06/21/19	O	13	13	210.0	220.0	216.1	220	5.1	1.2 L
Ca (mg/L)	57	06/21/19	O	1	1	57.0	57.0	57.0	57	0	0.0 H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Chloride (mg/L)	< 1	03/29/16-06/21/19	O	13	1	< 1	< 1				
F (mg/L)	0.1	03/29/16-06/21/19	O	13	12	0.1	0.1	0.1	0.1	0	0.0 H
Tot Hard (mg/L)	222	03/29/16-06/21/19	O	13	13	222.0	245.0	235.0	236	6.9	1.9 L
Mg (mg/L)	20	06/21/19	O	1	1	20.0	20.0	20.0	20	0	0.0 H
K (mg/L)	< 1	06/21/19	O	1	0	< 1	< 1				
Na (mg/L)	2	06/21/19	O	1	1	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	14	03/29/16-06/21/19	O	13	13	12.0	18.0	15.3	16	1.6	0.8
Nitrate + (mg/L)	0.15	03/29/16-06/21/19	O	13	13	0.15	0.27	0.19	0.19	0.03	1.47 L
Al (DIS) (mg/L)	< 0.009	06/21/19	O	1	0	< 0.009	< 0.009				
Sb (DIS) (mg/L)	< 0.0005	06/21/19	O	1	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	< 0.001	06/21/19	O	1	0	< 0.001	< 0.001				
Ba (DIS) (mg/L)	0.054	06/21/19	O	1	1	0.054	0.054	0.054	0.054	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	06/21/19	O	1	0	< 0.0008	: 0.0008				
Cd (DIS) (mg/L)	< 0	06/21/19	O	1	0	< 0	: .00003				
Cr (DIS) (mg/L)	< 0.01	06/21/19	O	1	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	06/21/19	O	1	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	< 0.002	06/21/19	O	1	0	< 0.002	< 0.002				
Fe (DIS) (mg/L)	< 0.02	06/21/19	O	1	0	< 0.02	< 0.02				
Pb (DIS) (mg/L)	< 0.0003	06/21/19	O	1	0	< 0.0003	: 0.0003				
Mn (DIS) (mg/L)	< 0.005	06/21/19	O	1	0	< 0.005	< 0.005				
Hg (DIS) (ug/L)	< 0.005	06/21/19	O	1	0	< 0.005	< 0.005				
Mo (DIS) (mg/L)	< 0.002	06/21/19	O	1	0	< 0.002	< 0.002				
Ni (DIS) (mg/L)	< 0.001	06/21/19	O	1	0	< 0.001	< 0.001				
Se (DIS) (mg/L)	< 0.0002	06/21/19	O	1	0	< 0.0002	: 0.0002				
Ag (DIS) (mg/L)	< 0.0002	06/21/19	O	1	0	< 0.0002	: 0.0002				
Sr (DIS) (mg/L)	0.0976	06/21/19	O	1	1	0.0976	0.0976	0.0976	0.0976	0	0.0 H
Tl (DIS) (mg/L)	< 0.0002	06/21/19	O	1	0	< 0.0002	: 0.0002				
U (DIS) (mg/L)	0.0005	06/21/19	O	1	1	0.0005	0.0005	0.0005	0.0005	0	0.0 H
Zn (DIS) (mg/L)	< 0.002	06/21/19	O	1	0	< 0.002	< 0.002				

SAMPLE NO		LAB NO:		STATION:SW-14							
06/19/19		H19060536-007									
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	8.22	04/13/16-06/19/19	O	36	36	7.59	15.01	10.61	10.42	1.68	1.42
pH Fld (s.u.)	7.99	04/13/16-06/19/19	O	35	35	6.07	8.48	7.93	8.05	0.46	0.14

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

SC Fld (umhos/cm)	392	04/13/16-06/19/19	O	36	36	263.0	439.0	379.6	393	42.4	0.3
Flow (Cubic Ft Sec)	6.53	02/25/16-06/19/19	O	33	33	0.0	11.75	0.51	1.09	3.16	1.91
Gauge (Feet)	0.8	04/13/16-06/19/19	O	19	19	0.3	0.8	0.5	0.5	0.1	3.2 *H
Water Temp (Deg C)	11.7	04/13/16-06/19/19	O	36	36	-0.9	14.7	2.5	7.1	4.6	2.0
TDS (mg/L)	266	04/13/16-06/19/19	O	33	33	175.0	266.0	224.7	227	16.9	2.4 H
TSS (mg/L)	5	04/13/16-06/19/19	O	33	5	< 4	15.0				
Tot Alk (mg/L)	190	04/13/16-06/19/19	O	33	33	160.0	220.0	204.9	210	17.9	0.8
Ca (mg/L)	53	05/30/19-06/19/19	O	2	2	53.0	53.0	53.0	53	0	0.0 H
Chloride (mg/L)	4	04/13/16-06/19/19	O	33	33	1.0	4.0	2.0	2	0.6	3.4 *H
F (mg/L)	0.1	04/13/16-06/19/19	O	33	33	0.1	0.2	0.2	0.2	0	0.0 L
Tot Hard (mg/L)	203	04/13/16-06/19/19	O	33	33	153.0	239.0	211.4	214	18.6	0.4
Mg (mg/L)	17	05/30/19-06/19/19	O	2	2	17.0	19.0	18.0	18	1.4	0.7 L
K (mg/L)	1	05/30/19-06/19/19	O	2	2	1.0	1.0	1.0	1	0	0.0 H
Na (mg/L)	2	05/30/19-06/19/19	O	2	2	2.0	2.0	2.0	2	0	0.0 H
SO4 (mg/L)	8	04/13/16-06/19/19	O	33	33	6.5	19.0	9.2	9	2.8	0.4
Nitrate + (mg/L)	0.05	04/13/16-06/19/19	O	33	32	0.01	0.27	0.07	0.08	0.08	0.2
P (mg/L)	0.011	05/30/19-06/19/19	O	2	2	0.008	0.011	0.009	0.01	0.002	0.81 H
Total Pers (mg/L)	0.2	04/13/16-06/19/19	O	30	29	< 0	1.3	0.2	0.2	0.2	0.1
Al (DIS) (mg/L)	< 0.009	05/30/19-06/19/19	O	2	0	< 0.009	< 0.009				
Sb (TRC) (mg/L)	< 0.0005	05/30/19-06/19/19	O	2	0	< 0.0005	: 0.0005				
As (TRC) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001				
Ba (TRC) (mg/L)	0.112	05/30/19-06/19/19	O	2	2	0.103	0.112	0.107	0.108	0.006	0.766 H
Be (TRC) (mg/L)	< 0.0008	05/30/19-06/19/19	O	2	0	< 0.0008	: 0.0008				
Cd (TRC) (mg/L)	< 0	05/30/19-06/19/19	O	2	0	< 0	: .00003				
Cr (TRC) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01				
Co (TRC) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01				
Cu (TRC) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002				
Fe (TRC) (mg/L)	0.11	05/30/19-06/19/19	O	2	2	0.06	0.11	0.08	0.09	0.04	0.72 H
Pb (TRC) (mg/L)	< 0.0003	05/30/19-06/19/19	O	2	0	< 0.0003	: 0.0003				
Mn (TRC) (mg/L)	0.007	05/30/19-06/19/19	O	2	2	0.005	0.007	0.006	0.006	0.001	1.084 H
Hg (TRC) (ug/L)	< 0.005	05/30/19-06/19/19	O	2	1	< 0.005	< 0.005				
Mo (TRC) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002				
Ni (TRC) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001				
Se (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Ag (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002 : 0 .0002						
Sr (TRC) (mg/L)	0.127	05/30/19-06/19/19	O	2	2	0.115	0.127	0.121	0.121	0.008	0.769	H
TI (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002 : 0 .0002						
U (TRC) (mg/L)	0.0005	05/30/19-06/19/19	O	2	2	0.0005	0.0005	0.0005	0.0005	0	0.0	H
Zn (TRC) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002 < 0 .002						

SAMPLE NO BBC-1906-122 LAB NO: H19060536-005

STATION:SW-17

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	8.46	01/17/18-06/19/19	O	14	14	8.46	12.9	10.46	10.67	1.07	1.87	L
pH Fld (s.u.)	8.14	01/17/18-06/19/19	O	14	14	7.47	8.41	8.07	8.09	0.24	0.31	
SC Fld (umhos/cm)	458	01/17/18-06/19/19	O	14	14	319.0	487.0	425.7	436.5	43.5	0.7	
Flow (Cubic Ft Sec)	0.75	01/17/18-06/19/19	O	10	10	0.0	1.8	0.07	0.22	0.62	1.09	
Water Temp (Deg C)	13.9	01/17/18-06/19/19	O	14	14	0.0	13.9	2.0	6.2	5.2	2.3	H
TDS (mg/L)	314	01/17/18-06/19/19	O	15	15	197.0	314.0	252.7	254	31.7	1.9	H
TSS (mg/L)	6	01/17/18-06/19/19	O	15	6	< 4	14.0					
Tot Alk (mg/L)	190	01/17/18-06/19/19	O	15	15	150.0	210.0	199.8	210	17.9	0.5	
Ca (mg/L)	56	05/30/19-06/19/19	O	2	2	45.0	56.0	50.2	50.5	7.8	0.7	H
Chloride (mg/L)	14	01/17/18-06/19/19	O	15	15	3.0	14.0	4.4	4	2.7	3.5	*H
F (mg/L)	0.2	01/17/18-06/19/19	O	15	15	0.1	0.2	0.2	0.2	0	0.0	H
Tot Hard (mg/L)	234	01/17/18-06/19/19	O	15	15	167.0	262.0	230.8	240	24	0.1	
Mg (mg/L)	23	05/30/19-06/19/19	O	2	2	20.0	23.0	21.4	21.5	2.1	0.7	H
K (mg/L)	1	05/30/19-06/19/19	O	2	1	1.0	1.0					
Na (mg/L)	3	05/30/19-06/19/19	O	2	2	2.0	3.0	2.4	2.5	0.7	0.8	H
SO4 (mg/L)	23	01/17/18-06/19/19	O	15	15	12.0	44.0	27.4	33	8.5	0.5	
Nitrate + (mg/L)	0.03	01/17/18-06/19/19	O	15	14	< 0.01	0.19	0.07	0.07	0.06	0.62	
P (mg/L)	0.025	05/30/19-06/19/19	O	2	2	0.01	0.025	0.016	0.018	0.011	0.835	H
Total Pers (mg/L)	0.49	04/12/18-06/19/19	O	12	12	0.12	0.49	0.23	0.23	0.1	2.61	H
Al (DIS) (mg/L)	< 0.009	05/30/19-06/19/19	O	2	0	< 0.009 < 0 .009						
Sb (TRC) (mg/L)	< 0.0005	05/30/19-06/19/19	O	2	0	< 0.0005 : 0 .0005						
As (TRC) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001 < 0 .001						
Ba (TRC) (mg/L)	0.152	05/30/19-06/19/19	O	2	2	0.122	0.152	0.136	0.137	0.021	0.754	H
Be (TRC) (mg/L)	< 0.0008	05/30/19-06/19/19	O	2	0	< 0.0008 : 0 .0008						
Cd (TRC) (mg/L)	< 0	05/30/19-06/19/19	O	2	0	< 0 : .00003						
Cr (TRC) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01 < 0 .01						

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Co (TRC) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Cu (TRC) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Fe (TRC) (mg/L)	0.31	05/30/19-06/19/19	O	2	2	0.16	0.31	0.22	0.24	0.11	0.79	H
Pb (TRC) (mg/L)	< 0.0003	05/30/19-06/19/19	O	2	0	< 0.0003	: 0.0003					
Mn (TRC) (mg/L)	0.032	05/30/19-06/19/19	O	2	2	0.016	0.032	0.023	0.024	0.011	0.852	H
Hg (TRC) (ug/L)	0.007	05/30/19-06/19/19	O	2	2	0.007	0.007	0.007	0.007	0	0.0	H
Mo (TRC) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Ni (TRC) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001					
Se (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Ag (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Sr (TRC) (mg/L)	0.145	05/30/19-06/19/19	O	2	2	0.111	0.145	0.127	0.128	0.024	0.756	H
Tl (TRC) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
U (TRC) (mg/L)	0.0008	05/30/19-06/19/19	O	2	2	0.0005	0.0008	0.0006	0.0007	0.0002	0.8377	H
Zn (TRC) (mg/L)	0.004	05/30/19-06/19/19	O	2	1	< 0.002	0.004					

SAMPLE NO BBC-1906-220 LAB NO: H19060528-021

STATION:MW-16

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
Depth to W (Feet)	5.4	01/24/18-06/20/19	O	6	6	5.4	8.8	7.2	8	1.5	1.2	L
DO (mg/L)	0.2	01/24/18-06/20/19	O	6	6	0.0	0.3	0.1	0.2	0.1	0.8	
EH (Millivolts)	155.61	03/21/18-06/20/19	O	5	5	155.61	187.23	171.55	172.38	13.41	1.19	L
pH Fld (s.u.)	7.32	01/24/18-06/20/19	O	6	6	7.14	7.33	7.28	7.3	0.07	0.6	
SC Fld (umhos/cm)	581	01/24/18-06/20/19	O	6	6	568.0	653.0	614.0	620	34.4	1.0	
Water Temp (Deg C)	6.4	01/24/18-06/20/19	O	6	6	6.4	6.9	6.6	6.6	0.2	1.2	L
TDS (mg/L)	342	01/24/18-06/20/19	O	6	6	329.0	395.0	369.1	382	27.5	1.0	
TSS (mg/L)	< 10	01/24/18-06/20/19	O	6	4	< 10	82.0	20.4	18	27.4	0.4	L
Tot Alk (mg/L)	230	01/24/18-06/20/19	O	6	6	220.0	250.0	239.7	245	12.6	0.8	
Ca (mg/L)	71	06/20/19	O	1	1	71.0	71.0	71.0	71	0	0.0	H
Chloride (mg/L)	2	01/24/18-06/20/19	O	6	6	1.0	2.0	1.3	1	0.5	1.5	H
F (mg/L)	0.5	01/24/18-06/20/19	O	6	6	0.5	0.5	0.5	0.5	0	0.0	H
Tot Hard (mg/L)	326	01/24/18-06/20/19	O	6	6	326.0	368.0	343.3	340	18.3	0.9	L
Mg (mg/L)	36	06/20/19	O	1	1	36.0	36.0	36.0	36	0	0.0	H
K (mg/L)	3	06/20/19	O	1	1	3.0	3.0	3.0	3	0	0.0	H
Na (mg/L)	4	06/20/19	O	1	1	4.0	4.0	4.0	4	0	0.0	H
SO4 (mg/L)	88	01/24/18-06/20/19	O	6	6	72.0	107.0	95.9	103.5	14.1	0.6	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Nitrate + (mg/L)	< 0.01	01/24/18-06/20/19	O	6	1	< 0.01	< 0.01				
Al (DIS) (mg/L)	< 0.009	06/20/19	O	1	0	< 0.009	< 0.009				
Sb (DIS) (mg/L)	< 0.0005	06/20/19	O	1	0	< 0.0005	: 0.0005				
As (DIS) (mg/L)	0.005	06/20/19	O	1	1	0.005	0.005	0.005	0.005	0	0.0 H
Ba (DIS) (mg/L)	0.018	06/20/19	O	1	1	0.018	0.018	0.018	0.018	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	06/20/19	O	1	0	< 0.0008	: 0.0008				
Cd (DIS) (mg/L)	< 0	06/20/19	O	1	0	< 0	: .00003				
Cr (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0.01				
Co (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01	< 0.01				
Cu (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002				
Fe (DIS) (mg/L)	1.27	06/20/19	O	1	1	1.27	1.27	1.27	1.27	0	0.0 H
Pb (DIS) (mg/L)	< 0.0003	06/20/19	O	1	0	< 0.0003	: 0.0003				
Mn (DIS) (mg/L)	0.041	06/20/19	O	1	1	0.041	0.041	0.041	0.041	0	0.0 H
Hg (DIS) (ug/L)	< 0.005	06/20/19	O	1	0	< 0.005	< 0.005				
Mo (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002				
Ni (DIS) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001	< 0.001				
Se (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002				
Ag (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002				
Sr (DIS) (mg/L)	0.276	06/20/19	O	1	1	0.276	0.276	0.276	0.276	0	0.0 H
Tl (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002				
U (DIS) (mg/L)	0.0017	06/20/19	O	1	1	0.0017	0.0017	0.0017	0.0017	0	0.0 H
Zn (DIS) (mg/L)	0.004	06/20/19	O	1	1	0.004	0.004	0.004	0.004	0	0.0 H

SAMPLE NO BBC-1906-232 LAB NO: H19060562-012

STATION:MW-17

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Depth to W (Feet)	46.6	06/14/18-06/21/19	O	4	4	44.9	52.0	48.4	48.5	3.3	0.5
DO (mg/L)	6.62	06/14/18-06/21/19	O	4	4	5.82	6.62	6.31	6.42	0.38	0.82 H
EH (Millivolts)	278.54	06/14/18-06/21/19	O	4	4	241.75	285.01	265.89	269.49	19.47	0.65
pH Fld (s.u.)	7.74	06/14/18-06/21/19	O	4	4	7.65	7.75	7.72	7.74	0.05	0.45
SC Fld (umhos/cm)	358	06/14/18-06/21/19	O	4	4	358.0	386.0	377.1	382.5	13.1	1.5 L
Water Temp (Deg C)	6.8	06/14/18-06/21/19	O	4	4	6.2	7.4	6.8	6.9	0.5	0.1
TDS (mg/L)	203	06/14/18-06/21/19	O	4	4	198.0	213.0	206.4	207.5	7.2	0.5
TSS (mg/L)	< 10	06/14/18-06/21/19	O	4	0	< 10	< 10				
Tot Alk (mg/L)	190	06/14/18-06/21/19	O	4	4	190.0	200.0	197.5	200	5	1.5 L

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Ca (mg/L)	43	06/21/19	O	1	1	43.0	43.0	43.0	43	0	0.0	H
Chloride (mg/L)	1	06/14/18-06/21/19	O	4	4	1.0	2.0	1.7	2	0.5	1.4	L
F (mg/L)	0.2	06/14/18-06/21/19	O	4	4	0.2	0.3	0.3	0.3	0	0.0	L
Tot Hard (mg/L)	206	06/14/18-06/21/19	O	4	4	206.0	214.0	211.2	212.5	3.6	1.5	L
Mg (mg/L)	24	06/21/19	O	1	1	24.0	24.0	24.0	24	0	0.0	H
K (mg/L)	< 1	06/21/19	O	1	0	< 1	< 1					
Na (mg/L)	2	06/21/19	O	1	1	2.0	2.0	2.0	2	0	0.0	H
SO4 (mg/L)	9	06/14/18-06/21/19	O	4	4	8.0	9.0	8.5	8.5	0.6	0.9	H
Nitrate + (mg/L)	0.41	06/14/18-06/21/19	O	4	4	0.41	0.5	0.46	0.47	0.04	1.21	L
Al (DIS) (mg/L)	< 0.009	06/21/19	O	1	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	06/21/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	06/21/19	O	1	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.253	06/21/19	O	1	1	0.253	0.253	0.253	0.253	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/21/19	O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	06/21/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	06/21/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	06/21/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	06/21/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	< 0.02	06/21/19	O	1	0	< 0.02	< 0.02					
Pb (DIS) (mg/L)	< 0.0003	06/21/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	06/21/19	O	1	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	06/21/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/21/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	06/21/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	0.001	06/21/19	O	1	1	0.001	0.001	0.001	0.001	0	0.0	H
Ag (DIS) (mg/L)	< 0.0002	06/21/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.105	06/21/19	O	1	1	0.105	0.105	0.105	0.105	0	0.0	H
Tl (DIS) (mg/L)	< 0.0002	06/21/19	O	1	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	0.0009	06/21/19	O	1	1	0.0009	0.0009	0.0009	0.0009	0	0.0	H
Zn (DIS) (mg/L)	0.007	06/21/19	O	1	1	0.007	0.007	0.007	0.007	0	0.0	H

SAMPLE NO BBC-1906-231		LAB NO: H19060562-011		STATION:MW-19								
06/21/19												
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
Depth to W (Feet)	8.97	01/24/18-06/21/19	O	6	6	8.51	15.54	12.3	13.83	3.13	1.06	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

DO (mg/L)	7.67	01/24/18-06/21/19	O	6	6	6.69	7.67	7.14	7.11	0.35	1.51	H
EH (Millivolts)	278.98	03/20/18-06/21/19	O	5	5	251.79	340.72	287.36	278.98	32.77	0.26	
pH Fld (s.u.)	7.57	01/24/18-06/21/19	O	6	6	7.47	7.79	7.57	7.54	0.11	0.02	
SC Fld (umhos/cm)	329	01/24/18-06/21/19	O	6	6	329.0	417.0	381.0	394	34.7	1.5	L
Water Temp (Deg C)	6	01/24/18-06/21/19	O	6	6	6.0	8.1	7.0	7	0.8	1.2	L
TDS (mg/L)	202	01/24/18-06/21/19	O	6	6	202.0	234.0	219.1	220.5	11.2	1.5	L
TSS (mg/L)	< 10	01/24/18-06/21/19	O	6	4	< 10	37.0	17.6	18	10.9	0.7	L
Tot Alk (mg/L)	180	01/24/18-06/21/19	O	6	6	180.0	210.0	199.7	205	12.6	1.6	L
Ca (mg/L)	48	06/21/19	O	1	1	48.0	48.0	48.0	48	0	0.0	H
Chloride (mg/L)	< 1	01/24/18-06/21/19	O	6	1	< 1	< 1					
F (mg/L)	0.1	01/24/18-06/21/19	O	6	6	0.1	0.1	0.1	0.1	0	0.0	H
Tot Hard (mg/L)	196	01/24/18-06/21/19	O	6	6	196.0	230.0	218.5	224.5	13.3	1.7	L
Mg (mg/L)	19	06/21/19	O	1	1	19.0	19.0	19.0	19	0	0.0	H
K (mg/L)	< 1	06/21/19	O	1	0	< 1	< 1					
Na (mg/L)	2	06/21/19	O	1	1	2.0	2.0	2.0	2	0	0.0	H
SO4 (mg/L)	13	01/24/18-06/21/19	O	6	6	11.0	16.0	13.9	14.5	1.8	0.5	
Nitrate + (mg/L)	0.29	01/24/18-06/21/19	O	6	6	0.18	0.48	0.25	0.23	0.11	0.36	
Al (DIS) (mg/L)	0.018	06/21/19	O	1	1	0.018	0.018	0.018	0.018	0	0.0	H
Sb (DIS) (mg/L)	< 0.0005	06/21/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	06/21/19	O	1	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.077	06/21/19	O	1	1	0.077	0.077	0.077	0.077	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/21/19	O	1	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	06/21/19	O	1	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	06/21/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	06/21/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	06/21/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	0.02	06/21/19	O	1	1	0.02	0.02	0.02	0.02	0	0.0	H
Pb (DIS) (mg/L)	< 0.0003	06/21/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	06/21/19	O	1	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	06/21/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/21/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	06/21/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	06/21/19	O	1	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	06/21/19	O	1	0	< 0.0002	: 0.0002					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Sr (DIS) (mg/L)	0.148	06/21/19	O	1	1	0.148	0.148	0.148	0.148	0	0.0	H
Tl (DIS) (mg/L)	< 0.0002	06/21/19	O	1	0	< 0.0002 : 0.0002						
U (DIS) (mg/L)	0.0007	06/21/19	O	1	1	0.0007	0.0007	0.0007	0.0007	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	06/21/19	O	1	0	< 0.002 < 0.002						

SAMPLE NO BBC-1906-222 LAB NO: H19060562-002

STATION: MW-20

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
Depth to W (Feet)	21.9	01/24/18-06/20/19	O	6	6	18.1	25.9	22.4	22.3	2.9	0.2
DO (mg/L)	9.25	01/24/18-06/20/19	O	6	6	7.06	9.51	8.55	9.11	1.1	0.63
EH (Millivolts)	251.36	03/20/18-06/20/19	O	5	5	244.47	278.77	262.5	267.21	14.41	0.77
pH Fld (s.u.)	7.81	01/24/18-06/20/19	O	6	6	7.4	7.81	7.69	7.75	0.15	0.79 H
SC Fld (umhos/cm)	364	01/24/18-06/20/19	O	6	6	364.0	410.0	389.2	391	16.9	1.5 L
Water Temp (Deg C)	6.7	01/24/18-06/20/19	O	6	6	6.7	8.1	7.5	7.7	0.5	1.6 L
TDS (mg/L)	205	01/24/18-06/20/19	O	6	6	198.0	225.0	212.5	215.5	9.6	0.8
TSS (mg/L)	19	01/24/18-06/20/19	O	6	6	19.0	603.0	150.4	190.5	232.3	0.6 L
Tot Alk (mg/L)	190	01/24/18-06/20/19	O	6	6	190.0	290.0	225.4	210	41.2	0.9 L
Ca (mg/L)	43	06/20/19	O	1	1	43.0	43.0	43.0	43	0	0.0 H
Chloride (mg/L)	< 1	01/24/18-06/20/19	O	6	0	< 1	< 1				
F (mg/L)	0.1	01/24/18-06/20/19	O	6	3	0.1	0.1				
Tot Hard (mg/L)	194	01/24/18-06/20/19	O	6	6	194.0	229.0	212.8	217	13.6	1.4 L
Mg (mg/L)	21	06/20/19	O	1	1	21.0	21.0	21.0	21	0	0.0 H
K (mg/L)	< 1	06/20/19	O	1	0	< 1	< 1				
Na (mg/L)	1	06/20/19	O	1	1	1.0	1.0	1.0	1	0	0.0 H
SO4 (mg/L)	8	01/24/18-06/20/19	O	6	6	7.0	10.0	8.9	9.5	1.3	0.7
Nitrate + (mg/L)	0.34	01/24/18-06/20/19	O	6	6	0.28	0.4	0.33	0.33	0.05	0.25
Al (DIS) (mg/L)	0.013	06/20/19	O	1	1	0.013	0.013	0.013	0.013	0	0.0 H
Sb (DIS) (mg/L)	< 0.0005	06/20/19	O	1	0	< 0.0005 : 0.0005					
As (DIS) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001 < 0.001					
Ba (DIS) (mg/L)	0.176	06/20/19	O	1	1	0.176	0.176	0.176	0.176	0	0.0 H
Be (DIS) (mg/L)	< 0.0008	06/20/19	O	1	0	< 0.0008 : 0.0008					
Cd (DIS) (mg/L)	< 0	06/20/19	O	1	0	< 0 : .00003					
Cr (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01 < 0.01					
Co (DIS) (mg/L)	< 0.01	06/20/19	O	1	0	< 0.01 < 0.01					
Cu (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002 < 0.002					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Fe (DIS) (mg/L)	< 0.02	06/20/19	O	1	0	< 0.02	< 0.02					
Pb (DIS) (mg/L)	< 0.0003	06/20/19	O	1	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	06/20/19	O	1	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	06/20/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	06/20/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.0591	06/20/19	O	1	1	0.0591	0.0591	0.0591	0.0591	0	0.0	H
Tl (DIS) (mg/L)	< 0.0002	06/20/19	O	1	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	0.0005	06/20/19	O	1	1	0.0005	0.0005	0.0005	0.0005	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	06/20/19	O	1	0	< 0.002	< 0.002					

SAMPLE NO BBC-1906-112		LAB NO: H19060535-002		STATION:SP-11								
06/19/19												
PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN	
DO (mg/L)	6.89	04/18/18-06/19/19	O	11	11	6.09	8.36	7.17	7.03	0.66	0.43	
pH Fld (s.u.)	7.27	04/18/18-06/19/19	O	11	11	6.28	7.98	7.41	7.59	0.54	0.26	
SC Fld (umhos/cm)	192	04/18/18-06/19/19	O	11	11	171.0	195.0	185.3	186	8.2	0.8	
Water Temp (Deg C)	6.5	04/18/18-06/19/19	O	11	11	5.6	7.4	6.4	6.3	0.5	0.3	
TDS (mg/L)	127	04/18/18-06/19/19	O	11	11	99.0	133.0	116.9	116	11.1	0.9	
TSS (mg/L)	< 10	04/18/18-06/19/19	O	11	1	< 10	< 10					
Tot Alk (mg/L)	92	04/18/18-06/19/19	O	11	11	82.0	95.0	91.4	92	3.6	0.2	
Ca (mg/L)	23	06/19/19	O	1	1	23.0	23.0	23.0	23	0	0.0	H
Chloride (mg/L)	< 1	04/18/18-06/19/19	O	11	0	< 1	< 1					
F (mg/L)	0.1	04/18/18-06/19/19	O	11	11	0.1	0.2	0.2	0.2	0	0.0	L
Tot Hard (mg/L)	90	04/18/18-06/19/19	O	11	11	81.0	95.0	90.8	92	4	0.2	
Mg (mg/L)	8	06/19/19	O	1	1	8.0	8.0	8.0	8	0	0.0	H
K (mg/L)	1	06/19/19	O	1	1	1.0	1.0	1.0	1	0	0.0	H
Na (mg/L)	3	06/19/19	O	1	1	3.0	3.0	3.0	3	0	0.0	H
SO4 (mg/L)	7	04/18/18-06/19/19	O	11	11	5.0	8.0	6.8	7	0.9	0.3	
Nitrate + (mg/L)	0.25	04/18/18-06/19/19	O	11	11	0.22	0.31	0.25	0.25	0.03	0.04	
Al (DIS) (mg/L)	0.079	06/19/19	O	1	1	0.079	0.079	0.079	0.079	0	0.0	H
Sb (DIS) (mg/L)	< 0.0005	06/19/19	O	1	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	0.007	06/19/19	O	1	1	0.007	0.007	0.007	0.007	0	0.0	H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Ba (DIS) (mg/L)	0.303	06/19/19	O	1	1	0.303	0.303	0.303	0.303	0	0.0	H
Be (DIS) (mg/L)	< 0.0008	06/19/19	O	1	0	< 0.0008 : 0.0008						
Cd (DIS) (mg/L)	< 0	06/19/19	O	1	0	< 0 : .00003						
Cr (DIS) (mg/L)	< 0.01	06/19/19	O	1	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	06/19/19	O	1	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	06/19/19	O	1	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	0.04	06/19/19	O	1	1	0.04	0.04	0.04	0.04	0	0.0	H
Pb (DIS) (mg/L)	< 0.0003	06/19/19	O	1	0	< 0.0003 : 0.0003						
Mn (DIS) (mg/L)	< 0.005	06/19/19	O	1	0	< 0.005	< 0.005					
Hg (DIS) (ug/L)	< 0.005	06/19/19	O	1	0	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	06/19/19	O	1	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	06/19/19	O	1	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	06/19/19	O	1	0	< 0.0002 : 0.0002						
Ag (DIS) (mg/L)	< 0.0002	06/19/19	O	1	0	< 0.0002 : 0.0002						
Sr (DIS) (mg/L)	0.104	06/19/19	O	1	1	0.104	0.104	0.104	0.104	0	0.0	H
Tl (DIS) (mg/L)	< 0.0002	06/19/19	O	1	0	< 0.0002 : 0.0002						
U (DIS) (mg/L)	0.0005	06/19/19	O	1	1	0.0005	0.0005	0.0005	0.0005	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	06/19/19	O	1	0	< 0.002	< 0.002					

SAMPLE NO BBC-1906-124 LAB NO: H19060535-008

STATION:SP-12

PARAMETER	RESULT	COMPARISON PERIOD OF DATA	QC Code	N	# OF DET	MIN	MAX	MEAN	MEDIAN	SD	# OF SD'S FROM MEAN
DO (mg/L)	6.07	04/18/18-06/19/19	O	11	11	3.32	10.38	6.44	7.04	2.15	0.17
pH Fld (s.u.)	7.71	04/18/18-06/19/19	O	11	11	6.76	7.95	7.57	7.71	0.34	0.42
SC Fld (umhos/cm)	400	04/18/18-06/19/19	O	11	11	400.0	473.0	438.8	437	20.3	1.9 L
Water Temp (Deg C)	6.8	04/18/18-06/19/19	O	11	11	5.1	7.3	6.2	6.2	0.7	0.9
TDS (mg/L)	230	04/18/18-06/19/19	O	12	12	230.0	262.0	245.6	247.5	10.2	1.5 L
TSS (mg/L)	< 10	04/18/18-06/19/19	O	12	7	< 10	187.0	26.8	22.5	55.1	0.3 L
Tot Alk (mg/L)	180	04/18/18-06/19/19	O	12	12	180.0	220.0	203.0	210	11.5	2.0 L
Ca (mg/L)	47	05/30/19-06/19/19	O	2	2	47.0	50.0	48.5	48.5	2.1	0.7 L
Chloride (mg/L)	7	04/18/18-06/19/19	O	12	12	5.0	10.0	7.5	8	1.6	0.3
F (mg/L)	0.2	04/18/18-06/19/19	O	12	12	0.2	0.2	0.2	0.2	0	0.0 H
Tot Hard (mg/L)	200	04/18/18-06/19/19	O	12	12	200.0	258.0	232.2	235.5	15.7	2.0 L
Mg (mg/L)	20	05/30/19-06/19/19	O	2	2	20.0	21.0	20.5	20.5	0.7	0.7 L
K (mg/L)	1	05/30/19-06/19/19	O	2	2	1.0	1.0	1.0	1	0	0.0 H

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

Black Butte Mine Data Comparison Summary

Report Date: July 31, 2019

Na (mg/L)	2	05/30/19-06/19/19	O	2	2	2.0	2.0	2.0	2	0	0.0	H
SO4 (mg/L)	19	04/18/18-06/19/19	O	12	12	13.0	28.0	22.7	24	4.1	0.9	
Nitrate + (mg/L)	0.33	04/18/18-06/19/19	O	12	12	0.12	0.69	0.36	0.33	0.16	0.16	
Al (DIS) (mg/L)	< 0.009	05/30/19-06/19/19	O	2	0	< 0.009	< 0.009					
Sb (DIS) (mg/L)	< 0.0005	05/30/19-06/19/19	O	2	0	< 0.0005	: 0.0005					
As (DIS) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001					
Ba (DIS) (mg/L)	0.157	05/30/19-06/19/19	O	2	2	0.157	0.16	0.158	0.159	0.002	0.746	L
Be (DIS) (mg/L)	< 0.0008	05/30/19-06/19/19	O	2	0	< 0.0008	: 0.0008					
Cd (DIS) (mg/L)	< 0	05/30/19-06/19/19	O	2	0	< 0	: .00003					
Cr (DIS) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Co (DIS) (mg/L)	< 0.01	05/30/19-06/19/19	O	2	0	< 0.01	< 0.01					
Cu (DIS) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Fe (DIS) (mg/L)	< 0.02	05/30/19-06/19/19	O	2	1	< 0.02	0.07					
Pb (DIS) (mg/L)	< 0.0003	05/30/19-06/19/19	O	2	0	< 0.0003	: 0.0003					
Mn (DIS) (mg/L)	< 0.005	05/30/19-06/19/19	O	2	1	< 0.005	0.017					
Hg (DIS) (ug/L)	< 0.005	05/30/19-06/19/19	O	2	1	< 0.005	< 0.005					
Mo (DIS) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					
Ni (DIS) (mg/L)	< 0.001	05/30/19-06/19/19	O	2	0	< 0.001	< 0.001					
Se (DIS) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	1	< 0.0002	: 0.0002					
Ag (DIS) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
Sr (DIS) (mg/L)	0.0968	05/30/19-06/19/19	O	2	2	0.0968	0.103	0.0999	0.0999	0.0044	0.6936	L
Tl (DIS) (mg/L)	< 0.0002	05/30/19-06/19/19	O	2	0	< 0.0002	: 0.0002					
U (DIS) (mg/L)	0.0006	05/30/19-06/19/19	O	2	2	0.0006	0.0006	0.0006	0.0006	0	0.0	H
Zn (DIS) (mg/L)	< 0.002	05/30/19-06/19/19	O	2	0	< 0.002	< 0.002					

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC). N: Number of samples in comparison data set; # OF DET: Number of samples in data set above detection limit; SD: is Standard Deviation. *: Value Equals or Exceeds 3 SD. H: Latest result is highest in data set; L: Latest result is lowest in data set. 50% of data set must be above lab detection limit before mean, median and SD are calculated.

All QC data were included in statistics. Flagged data were included in statistics. The detection limit was used in calculations.

APPENDIX 2
DATABASE

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:00 PM

Sample Type:	Station (Site)	DI-Blank	DI-Blank	DI-Blank	DS-1	DS-10	DS-10
Water	Sample Date	6/19/2019	6/19/2019	6/19/2019	6/20/2019	6/2/2019	6/18/2019
	Sample Time	6:25:00 PM	6:30:00 PM	7:00:00 PM	12:00:00 PM	6:40:00 AM	1:10:00 PM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	H19060536-008	H19060528-017	H19060535-010	H19060535-011	z	z
	Sample Number	BBC-1906-127	BBC-1906-216	BBC-1906-128	BBC-1906-132	BBC-1905-104	BBC-1906-102
	Remarks	DUPLICATE		DUPLICATE			

Field Parameters Multiple Units

Depth To Water					
Dissolved Oxygen			8.83	9.26	7.67
EH					
Field pH			7.73	7.52	7.36
Field Specific Conductivity			415	401	400
Flow					
Flow			22.67	6.8	5
Staff Gauge					
Water Temperature			7.1	5.9	7

Physical Parameters mg/L

Total Dissolved Solids	<10	<10	<10	231
Total Suspended Solids	<4	<10	<10	<10

Major Constituents - Commons Ions mg/L

Alkalinity as CaCO3	<4	<4	<4	210
Calcium (DIS)	<1	<1	<1	57
Chloride	<1	<1	<1	<1
Fluoride	<0.1	<0.1	<0.1	<0.1
Hardness as CaCO3	<1	<1	<1	227
Magnesium (DIS)	<1	<1	<1	21
Potassium (DIS)	<1	<1	<1	<1
Sodium (DIS)	<1	<1	<1	2
Sulfate	<1	<1	<1	15

Nutrients mg/L

Nitrate + Nitrite as N	<0.01	<0.01	<0.01	0.16
Phosphorus (TOT)	<0.003			
Total Nitrogen as N (Persulfate)	<0.04			

Metals - Trace Constituents Multiple Units

Aluminum (DIS)	<0.009	<0.009	<0.009	<0.009
Antimony (DIS)		<0.0005	<0.0005	<0.0005
Antimony (TRC)	<0.0005			
Arsenic (DIS)		<0.001	<0.001	<0.001
Arsenic (TRC)	<0.001			

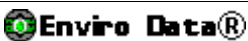
Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:00 PM

Sample Type:	Station (Site)	DI-Blank	DI-Blank	DI-Blank	DS-1	DS-10	DS-10
Water	Sample Date	6/19/2019	6/19/2019	6/19/2019	6/20/2019	6/2/2019	6/18/2019
	Sample Time	6:25:00 PM	6:30:00 PM	7:00:00 PM	12:00:00 PM	6:40:00 AM	1:10:00 PM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	H19060536-008	H19060528-017	H19060535-010	H19060535-011	z	z
	Sample Number	BBC-1906-127	BBC-1906-216	BBC-1906-128	BBC-1906-132	BBC-1905-104	BBC-1906-102
	Remarks	DUPLICATE		DUPLICATE			

Metals - Trace Constituents	Multiple Units			
Barium (DIS)		<0.003	<0.003	0.05
Barium (TRC)	<0.003			
Beryllium (DIS)		<0.0008	<0.0008	<0.0008
Beryllium (TRC)	<0.0008			
Cadmium (DIS)		<0.00003	<0.00003	<0.00003
Cadmium (TRC)	<0.00003			
Chromium (DIS)		<0.01	<0.01	<0.01
Chromium (TRC)	<0.01			
Cobalt (DIS)		<0.01	<0.01	<0.01
Cobalt (TRC)	<0.01			
Copper (DIS)		<0.002	<0.002	<0.002
Copper (TRC)	<0.002			
Iron (DIS)		<0.02	<0.02	<0.02
Iron (TRC)	<0.02			
Lead (DIS)		<0.0003	<0.0003	<0.0003
Lead (TRC)	<0.0003			
Manganese (DIS)		<0.005	<0.005	<0.005
Manganese (TRC)	<0.005			
Mercury (DIS)		<0.005	<0.005	<0.005
Mercury (TRC)	<0.005			
Molybdenum (DIS)		<0.002	<0.002	<0.002
Molybdenum (TRC)	<0.002			
Nickel (DIS)		<0.001	<0.001	<0.001
Nickel (TRC)	<0.001			
Selenium (DIS)		<0.0002	<0.0002	<0.0002
Selenium (TRC)	<0.0002			
Silver (DIS)		<0.0002	<0.0002	<0.0002
Silver (TRC)	<0.0002			
Strontium (DIS)		<0.0002	<0.0002	0.107
Strontium (TRC)	<0.0003			
Thallium (DIS)		<0.0002	<0.0002	<0.0002
Thallium (TRC)	<0.0002			
Uranium (DIS)		<0.0002	<0.0002	0.0006



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:00 PM

Sample Type:	Station (Site)	DI-Blank	DI-Blank	DI-Blank	DS-1	DS-10	DS-10
Water	Sample Date	6/19/2019	6/19/2019	6/19/2019	6/20/2019	6/2/2019	6/18/2019
	Sample Time	6:25:00 PM	6:30:00 PM	7:00:00 PM	12:00:00 PM	6:40:00 AM	1:10:00 PM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	H19060536-008	H19060528-017	H19060535-010	H19060535-011	z	z
	Sample Number	BBC-1906-127	BBC-1906-216	BBC-1906-128	BBC-1906-132	BBC-1905-104	BBC-1906-102
	Remarks	DUPLICATE		DUPLICATE			

Metals - Trace Constituents	Multiple Units				
-----------------------------	----------------	--	--	--	--

Uranium (TRC)	<0.0002				
Zinc (DIS)		<0.002	<0.002	0.007	
Zinc (TRC)	<0.002				

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:00 PM

Sample Type:	Station (Site)	DS-11	DS-2	DS-3	DS-4	DS-7	DS-8
Water	Sample Date	6/18/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019	6/18/2019
	Sample Time	3:05:00 PM	12:05:00 PM	1:00:00 PM	1:20:00 PM	2:10:00 PM	12:30:00 PM
	Lab	Hydro	Hydro	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	z	z	H19060535-003	H19060535-004	z	z
	Sample Number	BBC-1906-105	BBC-1906-113	BBC-1906-116	BBC-1906-117	BBC-1906-119	BBC-1906-100
	Remarks						

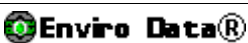
Field Parameters	Multiple Units						
Depth To Water							
Dissolved Oxygen	978	7.69	6.43	7.78	9.3	9.71	
EH							
Field pH	7.82	7.25	6.4	6.25	7.28	7.81	
Field Specific Conductivity	429	259	45	90	228	420	
Flow							
Flow	13.04	2.14	13.95	NM	7.79	8	
Staff Gauge							
Water Temperature	5.2	8.5	7.3	6.9	7.6	5.4	

Physical Parameters	mg/L	
Total Dissolved Solids	69	87
Total Suspended Solids	<10	<10

Major Constituents - Commons Ions	mg/L	
Alkalinity as CaCO3	20	40
Calcium (DIS)	5	13
Chloride	<1	<1
Fluoride	<0.1	<0.1
Hardness as CaCO3	20	42
Magnesium (DIS)	2	3
Potassium (DIS)	1	<1
Sodium (DIS)	1	1
Sulfate	1	3

Nutrients	mg/L	
Nitrate + Nitrite as N	0.15	0.25
Phosphorus (TOT)		
Total Nitrogen as N (Persulfate)		

Metals - Trace Constituents	Multiple Units	
Aluminum (DIS)	1.95	1.28
Antimony (DIS)	<0.0005	<0.0005
Antimony (TRC)		
Arsenic (DIS)	<0.001	0.001
Arsenic (TRC)		



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS-- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

Analyses Summary Report

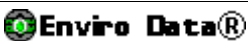
Site Name: Black Butte Mine

7/31/2019 1:55:00 PM

Sample Type:	Station (Site)	DS-11	DS-2	DS-3	DS-4	DS-7	DS-8
Water	Sample Date	6/18/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019	6/18/2019
	Sample Time	3:05:00 PM	12:05:00 PM	1:00:00 PM	1:20:00 PM	2:10:00 PM	12:30:00 PM
	Lab	Hydro	Hydro	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	z	z	H19060535-003	H19060535-004	z	z
	Sample Number	BBC-1906-105	BBC-1906-113	BBC-1906-116	BBC-1906-117	BBC-1906-119	BBC-1906-100
	Remarks						

Metals - Trace Constituents Multiple Units

Barium (DIS)	0.245	0.309
Barium (TRC)		
Beryllium (DIS)	<0.0008	<0.0008
Beryllium (TRC)		
Cadmium (DIS)	<0.00003	<0.00003
Cadmium (TRC)		
Chromium (DIS)	<0.01	<0.01
Chromium (TRC)		
Cobalt (DIS)	<0.01	<0.01
Cobalt (TRC)		
Copper (DIS)	0.003	<0.002
Copper (TRC)		
Iron (DIS)	1.24	0.77
Iron (TRC)		
Lead (DIS)	0.0003	<0.0003
Lead (TRC)		
Manganese (DIS)	0.006	0.006
Manganese (TRC)		
Mercury (DIS)	0.01	0.006
Mercury (TRC)		
Molybdenum (DIS)	<0.002	<0.002
Molybdenum (TRC)		
Nickel (DIS)	0.004	0.002
Nickel (TRC)		
Selenium (DIS)	<0.0002	<0.0002
Selenium (TRC)		
Silver (DIS)	<0.0002	<0.0002
Silver (TRC)		
Strontium (DIS)	0.0244	0.0396
Strontium (TRC)		
Thallium (DIS)	<0.0002	<0.0002
Thallium (TRC)		
Uranium (DIS)	<0.0002	<0.0002



NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J:** The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S:** The associated numerical value is an estimated quantity because split quality control criteria were not met. **U:** Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R:** Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A:** Anomalous data. No apparent explanation for discrepancy in data. **D:** Reporting Limit increased due to sample matrix. **L:** Lowest available reporting limit for the analytical method used. **H:** Analysis performed past recommended holding time. **Z:** No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:00 PM

Sample Type:	Station (Site)	DS-11	DS-2	DS-3	DS-4	DS-7	DS-8
Water	Sample Date	6/18/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019	6/18/2019
	Sample Time	3:05:00 PM	12:05:00 PM	1:00:00 PM	1:20:00 PM	2:10:00 PM	12:30:00 PM
	Lab	Hydro	Hydro	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	z	z	H19060535-003	H19060535-004	z	z
	Sample Number	BBC-1906-105	BBC-1906-113	BBC-1906-116	BBC-1906-117	BBC-1906-119	BBC-1906-100
	Remarks						

Metals - Trace Constituents Multiple Units

Uranium (TRC)		
Zinc (DIS)	0.006	0.006
Zinc (TRC)		

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:00 PM

Sample Type:	Station (Site)	DS-9	DS-9	MW-10	MW-11	MW-12	MW-13
Water	Sample Date	6/2/2019	6/18/2019	6/20/2019	6/21/2019	6/21/2019	6/21/2019
	Sample Time	6:40:00 AM	12:50:00 PM	6:40:00 PM	9:20:00 AM	9:50:00 AM	10:25:00 AM
	Lab	Hydro	Hydro	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	z	z	H19060562-007	H19060562-008	H19060562-009	H19060562-010
	Sample Number	BBC-1905-103	BBC-1906-101	BBC-1906-227	BBC-1906-228	BBC-1906-229	BBC-1906-230
	Remarks						

Field Parameters	Multiple Units						
Depth To Water				66.23	25.75	22.54	17.54
Dissolved Oxygen	9.69	8.73		7.65	9.57	9.35	8.97
EH				272	281.21	283.58	280.61
Field pH	7.87	7.73		8.04	7.72	7.6	7.6
Field Specific Conductivity	358	360		351	296	342	388
Flow							
Flow	4	6.74					
Staff Gauge							
Water Temperature	6.1	7.5		6.5	7.6	6	5.8

Physical Parameters	mg/L						
Total Dissolved Solids				188	160	210	221
Total Suspended Solids				<10	25	<10	<10

Major Constituents - Commons Ions	mg/L						
Alkalinity as CaCO3				180	150	200	210
Calcium (DIS)				44	43	58	57
Chloride				<1	<1	<1	<1
Fluoride				0.2	<0.1	0.1	0.1
Hardness as CaCO3				184	151	223	222
Magnesium (DIS)				18	11	19	20
Potassium (DIS)				2	2	<1	<1
Sodium (DIS)				6	4	2	2
Sulfate				4	5	11	14

Nutrients	mg/L						
Nitrate + Nitrite as N				0.6	0.47	0.13	0.15
Phosphorus (TOT)							
Total Nitrogen as N (Persulfate)							

Metals - Trace Constituents	Multiple Units						
Aluminum (DIS)				0.027	<0.009	<0.009	<0.009
Antimony (DIS)				<0.0005	<0.0005	<0.0005	<0.0005
Antimony (TRC)							
Arsenic (DIS)				<0.001	<0.001	<0.001	<0.001
Arsenic (TRC)							

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS-- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:00 PM

Sample Type:	Station (Site)	DS-9	DS-9	MW-10	MW-11	MW-12	MW-13
Water	Sample Date	6/2/2019	6/18/2019	6/20/2019	6/21/2019	6/21/2019	6/21/2019
	Sample Time	6:40:00 AM	12:50:00 PM	6:40:00 PM	9:20:00 AM	9:50:00 AM	10:25:00 AM
	Lab	Hydro	Hydro	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	z	z	H19060562-007	H19060562-008	H19060562-009	H19060562-010
	Sample Number	BBC-1905-103	BBC-1906-101	BBC-1906-227	BBC-1906-228	BBC-1906-229	BBC-1906-230
	Remarks						

Metals - Trace Constituents	Multiple Units				
Barium (DIS)		0.211	0.149	0.051	0.054
Barium (TRC)					
Beryllium (DIS)		<0.0008	<0.0008	<0.0008	<0.0008
Beryllium (TRC)					
Cadmium (DIS)		<0.00003	<0.00003	<0.00003	<0.00003
Cadmium (TRC)					
Chromium (DIS)		<0.01	<0.01	<0.01	<0.01
Chromium (TRC)					
Cobalt (DIS)		<0.01	<0.01	<0.01	<0.01
Cobalt (TRC)					
Copper (DIS)		<0.002	<0.002	<0.002	<0.002
Copper (TRC)					
Iron (DIS)		0.02	<0.02	<0.02	<0.02
Iron (TRC)					
Lead (DIS)		<0.0003	<0.0003	<0.0003	<0.0003
Lead (TRC)					
Manganese (DIS)		<0.005	<0.005	<0.005	<0.005
Manganese (TRC)					
Mercury (DIS)		<0.005	<0.005	<0.005	<0.005
Mercury (TRC)					
Molybdenum (DIS)		0.004	<0.002	<0.002	<0.002
Molybdenum (TRC)					
Nickel (DIS)		<0.001	<0.001	<0.001	<0.001
Nickel (TRC)					
Selenium (DIS)		<0.0002	<0.0002	<0.0002	<0.0002
Selenium (TRC)					
Silver (DIS)		<0.0002	<0.0002	<0.0002	<0.0002
Silver (TRC)					
Strontium (DIS)		0.893	0.322	0.136	0.0976
Strontium (TRC)					
Thallium (DIS)		<0.0002	<0.0002	<0.0002	<0.0002
Thallium (TRC)					
Uranium (DIS)		0.0051	0.0015	0.0007	0.0005

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:00 PM

Sample Type:	Station (Site)	DS-9	DS-9	MW-10	MW-11	MW-12	MW-13
Water	Sample Date	6/2/2019	6/18/2019	6/20/2019	6/21/2019	6/21/2019	6/21/2019
	Sample Time	6:40:00 AM	12:50:00 PM	6:40:00 PM	9:20:00 AM	9:50:00 AM	10:25:00 AM
	Lab	Hydro	Hydro	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	z	z	H19060562-007	H19060562-008	H19060562-009	H19060562-010
	Sample Number	BBC-1905-103	BBC-1906-101	BBC-1906-227	BBC-1906-228	BBC-1906-229	BBC-1906-230
	Remarks						

Metals - Trace Constituents Multiple Units

Uranium (TRC)				
Zinc (DIS)		<0.002	<0.002	<0.002
Zinc (TRC)				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J:** The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S:** The associated numerical value is an estimated quantity because split quality control criteria were not met. **U:** Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R:** Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A:** Anomalous data. No apparent explanation for discrepancy in data. **D:** Reporting Limit increased due to sample matrix. **L:** Lowest available reporting limit for the analytical method used. **H:** Analysis performed past recommended holding time. **Z:** No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:00 PM

Sample Type:	Station (Site)	MW-16	MW-17	MW-19	MW-1A	MW-1B	MW-1B
Water	Sample Date	6/20/2019	6/21/2019	6/21/2019	6/19/2019	6/19/2019	6/21/2019
	Sample Time	10:30:00 AM	12:35:00 PM	11:00:00 AM	5:35:00 PM	3:45:00 PM	11:45:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060528-021	H19060562-012	H19060562-011	H19060528-016	H19060528-015	H19060562-001
	Sample Number	BBC-1906-220	BBC-1906-232	BBC-1906-231	BBC-1906-215	BBC-1906-214	BBC-1906-221
	Remarks						

Field Parameters	Multiple Units						
Depth To Water	5.4	46.6	8.97	2.91	22.29	11.95	
Dissolved Oxygen	0.2	6.62	7.67	9.14	0.18	7.72	
EH	155.61	278.54	278.98	191.44	182.84	271.05	
Field pH	7.32	7.74	7.57	7.28	6.41	7.78	
Field Specific Conductivity	581	358	329	335	555	337	
Flow							
Flow							
Staff Gauge							
Water Temperature	6.4	6.8	6	8	8.6	4.4	

Physical Parameters	mg/L						
Total Dissolved Solids	342	203	202	187	422	187	
Total Suspended Solids	<10	<10	<10	52	<10	<10	

Major Constituents - Commons Ions	mg/L						
Alkalinity as CaCO3	230	190	180	160	96	190 H	
Calcium (DIS)	71	43	48	44	62	43	
Chloride	2	1	<1	1	1	<1	
Fluoride	0.5	0.2	0.1	0.2	0.2	<0.1	
Hardness as CaCO3	326	206	196	184	287	176	
Magnesium (DIS)	36	24	19	18	32	17	
Potassium (DIS)	3	<1	<1	1	3	<1	
Sodium (DIS)	4	2	2	2	3	2	
Sulfate	88	9	13	15	225	6	

Nutrients	mg/L						
Nitrate + Nitrite as N	<0.01	0.41	0.29	0.43	0.04	0.18	
Phosphorus (TOT)							
Total Nitrogen as N (Persulfate)							

Metals - Trace Constituents	Multiple Units						
Aluminum (DIS)	<0.009	<0.009	0.018	0.023	<0.009	<0.009	
Antimony (DIS)	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	<0.0005	
Antimony (TRC)							
Arsenic (DIS)	0.005	<0.001	<0.001	<0.001	0.067	<0.001	
Arsenic (TRC)							

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS-- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	MW-16	MW-17	MW-19	MW-1A	MW-1B	MW-1B
Water	Sample Date	6/20/2019	6/21/2019	6/21/2019	6/19/2019	6/19/2019	6/21/2019
	Sample Time	10:30:00 AM	12:35:00 PM	11:00:00 AM	5:35:00 PM	3:45:00 PM	11:45:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060528-021	H19060562-012	H19060562-011	H19060528-016	H19060528-015	H19060562-001
	Sample Number	BBC-1906-220	BBC-1906-232	BBC-1906-231	BBC-1906-215	BBC-1906-214	BBC-1906-221
	Remarks						

Metals - Trace Constituents	Multiple Units						
Barium (DIS)	0.018	0.253	0.077	0.168	0.011	0.092	
Barium (TRC)							
Beryllium (DIS)	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Beryllium (TRC)							
Cadmium (DIS)	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Cadmium (TRC)							
Chromium (DIS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium (TRC)							
Cobalt (DIS)	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01
Cobalt (TRC)							
Copper (DIS)	<0.002	<0.002	<0.002	0.007	<0.002	<0.002	<0.002
Copper (TRC)							
Iron (DIS)	1.27	<0.02	0.02	<0.02	18.9	<0.02	<0.02
Iron (TRC)							
Lead (DIS)	<0.0003	<0.0003	<0.0003	0.0004	<0.0003	<0.0003	<0.0003
Lead (TRC)							
Manganese (DIS)	0.041	<0.005	<0.005	<0.005	0.075	<0.005	<0.005
Manganese (TRC)							
Mercury (DIS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury (TRC)							
Molybdenum (DIS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Molybdenum (TRC)							
Nickel (DIS)	<0.001	<0.001	<0.001	<0.001	0.011	<0.001	<0.001
Nickel (TRC)							
Selenium (DIS)	<0.0002	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Selenium (TRC)							
Silver (DIS)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Silver (TRC)							
Strontium (DIS)	0.276	0.105	0.148	0.0996	1.87	0.0894	
Strontium (TRC)							
Thallium (DIS)	<0.0002	<0.0002	<0.0002	0.0009	0.0113	<0.0002	<0.0002
Thallium (TRC)							
Uranium (DIS)	0.0017	0.0009	0.0007	0.0009	<0.0002	0.0004	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	MW-16	MW-17	MW-19	MW-1A	MW-1B	MW-1B
Water	Sample Date	6/20/2019	6/21/2019	6/21/2019	6/19/2019	6/19/2019	6/21/2019
	Sample Time	10:30:00 AM	12:35:00 PM	11:00:00 AM	5:35:00 PM	3:45:00 PM	11:45:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060528-021	H19060562-012	H19060562-011	H19060528-016	H19060528-015	H19060562-001
	Sample Number	BBC-1906-220	BBC-1906-232	BBC-1906-231	BBC-1906-215	BBC-1906-214	BBC-1906-221
	Remarks						

Metals - Trace Constituents Multiple Units

Uranium (TRC)							
Zinc (DIS)	0.004	0.007	<0.002	<0.002	0.012	<0.002	
Zinc (TRC)							

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	MW-20	MW-2A	MW-2B	MW-3	MW-4A	MW-4B
Water	Sample Date	6/20/2019	6/17/2019	6/17/2019	6/17/2019	6/20/2019	6/20/2019
	Sample Time	12:55:00 PM	5:55:00 PM	6:20:00 PM	4:55:00 PM	9:10:00 AM	9:50:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060562-002	H19060528-002	H19060528-003	H19060528-001	H19060528-019	H19060528-020
	Sample Number	BBC-1906-222	BBC-1906-201	BBC-1906-202	BBC-1906-200	BBC-1906-218	BBC-1906-219
	Remarks						

Field Parameters	Multiple Units						
Depth To Water	21.9	41.7	41.54	37.63	3.9	3.45	
Dissolved Oxygen	9.25	7.48	0.1	0.06	0.21	0.25	
EH	251.36	283.77	299.79	166.47	287.43	223.6	
Field pH	7.81	7.44	7.29	7.14	7.36	7.6	
Field Specific Conductivity	364	360	418	728	484	431	
Flow							
Flow							
Staff Gauge							
Water Temperature	6.7	7.8	7.7	9.6	5.1	6.5	

Physical Parameters	mg/L						
Total Dissolved Solids	205	192	248	508	274	240	
Total Suspended Solids	19	<10	<10	<10	<10	<10	

Major Constituents - Commons Ions	mg/L						
Alkalinity as CaCO3	190	180	200	210	240	220	
Calcium (DIS)	43	41	50	72	75	64	
Chloride	<1	1	1	1	3	2	
Fluoride	0.1	0.3	0.3	0.8	0.1	0.1	
Hardness as CaCO3	194	193	235	378	271	241	
Magnesium (DIS)	21	22	27	48	20	20	
Potassium (DIS)	<1	1	2	4	1	2	
Sodium (DIS)	1	3	3	16	3	2	
Sulfate	8	21	41	221	15	15	

Nutrients	mg/L						
Nitrate + Nitrite as N	0.34	0.22	<0.01	<0.01	<0.01	0.06	
Phosphorus (TOT)							
Total Nitrogen as N (Persulfate)							

Metals - Trace Constituents	Multiple Units						
Aluminum (DIS)	0.013	<0.009	<0.009	<0.009	<0.009	<0.009	
Antimony (DIS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Antimony (TRC)							
Arsenic (DIS)	<0.001	<0.001	0.003	0.068	<0.001	<0.001	
Arsenic (TRC)							

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS-- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	MW-20	MW-2A	MW-2B	MW-3	MW-4A	MW-4B
Water	Sample Date	6/20/2019	6/17/2019	6/17/2019	6/17/2019	6/20/2019	6/20/2019
	Sample Time	12:55:00 PM	5:55:00 PM	6:20:00 PM	4:55:00 PM	9:10:00 AM	9:50:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060562-002	H19060528-002	H19060528-003	H19060528-001	H19060528-019	H19060528-020
	Sample Number	BBC-1906-222	BBC-1906-201	BBC-1906-202	BBC-1906-200	BBC-1906-218	BBC-1906-219
	Remarks						

Metals - Trace Constituents	Multiple Units						
Barium (DIS)	0.176	0.083	0.044	0.011	0.172	0.126	
Barium (TRC)							
Beryllium (DIS)	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Beryllium (TRC)							
Cadmium (DIS)	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Cadmium (TRC)							
Chromium (DIS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium (TRC)							
Cobalt (DIS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt (TRC)							
Copper (DIS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Copper (TRC)							
Iron (DIS)	<0.02	<0.02	0.04	1.01	<0.02	<0.02	<0.02
Iron (TRC)							
Lead (DIS)	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Lead (TRC)							
Manganese (DIS)	<0.005	<0.005	0.009	0.015	0.249	<0.005	<0.005
Manganese (TRC)							
Mercury (DIS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury (TRC)							
Molybdenum (DIS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Molybdenum (TRC)							
Nickel (DIS)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (TRC)							
Selenium (DIS)	<0.0002	0.0012	0.0051	<0.0002	<0.0002	<0.0002	<0.0002
Selenium (TRC)							
Silver (DIS)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Silver (TRC)							
Strontium (DIS)	0.0591	0.0919	0.0951	13.6	0.163	0.167	
Strontium (TRC)							
Thallium (DIS)	<0.0002	<0.0002	0.0036	0.0003	<0.0002	<0.0002	<0.0002
Thallium (TRC)							
Uranium (DIS)	0.0005	0.0005	0.0022	0.0011	0.0004	0.0006	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	MW-20	MW-2A	MW-2B	MW-3	MW-4A	MW-4B
Water	Sample Date	6/20/2019	6/17/2019	6/17/2019	6/17/2019	6/20/2019	6/20/2019
	Sample Time	12:55:00 PM	5:55:00 PM	6:20:00 PM	4:55:00 PM	9:10:00 AM	9:50:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060562-002	H19060528-002	H19060528-003	H19060528-001	H19060528-019	H19060528-020
	Sample Number	BBC-1906-222	BBC-1906-201	BBC-1906-202	BBC-1906-200	BBC-1906-218	BBC-1906-219
	Remarks						

Metals - Trace Constituents	Multiple Units						
-----------------------------	----------------	--	--	--	--	--	--

Uranium (TRC)							
Zinc (DIS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (TRC)							

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	MW-6A	MW-6B	MW-7	MW-8	MW-9	PW-10
Water	Sample Date	6/20/2019	6/20/2019	6/20/2019	6/20/2019	6/19/2019	6/18/2019
	Sample Time	1:35:00 PM	2:10:00 PM	2:40:00 PM	3:45:00 PM	5:00:00 PM	3:30:00 PM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060562-003	H19060562-004	H19060562-005	H19060562-006	H19060528-014	H19060528-009
	Sample Number	BBC-1906-223	BBC-1906-224	BBC-1906-225	BBC-1906-226	BBC-1906-213	BBC-1906-208
	Remarks						

Field Parameters	Multiple Units						
Depth To Water	7.02	10.2	31.31	27.98	48.67	43.78	
Dissolved Oxygen	6.73	4.4	0.51	0.03	0.04	0.77	
EH	262.36	244.4	194.26	83.66	153.84	168.92	
Field pH	7.73	7.75	7.6	8.06	7.05	7.34	
Field Specific Conductivity	397	424	509	293	708	697	
Flow							
Flow							
Staff Gauge							
Water Temperature	6.1	6.5	7.9	7.3	9.2	9.9	

Physical Parameters	mg/L						
Total Dissolved Solids	223	238	308	151	505	501	
Total Suspended Solids	36	25	34	<10	<10	<10	

Major Constituents - Commons Ions	mg/L						
Alkalinity as CaCO3	210	210	220	140	230	210	
Calcium (DIS)	47	41	50	23	92	77	
Chloride	<1	<1	4	<1	1	<1	
Fluoride	0.2	0.6	0.3	0.2	0.5	0.8	
Hardness as CaCO3	207	190	266	146	451	394	
Magnesium (DIS)	22	21	34	22	54	49	
Potassium (DIS)	<1	1	1	<1	4	5	
Sodium (DIS)	3	17	3	3	5	11	
Sulfate	12	22	64	16	197	204	

Nutrients	mg/L						
Nitrate + Nitrite as N	0.15	0.11	<0.01	<0.01	<0.01	<0.01	
Phosphorus (TOT)							
Total Nitrogen as N (Persulfate)							

Metals - Trace Constituents	Multiple Units						
Aluminum (DIS)	<0.009	0.011	0.011	<0.009	<0.009	<0.009	
Antimony (DIS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Antimony (TRC)							
Arsenic (DIS)	<0.001	<0.001	0.001	0.002	0.014	0.059	
Arsenic (TRC)							

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS-- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	MW-6A	MW-6B	MW-7	MW-8	MW-9	PW-10
Water	Sample Date	6/20/2019	6/20/2019	6/20/2019	6/20/2019	6/19/2019	6/18/2019
	Sample Time	1:35:00 PM	2:10:00 PM	2:40:00 PM	3:45:00 PM	5:00:00 PM	3:30:00 PM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060562-003	H19060562-004	H19060562-005	H19060562-006	H19060528-014	H19060528-009
	Sample Number	BBC-1906-223	BBC-1906-224	BBC-1906-225	BBC-1906-226	BBC-1906-213	BBC-1906-208
	Remarks						

Metals - Trace Constituents	Multiple Units						
Barium (DIS)	0.164	0.094	0.04	0.077	0.014	0.036	
Barium (TRC)							
Beryllium (DIS)	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Beryllium (TRC)							
Cadmium (DIS)	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Cadmium (TRC)							
Chromium (DIS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium (TRC)							
Cobalt (DIS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt (TRC)							
Copper (DIS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Copper (TRC)							
Iron (DIS)	<0.02	<0.02	0.05	0.09	0.9	0.39	
Iron (TRC)							
Lead (DIS)	<0.0003	<0.0003	0.0005	<0.0003	0.0014	<0.0003	
Lead (TRC)							
Manganese (DIS)	<0.005	<0.005	0.007	0.018	0.083	0.143	
Manganese (TRC)							
Mercury (DIS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury (TRC)							
Molybdenum (DIS)	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.002
Molybdenum (TRC)							
Nickel (DIS)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (TRC)							
Selenium (DIS)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Selenium (TRC)							
Silver (DIS)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Silver (TRC)							
Strontium (DIS)	0.14	0.217	0.148	0.0787	1.34	13.2	
Strontium (TRC)							
Thallium (DIS)	<0.0002	<0.0002	<0.0002	<0.0002	0.0027	<0.0002	
Thallium (TRC)							
Uranium (DIS)	0.0006	0.0006	0.0019	0.0008	0.0009	0.0009	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	MW-6A	MW-6B	MW-7	MW-8	MW-9	PW-10
Water	Sample Date	6/20/2019	6/20/2019	6/20/2019	6/20/2019	6/19/2019	6/18/2019
	Sample Time	1:35:00 PM	2:10:00 PM	2:40:00 PM	3:45:00 PM	5:00:00 PM	3:30:00 PM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060562-003	H19060562-004	H19060562-005	H19060562-006	H19060528-014	H19060528-009
	Sample Number	BBC-1906-223	BBC-1906-224	BBC-1906-225	BBC-1906-226	BBC-1906-213	BBC-1906-208
	Remarks						

Metals - Trace Constituents	Multiple Units						
-----------------------------	----------------	--	--	--	--	--	--

Uranium (TRC)							
Zinc (DIS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (TRC)							

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	PW-2	PW-3	PW-4	PW-8	PW-8	PW-8
Water	Sample Date	6/18/2019	6/20/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019
	Sample Time	12:20:00 PM	10:55:00 AM	5:00:00 PM	10:05:00 AM	10:30:00 AM	10:30:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060528-008	H19060528-018	H19060528-013	H19060528-011	H19060528-012	H19060528-012
	Sample Number	BBC-1906-207	BBC-1906-217	BBC-1906-212	BBC-1906-210	BBC-1906-211	BBC-1906-211
	Remarks						DUPLICATE

Field Parameters	Multiple Units					
Depth To Water	49.29	10.1	50.36	39.76		39.76
Dissolved Oxygen	0.04	0.02	0.26	0.03		0.03
EH	80.57	70.66	104.84	139.44		139.44
Field pH	7.37	7.35	7.01	7.16		7.16
Field Specific Conductivity	517	684	604	508		508
Flow						
Flow						
Staff Gauge						
Water Temperature	8.4	6.7	8.6	8		8

Physical Parameters	mg/L					
Total Dissolved Solids	299	463	405	322	325	
Total Suspended Solids	<10	10	<10	<10	<10	

Major Constituents - Commons Ions	mg/L					
Alkalinity as CaCO3	230	250	160	180	180	
Calcium (DIS)	57	89	74	65	68	
Chloride	1	1	1	<1	<1	
Fluoride	0.8	0.4	0.3	0.4	0.4	
Hardness as CaCO3	283	419	340	294	308	
Magnesium (DIS)	34	48	38	32	33	
Potassium (DIS)	5	4	2	2	2	
Sodium (DIS)	3	5	4	3	3	
Sulfate	55	149	163	100	101	

Nutrients	mg/L					
Nitrate + Nitrite as N	0.01	0.02	0.02	<0.01	<0.01	
Phosphorus (TOT)						
Total Nitrogen as N (Persulfate)						

Metals - Trace Constituents	Multiple Units					
Aluminum (DIS)	0.011	<0.009	<0.009	<0.009	<0.009	
Antimony (DIS)	<0.0005	<0.0005	<0.0005	0.0009	0.0008	
Antimony (TRC)						
Arsenic (DIS)	0.005	0.006	0.06	0.013	0.013	
Arsenic (TRC)						

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	PW-2	PW-3	PW-4	PW-8	PW-8	PW-8
Water	Sample Date	6/18/2019	6/20/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019
	Sample Time	12:20:00 PM	10:55:00 AM	5:00:00 PM	10:05:00 AM	10:30:00 AM	10:30:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060528-008	H19060528-018	H19060528-013	H19060528-011	H19060528-012	H19060528-012
	Sample Number	BBC-1906-207	BBC-1906-217	BBC-1906-212	BBC-1906-210	BBC-1906-211	BBC-1906-211
	Remarks						DUPLICATE

Metals - Trace Constituents	Multiple Units					
Barium (DIS)	0.033	0.012	0.041	0.037	0.037	
Barium (TRC)						
Beryllium (DIS)	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	
Beryllium (TRC)						
Cadmium (DIS)	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	
Cadmium (TRC)						
Chromium (DIS)	<0.01	<0.01	<0.01	<0.01	<0.01	
Chromium (TRC)						
Cobalt (DIS)	<0.01	<0.01	<0.01	<0.01	<0.01	
Cobalt (TRC)						
Copper (DIS)	<0.002	<0.002	<0.002	<0.002	<0.002	
Copper (TRC)						
Iron (DIS)	3.28	5.9	11	0.87	0.89	
Iron (TRC)						
Lead (DIS)	<0.0003	<0.0003	<0.0003	0.0077	0.0076	
Lead (TRC)						
Manganese (DIS)	0.059	0.047	0.142	0.1	0.099	
Manganese (TRC)						
Mercury (DIS)	<0.005	<0.005	<0.005	<0.005	<0.005	
Mercury (TRC)						
Molybdenum (DIS)	<0.002	<0.002	<0.002	<0.002	<0.002	
Molybdenum (TRC)						
Nickel (DIS)	<0.001	<0.001	0.005 D	<0.001	<0.001	
Nickel (TRC)						
Selenium (DIS)	<0.0002	0.0008	<0.0002	<0.0002	<0.0002	
Selenium (TRC)						
Silver (DIS)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Silver (TRC)						
Strontium (DIS)	0.0846	0.331	9.62	0.745	0.755	
Strontium (TRC)						
Thallium (DIS)	<0.0002	<0.0002	0.0005	0.0026	0.0026	
Thallium (TRC)						
Uranium (DIS)	0.0003	0.0013	0.0012	0.001	0.001	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	PW-2	PW-3	PW-4	PW-8	PW-8	PW-8
Water	Sample Date	6/18/2019	6/20/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019
	Sample Time	12:20:00 PM	10:55:00 AM	5:00:00 PM	10:05:00 AM	10:30:00 AM	10:30:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060528-008	H19060528-018	H19060528-013	H19060528-011	H19060528-012	H19060528-012
	Sample Number	BBC-1906-207	BBC-1906-217	BBC-1906-212	BBC-1906-210	BBC-1906-211	BBC-1906-211
	Remarks						DUPLICATE

Metals - Trace Constituents Multiple Units

Uranium (TRC)						
Zinc (DIS)	<0.002	<0.002	0.005	<0.002	<0.002	
Zinc (TRC)						

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	PW-9RINSATE BLANK		SC15-184	SC15-185	SC15-194	SC15-198
Water	Sample Date	6/18/2019	6/21/2019	6/17/2019	6/18/2019	6/18/2019	6/18/2019
	Sample Time	6:30:00 PM	12:50:00 PM	5:50:00 PM	10:40:00 AM	11:50:00 AM	9:00:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060528-010	H19060562-013	H19060528-004	H19060528-006	H19060528-007	H19060528-005
	Sample Number	BBC-1906-209	BBC-1906-233	BBC-1906-203	BBC-1906-205	BBC-1906-206	BBC-1906-204
	Remarks						

Field Parameters	Multiple Units					
Depth To Water	45.69		NM	24.18	18.22	34.64
Dissolved Oxygen	0.02		7.32	4.5	0.42	6.94
EH	147.72		507.88	479.88	240.79	464.96
Field pH	7.1		7.93	7.84	7.76	7.71
Field Specific Conductivity	751		365	395	379	421
Flow						
Flow						
Staff Gauge						
Water Temperature	8.7		6.6	6.6	7.7	6.7

Physical Parameters	mg/L					
Total Dissolved Solids	544	<10	194	217	207	231
Total Suspended Solids	<10	<10	<10	<10	<10	<10

Major Constituents - Commons Ions	mg/L					
Alkalinity as CaCO3	210	<4	180	200	160	210
Calcium (DIS)	87	<1	41	47	44	48
Chloride	1	<1	<1	<1	<1	2
Fluoride	0.6	<0.1	0.2	0.1	0.3	0.1
Hardness as CaCO3	441	<1	206	208	211	227
Magnesium (DIS)	54	<1	25	22	25	26
Potassium (DIS)	3	<1	<1	2	<1	<1
Sodium (DIS)	13	<1	2	4	2	3
Sulfate	244	<1	15	12	32	8

Nutrients	mg/L					
Nitrate + Nitrite as N	<0.01	<0.01	0.28	0.25	<0.01	0.56
Phosphorus (TOT)						
Total Nitrogen as N (Persulfate)						

Metals - Trace Constituents	Multiple Units					
Aluminum (DIS)	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
Antimony (DIS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Antimony (TRC)						
Arsenic (DIS)	0.086	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic (TRC)						

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS-- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	PW-9RINSATE BLANK		SC15-184	SC15-185	SC15-194	SC15-198
Water	Sample Date	6/18/2019	6/21/2019	6/17/2019	6/18/2019	6/18/2019	6/18/2019
	Sample Time	6:30:00 PM	12:50:00 PM	5:50:00 PM	10:40:00 AM	11:50:00 AM	9:00:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060528-010	H19060562-013	H19060528-004	H19060528-006	H19060528-007	H19060528-005
	Sample Number	BBC-1906-209	BBC-1906-233	BBC-1906-203	BBC-1906-205	BBC-1906-206	BBC-1906-204
	Remarks						

Metals - Trace Constituents	Multiple Units						
Barium (DIS)	0.012	<0.003	0.086	0.065	0.034	0.307	
Barium (TRC)							
Beryllium (DIS)	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Beryllium (TRC)							
Cadmium (DIS)	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Cadmium (TRC)							
Chromium (DIS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium (TRC)							
Cobalt (DIS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt (TRC)							
Copper (DIS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Copper (TRC)							
Iron (DIS)	2.18	<0.02	<0.02	<0.02	0.03	<0.02	<0.02
Iron (TRC)							
Lead (DIS)	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Lead (TRC)							
Manganese (DIS)	0.04	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Manganese (TRC)							
Mercury (DIS)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury (TRC)							
Molybdenum (DIS)	<0.002	<0.002	<0.002	0.004	<0.002	<0.002	<0.002
Molybdenum (TRC)							
Nickel (DIS)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (TRC)							
Selenium (DIS)	<0.0002	<0.0002	0.0011	<0.0002	<0.0002	0.0003	0.0003
Selenium (TRC)							
Silver (DIS)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Silver (TRC)							
Strontium (DIS)	9.29	<0.0002	0.116	0.234	0.0678	0.098	0.098
Strontium (TRC)							
Thallium (DIS)	0.0009	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Thallium (TRC)							
Uranium (DIS)	0.0014	<0.0002	0.001	0.003	0.0008	0.0007	0.0007

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	PW-9RINSATE BLANK		SC15-184	SC15-185	SC15-194	SC15-198
Water	Sample Date	6/18/2019	6/21/2019	6/17/2019	6/18/2019	6/18/2019	6/18/2019
	Sample Time	6:30:00 PM	12:50:00 PM	5:50:00 PM	10:40:00 AM	11:50:00 AM	9:00:00 AM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060528-010	H19060562-013	H19060528-004	H19060528-006	H19060528-007	H19060528-005
	Sample Number	BBC-1906-209	BBC-1906-233	BBC-1906-203	BBC-1906-205	BBC-1906-206	BBC-1906-204
	Remarks						

Metals - Trace Constituents Multiple Units

Uranium (TRC)							
Zinc (DIS)	<0.002	<0.002	0.013	<0.002	<0.002	0.006	
Zinc (TRC)							

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	SP-10	SP-11	SP-12	SP-3	SP-4	SP-6
Water	Sample Date	6/18/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019
	Sample Time	4:30:00 PM	11:10:00 AM	3:55:00 PM	1:45:00 PM	2:40:00 PM	2:30:00 PM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060535-001	H19060535-002	H19060535-008	H19060535-005	H19060535-007	H19060535-006
	Sample Number	BBC-1906-108	BBC-1906-112	BBC-1906-124	BBC-1906-118	BBC-1906-121	BBC-1906-120
	Remarks						

Field Parameters	Multiple Units						
Depth To Water							
Dissolved Oxygen	7.73	6.89	6.07	9.07	9.1	9.2	
EH							
Field pH	7.69	7.27	7.71	7.26	7.7	7.67	
Field Specific Conductivity	395	192	400	129	422	188	
Flow							
Flow	25.13	NM	NM	2.6	25.13	3.36	
Staff Gauge							
Water Temperature	6.2	6.5	6.8	7.3	7.2	7.2	

Physical Parameters	mg/L						
Total Dissolved Solids	216	127	230	118	241	164	
Total Suspended Solids	<10	<10	<10	<10	<10	<10	

Major Constituents - Commons Ions	mg/L						
Alkalinity as CaCO3	200	92	180	54	190	130	
Calcium (DIS)	52	23	47	17	47	33	
Chloride	<1	<1	7	<1	<1	<1	
Fluoride	0.1	0.1	0.2	0.1	0.2	0.1	
Hardness as CaCO3	204	90	200	58	216	133	
Magnesium (DIS)	18	8	20	4	24	12	
Potassium (DIS)	<1	1	1	2	2	<1	
Sodium (DIS)	2	3	2	2	2	2	
Sulfate	12	7	19	6	33	10	

Nutrients	mg/L						
Nitrate + Nitrite as N	0.14	0.25	0.33	0.17	0.3	0.41	
Phosphorus (TOT)							
Total Nitrogen as N (Persulfate)							

Metals - Trace Constituents	Multiple Units						
Aluminum (DIS)	<0.009	0.079	<0.009	0.198	0.01	<0.009	
Antimony (DIS)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Antimony (TRC)							
Arsenic (DIS)	<0.001	0.007	<0.001	0.002	<0.001	<0.001	
Arsenic (TRC)							

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	SP-10	SP-11	SP-12	SP-3	SP-4	SP-6
Water	Sample Date	6/18/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019
	Sample Time	4:30:00 PM	11:10:00 AM	3:55:00 PM	1:45:00 PM	2:40:00 PM	2:30:00 PM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060535-001	H19060535-002	H19060535-008	H19060535-005	H19060535-007	H19060535-006
	Sample Number	BBC-1906-108	BBC-1906-112	BBC-1906-124	BBC-1906-118	BBC-1906-121	BBC-1906-120
	Remarks						

Metals - Trace Constituents	Multiple Units						
Barium (DIS)	0.05	0.303	0.157	0.229	0.109	0.192	
Barium (TRC)							
Beryllium (DIS)	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Beryllium (TRC)							
Cadmium (DIS)	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Cadmium (TRC)							
Chromium (DIS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium (TRC)							
Cobalt (DIS)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt (TRC)							
Copper (DIS)	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	<0.002
Copper (TRC)							
Iron (DIS)	<0.02	0.04	<0.02	0.45	0.03	<0.02	<0.02
Iron (TRC)							
Lead (DIS)	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Lead (TRC)							
Manganese (DIS)	<0.005	<0.005	<0.005	<0.005	0.007	<0.005	<0.005
Manganese (TRC)							
Mercury (DIS)	<0.005	<0.005	<0.005	0.009	<0.005	<0.005	<0.005
Mercury (TRC)							
Molybdenum (DIS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Molybdenum (TRC)							
Nickel (DIS)	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001
Nickel (TRC)							
Selenium (DIS)	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002
Selenium (TRC)							
Silver (DIS)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Silver (TRC)							
Strontium (DIS)	0.109	0.104	0.0968	0.0546	0.0704	0.0722	
Strontium (TRC)							
Thallium (DIS)	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0005	
Thallium (TRC)							
Uranium (DIS)	0.0007	0.0005	0.0006	<0.0002	0.0005	0.0004	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	SP-10	SP-11	SP-12	SP-3	SP-4	SP-6
Water	Sample Date	6/18/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019
	Sample Time	4:30:00 PM	11:10:00 AM	3:55:00 PM	1:45:00 PM	2:40:00 PM	2:30:00 PM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060535-001	H19060535-002	H19060535-008	H19060535-005	H19060535-007	H19060535-006
	Sample Number	BBC-1906-108	BBC-1906-112	BBC-1906-124	BBC-1906-118	BBC-1906-121	BBC-1906-120
	Remarks						

Metals - Trace Constituents	Multiple Units						
-----------------------------	----------------	--	--	--	--	--	--

Uranium (TRC)							
Zinc (DIS)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Zinc (TRC)							

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	SP-7	SW-1	SW-10	SW-11	SW-14	SW-17
Water	Sample Date	6/19/2019	6/19/2019	6/18/2019	6/18/2019	6/19/2019	6/19/2019
	Sample Time	4:40:00 PM	8:45:00 AM	3:50:00 PM	1:40:00 PM	6:15:00 PM	3:10:00 PM
	Lab	Energy Labs	Energy Labs	Hydro	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060535-009	H19060536-002	z	H19060536-001	H19060536-007	H19060536-005
	Sample Number	BBC-1906-125	BBC-1906-109	BBC-1906-107	BBC-1906-103	BBC-1906-126	BBC-1906-122
	Remarks						

Field Parameters	Multiple Units						
Depth To Water							
Dissolved Oxygen	2.7	9.83	7.63	8.31	8.22	8.46	
EH							
Field pH	7.24	8.24	8.25	8.27	7.99	8.14	
Field Specific Conductivity	329	286	414	392	392	458	
Flow		91.93	1.66	2.68	6.53	0.75	
Flow	50.27						
Staff Gauge		1.4		0.64	0.8		
Water Temperature	7	7.8	13.5	10.1	11.7	13.9	

Physical Parameters	mg/L					
Total Dissolved Solids	196	186 D		226 D	266 D	314 D
Total Suspended Solids	<10	9		10	5	6

Major Constituents - Commons Ions	mg/L					
Alkalinity as CaCO3	160	150		190	190	190
Calcium (DIS)	40	42		50	53	56
Chloride	2	1		<1	4	14
Fluoride	0.3	<0.1		0.1	0.1	0.2
Hardness as CaCO3	156	148		208	203	234
Magnesium (DIS)	13	10		20	17	23
Potassium (DIS)	3	1		1	1	1
Sodium (DIS)	5	2		2	2	3
Sulfate	12	5		16	8	23

Nutrients	mg/L					
Nitrate + Nitrite as N	0.33	0.01		0.09	0.05	0.03
Phosphorus (TOT)		0.018 J		0.03 J	0.011 J	0.025 J
Total Nitrogen as N (Persulfate)		0.17		0.26	0.2	0.49

Metals - Trace Constituents	Multiple Units					
Aluminum (DIS)	<0.009	0.015		<0.009	<0.009	<0.009
Antimony (DIS)	<0.0005					
Antimony (TRC)		<0.0005		<0.0005	<0.0005	<0.0005
Arsenic (DIS)	0.004					
Arsenic (TRC)		<0.001		<0.001	<0.001	<0.001

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	SP-7	SW-1	SW-10	SW-11	SW-14	SW-17
Water	Sample Date	6/19/2019	6/19/2019	6/18/2019	6/18/2019	6/19/2019	6/19/2019
	Sample Time	4:40:00 PM	8:45:00 AM	3:50:00 PM	1:40:00 PM	6:15:00 PM	3:10:00 PM
	Lab	Energy Labs	Energy Labs	Hydro	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060535-009	H19060536-002	z	H19060536-001	H19060536-007	H19060536-005
	Sample Number	BBC-1906-125	BBC-1906-109	BBC-1906-107	BBC-1906-103	BBC-1906-126	BBC-1906-122
	Remarks						

Metals - Trace Constituents	Multiple Units				
Barium (DIS)	0.118				
Barium (TRC)		0.095		0.095	0.112 0.152
Beryllium (DIS)	<0.0008				
Beryllium (TRC)		<0.0008		<0.0008	<0.0008 <0.0008
Cadmium (DIS)	<0.00003				
Cadmium (TRC)		<0.00003		<0.00003	<0.00003 <0.00003
Chromium (DIS)	<0.01				
Chromium (TRC)		<0.01		<0.01	<0.01 <0.01
Cobalt (DIS)	<0.01				
Cobalt (TRC)		<0.01		<0.01	<0.01 <0.01
Copper (DIS)	<0.002				
Copper (TRC)		<0.002		<0.002	<0.002 <0.002
Iron (DIS)	<0.02				
Iron (TRC)		0.26		0.44	0.11 0.31
Lead (DIS)	<0.0003				
Lead (TRC)		<0.0003		0.0004	<0.0003 <0.0003
Manganese (DIS)	<0.005				
Manganese (TRC)		0.017		0.027	0.007 0.032
Mercury (DIS)	<0.005				
Mercury (TRC)		<0.005		<0.005	<0.005 0.007
Molybdenum (DIS)	<0.002				
Molybdenum (TRC)		<0.002		<0.002	<0.002 <0.002
Nickel (DIS)	<0.001				
Nickel (TRC)		<0.001		<0.001	<0.001 <0.001
Selenium (DIS)	0.0003				
Selenium (TRC)		<0.0002		<0.0002	<0.0002 <0.0002
Silver (DIS)	<0.0002				
Silver (TRC)		<0.0002		<0.0002	<0.0002 <0.0002
Strontium (DIS)	0.171				
Strontium (TRC)		0.124 L		0.178 L	0.127 L 0.145 L
Thallium (DIS)	0.001				
Thallium (TRC)		<0.0002		<0.0002	<0.0002 <0.0002
Uranium (DIS)	0.0009				

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	SP-7	SW-1	SW-10	SW-11	SW-14	SW-17
Water	Sample Date	6/19/2019	6/19/2019	6/18/2019	6/18/2019	6/19/2019	6/19/2019
	Sample Time	4:40:00 PM	8:45:00 AM	3:50:00 PM	1:40:00 PM	6:15:00 PM	3:10:00 PM
	Lab	Energy Labs	Energy Labs	Hydro	Energy Labs	Energy Labs	Energy Labs
	Lab Number	H19060535-009	H19060536-002	z	H19060536-001	H19060536-007	H19060536-005
	Sample Number	BBC-1906-125	BBC-1906-109	BBC-1906-107	BBC-1906-103	BBC-1906-126	BBC-1906-122
	Remarks						

Metals - Trace Constituents	Multiple Units				
Uranium (TRC)		0.0003		0.0009	0.0005
Zinc (DIS)	<0.002				
Zinc (TRC)		0.003 J		0.004 J	<0.002
					0.0008
					0.004 J

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J:** The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S:** The associated numerical value is an estimated quantity because split quality control criteria were not met. **U:** Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R:** Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A:** Anomalous data. No apparent explanation for discrepancy in data. **D:** Reporting Limit increased due to sample matrix. **L:** Lowest available reporting limit for the analytical method used. **H:** Analysis performed past recommended holding time. **Z:** No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	SW-18	SW-19	SW-2	SW-3	SW-4	SW-5
Water	Sample Date	6/20/2019	6/18/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019
	Sample Time	11:45:00 AM	3:35:00 PM	9:30:00 AM	3:25:00 PM	12:30:00 PM	12:50:00 PM
	Lab	Hydro	Hydro	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	z	z	H19060536-003	H19060536-006	z	z
	Sample Number	BBC-1906-131	BBC-1906-106	BBC-1906-110	BBC-1906-123	BBC-1906-114	BBC-1906-115
	Remarks						

Field Parameters Multiple Units

Depth To Water							
Dissolved Oxygen			7.99	9.96	9.28	7.7	
EH							
Field pH			8.23	8.3	8.46	7.94	
Field Specific Conductivity			381	280	379	376	
Flow	NF-DRY		0.79	71.76	0.089	0.127	NF
Flow							
Staff Gauge				1.05			
Water Temperature			12.4	7.3	11	10.1	

Physical Parameters mg/L

Total Dissolved Solids		183 D	247 D
Total Suspended Solids		8	5

Major Constituents - Commons Ions mg/L

Alkalinity as CaCO3	140	180
Calcium (DIS)	41	44
Chloride	1	2
Fluoride	<0.1	0.2
Hardness as CaCO3	143	198
Magnesium (DIS)	10	21
Potassium (DIS)	1	<1
Sodium (DIS)	2	2
Sulfate	5	17

Nutrients mg/L

Nitrate + Nitrite as N	<0.01	<0.01
Phosphorus (TOT)	0.013 J	0.009 J
Total Nitrogen as N (Persulfate)	0.12	0.1

Metals - Trace Constituents Multiple Units

Aluminum (DIS)	0.012	<0.009
Antimony (DIS)		
Antimony (TRC)	<0.0005	<0.0005
Arsenic (DIS)		
Arsenic (TRC)	<0.001	<0.001

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	SW-18	SW-19	SW-2	SW-3	SW-4	SW-5
Water	Sample Date	6/20/2019	6/18/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019
	Sample Time	11:45:00 AM	3:35:00 PM	9:30:00 AM	3:25:00 PM	12:30:00 PM	12:50:00 PM
	Lab	Hydro	Hydro	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	z	z	H19060536-003	H19060536-006	z	z
	Sample Number	BBC-1906-131	BBC-1906-106	BBC-1906-110	BBC-1906-123	BBC-1906-114	BBC-1906-115
	Remarks						

Metals - Trace Constituents Multiple Units

Barium (DIS)		
Barium (TRC)	0.078	0.146
Beryllium (DIS)		
Beryllium (TRC)	<0.0008	<0.0008
Cadmium (DIS)		
Cadmium (TRC)	<0.00003	<0.00003
Chromium (DIS)		
Chromium (TRC)	<0.01	<0.01
Cobalt (DIS)		
Cobalt (TRC)	<0.01	<0.01
Copper (DIS)		
Copper (TRC)	<0.002	<0.002
Iron (DIS)		
Iron (TRC)	0.23	0.07
Lead (DIS)		
Lead (TRC)	<0.0003	<0.0003
Manganese (DIS)		
Manganese (TRC)	0.011	<0.005
Mercury (DIS)		
Mercury (TRC)	<0.005	<0.005
Molybdenum (DIS)		
Molybdenum (TRC)	<0.002	<0.002
Nickel (DIS)		
Nickel (TRC)	<0.001	<0.001
Selenium (DIS)		
Selenium (TRC)	<0.0002	<0.0002
Silver (DIS)		
Silver (TRC)	<0.0002	<0.0002
Strontium (DIS)		
Strontium (TRC)	0.126 L	0.11 L
Thallium (DIS)		
Thallium (TRC)	<0.0002	<0.0002
Uranium (DIS)		

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	SW-18	SW-19	SW-2	SW-3	SW-4	SW-5
Water	Sample Date	6/20/2019	6/18/2019	6/19/2019	6/19/2019	6/19/2019	6/19/2019
	Sample Time	11:45:00 AM	3:35:00 PM	9:30:00 AM	3:25:00 PM	12:30:00 PM	12:50:00 PM
	Lab	Hydro	Hydro	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	z	z	H19060536-003	H19060536-006	z	z
	Sample Number	BBC-1906-131	BBC-1906-106	BBC-1906-110	BBC-1906-123	BBC-1906-114	BBC-1906-115
	Remarks						

Metals - Trace Constituents Multiple Units

Uranium (TRC)	0.0003	0.0006
Zinc (DIS)		
Zinc (TRC)	0.002 J	0.002 J

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J:** The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S:** The associated numerical value is an estimated quantity because split quality control criteria were not met. **U:** Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R:** Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A:** Anomalous data. No apparent explanation for discrepancy in data. **D:** Reporting Limit increased due to sample matrix. **L:** Lowest available reporting limit for the analytical method used. **H:** Analysis performed past recommended holding time. **Z:** No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	SW-6	SW-6	SW-7	SW-7	SW-8	SW-9
Water	Sample Date	6/20/2019	6/20/2019	6/20/2019	6/20/2019	6/20/2019	6/18/2019
	Sample Time	11:15:00 AM	11:30:00 AM	12:25:00 PM	12:50:00 PM	1:15:00 PM	2:25:00 PM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	H19060536-009	H19060536-010	H19060535-012	H19060535-013	z	z
	Sample Number	BBC-1906-129	BBC-1906-130	BBC-1906-133	BBC-1906-134	BBC-1906-135	BBC-1906-104
	Remarks		DUPLICATE		DUPLICATE		

Field Parameters		Multiple Units					
Depth To Water							
Dissolved Oxygen	8.89		8.03		8.66		7.88
EH							
Field pH	8.05		7.76		7.95		8.14
Field Specific Conductivity	379		406		380		418
Flow	0.63				1.45		2.32
Flow			9.43				
Staff Gauge					0.28		
Water Temperature	7.5		8.4		9.1		11.1

Physical Parameters		mg/L			
Total Dissolved Solids	246 D	252 D	228	229	
Total Suspended Solids	13	13	<10	<10	

Major Constituents - Commons Ions		mg/L			
Alkalinity as CaCO3	190	190	210	210	
Calcium (DIS)	49	49	60	59	
Chloride	<1	<1	<1	<1	
Fluoride	0.1	0.1	<0.1	<0.1	
Hardness as CaCO3	205	205	227	221	
Magnesium (DIS)	20	20	19	18	
Potassium (DIS)	<1	<1	<1	<1	
Sodium (DIS)	3	3	2	2	
Sulfate	10	10	10	10	

Nutrients		mg/L			
Nitrate + Nitrite as N	0.03	0.03	0.06	0.06	
Phosphorus (TOT)	0.018 J	0.025 J			
Total Nitrogen as N (Persulfate)	0.2	0.19			

Metals - Trace Constituents		Multiple Units			
Aluminum (DIS)	<0.009	<0.009	<0.009	<0.009	
Antimony (DIS)			<0.0005	<0.0005	
Antimony (TRC)	<0.0005	<0.0005			
Arsenic (DIS)			<0.001	<0.001	
Arsenic (TRC)	<0.001	<0.001			

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- J: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. S: The associated numerical value is an estimated quantity because split quality control criteria were not met. U: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. R: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. A: Anomalous data. No apparent explanation for discrepancy in data. D: Reporting Limit increased due to sample matrix. L: Lowest available reporting limit for the analytical method used. H: Analysis performed past recommended holding time. Z: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	SW-6	SW-6	SW-7	SW-7	SW-8	SW-9
Water	Sample Date	6/20/2019	6/20/2019	6/20/2019	6/20/2019	6/20/2019	6/18/2019
	Sample Time	11:15:00 AM	11:30:00 AM	12:25:00 PM	12:50:00 PM	1:15:00 PM	2:25:00 PM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	H19060536-009	H19060536-010	H19060535-012	H19060535-013	z	z
	Sample Number	BBC-1906-129	BBC-1906-130	BBC-1906-133	BBC-1906-134	BBC-1906-135	BBC-1906-104
	Remarks		DUPLICATE		DUPLICATE		

Metals - Trace Constituents	Multiple Units			
Barium (DIS)			0.05	0.05
Barium (TRC)	0.11	0.111		
Beryllium (DIS)			<0.0008	<0.0008
Beryllium (TRC)	<0.0008	<0.0008		
Cadmium (DIS)			<0.00003	<0.00003
Cadmium (TRC)	<0.00003	<0.00003		
Chromium (DIS)			<0.01	<0.01
Chromium (TRC)	<0.01	<0.01		
Cobalt (DIS)			<0.01	<0.01
Cobalt (TRC)	<0.01	<0.01		
Copper (DIS)			<0.002	<0.002
Copper (TRC)	<0.002	<0.002		
Iron (DIS)			<0.02	<0.02
Iron (TRC)	0.64	0.63		
Lead (DIS)			<0.0003	<0.0003
Lead (TRC)	0.0003	0.0003		
Manganese (DIS)			<0.005	<0.005
Manganese (TRC)	0.043	0.046		
Mercury (DIS)			<0.005	<0.005
Mercury (TRC)	<0.005	<0.005		
Molybdenum (DIS)			<0.002	<0.002
Molybdenum (TRC)	<0.002	<0.002		
Nickel (DIS)			<0.001	<0.001
Nickel (TRC)	<0.001	<0.001		
Selenium (DIS)			<0.0002	<0.0002
Selenium (TRC)	<0.0002	<0.0002		
Silver (DIS)			<0.0002	<0.0002
Silver (TRC)	<0.0002	<0.0002		
Strontium (DIS)			0.132	0.133
Strontium (TRC)	0.154 L	0.156 L		
Thallium (DIS)			<0.0002	<0.0002
Thallium (TRC)	<0.0002	<0.0002		
Uranium (DIS)			0.0006	0.0006

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J**: The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S**: The associated numerical value is an estimated quantity because split quality control criteria were not met. **U**: Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R**: Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A**: Anomalous data. No apparent explanation for discrepancy in data. **D**: Reporting Limit increased due to sample matrix. **L**: Lowest available reporting limit for the analytical method used. **H**: Analysis performed past recommended holding time. **Z**: No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type:	Station (Site)	SW-6	SW-6	SW-7	SW-7	SW-8	SW-9
Water	Sample Date	6/20/2019	6/20/2019	6/20/2019	6/20/2019	6/20/2019	6/18/2019
	Sample Time	11:15:00 AM	11:30:00 AM	12:25:00 PM	12:50:00 PM	1:15:00 PM	2:25:00 PM
	Lab	Energy Labs	Energy Labs	Energy Labs	Energy Labs	Hydro	Hydro
	Lab Number	H19060536-009	H19060536-010	H19060535-012	H19060535-013	z	z
	Sample Number	BBC-1906-129	BBC-1906-130	BBC-1906-133	BBC-1906-134	BBC-1906-135	BBC-1906-104
	Remarks		DUPLICATE		DUPLICATE		

Metals - Trace Constituents	Multiple Units			
Uranium (TRC)	0.0006	0.0006		
Zinc (DIS)			<0.002	<0.002
Zinc (TRC)	0.006 J	0.003 J		

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J:** The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S:** The associated numerical value is an estimated quantity because split quality control criteria were not met. **U:** Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R:** Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A:** Anomalous data. No apparent explanation for discrepancy in data. **D:** Reporting Limit increased due to sample matrix. **L:** Lowest available reporting limit for the analytical method used. **H:** Analysis performed past recommended holding time. **Z:** No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type: Station (Site) USGS-SC1
Water Sample Date 6/19/2019
Sample Time 10:30:00 AM
Lab Energy Labs
Lab Number H19060536-004
Sample Number BBC-1906-111
Remarks

Field Parameters Multiple Units

Depth To Water
Dissolved Oxygen 9.98
EH
Field pH 8.35
Field Specific Conductivity 306
Flow 62.28
Flow
Staff Gauge
Water Temperature 6.9

Physical Parameters mg/L

Total Dissolved Solids 209 D
Total Suspended Solids 10

Major Constituents - Commons Ions mg/L

Alkalinity as CaCO3 150
Calcium (DIS) 45
Chloride 1
Fluoride <0.1
Hardness as CaCO3 158
Magnesium (DIS) 11
Potassium (DIS) 1
Sodium (DIS) 2
Sulfate 5

Nutrients mg/L

Nitrate + Nitrite as N 0.01
Phosphorus (TOT) 0.009 J
Total Nitrogen as N (Persulfate) 0.1

Metals - Trace Constituents Multiple Units

Aluminum (DIS) <0.009
Antimony (DIS)
Antimony (TRC) <0.0005
Arsenic (DIS)
Arsenic (TRC) <0.001

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type: Station (Site) USGS-SC1
Water Sample Date 6/19/2019
Sample Time 10:30:00 AM
Lab Energy Labs
Lab Number H19060536-004
Sample Number BBC-1906-111
Remarks

Metals - Trace Constituents	Multiple Units
-----------------------------	----------------

Barium (DIS)	
Barium (TRC)	0.068
Beryllium (DIS)	
Beryllium (TRC)	<0.0008
Cadmium (DIS)	
Cadmium (TRC)	<0.00003
Chromium (DIS)	
Chromium (TRC)	<0.01
Cobalt (DIS)	
Cobalt (TRC)	<0.01
Copper (DIS)	
Copper (TRC)	<0.002
Iron (DIS)	
Iron (TRC)	0.16
Lead (DIS)	
Lead (TRC)	<0.0003
Manganese (DIS)	
Manganese (TRC)	0.008
Mercury (DIS)	
Mercury (TRC)	<0.005
Molybdenum (DIS)	
Molybdenum (TRC)	<0.002
Nickel (DIS)	
Nickel (TRC)	<0.001
Selenium (DIS)	
Selenium (TRC)	<0.0002
Silver (DIS)	
Silver (TRC)	<0.0002
Strontium (DIS)	
Strontium (TRC)	0.141 L
Thallium (DIS)	
Thallium (TRC)	<0.0002
Uranium (DIS)	

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J:** The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S:** The associated numerical value is an estimated quantity because split quality control criteria were not met. **U:** Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R:** Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A:** Anomalous data. No apparent explanation for discrepancy in data. **D:** Reporting Limit increased due to sample matrix. **L:** Lowest available reporting limit for the analytical method used. **H:** Analysis performed past recommended holding time. **Z:** No validation Flag.

Analyses Summary Report

Site Name: Black Butte Mine

7/31/2019 1:55:01 PM

Sample Type: Station (Site) USGS-SC1
Water Sample Date 6/19/2019
Sample Time 10:30:00 AM
Lab Energy Labs
Lab Number H19060536-004
Sample Number BBC-1906-111
Remarks

Metals - Trace Constituents	Multiple Units
-----------------------------	----------------

Uranium (TRC)	0.0003
Zinc (DIS)	
Zinc (TRC)	0.002 J

NOTES: All quantities in mg/L (Water) or mg/kg (Soil) unless noted. All results laboratory unless field (FLD) or calculated (CALC).

DATA VALIDATION FLAGS--- **J:** The associated numerical value is an estimated quantity because duplicate quality control criteria were not met. **S:** The associated numerical value is an estimated quantity because split quality control criteria were not met. **U:** Blank contamination; Indicates possible high bias and / or false positive. The associated value is an estimate. **R:** Quality control indicates that the data are unusable (compound may or may not be present). Resampling and/or reanalysis are necessary for verification. **A:** Anomalous data. No apparent explanation for discrepancy in data. **D:** Reporting Limit increased due to sample matrix. **L:** Lowest available reporting limit for the analytical method used. **H:** Analysis performed past recommended holding time. **Z:** No validation Flag.