2014 THIRD QUARTER WATER RESOURCES MONITORING REPORT BLACK BUTTE COPPER PROJECT

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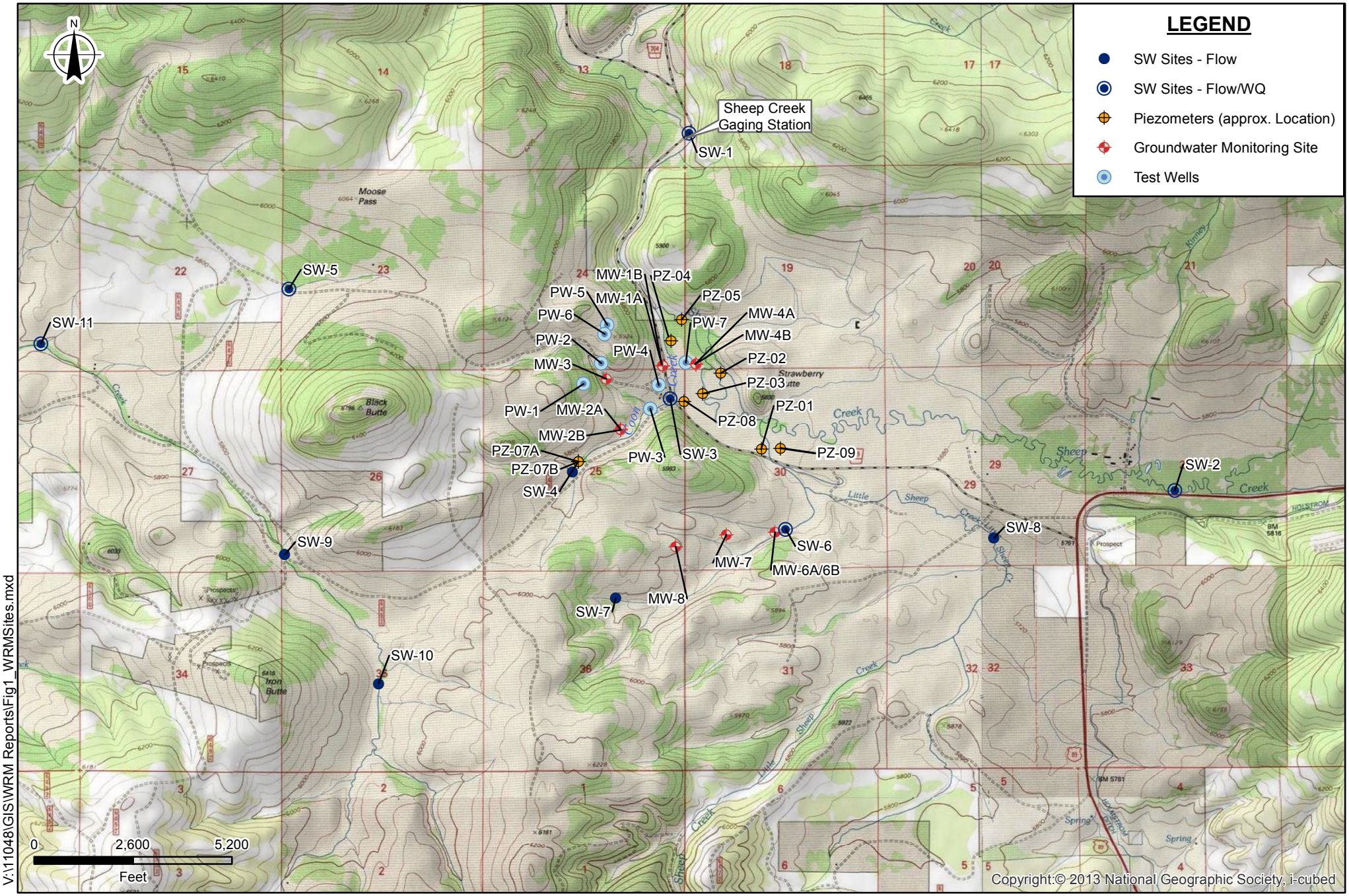
1.0 INTRODUCTION

Hydrometrics conducted the 2014 Third Quarter Water Resources Monitoring Event for the Black Butte Copper Project on August 19th and 21st and September 10th and 11th, 2014. The groundwater monitoring was moved to September as the PW-08 aquifer test was being conducted in August and many of the monitoring wells were being used as observation wells for the aquifer test. The quarterly monitoring schedule includes sample collection and/ or field measurements at eleven surface water sites (five sites for flow and field parameters and six sites for water quality and flow) as well as eleven groundwater sites, to establish baseline pre-mining conditions for surface water and ground water in the vicinity of the proposed mine. Well MW-09, which was installed in June 2014, was not included as part of the third quarter monitoring as background water levels were being monitored at this observation well for the PW-09 aquifer test. Well MW-09 will be included in the water resource monitoring starting in the fourth quarter of 2014. Surface water monitoring sites are listed in Table 1 and groundwater sites are listed in Table 2. Water levels were also collected at twelve additional wells/piezometers (Table 2). Surface water and groundwater site locations are shown on Figure 1.

Water quality samples were submitted to Energy Laboratories in Helena, MT for analysis of physical parameters, common constituents, nutrients, and a comprehensive suite of trace constituents as listed in Table 3 (surface water) and Table 4 (groundwater). An expanded list of nutrient constituents (total kjeldahl nitrogen, total nitrogen and total phosphorus) were added to the surface water parameter list during the third quarter 2014 monitoring event at the request of DEQs TMDL program. With the exception of aluminum, trace constituents were analyzed for the total recoverable fraction for surface water samples; aluminum was analyzed for the



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Hydrometrics, Inc.
Consulting Scientists and Engineers

Figure 1
Baseline Monitoring Sites
Black Butte Copper Project
Meagher County, Montana

TABLE 1. SURFACE WATER MONITORING SITES

Site	Location	Northing	Easting	Field Parameters and Flow	Laboratory Analyses
		UTM - WGS 1984 Zone 12 N (meters)			
SW-1	Sheep Creek - Downgradient site; at bridge on county road 119	5182710	507148	X	X
SW-2	Sheep Creek - Upgradient site; Highway 89 right of way approximately 0.6 miles east of county road intersection	5179844	511040	X	X
SW-3	Unnamed Trib. to Sheep Creek - at intersection of county road 119 and forest service road.	5180581	506996	X	X
SW-4	Unnamed Trib. to Sheep Creek - approximately 0.6 miles southwest of Co. Rd/USFS Rd intersection	5180114	506308	X	
SW-5	Unnamed Trib. To Butte Creek - West of Moose Pass, where jeep trail crosses drainage.	5181465	503914	X	X
SW-6	Unnamed Trib to Little Sheep Creek - approximately 0.25 miles south of county road.	5179536	507919	X	X
SW-7	Unnamed Trib to Little Sheep Creek - Upgradient site, approximately 1-mile upgradient of SW-6.	5179000	506420	X	
SW-8	Little Sheep Creek - Approximately 0.5 miles from Highway 89.	5179476	509575	X	
SW-9	Butte Creek - at USFS road crossing.	5179271	503944	X	
SW-10	Butte Creek - approximately 0.7 miles upstream of SW-9.	5178322	504665	X	
SW-11	Butte Creek - Downgradient of confluence with Unnamed Trib to Butte Creek (west of Moose Pass).	5181021	501951	X	X

TABLE 2. GROUNDWATER MONITORING SITE COMPLETION DATA

Well Name	Easting (meters)	Northing (meters)	G.S. Elev. (feet amsl)	M.P. Elev. (feet amsl)	Total Depth (feet, bgs)	Perforated/ Screen Interval (feet, bgs)	Filter Pack Interval (feet, bgs)
	UTM- WGS 1984 Zone 12 North						
Monitoring Wells							
MW-1A	506935.22	5180841.55	5635.81	5637.73	38	25 - 34	25 - 34
MW-1B	506934.19	5180845.46	5636.14	5637.90	98	88 - 98	88 - 98
MW-2A	506598.18	5180331.93	5743.72	5745.31	62	52 - 62	47 - 62
MW-2B	506596.96	5180328.73	5743.44	5745.53	80	70 - 80	65 - 80
MW-3	506484.07	5180740.22	5760.06	5762.17	305	285 - 305	278 - 305
MW-4A	507201.47	5180855.43	5610.12	5612.12	23	14-23	11-59
MW-4B	507200.12	5180858.49	5610.07	5612.07	59	39-59	37-59
MW-6A	507809.18	5179492.9	5680.08	5681.87	15	5-15	3-15
MW-6B	507792.76	5179490.7	5683.41	5685.31	50	40-50	37-50
MW-7	507451.7	5179500.7	5747.48	5749.46	50	40-50	37-50
MW-8	507036	5179398.3	5809.10	5810.93	80	70-80	67-80

TABLE 3. ANALYTICAL METHODS AND DETECTION LIMITS FOR SURFACE WATER SAMPLES

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
Total Kjeldahl as N	A 4500 N org	0.5
Total Nitrogen	Calculated	0.5
Total Phosphorus	E365.1	0.01
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	0.02
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 Wastewa*ter (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 4. ANALYTICAL METHODS AND DETECTION LIMITS FOR GROUNDWATER SAMPLES

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
Total Kjeldahl as N	A 4500 N org	0.5
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(1) Analytical methods are from *Standard Methods for the Examination of Water and Wastewa*ter (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 SURFACE WATER MONITORING PROTOCOL

Surface water monitoring included discharge (flow) and field parameter measurements at all eleven sites; water quality samples for laboratory analysis were collected at six of the eleven monitoring sites. Below is a summary of the methodologies used for the surface water monitoring, which consisted of the following steps:

1. Measurement of stream flow and stage (at sites instrumented with staff gages);
2. Collection of field parameters; and
3. Water quality sample collection.

2.1 FLOW MEASUREMENT

Surface water flow measurements were collected using a Marsh-McBirney current meter and wading rod (area-velocity method), 90° v-notch cutthroat flume, or estimated (when unsafe conditions precluded wading). Stage measurements were measured at staff gages at selected sites.

The Marsh-McBirney current meter is used to measure stream flow at larger, wadeable stream sites. Measurement of stream flow was performed in accordance with the area-velocity method developed by the USGS (USGS, 2010). In general, the entire stream width is divided into subsections and the stream velocity is measured at the midpoint of each subsection at a depth equivalent to six-tenths of the total subsection depth. The velocity in each subsection is then multiplied by the cross-sectional area to obtain the flow volume through each subsection. The subsection flows are then summed to obtain the total stream flow rate. Stream flow measurements are typically collected in a stream reach as straight and free of obstructions as possible, to minimize potential measurement error introduced by converging or turbulent flow paths.

Stream flow measurements on smaller streams were obtained by using a portable 90° v-notch cutthroat flume. To measure stream flow, the flume was placed and leveled in the streambed, and the full stream flow directed through the flume throat. Water depth or head

measurements were then collected at specified locations in the converging and (if applicable) diverging sections of the flume. The head measurements were used to verify proper functioning of the flume and to calculate stream flow based on the water depth.

During unsafe wading conditions, estimated flows were determined using the float method, or by using the Marsh-McBirney current meter at accessible locations to establish estimated average velocities. Velocities obtained from the float or Marsh-McBirney methods were multiplied by average stream width and depth to calculate estimated flows.

2.2 FIELD PARAMETERS

Surface water monitoring included measurement of the field parameters that consisted of pH, specific conductance (SC), dissolved oxygen (DO) and water temperature. Field parameters were collected before stream flow measurements, or upstream of the location where stream flows were measured to ensure the measurements were not affected by streambed disturbance.

Field meters were calibrated daily according to factory instructions, with calibration results recorded in the field notebook and/or on calibration forms. Field parameter measurements were obtained directly in the stream; however, in high velocity areas pH was measured in a clean container filled with sample water to limit possible errors due to streaming potentials. Results were recorded in the field notebook and on standard sample forms.

2.3 WATER QUALITY SAMPLING

Water quality grab samples were collected from each surface water-monitoring site by passing an uncapped sample container across the area of flow. Sample containers were rinsed three times with sample water prior to sample collection. Water quality samples were collected in containers and preserved as summarized in Table 5.

TABLE 5. SAMPLE CONTAINER AND PRESERVATION REQUIREMENTS

Parameters	Sample Containers	Preservative
Field Parameters	None	None
Common Constituents	500 mL HDPE	Cool to 4°C
Nutrients (Nitrate+Nitrite)	250 mL HDPE	H_2SO_4 to pH <2 Cool to 4°C
Trace Constituents (total recoverable, **except dissolved for aluminum**)	250 mL HDPE	Filter dissolved samples (0.45 µm) HNO_3 to pH <2 Cool to 4°C

Following preservation, samples were stored on ice in coolers at approximately 4±2°C for transport. Dissolved trace constituents were filtered by passing unpreserved sample water through a 0.45 µm filter using a peristaltic pump. All raw sample containers (used for filtration), tubing and filters were discarded after one use to eliminate any cross-contamination between samples.

All water quality sampling information, including sample sites, sample numbers, date and time of sample collection, field parameter measurements, flow measurements, and other notes and observations, were documented in waterproof ink in a dedicated project field notebook, and on standard field forms. Photos were taken at each site to document conditions at the time of sampling and to provide reference for future monitoring events.

2.4 FIELD QUALITY CONTROL

One field duplicate was collected to evaluate the reproducibility (precision) of the field sampling protocols. Field duplicate samples are replicate samples from a single sampling location submitted to a laboratory for the same set of analyses. For the purposes of this project, field duplicates were collected by filling two sample containers consecutively from the sampling location. Duplicates were submitted to the same laboratory, and were identified with different sample numbers.

3.0 GROUNDWATER MONITORING PROTOCOL

Groundwater monitoring included collection of field parameters and water quality samples from nine monitoring wells. Wells MW-2A and MW-2B were not sampled as access to the wells was blocked by piping and required BMPs related to pump test activity.

The collection of groundwater samples from site monitoring wells consisted of three steps:

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

3.1 WATER LEVEL MEASUREMENT

Prior to collection of samples or removal/introduction of any equipment into the well, the water level was measured at each well using an electric water level probe to determine the depth of groundwater below a specified measuring point (top of PVC well casing). Water level measurements will be combined with surveyed measuring point elevations to compute groundwater elevations at each monitoring point.

3.2 FIELD PARAMETERS AND WATER QUALITY SAMPLE COLLECTION

Dedicated HDPE tubing is installed in all eleven monitoring wells, and a 12-volt submersible pump or grundfos pump was used to purge and sample all monitoring wells. Purging consisted of removing three well volumes while routinely monitoring field parameters (pH, dissolved oxygen, temperature, specific conductance) during removal of each well volume. Field meters were calibrated daily according to factory instructions, with calibration results recorded on calibration forms.

Samples for laboratory analysis were collected after one of the following purge conditions was met:

- A minimum of three well volumes have been removed and successive field parameter measurements agree to within the stability criteria given below; or
- At least five well volumes have been removed although field parameter stabilization criteria are not yet met; or
- The well has been pumped dry and allowed to recover sufficiently such that adequate sample volumes for rinsing equipment and collecting samples can be removed.

Criteria for field parameter stabilization are as follows:

Parameter (Units)	**Stability Criteria**
pH (standard units)	± 0.1 s.u.
Water temperature (°C)	± 0.2 °C
Specific conductance (µmhos/cm)	± 5% (SC ≤ 100 µmhos/cm) ± 3% (SC > 100 µmhos/cm)
Dissolved oxygen (mg/L)	± 0.3 mg/L

NOTE: Stability criteria obtained from USGS *National Field Manual for the Collection of Water Quality Data: Chapter A4, Collection of Water Samples* (September 1999).

Following well purging, final field parameter measurements were collected and recorded, and groundwater quality samples were obtained. Samples for trace constituents were filtered through a 0.45 µm filter prior to preservation, to allow analysis for the dissolved fraction. Sample containers were rinsed three times with sample water prior to sample collection, then preserved as appropriate for the intended analysis (e.g., nitric acid preservation to pH <2 for metals analysis), and stored on ice in coolers at approximately 4±2°C during transport.

Groundwater sampling equipment reused between monitoring locations (12-volt or Grundfos sampling pump and short piece of discharge line) were thoroughly decontaminated between uses. Equipment decontamination consisted of the following steps:

- Rinse with about two gallons of soapy water (Alconox or other non-phosphate detergent); and
- Rinse with about 2 gallons of distilled water.

4.0 RESULTS

The field parameters and analytical results for the 2014 Third Quarter Monitoring are presented in Table 6 (surface water) and Table 7 (groundwater). Below is a brief summary of the monitoring results. The Laboratory Analytical Data Report for this monitoring event is located in Appendix A.

4.1 STREAM DISCHARGE

Stream discharge measured at surface water sites in August 2014 ranged from 19.27 to 25.48 cfs in Sheep Creek and from 0.097 to 26.35 cfs in its tributaries. Dry conditions were observed at site SW-5.

4.1 GROUNDWATER LEVELS

Depth to water in the monitoring wells ranged from 5.05 to 45.98 feet below the measuring point (typically top of casing). The shallowest water was found in wells and piezometers completed in the Sheep Creek Alluvium (MW-4A) and in the shallow bedrock wells near the contact of or beneath the Sheep Creek Alluvium (MW-1A, MW-4B). As expected, the deepest groundwater levels were in wells completed in higher elevation areas (PW-1).

A potentiometric map was not constructed for the third quarter monitoring event as effects from the 30 day aquifer test at PW-08 may have effects on water levels in numerous water levels and it is likely that the aquifer(s) were not in a static condition.

4.2 WATER QUALITY DATA

Surface water quality was relatively similar at all of the monitoring sites. Water samples showed near neutral to slightly basic pH (7.73 – 8.38 s.u.), relatively low total dissolved solids (168 mg\L to 237 mg/L), and were calcium bicarbonate type water. Numerous trace constituents were detected at low levels at one or more sites, including: dissolved aluminum and total recoverable arsenic, barium, cadmium, copper, iron, lead, manganese, nickel, selenium, strontium, uranium and zinc (Table 6).

TABLE 6. THIRD QUARTER 2014 SURFACE WATER QUALITY RESULTS

Site Code	SW-1	SW-2	SW-2 DUP	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	SW-9	SW-10	SW-11	*Surface Water Human Health Standard*	*Surface Water Aquatic Standard (Chronic)*
Field Sample ID (BBC-1408-)	-134	-135	-136	-102	-111	-100	-108	-106	-130	-103	-105	-101		
FIELD PARAMETERS														
Flow (CFS)	*25.48*	*19.27*	--	0.08	*0.03*	DRY	*0.17*	*0.01*	*0.54*	*0.73*	*0.42*	1.07	--	--
pH (s.u.)	*8.38*	*8.22*	--	8.19	*8.15*	--	*8.15*	*7.73*	*7.92*	*8.17*	*8.25*	8.11	--	--
Specific Conductance (µmhos/cm)	*286*	*277*	--	400	*379*	--	*406*	*409*	*433*	*427*	*427*	422	--	--
Temperature (C)	*13.3*	*12.5*	--	12.7	*13.4*	--	*15.7*	*11.4*	*9.9*	*13.4*	*18.6*	14	--	--
Dissolved Oxygen (mg/L)	*10.01*	*9.87*	--	8.45	*7.21*	--	*7.09*	*7.18*	*10.25*	*7.75*	*6.63*	8.64	--	--
Oxidation Reduction Potential	*137.9*	*140.4*	--	160.1	*172*	--	*162.1*	*160.1*	*141.6*	*161.9*	*162.6*	164	--	--
GENERAL PARAMETERS														
Total Suspended Solids	<10	10	10	11	--	--	25	--	--	--	--	47	--	--
Total Dissolved Solids	177	168	170	216	--	--	217	--	--	--	--	237	--	--
COMMON IONS (mg/L)														
Alkalinity as CaCO3	160	150	150	200	--	--	220	--	--	--	--	220	--	--
Sulfate	4	4	4	12	--	--	9	--	--	--	--	14	--	--
Chloride	1	1	1	2	--	--	<1	--	--	--	--	1	--	--
Fluoride	<0.1	<0.1	<0.1	0.2	--	--	<0.1	--	--	--	--	0.2	*4*	--
Calcium	43	42	42	50	--	--	52	--	--	--	--	53	--	--
Magnesium	11	10	11	23	--	--	22	--	--	--	--	24	--	--
Sodium	2	2	2	2	--	--	3	--	--	--	--	3	--	--
Potassium	1	1	1	1	--	--	1	--	--	--	--	2	--	--
NUTRIENTS (mg/L)														
Nitrate and Nitrite as N	<0.01	<0.01	<0.01	0.08	--	--	0.06	--	--	--	--	0.04	*10*	--
Nitrogen, Kjeldahl, Total as N	2.8	3.6	3.4	2.2	--	--	3.4	--	--	--	--	3.4	--	--
Total Nitrogen	2.8	3.6	3.4	2.3	--	--	3.4	--	--	--	--	3.4	--	--
Total Phosphorus	<0.01	<0.01	<0.01	0.02	--	--	0.02	--	--	--	--	0.06	--	--
DISSOLVED TRACE CONSTITUENTS (mg/L)														
Aluminum	<0.009	0.009	0.009	<0.009	--	--	<0.009	--	--	--	--	<0.009	--	*0.087*
TOTAL RECOVERABLE TRACE CONSTITUENTS (mg/L)														
Antimony	<0.0005	<0.0005	<0.0005	<0.0005	--	--	<0.0005	--	--	--	--	<0.0005	*0.0056*	--
Arsenic	<0.001	<0.001	<0.001	<0.001	--	--	<0.001	--	--	--	--	0.001	*0.01*	*0.15*
Barium	0.108	0.105	0.104	0.156	--	--	0.129	--	--	--	--	0.111	*1*	--
Beryllium	<0.0008	<0.0008	<0.0008	<0.0008	--	--	<0.0008	--	--	--	--	<0.0008	*0.004*	--
Cadmium	<0.00003	<0.00003	<0.00003	<0.00003	--	--	<0.00003	--	--	--	--	0.00004	*0.005*	*0.00022+*
Chromium	<0.005	<0.005	<0.005	<0.005	--	--	<0.005	--	--	--	--	<0.005	*0.1*	--
Cobalt	<0.005	<0.005	<0.005	<0.005	--	--	<0.005	--	--	--	--	<0.005	--	--
Copper	<0.002	<0.002	<0.002	0.002	--	--	0.002	--	--	--	--	0.002	*1.3*	*0.0073+*
Iron	0.16	0.14	0.13	0.23	--	--	0.4	--	--	--	--	**1.43**	--	*1*
Lead	<0.0003	<0.0003	<0.0003	0.0007	--	--	0.0004	--	--	--	--	0.0018	*0.015*	*0.0022+*
Manganese	0.012	0.01	0.009	0.007	--	--	0.018	--	--	--	--	0.063	--	--
Mercury	<0.000005	<0.000005	<0.000005	<0.000005	--	--	<0.000005	--	--	--	--	<0.000005	*0.00005*	*0.00091*
Molybdenum	<0.001	<0.001	<0.001	<0.001	--	--	<0.001	--	--	--	--	<0.001	--	--
Nickel	<0.001	<0.001	<0.001	<0.001	--	--	<0.001	--	--	--	--	0.001	*0.1*	*0.041+*
Selenium	<0.0002	<0.0002	<0.0002	0.0003	--	--	0.0002	--	--	--	--	0.0002	*0.05*	*0.005*
Silver	<0.001	<0.001	<0.001	<0.001	--	--	<0.001	--	--	--	--	<0.001	*0.1*	--
Strontium	0.116	0.115	0.115	0.109	--	--	0.166	--	--	--	--	0.184	*4*	--
Thallium	<0.0002	<0.0002	<0.0002	<0.0002	--	--	<0.0002	--	--	--	--	<0.0002	*0.00024*	--
Uranium	0.0003	<0.0003	<0.0003	0.0007	--	--	0.0006	--	--	--	--	0.0009	*0.03*	--
Zinc	<0.002	<0.002	<0.002	0.004	--	--	0.006	--	--	--	--	0.013	*2*	*0.094+*

NOTES: concentrations that are in bold exceed DEQ 7 standards for Human Health and/or Aquatic (chronic)

+ = hardness dependent parameter values shown for a hardness of 75 mg/L; which is approximately the lowest hardness recorded in the baseline data.

Concentrations that are in bold are based on hardness of individual samples.

All information summarized from MDEQ Circular DEQ-7 (October 2012 Printing).

Surface water standards for metals and metalloids are based on total recoverable concentrations, except for aluminum is dissolved.

TABLE 7. THIRD QUARTER 2014 GROUNDWATER QUALITY RESULTS

Site Code	MW-1A	MW-1B	MW-2A	MW-2B	MW-3	MW-4A	MW-4A DUP	MW-4B	MW-6A	MW-6B	MW-7	MW-8	*Groundwater Human Health Standard*
Field Sample ID (BBC-1409-)	201	200	NA	NA	202	207	208	209	203	204	205	206	
FIELD PARAMETERS													--
Static Water Level	6.25	23.08	--	--	45.98	5.47	--	5.05	8.13	11.35	31.43	28.96	--
ORP (mV)	120.8	18.7	--	--	-57.2	-41.9	--	-59.7	90.1	94.1	-18.3	-91.4	--
Dissolved Oxygen (mg/L)	10.26	0.66	--	--	0.28	0.71	--	0.4	6.67	3.94	0.47	0.3	--
pH (s.u.)	6.85	6.02	--	--	6.97	7.21	--	6.93	7.23	7.23	7.37	7.62	--
Specific Conductance (µmhos/c	338	611	--	--	857	523	--	470	425	445	535	308	
Temperature (C)	6.7	7.3	--	--	9.6	7.6	--	6.1	7.6	6.5	7.7	7.2	--
													--
GENERAL PARAMETERS													
Total Suspended Solids	838	27	--	--	<10	<10	<10	<10	193	222	550	14	--
Total Dissolved Solids	202	409	--	--	607	296	296	260	248	253	328	171	--
													--
COMMON IONS (mg/L)													
Alkalinity as CaCO3	170	67	--	--	210	270	270	240	220	230	280	150	
Sulfate	9	220	--	--	270	13	14	13	11	18	62	11	
Chloride	1	<1	--	--	1	2	2	1	1	1	4	<1	
Fluoride	0.2	0.2	--	--	0.7	0.1	0.1	0.1	0.2	0.5	0.3	0.2	*4*
Calcium	40	54	--	--	84	77	77	66	53	48	58	27	--
Magnesium	17	28	--	--	55	21	21	21	24	23	37	23	--
Sodium	2	5	--	--	16	3	3	2	3	15	3	3	--
Potassium	1	3	--	--	3	2	2	1	<1	1	1	<1	--
													--
NUTRIENTS (mg/L)													--
Nitrate and Nitrite as N	0.45	0.05	--	--	<0.01	<0.01	<0.01	<0.01	0.21	0.13	<0.01	<0.01	*10*
													--
DISSOLVED TRACE CONSTITUENTS (mg/L)													
Aluminum	0.276	<0.009	--	--	<0.009	<0.009	<0.009	0.027	<0.009	0.009	0.01	0.013	--
Antimony	<0.0005	0.0006	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	*0.006*
Arsenic	<0.001	**0.062**	--	--	**0.072**	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	0.003	*0.01*
Barium	0.149	0.014	--	--	0.01	0.18	0.185	0.125	0.167	0.109	0.047	0.072	*1*
Beryllium	<0.0008	<0.0008	--	--	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	*0.004*
Cadmium	<0.00003	<0.00003	--	--	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	*0.005*
Chromium	<0.01	<0.01	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	*0.1*
Cobalt	<0.01	0.02	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	--
Copper	0.026	0.002	--	--	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	*1.3*
Iron	0.14	19.1	--	--	1.17	0.04	0.04	<0.02	<0.02	<0.02	0.08	0.08	--
Lead	0.0006	<0.0003	--	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	*0.015*
Manganese	<0.001	0.08	--	--	0.018	0.182	0.186	0.002	<0.001	0.024	0.083	0.072	--
Mercury	<0.000005	<0.000005	--	--	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	*0.002*
Molybdenum	<0.001	<0.001	--	--	0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002	0.003	--
Nickel	<0.001	0.012	--	--	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	*0.1*
Selenium	<0.0002	<0.0002	--	--	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	*0.05*
Silver	<0.001	<0.001	--	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	*0.1*
Strontium	0.111	1.55	--	--	**14.6**	0.168	0.171	0.174	0.155	0.201	0.164	0.0889	*4*
Thallium	0.0005	**0.0124**	--	--	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	*0.002*
Uranium	0.0009	<0.0003	--	--	0.0011	0.0004	0.0004	0.0007	0.0006	0.0007	0.0031	0.0009	*0.03*
Zinc	0.029	0.033	--	--	<0.002	0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	*2*

NOTES: concentrations that are in bold exceed DEQ 7 standards for Human Health
All information summarized from MDEQ Circular DEQ-7 (October 2012 Printing).

Groundwater quality showed some differences related to well depths and completion zones. Wells MW-1A, MW-2A and MW-4A are located in the shallow unconsolidated overburden deposits and exhibited a neutral pH (6.85 to 7.21 s.u.), low sulfate concentration (9 to 13 mg/L) and low or non-detectable concentrations of most dissolved trace constituent (Table 7). Well MW-1B has historically had similar water quality as wells completed in the sulfide ore zone (MW-3). These wells had a slightly lower pH (6.02 to 6.97 s.u.) and higher concentrations of dissolved solids (409 to 607 mg/L) and sulfate (220 to 270 mg/L) compared to the other wells. Dissolved trace constituents that are present at detectable concentrations in MW-1B and MW-3 include antimony, arsenic, barium, cobalt, copper, iron, manganese, molybdenum, nickel, strontium, thallium, uranium and zinc (Table 5). Wells located in the shallow bedrock above the sulfide zones include MW-2B, MW-4B, MW-6A, MW-6B, MW-7 and MW-8. These wells had near neutral pH (6.93-7.62 s.u.), sulfate concentrations of 11 to 62 mg/L, and low concentrations of dissolved trace constituents including aluminum, antimony, arsenic, barium, iron, manganese, molybdenum, strontium and uranium.

The third quarter 2014 water quality results were compared to human health and aquatic life (chronic) standards per MDEQ Circular DEQ-7 (MDEQ, 2012). Surface water concentrations exceeded DEQ-7 surface water chronic aquatic life standards for iron at site SW-11. All other surface water concentrations were below DEQ-7 surface water human health standards and chronic aquatic life standards. Groundwater constituents exceeding DEQ-7 human health standards for the third quarter 2014 monitoring event included arsenic at MW-1B and MW-3, strontium at MW-3 and thallium at MW-1B.

4.3 FIELD QUALITY CONTROL

Quality control and quality assurance for the 2014 Third Quarter monitoring event were evaluated using results of two field duplicate sample (collected at surface water site SW-2 and groundwater site MW-4A) and standard laboratory QC samples. For the field duplicate samples, all parameters were within control limits. For laboratory QC samples, one laboratory duplicate exceeded the laboratory advisory limits of 5% ROD, and matrix spikes duplicate was outside the recovery control limits of 90-110% for nitrate plus nitrite. The QC

data did not indicate any systematic data quality issues for the Third Quarter 2014 data set. A summary of the Third Quarter 2014 QA/QC Review is included in Appendix B.

5.0 REFERENCES

EPA, 1983. Methods for Chemical Analysis of Water and Wastes. EPA-600/14-79-020. Revised March 1983.

MDEQ, 2012. Circular DEQ-7, Montana Numeric Water Quality Standards, October 2012.

USGS, 2010. Discharge measurements at gaging stations: U.S. Geological Survey Techniques and Methods book 3, chap A8, 87 p. By D.P. Turnipseed and V.B. Sauer.

APPENDIX A

LABORATORY ANALYTICAL REPORT

ANALYTICAL SUMMARY REPORT

December 17, 2014

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

Work Order: H14080432

Project Name: 11048 Black Butte Copper Project

Energy Laboratories Inc Helena MT received the following 6 samples for Tintina Resources Inc on 8/22/2014 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H14080432-001	BBC-1408-101	08/19/14 12:10	08/22/14	Aqueous	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity Conductivity Mercury, Total Recoverable Fluoride Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Nitrogen, Total Kjeldahl Nitrogen, Total (TKN+NO3+NO2) Metals Digestion by EPA 200.2 Digestion, Mercury by CVAA Digestion, Total P Water TKN Prep Phosphorus, Total Solids, Total Dissolved Solids, Total Suspended
H14080432-002	BBC-1408-102	08/19/14 13:10	08/22/14	Aqueous	Same As Above
H14080432-003	BBC-1408-108	08/19/14 16:10	08/22/14	Aqueous	Same As Above
H14080432-004	BBC-1408-134	08/21/14 12:00	08/22/14	Aqueous	Same As Above
H14080432-005	BBC-1408-135	08/21/14 12:45	08/22/14	Aqueous	Same As Above
H14080432-006	BBC-1408-136	08/21/14 13:00	08/22/14	Aqueous	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.

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

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

Report Approved By:

CLIENT: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Work Order: H14080432

Revised Date: 12/17/14
Report Date: 09/12/14

CASE NARRATIVE

Received call from Greg Bryce with Hydrometrics regarding Total Nitrogen value was incorrect for samples 003 through 006. Attached is the revised report with the corrected values. Wj 12/17/14

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14080432-001
Client Sample ID: BBC-1408-101

Revised Date: 12/17/14
Report Date: 09/12/14
Collection Date: 08/19/14 12:10
DateReceived: 08/22/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	47	mg/L		10		A2540 D	08/22/14 14:40 / SRW
Solids, Total Dissolved TDS @ 180 C	237	mg/L		10		A2540 C	08/22/14 14:50 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	220	mg/L		4		A2320 B	08/25/14 12:44 / SRW
Chloride	1	mg/L		1		E300.0	08/25/14 18:13 / SRW
Sulfate	14	mg/L		1		E300.0	08/25/14 18:13 / SRW
Fluoride	0.2	mg/L		0.1	4	A4500-F C	08/28/14 10:29 / SRW
NUTRIENTS							
Nitrogen, Kjeldahl, Total as N	3.4	mg/L		1.0		A4500 N-C	08/27/14 09:00 / cmm
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	08/26/14 11:52 / cmm
Nitrogen, Total	3.4	mg/L		0.5		Calculation	09/02/14 15:53 / abb
Phosphorus, Total as P	0.06	mg/L		0.01		E365.1	08/26/14 09:54 / cmm
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	09/04/14 20:35 / dck
METALS, TOTAL RECOVERABLE							
Antimony	ND	mg/L		0.0005		E200.8	09/04/14 20:44 / dck
Arsenic	0.001	mg/L		0.001		E200.8	09/04/14 00:18 / dck
Barium	0.111	mg/L		0.003		E200.8	09/04/14 00:18 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/04/14 00:18 / dck
Cadmium	0.00004	mg/L	D	0.00004		E200.8	09/04/14 00:18 / dck
Calcium	53	mg/L		1		E200.7	08/27/14 18:45 / sld
Chromium	ND	mg/L		0.005		E200.8	09/04/14 00:18 / dck
Cobalt	ND	mg/L		0.005		E200.8	09/04/14 00:18 / dck
Copper	0.002	mg/L		0.002		E200.8	09/04/14 00:18 / dck
Iron	1.43	mg/L		0.02		E200.7	08/27/14 18:45 / sld
Lead	0.0018	mg/L		0.0003		E200.8	09/04/14 00:18 / dck
Magnesium	24	mg/L		1		E200.7	08/27/14 18:45 / sld
Manganese	0.063	mg/L		0.001		E200.8	09/04/14 00:18 / dck
Mercury	ND	mg/L		5E-06		E245.1	08/27/14 16:48 / sbk
Molybdenum	ND	mg/L		0.001		E200.8	09/04/14 00:18 / dck
Nickel	0.001	mg/L		0.001		E200.8	09/04/14 00:18 / dck
Potassium	2	mg/L		1		E200.8	09/04/14 00:18 / dck
Selenium	0.0002	mg/L		0.0002		E200.8	09/04/14 00:18 / dck
Silver	ND	mg/L		0.001		E200.8	09/04/14 00:18 / dck
Sodium	3	mg/L		1		E200.7	08/27/14 18:45 / sld
Strontium	0.184	mg/L		0.0002		E200.8	09/04/14 00:18 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/04/14 00:18 / dck
Uranium	0.0009	mg/L		0.0003		E200.8	09/04/14 00:18 / dck
Zinc	0.013	mg/L		0.002		E200.8	09/04/14 00:18 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14080432-002
Client Sample ID: BBC-1408-102

Revised Date: 12/17/14
Report Date: 09/12/14
Collection Date: 08/19/14 13:10
DateReceived: 08/22/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	11	mg/L		10		A2540 D	08/22/14 14:41 / SRW
Solids, Total Dissolved TDS @ 180 C	216	mg/L		10		A2540 C	08/22/14 14:51 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	200	mg/L		4		A2320 B	08/25/14 11:59 / SRW
Chloride	2	mg/L		1		E300.0	08/25/14 18:47 / SRW
Sulfate	12	mg/L		1		E300.0	08/25/14 18:47 / SRW
Fluoride	0.2	mg/L		0.1	4	A4500-F C	08/28/14 10:31 / SRW
NUTRIENTS							
Nitrogen, Kjeldahl, Total as N	2.2	mg/L		1.0		A4500 N-C	08/27/14 09:00 / cmm
Nitrogen, Nitrate+Nitrite as N	0.08	mg/L		0.01		E353.2	08/26/14 11:54 / cmm
Nitrogen, Total	2.3	mg/L		0.5		Calculation	09/02/14 15:53 / abb
Phosphorus, Total as P	0.02	mg/L		0.01		E365.1	08/26/14 09:55 / cmm
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	09/04/14 20:48 / dck
METALS, TOTAL RECOVERABLE							
Antimony	ND	mg/L		0.0005		E200.8	09/04/14 20:53 / dck
Arsenic	ND	mg/L		0.001		E200.8	09/04/14 00:52 / dck
Barium	0.156	mg/L		0.003		E200.8	09/04/14 00:52 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/04/14 00:52 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/04/14 00:52 / dck
Calcium	50	mg/L		1		E200.7	08/27/14 19:08 / sld
Chromium	ND	mg/L		0.005		E200.8	09/04/14 00:52 / dck
Cobalt	ND	mg/L		0.005		E200.8	09/04/14 00:52 / dck
Copper	ND	mg/L		0.002		E200.8	09/04/14 00:52 / dck
Iron	0.23	mg/L		0.02		E200.8	09/04/14 00:52 / dck
Lead	0.0007	mg/L		0.0003		E200.8	09/04/14 00:52 / dck
Magnesium	23	mg/L		1		E200.7	08/27/14 19:08 / sld
Manganese	0.007	mg/L		0.001		E200.8	09/04/14 00:52 / dck
Mercury	ND	mg/L		5E-06		E245.1	08/27/14 16:52 / sbk
Molybdenum	ND	mg/L		0.001		E200.8	09/04/14 00:52 / dck
Nickel	ND	mg/L		0.001		E200.8	09/04/14 00:52 / dck
Potassium	1	mg/L		1		E200.8	09/04/14 00:52 / dck
Selenium	0.0003	mg/L		0.0002		E200.8	09/04/14 00:52 / dck
Silver	ND	mg/L		0.001		E200.8	09/04/14 00:52 / dck
Sodium	2	mg/L		1		E200.7	08/27/14 19:08 / sld
Strontium	0.109	mg/L		0.0002		E200.8	09/04/14 00:52 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/04/14 00:52 / dck
Uranium	0.0007	mg/L		0.0003		E200.8	09/04/14 00:52 / dck
Zinc	0.004	mg/L		0.002		E200.8	09/04/14 00:52 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14080432-003
Client Sample ID: BBC-1408-108

Revised Date: 12/17/14
Report Date: 09/12/14
Collection Date: 08/19/14 16:10
DateReceived: 08/22/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	25	mg/L		10		A2540 D	08/22/14 14:41 / SRW
Solids, Total Dissolved TDS @ 180 C	217	mg/L		10		A2540 C	08/22/14 14:51 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	220	mg/L		4		A2320 B	08/25/14 12:37 / SRW
Chloride	ND	mg/L		1		E300.0	08/25/14 19:20 / SRW
Sulfate	9	mg/L		1		E300.0	08/25/14 19:20 / SRW
Fluoride	ND	mg/L		0.1	4	A4500-F C	08/28/14 10:32 / SRW
NUTRIENTS							
Nitrogen, Kjeldahl, Total as N	3.4	mg/L		1.0		A4500 N-C	09/03/14 09:00 / cmm
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.01		E353.2	08/26/14 11:55 / cmm
Nitrogen, Total	3.46	mg/L		0.5		Calculation	12/17/14 09:39 / wjj
Phosphorus, Total as P	0.02	mg/L		0.01		E365.1	08/26/14 09:56 / cmm
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	09/04/14 20:57 / dck
METALS, TOTAL RECOVERABLE							
Antimony	ND	mg/L		0.0005		E200.8	09/04/14 21:15 / dck
Arsenic	ND	mg/L		0.001		E200.8	09/04/14 01:01 / dck
Barium	0.129	mg/L		0.003		E200.8	09/04/14 01:01 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/04/14 01:01 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/04/14 01:01 / dck
Calcium	52	mg/L		1		E200.7	08/27/14 19:11 / sld
Chromium	ND	mg/L		0.005		E200.8	09/04/14 01:01 / dck
Cobalt	ND	mg/L		0.005		E200.8	09/04/14 01:01 / dck
Copper	ND	mg/L		0.002		E200.8	09/04/14 01:01 / dck
Iron	0.40	mg/L		0.02		E200.8	09/04/14 01:01 / dck
Lead	0.0004	mg/L		0.0003		E200.8	09/04/14 01:01 / dck
Magnesium	22	mg/L		1		E200.7	08/27/14 19:11 / sld
Manganese	0.018	mg/L		0.001		E200.8	09/04/14 01:01 / dck
Mercury	ND	mg/L		5E-06		E245.1	08/27/14 16:56 / sbk
Molybdenum	ND	mg/L		0.001		E200.8	09/04/14 01:01 / dck
Nickel	ND	mg/L		0.001		E200.8	09/04/14 01:01 / dck
Potassium	1	mg/L		1		E200.8	09/04/14 01:01 / dck
Selenium	0.0002	mg/L		0.0002		E200.8	09/04/14 01:01 / dck
Silver	ND	mg/L		0.001		E200.8	09/04/14 01:01 / dck
Sodium	3	mg/L		1		E200.7	08/27/14 19:11 / sld
Strontium	0.166	mg/L		0.0002		E200.8	09/04/14 01:01 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/04/14 01:01 / dck
Uranium	0.0006	mg/L		0.0003		E200.8	09/04/14 01:01 / dck
Zinc	0.006	mg/L		0.002		E200.8	09/04/14 01:01 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14080432-004
Client Sample ID: BBC-1408-134

Revised Date: 12/17/14
Report Date: 09/12/14
Collection Date: 08/21/14 12:00
DateReceived: 08/22/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		10		A2540 D	08/25/14 14:55 / SRW
Solids, Total Dissolved TDS @ 180 C	177	mg/L		10		A2540 C	08/25/14 14:46 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	160	mg/L		4		A2320 B	08/25/14 11:46 / SRW
Chloride	1	mg/L		1		E300.0	08/25/14 19:31 / SRW
Sulfate	4	mg/L		1		E300.0	08/25/14 19:31 / SRW
Fluoride	ND	mg/L		0.1	4	A4500-F C	08/28/14 10:33 / SRW
NUTRIENTS							
Nitrogen, Kjeldahl, Total as N	2.8	mg/L		1.0		A4500 N-C	09/03/14 09:00 / cmm
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/26/14 11:56 / cmm
Nitrogen, Total	2.8	mg/L		0.5		Calculation	12/17/14 09:39 / wjj
Phosphorus, Total as P	ND	mg/L		0.01		E365.1	08/26/14 09:57 / cmm
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	09/04/14 21:19 / dck
METALS, TOTAL RECOVERABLE							
Antimony	ND	mg/L		0.0005		E200.8	09/04/14 21:23 / dck
Arsenic	ND	mg/L		0.001		E200.8	09/04/14 01:10 / dck
Barium	0.108	mg/L		0.003		E200.8	09/04/14 01:10 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/04/14 01:10 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/04/14 01:10 / dck
Calcium	43	mg/L		1		E200.7	08/27/14 19:15 / sld
Chromium	ND	mg/L		0.005		E200.8	09/04/14 01:10 / dck
Cobalt	ND	mg/L		0.005		E200.8	09/04/14 01:10 / dck
Copper	ND	mg/L		0.002		E200.8	09/04/14 01:10 / dck
Iron	0.16	mg/L		0.02		E200.8	09/04/14 01:10 / dck
Lead	ND	mg/L		0.0003		E200.8	09/04/14 01:10 / dck
Magnesium	11	mg/L		1		E200.7	08/27/14 19:15 / sld
Manganese	0.012	mg/L		0.001		E200.8	09/04/14 01:10 / dck
Mercury	ND	mg/L		5E-06		E245.1	08/27/14 17:01 / sbk
Molybdenum	ND	mg/L		0.001		E200.8	09/04/14 01:10 / dck
Nickel	ND	mg/L		0.001		E200.8	09/04/14 01:10 / dck
Potassium	1	mg/L		1		E200.8	09/04/14 01:10 / dck
Selenium	ND	mg/L		0.0002		E200.8	09/04/14 01:10 / dck
Silver	ND	mg/L		0.001		E200.8	09/04/14 01:10 / dck
Sodium	2	mg/L		1		E200.7	08/27/14 19:15 / sld
Strontium	0.116	mg/L		0.0002		E200.8	09/04/14 01:10 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/04/14 01:10 / dck
Uranium	0.0003	mg/L		0.0003		E200.8	09/04/14 01:10 / dck
Zinc	ND	mg/L		0.002		E200.8	09/04/14 21:23 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14080432-005
Client Sample ID: BBC-1408-135

Revised Date: 12/17/14
Report Date: 09/12/14
Collection Date: 08/21/14 12:45
DateReceived: 08/22/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		10		A2540 D	08/25/14 14:56 / SRW
Solids, Total Dissolved TDS @ 180 C	168	mg/L		10		A2540 C	08/25/14 14:47 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	08/25/14 12:52 / SRW
Chloride	1	mg/L		1		E300.0	08/25/14 19:42 / SRW
Sulfate	4	mg/L		1		E300.0	08/25/14 19:42 / SRW
Fluoride	ND	mg/L		0.1	4	A4500-F C	08/28/14 10:34 / SRW
NUTRIENTS							
Nitrogen, Kjeldahl, Total as N	3.6	mg/L		1.0		A4500 N-C	09/03/14 09:00 / cmm
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/26/14 11:57 / cmm
Nitrogen, Total	3.6	mg/L		0.5		Calculation	12/17/14 09:39 / wjj
Phosphorus, Total as P	ND	mg/L		0.01		E365.1	08/26/14 09:58 / cmm
METALS, DISSOLVED							
Aluminum	0.009	mg/L		0.009		E200.8	09/04/14 21:28 / dck
METALS, TOTAL RECOVERABLE							
Antimony	ND	mg/L		0.0005		E200.8	09/04/14 21:32 / dck
Arsenic	ND	mg/L		0.001		E200.8	09/04/14 01:41 / dck
Barium	0.105	mg/L		0.003		E200.8	09/04/14 01:41 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/04/14 01:41 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/04/14 01:41 / dck
Calcium	42	mg/L		1		E200.7	08/27/14 19:19 / sld
Chromium	ND	mg/L		0.005		E200.8	09/04/14 01:41 / dck
Cobalt	ND	mg/L		0.005		E200.8	09/04/14 01:41 / dck
Copper	ND	mg/L		0.002		E200.8	09/04/14 01:41 / dck
Iron	0.14	mg/L		0.02		E200.8	09/04/14 01:41 / dck
Lead	ND	mg/L		0.0003		E200.8	09/04/14 01:41 / dck
Magnesium	10	mg/L		1		E200.7	08/27/14 19:19 / sld
Manganese	0.010	mg/L		0.001		E200.8	09/04/14 01:41 / dck
Mercury	ND	mg/L		5E-06		E245.1	08/27/14 17:05 / sbk
Molybdenum	ND	mg/L		0.001		E200.8	09/04/14 01:41 / dck
Nickel	ND	mg/L		0.001		E200.8	09/04/14 01:41 / dck
Potassium	1	mg/L		1		E200.8	09/04/14 01:41 / dck
Selenium	ND	mg/L		0.0002		E200.8	09/04/14 01:41 / dck
Silver	ND	mg/L		0.001		E200.8	09/04/14 01:41 / dck
Sodium	2	mg/L		1		E200.7	08/27/14 19:19 / sld
Strontium	0.115	mg/L		0.0002		E200.8	09/04/14 01:41 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/04/14 01:41 / dck
Uranium	ND	mg/L		0.0003		E200.8	09/04/14 01:41 / dck
Zinc	ND	mg/L		0.002		E200.8	09/04/14 21:32 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14080432-006
Client Sample ID: BBC-1408-136

Revised Date: 12/17/14
Report Date: 09/12/14
Collection Date: 08/21/14 13:00
DateReceived: 08/22/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		10		A2540 D	08/25/14 14:56 / SRW
Solids, Total Dissolved TDS @ 180 C	170	mg/L		10		A2540 C	08/25/14 14:47 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	08/25/14 13:00 / SRW
Chloride	1	mg/L		1		E300.0	08/25/14 19:53 / SRW
Sulfate	4	mg/L		1		E300.0	08/25/14 19:53 / SRW
Fluoride	ND	mg/L		0.1	4	A4500-F C	08/28/14 10:35 / SRW
NUTRIENTS							
Nitrogen, Kjeldahl, Total as N	3.4	mg/L		1.0		A4500 N-C	09/03/14 09:00 / cmm
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/26/14 11:58 / cmm
Nitrogen, Total	3.4	mg/L		0.5		Calculation	12/17/14 09:39 / wjj
Phosphorus, Total as P	ND	mg/L		0.01		E365.1	08/26/14 09:59 / cmm
METALS, DISSOLVED							
Aluminum	0.009	mg/L		0.009		E200.8	09/04/14 21:36 / dck
METALS, TOTAL RECOVERABLE							
Antimony	ND	mg/L		0.0005		E200.8	09/04/14 21:41 / dck
Arsenic	ND	mg/L		0.001		E200.8	09/04/14 01:49 / dck
Barium	0.104	mg/L		0.003		E200.8	09/04/14 01:49 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/04/14 01:49 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/04/14 01:49 / dck
Calcium	42	mg/L		1		E200.7	08/27/14 19:23 / sld
Chromium	ND	mg/L		0.005		E200.8	09/04/14 01:49 / dck
Cobalt	ND	mg/L		0.005		E200.8	09/04/14 01:49 / dck
Copper	ND	mg/L		0.002		E200.8	09/04/14 01:49 / dck
Iron	0.13	mg/L		0.02		E200.8	09/04/14 01:49 / dck
Lead	ND	mg/L		0.0003		E200.8	09/04/14 01:49 / dck
Magnesium	11	mg/L		1		E200.7	08/27/14 19:23 / sld
Manganese	0.009	mg/L		0.001		E200.8	09/04/14 01:49 / dck
Mercury	ND	mg/L		5E-06		E245.1	08/27/14 17:09 / sbk
Molybdenum	ND	mg/L		0.001		E200.8	09/04/14 01:49 / dck
Nickel	ND	mg/L		0.001		E200.8	09/04/14 01:49 / dck
Potassium	1	mg/L		1		E200.8	09/04/14 01:49 / dck
Selenium	ND	mg/L		0.0002		E200.8	09/04/14 01:49 / dck
Silver	ND	mg/L		0.001		E200.8	09/04/14 01:49 / dck
Sodium	2	mg/L		1		E200.7	08/27/14 19:23 / sld
Strontium	0.115	mg/L		0.0002		E200.8	09/04/14 01:49 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/04/14 01:49 / dck
Uranium	ND	mg/L		0.0003		E200.8	09/04/14 01:49 / dck
Zinc	ND	mg/L		0.002		E200.8	09/04/14 21:41 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **A2320 B**									Batch: R100003
Lab ID: **MB**	Method Blank				Run: PHSC_101-H_140825A				08/25/14 11:25
Alkalinity, Total as CaCO3	ND	mg/L	2						
Lab ID: **LCS**	Laboratory Control Sample				Run: PHSC_101-H_140825A				08/25/14 11:31
Alkalinity, Total as CaCO3	600	mg/L	4.0	99	90	110			
Lab ID: **H14080432-004ADUP**	Sample Duplicate				Run: PHSC_101-H_140825A				08/25/14 11:53
Alkalinity, Total as CaCO3	160	mg/L	4.0				1.1	10	
Lab ID: **H14080432-002AMS**	Sample Matrix Spike				Run: PHSC_101-H_140825A				08/25/14 12:07
Alkalinity, Total as CaCO3	780	mg/L	4.0	95	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C									Batch: TDS140822A
Lab ID: MB-1_140822A	Method Blank				Run: ACCU-124 (14410200)_14082				08/22/14 14:44
Solids, Total Dissolved TDS @ 180 C	7	mg/L	1						
Lab ID: LCS-2_140822A	Laboratory Control Sample				Run: ACCU-124 (14410200)_14082				08/22/14 14:44
Solids, Total Dissolved TDS @ 180 C	2010	mg/L	20	100	90	110			
Lab ID: H14080398-001A DUP	Sample Duplicate				Run: ACCU-124 (14410200)_14082				08/22/14 14:45
Solids, Total Dissolved TDS @ 180 C	2980	mg/L	40				0.8	5	
Lab ID: H14080399-001A MS	Sample Matrix Spike				Run: ACCU-124 (14410200)_14082				08/22/14 14:45
Solids, Total Dissolved TDS @ 180 C	3180	mg/L	20	102	80	120			
Lab ID: H14080402-004E DUP	Sample Duplicate				Run: ACCU-124 (14410200)_14082				08/22/14 14:48
Solids, Total Dissolved TDS @ 180 C	2.00	mg/L	10					5	
- RPD greater than method limit. Difference < PQL - RPD not applicable.									
Lab ID: MB-26_140822A	Method Blank				Run: ACCU-124 (14410200)_14082				08/22/14 16:21
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	1						
Lab ID: LCS-27_140822A	Laboratory Control Sample				Run: ACCU-124 (14410200)_14082				08/22/14 16:22
Solids, Total Dissolved TDS @ 180 C	1900	mg/L	20	95	90	110			
Method: A2540 C									Batch: TDS140825A
Lab ID: MB-1_140825A	Method Blank				Run: ACCU-124 (14410200)_14082				08/25/14 14:45
Solids, Total Dissolved TDS @ 180 C	9	mg/L	1						
Lab ID: LCS-2_140825A	Laboratory Control Sample				Run: ACCU-124 (14410200)_14082				08/25/14 14:45
Solids, Total Dissolved TDS @ 180 C	2030	mg/L	20	101	90	110			
Lab ID: H14080425-003A DUP	Sample Duplicate				Run: ACCU-124 (14410200)_14082				08/25/14 14:46
Solids, Total Dissolved TDS @ 180 C	881	mg/L	10				0.7	5	
Lab ID: H14080427-001A MS	Sample Matrix Spike				Run: ACCU-124 (14410200)_14082				08/25/14 14:46
Solids, Total Dissolved TDS @ 180 C	2280	mg/L	20	100	80	120			
Lab ID: H14080433-006A DUP	Sample Duplicate				Run: ACCU-124 (14410200)_14082				08/25/14 14:49
Solids, Total Dissolved TDS @ 180 C	68.0	mg/L	20				3.0	5	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 D								Batch: TSS140822A	
Lab ID: MB-1_140822A	Method Blank				Run: ACCU-124 (14410200)_14082			08/22/14 14:30	
Solids, Total Suspended TSS @ 105 C	ND	mg/L	1						
Lab ID: LCS-2_140822A	Laboratory Control Sample				Run: ACCU-124 (14410200)_14082			08/22/14 14:30	
Solids, Total Suspended TSS @ 105 C	99.0	mg/L	10	99	80	120			
Lab ID: H14080398-001A DUP	Sample Duplicate				Run: ACCU-124 (14410200)_14082			08/22/14 14:31	
Solids, Total Suspended TSS @ 105 C	33.0	mg/L	10				9.5	5	R
- RPD greater than method limit. Difference < PQL - RPD not applicable.									
Lab ID: H14080402-004E DUP	Sample Duplicate				Run: ACCU-124 (14410200)_14082			08/22/14 14:35	
Solids, Total Suspended TSS @ 105 C	ND	mg/L	2.0					5	
- RPD greater than method limit. Difference < PQL - RPD not applicable.									
Lab ID: H14080429-001A DUP	Sample Duplicate				Run: ACCU-124 (14410200)_14082			08/22/14 14:37	
Solids, Total Suspended TSS @ 105 C	6.00	mg/L	10					5	
- RPD greater than method limit. Difference < PQL - RPD not applicable.									
Lab ID: MB-25_140822A	Method Blank				Run: ACCU-124 (14410200)_14082			08/22/14 14:38	
Solids, Total Suspended TSS @ 105 C	ND	mg/L	1						
Lab ID: LCS-26_140822A	Laboratory Control Sample				Run: ACCU-124 (14410200)_14082			08/22/14 14:38	
Solids, Total Suspended TSS @ 105 C	93.0	mg/L	10	93	80	120			
Lab ID: H14080432-001ADUP	Sample Duplicate				Run: ACCU-124 (14410200)_14082			08/22/14 14:41	
Solids, Total Suspended TSS @ 105 C	48.0	mg/L	10				2.1	5	
Method: A2540 D								Batch: TSS140825A	
Lab ID: MB-1_140825A	Method Blank				Run: ACCU-124 (14410200)_14082			08/25/14 14:51	
Solids, Total Suspended TSS @ 105 C	ND	mg/L	1						
Lab ID: LCS-2_140825A	Laboratory Control Sample				Run: ACCU-124 (14410200)_14082			08/25/14 14:52	
Solids, Total Suspended TSS @ 105 C	90.0	mg/L	10	90	80	120			
Lab ID: H14080425-001A DUP	Sample Duplicate				Run: ACCU-124 (14410200)_14082			08/25/14 14:52	
Solids, Total Suspended TSS @ 105 C	208000	mg/L	200				4.2	5	
Lab ID: H14080432-004A DUP	Sample Duplicate				Run: ACCU-124 (14410200)_14082			08/25/14 14:55	
Solids, Total Suspended TSS @ 105 C	3.00	mg/L	10					5	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
R - RPD exceeds advisory limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500 N-C									Batch: 25925
Lab ID: H14080347-001DMS	Sample Matrix Spike				Run: MISC WC_140827B				08/27/14 09:00
Nitrogen, Kjeldahl, Total as N	42.0	mg/L	1.0	98	80	120			
Lab ID: H14080347-001DMSD	Sample Matrix Spike Duplicate				Run: MISC WC_140827B				08/27/14 09:00
Nitrogen, Kjeldahl, Total as N	40.9	mg/L	1.0	92	80	120	2.7	20	
Lab ID: LCS-25925	Laboratory Control Sample				Run: MISC WC_140827B				08/27/14 09:00
Nitrogen, Kjeldahl, Total as N	258	mg/L	1.0	103	90	110			
Lab ID: MB-25925	Method Blank				Run: MISC WC_140827B				08/27/14 09:00
Nitrogen, Kjeldahl, Total as N	1.0	mg/L	0.4						
Method: A4500 N-C									Batch: 25999
Lab ID: LCS-25999	Laboratory Control Sample				Run: MISC WC_140903A				09/03/14 09:00
Nitrogen, Kjeldahl, Total as N	246	mg/L	1.0	98	90	110			
Lab ID: MB-25999	Method Blank				Run: MISC WC_140903A				09/03/14 09:00
Nitrogen, Kjeldahl, Total as N	0.8	mg/L	0.4						
Lab ID: H14080457-001BMS	Sample Matrix Spike				Run: MISC WC_140903A				09/03/14 09:00
Nitrogen, Kjeldahl, Total as N	22.4	mg/L	1.0	95	80	120			
Lab ID: H14080457-001BMSD	Sample Matrix Spike Duplicate				Run: MISC WC_140903A				09/03/14 09:00
Nitrogen, Kjeldahl, Total as N	22.4	mg/L	1.0	95	80	120	0.0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **A4500-F C**								Analytical Run: PH_140828A	
Lab ID: **ICV1_140828A**	Initial Calibration Verification Standard							08/28/14 10:23	
Fluoride	0.8	mg/L	0.1	101	90	110			
Method: **A4500-F C**								Batch: 140828A-F-ISE-W	
Lab ID: **MBLK1_140828A**	Method Blank				Run: PH_140828A			08/28/14 10:27	
Fluoride	0.010	mg/L	0.005						
Lab ID: **H14080432-001AMS**	Sample Matrix Spike				Run: PH_140828A			08/28/14 10:30	
Fluoride	0.7	mg/L	0.1	98	85	115			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E200.7**								Analytical Run: ICP2-HE_140827C	
Lab ID: **ICV**	Initial Calibration Verification Standard								08/27/14 11:40
Calcium	39.8	mg/L	1.0	99	95	105			
Iron	3.99	mg/L	0.020	100	95	105			
Magnesium	39.8	mg/L	1.0	99	95	105			
Sodium	39.5	mg/L	1.0	99	95	105			
Lab ID: **CCV-1**	Continuing Calibration Verification Standard								08/27/14 11:44
Calcium	25.1	mg/L	1.0	100	95	105			
Iron	2.49	mg/L	0.020	100	95	105			
Magnesium	24.9	mg/L	1.0	100	95	105			
Sodium	24.7	mg/L	1.0	99	95	105			
Lab ID: **ICSA**	Interference Check Sample A								08/27/14 11:55
Calcium	479	mg/L	1.0	96	80	120			
Iron	189	mg/L	0.020	94	80	120			
Magnesium	507	mg/L	1.0	101	80	120			
Sodium	0.0168	mg/L	1.0		0	0			
Lab ID: **ICSAB**	Interference Check Sample AB								08/27/14 11:59
Calcium	466	mg/L	1.0	93	80	120			
Iron	183	mg/L	0.020	91	80	120			
Magnesium	491	mg/L	1.0	98	80	120			
Sodium	19.9	mg/L	1.0	99	80	120			
Lab ID: **CCV**	Continuing Calibration Verification Standard								08/27/14 18:15
Calcium	25.1	mg/L	1.0	101	90	110			
Iron	2.51	mg/L	0.020	101	90	110			
Magnesium	24.6	mg/L	1.0	98	90	110			
Sodium	24.9	mg/L	1.0	99	90	110			
Lab ID: **CCV**	Continuing Calibration Verification Standard								08/27/14 19:00
Calcium	25.1	mg/L	1.0	100	90	110			
Iron	2.49	mg/L	0.020	100	90	110			
Magnesium	24.3	mg/L	1.0	97	90	110			
Sodium	24.9	mg/L	1.0	100	90	110			
Method: **E200.7**								Batch: 25865	
Lab ID: **MB-25865**	Method Blank				Run: ICP2-HE_140827C				08/27/14 18:34
Calcium	0.2	mg/L	0.03						
Iron	ND	mg/L	0.005						
Magnesium	0.02	mg/L	0.01						
Sodium	ND	mg/L	0.02						
Lab ID: **LCS-25865**	Laboratory Control Sample				Run: ICP2-HE_140827C				08/27/14 18:38
Calcium	25.3	mg/L	1.0	100	85	115			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E200.7**									Batch: 25865
Lab ID: **LCS-25865**	Laboratory Control Sample				Run: ICP2-HE_140827C				08/27/14 18:38
Iron	2.49	mg/L	0.020	100	85	115			
Magnesium	24.8	mg/L	1.0	99	85	115			
Sodium	25.8	mg/L	1.0	103	85	115			
Lab ID: **H14080432-001CDIL**	Serial Dilution				Run: ICP2-HE_140827C				08/27/14 18:49
Calcium	54.9	mg/L	1.0		0	0	2.9	10	
Iron	1.50	mg/L	0.027		0	0	4.7	10	
Magnesium	24.4	mg/L	1.0		0	0	2.4	10	
Sodium	2.81	mg/L	1.0		0	0	3.7	10	
Lab ID: **H14080432-001CMS3**	Sample Matrix Spike				Run: ICP2-HE_140827C				08/27/14 18:53
Calcium	77.0	mg/L	1.0	95	70	130			
Iron	3.94	mg/L	0.020	100	70	130			
Magnesium	48.0	mg/L	1.0	97	70	130			
Sodium	27.9	mg/L	1.0	101	70	130			
Lab ID: **H14080432-001CMSD3**	Sample Matrix Spike Duplicate				Run: ICP2-HE_140827C				08/27/14 18:57
Calcium	77.7	mg/L	1.0	98	70	130	1.0	20	
Iron	3.93	mg/L	0.020	100	70	130	0.4	20	
Magnesium	48.2	mg/L	1.0	98	70	130	0.4	20	
Sodium	28.3	mg/L	1.0	102	70	130	1.4	20	

Qualifiers:

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ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E200.8**							Analytical Run: ICPMS204-B_140903A		
Lab ID: **ICV STD**	Initial Calibration Verification Standard								09/03/14 15:08
Arsenic	0.0621	mg/L	0.0050	104	90	110			
Barium	0.0604	mg/L	0.10	101	90	110			
Beryllium	0.0307	mg/L	0.0010	102	90	110			
Cadmium	0.0323	mg/L	0.0010	108	90	110			
Chromium	0.0618	mg/L	0.010	103	90	110			
Cobalt	0.0621	mg/L	0.010	104	90	110			
Copper	0.0629	mg/L	0.010	105	90	110			
Iron	0.310	mg/L	0.020	103	90	110			
Lead	0.0611	mg/L	0.010	102	90	110			
Manganese	0.303	mg/L	0.010	101	90	110			
Molybdenum	0.0622	mg/L	0.0050	104	90	110			
Nickel	0.0624	mg/L	0.010	104	90	110			
Potassium	3.11	mg/L	0.50	104	90	110			
Selenium	0.0611	mg/L	0.0050	102	90	110			
Silver	0.0303	mg/L	0.0050	101	90	110			
Strontium	0.0617	mg/L	0.10	103	90	110			
Thallium	0.0609	mg/L	0.10	101	90	110			
Uranium	0.0600	mg/L	0.0010	100	90	110			
Zinc	0.0627	mg/L	0.010	104	90	110			
Lab ID: **ICSA**	Interference Check Sample A								09/03/14 15:12
Arsenic	0.000345	mg/L	0.0050						
Barium	0.000157	mg/L	0.10						
Beryllium	2.00E-06	mg/L	0.0010						
Cadmium	0.000677	mg/L	0.0010						
Chromium	0.00108	mg/L	0.010						
Cobalt	0.000243	mg/L	0.010						
Copper	0.000522	mg/L	0.010						
Iron	96.8	mg/L	0.020	97	70	130			
Lead	0.000288	mg/L	0.010						
Manganese	-0.000733	mg/L	0.010						
Molybdenum	0.844	mg/L	0.0050	106	70	130			
Nickel	0.000614	mg/L	0.010						
Potassium	39.8	mg/L	0.50	100	70	130			
Selenium	0.000691	mg/L	0.0050						
Silver	0.000106	mg/L	0.0050						
Strontium	0.000756	mg/L	0.10						
Thallium	0.000172	mg/L	0.10						
Uranium	6.20E-05	mg/L	0.0010						
Zinc	0.00188	mg/L	0.010						
Lab ID: **ICSAB**	Interference Check Sample AB								09/03/14 15:17
Arsenic	0.0106	mg/L	0.0050	106	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E200.8**							Analytical Run: ICPMS204-B_140903A		
Lab ID: **ICSAB**	Interference Check Sample AB								09/03/14 15:17
Barium	0.000150	mg/L	0.10		0	0			
Beryllium	-6.00E-06	mg/L	0.0010		0	0			
Cadmium	0.0102	mg/L	0.0010	102	70	130			
Chromium	0.0215	mg/L	0.010	107	70	130			
Cobalt	0.0200	mg/L	0.010	100	70	130			
Copper	0.0204	mg/L	0.010	102	70	130			
Iron	97.4	mg/L	0.020	97	70	130			
Lead	0.000271	mg/L	0.010		0	0			
Manganese	0.0192	mg/L	0.010	96	70	130			
Molybdenum	0.866	mg/L	0.0050	108	70	130			
Nickel	0.0209	mg/L	0.010	104	70	130			
Potassium	40.7	mg/L	0.50	102	70	130			
Selenium	0.00982	mg/L	0.0050	98	70	130			
Silver	0.0175	mg/L	0.0050	87	70	130			
Strontium	0.000781	mg/L	0.10		0	0			
Thallium	5.20E-05	mg/L	0.10		0	0			
Uranium	2.10E-05	mg/L	0.0010		0	0			
Zinc	0.0116	mg/L	0.010	116	70	130			
Lab ID: **ICV STD**	Initial Calibration Verification Standard								09/03/14 20:05
Arsenic	0.0622	mg/L	0.0050	104	90	110			
Barium	0.0618	mg/L	0.10	103	90	110			
Beryllium	0.0308	mg/L	0.0010	103	90	110			
Cadmium	0.0323	mg/L	0.0010	108	90	110			
Chromium	0.0624	mg/L	0.010	104	90	110			
Cobalt	0.0618	mg/L	0.010	103	90	110			
Copper	0.0635	mg/L	0.010	106	90	110			
Iron	0.320	mg/L	0.020	107	90	110			
Lead	0.0606	mg/L	0.010	101	90	110			
Manganese	0.300	mg/L	0.010	100	90	110			
Molybdenum	0.0625	mg/L	0.0050	104	90	110			
Nickel	0.0625	mg/L	0.010	104	90	110			
Potassium	3.07	mg/L	0.50	102	90	110			
Selenium	0.0628	mg/L	0.0050	105	90	110			
Silver	0.0308	mg/L	0.0050	103	90	110			
Strontium	0.0616	mg/L	0.10	103	90	110			
Thallium	0.0598	mg/L	0.10	100	90	110			
Uranium	0.0589	mg/L	0.0010	98	90	110			
Zinc	0.0631	mg/L	0.010	105	90	110			
Lab ID: **ICSA**	Interference Check Sample A								09/03/14 20:09
Arsenic	0.000349	mg/L	0.0050						
Barium	0.000141	mg/L	0.10						

Qualifiers:

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QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E200.8**							Analytical Run: ICPMS204-B_140903A		
Lab ID: **ICSA**	Interference Check Sample A								09/03/14 20:09
Beryllium	1.20E-05	mg/L	0.0010						
Cadmium	0.000668	mg/L	0.0010						
Chromium	0.00108	mg/L	0.010						
Cobalt	0.000252	mg/L	0.010						
Copper	0.000453	mg/L	0.010						
Iron	97.6	mg/L	0.020	98	70	130			
Lead	0.000262	mg/L	0.010						
Manganese	0.000185	mg/L	0.010						
Molybdenum	0.855	mg/L	0.0050	107	70	130			
Nickel	0.000653	mg/L	0.010						
Potassium	41.0	mg/L	0.50	103	70	130			
Selenium	0.000712	mg/L	0.0050						
Silver	0.000108	mg/L	0.0050						
Strontium	0.000761	mg/L	0.10						
Thallium	0.000141	mg/L	0.10						
Uranium	6.10E-05	mg/L	0.0010						
Zinc	0.00194	mg/L	0.010						
Lab ID: **ICSAB**	Interference Check Sample AB								09/03/14 20:14
Arsenic	0.0107	mg/L	0.0050	107	70	130			
Barium	0.000166	mg/L	0.10		0	0			
Beryllium	7.00E-06	mg/L	0.0010		0	0			
Cadmium	0.0102	mg/L	0.0010	102	70	130			
Chromium	0.0215	mg/L	0.010	108	70	130			
Cobalt	0.0201	mg/L	0.010	101	70	130			
Copper	0.0204	mg/L	0.010	102	70	130			
Iron	99.0	mg/L	0.020	99	70	130			
Lead	0.000247	mg/L	0.010		0	0			
Manganese	0.0198	mg/L	0.010	99	70	130			
Molybdenum	0.874	mg/L	0.0050	109	70	130			
Nickel	0.0209	mg/L	0.010	105	70	130			
Potassium	40.2	mg/L	0.50	101	70	130			
Selenium	0.0101	mg/L	0.0050	101	70	130			
Silver	0.0178	mg/L	0.0050	89	70	130			
Strontium	0.000782	mg/L	0.10		0	0			
Thallium	3.80E-05	mg/L	0.10		0	0			
Uranium	1.90E-05	mg/L	0.0010		0	0			
Zinc	0.0118	mg/L	0.010	118	70	130			
Method: **E200.8**									Batch: 25865
Lab ID: **MB-25865**	Method Blank				Run: ICPMS204-B_140903A				09/04/14 00:01
Antimony	ND	mg/L	3E-05						
Arsenic	0.0001	mg/L	6E-05						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E200.8**									Batch: 25865
Lab ID: **MB-25865**	Method Blank				Run: ICPMS204-B_140903A				09/04/14 00:01
Barium	ND	mg/L	0.0002						
Beryllium	ND	mg/L	5E-05						
Cadmium	ND	mg/L	3E-05						
Chromium	ND	mg/L	5E-05						
Cobalt	ND	mg/L	2E-05						
Copper	0.0006	mg/L	0.0003						
Iron	ND	mg/L	0.002						
Lead	ND	mg/L	3E-05						
Manganese	ND	mg/L	0.00010						
Molybdenum	ND	mg/L	3E-05						
Nickel	ND	mg/L	0.0003						
Potassium	ND	mg/L	0.02						
Selenium	ND	mg/L	0.0002						
Silver	ND	mg/L	7E-05						
Strontium	ND	mg/L	2E-05						
Thallium	ND	mg/L	2E-05						
Uranium	ND	mg/L	3E-05						
Zinc	0.002	mg/L	0.001						
Lab ID: **LCS-25865**	Laboratory Control Sample				Run: ICPMS204-B_140903A				09/04/14 00:05
Antimony	0.557	mg/L	0.0010	111	85	115			
Arsenic	0.518	mg/L	0.0010	104	85	115			
Barium	0.513	mg/L	0.050	103	85	115			
Beryllium	0.260	mg/L	0.0010	104	85	115			
Cadmium	0.262	mg/L	0.0010	105	85	115			
Chromium	0.499	mg/L	0.0050	100	85	115			
Cobalt	0.476	mg/L	0.0050	95	85	115			
Copper	0.508	mg/L	0.0050	101	85	115			
Iron	2.49	mg/L	0.020	100	85	115			
Lead	0.508	mg/L	0.0010	102	85	115			
Manganese	2.39	mg/L	0.0010	96	85	115			
Molybdenum	0.550	mg/L	0.0010	110	85	115			
Nickel	0.508	mg/L	0.0050	102	85	115			
Potassium	24.8	mg/L	1.0	99	85	115			
Selenium	0.526	mg/L	0.0010	105	85	115			
Silver	0.0480	mg/L	0.0010	96	85	115			
Strontium	0.481	mg/L	0.010	96	85	115			
Thallium	0.490	mg/L	0.00050	98	85	115			
Uranium	0.485	mg/L	0.00030	97	85	115			
Zinc	0.498	mg/L	0.010	99	85	115			
Lab ID: **H14080432-001CMS3**	Sample Matrix Spike				Run: ICPMS204-B_140903A				09/04/14 00:22
Antimony	0.553	mg/L	0.0010	111	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: 25865
Lab ID: H14080432-001CMS3	Sample Matrix Spike				Run: ICPMS204-B_140903A				09/04/14 00:22
Arsenic	0.511	mg/L	0.0010	102	70	130			
Barium	0.622	mg/L	0.050	102	70	130			
Beryllium	0.248	mg/L	0.0010	99	70	130			
Cadmium	0.251	mg/L	0.0010	101	70	130			
Chromium	0.496	mg/L	0.0050	99	70	130			
Cobalt	0.465	mg/L	0.0050	93	70	130			
Copper	0.500	mg/L	0.0050	100	70	130			
Iron	3.92	mg/L	0.020	99	70	130			
Lead	0.506	mg/L	0.0010	101	70	130			
Manganese	2.39	mg/L	0.0010	93	70	130			
Molybdenum	0.544	mg/L	0.0010	109	70	130			
Nickel	0.493	mg/L	0.0050	98	70	130			
Potassium	25.7	mg/L	1.0	96	70	130			
Selenium	0.504	mg/L	0.0010	101	70	130			
Silver	0.0468	mg/L	0.0010	94	70	130			
Strontium	0.659	mg/L	0.010	95	70	130			
Thallium	0.491	mg/L	0.00050	98	70	130			
Uranium	0.488	mg/L	0.00030	98	70	130			
Zinc	0.487	mg/L	0.010	95	70	130			
Lab ID: H14080432-001CMSD3	Sample Matrix Spike Duplicate				Run: ICPMS204-B_140903A				09/04/14 00:26
Antimony	0.547	mg/L	0.0010	109	70	130	1.0	20	
Arsenic	0.519	mg/L	0.0010	104	70	130	1.5	20	
Barium	0.624	mg/L	0.050	103	70	130	0.4	20	
Beryllium	0.249	mg/L	0.0010	100	70	130	0.6	20	
Cadmium	0.254	mg/L	0.0010	102	70	130	1.3	20	
Chromium	0.501	mg/L	0.0050	100	70	130	1.1	20	
Cobalt	0.461	mg/L	0.0050	92	70	130	0.8	20	
Copper	0.505	mg/L	0.0050	101	70	130	1.0	20	
Iron	3.93	mg/L	0.020	99	70	130	0.3	20	
Lead	0.503	mg/L	0.0010	100	70	130	0.6	20	
Manganese	2.40	mg/L	0.0010	94	70	130	0.6	20	
Molybdenum	0.543	mg/L	0.0010	109	70	130	0.1	20	
Nickel	0.499	mg/L	0.0050	100	70	130	1.1	20	
Potassium	26.5	mg/L	1.0	99	70	130	2.9	20	
Selenium	0.506	mg/L	0.0010	101	70	130	0.3	20	
Silver	0.0468	mg/L	0.0010	94	70	130	0.0	20	
Strontium	0.648	mg/L	0.010	93	70	130	1.7	20	
Thallium	0.482	mg/L	0.00050	96	70	130	1.9	20	
Uranium	0.482	mg/L	0.00030	96	70	130	1.4	20	
Zinc	0.492	mg/L	0.010	96	70	130	1.1	20	

Qualifiers:

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ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_140904A	
Lab ID: ICV STD	Initial Calibration Verification Standard							09/04/14 13:21	
Aluminum	0.298	mg/L	0.10	99	90	110			
Antimony	0.0617	mg/L	0.050	103	90	110			
Zinc	0.0630	mg/L	0.010	105	90	110			
Lab ID: ICSA	Interference Check Sample A							09/04/14 13:25	
Aluminum	37.5	mg/L	0.10	94	70	130			
Antimony	0.000230	mg/L	0.050						
Zinc	0.00186	mg/L	0.010						
Lab ID: ICSAB	Interference Check Sample AB							09/04/14 13:30	
Aluminum	37.6	mg/L	0.10	94	70	130			
Antimony	0.000198	mg/L	0.050		0	0			
Zinc	0.0116	mg/L	0.010	116	70	130			
Lab ID: ICV STD	Initial Calibration Verification Standard							09/04/14 19:20	
Aluminum	0.302	mg/L	0.10	101	90	110			
Antimony	0.0625	mg/L	0.050	104	90	110			
Zinc	0.0635	mg/L	0.010	106	90	110			
Lab ID: ICSA	Interference Check Sample A							09/04/14 19:24	
Aluminum	37.8	mg/L	0.10	95	70	130			
Antimony	0.000224	mg/L	0.050						
Zinc	0.00177	mg/L	0.010						
Lab ID: ICSAB	Interference Check Sample AB							09/04/14 19:29	
Aluminum	38.8	mg/L	0.10	97	70	130			
Antimony	0.000187	mg/L	0.050		0	0			
Zinc	0.0118	mg/L	0.010	118	70	130			
Method: E200.8								Batch: 25865	
Lab ID: MB-25865	Method Blank				Run: ICPMS204-B_140904A			09/04/14 20:39	
Antimony	ND	mg/L	3E-05						
Arsenic	ND	mg/L	6E-05						
Barium	ND	mg/L	0.0002						
Beryllium	ND	mg/L	5E-05						
Cadmium	ND	mg/L	3E-05						
Chromium	ND	mg/L	5E-05						
Cobalt	ND	mg/L	2E-05						
Copper	ND	mg/L	0.0003						
Iron	ND	mg/L	0.002						
Lead	ND	mg/L	3E-05						
Manganese	ND	mg/L	0.00010						
Molybdenum	ND	mg/L	3E-05						
Nickel	ND	mg/L	0.0003						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: 25865
Lab ID: MB-25865	Method Blank				Run: ICPMS204-B_140904A				09/04/14 20:39
Potassium	ND	mg/L	0.02						
Selenium	ND	mg/L	0.0002						
Silver	ND	mg/L	7E-05						
Strontium	ND	mg/L	2E-05						
Thallium	ND	mg/L	2E-05						
Uranium	ND	mg/L	3E-05						
Zinc	ND	mg/L	0.001						
Method: E200.8									Batch: R100285
Lab ID: ICB	Method Blank				Run: ICPMS204-B_140904A				09/04/14 19:51
Aluminum	0.0005	mg/L	0.0002						
Lab ID: LFB	Laboratory Fortified Blank				Run: ICPMS204-B_140904A				09/04/14 19:55
Aluminum	0.0486	mg/L	0.10	96	85	115			
Lab ID: H14080430-008DMS	Sample Matrix Spike				Run: ICPMS204-B_140904A				09/04/14 20:17
Aluminum	0.0500	mg/L	0.030	92	70	130			
Lab ID: H14080430-008DMSD	Sample Matrix Spike Duplicate				Run: ICPMS204-B_140904A				09/04/14 20:22
Aluminum	0.0487	mg/L	0.030	90	70	130	2.7	20	
Lab ID: H14080433-004BMS	Sample Matrix Spike				Run: ICPMS204-B_140904A				09/04/14 22:16
Aluminum	0.0501	mg/L	0.030	94	70	130			
Lab ID: H14080433-004BMSD	Sample Matrix Spike Duplicate				Run: ICPMS204-B_140904A				09/04/14 22:20
Aluminum	0.0494	mg/L	0.030	93	70	130	1.3	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E245.1**								Analytical Run: HGCV202-H_140827A	
Lab ID:	**ICV**	Initial Calibration Verification Standard							08/27/14 11:10	
Mercury		0.00020	mg/L	0.00010	100	90	110			
Lab ID:	**ICV**	Initial Calibration Verification Standard							08/27/14 12:03	
Mercury		0.00019	mg/L	0.00010	96	90	110			
Lab ID:	**ICV**	Initial Calibration Verification Standard							08/27/14 15:04	
Mercury		0.00019	mg/L	0.00010	96	90	110			
Lab ID:	**CCV1**	Continuing Calibration Verification Standard							08/27/14 15:08	
Mercury		0.00019	mg/L	0.00010	95	95	105			
Lab ID:	**CCV**	Continuing Calibration Verification Standard							08/27/14 16:40	
Mercury		0.00018	mg/L	0.00010	90	90	110			
Method:	**E245.1**								Batch: 25898	
Lab ID:	**MB-25898**	Method Blank				Run: HGCV202-H_140827A			08/27/14 15:40	
Mercury		ND	mg/L	1E-06						
Lab ID:	**LCS-25898**	Laboratory Control Sample				Run: HGCV202-H_140827A			08/27/14 15:45	
Mercury		0.00014	mg/L	0.00010	92	90	110			
Lab ID:	**H14080433-001BMS**	Sample Matrix Spike				Run: HGCV202-H_140827A			08/27/14 17:18	
Mercury		0.00013	mg/L	0.00010	89	70	130			
Lab ID:	**H14080433-001BMSD**	Sample Matrix Spike Duplicate				Run: HGCV202-H_140827A			08/27/14 17:22	
Mercury		0.00012	mg/L	0.00010	79	70	130	12	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E300.0**								Analytical Run: IC102-H_140825A	
Lab ID: **ICV**	Initial Calibration Verification Standard							08/25/14 12:29	
Chloride	100	mg/L	1.0	102	90	110			
Sulfate	410	mg/L	1.0	102	90	110			
Lab ID: **CCV082514-2**	Continuing Calibration Verification Standard							08/25/14 15:49	
Chloride	100	mg/L	1.0	104	90	110			
Sulfate	410	mg/L	1.0	103	90	110			
Lab ID: **CCV082514-3**	Continuing Calibration Verification Standard							08/25/14 18:25	
Chloride	100	mg/L	1.0	104	90	110			
Sulfate	410	mg/L	1.0	103	90	110			
Method: **E300.0**								Batch: R100050	
Lab ID: **ICB**	Method Blank				Run: IC102-H_140825A			08/25/14 12:40	
Chloride	ND	mg/L	0.008						
Sulfate	ND	mg/L	0.08						
Lab ID: **LFB**	Laboratory Fortified Blank				Run: IC102-H_140825A			08/25/14 12:51	
Chloride	49	mg/L	1.0	98	90	110			
Sulfate	200	mg/L	1.0	99	90	110			
Lab ID: **LFBD**	Laboratory Fortified Blank Duplicate				Run: IC102-H_140825A			08/25/14 13:02	
Chloride	49	mg/L	1.0	97	90	110	0.9	10	
Sulfate	200	mg/L	1.0	98	90	110	1.3	10	
Lab ID: **H14080432-002AMS**	Sample Matrix Spike				Run: IC102-H_140825A			08/25/14 18:58	
Chloride	52	mg/L	1.0	101	90	110			
Sulfate	220	mg/L	1.0	105	90	110			
Lab ID: **H14080432-002AMSD**	Sample Matrix Spike Duplicate				Run: IC102-H_140825A			08/25/14 19:09	
Chloride	52	mg/L	1.0	102	90	110	1.1	20	
Sulfate	230	mg/L	1.0	108	90	110	2.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2								Analytical Run: FIA203-HE_140826B	
Lab ID: ICV	Initial Calibration Verification Standard							08/26/14 10:12	
Nitrogen, Nitrate+Nitrite as N	1.02	mg/L	0.010	102	90	110			
Lab ID: ICB	Initial Calibration Blank, Instrument Blank							08/26/14 10:16	
Nitrogen, Nitrate+Nitrite as N	-0.00720	mg/L	0.010		0	0			
Lab ID: CCV	Continuing Calibration Verification Standard							08/26/14 11:45	
Nitrogen, Nitrate+Nitrite as N	0.464	mg/L	0.010	93	90	110			
Method: E353.2								Batch: R100056	
Lab ID: LFB	Laboratory Fortified Blank				Run: FIA203-HE_140826B			08/26/14 10:13	
Nitrogen, Nitrate+Nitrite as N	0.928	mg/L	0.011	93	90	110			
Lab ID: MBLK	Method Blank				Run: FIA203-HE_140826B			08/26/14 10:18	
Nitrogen, Nitrate+Nitrite as N	ND	mg/L	0.001						
Lab ID: H14080430-007BMS	Sample Matrix Spike				Run: FIA203-HE_140826B			08/26/14 12:02	
Nitrogen, Nitrate+Nitrite as N	3.68	mg/L	0.022	95	90	110			
Lab ID: H14080430-007BMSD	Sample Matrix Spike Duplicate				Run: FIA203-HE_140826B			08/26/14 12:03	
Nitrogen, Nitrate+Nitrite as N	3.66	mg/L	0.022	95	90	110	0.4	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Revised Date: 12/17/14
Report Date: 09/12/14
Work Order: H14080432

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E365.1									Analytical Run: FIA202-HE_140826A
Lab ID: ICV	Initial Calibration Verification Standard								08/26/14 09:00
Phosphorus, Total as P	0.244	mg/L	0.010	97	90	110			
Lab ID: ICB	Initial Calibration Blank, Instrument Blank								08/26/14 09:02
Phosphorus, Total as P	0.00148	mg/L	0.010		0	0			
Lab ID: CCV	Continuing Calibration Verification Standard								08/26/14 09:50
Phosphorus, Total as P	0.0993	mg/L	0.010	99	90	110			
Method: E365.1									Batch: 25891
Lab ID: LCS-25891	Laboratory Control Sample				Run: FIA202-HE_140826A				08/26/14 09:32
Phosphorus, Total as P	0.399	mg/L	0.010	100	90	110			
Lab ID: MB-25891	Method Blank				Run: FIA202-HE_140826A				08/26/14 09:33
Phosphorus, Total as P	ND	mg/L	0.001						
Lab ID: H14080430-009BMS	Sample Matrix Spike				Run: FIA202-HE_140826A				08/26/14 09:52
Phosphorus, Total as P	0.194	mg/L	0.010	97	90	110			
Lab ID: H14080430-009BMSD	Sample Matrix Spike Duplicate				Run: FIA202-HE_140826A				08/26/14 09:53
Phosphorus, Total as P	0.193	mg/L	0.010	96	90	110	0.8	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Workorder Receipt Checklist

Tintina Resources Inc

H14080432

Login completed by: Wanda Johnson
Date Received: 8/22/2014

Reviewed by: BL2000\sdull
Received by: tsp

Reviewed Date: 8/25/2014
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	3.1°C On Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

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

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

Contact and Corrective Action Comments:

None

CHAIN OF CUSTODY RECORD

Hydrometrics, Inc.

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

PROJ. NO.	PROJECT NAME
11048	Black Butte Tintina

SAMPLERS: *(Signature)*

DATE	TIME	COMP	GRAB	SAMPLE NUMBER	NO. OF CONTAINERS	Commons UF / RAW	Nutrients UF / H_2SO_4	Diss. Metal F / HNO_3	CN UF / NaOH	Total Metals UF / HNO_3	Total Recoverable Metals UF / HNO_3	BTEX	TPH	REMARKS
8/19/14	1210		X	BBC-14408-101	4	X	X	X			X			H14080432
↓	1310		X	102	↓	↓	↓	↓			↓			
↓	1610		X	108										
8/21/14	1200		↓	134										
↓	1245			135										
↓	1300		↓	136	↓	↓	↓	↓			↓			

Relinquished *(Signature)*	Date / Time	Received by *(Signature)*	Lab	P.O. #	Shipped via: Bus FedEx UPS
	8/22/14 1006		B.11 Tintina Directly	→	Other Air Bill #
Relinquished *(Signature)*	Date / Time	Received by *(Signature)*	Remarks		
		Tyler Park	on Ice 3.1 TB Hange Re		
Relinquished *(Signature)*	Date / Time	Received for Laboratory by *(Signature)*	Date / Time	Enclosed: ☒ Parameter sheet w/detection limits ☐ QA / AC standard mixing instructions ☐ Cover letter ☐ Other	
		10:06	8/22/14	Split Samples: ☐ Accepted ☐ Declined Signature	

HFORM-1 07/11
TNO 406-443-8550

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

SW

TABLE 1. ANALYTICAL METHODS AND DETECTION LIMITS FOR SURFACE WATER AND GROUNDWATER SAMPLES

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
Total Kjeldahl as N	A 4500 N org	0.5
Total Nitrogen	Calculated	0.5
Total Phosphorus	E365.1	0.01
Trace Constituents (SW - Total Recoverable except Aluminum [Diss], GW - 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	0.02
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.

ANALYTICAL SUMMARY REPORT

September 30, 2014

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

Work Order: H14090241

Project Name: 11048 Black Butte Copper Project

Energy Laboratories Inc Helena MT received the following 12 samples for Tintina Resources Inc on 9/12/2014 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H14090241-001	BBC-1409-200	09/10/14 13:10	09/12/14	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Conductivity Mercury, Dissolved Fluoride Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite Digestion, Mercury by CVAA Solids, Total Dissolved Solids, Total Suspended
H14090241-002	BBC-1409-201	09/10/14 13:45	09/12/14	Aqueous	Same As Above
H14090241-003	BBC-1409-202	09/10/14 15:10	09/12/14	Aqueous	Same As Above
H14090241-004	BBC-1409-203	09/10/14 16:10	09/12/14	Aqueous	Same As Above
H14090241-005	BBC-1409-204	09/10/14 16:35	09/12/14	Aqueous	Same As Above
H14090241-006	BBC-1409-205	09/10/14 17:05	09/12/14	Aqueous	Same As Above
H14090241-007	BBC-1409-206	09/10/14 17:50	09/12/14	Aqueous	Same As Above
H14090241-008	BBC-1409-207	09/11/14 10:25	09/12/14	Aqueous	Same As Above
H14090241-009	BBC-1409-208	09/11/14 10:40	09/12/14	Aqueous	Same As Above
H14090241-010	BBC-1409-209	09/11/14 11:00	09/12/14	Aqueous	Same As Above
H14090241-011	BBC-1409-210	09/11/14 12:30	09/12/14	Aqueous	Same As Above
H14090241-012	BBC-1409-211	09/11/14 13:30	09/12/14	Aqueous	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.

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

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

Report Approved By:

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14090241-001
Client Sample ID: BBC-1409-200

Report Date: 09/30/14
Collection Date: 09/10/14 13:10
DateReceived: 09/12/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	27	mg/L		10		A2540 D	09/15/14 14:42 / SRW
Solids, Total Dissolved TDS @ 180 C	409	mg/L		10		A2540 C	09/15/14 14:32 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	67	mg/L		4		A2320 B	09/15/14 21:20 / SRW
Chloride	ND	mg/L		1		E300.0	09/15/14 22:35 / SRW
Sulfate	220	mg/L		1		E300.0	09/15/14 22:35 / SRW
Fluoride	0.2	mg/L		0.1	4	A4500-F C	09/17/14 10:39 / SRW
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.05	mg/L		0.01		E353.2	09/15/14 14:31 / cmm
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	09/18/14 07:45 / dck
Antimony	0.0006	mg/L		0.0005		E200.8	09/18/14 07:45 / dck
Arsenic	0.062	mg/L		0.001		E200.8	09/18/14 07:45 / dck
Barium	0.014	mg/L		0.003		E200.8	09/18/14 07:45 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/18/14 07:45 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/18/14 07:45 / dck
Calcium	54	mg/L		1		E200.7	09/15/14 14:13 / sld
Chromium	ND	mg/L		0.01		E200.8	09/18/14 07:45 / dck
Cobalt	0.02	mg/L		0.01		E200.8	09/18/14 07:45 / dck
Copper	ND	mg/L		0.002		E200.8	09/18/14 07:45 / dck
Iron	19.1	mg/L		0.02		E200.7	09/15/14 14:13 / sld
Lead	ND	mg/L		0.0003		E200.8	09/18/14 07:45 / dck
Magnesium	28	mg/L		1		E200.7	09/15/14 14:13 / sld
Manganese	0.080	mg/L		0.001		E200.8	09/18/14 07:45 / dck
Mercury	ND	mg/L		5E-06		E245.1	09/25/14 17:09 / rgk
Molybdenum	ND	mg/L		0.001		E200.8	09/18/14 07:45 / dck
Nickel	0.012	mg/L		0.001		E200.8	09/18/14 07:45 / dck
Potassium	3	mg/L		1		E200.7	09/15/14 14:13 / sld
Selenium	ND	mg/L		0.0002		E200.8	09/18/14 07:45 / dck
Silver	ND	mg/L		0.001		E200.8	09/18/14 07:45 / dck
Sodium	5	mg/L		1		E200.7	09/15/14 14:13 / sld
Strontium	1.55	mg/L	D	0.0003		E200.7	09/15/14 14:13 / sld
Thallium	0.0124	mg/L		0.0002		E200.8	09/18/14 07:45 / dck
Uranium	ND	mg/L		0.0003		E200.8	09/18/14 07:45 / dck
Zinc	0.033	mg/L		0.002		E200.8	09/18/14 07:45 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14090241-002
Client Sample ID: BBC-1409-201

Report Date: 09/30/14
Collection Date: 09/10/14 13:45
DateReceived: 09/12/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	838	mg/L		20		A2540 D	09/15/14 14:44 / SRW
Solids, Total Dissolved TDS @ 180 C	202	mg/L		20		A2540 C	09/15/14 14:33 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	170	mg/L		4		A2320 B	09/15/14 21:27 / SRW
Chloride	1	mg/L		1		E300.0	09/15/14 22:46 / SRW
Sulfate	9	mg/L		1		E300.0	09/15/14 22:46 / SRW
Fluoride	0.2	mg/L		0.1	4	A4500-F C	09/17/14 10:41 / SRW
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.45	mg/L		0.01		E353.2	09/15/14 14:37 / cmm
METALS, DISSOLVED							
Aluminum	0.276	mg/L		0.009		E200.8	09/18/14 07:49 / dck
Antimony	ND	mg/L		0.0005		E200.8	09/18/14 07:49 / dck
Arsenic	ND	mg/L		0.001		E200.8	09/18/14 07:49 / dck
Barium	0.149	mg/L		0.003		E200.8	09/18/14 07:49 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/18/14 07:49 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/18/14 07:49 / dck
Calcium	40	mg/L		1		E200.7	09/15/14 14:17 / sld
Chromium	ND	mg/L		0.01		E200.8	09/18/14 07:49 / dck
Cobalt	ND	mg/L		0.01		E200.8	09/18/14 07:49 / dck
Copper	0.026	mg/L		0.002		E200.8	09/18/14 07:49 / dck
Iron	0.14	mg/L		0.02		E200.8	09/18/14 07:49 / dck
Lead	0.0006	mg/L		0.0003		E200.8	09/18/14 07:49 / dck
Magnesium	17	mg/L		1		E200.7	09/15/14 14:17 / sld
Manganese	ND	mg/L		0.001		E200.8	09/18/14 07:49 / dck
Mercury	ND	mg/L		5E-06		E245.1	09/25/14 17:13 / rgk
Molybdenum	ND	mg/L		0.001		E200.8	09/18/14 07:49 / dck
Nickel	ND	mg/L		0.001		E200.8	09/18/14 07:49 / dck
Potassium	1	mg/L		1		E200.8	09/18/14 22:47 / dck
Selenium	ND	mg/L		0.0002		E200.8	09/18/14 07:49 / dck
Silver	ND	mg/L		0.001		E200.8	09/18/14 07:49 / dck
Sodium	2	mg/L		1		E200.7	09/15/14 14:17 / sld
Strontium	0.111	mg/L		0.0002		E200.8	09/18/14 07:49 / dck
Thallium	0.0005	mg/L		0.0002		E200.8	09/18/14 07:49 / dck
Uranium	0.0009	mg/L		0.0003		E200.8	09/18/14 07:49 / dck
Zinc	0.029	mg/L		0.002		E200.8	09/18/14 07:49 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14090241-003
Client Sample ID: BBC-1409-202

Report Date: 09/30/14
Collection Date: 09/10/14 15:10
DateReceived: 09/12/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		10		A2540 D	09/15/14 14:44 / SRW
Solids, Total Dissolved TDS @ 180 C	607	mg/L		10		A2540 C	09/15/14 14:34 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	210	mg/L		4		A2320 B	09/15/14 21:34 / SRW
Chloride	1	mg/L		1		E300.0	09/15/14 23:20 / SRW
Sulfate	270	mg/L		1		E300.0	09/15/14 23:20 / SRW
Fluoride	0.7	mg/L		0.1	4	A4500-F C	09/17/14 10:43 / SRW
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	09/15/14 14:41 / cmm
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	09/18/14 07:54 / dck
Antimony	ND	mg/L		0.0005		E200.8	09/18/14 07:54 / dck
Arsenic	0.072	mg/L		0.001		E200.8	09/18/14 07:54 / dck
Barium	0.010	mg/L		0.003		E200.8	09/18/14 07:54 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/18/14 07:54 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/18/14 07:54 / dck
Calcium	84	mg/L		1		E200.7	09/15/14 14:54 / sld
Chromium	ND	mg/L		0.01		E200.8	09/18/14 07:54 / dck
Cobalt	ND	mg/L		0.01		E200.8	09/18/14 07:54 / dck
Copper	ND	mg/L		0.002		E200.8	09/18/14 07:54 / dck
Iron	1.17	mg/L		0.02		E200.7	09/15/14 14:54 / sld
Lead	ND	mg/L		0.0003		E200.8	09/18/14 07:54 / dck
Magnesium	55	mg/L		1		E200.7	09/15/14 14:54 / sld
Manganese	0.018	mg/L		0.001		E200.8	09/18/14 07:54 / dck
Mercury	ND	mg/L		5E-06		E245.1	09/25/14 17:34 / rgk
Molybdenum	0.001	mg/L		0.001		E200.8	09/18/14 07:54 / dck
Nickel	0.001	mg/L		0.001		E200.8	09/18/14 07:54 / dck
Potassium	3	mg/L		1		E200.7	09/15/14 14:54 / sld
Selenium	ND	mg/L		0.0002		E200.8	09/18/14 07:54 / dck
Silver	ND	mg/L		0.001		E200.8	09/18/14 07:54 / dck
Sodium	16	mg/L		1		E200.7	09/15/14 14:54 / sld
Strontium	14.6	mg/L	D	0.0003		E200.7	09/15/14 14:54 / sld
Thallium	0.0004	mg/L		0.0002		E200.8	09/18/14 07:54 / dck
Uranium	0.0011	mg/L		0.0003		E200.8	09/18/14 07:54 / dck
Zinc	ND	mg/L		0.002		E200.8	09/18/14 07:54 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14090241-004
Client Sample ID: BBC-1409-203

Report Date: 09/30/14
Collection Date: 09/10/14 16:10
DateReceived: 09/12/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	193	mg/L		10		A2540 D	09/15/14 14:44 / SRW
Solids, Total Dissolved TDS @ 180 C	248	mg/L		10		A2540 C	09/15/14 14:34 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	220	mg/L		4		A2320 B	09/15/14 21:42 / SRW
Chloride	1	mg/L		1		E300.0	09/15/14 23:53 / SRW
Sulfate	11	mg/L		1		E300.0	09/15/14 23:53 / SRW
Fluoride	0.2	mg/L		0.1	4	A4500-F C	09/17/14 10:43 / SRW
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.21	mg/L		0.01		E353.2	09/15/14 14:42 / cmm
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	09/18/14 07:58 / dck
Antimony	ND	mg/L		0.0005		E200.8	09/18/14 07:58 / dck
Arsenic	ND	mg/L		0.001		E200.8	09/18/14 07:58 / dck
Barium	0.167	mg/L		0.003		E200.8	09/18/14 07:58 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/18/14 07:58 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/18/14 07:58 / dck
Calcium	53	mg/L		1		E200.7	09/15/14 14:58 / sld
Chromium	ND	mg/L		0.01		E200.8	09/18/14 07:58 / dck
Cobalt	ND	mg/L		0.01		E200.8	09/18/14 07:58 / dck
Copper	ND	mg/L		0.002		E200.8	09/18/14 07:58 / dck
Iron	ND	mg/L		0.02		E200.8	09/18/14 07:58 / dck
Lead	ND	mg/L		0.0003		E200.8	09/18/14 07:58 / dck
Magnesium	24	mg/L		1		E200.7	09/15/14 14:58 / sld
Manganese	ND	mg/L		0.001		E200.8	09/18/14 07:58 / dck
Mercury	ND	mg/L		5E-06		E245.1	09/25/14 17:39 / rgk
Molybdenum	ND	mg/L		0.001		E200.8	09/18/14 07:58 / dck
Nickel	ND	mg/L		0.001		E200.8	09/18/14 07:58 / dck
Potassium	ND	mg/L		1		E200.8	09/18/14 07:58 / dck
Selenium	ND	mg/L		0.0002		E200.8	09/18/14 07:58 / dck
Silver	ND	mg/L		0.001		E200.8	09/18/14 07:58 / dck
Sodium	3	mg/L		1		E200.7	09/15/14 14:58 / sld
Strontium	0.155	mg/L		0.0002		E200.8	09/18/14 07:58 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/18/14 07:58 / dck
Uranium	0.0006	mg/L		0.0003		E200.8	09/18/14 07:58 / dck
Zinc	ND	mg/L		0.002		E200.8	09/18/14 07:58 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14090241-005
Client Sample ID: BBC-1409-204

Report Date: 09/30/14
Collection Date: 09/10/14 16:35
DateReceived: 09/12/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	222	mg/L		10		A2540 D	09/15/14 14:45 / SRW
Solids, Total Dissolved TDS @ 180 C	253	mg/L		10		A2540 C	09/15/14 14:34 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	230	mg/L		4		A2320 B	09/15/14 21:48 / SRW
Chloride	1	mg/L		1		E300.0	09/16/14 00:04 / SRW
Sulfate	18	mg/L		1		E300.0	09/16/14 00:04 / SRW
Fluoride	0.5	mg/L		0.1	4	A4500-F C	09/17/14 10:44 / SRW
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.13	mg/L		0.01		E353.2	09/15/14 14:43 / cmm
METALS, DISSOLVED							
Aluminum	0.009	mg/L		0.009		E200.8	09/18/14 08:03 / dck
Antimony	ND	mg/L		0.0005		E200.8	09/18/14 08:03 / dck
Arsenic	ND	mg/L		0.001		E200.8	09/18/14 08:03 / dck
Barium	0.109	mg/L		0.003		E200.8	09/18/14 08:03 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/18/14 08:03 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/18/14 08:03 / dck
Calcium	48	mg/L		1		E200.7	09/15/14 15:02 / sld
Chromium	ND	mg/L		0.01		E200.8	09/18/14 08:03 / dck
Cobalt	ND	mg/L		0.01		E200.8	09/18/14 08:03 / dck
Copper	ND	mg/L		0.002		E200.8	09/18/14 08:03 / dck
Iron	ND	mg/L		0.02		E200.8	09/18/14 08:03 / dck
Lead	ND	mg/L		0.0003		E200.8	09/18/14 08:03 / dck
Magnesium	23	mg/L		1		E200.7	09/15/14 15:02 / sld
Manganese	0.024	mg/L		0.001		E200.8	09/18/14 08:03 / dck
Mercury	ND	mg/L		5E-06		E245.1	09/25/14 17:43 / rgk
Molybdenum	0.001	mg/L		0.001		E200.8	09/18/14 08:03 / dck
Nickel	ND	mg/L		0.001		E200.8	09/18/14 08:03 / dck
Potassium	1	mg/L		1		E200.8	09/18/14 08:03 / dck
Selenium	ND	mg/L		0.0002		E200.8	09/18/14 08:03 / dck
Silver	ND	mg/L		0.001		E200.8	09/18/14 08:03 / dck
Sodium	15	mg/L		1		E200.7	09/15/14 15:02 / sld
Strontium	0.201	mg/L		0.0002		E200.8	09/18/14 08:03 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/18/14 08:03 / dck
Uranium	0.0007	mg/L		0.0003		E200.8	09/18/14 08:03 / dck
Zinc	ND	mg/L		0.002		E200.8	09/18/14 08:03 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14090241-006
Client Sample ID: BBC-1409-205

Report Date: 09/30/14
Collection Date: 09/10/14 17:05
DateReceived: 09/12/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	550	mg/L		20		A2540 D	09/15/14 14:45 / SRW
Solids, Total Dissolved TDS @ 180 C	328	mg/L		20		A2540 C	09/15/14 14:34 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	280	mg/L		4		A2320 B	09/15/14 21:54 / SRW
Chloride	4	mg/L		1		E300.0	09/16/14 00:15 / SRW
Sulfate	62	mg/L		1		E300.0	09/16/14 00:15 / SRW
Fluoride	0.3	mg/L		0.1	4	A4500-F C	09/17/14 10:45 / SRW
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	09/15/14 14:44 / cmm
METALS, DISSOLVED							
Aluminum	0.010	mg/L		0.009		E200.8	09/18/14 08:21 / dck
Antimony	ND	mg/L		0.0005		E200.8	09/18/14 08:21 / dck
Arsenic	0.003	mg/L		0.001		E200.8	09/18/14 08:21 / dck
Barium	0.047	mg/L		0.003		E200.8	09/18/14 08:21 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/18/14 08:21 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/18/14 08:21 / dck
Calcium	58	mg/L		1		E200.7	09/15/14 15:05 / sld
Chromium	ND	mg/L		0.01		E200.8	09/18/14 08:21 / dck
Cobalt	ND	mg/L		0.01		E200.8	09/18/14 08:21 / dck
Copper	ND	mg/L		0.002		E200.8	09/18/14 08:21 / dck
Iron	0.08	mg/L		0.02		E200.8	09/18/14 08:21 / dck
Lead	ND	mg/L		0.0003		E200.8	09/18/14 08:21 / dck
Magnesium	37	mg/L		1		E200.7	09/15/14 15:05 / sld
Manganese	0.083	mg/L		0.001		E200.8	09/18/14 08:21 / dck
Mercury	ND	mg/L		5E-06		E245.1	09/25/14 17:47 / rgk
Molybdenum	0.002	mg/L		0.001		E200.8	09/18/14 08:21 / dck
Nickel	ND	mg/L		0.001		E200.8	09/18/14 08:21 / dck
Potassium	1	mg/L		1		E200.8	09/18/14 08:21 / dck
Selenium	ND	mg/L		0.0002		E200.8	09/18/14 08:21 / dck
Silver	ND	mg/L		0.001		E200.8	09/18/14 08:21 / dck
Sodium	3	mg/L		1		E200.7	09/15/14 15:05 / sld
Strontium	0.164	mg/L		0.0002		E200.8	09/18/14 08:21 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/18/14 08:21 / dck
Uranium	0.0031	mg/L		0.0003		E200.8	09/18/14 08:21 / dck
Zinc	ND	mg/L		0.002		E200.8	09/18/14 08:21 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14090241-007
Client Sample ID: BBC-1409-206

Report Date: 09/30/14
Collection Date: 09/10/14 17:50
DateReceived: 09/12/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	14	mg/L		10		A2540 D	09/15/14 14:45 / SRW
Solids, Total Dissolved TDS @ 180 C	171	mg/L		10		A2540 C	09/15/14 14:35 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	09/15/14 22:08 / SRW
Chloride	ND	mg/L		1		E300.0	09/16/14 00:26 / SRW
Sulfate	11	mg/L		1		E300.0	09/16/14 00:26 / SRW
Fluoride	0.2	mg/L		0.1	4	A4500-F C	09/17/14 10:45 / SRW
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	09/15/14 14:46 / cmm
METALS, DISSOLVED							
Aluminum	0.013	mg/L		0.009		E200.8	09/18/14 08:25 / dck
Antimony	0.0006	mg/L		0.0005		E200.8	09/18/14 08:25 / dck
Arsenic	0.003	mg/L		0.001		E200.8	09/18/14 08:25 / dck
Barium	0.072	mg/L		0.003		E200.8	09/18/14 08:25 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/18/14 08:25 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/18/14 08:25 / dck
Calcium	27	mg/L		1		E200.7	09/15/14 15:09 / sld
Chromium	ND	mg/L		0.01		E200.8	09/18/14 08:25 / dck
Cobalt	ND	mg/L		0.01		E200.8	09/18/14 08:25 / dck
Copper	ND	mg/L		0.002		E200.8	09/18/14 08:25 / dck
Iron	0.08	mg/L		0.02		E200.8	09/18/14 08:25 / dck
Lead	ND	mg/L		0.0003		E200.8	09/18/14 08:25 / dck
Magnesium	23	mg/L		1		E200.7	09/15/14 15:09 / sld
Manganese	0.072	mg/L		0.001		E200.8	09/18/14 08:25 / dck
Mercury	ND	mg/L		5E-06		E245.1	09/25/14 17:51 / rgk
Molybdenum	0.003	mg/L		0.001		E200.8	09/18/14 08:25 / dck
Nickel	ND	mg/L		0.001		E200.8	09/18/14 08:25 / dck
Potassium	ND	mg/L		1		E200.8	09/18/14 08:25 / dck
Selenium	ND	mg/L		0.0002		E200.8	09/18/14 08:25 / dck
Silver	ND	mg/L		0.001		E200.8	09/18/14 08:25 / dck
Sodium	3	mg/L		1		E200.7	09/15/14 15:09 / sld
Strontium	0.0889	mg/L		0.0002		E200.8	09/18/14 08:25 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/18/14 08:25 / dck
Uranium	0.0009	mg/L		0.0003		E200.8	09/18/14 08:25 / dck
Zinc	ND	mg/L		0.002		E200.8	09/18/14 08:25 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14090241-008
Client Sample ID: BBC-1409-207

Report Date: 09/30/14
Collection Date: 09/11/14 10:25
DateReceived: 09/12/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		10		A2540 D	09/15/14 14:46 / SRW
Solids, Total Dissolved TDS @ 180 C	296	mg/L		10		A2540 C	09/15/14 14:35 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	270	mg/L		4		A2320 B	09/15/14 22:14 / SRW
Chloride	2	mg/L		1		E300.0	09/16/14 00:37 / SRW
Sulfate	13	mg/L		1		E300.0	09/16/14 00:37 / SRW
Fluoride	0.1	mg/L		0.1	4	A4500-F C	09/17/14 10:46 / SRW
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	09/15/14 14:47 / cmm
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	09/18/14 08:30 / dck
Antimony	ND	mg/L		0.0005		E200.8	09/18/14 08:30 / dck
Arsenic	ND	mg/L		0.001		E200.8	09/18/14 08:30 / dck
Barium	0.180	mg/L		0.003		E200.8	09/18/14 08:30 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/18/14 08:30 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/18/14 08:30 / dck
Calcium	77	mg/L		1		E200.7	09/15/14 15:13 / sld
Chromium	ND	mg/L		0.01		E200.8	09/18/14 08:30 / dck
Cobalt	ND	mg/L		0.01		E200.8	09/18/14 08:30 / dck
Copper	ND	mg/L		0.002		E200.8	09/18/14 08:30 / dck
Iron	0.04	mg/L		0.02		E200.8	09/18/14 08:30 / dck
Lead	ND	mg/L		0.0003		E200.8	09/18/14 08:30 / dck
Magnesium	21	mg/L		1		E200.7	09/15/14 15:13 / sld
Manganese	0.182	mg/L		0.001		E200.8	09/18/14 08:30 / dck
Mercury	ND	mg/L		5E-06		E245.1	09/25/14 17:56 / rgk
Molybdenum	ND	mg/L		0.001		E200.8	09/18/14 08:30 / dck
Nickel	ND	mg/L		0.001		E200.8	09/18/14 08:30 / dck
Potassium	2	mg/L		1		E200.8	09/18/14 08:30 / dck
Selenium	ND	mg/L		0.0002		E200.8	09/18/14 08:30 / dck
Silver	ND	mg/L		0.001		E200.8	09/18/14 08:30 / dck
Sodium	3	mg/L		1		E200.7	09/15/14 15:13 / sld
Strontium	0.168	mg/L		0.0002		E200.8	09/18/14 08:30 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/18/14 08:30 / dck
Uranium	0.0004	mg/L		0.0003		E200.8	09/18/14 08:30 / dck
Zinc	0.010	mg/L		0.002		E200.8	09/18/14 08:30 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14090241-009
Client Sample ID: BBC-1409-208

Report Date: 09/30/14
Collection Date: 09/11/14 10:40
DateReceived: 09/12/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		10		A2540 D	09/15/14 14:47 / SRW
Solids, Total Dissolved TDS @ 180 C	296	mg/L		10		A2540 C	09/15/14 14:35 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	270	mg/L		4		A2320 B	09/15/14 22:21 / SRW
Chloride	2	mg/L		1		E300.0	09/16/14 00:49 / SRW
Sulfate	14	mg/L		1		E300.0	09/16/14 00:49 / SRW
Fluoride	0.1	mg/L		0.1	4	A4500-F C	09/17/14 10:47 / SRW
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	09/15/14 14:48 / cmm
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	09/18/14 08:49 / dck
Antimony	ND	mg/L		0.0005		E200.8	09/18/14 08:49 / dck
Arsenic	ND	mg/L		0.001		E200.8	09/18/14 08:49 / dck
Barium	0.185	mg/L		0.003		E200.8	09/18/14 08:49 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/18/14 08:49 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/18/14 08:49 / dck
Calcium	77	mg/L		1		E200.7	09/15/14 15:17 / sld
Chromium	ND	mg/L		0.01		E200.8	09/18/14 08:49 / dck
Cobalt	ND	mg/L		0.01		E200.8	09/18/14 08:49 / dck
Copper	ND	mg/L		0.002		E200.8	09/18/14 08:49 / dck
Iron	0.04	mg/L		0.02		E200.8	09/18/14 08:49 / dck
Lead	ND	mg/L		0.0003		E200.8	09/18/14 08:49 / dck
Magnesium	21	mg/L		1		E200.7	09/15/14 15:17 / sld
Manganese	0.186	mg/L		0.001		E200.8	09/18/14 08:49 / dck
Mercury	ND	mg/L		5E-06		E245.1	09/25/14 18:00 / rgk
Molybdenum	ND	mg/L		0.001		E200.8	09/18/14 08:49 / dck
Nickel	ND	mg/L		0.001		E200.8	09/18/14 08:49 / dck
Potassium	2	mg/L		1		E200.8	09/18/14 08:49 / dck
Selenium	ND	mg/L		0.0002		E200.8	09/18/14 08:49 / dck
Silver	ND	mg/L		0.001		E200.8	09/18/14 08:49 / dck
Sodium	3	mg/L		1		E200.7	09/15/14 15:17 / sld
Strontium	0.171	mg/L		0.0002		E200.8	09/18/14 08:49 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/18/14 08:49 / dck
Uranium	0.0004	mg/L		0.0003		E200.8	09/18/14 08:49 / dck
Zinc	ND	mg/L		0.002		E200.8	09/18/14 08:49 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14090241-010
Client Sample ID: BBC-1409-209

Report Date: 09/30/14
Collection Date: 09/11/14 11:00
DateReceived: 09/12/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		10		A2540 D	09/15/14 14:47 / SRW
Solids, Total Dissolved TDS @ 180 C	260	mg/L		10		A2540 C	09/15/14 14:35 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	240	mg/L		4		A2320 B	09/15/14 22:27 / SRW
Chloride	1	mg/L		1		E300.0	09/16/14 01:00 / SRW
Sulfate	13	mg/L		1		E300.0	09/16/14 01:00 / SRW
Fluoride	0.1	mg/L		0.1	4	A4500-F C	09/17/14 10:48 / SRW
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	09/15/14 14:49 / cmm
METALS, DISSOLVED							
Aluminum	0.027	mg/L		0.009		E200.8	09/18/14 08:53 / dck
Antimony	ND	mg/L		0.0005		E200.8	09/18/14 08:53 / dck
Arsenic	ND	mg/L		0.001		E200.8	09/18/14 08:53 / dck
Barium	0.125	mg/L		0.003		E200.8	09/18/14 08:53 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/18/14 08:53 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/18/14 08:53 / dck
Calcium	66	mg/L		1		E200.7	09/15/14 15:21 / sld
Chromium	ND	mg/L		0.01		E200.8	09/18/14 08:53 / dck
Cobalt	ND	mg/L		0.01		E200.8	09/18/14 08:53 / dck
Copper	ND	mg/L		0.002		E200.8	09/18/14 08:53 / dck
Iron	ND	mg/L		0.02		E200.8	09/18/14 08:53 / dck
Lead	ND	mg/L		0.0003		E200.8	09/18/14 08:53 / dck
Magnesium	21	mg/L		1		E200.7	09/15/14 15:21 / sld
Manganese	0.002	mg/L		0.001		E200.8	09/18/14 08:53 / dck
Mercury	ND	mg/L		5E-06		E245.1	09/25/14 18:04 / rgk
Molybdenum	ND	mg/L		0.001		E200.8	09/18/14 08:53 / dck
Nickel	ND	mg/L		0.001		E200.8	09/18/14 08:53 / dck
Potassium	1	mg/L		1		E200.8	09/18/14 08:53 / dck
Selenium	ND	mg/L		0.0002		E200.8	09/18/14 08:53 / dck
Silver	ND	mg/L		0.001		E200.8	09/18/14 08:53 / dck
Sodium	2	mg/L		1		E200.7	09/15/14 15:21 / sld
Strontium	0.174	mg/L		0.0002		E200.8	09/18/14 08:53 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/18/14 08:53 / dck
Uranium	0.0007	mg/L		0.0003		E200.8	09/18/14 08:53 / dck
Zinc	ND	mg/L		0.002		E200.8	09/18/14 08:53 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14090241-011
Client Sample ID: BBC-1409-210

Report Date: 09/30/14
Collection Date: 09/11/14 12:30
DateReceived: 09/12/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		10		A2540 D	09/15/14 14:47 / SRW
Solids, Total Dissolved TDS @ 180 C	ND	mg/L		10		A2540 C	09/15/14 14:36 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	09/15/14 22:33 / SRW
Chloride	ND	mg/L		1		E300.0	09/16/14 01:11 / SRW
Sulfate	ND	mg/L		1		E300.0	09/16/14 01:11 / SRW
Fluoride	ND	mg/L		0.1	4	A4500-F C	09/17/14 10:55 / SRW
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	09/15/14 14:50 / cmm
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	09/18/14 08:58 / dck
Antimony	ND	mg/L		0.0005		E200.8	09/18/14 08:58 / dck
Arsenic	ND	mg/L		0.001		E200.8	09/18/14 08:58 / dck
Barium	ND	mg/L		0.003		E200.8	09/18/14 08:58 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/18/14 08:58 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/18/14 08:58 / dck
Calcium	ND	mg/L		1		E200.7	09/15/14 15:43 / sld
Chromium	ND	mg/L		0.01		E200.8	09/18/14 08:58 / dck
Cobalt	ND	mg/L		0.01		E200.8	09/18/14 08:58 / dck
Copper	ND	mg/L		0.002		E200.8	09/18/14 08:58 / dck
Iron	ND	mg/L		0.02		E200.8	09/18/14 08:58 / dck
Lead	ND	mg/L		0.0003		E200.8	09/18/14 08:58 / dck
Magnesium	ND	mg/L		1		E200.7	09/15/14 15:43 / sld
Manganese	ND	mg/L		0.001		E200.8	09/18/14 08:58 / dck
Mercury	ND	mg/L		5E-06		E245.1	09/25/14 18:08 / rgk
Molybdenum	ND	mg/L		0.001		E200.8	09/18/14 08:58 / dck
Nickel	ND	mg/L		0.001		E200.8	09/18/14 08:58 / dck
Potassium	ND	mg/L		1		E200.7	09/15/14 15:43 / sld
Selenium	ND	mg/L		0.0002		E200.8	09/18/14 08:58 / dck
Silver	ND	mg/L		0.001		E200.8	09/18/14 08:58 / dck
Sodium	ND	mg/L		1		E200.7	09/15/14 15:43 / sld
Strontium	ND	mg/L		0.0002		E200.8	09/18/14 08:58 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/18/14 08:58 / dck
Uranium	ND	mg/L		0.0003		E200.8	09/18/14 08:58 / dck
Zinc	ND	mg/L		0.002		E200.8	09/18/14 08:58 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Project: 11048 Black Butte Copper Project
Lab ID: H14090241-012
Client Sample ID: BBC-1409-211

Report Date: 09/30/14
Collection Date: 09/11/14 13:30
DateReceived: 09/12/14
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	ND	mg/L		10		A2540 D	09/15/14 14:47 / SRW
Solids, Total Dissolved TDS @ 180 C	ND	mg/L		10		A2540 C	09/15/14 14:37 / SRW
INORGANICS							
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	09/15/14 22:39 / SRW
Chloride	ND	mg/L		1		E300.0	09/16/14 16:58 / SRW
Sulfate	ND	mg/L		1		E300.0	09/16/14 16:58 / SRW
Fluoride	ND	mg/L		0.1	4	A4500-F C	09/17/14 10:56 / SRW
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	09/15/14 14:54 / cmm
METALS, DISSOLVED							
Aluminum	ND	mg/L		0.009		E200.8	09/18/14 09:02 / dck
Antimony	ND	mg/L		0.0005		E200.8	09/18/14 09:02 / dck
Arsenic	ND	mg/L		0.001		E200.8	09/18/14 09:02 / dck
Barium	ND	mg/L		0.003		E200.8	09/18/14 09:02 / dck
Beryllium	ND	mg/L		0.0008		E200.8	09/18/14 09:02 / dck
Cadmium	ND	mg/L		0.00003		E200.8	09/18/14 09:02 / dck
Calcium	ND	mg/L		1		E200.7	09/15/14 15:47 / sld
Chromium	ND	mg/L		0.01		E200.8	09/18/14 09:02 / dck
Cobalt	ND	mg/L		0.01		E200.8	09/18/14 09:02 / dck
Copper	ND	mg/L		0.002		E200.8	09/18/14 09:02 / dck
Iron	ND	mg/L		0.02		E200.8	09/18/14 09:02 / dck
Lead	ND	mg/L		0.0003		E200.8	09/18/14 09:02 / dck
Magnesium	ND	mg/L		1		E200.7	09/15/14 15:47 / sld
Manganese	ND	mg/L		0.001		E200.8	09/18/14 09:02 / dck
Mercury	ND	mg/L		5E-06		E245.1	09/25/14 18:13 / rgk
Molybdenum	ND	mg/L		0.001		E200.8	09/18/14 09:02 / dck
Nickel	ND	mg/L		0.001		E200.8	09/18/14 09:02 / dck
Potassium	ND	mg/L		1		E200.7	09/15/14 15:47 / sld
Selenium	ND	mg/L		0.0002		E200.8	09/18/14 09:02 / dck
Silver	ND	mg/L		0.001		E200.8	09/18/14 09:02 / dck
Sodium	ND	mg/L		1		E200.7	09/15/14 15:47 / sld
Strontium	ND	mg/L		0.0002		E200.8	09/18/14 09:02 / dck
Thallium	ND	mg/L		0.0002		E200.8	09/18/14 09:02 / dck
Uranium	ND	mg/L		0.0003		E200.8	09/18/14 09:02 / dck
Zinc	ND	mg/L		0.002		E200.8	09/18/14 09:02 / dck

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Report Date: 09/30/14
Project: 11048 Black Butte Copper Project
Work Order: H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B										Batch: R100537
Lab ID: MB		Method Blank				Run: PHSC_101-H_140915A				09/15/14 20:18
Alkalinity, Total as CaCO3		3.8	mg/L	4.0						
Lab ID: LCS		Laboratory Control Sample				Run: PHSC_101-H_140915A				09/15/14 20:24
Alkalinity, Total as CaCO3		600	mg/L	4.0	99	90	110			
Lab ID: H14090234-015ADUP		Sample Duplicate				Run: PHSC_101-H_140915A				09/15/14 20:44
Alkalinity, Total as CaCO3		100	mg/L	4.0				1.3	10	
Lab ID: H14090234-016AMS		Sample Matrix Spike				Run: PHSC_101-H_140915A				09/15/14 20:55
Alkalinity, Total as CaCO3		610	mg/L	4.0	84	80	120			
Lab ID: H14090241-012ADUP		Sample Duplicate				Run: PHSC_101-H_140915A				09/15/14 22:45
Alkalinity, Total as CaCO3		ND	mg/L	4.0					10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Report Date: 09/30/14
Project: 11048 Black Butte Copper Project
Work Order: H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C									Batch: TDS140915A	
Lab ID: MB-1_140915A	Method Blank					Run: ACCU-124 (14410200)_14091			09/15/14 14:32	
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	1						
Lab ID: LCS-2_140915A	Laboratory Control Sample					Run: ACCU-124 (14410200)_14091			09/15/14 14:32	
Solids, Total Dissolved TDS @ 180 C		1990	mg/L	20	100	90	110			
Lab ID: H14090241-001A DUP	Sample Duplicate					Run: ACCU-124 (14410200)_14091			09/15/14 14:33	
Solids, Total Dissolved TDS @ 180 C		409	mg/L	10					5	
Lab ID: H14090241-002A MS	Sample Matrix Spike					Run: ACCU-124 (14410200)_14091			09/15/14 14:33	
Solids, Total Dissolved TDS @ 180 C		4190	mg/L	40	100	80	120			
Lab ID: H14090241-011A DUP	Sample Duplicate					Run: ACCU-124 (14410200)_14091			09/15/14 14:36	
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	10					5	

- RPD greater than method limit. Difference < PQL - RPD not applicable.

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Report Date: 09/30/14
Project: 11048 Black Butte Copper Project
Work Order: H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 D									Batch: TSS140915A	
Lab ID: MB-1_140915A	Method Blank					Run: ACCU-124 (14410200)_14091			09/15/14 14:38	
Solids, Total Suspended TSS @ 105 C		ND	mg/L	1						
Lab ID: LCS-2_140915A	Laboratory Control Sample					Run: ACCU-124 (14410200)_14091			09/15/14 14:38	
Solids, Total Suspended TSS @ 105 C		101	mg/L	10	101	80	120			
Lab ID: H14090235-001A DUP	Sample Duplicate					Run: ACCU-124 (14410200)_14091			09/15/14 14:39	
Solids, Total Suspended TSS @ 105 C		113	mg/L	33				3.0	5	
Lab ID: H14090241-001A DUP	Sample Duplicate					Run: ACCU-124 (14410200)_14091			09/15/14 14:42	
Solids, Total Suspended TSS @ 105 C		24.0	mg/L	10				12	5	R
- RPD greater than method limit. Difference < PQL - RPD not applicable.										
Lab ID: MB-25_140915A	Method Blank					Run: ACCU-124 (14410200)_14091			09/15/14 14:45	
Solids, Total Suspended TSS @ 105 C		ND	mg/L	10						
Lab ID: LCS-26_140915A	Laboratory Control Sample					Run: ACCU-124 (14410200)_14091			09/15/14 14:46	
Solids, Total Suspended TSS @ 105 C		98.0	mg/L	10	98	80	120			
Lab ID: H14090241-008A DUP	Sample Duplicate					Run: ACCU-124 (14410200)_14091			09/15/14 14:46	
Solids, Total Suspended TSS @ 105 C		ND	mg/L	10					5	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
R - RPD exceeds advisory limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Report Date: 09/30/14
Project: 11048 Black Butte Copper Project
Work Order: H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **A4500-F C**									Analytical Run: PH_140917A	
Lab ID: **ICV1_140917A**		Initial Calibration Verification Standard							09/17/14 10:35	
Fluoride		0.7	mg/L	0.1	95	90	110			
Lab ID: **CCV6_140917A**		Continuing Calibration Verification Standard							09/17/14 10:49	
Fluoride		0.2	mg/L	0.1	92	90	110			
Method: **A4500-F C**									Batch: 140917A-F-ISE-W	
Lab ID: **MBLK1_140917A**		Method Blank				Run: PH_140917A			09/17/14 10:38	
Fluoride		0.010	mg/L	0.005						
Lab ID: **H14090241-001ADUP**		Sample Duplicate				Run: PH_140917A			09/17/14 10:40	
Fluoride		0.2	mg/L	0.1				0.5	10	
Lab ID: **H14090241-002AMS**		Sample Matrix Spike				Run: PH_140917A			09/17/14 10:42	
Fluoride		0.7	mg/L	0.1	90	85	115			
Lab ID: **H14090241-011ADUP**		Sample Duplicate				Run: PH_140917A			09/17/14 10:55	
Fluoride		0.0	mg/L	0.1					10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Report Date: 09/30/14
Project: 11048 Black Butte Copper Project
Work Order: H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP2-HE_140915A	
Lab ID: ICV	6	Initial Calibration Verification Standard							09/15/14 10:32	
Calcium		40.2	mg/L	1.0	101	95	105			
Iron		4.00	mg/L	0.020	100	95	105			
Magnesium		40.7	mg/L	1.0	102	95	105			
Potassium		40.5	mg/L	1.0	101	95	105			
Sodium		40.5	mg/L	1.0	101	95	105			
Strontium		0.792	mg/L	0.10	99	95	105			
Lab ID: CCV-1	6	Continuing Calibration Verification Standard							09/15/14 10:36	
Calcium		25.5	mg/L	1.0	102	95	105			
Iron		2.53	mg/L	0.020	101	95	105			
Magnesium		25.6	mg/L	1.0	102	95	105			
Potassium		24.8	mg/L	1.0	99	95	105			
Sodium		24.9	mg/L	1.0	100	95	105			
Strontium		2.48	mg/L	0.10	99	95	105			
Lab ID: ICSA	6	Interference Check Sample A							09/15/14 10:47	
Calcium		474	mg/L	1.0	95	80	120			
Iron		190	mg/L	0.020	95	80	120			
Magnesium		514	mg/L	1.0	103	80	120			
Potassium		-0.302	mg/L	1.0		0	0			
Sodium		-0.00284	mg/L	1.0		0	0			
Strontium		0.0158	mg/L	0.10		0	0			
Lab ID: ICSAB	6	Interference Check Sample AB							09/15/14 10:51	
Calcium		476	mg/L	1.0	95	80	120			
Iron		189	mg/L	0.020	94	80	120			
Magnesium		512	mg/L	1.0	102	80	120			
Potassium		20.0	mg/L	1.0	100	80	120			
Sodium		20.2	mg/L	1.0	101	80	120			
Strontium		1.02	mg/L	0.10	102	80	120			
Lab ID: CCV	6	Continuing Calibration Verification Standard							09/15/14 13:36	
Calcium		24.1	mg/L	1.0	96	90	110			
Iron		2.44	mg/L	0.020	98	90	110			
Magnesium		24.0	mg/L	1.0	96	90	110			
Potassium		24.5	mg/L	1.0	98	90	110			
Sodium		25.1	mg/L	1.0	100	90	110			
Strontium		2.48	mg/L	0.10	99	90	110			
Lab ID: CCV	6	Continuing Calibration Verification Standard							09/15/14 14:47	
Calcium		25.1	mg/L	1.0	101	90	110			
Iron		2.49	mg/L	0.020	100	90	110			
Magnesium		24.9	mg/L	1.0	100	90	110			
Potassium		24.5	mg/L	1.0	98	90	110			
Sodium		24.6	mg/L	1.0	99	90	110			
Strontium		2.46	mg/L	0.10	98	90	110			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc **Report Date:** 09/30/14

Project: 11048 Black Butte Copper Project **Work Order:** H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Analytical Run: ICP2-HE_140915A
Lab ID: CCV	6	Continuing Calibration Verification Standard								09/15/14 14:47
Lab ID: CCV	6	Continuing Calibration Verification Standard								09/15/14 15:32
Calcium		25.0	mg/L	1.0	100	90	110			
Iron		2.49	mg/L	0.020	100	90	110			
Magnesium		24.8	mg/L	1.0	99	90	110			
Potassium		24.5	mg/L	1.0	98	90	110			
Sodium		24.6	mg/L	1.0	98	90	110			
Strontium		2.46	mg/L	0.10	99	90	110			
Method: E200.7										Batch: R100549
Lab ID: ICB	6	Method Blank				Run: ICP2-HE_140915A				09/15/14 10:59
Calcium		0.05	mg/L	0.03						
Iron		0.005	mg/L	0.003						
Magnesium		ND	mg/L	0.02						
Potassium		ND	mg/L	0.04						
Sodium		ND	mg/L	0.02						
Strontium		ND	mg/L	0.0003						
Lab ID: LFB	6	Laboratory Fortified Blank				Run: ICP2-HE_140915A				09/15/14 11:03
Calcium		46.8	mg/L	1.0	94	85	115			
Iron		4.73	mg/L	0.020	95	85	115			
Magnesium		47.1	mg/L	1.0	94	85	115			
Potassium		48.2	mg/L	1.0	96	85	115			
Sodium		48.6	mg/L	1.0	97	85	115			
Strontium		0.960	mg/L	0.10	96	85	115			
Lab ID: H14090234-018BMS2	6	Sample Matrix Spike				Run: ICP2-HE_140915A				09/15/14 14:06
Calcium		99.2	mg/L	1.0	91	70	130			
Iron		4.74	mg/L	0.020	94	70	130			
Magnesium		58.4	mg/L	1.0	94	70	130			
Potassium		56.9	mg/L	1.0	103	70	130			
Sodium		84.5	mg/L	1.0	106	70	130			
Strontium		1.33	mg/L	0.010	99	70	130			
Lab ID: H14090234-018BMSD	6	Sample Matrix Spike Duplicate				Run: ICP2-HE_140915A				09/15/14 14:09
Calcium		99.5	mg/L	1.0	91	70	130	0.3	20	
Iron		4.74	mg/L	0.020	94	70	130	0.0	20	
Magnesium		58.6	mg/L	1.0	94	70	130	0.4	20	
Potassium		56.1	mg/L	1.0	102	70	130	1.3	20	
Sodium		83.2	mg/L	1.0	103	70	130	1.5	20	
Strontium		1.33	mg/L	0.010	99	70	130	0.1	20	
Lab ID: H14090241-010BMS2	6	Sample Matrix Spike				Run: ICP2-HE_140915A				09/15/14 15:28
Calcium		115	mg/L	1.0	98	70	130			
Iron		4.88	mg/L	0.020	97	70	130			
Magnesium		70.7	mg/L	1.0	100	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Report Date: 09/30/14
Project: 11048 Black Butte Copper Project
Work Order: H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: R100549
Lab ID: H14090241-010BMS2	6	Sample Matrix Spike				Run: ICP2-HE_140915A				09/15/14 15:28
Potassium		52.5	mg/L	1.0	102	70	130			
Sodium		53.6	mg/L	1.0	102	70	130			
Strontium		1.16	mg/L	0.010	99	70	130			
Lab ID: H14090241-010BMSD	6	Sample Matrix Spike Duplicate				Run: ICP2-HE_140915A				09/15/14 15:39
Calcium		114	mg/L	1.0	97	70	130	0.5	20	
Iron		4.88	mg/L	0.020	97	70	130	0.2	20	
Magnesium		70.5	mg/L	1.0	100	70	130	0.3	20	
Potassium		52.1	mg/L	1.0	102	70	130	0.8	20	
Sodium		53.2	mg/L	1.0	102	70	130	0.9	20	
Strontium		1.17	mg/L	0.010	99	70	130	0.4	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Report Date: 09/30/14
Project: 11048 Black Butte Copper Project
Work Order: H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS204-B_140917A		
Lab ID: ICV STD	21	Initial Calibration Verification Standard							09/17/14 11:38	
Aluminum		0.301	mg/L	0.10	100	90	110			
Antimony		0.0608	mg/L	0.050	101	90	110			
Arsenic		0.0617	mg/L	0.0050	103	90	110			
Barium		0.0599	mg/L	0.10	100	90	110			
Beryllium		0.0302	mg/L	0.0010	101	90	110			
Cadmium		0.0317	mg/L	0.0010	106	90	110			
Chromium		0.0626	mg/L	0.010	104	90	110			
Cobalt		0.0605	mg/L	0.010	101	90	110			
Copper		0.0633	mg/L	0.010	105	90	110			
Iron		0.324	mg/L	0.020	108	90	110			
Lead		0.0595	mg/L	0.010	99	90	110			
Manganese		0.299	mg/L	0.010	100	90	110			
Molybdenum		0.0606	mg/L	0.0050	101	90	110			
Nickel		0.0633	mg/L	0.010	105	90	110			
Potassium		3.19	mg/L	0.50	106	90	110			
Selenium		0.0629	mg/L	0.0050	105	90	110			
Silver		0.0301	mg/L	0.0050	100	90	110			
Strontium		0.0603	mg/L	0.10	101	90	110			
Thallium		0.0592	mg/L	0.10	99	90	110			
Uranium		0.0601	mg/L	0.0010	100	90	110			
Zinc		0.0636	mg/L	0.010	106	90	110			
Lab ID: ICSA	21	Interference Check Sample A							09/17/14 11:42	
Aluminum		37.7	mg/L	0.10	94	70	130			
Antimony		7.60E-05	mg/L	0.050						
Arsenic		7.10E-05	mg/L	0.0050						
Barium		0.000121	mg/L	0.10						
Beryllium		1.00E-05	mg/L	0.0010						
Cadmium		0.000509	mg/L	0.0010						
Chromium		0.00108	mg/L	0.010						
Cobalt		0.000212	mg/L	0.010						
Copper		0.000371	mg/L	0.010						
Iron		99.3	mg/L	0.020	99	70	130			
Lead		0.000241	mg/L	0.010						
Manganese		-0.000145	mg/L	0.010						
Molybdenum		0.834	mg/L	0.0050	104	70	130			
Nickel		0.000656	mg/L	0.010						
Potassium		40.6	mg/L	0.50	101	70	130			
Selenium		0.000132	mg/L	0.0050						
Silver		0.000157	mg/L	0.0050						
Strontium		0.000767	mg/L	0.10						
Thallium		0.000150	mg/L	0.10						
Uranium		3.70E-05	mg/L	0.0010						
Zinc		0.00152	mg/L	0.010						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Report Date: 09/30/14
Project: 11048 Black Butte Copper Project
Work Order: H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS204-B_140917A	
Lab ID: ICSAB	21	Interference Check Sample AB							09/17/14 11:46	
Aluminum		37.1	mg/L	0.10	93	70	130			
Antimony		0.000578	mg/L	0.050		0	0			
Arsenic		0.0106	mg/L	0.0050	106	70	130			
Barium		0.000147	mg/L	0.10		0	0			
Beryllium		7.00E-06	mg/L	0.0010		0	0			
Cadmium		0.00976	mg/L	0.0010	98	70	130			
Chromium		0.0211	mg/L	0.010	105	70	130			
Cobalt		0.0196	mg/L	0.010	98	70	130			
Copper		0.0201	mg/L	0.010	101	70	130			
Iron		97.3	mg/L	0.020	97	70	130			
Lead		0.000258	mg/L	0.010		0	0			
Manganese		0.0191	mg/L	0.010	96	70	130			
Molybdenum		0.820	mg/L	0.0050	102	70	130			
Nickel		0.0207	mg/L	0.010	103	70	130			
Potassium		40.1	mg/L	0.50	100	70	130			
Selenium		0.0120	mg/L	0.0050	120	70	130			
Silver		0.0177	mg/L	0.0050	89	70	130			
Strontium		0.000765	mg/L	0.10		0	0			
Thallium		7.90E-05	mg/L	0.10		0	0			
Uranium		1.80E-05	mg/L	0.0010		0	0			
Zinc		0.0119	mg/L	0.010	119	70	130			
Lab ID: ICSA	21	Interference Check Sample A							09/18/14 00:48	
Aluminum		37.2	mg/L	0.10	93	70	130			
Antimony		3.00E-05	mg/L	0.050						
Arsenic		9.90E-05	mg/L	0.0050						
Barium		0.000114	mg/L	0.10						
Beryllium		-2.00E-06	mg/L	0.0010						
Cadmium		0.000509	mg/L	0.0010						
Chromium		0.00104	mg/L	0.010						
Cobalt		0.000234	mg/L	0.010						
Copper		0.000407	mg/L	0.010						
Iron		97.5	mg/L	0.020	98	70	130			
Lead		0.000235	mg/L	0.010						
Manganese		-0.000243	mg/L	0.010						
Molybdenum		0.823	mg/L	0.0050	103	70	130			
Nickel		0.000644	mg/L	0.010						
Potassium		40.4	mg/L	0.50	101	70	130			
Selenium		6.80E-05	mg/L	0.0050						
Silver		6.80E-05	mg/L	0.0050						
Strontium		0.000784	mg/L	0.10						
Thallium		3.70E-05	mg/L	0.10						
Uranium		5.00E-06	mg/L	0.0010						
Zinc		0.00163	mg/L	0.010						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc **Report Date:** 09/30/14

Project: 11048 Black Butte Copper Project **Work Order:** H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS204-B_140917A	
Lab ID: ICSAB	21	Interference Check Sample AB							09/18/14 00:53	
Aluminum		36.6	mg/L	0.10	91	70	130			
Antimony		0.000548	mg/L	0.050		0	0			
Arsenic		0.0113	mg/L	0.0050	113	70	130			
Barium		0.000117	mg/L	0.10		0	0			
Beryllium		-1.30E-05	mg/L	0.0010		0	0			
Cadmium		0.00998	mg/L	0.0010	100	70	130			
Chromium		0.0216	mg/L	0.010	108	70	130			
Cobalt		0.0196	mg/L	0.010	98	70	130			
Copper		0.0208	mg/L	0.010	104	70	130			
Iron		100	mg/L	0.020	100	70	130			
Lead		0.000254	mg/L	0.010		0	0			
Manganese		0.0186	mg/L	0.010	93	70	130			
Molybdenum		0.827	mg/L	0.0050	103	70	130			
Nickel		0.0213	mg/L	0.010	106	70	130			
Potassium		40.8	mg/L	0.50	102	70	130			
Selenium		0.0124	mg/L	0.0050	124	70	130			
Silver		0.0178	mg/L	0.0050	89	70	130			
Strontium		0.000771	mg/L	0.10		0	0			
Thallium		4.30E-05	mg/L	0.10		0	0			
Uranium		6.00E-06	mg/L	0.0010		0	0			
Zinc		0.0115	mg/L	0.010	115	70	130			
Method: E200.8									Batch: R100637	
Lab ID: ICB	21	Method Blank				Run: ICPMS204-B_140917A			09/17/14 13:07	
Aluminum		ND	mg/L	0.0002						
Antimony		ND	mg/L	1E-05						
Arsenic		ND	mg/L	3E-05						
Barium		ND	mg/L	3E-05						
Beryllium		ND	mg/L	2E-05						
Cadmium		ND	mg/L	6E-06						
Chromium		ND	mg/L	3E-05						
Cobalt		ND	mg/L	2E-05						
Copper		ND	mg/L	3E-05						
Iron		0.0007	mg/L	0.0002						
Lead		ND	mg/L	8E-06						
Manganese		ND	mg/L	2E-05						
Molybdenum		ND	mg/L	3E-05						
Nickel		ND	mg/L	6E-05						
Potassium		ND	mg/L	0.05						
Selenium		ND	mg/L	7E-05						
Silver		ND	mg/L	3E-05						
Strontium		ND	mg/L	5E-06						
Thallium		ND	mg/L	1E-05						
Uranium		ND	mg/L	6E-06						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Report Date: 09/30/14
Project: 11048 Black Butte Copper Project
Work Order: H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R100637
Lab ID: ICB	21	Method Blank				Run: ICPMS204-B_140917A				09/17/14 13:07
Zinc		ND	mg/L	0.0003						
Lab ID: LFB	21	Laboratory Fortified Blank				Run: ICPMS204-B_140917A				09/17/14 13:12
Aluminum		0.0503	mg/L	0.10	101	85	115			
Antimony		0.0496	mg/L	0.050	99	85	115			
Arsenic		0.0518	mg/L	0.0050	104	85	115			
Barium		0.0506	mg/L	0.10	101	85	115			
Beryllium		0.0505	mg/L	0.0010	101	85	115			
Cadmium		0.0520	mg/L	0.0010	104	85	115			
Chromium		0.0514	mg/L	0.010	103	85	115			
Cobalt		0.0512	mg/L	0.010	102	85	115			
Copper		0.0523	mg/L	0.010	105	85	115			
Iron		0.161	mg/L	0.020	107	85	115			
Lead		0.0502	mg/L	0.010	100	85	115			
Manganese		0.0508	mg/L	0.010	102	85	115			
Molybdenum		0.0504	mg/L	0.0050	101	85	115			
Nickel		0.0523	mg/L	0.010	105	85	115			
Potassium		0.982	mg/L	0.50	98	85	115			
Selenium		0.0539	mg/L	0.0050	108	85	115			
Silver		0.0208	mg/L	0.0050	104	85	115			
Strontium		0.0504	mg/L	0.10	101	85	115			
Thallium		0.0506	mg/L	0.10	101	85	115			
Uranium		0.0488	mg/L	0.0010	98	85	115			
Zinc		0.0554	mg/L	0.010	111	85	115			
Lab ID: H14090234-016BMS	21	Sample Matrix Spike				Run: ICPMS204-B_140917A				09/18/14 07:00
Aluminum		0.0482	mg/L	0.030	93	70	130			
Antimony		0.0493	mg/L	0.0010	98	70	130			
Arsenic		0.0605	mg/L	0.0010	107	70	130			
Barium		0.0923	mg/L	0.050	101	70	130			
Beryllium		0.0512	mg/L	0.0010	102	70	130			
Cadmium		0.0507	mg/L	0.0010	101	70	130			
Chromium		0.0509	mg/L	0.0050	102	70	130			
Cobalt		0.0482	mg/L	0.0050	96	70	130			
Copper		0.0605	mg/L	0.0050	103	70	130			
Iron		0.199	mg/L	0.020	101	70	130			
Lead		0.0503	mg/L	0.0010	100	70	130			
Manganese		0.142	mg/L	0.0010	90	70	130			
Molybdenum		0.0540	mg/L	0.0010	100	70	130			
Nickel		0.0522	mg/L	0.0050	103	70	130			
Potassium		6.50	mg/L	1.0		70	130			A
Selenium		0.0532	mg/L	0.0010	106	70	130			
Silver		0.0167	mg/L	0.0010	83	70	130			
Strontium		0.380	mg/L	0.010		70	130			A
Thallium		0.0499	mg/L	0.00050	100	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Report Date: 09/30/14
Project: 11048 Black Butte Copper Project
Work Order: H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Batch: R100637	
Lab ID: H14090234-016BMS	21	Sample Matrix Spike				Run: ICPMS204-B_140917A			09/18/14 07:00	
Uranium		0.0556	mg/L	0.00030	104	70	130			
Zinc		0.0880	mg/L	0.010	103	70	130			
Lab ID: H14090234-016BMSD	21	Sample Matrix Spike Duplicate				Run: ICPMS204-B_140917A			09/18/14 07:05	
Aluminum		0.0477	mg/L	0.030	92	70	130	1.0	20	
Antimony		0.0490	mg/L	0.0010	97	70	130	0.5	20	
Arsenic		0.0617	mg/L	0.0010	109	70	130	1.9	20	
Barium		0.0919	mg/L	0.050	100	70	130	0.5	20	
Beryllium		0.0502	mg/L	0.0010	100	70	130	2.1	20	
Cadmium		0.0509	mg/L	0.0010	102	70	130	0.4	20	
Chromium		0.0512	mg/L	0.0050	102	70	130	0.6	20	
Cobalt		0.0485	mg/L	0.0050	96	70	130	0.6	20	
Copper		0.0611	mg/L	0.0050	104	70	130	0.9	20	
Iron		0.207	mg/L	0.020	106	70	130	4.0	20	
Lead		0.0502	mg/L	0.0010	100	70	130	0.2	20	
Manganese		0.144	mg/L	0.0010	93	70	130	1.3	20	
Molybdenum		0.0534	mg/L	0.0010	99	70	130	1.0	20	
Nickel		0.0521	mg/L	0.0050	103	70	130	0.2	20	
Potassium		6.49	mg/L	1.0		70	130	0.2	20	A
Selenium		0.0556	mg/L	0.0010	111	70	130	4.4	20	
Silver		0.0173	mg/L	0.0010	86	70	130	3.7	20	
Strontium		0.381	mg/L	0.010		70	130	0.2	20	A
Thallium		0.0498	mg/L	0.00050	100	70	130	0.2	20	
Uranium		0.0552	mg/L	0.00030	103	70	130	0.7	20	
Zinc		0.0887	mg/L	0.010	104	70	130	0.7	20	
Lab ID: H14090241-008BMS	21	Sample Matrix Spike				Run: ICPMS204-B_140917A			09/18/14 08:35	
Aluminum		0.0481	mg/L	0.030	94	70	130			
Antimony		0.0482	mg/L	0.0010	96	70	130			
Arsenic		0.0550	mg/L	0.0010	110	70	130			
Barium		0.236	mg/L	0.050	111	70	130			
Beryllium		0.0508	mg/L	0.0010	102	70	130			
Cadmium		0.0521	mg/L	0.0010	104	70	130			
Chromium		0.0511	mg/L	0.0050	102	70	130			
Cobalt		0.0491	mg/L	0.0050	98	70	130			
Copper		0.0525	mg/L	0.0050	103	70	130			
Iron		0.195	mg/L	0.020	103	70	130			
Lead		0.0497	mg/L	0.0010	99	70	130			
Manganese		0.233	mg/L	0.0010	101	70	130			
Molybdenum		0.0500	mg/L	0.0010	99	70	130			
Nickel		0.0523	mg/L	0.0050	103	70	130			
Potassium		2.60	mg/L	1.0	108	70	130			
Selenium		0.0553	mg/L	0.0010	111	70	130			
Silver		0.0191	mg/L	0.0010	95	70	130			
Strontium		0.222	mg/L	0.010	109	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc **Report Date:** 09/30/14

Project: 11048 Black Butte Copper Project **Work Order:** H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R100637
Lab ID: H14090241-008BMS	21	Sample Matrix Spike				Run: ICPMS204-B_140917A				09/18/14 08:35
Thallium		0.0501	mg/L	0.00050	100	70	130			
Uranium		0.0509	mg/L	0.00030	101	70	130			
Zinc		0.0542	mg/L	0.010	89	70	130			
Lab ID: H14090241-008BMSD	21	Sample Matrix Spike Duplicate				Run: ICPMS204-B_140917A				09/18/14 08:40
Aluminum		0.0480	mg/L	0.030	93	70	130	0.3	20	
Antimony		0.0493	mg/L	0.0010	99	70	130	2.2	20	
Arsenic		0.0544	mg/L	0.0010	108	70	130	1.0	20	
Barium		0.235	mg/L	0.050	109	70	130	0.4	20	
Beryllium		0.0506	mg/L	0.0010	101	70	130	0.3	20	
Cadmium		0.0519	mg/L	0.0010	104	70	130	0.4	20	
Chromium		0.0514	mg/L	0.0050	103	70	130	0.6	20	
Cobalt		0.0490	mg/L	0.0050	97	70	130	0.2	20	
Copper		0.0523	mg/L	0.0050	103	70	130	0.4	20	
Iron		0.194	mg/L	0.020	102	70	130	0.7	20	
Lead		0.0500	mg/L	0.0010	100	70	130	0.6	20	
Manganese		0.231	mg/L	0.0010	97	70	130	0.9	20	
Molybdenum		0.0502	mg/L	0.0010	100	70	130	0.3	20	
Nickel		0.0524	mg/L	0.0050	103	70	130	0.2	20	
Potassium		2.60	mg/L	1.0	108	70	130	0.1	20	
Selenium		0.0549	mg/L	0.0010	110	70	130	0.7	20	
Silver		0.0191	mg/L	0.0010	95	70	130	0.1	20	
Strontium		0.219	mg/L	0.010	104	70	130	1.1	20	
Thallium		0.0506	mg/L	0.00050	101	70	130	1.1	20	
Uranium		0.0514	mg/L	0.00030	102	70	130	0.9	20	
Zinc		0.0545	mg/L	0.010	90	70	130	0.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc **Report Date:** 09/30/14

Project: 11048 Black Butte Copper Project **Work Order:** H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E200.8**									Analytical Run: ICPMS204-B_140918A	
Lab ID: **ICV STD**		Initial Calibration Verification Standard							09/18/14 13:31	
Potassium		3.15	mg/L	0.50	105	90	110			
Lab ID: **ICSA**		Interference Check Sample A							09/18/14 13:35	
Potassium		39.5	mg/L	0.50	99	70	130			
Lab ID: **ICSAB**		Interference Check Sample AB							09/18/14 13:40	
Potassium		39.6	mg/L	0.50	99	70	130			
Lab ID: **ICV STD**		Initial Calibration Verification Standard							09/18/14 21:33	
Potassium		3.17	mg/L	0.50	106	90	110			
Lab ID: **ICSA**		Interference Check Sample A							09/18/14 21:38	
Potassium		41.0	mg/L	0.50	103	70	130			
Lab ID: **ICSAB**		Interference Check Sample AB							09/18/14 21:42	
Potassium		40.0	mg/L	0.50	100	70	130			
Method: **E200.8**										Batch: R100707
Lab ID: **ICB**		Method Blank				Run: ICPMS204-B_140918A			09/18/14 14:02	
Potassium		ND	mg/L	0.05						
Lab ID: **LFB**		Laboratory Fortified Blank				Run: ICPMS204-B_140918A			09/18/14 14:06	
Potassium		0.932	mg/L	0.50	93	85	115			
Lab ID: **H14090292-001BMS**		Sample Matrix Spike				Run: ICPMS204-B_140918A			09/18/14 23:09	
Potassium		5.48	mg/L	1.0		70	130			A
Lab ID: **H14090292-001BMSD**		Sample Matrix Spike Duplicate				Run: ICPMS204-B_140918A			09/18/14 23:14	
Potassium		5.52	mg/L	1.0		70	130	0.7	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc **Report Date:** 09/30/14

Project: 11048 Black Butte Copper Project **Work Order:** H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E245.1**									Analytical Run: HGCV202-H_140925A	
Lab ID: **ICV**		Initial Calibration Verification Standard							09/25/14 14:58	
Mercury		0.00020	mg/L	0.00010	102	90	110			
Lab ID: **CCV1**		Continuing Calibration Verification Standard							09/25/14 15:02	
Mercury		0.00019	mg/L	0.00010	97	95	105			
Lab ID: **CCV**		Continuing Calibration Verification Standard							09/25/14 16:18	
Mercury		0.00020	mg/L	0.00010	101	90	110			
Lab ID: **CCV**		Continuing Calibration Verification Standard							09/25/14 17:26	
Mercury		0.00021	mg/L	0.00010	103	90	110			
Method: **E245.1**										Batch: 26304
Lab ID: **MB-26304**		Method Blank				Run: HGCV202-H_140925A			09/25/14 16:27	
Mercury		ND	mg/L	1E-06						
Lab ID: **LCS-26304**		Laboratory Control Sample				Run: HGCV202-H_140925A			09/25/14 16:31	
Mercury		0.00016	mg/L	0.00010	107	90	110			
Lab ID: **H14090241-002BMS**		Sample Matrix Spike				Run: HGCV202-H_140925A			09/25/14 17:17	
Mercury		0.00014	mg/L	0.00010	89	70	130			
Lab ID: **H14090241-002BMSD**		Sample Matrix Spike Duplicate				Run: HGCV202-H_140925A			09/25/14 17:22	
Mercury		0.00014	mg/L	0.00010	94	70	130	5.1	20	
Lab ID: **H14090241-012BMS**		Sample Matrix Spike				Run: HGCV202-H_140925A			09/25/14 18:17	
Mercury		0.00014	mg/L	0.00010	96	70	130			
Lab ID: **H14090241-012BMSD**		Sample Matrix Spike Duplicate				Run: HGCV202-H_140925A			09/25/14 18:21	
Mercury		0.00014	mg/L	0.00010	93	70	130	3.7	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Report Date: 09/30/14
Project: 11048 Black Butte Copper Project
Work Order: H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0									Analytical Run: IC102-H_140915A	
Lab ID: ICV	2	Initial Calibration Verification Standard							09/15/14 14:37	
Chloride		100	mg/L	1.0	101	90	110			
Sulfate		400	mg/L	1.0	100	90	110			
Lab ID: CCV091514-3	2	Continuing Calibration Verification Standard							09/15/14 20:22	
Chloride		100	mg/L	1.0	102	90	110			
Sulfate		410	mg/L	1.0	102	90	110			
Lab ID: CCV091514-4	2	Continuing Calibration Verification Standard							09/15/14 22:57	
Chloride		100	mg/L	1.0	102	90	110			
Sulfate		410	mg/L	1.0	102	90	110			
Method: E300.0									Batch: R100569	
Lab ID: ICB	2	Method Blank				Run: IC102-H_140915A			09/15/14 14:49	
Chloride		ND	mg/L	0.008						
Sulfate		ND	mg/L	0.08						
Lab ID: LFB	2	Laboratory Fortified Blank				Run: IC102-H_140915A			09/15/14 15:00	
Chloride		48	mg/L	1.0	96	90	110			
Sulfate		200	mg/L	1.0	98	90	110			
Lab ID: H14090241-003AMS	2	Sample Matrix Spike				Run: IC102-H_140915A			09/15/14 23:31	
Chloride		50	mg/L	1.0	98	90	110			
Sulfate		490	mg/L	1.0	107	90	110			
Lab ID: H14090241-003AMSD	2	Sample Matrix Spike Duplicate				Run: IC102-H_140915A			09/15/14 23:42	
Chloride		51	mg/L	1.0	100	90	110	1.9	20	
Sulfate		490	mg/L	1.0	108	90	110	0.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc **Report Date:** 09/30/14

Project: 11048 Black Butte Copper Project **Work Order:** H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0									Analytical Run: IC102-H_140916A	
Lab ID: ICV	2	Initial Calibration Verification Standard							09/16/14 16:03	
Chloride		100	mg/L	1.0	100	90	110			
Sulfate		400	mg/L	1.0	99	90	110			
Lab ID: CCV091614-1	2	Continuing Calibration Verification Standard							09/16/14 16:36	
Chloride		100	mg/L	1.0	101	90	110			
Sulfate		400	mg/L	1.0	101	90	110			
Method: E300.0									Batch: R100616	
Lab ID: ICB	2	Method Blank				Run: IC102-H_140916A			09/16/14 16:14	
Chloride		ND	mg/L	0.008						
Sulfate		ND	mg/L	0.08						
Lab ID: LFB	2	Laboratory Fortified Blank				Run: IC102-H_140916A			09/16/14 16:25	
Chloride		47	mg/L	1.0	94	90	110			
Sulfate		190	mg/L	1.0	95	90	110			
Lab ID: H14090241-012AMS	2	Sample Matrix Spike				Run: IC102-H_140916A			09/16/14 17:09	
Chloride		48	mg/L	1.0	95	90	110			
Sulfate		190	mg/L	1.0	97	90	110			
Lab ID: H14090241-012AMSD	2	Sample Matrix Spike Duplicate				Run: IC102-H_140916A			09/16/14 17:20	
Chloride		48	mg/L	1.0	96	90	110	0.5	20	
Sulfate		190	mg/L	1.0	97	90	110	0.3	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Tintina Resources Inc
Report Date: 09/30/14
Project: 11048 Black Butte Copper Project
Work Order: H14090241

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA203-HE_140915B	
Lab ID: ICV		Initial Calibration Verification Standard							09/15/14 14:12	
Nitrogen, Nitrate+Nitrite as N		1.03	mg/L	0.010	103	90	110			
Lab ID: CCV		Continuing Calibration Verification Standard							09/15/14 14:15	
Nitrogen, Nitrate+Nitrite as N		0.474	mg/L	0.010	95	90	110			
Lab ID: ICB		Initial Calibration Blank, Instrument Blank							09/15/14 14:16	
Nitrogen, Nitrate+Nitrite as N		-0.00355	mg/L	0.010		0	0			
Lab ID: CCV		Continuing Calibration Verification Standard							09/15/14 14:36	
Nitrogen, Nitrate+Nitrite as N		0.483	mg/L	0.010	97	90	110			
Lab ID: CCV		Continuing Calibration Verification Standard							09/15/14 14:53	
Nitrogen, Nitrate+Nitrite as N		0.480	mg/L	0.010	96	90	110			
Method: E353.2									Batch: R100563	
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA203-HE_140915B			09/15/14 14:13	
Nitrogen, Nitrate+Nitrite as N		0.941	mg/L	0.011	94	90	110			
Lab ID: MBLK		Method Blank				Run: FIA203-HE_140915B			09/15/14 14:18	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.001						
Lab ID: H14080276-017DDUP		Sample Duplicate				Run: FIA203-HE_140915B			09/15/14 14:30	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.010					20	
Lab ID: H14090241-001CMS		Sample Matrix Spike				Run: FIA203-HE_140915B			09/15/14 14:33	
Nitrogen, Nitrate+Nitrite as N		0.860	mg/L	0.011	81	90	110			S
Lab ID: H14090241-001CMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_140915B			09/15/14 14:34	
Nitrogen, Nitrate+Nitrite as N		0.849	mg/L	0.011	80	90	110	1.3	20	S
Lab ID: H14090241-002CMS		Sample Matrix Spike				Run: FIA203-HE_140915B			09/15/14 14:39	
Nitrogen, Nitrate+Nitrite as N		1.37	mg/L	0.011	92	90	110			
Lab ID: H14090241-002CMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_140915B			09/15/14 14:40	
Nitrogen, Nitrate+Nitrite as N		1.36	mg/L	0.011	91	90	110	0.8	20	
Lab ID: H14090241-012CMS		Sample Matrix Spike				Run: FIA203-HE_140915B			09/15/14 14:55	
Nitrogen, Nitrate+Nitrite as N		0.930	mg/L	0.011	93	90	110			
Lab ID: H14090241-012CMSD		Sample Matrix Spike Duplicate				Run: FIA203-HE_140915B			09/15/14 14:56	
Nitrogen, Nitrate+Nitrite as N		0.926	mg/L	0.011	93	90	110	0.5	20	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

Workorder Receipt Checklist

Tintina Resources Inc

H14090241

Login completed by: Tracy L. Lorash
Date Received: 9/12/2014
Reviewed by: BL2000\sdull
Received by: tsp
Reviewed Date: 9/16/2014
Carrier name: Hand Del

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

Standard Reporting Procedures:

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

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

Contact and Corrective Action Comments:

Cooler1 was received at 1.8℃ with the temperature taken from a temperature blank, Cooler 2 at 1.2℃ with the temperature taken from a client sample. Samples were received on wet ice. TI 9/12/14

CHAIN OF CUSTODY RECORD

Hydrometrics, Inc.

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

PROJ. NO.	PROJECT NAME
11048	Black Butte

SAMPLERS: *(Signature)*

	DATE	TIME	COMP	GRAB	SAMPLE NUMBER	NO. OF CON-TAINERS	Commons UF / RAW	Nutrients UF / H_2SO_4	Diss. Metal F / HNO_3	CN UF / NaOH	Total Metals UF / HNO_3	Total Recoverable Metals UF / HNO_3	BTEX	TPH	REMARKS
C1	9/10/14	1310		X	BBC-1409-200	3	X	X	X						H1409024 1
		1345			201										
		1510			202										
		1610			203										
		1635			204										
		1705			205										
		1750			206										
	9/11/14	1025			207										
C2		1040			208										
		1100			209										
		1230			210										
		1330			211										

Relinquished *(Signature)*	Date / Time	Received by *(Signature)*	Lab	P.O. #	Shipped via: Bus FedEx UPS
	9/12/14 09:02		Energy Lab	DIRECT BILL TO TINTINA-BLACK BUTTE	Other HAND DELIVERED
					Air Bill #

Relinquished *(Signature)*	Date / Time	Received by *(Signature)*	Remarks
			Hand Del Cooler C1-1.8 °TB C2-1.2 °TB on Ice

Relinquished *(Signature)*	Date / Time	Received for Laboratory by *(Signature)*	Date / Time
		Tyler Peck	9/12/14 09:02

Enclosed: ☒ Parameter sheet w/detection limits
☐ QA / AC standard mixing instructions ☐ Cover letter
☐ Other _____

Split Samples:
☐ Accepted ☐ Declined _____
Signature

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

HFORM-1 07/11
TNO 406-443-8550

TABLE 1. ANALYTICAL METHODS AND DETECTION LIMITS FOR SURFACE WATER AND GROUNDWATER SAMPLES

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 (SW - Total Recoverable except Aluminum [Dissolved], GW - 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	0.02
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 Wastewa*ter (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.

APPENDIX B

LABORATORY QA/QC REVIEW

BLACK BUTTE QA/QC REVIEW
AUGUST 2014
WORK ORDER #: H14080432

1. INTRODUCTION

This validation applies to inorganic analyses from 6 water samples collected for the Black Butte Tintina surface water-monitoring program in August 2014. The total number of samples included 6 water samples, 1 field duplicate and 11 field observations.

- Validation procedures used are generally consistent with:
  (Check all that apply)
  - _X_ EPA CLP National Functional Guidelines for Inorganics Data Review
  - _X_ Guidance on Environmental Data Verification and Data Validation EPA QA/G-8

- Overall level of validation:
  - ___ Contract Laboratory Program (CLP)
  - _X_ Standard
  - ___ Visual

2. DELIVERABLES

- All laboratory document deliverables were present as specified in the CLP-Statement of Work (CLP-SOW) and/or the project contract.
  - _X_ Yes
  - ___No

- All documentation of field procedures was provided as required.
  - _X_ Yes
  - ___No

3. FIELD QUALITY CONTROL SAMPLES

- **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
  - _X_ No – see following notes.

  NOTES: No field blank was collected during this sampling event.

  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.
  - _X_ Yes
  - ___No

- **Field duplicates**

  Field duplicates were collected at the proper frequency.
  _X_ Yes
  ___No

  Field duplicate relative percent differences (RPD's) were within the required control limits (RPD of 20 percent or less for water matrix, 35 percent or less for soil matrix). If the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate result must be within ± the PRDL for water matrix, within ± 2 times the PRDL for soil matrix.
  _X_ Yes
  ___No

4. L**ABORATORY** **P**ROCEDURES

- **Laboratory procedures followed**
  - ___ CLP-SOW
  - ___ SW-846
  - _X_ Methods for Chemical Analysis of Water and Wastes
  - ___ XRF Standard Operating Procedures

- **Holding times met**

  _X_ Yes
  ___No

- **Consistency with project requirements**

  Analyses were carried out as requested.
  _X_ Yes
  ___No

  Project specified methods were used.
  _X_ Yes
  ___No

5. **D**ETECTION **L**IMITS

- Reporting detection limits met project required detection limits (PRDL).

  ___Yes
  _X_ No – see following notes.
  NOTES: Energy Laboratories used a different reporting limit than requested for various parameters for all surface water samples. In addition, RLs were raised for cadmium, nickel, and strontium due to sample matrix interference. However, changing the reporting limits did not seem to impact any of the data results.

6. LABORATORY BLANKS

Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

- **Preparation blanks**

  Preparation blanks were prepared and analyzed at the required frequency.
  _X_ Yes
  ___ No

  All the analytes in the preparation blank were less than the CRDL (or the PRDL if a project detection limit has been specified).
  _X_ Yes
  ___ No

7. LABORATORY MATRIX SPIKES

- A matrix spike sample (pre-digestion) was analyzed for each digestion batch and/or matrix, or as required in the CLP-SOW.
  _X_ Yes
  ___ No

- Matrix spike recoveries were within the lab specified control limits.
  _X_ Yes
  ___ No

8. LABORATORY DUPLICATES

- Laboratory duplicate samples were analyzed at the proper frequency.
  _X_ Yes
  ___ No

- The laboratory duplicate relative percent differences (RPD's) were within the required control limits.
  _X_ Yes
  ___ No

- Matrix spike duplicate recoveries were within the lab specified control limits.
  _X_ Yes
  ___ No

9. LABORATORY CONTROL STANDARDS

- LCSs were prepared and analyzed at the proper frequency.

  _X_ Yes
  ___ No

- LCS recoveries were within the required control limits (80-120 percent for water, within the certified range for soils).

  _X_ Yes
  ___ No

BLACK BUTTE QA/QC REVIEW
SEPTEMBER 2014
WORK ORDER #: H14090241

1. INTRODUCTION

This validation applies to inorganic analyses from 40 water samples collected for the Black Butte Tintina groundwater and surface water-monitoring program in August 2014. The total number of samples included 12 water samples, 1 field duplicate and 2 field blanks.

- Validation procedures used are generally consistent with:
  (Check all that apply)
  - _X_ EPA CLP National Functional Guidelines for Inorganics Data Review
  - _X_ Guidance on Environmental Data Verification and Data Validation EPA QA/G-8

- Overall level of validation:
  - ___ Contract Laboratory Program (CLP)
  - _X_ Standard
  - ___ Visual

2. DELIVERABLES

- All laboratory document deliverables were present as specified in the CLP-Statement of Work (CLP-SOW) and/or the project contract.
  _X_ Yes
  ___No

- All documentation of field procedures was provided as required.
  _X_ Yes
  ___No

3. FIELD QUALITY CONTROL SAMPLES

- **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.
  _X_ 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.
  _X_ Yes
  ___No

- **Field duplicates**

  Field duplicates were collected at the proper frequency.

  _X_ Yes

  ___ No

  Field duplicate relative percent differences (RPD's) were within the required control limits (RPD of 20 percent or less for water matrix, 35 percent or less for soil matrix). If the sample or duplicate result is less than 5 times the PRDL, the RPD criteria are not used. In these cases, the difference between the sample and the duplicate result must be within ± the PRDL for water matrix, within ± 2 times the PRDL for soil matrix.

  _X_ Yes

  ___ No

4. L**ABORATORY** **P**ROCEDURES

- **Laboratory procedures followed**

  ___ CLP-SOW

  ___ SW-846

  _X_ Methods for Chemical Analysis of Water and Wastes

  ___ XRF Standard Operating Procedures

- **Holding times met**

  _X_ Yes

  ___ No

- **Consistency with project requirements**

  Analyses were carried out as requested.

  _X_ Yes

  ___ No

  Project specified methods were used.

  _X_ Yes

  ___ No

5. **D**ETECTION **L**IMITS

- Reporting detection limits met project required detection limits (PRDL).

  ___ Yes

  _X_ No – see following notes.

  NOTES: Energy Laboratories used a different reporting limit than requested for various parameters for all ground water samples. In addition, RLs were raised for strontium due to sample matrix interference. However, changing the reporting limits did not seem to impact any of the data results.

6. **L**ABORATORY **B**LANKS

Please note that the highest blank value associated with any particular analyte is the blank value used for the flagging process.

- **Preparation blanks**

  Preparation blanks were prepared and analyzed at the required frequency.
  _X_ Yes
  ___ No

  All the analytes in the preparation blank were less than the CRDL (or the PRDL if a project detection limit has been specified).
  _X_ Yes
  ___ No

7. LABORATORY MATRIX SPIKES

- A matrix spike sample (pre-digestion) was analyzed for each digestion batch and/or matrix, or as required in the CLP-SOW.
  _X_ Yes
  ___ No

- Matrix spike recoveries were within the lab specified control limits.
  _X_ Yes
  ___ No

QC Sample Id	Parameter	% RPD	Lab Flag	Lab Advisory Limits (% RPD)
H14090241-001CMS	N+N	81	S	90 - 110

S – Spike recovery outside of recovery limits

8. LABORATORY DUPLICATES

- Laboratory duplicate samples were analyzed at the proper frequency.
  _X_ Yes
  ___ No

- The laboratory duplicate relative percent differences (RPD's) were within the required control limits.
  ___ Yes
  _X_ No – see following table

QC Sample Id	Parameter	% RPD	Lab Flag	Lab Advisory Limits (% RPD)
H14090241-001ADUP	TSS	12	R	5

R – RPD exceeds advisory limits

- Matrix spike duplicate recoveries were within the lab specified control limits.
  ___ Yes
  _X_ No – see following table

QC Sample Id	Parameter	% RPD	Lab Flag	Lab Advisory Limits (% RPD)
H14090241-001CMSD	N+N	80	S	90 - 110

S – Spike recovery outside of recovery limits

9. LABORATORY CONTROL STANDARDS

- LCSs were prepared and analyzed at the proper frequency.

  _X_ Yes
  ___ No

- LCS recoveries were within the required control limits (80-120 percent for water, within the certified range for soils).

  _X_ Yes
  ___ No