Memorandum

Date: June 30, 2016

To: Dale Reimer, Mount Polley Mining Corporation

From: Pierre Stecko, Cheryl Wiramanaden, and Katharina Batchelar, Minnow Environmental Inc.

Cc: Colleen Hughes, Mount Polley Mining Corporation
'Lyn Anglin, Imperial Metals Corporation

Re: Assessment of Sediment Deposition Rate and the Chemistry of Depositing Sediment in the Vicinity of the Mount Polley Mine - 2014 and 2015 Sediment Trap Deployments

In the ongoing assessment of the potential impact to aquatic environmental health following the failure of the Mount Polley tailings dam in August 2014, it is critical to develop an understanding of the post-depositional stability of materials deposited to the aquatic receiving environment. A number of evaluations have been undertaken to date to advance this understanding, and have generally indicated low mobility of tailings associated metals (e.g., SRK 2015a,b; Minnow 2015a, 2016a).

This memorandum summarizes the results associated with the deployment of sediment traps in two lakes (Polley Lake and Quesnel Lake). The main objectives of the sediment trap deployments were to characterize the changing quantity and quality of depositing material from immediately after the dam failure (September 2014) to the next season (August 2015). Sediment traps were deployed from August or October 2014 (in Quesnel Lake and Polley Lake respectively) to May 2015 (winter deployment), and from May to August 2015 (summer deployment). The amount of material retrieved in traps was used to advance understanding of sediment deposition rates and potential recovery times. The quality of sediment trap material was used to determine if failure-influenced material is continuing to deposit and to characterize the overall quality of depositing sediment, which will help guide expectations for sediment quality in the short-term.

Methods

Sampling

Sediment traps were deployed and retrieved over two time periods: 1) from August or October 2014 to May 2015 (referred to as the winter "2014 Set"); and 2) from May 2015 to August 2015 (referred to as the summer "2015 Set"). Sediment traps were installed at three areas in Quesnel Lake and at two areas in Polley Lake (Figure 1). In Quesnel Lake, the stations were located directly offshore from the mouth of Hazeltine Creek (near-field; lake depth range of 107 to 113 m; Appendix Tables A.1 and A.2), north of Cedar Point Park (far-far-field; lake depth range of 31.2 to 38.4m), and in Horsefly Bay (reference area; lake depth range of 81.4 to 84.9 m). Polley Lake has two deep basins (P1 and P2; Figure 1), which were used as the sediment trap deployment areas (the range in lake depth for both areas was 27.3 to 29.6 m; Appendix Tables A.1 and A.2). Sediment trap deployment stations were located in areas large enough to accommodate six traps and with a relatively consistent lake depth across the area. The traps were generally deployed at twice the lake depth apart and in areas that were likely to be depositional, based on lake morphology.

Six sediment traps were set within each area. The sediment traps consisted of a stoppered plastic funnel (either with a diameter of 21.5 cm or 23.8 cm) that was secured to a weighted frame designed to maintain the trap in an upright position for the duration of deployment (Figure 2). The mouth of each sediment trap was designed to sit approximately 26 cm above the sediment-water interface. The capture area of each trap was either 0.036 or 0.044 m^2, depending on the funnel used. The funnel type (i.e., diameter) used was documented during trap deployment and retrieval, and was taken into account when calculating deposition rates. In both lakes, traps were deployed by lowering them to the lake floor on individual lines fitted with surface floats so that they could be seen from the lake surface. Large orange and yellow buoys were also deployed around the sediment traps to help to clearly delineate the sampling areas within each the water body. A slightly modified method was applied for the Polley Lake Winter 2014 deployments because Polley Lake typically has winter ice cover. Therefore the 2014 Set of sediment traps deployed in Polley Lake from October 2014 to May 2015 (Appendix Table A.1) were linked in series to an anchor and then to the shoreline rather than being connected to surface floats. In Quesnel Lake, the (winter) 2014 Set of sediment traps were deployed from August 2014 to May 2015 (Appendix Table A.1) with the use of surface floats due to the lack of winter ice cover in the areas sampled. The (summer) 2015 Set of traps were deployed from May, 2015 to August, 2015 in both lakes (Appendix Table A.2). The 2015 Set allowed for

595,000 600,000 605,000 610,000

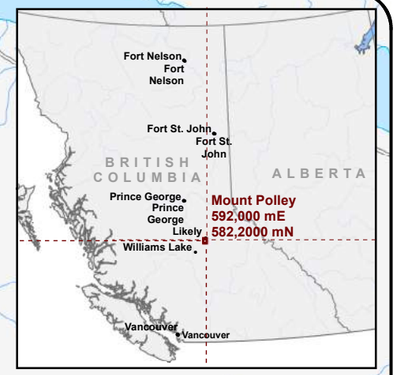
5,825,000 5,820,000 5,815,000

QUL-ST-FFF
POL-ST-P1
POL-ST-P2
QUL-ST-NF
QUL-ST-REF

Cedar Creek Road
Cedar Creek
Horsefly Lake Forest Service Road
Winkley Creek Road
Gavin Lake Road
Hazeltine Creek
Edney Lake Road
Edney Creek
Tanglin Road
Mitchel Bay Road

Polley Lake
Bootjack Lake
Quesnel Lake

Mount Polley Mine
Tailings Storage Facility
Bootjack Creek



LEGEND

Sediment Trap Deployment Area 2014-2015

- Reference
- Exposed
- Bootjack Creek Dam
- Active Mine Operation
- Tailings Storage Facility
- Waterbody
- Bootjack Lake Bathymetry (5 m Intervals)
- Quesnel Lake Bathymetry (10 m Intervals)
- Polley Lake Bathymetry (10 m Intervals)
- Watercourse
- Road
- Water Flow Direction

Please note: Quesnel Lake bathymetry lines are an approximate representation only and may not precisely delineate accurate depths at larger scales.

N W E S

0 0.75 1.5 3
Kilometers

Datum: NAD 83 Map Projection: UTM Zone 10U
Data Source: Department of Natural Resources Canada.
Creation Date: December 2015
Project No.: 2574

Figure 1: Sediment Trap Deployment Areas, Mount Polley Mine, 2014-2015

minnow environmental inc.
A Tetra Tech Canada Company

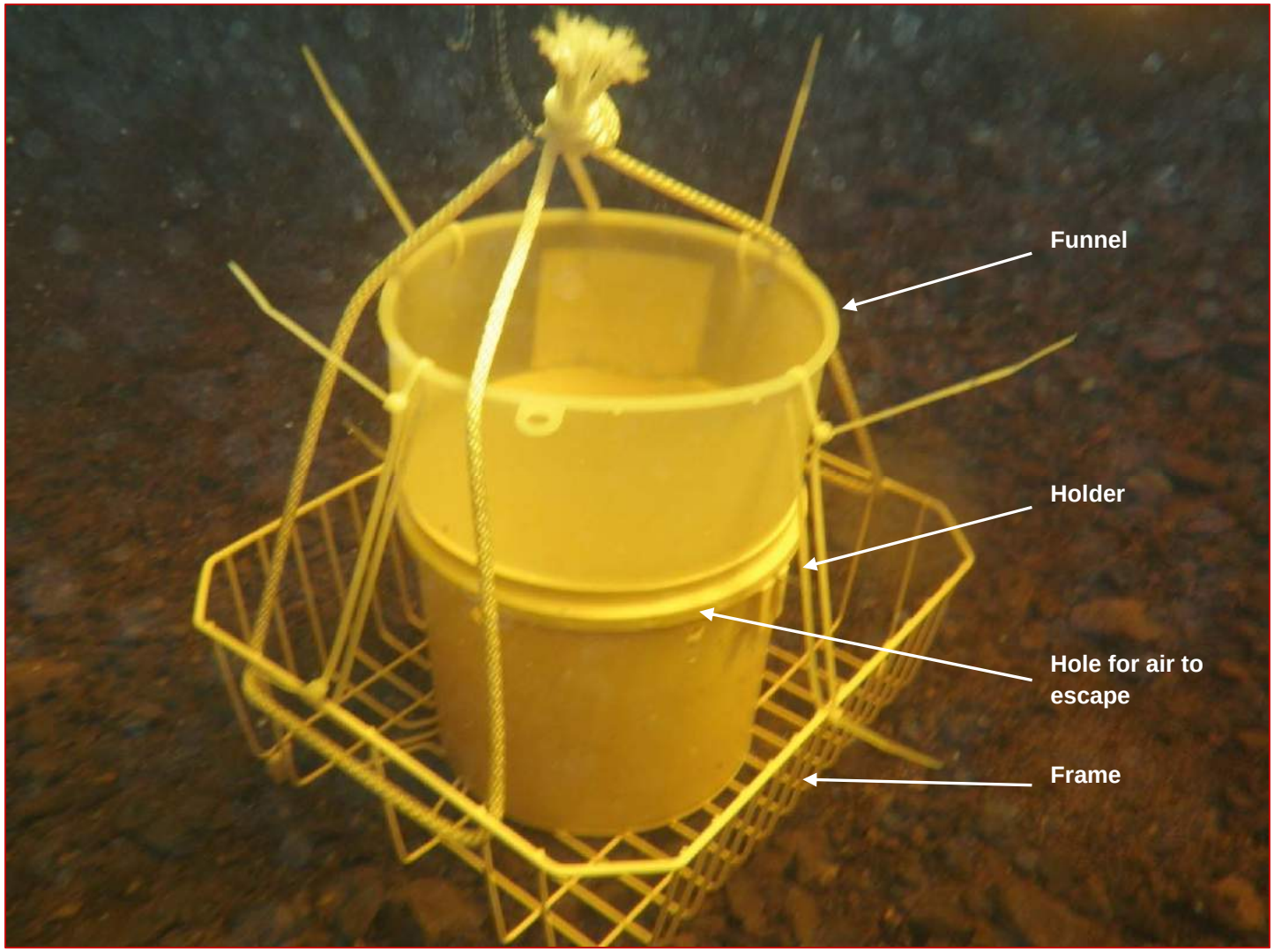


Figure 2: Photo of the sediment trap design used for deployment at the Mount Polley Mine, 2014 and 2015.

sediment deposition to be investigated without the confounding influence of lake turn-over in the spring or fall. Supporting *in-situ* measurements collected at the time of deployment and retrieval included water column profiles of dissolved oxygen, temperature, pH, and specific conductivity (using a YSI EXO™ handheld portable field meter equipped with a YSI EXO1™ sonde), water depth to the nearest decimetre using a portable sonar unit, and location using a hand-held Geographic Positioning System (GPS).

Sediment trap retrieval involved using an inverted cone that was slowly lowered along the retrieval rope onto each sediment trap prior to lifting the trap to the surface. The inverted cone served to minimize sediment re-suspension or loss from the sediment trap during its ascent through the water column to the surface. Upon retrieval of each trap, written observations were made and a photo taken to document the appearance of the sediment in the trap and to evaluate sediment disturbance associated with retrieval. The depth of the deposited material at the centre of the trap was measured using a plastic ruler. For the 2014 Set of traps, each trap was then placed upright into a clean high density polyethylene (HDPE) pail, and transported to the field laboratory where the water overlying the sediment in each trap was removed using a combination of manual decanting and siphoning, and stored in coolers on ice. For the 2015 summer traps, overlying water in each trap was immediately siphoned off into labelled HDPE pails prior to any transportation, and stored in coolers on ice. Each trap was then also placed upright in a clean HDPE pail for transportation to the field laboratory. For both sampling years (winter 2014 and summer 2015 Sets), sediment trap material was collected from each trap at the field laboratory, and placed into glass jars labelled with the project number, sample location, and collection date. This involved ensuring that all particulate matter was transferred to the sample jar using plastic and silicon implements (i.e., spoons and spatulas). Once all the sediment had been removed, sample-water (water overlying the sediment in the trap) was used to wash any remaining particulate matter from each trap. This wash-water was then included as part of the overlying water that was filtered and combined with the sample during data analysis (see below). All sediment samples were then stored in a refrigerator or on ice until overnight shipment on ice to the appropriate analytical laboratory along with a completed chain-of-custody form. Analyses included bulk density (Flett Research, Winnipeg, MB), dry weight, metals, total organic carbon (TOC), and sequential extraction analysis (SEA; ALS Environmental, Burnaby, BC).

Once sediment traps from the 2014 Set had been retrieved and all sample removed, the traps were washed and re-deployed in the same locations to collect sediment for the spring and summer of 2015 (the 2015 Set)[1].

Typically, two or three traps retrieved from each area were set aside for deposition rate determination while the rest of the traps were used to measure sediment chemistry. The selection of sediment traps for deposition rate determination was based on the successful retrieval of all material within a trap. If the sediment trap material appeared impaired in any way (e.g., loss of material suspected during retrieval), then the material was used for chemical analyses only.

Water collected from the sediment traps selected for deposition rate estimates was filtered using cellulose acetate filters (0.45 µm pore size). Filtration is a lengthy process and was started in the field laboratory to accelerate sample processing, but was completed in-house following sample shipment. Several filters (from 1 to 11) were used to filter the water from each trap, and the number of filters for each trap was recorded. Filters from each trap were then combined and stored in a freezer until they could be sent on ice to the appropriate analytical laboratory for the determination of dry weight (for deposition rate determination), and for chemical analysis. Metal mass (i.e., the metal concentration multiplied by the dry sample weight) associated with the filtered material were combined with the appropriate bulk sediment sample mass to provide final whole-trap chemistry; deposition rates were calculated using whole-trap sediment dry weight, and bulk density data as outlined below.

Laboratory Analysis

Upon receipt, ALS opened the coolers, measured the temperature to verify the maintenance of cold samples, removed each sample from the coolers, logged the sample, and assigned each sample a unique identification code. A sample receipt confirmation was then sent to MPMC and Minnow for verification. Sample receipt at Flett followed a similar protocol.

Laboratory analysis of the bulk sediment submitted to ALS included: 1) total dry weight; 2) metals (<2 mm) and pH; 3) total organic carbon (TOC) and total sulphur (<2 mm); 4) Sequential Extraction Analysis (SEA); and 5) particle size distribution. As an additional priority, an aliquot of bulk sediment was submitted to Flett for bulk density and porosity analysis. Bulk density was determined in two (2014 Set) or three (2015 Set) traps from

[1] One sediment trap in the Quesnel Lake reference area could not be collected in May 2015 due to seasonal fluctuations in lake elevation (submersion of the marker float) and was consequently deployed from August 2014 to August 2015. Results for this trap were treated independently.

each sampling area, and the average of these values was used to calculate deposition rates for the traps from each area within the sampling year[2].

The volume of bulk sediment collected from each trap was generally very limited, therefore analyses were prioritized in the sequence above until each sample was exhausted. In one case only, two sediment traps were combined (i.e., QUL-ST-FFF-1 and 4) in order to gain enough material for the highest priority analyses.

SEA (Tessier et al. 1979) of up to three samples per area (where possible) allowed comparison with results of surface-sediment grabs collected from the same areas analysed using this method in 2014 and 2015 (Minnow 2015a, 2016a). SEA quantifies the metal concentration in different sediment-associations (or "geochemical phases") that become sequentially more difficult to extract. The type of sediment-association (as defined by Tessier et al. [1979]), indicates the potential for metal remobilization under changing environmental conditions. The different sediment-associations are: 1) the exchangeable and adsorbed metals fraction; 2) the carbonate fraction; 3) the easily reducible metals and iron oxides fraction; 4) the organic and mineral bound metals fraction; and 5) the residual metals fraction. The latter fraction is mobilized by the strongest acid digest and represents metals resistant to the first four digestion steps. It is the same digest used to mobilize total metals in the conventional chemical characterization of "total" metals in sediment. The "residual" metals fraction is not expected to become bioavailable under any conditions that occur in nature (Tessier et al. 1979).

Laboratory analysis of filtered sediment samples submitted to ALS included dry weight and metals. The filter samples (sediment plus filters) were digested using the same method (nitric and hydrochloric acid) as for the bulk sediment metals analysis. Analysis of blank filters allowed for the subtraction any metals contributed by the blank filter from the final concentration. This included calculation of the average dry weight of blank filters (based on the weight of ten filters; Appendix B), and the metals analysis of blank filters in batches of varying quantities (Appendix B) which approximately matched the number of filters used for the filtration of most individual samples[3]. The volume of filtered sediment collected from most traps within the 2015 Set was insufficient for metals analysis. Therefore, all filtered sediment samples for each area were combined for chemical analysis by the analytical

[2] With the exception of 2014 Set Polley Lake area P1, where only one bulk density sample was available due to a laboratory error.

[3] Due to required compositing of filtered sediment samples from the 2015 Set, the filter quantity used for the sampling area POL-ST15-P1 (29 filters) exceeded the largest filter blank batch by 18. The filter blanks are considered to accurately represent even this extreme case.

laboratory, resulting in one sample per area[4]. Filtered sediment samples from the 2014 Set of traps were not combined within an area.

Upon completion of these analyses, data reports were provided electronically by ALS to MPMC and Minnow in MS Excel and Adobe PDF format. Flett provided data reports in protected (read only) MS Excel format.

Deposition Rate Determination

Deposition rate was calculated for each sediment trap using the equation (Kemp et al. 1974):

$$Deposition\ rate\ (g \cdot cm^{-2} \cdot yr^{-1}) = \frac{dry\ weight\ (g)}{total\ area\ (cm^2)} \div deployment\ time\ period\ (yr) \quad (1)$$

The uncompacted thickness of annual sediment accumulation was calculated using the equation (Kemp et al. 1974):

$$Annual\ accumulation\ thickness\ (cm \cdot yr^{-1}) = \frac{deposition\ rate\ (gcm^{-2}yr^{-1})}{bulk\ density\ (gcm^{-3})} \quad (2)$$

The calculation of annual accumulation thickness assumed no seasonal changes in accumulation rate since the sampling period for both sets did not extend for one full year. There are several other assumptions made when interpreting sediment trap data to determine deposition rate. Processes that can influence the amount of material in the trap (other than deposition rate) can be separated into two categories, those that may remove material from the trap and those that add material to the trap. Processes that could add material to the sediment trap have the effect of over-estimating deposition rate, and are suggestive of a faster recovery time. Such processes include:

- Fouling of the trap surface (e.g., growth and colonization of the sides of the trap which are not representative of the synchronous biogeochemical processes occurring on the lake floor).
- Introduction of re-suspended material into the trap during lake turn-over and wind events.

[4] A lab error occurred when combining sediment filters for each sampling area such that the 2015 Set Polley Lake P1 filtered sediment data could not be used and the final reported concentration data do not include contribution from filtered material.

Processes that may remove material from the trap have the effect of under-estimating deposition rate, and include:

- Loss of material due to turbulent and fast flowing water. Water would need to have a current of greater than 2 to 3 cm/s for silt and clay to be re-suspended, but closer to 20 cm/s for sand (Bloesch 1994). These currents are unlikely to occur in Polley Lake, but may occur in Quesnel Lake, even in the western basin where traps were deployed (Laval et al 2008).
- Loss of material during trap retrieval. Resuspension of material within the trap would be observed if material loss had occurred. Photographic evidence was used to document if each trap was retrieved intact, and traps were rejected for deposition rate calculation if resuspension was suspected.
- Loss of material due to tampering of traps during deployment period by members of the public (which was potentially a problem at the Quesnel Lake far-far-field study area).

The uncertainty associated with this method of deposition rate determination means that calculated deposition rates should be considered as estimates. These estimates are considered to be of sufficient accuracy to help guide decision making with regards to estimated sediment recovery times and associated frequency of monitoring.

Sediment deposition rate estimates for Polley Lake and Quesnel Lake were compared temporally within each area, and also compared to rates from the literature. Quesnel Lake has previously been investigated using a different sampling technique (Gilbert and Desloges 2012) and Polley Lake was compared to two small lakes (approximately half the surface area of Polley Lake) in the Southern Canadian Cordillera (Desloges 1994).

Deposition rates were estimated from as many traps from each area as possible, depending on whether the traps were intact on retrieval and if the overlying water in the trap was filtered (accounting for sediment resuspension that may occur during trap retrieval). Additional analytes that are helpful in interpreting deposition rate data are bulk density and TOC. Bulk density was measured in two traps from each area for the 2014 Set, and from three traps from each area for the 2015 Set. Because inorganic particles are generally more dense than organic particles, bulk density could reflect the influence of tailings material (fine particle size, but high density), although seasonal changes in bulk density are also to be expected (i.e., in summer months, a higher proportion of settling material is organic due to

greater lake productivity [Wetzel 2001] and organic material is typically less dense than inorganic). Temporal TOC content differences within a station would be indicative of a seasonal influence, as TOC would be expected to be greater in the summer months (i.e., the 2015 Set) compared to winter months (i.e., the 2014 Set).

Sediment Chemistry Data Analysis

A Data Quality Assessment (DQA) was completed for all laboratory analyses, and included an examination of data completeness, method detection limits achieved, laboratory blank analysis, data precision and accuracy, and laboratory flags.

Following the DQA, sediment chemistry data were summarized by calculating mean, median, standard deviation, standard error, 95% confidence limits, minimum and maximum for each sampling area and year (2014 or 2015 Set), and data were compared to British Columbia Sediment Quality Guidelines (BCSQG; BCMOE 2015, 2016). This process was completed for two sets of sediment chemistry data: 1) bulk sediment results only; and 2) whole sediment trap chemistry (combined bulk sediment and filtered sediment results where available). For simplicity of interpretation, discussion is focussed on the bulk sediment data, while the summarized results for both data sets are presented in Appendix D. Sediment quality was evaluated in two ways, firstly, concentrations of the Parameters of Interest (POIs) identified in 2014 for Polley Lake (arsenic, copper, iron, and zinc) and for Quesnel Lake profundal sampling areas (arsenic, copper, iron, manganese, and nickel; Minnow 2015a) were further compared to metal concentrations measured in surface-sediment collected by grab (ponar) sampling in 2014 (Minnow 2015a) and 2015 (Minnow 2015b). In addition, sediment trap material quality (i.e., depositing sediment) was compared to surface-sediment quality (aged sediment, i.e., the top 3 cm of surface-sediment) to investigate if concentrations of metals were consistent among both sample types. Metals with concentrations in sediment trap material that were either less than or equal to half, or greater than or equal to double the metal concentration in the surface-sediment sample were identified as Secondary Parameters (SPs) for further discussion.

Whole-sample sediment (combined bulk and filtered sediment) chemistry results below the laboratory Method Detection Limit (MDL) were used in calculations at the reported MDL; when not used in calculations, bulk sediment was reported at the MDL. Filter blank chemistry results reported below the MDL were used at half the reported MDL for the subtraction of filter blank chemistry results from filtered sediment results; half the MDL was used because, in calculating the final (bulk plus filtered sediment) concentration, the number

of filters used per sample were added together such that using blank filter MDL at value could amplify, so that, when subtracted from the final combined sediment concentration may lead to erroneously low concentrations in final combined (bulk and filtered sediment) chemistry result.

Results

Deposition Rates

Polley Lake

Deposition rate estimates for Polley Lake areas P1 and P2 ranged from 611 to 1,096 g/m^2/yr in 2014 and 168 to 974 g/m^2/yr in 2015 (Table 1) and were much higher than similar sized lakes in the Southern Canadian Cordillera (deposition rates ranging 120 to 140 g/m^2/yr; Table 2). Polley Lake is a highly productive lake, therefore the dam failure in August 2014 was not likely the sole contributor to this higher observed deposition rate. A comparison of TOC in the sediment trap material between the winter 2014 Sets and the summer 2015 Set showed that TOC was approximately 30 to 40% higher in the summer. Calculated deposition rates ranged 4 to 6 mm/yr in the 2014 Set, and 5 to 10 mm/yr in the 2015 Set (Table 1), therefore the deposition of 1 cm of fresh sediment would take approximately 1 to 3 years. This estimate does not account for sediment compaction, or that tailings material contributed to the deposition rate estimate. Both of these factors lead to an underestimate of time to accumulate 1 cm of sediment (i.e., it would likely take longer than estimated).

Quesnel Lake

Reference Area (Horsefly Bay)

Deposition rates for the 2014 Set in Horsefly Bay were very high (Table 3). This likely reflects the amount of material that enters Quesnel Lake from the Horsefly River. The deposition rate was just over 23 mm/yr, but in comparison, the deposition rate calculated from the 2015 Set was much lower (though still high) at 4.5 mm/yr. This large discrepancy is most likely due to the influence of Horsefly River, where the 2014 Set trap material was more influenced by spring freshet. Due to the influence of the Horsefly River, the deposition rate observed in Horsefly Bay is not representative of other parts of Quesnel Lake.

The accumulation of sediment in Horsefly Bay has previously been reported to be much lower than documented in the present study (i.e., 0.7 mm/yr; Gilbert and Desloges 2012). This discrepancy may be due to the closer proximity of the present study sampling sites to the Horsefly River inflow. Specifically, sampling sites were about 1 km from the mouth of

Table 1: Deposition rates calculated from sediment traps deployed in Polley Lake from August or October 2014 to May 2015 (2014 Set) and from May 2015 to August 2015 (2015 Set).

Area Description	Trap Set ID	Deployment Period	Sediment Trap ID	Deposition Rate ($g/m^2/yr$)	Deposition Rate (mm/yr)	Average	1 Standard Deviation
POL-P1 (North Basin)	2014	Oct-2014 to May-2015	POL-ST-P1-1	611	4.2	4.2 [a]	nc
	2015	May-2015 to Aug-2015	POL-ST15-P1-1	328	3.5	5.4	2.8
			POL-ST15-P1-2	725	7.7		
			POL-ST15-P1-4	538	5.7		
			POL-ST15-P1-5	797	8.4		
			POL-ST15-P1-6	168	1.8		
POL-P2 (South Basin)	2014	Oct-2014 to May-2015	POL-ST-P2-2	709	4.2	5.3	1.6
			POL-ST-P2-6	1,096	6.5		
	2015	May-2015 to Aug-2015	POL-ST15-P2-1	433	6.4	9.5	3.6
			POL-ST15-P2-2	393	5.8		
			POL-ST15-P2-3	974	14.4		
			POL-ST15-P2-4	639	9.5		
			POL-ST15-P2-6	776	11.5		

[a] n=1

nc = not calculable

Table 2: Comparison of deposition rates determined for Polley Lake (2015 Set) to other Southern Cordillera Lakes

Lake	Lake area (km^2)	Lake volume (Mm^3)	Deposition Rate ($g/m^2/yr$)	Deposition Rate[1] or Varve Thickness[2] (mm/yr)			Study
Polley Lake - P1	4.53	81.77	611	4.2	±	nc	This Study, 2014 Set
Polley Lake - P2			903	5.3	±	1.62	
Polley Lake - P1	4.53	81.77	512	5.4	±	2.79	This Study, 2015 Set
Polley Lake - P2			643	9.5	±	3.58	
Ape Lake	2.47	85.6	124	1.73	±	0.62	Deloges 1994
Berg Lake	2.14	36.0	143	3.05	±	1.30	

[1]This study

[2]Deloges 1994

Table 3: Deposition rates calculated from sediment traps deployed in Quesnel Lake from August or October 2014 to May 2015 (2014 Set) and from May 2015 to August 2015 (2015 Set).

Area Description	Trap Set ID	Deployment Period	Sediment Trap ID	Deposition Rate ($g/m^2/yr$)	Deposition Rate (mm/yr)	Average	1 Standard Deviation
Reference Area (Horsefly Bay)	2014	Sep-2014 to May-2015	QUL-ST-REF-2	16,720	23.6	23.9	0.3
			QUL-ST-REF-5	17,017	24.1		
	2015	May-2015 to Aug-2015	QUL-ST15-REF-4	1,563	4.3	4.5	0.2
			QUL-ST15-REF-3	1,690	4.7		
Near-field (Near outlet of Hazeltine Creek)	2015	May-2015 to Aug-2015	QUL-ST15-NF-6	140	1.4	1.2	0.2
			QUL-ST15-NF-4	105	1.0		
			QUL-ST15-NF-3	124	1.2		
Far-Far-Field (Downstream of Cedar Point Park)	2014	Sep-2014 to May-2014	QUL-ST-FFF-1 and 4	542	1.9	1.9 [a]	nc
	2015	May-2015 to Aug-2015	QUL-ST15-FFF-4	955	5.5	2.2	2.3
			QUL-ST15-FFF-3	112	0.64		
			QUL-ST15-FFF-2	309	1.8		
			QUL-ST15-FFF-1	126	0.73		

[a] n=1

nc = not calculable

the Horsefly River (depths of 82 to 85 m) relative to the Gilbert and Desloges (2012) study sites which were 4 km from the mouth of the Horsefly River (and depths of 150 m).

The high deposition rates observed in both trap sets (2014 and 2015) are more likely due to the influence of the Horsefly River as opposed to significant sediment resuspension for the following reasons:

- Although particle size distribution was not analyzed (due to insufficient material), it was observed that sample material contained sand and some gravel sized particles in the 2014 Set. As it would take high energy to suspend these materials (i.e., greater than 20 cm/s; Bloesch 1994), it would more likely be deposited as a result of high energy riverine flow entering the bay than sediment resuspension processes. Advective transport at Cariboo Island has been estimated at 10 cm/s (Laval et al. 2008).

- During summer periods (i.e., the 2015 Set) it would be expected that bulk density would decrease, and total organic carbon content would increase, relative to winter months (i.e., the 2014 Set). The bulk density decreased substantially and the TOC increased somewhat (Table 4), reflecting a seasonal difference in deposition rate rather than processes of resuspension. As lake-floor sediment is older than the material in the sediment trap, it is expected that lake-floor sediment would have lower TOC relative to younger sediment trap material; sediment organic carbon degradation would be more fully underway in lake-floor sediment.

In general, the deposition rates from the present study in Horsefly Bay cannot be considered representative of the whole lake given that Horsefly River appears to have had a substantial influence on the sediment traps set in the bay, particularly for the over winter 2014 Set (whose deployment period would have included the 2015 spring freshet).

Near-field Area (Offshore from Hazeltine Creek)

The 2014 Set of near-field sediment traps were not used to calculate a deposition rate, as the traps were over-flowing with sediment material on retrieval (i.e., they were not intact and some of the material may have been previously deposited sediment).

Deposition rates from the 2015 Set showed good within area agreement, and were suggestive of deposition rates of 1.2 mm/yr (Table 2). This deposition rate is largely in agreement with the maximum rates determined elsewhere in the lake (0.7 mm/yr; Gilbert and Desloges 2012). The slightly higher rate determined in the present study is probably

Table 4: Bulk density of material collected from sediment traps deployed in Quesnel Lake and Polley Lake in 2014, and 2015.

Area Description	Trap Set ID	Deployment Period	Sediment Trap ID	Bulk density (dry wt / wet vol) (g/mL)	Average (g/mL)	1 Standard Deviation
Reference Area (Horsefly Bay)	2014	Sep-2014 to May-2015	QUL-ST-REF-2	0.671	0.71	0.050
			QUL-ST-REF-4	0.743		
	2015	May-2015 to Aug-2015	QUL-ST15-REF-3	0.356	0.36	0.032
			QUL-ST15-REF-4	0.332		
			QUL-ST15-REF-6	0.396		
Near-field (Near outlet of Hazeltine Creek)	2014	Sep-2014 to May-2015	QUL-ST-NF-1	0.646	0.64	0.043
			QUL-ST-NF-2	0.638		
			QUL-ST-NF-3	0.630		
			QUL-ST-NF-4	0.592		
			QUL-ST-NF-5	0.710		
	2015	May-2015 to Aug-2015	QUL-ST15-NF-6	0.073	0.10	0.037
			QUL-ST15-NF-4	0.143		
			QUL-ST15-NF-3	0.089		
Far-Far-Field (Downstream of Cedar Point Park)	2014	Sep-2014 to May-2014	QUL-ST-FFF-5	0.280	0.28	0.003
			QUL-ST-FFF-3	0.284		
	2015	May-2015 to Aug-2015	QUL-ST15-FFF-4	0.233	0.17	0.051
			QUL-ST15-FFF-3	0.144		
			QUL-ST15-FFF-1	0.144		
POL-P1 (North Basin)	2014	Oct-2014 to May-2015	POL-ST-P1-2	0.146	0.15	nc
	2015	May-2015 to Aug-2015	POL-ST15-P1-1	0.088	0.09	0.017
			POL-ST15-P1-2	0.114		
			POL-ST15-P1-4	0.082		
POL-P2 (South Basin)	2014	Oct-2014 to May-2015	POL-ST-P2-2	0.169	0.17	0
			POL-ST-P2-4	0.169		
	2015	May-2015 to Aug-2015	POL-ST15-P2-3	0.073	0.07	0.009
			POL-ST15-P2-4	0.057		
			POL-ST15-P2-6	0.072		

due to the proximity of the trap stations to Hazeltine Creek. Given that spring and fall turnover events did not occur during the trap deployment period, the sediment trap material likely did not have significant contributions from sediment resuspension (that typically occurs during lake turnover; Wetzel 2001). However some resuspension may have occurred due to wind-driven summertime upwelling that can result in fast advective flows across the western basin of Quesnel Lake (Laval et al. 2008). The generally good agreement between the 2015 Set deposition rates in the present study and the literature value of 0.7 mm/yr (Gilbert and Desloges 2012) suggests that the summer upwelling did not result in a large increase in deposition rates determined in the present study. However, as with Polley Lake, contribution by failure-associated material to the deposition rate at the near-field area would lead to an overall underestimate of the deposition rate and estimated time to achieve 1 cm of fresh sediment after the failure-associated material has ceased to deposit.

Far-Far-Field Area (Downstream of Cedar Point)

Inspection of the sediment material in the traps at the far-far-field station indicated that deposition was quite variable for both the 2014 and 2015 Sets. This probably reflects the natural variability of the area, at least partly in association with lake morphology (this area includes a long narrow stretch of lake with a bend where sediments may not deposit uniformly). It was also possible that, particularly for the 2014 Set, the sediment traps had been tampered with, owing to the absence or movement of marker buoys that had been deployed in the area. The 2015 Set of traps also showed high variability in the amount of deposited material, despite no evidence of potential tampering. The one trap from the 2014 Set where deposition rate was determined (1.9 mm/yr) was in good agreement with the average of the 2015 Set of 2.2 mm/yr. In general, variability in the quantity of sediment in the traps is likely due to the morphology of the lake area where the traps were deployed.

Sediment Chemistry

The reported sediment chemistry results were of good quality as characterized by: 1) good detectability as demonstrated by the majority of achieved method detection limits (MDL) being below BCSQG and meeting predicted laboratory MDLs (Appendix Table C.1 and C.2); 2) negligible analyte concentrations in the majority (98%) of laboratory method blank results; 3) good data precision, with all laboratory duplicate results meeting data quality objectives; 4) good laboratory accuracy, with all certified reference materials and standards meeting data quality objectives; and 5) no hold time or general laboratory flags for POIs

(Minnow 2015a). Additional details regarding the data quality assessment are presented in Appendix C.

For both Polley Lake and Quesnel Lake, there was little difference in the bulk chemistry sediment trap data (Appendix Tables D.1, D.2, D.6, and D.7), when compared to the combined chemistry sediment trap data (bulk and filtered sediment; Appendix Tables D.3, D.4, D.8 and D.9). Therefore, unless otherwise stated, only the bulk chemistry sediment trap data are discussed.

Polley Lake

The previously identified Parameters of Interest (POIs; Minnow 2015a) for Polley Lake were arsenic, copper, iron, and zinc. In addition, Secondary Parameters (SPs) were identified from a comparison of average bulk chemistry of sediment traps with average surface-sediment chemistry. If metal concentrations were higher in the sediment trap material relative to the sediment-surface in either 2014, 2015 or both (i.e., greater than or equal to double; Appendix Table D.15) they were considered as SPs for discussion. In Polley Lake, manganese, antimony, and selenium were identified as SPs[5]. In addition, TOC and aluminum were investigated as factors that influence metal distribution in this lake. Types of TOC can influence metal cycling in a water-body (e.g., through primary production; Bruland et al. 1991) and aluminum is present as the copper-bearing alumino-silicate mineral chlorite in Mount Polley mine tailings material (SRK 2015a).

Total organic carbon content of the sediment trap material increased significantly between the two sampling periods (the winter 2014 Set and the summer 2015 Set). The TOC content for both sampling areas of the 2015 Set sediment trap material ranged 8 to 10% TOC and was close to double that in the 2014 Set, which ranged 4 to 6 %; (Figure 3; Appendix Tables D.1 to D.4). Such seasonal changes in TOC content of currently depositing sediment are expected (e.g., Hodell and Schelske 1998; Stecko and Bendell-Young 2000). In lakes, this is generally because there is a higher proportion of settling organic material relative to inorganic particles in summer months than winter months due to greater lake productivity (Wetzel 2001). This seasonal difference in depositing TOC may also influence metals that are known to associate with organic carbon (i.e., bioactive metals such as copper, iron, manganese, nickel, and zinc; Bruland et al. 1991).

[5] Although tin was also identified as a Secondary Parameter (SP), sediment trap bulk chemistry concentrations where within the variability of the surface-sediment concentrations (Appendix Figure D.5), and therefore tin was not considered an SP.

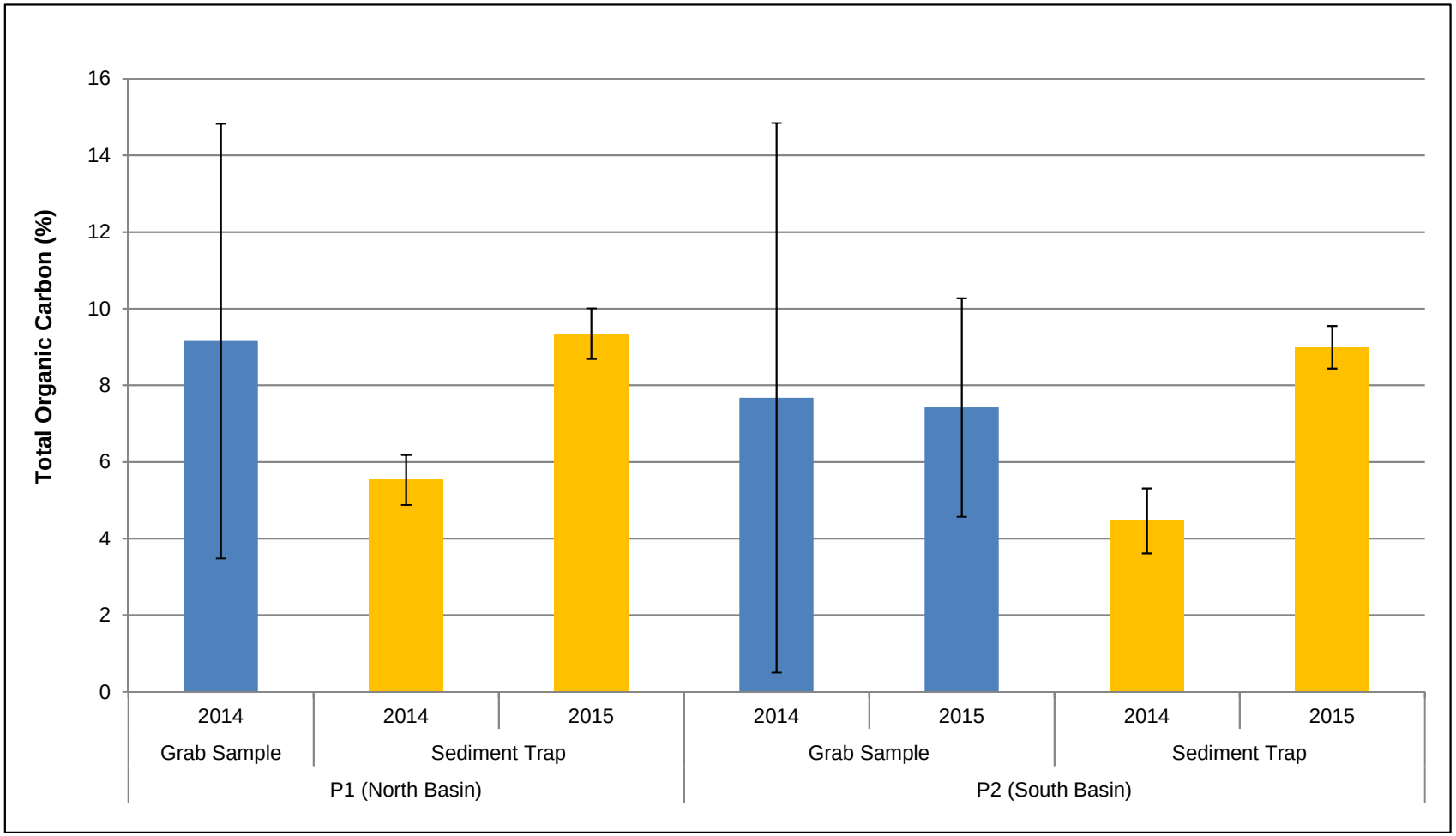


Figure 3: Polley Lake sediment total organic carbon content (mean ± t*SE) - grab samples and sediment trap samples, 2014 - 2015 [1,2].

[1] "2014" sediment traps = August 2014 to May 2015 deployment; "2015" sediment traps = May 2015 to August 2015 deployment.

[2] Total organic carbon content (%) was measured in the < 63µm sediment fraction for grab sampling, and in the < 2mm fraction of sediment trap material.

Total organic carbon can also have a major influence on the absolute concentrations of metals, irrespective of the role of TOC in metal geochemical cycling, and because concentrations of TOC are high in Polley Lake sediment, TOC can act to dilute other metal signatures. Similarly, higher deposition of TOC in the summer can act to dilute other lake processes (such as the deposition of failure-related materials). Polley Lake sediments are likely seasonally anoxic (Minnow 2014), therefore remineralization of organic material would be slow, such that the organic carbon concentrations in the sediment trap would more closely resemble TOC content in surface-sediment. TOC content of the sediment trap material and the surface-sediment grab samples appear to be similar in Polley Lake (Figure 3).

Aluminum is part of the mineral content of the Mount Polley tailings, and a large proportion of copper is associated with it (i.e., chlorite, an iron, magnesium alumino-silicate mineral; SRK 2015a). Aluminum concentrations in the sediment trap material decreased from the winter 2014 Set to the summer 2015 Set (Figure 4), however this cannot be directly attributed to improved quality of depositing sediment without accounting for the seasonally diluting effect of TOC. The confounding influence of seasonal changes in TOC can typically be accounted for by normalizing to a lithogenic reference element such as aluminum, titanium, or zirconium (Boës et al. 2011). However, all three elements are elevated from background in Mount Polley tailings. Therefore, the seasonal diluting effect of TOC cannot be easily distinguished from the temporally decreasing contribution of tailings material in the sediment trap sample. Instead, a comparison of the 2015 P2 surface-sediment grab sample TOC (mean 7.42 ± 2.85%; Minnow 2015b) with the 2015 P2 sediment trap sample material TOC (mean 8.99 ± 0.53%; Appendix Tables D.1 to D.4) shows that TOC concentrations in sediment trap material were within the range of the respective surface-sediment grab sample (Figure 3). Therefore, differences between concentrations of aluminum in the P2 2015 grab-sample versus sediment trap material cannot be ascribed to the diluting effect of TOC on aluminum concentrations which suggests an improvement in sediment quality with respect to aluminum (which is associated with Mount Polley Mine tailings). This becomes important when considering copper, a metal associated with aluminum in Mount Polley mine tailings material.

Concentrations of POIs and SPs in surface-sediment grab samples (collected in 2014 and 2015; Minnow 2015a, 2016a) were compared to the sediment trap material bulk-sample chemistry (Figure 4). Copper concentrations in deposited sediment demonstrated a slight but non-significant decrease between the 2014 and 2015 Sets within the North Basin of

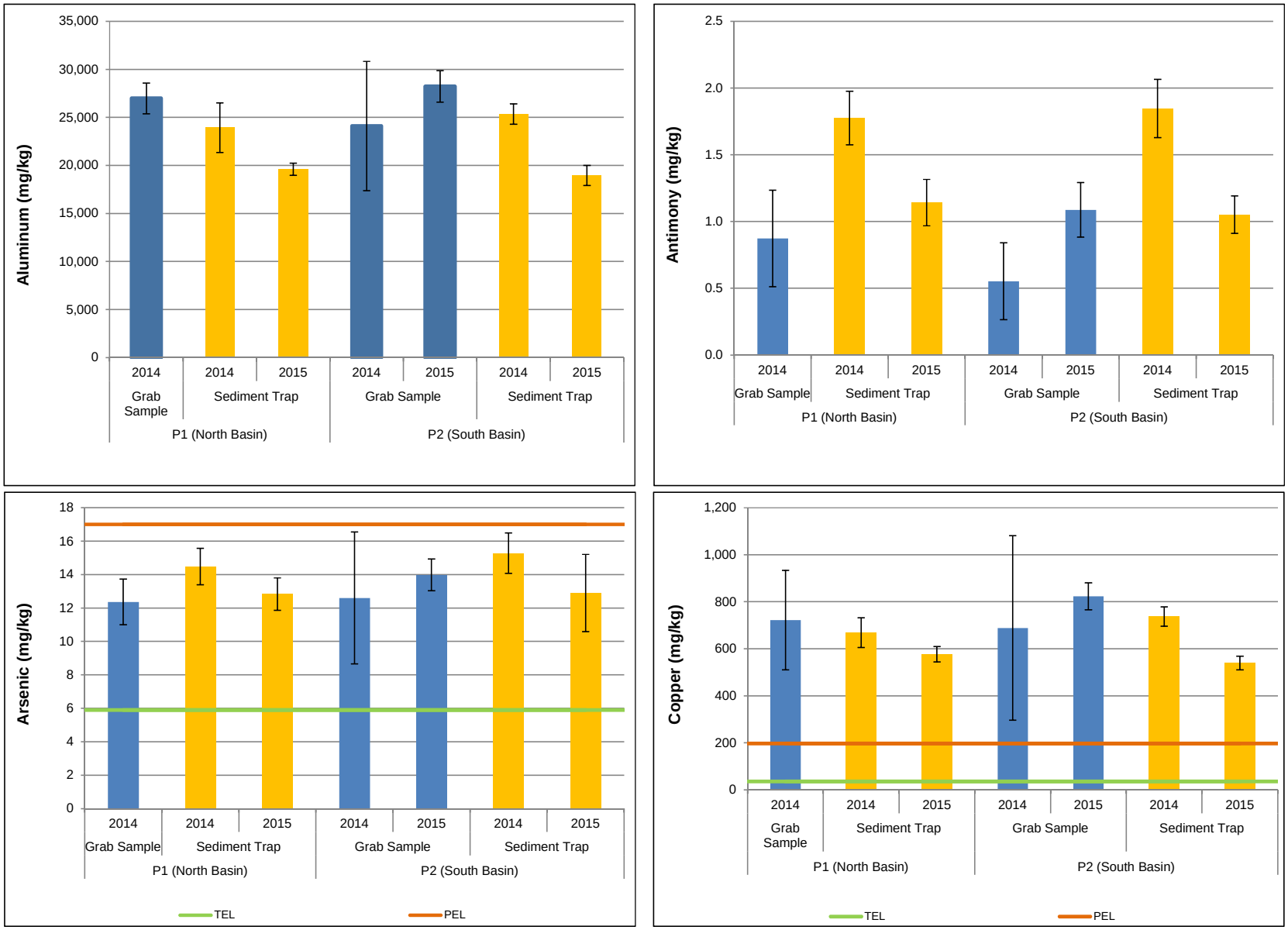


Figure 4: Polley Lake sediment metal concentrations (mean ± t*SE) for parameters of interest and aluminum - grab samples and sediment trap samples, 2014 - 2015[1,2]. Displayed sediment trap metal concentrations are for bulk sediment only[3].

[1] "2014" sediment traps = October 2014 to May 2015 deployment; "2015" sediment traps = May 2015 to August 2015 deployment.

[2] TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015).

[3] Metal concentrations displayed represent the < 63µm sediment fraction of grab samples and the < 2mm fraction of sediment trap material.

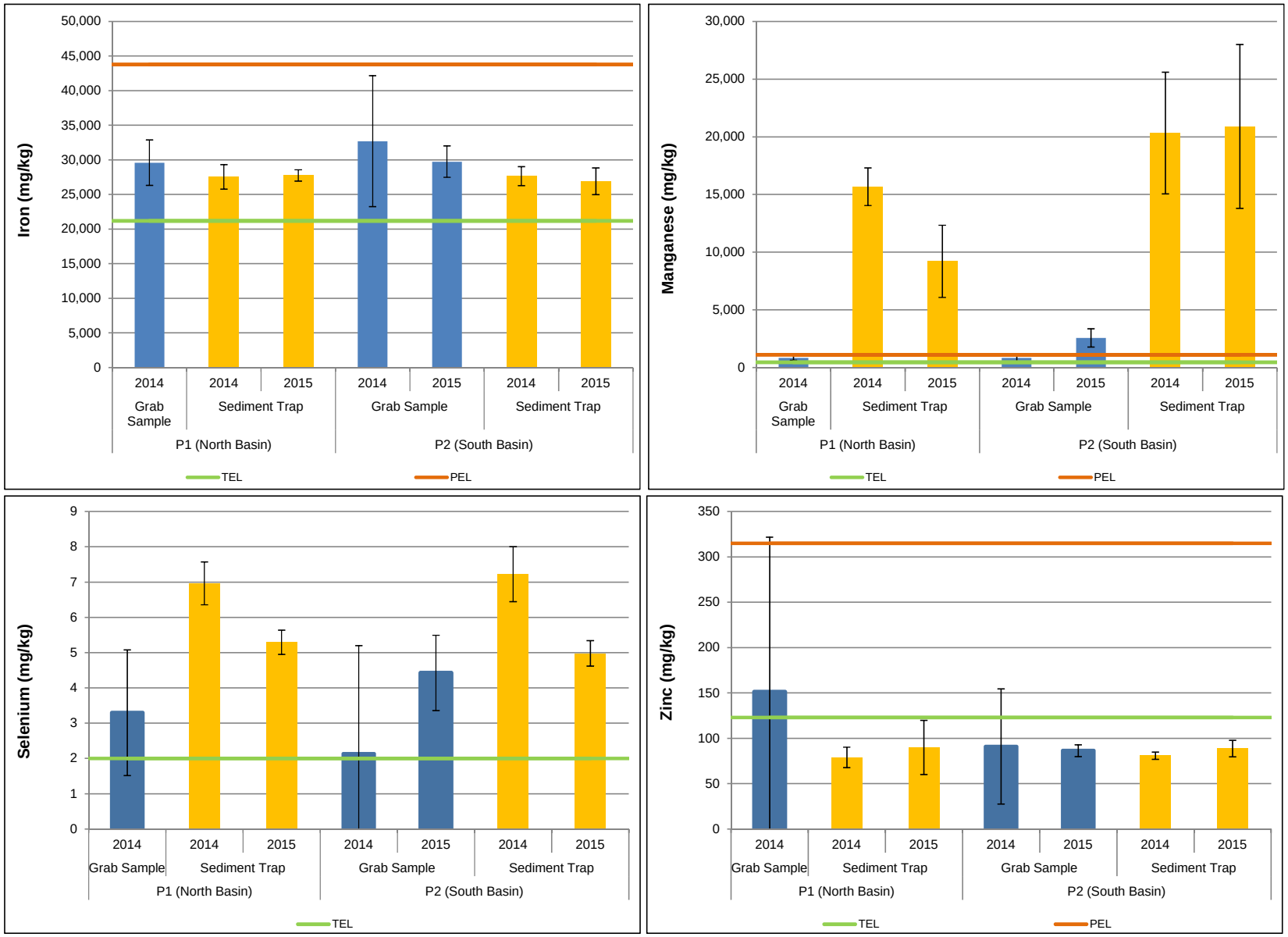


Figure 4: Polley Lake sediment metal concentrations (mean ± t*SE) for parameters of interest and aluminum - grab samples and sediment trap samples, 2014 - 2015[1,2]. Displayed sediment trap metal concentrations are for bulk sediment only[3].

[1] "2014" sediment traps = October 2014 to May 2015 deployment; "2015" sediment traps = May 2015 to August 2015 deployment.

[2] TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015).

[3] Metal concentrations displayed represent the < 63µm sediment fraction of grab samples and the < 2mm fraction of sediment trap material.

Polley Lake (sampling area POL-P1), and a significant decrease within the South Basin (study area POL-P2; Figure 4; Appendix Tables D.1 and D.2). These trends are similar to those observed for aluminum (Figure 4). A tight relationship between copper and aluminum concentrations in sediment trap material shows that copper is associated with aluminum at locations where tailings material has impacted sediment chemistry (i.e., including in Polley Lake study areas P1 and P2; (Figure 5). Copper does not appear to be significantly associated with other sediment components, otherwise deviations from the linear regression (Figure 5) would be observed. This is also reflected in the large proportion of copper that is present in the Tessier fraction of "organic and mineral bound" (i.e., the association of copper with the alumino-silicate mineral chlorite; Appendix Figure D.2), discussed below.

As with aluminum, the temporal decrease in copper concentrations in sediment trap material from the 2014 Set to the 2015 Set (Figure 4) can be explained by two factors: 1) a probable improvement in the quality of depositing sediment; and 2) the seasonal dilution effect of increased TOC in the summer 2015 traps. Again, as with aluminum, since the TOC content of the sediment trap material in the 2015 Set from P2 was within the range of TOC in the surface-sediment grab sample (Figure 6), a decrease in copper concentration in the sediment trap material (relative to the surface-sediment grab) cannot be ascribed to the dilution effect of a seasonal increase in TOC. Therefore, an improvement in copper concentrations in the recently deposited 2015 Set trap material at P2 compared to the 2015 surface-sediment (which is an integration of depositing sediment quality over time) can be noted.

Concentrations of arsenic measured in the sediment trap material in both deployment sets (2014 and 2015) were similar at the north and south basins of the lake (P1 and P2, respectively; Figure 4, Appendix Tables D.1 and D.2), and were similar to arsenic concentrations measured in surface-sediment grab samples in both of these areas (Figure 4). However, a slight but non-significant decrease was observed between the 2014 and 2015 Sets of sediment traps in both sampling areas (Figure 4). The slight decreasing trend of arsenic concentrations in sediment trap material from the 2014 Set to the 2015 Set is not geochemically related to TOC (which shows a significant increasing trend), nor strongly related to iron, (arsenic is well known to associate with iron oxyhydroxides in sediment; Huerta-Diaz and Morse 1990; Smedley and Kinniburgh 2005). Therefore, the slight temporal decrease in arsenic concentrations is likely the result of dilution by TOC, and possibly a decrease in arsenic concentration in depositing material.

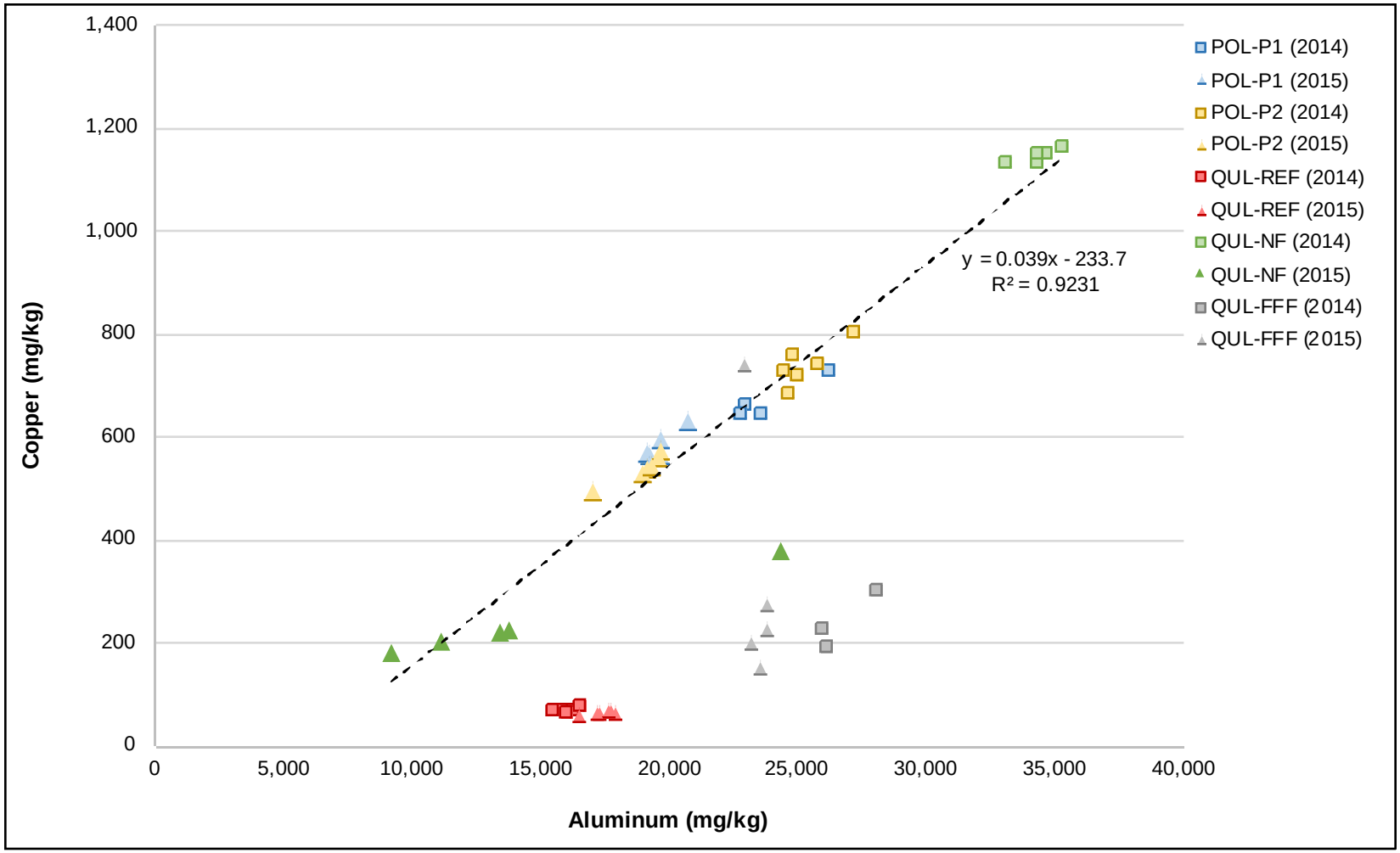


Figure 5: Relationship between aluminum and copper concentrations (mg/kg) in material collected from sediment traps deployed in Polley Lake and profundal areas of Quesnel Lake, Mount Polley Mine, 2014 - 2015.

* The displayed linear regression relationship includes data from Polley Lake areas P1 and P2, and the Quesnel Lake near-field (QUL-NF) area only. Data from the reference and far-far-field sampling areas in Quesnel Lake (QUL-REF and QUL-FFF, respectively) were excluded from the displayed relationship.

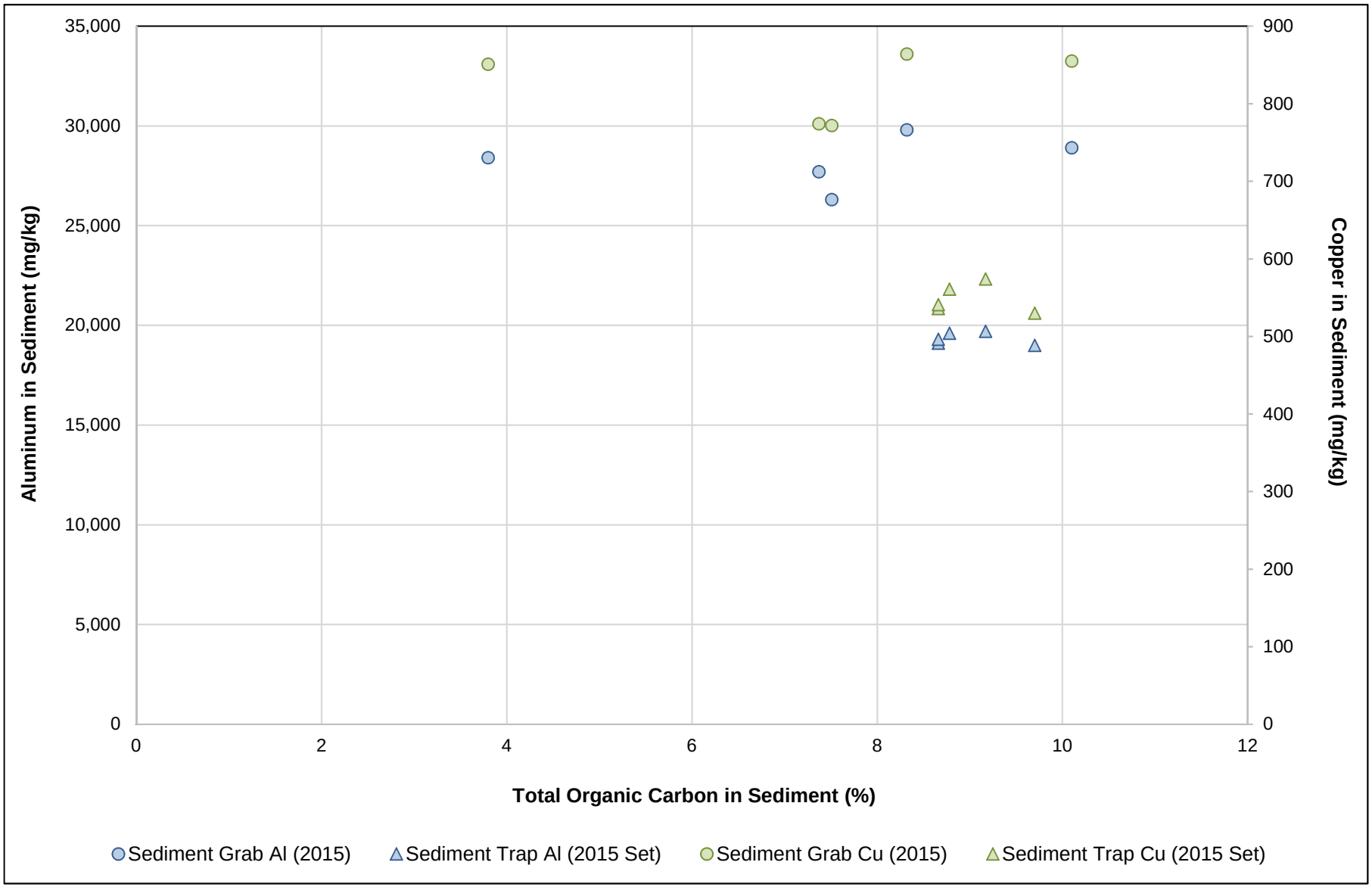


Figure 6: Polley Lake study area P2 aluminum (Al) and copper (Cu) concentrations (mg/kg) in sediment grab samples (2015) and in sediment trap material (2015 Set) with similar TOC concentrations (data not available for P1).

As an oxyanion (in oxygenated waters), antimony is known to have somewhat similar geochemical behaviour to arsenic (Byrd 1990), but its geochemical behaviour has not been well studied (Filella et al. 2002a). A pattern of higher antimony concentrations in sediment trap material compared to surface-sediment was observed. The sequential extraction data showed that all antimony is present in the residual fraction (see below) which reflects the relatively unreactive nature of the element (Filella et al. 2002b). As antimony is also a chalcophile (sulphur reacting), it is possible that the higher antimony in trap material is associated with mineral phases of sulphide present at low concentrations in tailings material (SRK 2015b) that were released at higher concentrations in 2014, and less so in 2015 when there was a relatively smaller contribution of tailings material in the sediment trap (as suggested by the lower concentration of aluminum from the 2014 Set to the 2015 Set, at P2).

Selenium, also an oxyanion (in oxygenated waters), was also elevated in sediment trap material compared to surface-sediment (Figure 4). Selenium is known to associate with several sediment components (Wiramanaden et al. 2010), but was predominantly associated with organic carbon in the sediment trap material (see sequential extraction data below). That selenium is higher in the 2014 sediment trap material compared to surface-sediment (Appendix Figure D.5) is unexpected as TOC concentrations in the same samples were relatively similar (Figure 3). One possible explanation could be that a specific type of organic carbon is present in a higher proportion in the sediment trap material compared to the surface-sediment. Surface-sediments are in the very early stages of diagenesis while sediment trap material is disproportionately subject to bio-fouling on the trap walls relative to the sediment floor. The decrease in selenium in the sediment trap material from the 2014 Set to the 2015 Set is likely due to the decreased influence of tailings material in the lake in general, such that there would have been less dissolved selenium available for biological uptake and deposition of organic-bound selenium in the sediment traps. The diluting effect of TOC in the traps would not affect this conclusion since selenium is predominantly associated with organic carbon. This further suggests that high selenium in the sediment traps will not result in similar concentrations in surface-sediments and is more likely a sediment trap-based phenomenon.

Concentrations of iron in sediment trap material was similar at the two study areas (P1 and P2) and was similar in the two deployment sets (the winter 2014 Set and the summer 2015 Set; Figure 3, Appendix Tables D.1 and D.2). The concentrations of iron present in sediment trap material from both sets were also similar to those measured in surface-

sediment grab samples in 2014 and 2015 (Figure 3). The lack of observed temporal change in iron concentrations in sediment trap material could be due to: 1) the small difference between iron in sediment from the tailings influenced areas relative to reference sediments (and the cause of its original identification as a POI); and/or 2) the redox cycling of iron; both of which are discussed in more detail below.

Iron was identified as a POI because its concentrations were greater than guidelines and approximately double the reference concentrations (Minnow 2015a). However, this was only the case for the littoral study areas, and not the profundal. Although iron is clearly present in minerals associated with tailings (such as the magnetite sands, and the alumino-silicate mineral chlorite; SRK 2015a), it is not present in highly elevated concentrations in the impacted sediment of the Polley Lake deep stations, P1 and P2. As such, it is not expected that concentrations of iron would improve significantly over time at the deep study areas in Polley Lake (i.e., study areas P1 and P2).

Another possible explanation for the lack of temporal improvement is that iron redox cycling may influence iron concentrations in sediment trap-material due to fluctuations in dissolved oxygen concentrations in overlying water and at the sediment-water interface. Likely, there would have been a period of anoxic or sub-oxic (sufficient to reduce $iron^{(III)}$ to $iron^{(II)}$) conditions because Polley Lake is a dimictic lake with a strong sediment-based oxygen draw-down. Therefore, iron reduction could occur during the deployment period (of both sets) such that remobilization, and subsequent precipitation as an iron oxyhydroxide (or iron sulphide, redox conditions dependent) may occur. As a result, concentrations of iron in sediment trap material do not exclusively reflect the chemistry of currently depositing material (although these concentrations would represent surface-sediment which would undergo a similar change in redox conditions).

Manganese was identified as a SP on the basis that the sediment trap material manganese concentration was more than double that of the corresponding surface-sediment (Figure 4). Although concentrations of manganese are significantly higher in the sediment trap material compared to surface-sediment in Polley Lake, the general pattern of higher concentrations in sediment trap material compared to surface-sediment occurred at all study areas (including Quesnel Lake reference area), and is often observed in suspended particulate matter relative to bottom sediment (e.g., Stecko and Bendell-Young 2000). Similar to iron, manganese is redox active, and the observed high concentrations of manganese in sediment traps may be due to manganese redox cycling. Once reduced, the manganese (II) ion is slow to oxidize, and therefore may be present for longer timeframes

compared to iron. This would result in the presence of high concentrations of dissolved manganese. It is possible that this would result in higher concentrations in sediment trap material where manganese diffusing from sediment would accumulate through adsorption and also through oxidation (if sediment trap conditions were oxidizing).

Concentrations of zinc measured in the sediment trap material in both deployment sets (2014 and 2015) did not differ between the north and south basins of the lake (P1 and P2, respectively; Figure 4, Appendix Tables D.1 and D.2), and also did not differ from zinc concentrations measured in surface-sediment grab samples in either of these areas (Figure 4). Zinc concentrations in sediment trap material demonstrated a slight but non-significant increase between the 2014 and 2015 Sets of sediment traps at both study areas (Figure 4), although there was a significant temporal increase in zinc at P2 when using the combined (bulk and filtered) sediment chemistry data (Appendix Figure D.1). As zinc is a bioactive[6] metal (Bruland et al. 1991), the temporal increase in zinc concentration from 2014 to 2015 is likely due to the increase in TOC, whereby zinc is assimilated by biological particles which then settle to the lake sediment upon cell arrest. This is somewhat reflected in the small but significant proportion of zinc that is associated with "organic and mineral bound metals" (sequential extractions; Appendix Figure D.2). The small increase in zinc concentrations compared to the large increase in TOC between sediment trap sets (2014 and 2015) is likely because zinc is also associated with other sediment components (such as "easily reducible iron oxides" and the "residual" fractions of the sequential extractions; Appendix Figure D.2). It is likely that surface-sediment of the deep basins in Polley Lake become anoxic during periods of lake stratification, although this does not appear to be the case year-round (Minnow 2014). Absence of oxygen in sediment would slow the remineralization of organic carbon (Froelich et al 1979); a process during which zinc could be remobilized.

Overall, Polley Lake sediment trap metal concentrations observed in 2015 were generally lower compared to the 2015 surface-sediment concentrations, with only a few exceptions where 2015 Set trap concentrations were higher (manganese and tin; Appendix Table D.15). This suggested that depositing sediment has improved in overall quality relative to the sediment floor.

[6] Although copper is a bioactive element, it behaves differently than zinc because the majority of copper is not bioavailable, as it is present in the alumino-silicate mineral, chlorite.

Polley Lake Sequential Extractions

Due to limited sample material, SEA was completed for the 2015 Set only in areas P1 and P2. SEA results for sediment trap bulk-samples were compared to those of surface-sediment grab samples (Appendix Figure D.2 and Appendix Table D.5). In general, the distribution of each POI among the Tessier fractions was similar to that observed when comparing sediment trap material to surface-sediment grab samples (Minnow 2015a; Minnow 2016a; Appendix Figure D.2; Appendix Table D.5).

Aluminum and copper in sediment trap material from the 2015 Set were largely associated in the "organic and mineral bound metals" fraction, which further supports the conclusion that the two elements were bound in an alumino-silicate mineral, likely chlorite, as identified by SRK (2015a). As such, the copper in the freshly depositing sediment (i.e., sediment trap material) is not likely to become remobilized under changing sediment conditions (such as pH or redox status). The combined concentration of copper that could potentially become remobilized (i.e., that extracted in the "easily reducible and iron oxide" fraction, and in the "carbonate metals" fraction) was below the PEL in sediment trap material from both study areas (Appendix Figure D.2; Appendix Table D.5).

Iron, arsenic, antimony, and zinc were all predominantly associated with the "residual" fraction, and somewhat associated with the "organic and mineral bound metals" and the "easily reducible metals and iron oxides" fraction. Zinc and arsenic were also somewhat associated with the "carbonate" fraction. Of these non-residual fractions, the presence of excess sulphide relative to extracted metals suggests that any remobilized metal (i.e., iron, arsenic or zinc) would not be bioavailable, and instead would associate with sulphide minerals (Minnow 2016a). The concentration of each metal in the combined remaining fractions (i.e., all fractions except the "residual" fraction) were below the PEL and the TEL in each case (iron, arsenic, and zinc[7]), and as such do not likely pose a risk to biota should sediment conditions change and these metals become remobilized.

The majority of selenium was in the "organic and mineral bound metals" fraction (Appendix Figure D.2) in both surface-sediment and sediment trap material. This is expected as selenium is known to associate with organic matter, typically through the uptake of selenium in situ (Wiramanaden et al. 2010). The majority of selenium in sediment would therefore be remobilized through the remineralization of organic matter which would occur over a long period of time during the first stages of early diagenesis (e.g., a eutrophic dimictic lake, with

[7] There are no Canadian sediment quality guidelines available for antimony.

summer anoxia, showed a 30 to 40% remineralization of organic carbon in the first three years; Lehmann et al. 2002). The process of organic matter remineralization would take longer in Polley Lake than in other lakes with oxic sediments because Polley Lake sediments are under reducing conditions for parts of the year. However, it is possible that selenium released from the remineralization of organic matter would be subsequently reduced to form a selenide (similar to the reduction of sulphate to sulphide), as a metal selenide, or bacterially reduced to produce elemental selenium; all of which are forms of selenium that have been observed downstream of mining environments elsewhere (Wiramanaden et al. 2010).

Manganese was predominantly in the “carbonate” and “exchangeable” fractions at P1 and additionally in the “easily reducible” fraction at P2 (Appendix Figure D.2). The relatively high concentrations of manganese in the exchangeable fraction are suggestive of the presence of the reduced manganese ion (Tessier et al. 1979), which can be carried over into the “carbonate” fraction during laboratory analysis (Tessier et al. 1979). The majority of the total concentration of manganese is therefore likely bioavailable and present in the “exchangeable” fraction. The total concentrations of manganese in the sediment trap material are above the PEL, however, these high concentrations likely accumulated in the trap as a result of a surface-sediment source of the reduced and remobilized manganese (II) ion. Therefore these concentrations are not representative of typical lake sediments, since in the absence of a sediment trap, manganese would continue to dilute as it diffuses away from the sediment.

Quesnel Lake

The previously identified POIs for Quesnel Lake were arsenic, copper, iron, manganese, and nickel (although nickel was identified as a POI based on conditions not associated with the dam failure; Minnow 2015a). Elevated concentrations of these metals likely indicate that the sediment is mine-influenced. The SPs, where concentrations in the sediment trap were double or greater the surface-sediment concentrations, were identified as manganese and tin (Appendix Table D.16). As with Polley Lake, total organic carbon and aluminum were also investigated as factors that influence metal distribution in a lake.

Total organic carbon content data were available for the reference (QUL-REF; Horsefly Bay), and the far-far-field (QUL-FFF) study areas only. At the reference area, the TOC content of sediment trap material was significantly higher in the summer 2015 Set compared to the winter 2014 Set (Figure 7); a typical seasonal response (as discussed above). At the

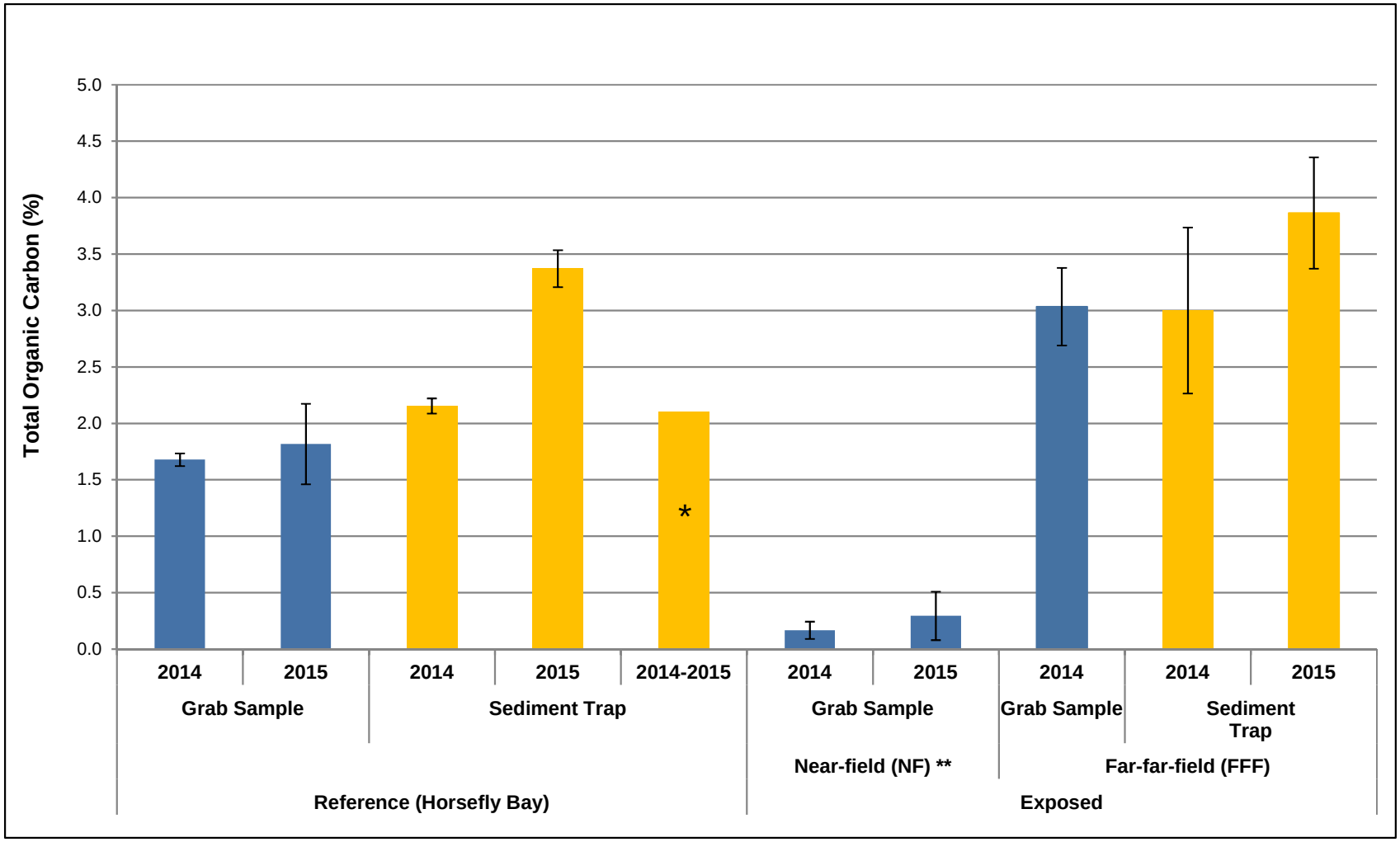


Figure 7: Quesnel Lake sediment total organic carbon content (mean ± t*SE) - grab samples and sediment trap samples, 2014 - 2015 [1,2].

[1] "2014" sediment traps = August 2014 to May 2015 deployment; "2015" sediment traps = May 2015 to August 2015 deployment.

[2] Total organic carbon content (%) was measured in the < 63µm sediment fraction for grab sampling, and in the < 2mm fraction of sediment trap material.

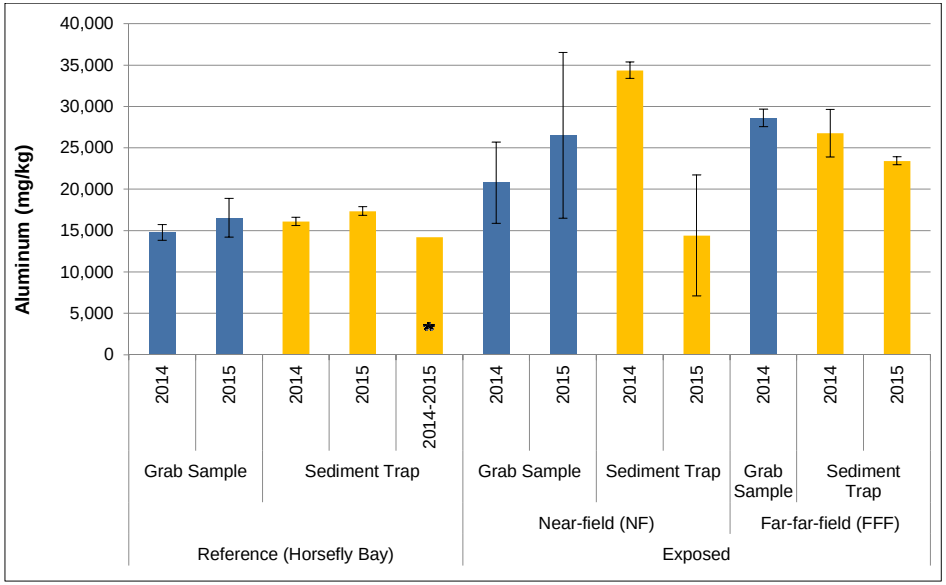
* Analysis was only performed on a single sample due to low sample sizes, therefore mean value is not shown.

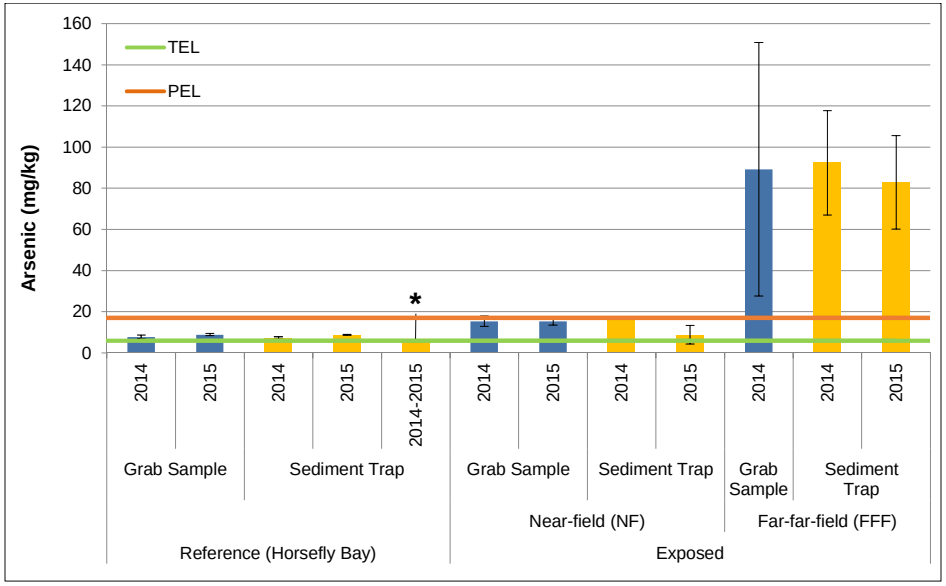
** Total organic carbon data for unavailable for sediment traps in Near-field area.

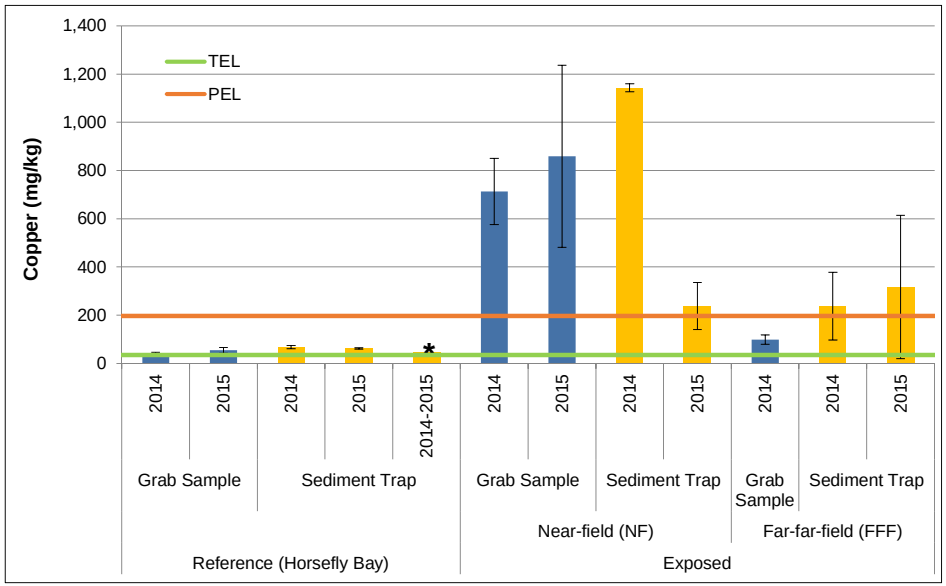
far-far-field study area, TOC concentrations in the 2014 Set sediment traps were similar to sediment-surface concentrations, and higher in the 2015 Set traps, but the difference was not statistically significant (Figure 7; Appendix Tables D.6 to D.9).

Aluminum concentrations in sediment trap material from the reference area showed no temporal difference between the winter 2014 Set and the summer 2015 Set (Figure 8; Appendix Tables D.6 and D.7). This is likely because the study area does not contain tailings (where a change in aluminum concentration might be expected), but it also shows that the diluting effect of TOC is not significant at the reference area (and not likely at the exposure areas, assuming similar primary productivity levels among study areas). Total organic carbon concentrations were much lower in Quesnel Lake compared to Polley Lake where the seasonal dilution effect of TOC was much stronger. In the exposure areas, aluminum concentrations in the sediment trap material showed a temporal decrease, particularly at the near-field area. The decrease in aluminum was significant for the near-field study area, but not for the far-far-field study area. This is likely because of the greater influence of tailings material in the near-field study area compared to the far-far-field area, and suggests an improvement in depositing sediment quality at the near-field study area. However, this finding is somewhat confounded because the 2014 Set of traps were overflowing when retrieved (and loss of lighter non-tailings material could have occurred). The temporal decrease in aluminum in sediment trap material at the far-far-field study area suggests that deposition of fine tailings material is decreasing with time, if it is depositing at all.

All POI and SP concentrations from surface-sediment grab samples (collected in 2014; Minnow 2015a) were compared to the sediment trap material bulk-sample chemistry (Figure 8). Copper concentrations in sediment trap material were much higher in the near-field study area relative to the reference area (consistent with relative concentrations in surface-sediment), but were much lower in the 2015 Set compared to the 2014 Set (Figure 8). The lower copper concentration in 2015 suggests an improvement in sediment quality. As discussed above, the potential for a confounding TOC influence is low, but the 2014 Sets were not retrieved intact. At the far-far-field study area, there was no significant difference in copper concentration from the 2014 Set to the 2015 Set, although copper concentrations were elevated relative to the reference study area. However, it is likely that the elevated copper concentration at the far-far-field study area is not related to the dam failure. More specifically, in all mine-influenced study areas (Quesnel and Polley Lakes, with the exception of the Quesnel Lake far-far-field area), a tight relationship exists between copper







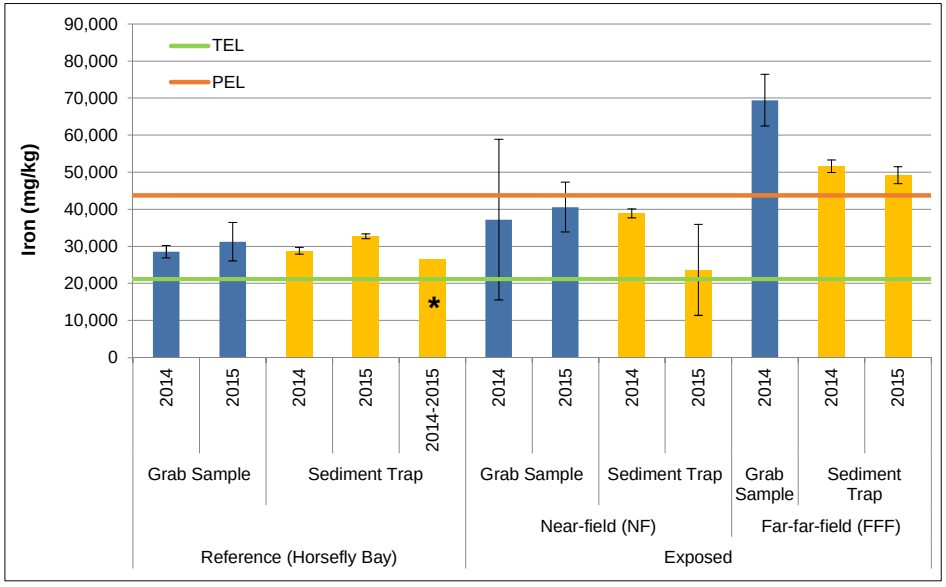


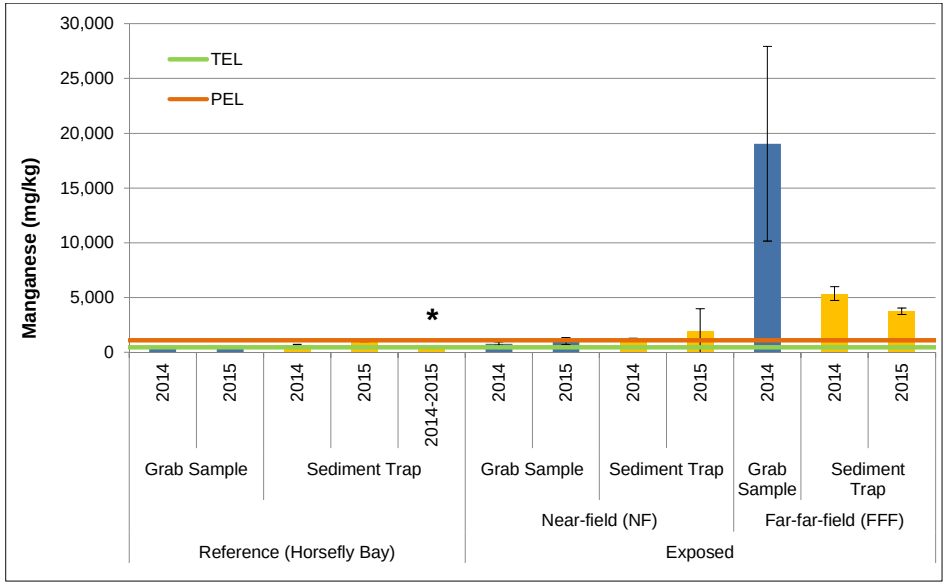
Figure 8: Quesnel Lake Profundal area sediment metal concentrations (mean ± t*SE) for parameters of interest and aluminum - grab samples and sediment trap samples, 2014 - 2015[1,2]. Displayed sediment trap metal concentrations are for bulk sediment only[3].

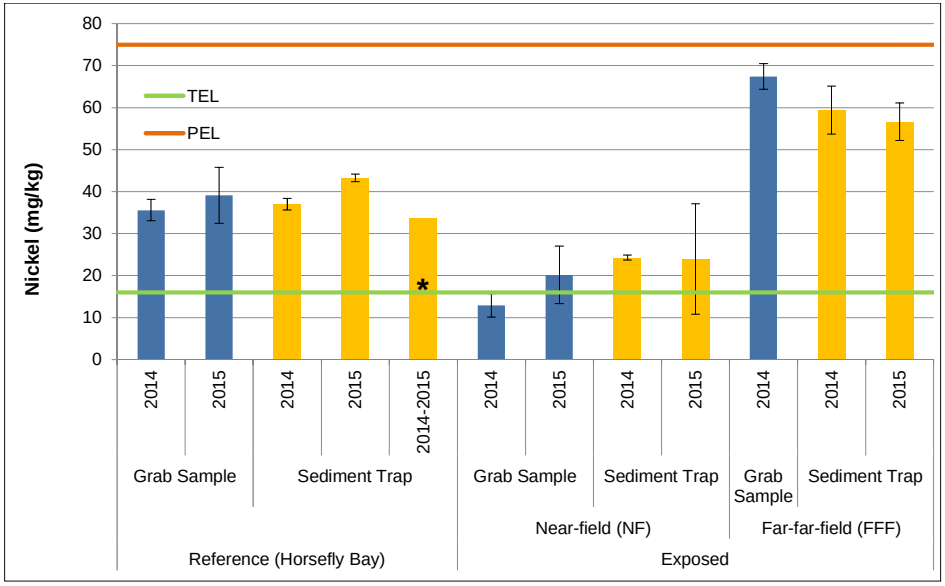
* Analyses were only performed on a single sediment trap sample (n=1), therefore mean values are not shown.

[1] "2014" sediment traps = August 2014 to May 2015 deployment; "2015" sediment traps = May 2015 to August 2015 deployment; "2014-2015" sediment traps = August 2014 to August 2015 deployment.

[2] TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015). Mean values are shown with a < symbol if all data used in their calculation were below the method detection limit (MDL).

[3] Metal concentrations displayed represent the < 63µm sediment fraction of grab samples and the < 2mm fraction of sediment trap material.





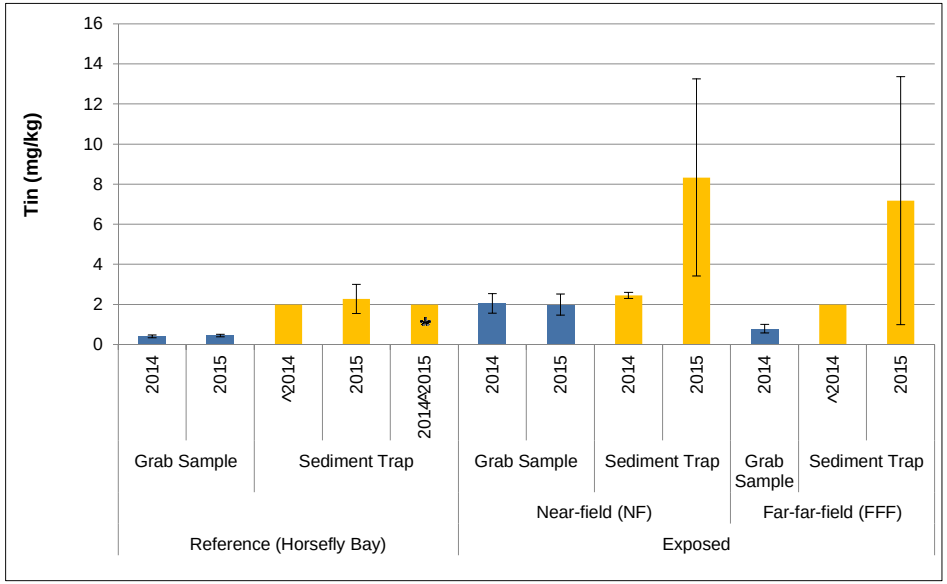


Figure 8: Quesnel Lake Profundal area sediment metal concentrations (mean ± t*SE) for parameters of interest and aluminum - grab samples and sediment trap samples, 2014 - 2015[1,2]. Displayed sediment trap metal concentrations are for bulk sediment only[3].

* Analyses were only performed on a single sediment trap sample (n=1), therefore mean values are not shown.

[1] "2014" sediment traps = August 2014 to May 2015 deployment; "2015" sediment traps = May 2015 to August 2015 deployment; "2014-2015" sediment traps = August 2014 to August 2015 deployment.

[2] TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015). Mean values are shown with a < symbol if all data used in their calculation were below the method detection limit (MDL).

[3] Metal concentrations displayed represent the < 63µm sediment fraction of grab samples and the < 2mm fraction of sediment trap material.

and aluminum concentrations in sediment trap material (Figure 5). This relationship shows that copper is associated with aluminum, likely in chlorite, an alumino-silicate mineral present in Mount Polley Mine tailings (as discussed for Polley Lake above; SRK 2015a). The Quesnel Lake far-far-field area sediment trap material had more aluminum relative to copper, as indicated by a deviation from the aluminum to copper ratio observed at impacted areas (Figure 5). This demonstrates that copper at the far-far-field study area is not associated with aluminum, and is therefore not associated with the Mount Polley tailings. The Quesnel Lake reference area sediment trap material aluminum and copper concentrations also deviate from this relationship as would be expected (Figure 5).

In the 2014 Set, near-field area sediment trap iron concentrations were elevated when compared to the reference area, but were most elevated (in both years) in the far-far-field area (Figure 8). In the near-field area, there was a slight but non-significant temporal decrease between the sediment trap deployment sets (2014 and 2015), and no significant difference between sets (2014 and 2015) for the reference and far-far-field areas. The concentrations of iron present in sediment trap material from the reference and near-field trap sets were similar to those measured in surface-sediment grab samples in 2014 and 2015, but iron concentrations in the surface-sediment grab samples from the far-far-field area in 2014 were significantly higher than in the sediment trap sets. Surface-sediment metal concentrations are generally representative of a longer time period (dependent on deposition rates in that area). Therefore, the elevated iron concentration in far-far-field surface-sediment relative to sediment trap material suggested that there was a source of iron (relative to the reference area) prior to the dam failure. As with copper, there appears to be a different source of iron at the far-far-field study area compared to the near-field area, based on: 1) the elevated iron concentrations in surface-sediment (top 3 cm) which are representative of approximately the last 15 years (at 2 mm/yr; Table 3) and chronologically precludes the material from the dam failure from dominating the signature; 2) the tailings impacted material (e.g., near-field surface-sediment in 2014) is lower in iron concentration compared to far-far-field; and 3) the different copper-aluminum signature that suggests that Mount Polley tailings material does not influence this area.

Near-field area sediment trap arsenic concentrations were elevated, and the far-far-field sediment trap material arsenic were greatly elevated when compared to the reference area (Figure 8). High concentrations of arsenic in both sediment trap material and the surface-sediment grab samples at the far-far-field study area, relative to the reference study area

are likely a result of an additional source of arsenic that is not related to the Mount Polley Mine tailings as also noted for other POIs and SPs.

Manganese concentrations in sediment trap material were slightly elevated at the near-field area compared to the reference area (Figure 8). In addition, manganese concentrations in the near-field sediment trap were slightly, but not significantly, higher in 2015 than in 2014. The reference area manganese concentrations did show a significant temporal increase between the 2014 Set and the 2015 Set. Manganese is a bioactive element (Bruland et al 1991), and would be expected to increase with increasing organic carbon (i.e., the seasonal increase in TOC content between the 2014 Set and the 2015 Set), as is noted at the reference area (Figure 7). Manganese concentrations in sediment trap material from the far-far-field study area were substantially elevated compared to the reference area, but not relative to the far-far-field surface-sediment grab sample. The elevated concentration of manganese in the sediment trap material is again suggestive of a source of manganese that is unrelated to Mount Polley Mine tailings dam failure. The surface-sediment grab sample may be enriched in manganese relative to sediment trap material due to the upward diffusion of remobilized (reduced) manganese to the oxic boundary (in the surface-sediments) where it would accumulate as a manganese oxyhydroxide, a process which occurs during early diagenesis. This hypothesis is supported by the large proportion of manganese in the “easily reducible metals and iron oxides” fraction from the sequential extraction (Figure D.4; discussed further below) relative to the smaller proportion of manganese in the “easily reducible and iron oxides” fraction in the sediment trap (trap material will not have undergone early diagenesis).

Nickel concentrations in sediment trap material from the near-field study area were not elevated when compared to the reference area, as also noted by Minnow (2015a) in surface-sediment as part of the initial sediment quality impact characterization which lead to the conclusion that nickel is not associated with the dam failure. However, the far-far-field sediment trap material nickel concentrations were greatly elevated relative to the reference area (Figure 8). The near-field sediment trap had higher nickel concentrations in 2015 than in 2014, but the difference was not significant due high variability. However, the reference area nickel concentrations did show a significant temporal increase between the 2014 Set and the 2015 Set, similar to the near-field study area. High concentrations of nickel in both sediment trap material and the surface-sediment grab at the far-far-field study area, relative to the reference study area corroborate other lines of evidence that higher metal concentrations at this area are not related to the Mount Polley tailings dam failure.

Tin was identified as a SP and had somewhat elevated concentrations in the near-field 2015 Set compared to surface-sediments (Appendix Figure D.6; Appendix Table D.16). However, detection limits in the surface-sediment (all data were detectable with the lowest concentration at 0.4 mg/kg; Minnow 2015b) appeared much lower compared to the sediment trap dataset (MDL of 2 mg/kg; Appendix Table D.6), which may be due to the limited sample volumes for sediment trap material in the 2015 Set. The 2014 Set sediment trap material was not considered to be representative of depositing material, and the amount retrieved was high as the traps were overflowing with material, while the sediment trap material in the 2015 Set was much more limited (i.e., the 2014 Set average dry weight of material submitted for analysis was 45 g while the 2015 Set average dry weight submitted was 0.4 g). As a result, tin concentrations in the sediment trap material may be artificially higher in the 2015 Set, which is the probable explanation for this observation.

Overall, a general decrease in near-field sediment trap metal concentrations was observed in 2015 (i.e., several sediment trap material metal concentrations were half or less than the surface-sediment concentrations; Appendix Table D.16). This suggests that depositing sediment has improved in overall quality and that temporal improvements in the quality of bottom sediment are expected.

Quesnel Lake Sequential Extractions

Despite limited sample volumes, SEA could be completed on at least one sample per area for the 2014 and 2015 Sets, with the exception of the near-field 2015 Set (sediment volume was insufficient for SEA). SEA results for sediment trap bulk-samples were compared to that for the surface-sediment grab samples (Minnow 2015a; Minnow 2016a; Appendix Figure D.4; Appendix Tables D.10 and D.11).

In general, the distribution of the POIs among the Tessier fractions was similar in sediment trap material and surface-sediment grabs at the reference and near-field study areas. There was, however, a difference in the distribution of iron, manganese, and nickel between the surface-sediment grab sample and sediment trap materials at the far-far-field study area. All three metals had higher concentrations and relative proportions in the “easily reducible and iron oxides” fraction in the surface-sediment grab compared to the sediment trap material. This is likely due to the enrichment of iron and manganese oxyhydroxides and associated metals (nickel) at the redox boundary that occurs during early diagenesis. Nickel is known to associate iron oxyhydroxides (Shaw et al. 1990).

As with Polley Lake, Quesnel Lake near-field sediment trap aluminum and copper were largely in the “organic and mineral bound metals” fraction, which is because, in Mount Polley tailings, the two elements are bound in an alumino-silicate mineral, likely chlorite, as identified by SRK (2015a). As such, the majority of copper in freshly depositing sediment (i.e., sediment trap material) that is associated with chlorite is not likely to become remobilized under changing sediment conditions (such as pH or redox status). The proportion of copper that could become remobilized under changing environmental conditions, (i.e., the “easily reducible and iron oxide” and the “carbonate metals” fractions) were above the PEL in the 2014 Set (there was insufficient material for SEA in the 2015 Set). However, such changes in environmental conditions (i.e., redox or pH status) are not expected on the basis of low TOC in the area (Figure 7) and based on an absence changing sediment chemistry with depth (Minnow 2015a).

As the sediment trap material copper concentrations improved from the 2014 Set, the total concentration of potentially remobilized copper may also be lower in the 2015 Set. In the far-far-field study area, the distribution of copper among the sequential extractions was not similar to the near-field for reasons described above (i.e., a different source of copper). The total concentration of copper in the reference study area and the far-far-field study area were always below the PEL but not the TEL (even at the reference study area).

For all Quesnel Lake study areas, the large proportion of iron in sediment trap material was in the “residual” fraction followed by the “easily reducible metals and iron oxides” extraction. Of these extractions, only the “easily reducible metals and iron oxide” fraction would pose a risk with respect to remobilization of iron, should iron oxides undergo reduction, which is unlikely to occur given the low TOC content in Quesnel Lake sediment (i.e., 0.1 to 4%; Figure 7). The highest concentration of iron in the “easily reducible and iron oxide” fraction was at the far-far-field study area. As discussed above, this is likely a result of remobilized iron within the surface sediments, and an accumulation of oxidized iron (and manganese) at the redox boundary as a result of early diagenesis. This process would also explain the high proportion of manganese in the same fraction at the same location. Therefore, the accumulation of this form of iron (or manganese) would not be associated with a point source of contamination (i.e., is not associated with the dam failure). The concentrations of iron that could potentially be remobilized (i.e., the “easily reducible and iron oxide” fractions) were below the PEL for all study areas.

The distribution of manganese was not dominated by the “residual” fraction. Instead there was a small proportion of manganese in each sequential extraction. Manganese associated

with the “easily reducible” fraction will probably not become bioavailable because a change in pH or redox conditions are not likely to occur in these areas (as discussed above). Total manganese concentrations were below the PEL within all areas except the far-far-field, where concentrations of “exchangeable” manganese were at or above the PEL. However, these high concentrations of “exchangeable” manganese have been observed elsewhere (Tessier et al. 1979) and interpreted to be the reduced manganese$^{(II)}$ ion present in the “exchangeable” fraction because of the slow oxidation rate of manganese compared to iron. The fate of this manganese$^{(II)}$ ion is as a manganese oxyhydroxide, which is associated with the surface-sediment enrichment of iron and manganese oxyhydroxides (Tessier et al. 1979), due to early diagenesis.

The distribution of arsenic in the sequential extractions was similar to that of iron, where most of the arsenic was present in the “residual” fraction. Similarly the combined concentration of arsenic that could potentially become remobilized (i.e., the “organic and mineral bound”, and the “easily reducible and iron oxide” fractions) was well below the PEL. As pH and redox conditions are not expected to change, arsenic associated with the “easily reducible and iron oxide” fraction is not likely to become remobilized.

Total concentrations of nickel were all below the PEL, and the majority of nickel was present in the “residual” fraction for all study areas. Elevated concentrations of nickel were not related to the dam failure (Minnow 2015a) and within the near-field study area, little nickel was associated with fractions other than the residual such that in this area does not pose a risk for remobilization. Nickel concentrations in fractions other than the residual (with the potential to become remobilized) were present at the TEL level in the reference and far-far-field areas. Higher concentrations of nickel extracted in the “easily reducible and iron oxides” fraction at the reference and far-far-field study areas relative to the near-field area suggested an accumulation of nickel with iron and manganese oxyhydroxides due to early diagenesis. However, these concentrations were well below the PEL and as discussed earlier, not likely associated with the Mount Polley Mine tailings or dam failure.

Summary

Overall, the evaluation of sediment deposition and the quality of depositing sediment provides sediment deposition rate estimates and documents a general temporal improvement in the quality of depositing sediment in mine-influenced study areas.

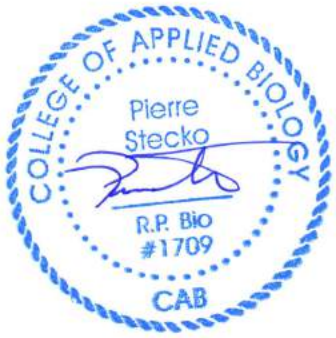
Deposition rate estimates included periods affected by the dam failure and therefore are considered over-estimates of long-term deposition rates.

Polley Lake deposition rates showed fairly good agreement among the study areas. In 2015, a moderate deposition rate was estimated for both the north basin (5.4 ± 2.8 mm/yr) and a more rapid deposition rate at the south basin (9.5 ± 3.6 mm/yr). These estimates suggest that it would take between 1 and 3 years to deposit 1 cm of fresh sediment. Deposition rates were found to be higher for the summer (2015) Set compared to the winter (2014) Set, which was attributed to the substantial seasonal change in TOC deposition in this lake. Sediment trap copper and arsenic concentrations were lower in 2015 compared to 2014, supporting the conclusion of a general temporal improvement in sediment quality. Sequential extraction analysis of the sediment trap material in 2015 indicated that all potentially bioavailable metal concentrations (i.e., the concentration of each metal in all fractions combined, except the “residual” fraction) were below their respective PELs. The strong relationship of aluminum and copper supported the finding (SRK 2015) that copper is associated with the alumino-silicate mineral, chlorite.

Quesnel Lake deposition rates varied substantially among the study areas. In 2015, a slow deposition rate was estimated for the near-field (1.2 mm/yr) which suggested that it would take approximately 8 years for the accumulation of 1 cm of fresh sediment. The far-far-field sediment trap sets had an estimated sediment deposition rate of 2.2 ± 2.3 mm/yr. The quality of sediment trap material from the near-field area of Quesnel Lake showed a general improvement between 2014 and 2015. The quality of the far-far field sediment trap material was dominated by elevated metals that did not have the same signature as the Mount Polley Mine tailings, and deviation from the mine-signature aluminum-copper relationship at the far-far-field study area supports the conclusion that elevated metals at the far-far-field study area are not related to the dam failure. Sequential extraction analysis indicated that all potentially bioavailable metal concentrations were below the PEL (although it is noted that the required changes in pH and redox conditions for metals to become remobilized are not expected). This includes copper, which is predominantly in a non-bioavailable form (i.e., present as the alumino-silicate mineral, chlorite). The only observed exceptions were for manganese and arsenic at the far-far-field study area, where elevated metal concentrations are not dam-failure related.

Recommendations

It is recommended that a repeat of the summer set of traps be undertaken in 2017 to determine if depositing sediment is free of failure-influenced material, and to validate deposition rate estimates when this material is no longer depositing. This would also help to set expectations with respect to lake recovery. In addition, it is recommended that the far-far-field study area be eliminated from further sediment trap studies since the study area does not appear to be influenced by the Mount Polley Mine dam failure. It is also recommended that a reference area be added for Polley Lake to allow for an improved interpretation of changes in sediment quality relative to background.



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APPENDIX A

SAMPLE LOCATIONS
AND SUPPORTING DATA

Table A.1: Locations and depth of sediment deposition traps in Quesnel Lake, and Polley Lake, Mount Polley Mine, 2014 Set.

Waterbody	Area Description	Station ID	UTM (Zone 10U)		Lake Depth (m)	Deployment Date	Retrieval Date	Number of Days Deployed	Sediment Trap Observations
			Northing	Easting					
Polley Lake	POL-P1 (North Basin)	POL-ST-P1-1	5824693	593708	29.6	25-Oct-14	24-May-15	211	Sediment present
		POL-ST-P1-2			29.3	25-Oct-14	24-May-15	211	Sediment present
		POL-ST-P1-3			29.6	25-Oct-14	24-May-15	211	Sediment present
		POL-ST-P1-4			29.3	25-Oct-14	24-May-15	211	No sediment recovered
		POL-ST-P1-5			29.3	25-Oct-14	24-May-15	211	Sediment present
		POL-ST-P1-6			27.3	25-Oct-14	24-May-15	211	Sediment present; sample broken in transit to laboratory
	POL-P2 (South Basin)	POL-ST-P2-1	5822183	595166	29.1	25-Oct-14	23-May-15	210	Sediment present
		POL-ST-P2-2			28.7	25-Oct-14	23-May-15	210	Sediment present
		POL-ST-P2-3			28.9	25-Oct-14	23-May-15	210	Sediment present
		POL-ST-P2-4			28.3	25-Oct-14	23-May-15	210	Sediment present
		POL-ST-P2-5			28.9	25-Oct-14	23-May-15	210	Sediment present
		POL-ST-P2-6			27.7	25-Oct-14	23-May-15	210	Sediment present
Quesnel Lake	Reference Area (Horsefly Bay)	QUL-ST-REF-1	5814675	610057	84.9	31-Aug-14	22-May-15	264	Sediment present
		QUL-ST-REF-2	5814654	610032	82.4	31-Aug-14	22-May-15	264	Sediment present
		QUL-ST-REF-3	5814684	610052	84.9	31-Aug-14	22-May-15	264	Sediment present
		QUL-ST-REF-4	5814659	610017	82.9	31-Aug-14	22-May-15	264	Sediment present
		QUL-ST-REF-5	5814667	610029	82.9	31-Aug-14	22-May-15	264	Sediment present
		QUL-ST-REF-6	5814691	610017	82.6	31-Aug-14	Not Retrieved	-	Not Retrieved
	Near-field (Near outlet of Hazeltine Creek)	QUL-ST-NF-1	5818165	601891	112	30-Aug-14	21-May-15	264	Sediment over-filling trap
		QUL-ST-NF-2	5818217	601849	112	30-Aug-14	21-May-15	264	Sediment over-filling trap
		QUL-ST-NF-3	5818229	601814	108	30-Aug-14	22-May-15	265	Sediment over-filling trap
		QUL-ST-NF-4	5818186	601835	109	30-Aug-14	22-May-15	265	Sediment over-filling trap
		QUL-ST-NF-5	5818174	601847	107	30-Aug-14	22-May-15	265	Sediment over-filling trap
		QUL-ST-NF-6	5818265	601815	109	30-Aug-14	Not Retrieved	-	Not Retrieved
	Far-Far-Field (Downstream of Cedar Point Park)	QUL-ST-FFF-1	5826754	598711	33.7	31-Aug-14	21-May-15	263	Sediment present
		QUL-ST-FFF-2	5826780	598701	37.0	31-Aug-14	21-May-15	263	No sediment recovered
		QUL-ST-FFF-3	5826803	598696	37.8	31-Aug-14	21-May-15	263	Sediment present
		QUL-ST-FFF-4	5826827	598694	35.7	31-Aug-14	21-May-15	263	Sediment present
		QUL-ST-FFF-5	5826824	598678	31.9	31-Aug-14	21-May-15	263	Sediment present
		QUL-ST-FFF-6	5826804	598687	35.9	31-Aug-14	Not Retrieved	-	Not Retrieved

Table A.2: Locations and depth of sediment deposition traps in Quesnel Lake and Polley Lake, Mount Polley Mine, 2015 Set.

Waterbody	Area Description	Station ID	UTM (Zone 10U)		Lake Depth (m)	Deployment Date	Retrieval Date	Number of Days Deployed	Sediment Trap Observations
			Northing	Easting					
Polley Lake	POL-P1 (North Basin)	POL-ST-P1-1	5824731	593701	29.6	24-May-15	12-Aug-15	80	Sediment present
		POL-ST-P1-2	5824748	593755	28.3	24-May-15	12-Aug-15	80	Sediment present
		POL-ST-P1-3	5824709	593646	29.5	24-May-15	12-Aug-15	80	Sediment present
		POL-ST-P1-4	5824661	593690	29.3	24-May-15	12-Aug-15	80	Sediment present
		POL-ST-P1-5	5824669	593721	29.6	24-May-15	12-Aug-15	80	Sediment present
		POL-ST-P1-6	5824705	593744	29.2	24-May-15	12-Aug-15	80	Sediment present
	POL-P2 (South Basin)	POL-ST-P2-1	5822167	595173	29.3	24-May-15	11-Aug-15	79	Sediment present
		POL-ST-P2-2	5822142	595133	28.9	24-May-15	12-Aug-15	80	Sediment present
		POL-ST-P2-3	5822211	595189	28.9	24-May-15	12-Aug-15	80	Sediment present
		POL-ST-P2-4	5822255	595177	28.5	24-May-15	12-Aug-15	80	Sediment present
		POL-ST-P2-5	5822223	595158	28.5	24-May-15	12-Aug-15	80	Sediment present
		POL-ST-P2-6	5822204	595135	28.9	24-May-15	12-Aug-15	80	Sediment present
Quesnel Lake	Reference Area (Horsefly Bay)	QUL-ST-REF-1	5814707	610015	82.9	26-May-15	13-Aug-15	79	Sediment present
		QUL-ST-REF-2	5814654	610032	83.6	26-May-15	14-Aug-15	80	Sediment present
		QUL-ST-REF-3	5814678	609988	81.4	26-May-15	14-Aug-15	80	Sediment present
		QUL-ST-REF-4	5814659	610017	82.3	26-May-15	14-Aug-15	80	Sediment present
		QUL-ST-REF-5	5814667	610029	82.5	26-May-15	13-Aug-15	79	Sediment present
		QUL-ST-REF-6	5814691	610017	82.8	26-May-15	13-Aug-15	79	Sediment present
	Near-field (Near outlet of Hazeltine Creek)	QUL-ST-NF-1	5818165	601891	111	26-May-15	12-Aug-15	78	Sediment present
		QUL-ST-NF-2	5818217	601849	112	26-May-15	12-Aug-15	78	Sediment present
		QUL-ST-NF-3	5818229	601814	112	26-May-15	12-Aug-15	78	Sediment present
		QUL-ST-NF-4	5818186	601835	111	26-May-15	12-Aug-15	78	Sediment present
		QUL-ST-NF-5	5818174	601847	111	26-May-15	12-Aug-15	78	No sediment recovered
		QUL-ST-NF-6	5818262	601797	113	26-May-15	12-Aug-15	78	Sediment present
	Far-Far-Field (Downstream of Cedar Point Park)	QUL-ST-FFF-1	5826754	598711	34.8	21-May-15	12-Aug-15	83	Sediment present
		QUL-ST-FFF-2	5826780	598701	38.4	21-May-15	12-Aug-15	83	Sediment present
		QUL-ST-FFF-3	5826803	598696	38.3	21-May-15	12-Aug-15	83	Sediment present
		QUL-ST-FFF-4	5826827	598694	33.8	21-May-15	12-Aug-15	83	Sediment present
		QUL-ST-FFF-5	5826824	598678	31.2	21-May-15	12-Aug-15	83	Sediment present
		QUL-ST-FFF-6	5826804	598687	37.8	21-May-15	12-Aug-15	83	No sediment recovered

Table A.3: Supporting measures for sediment trap deployment and retrieval, Mount Polley Mine, 2014 and 2015 Sets.

Deployment Year		Location	Area Code	Deployment											
				Surface						Bottom					
				Temp.	DO	DO	SpC	pH	ORP	Temp.	DO	DO	SpC	pH	ORP
				°C	mg/L	%	µS/cm	pH	mV	°C	mg/L	%	µS/cm	pH	mV
Deployment	2014	Polley Lake	POL-P1	9.2	6.4	55.8	265	7.83	-63	8.6	0.30	2.6	316	7.48	208
			POL-P2	9.0	4.4	37.6	276	7.67	101	8.6	0.27	2.4	312	7.52	177
		Quesnel Lake	REF	18.4	8.9	94.7	102	8.16	-	4.1	11.4	87.4	111	7.72	-
			NF	18.0	8.8	92.8	102	8.02	-	7.5	4.9	40.9	171	8.20	-
			FFF	17.9	9.0	94.4	101	8.06	-	5.4	10.69	84.7	110	7.67	-
	2015	Polley Lake	POL-P1	16.1	12.3	124	296	8.70	204	5.5	7.44	59.1	303	7.33	119
			POL-P2	15.6	12.2	123	295	8.62	245	5.6	7.31	58.2	306	7.30	236
		Quesnel Lake	REF	11.8	10.3	95.3	86	7.61	211	3.9	10.8	82.5	117	7.38	249
			NF	12.6	10.6	99.7	119	7.62	318	4.2	11.3	86.7	120	7.43	371
			FFF	12.7	10.6	101	118	7.64	290	5.3	11.4	89.9	118	7.51	312
Retrieval	2014	Polley Lake	POL-P1	16.1	12.3	124	296	8.70	204	5.5	7.4	59.1	303	7.33	119
			POL-P2	15.6	12.2	123	295	8.62	245	5.6	7.3	58.2	306	7.30	236
		Quesnel Lake	REF	11.8	10.3	95.3	86	7.61	211	3.9	10.8	82.5	117	7.38	249
			NF	12.6	10.6	99.7	119	7.62	318	4.2	11.3	86.7	120	7.43	371
			FFF	12.7	10.6	101	118	7.64	290	5.3	11.4	89.9	118	7.51	312
	2015	Polley Lake	POL-P1	20.4	8.2	91.3	283	8.34	127	5.9	3.0	23.8	288	7.17	144
			POL-P2	20.6	8.2	91.3	282	8.36	161	5.9	2.9	23.4	288	7.20	13
		Quesnel Lake	REF	20.2	8.8	97.0	158	8.09	116	4.1	10.3	79.1	134	7.42	-
			NF	20.5	8.4	93.2	134	7.44	134	4.4	10.5	81.2	135	7.54	145
			FFF	19.3	8.8	95.9	189	7.76	133	5.8	10.1	80.8	142	7.22	162

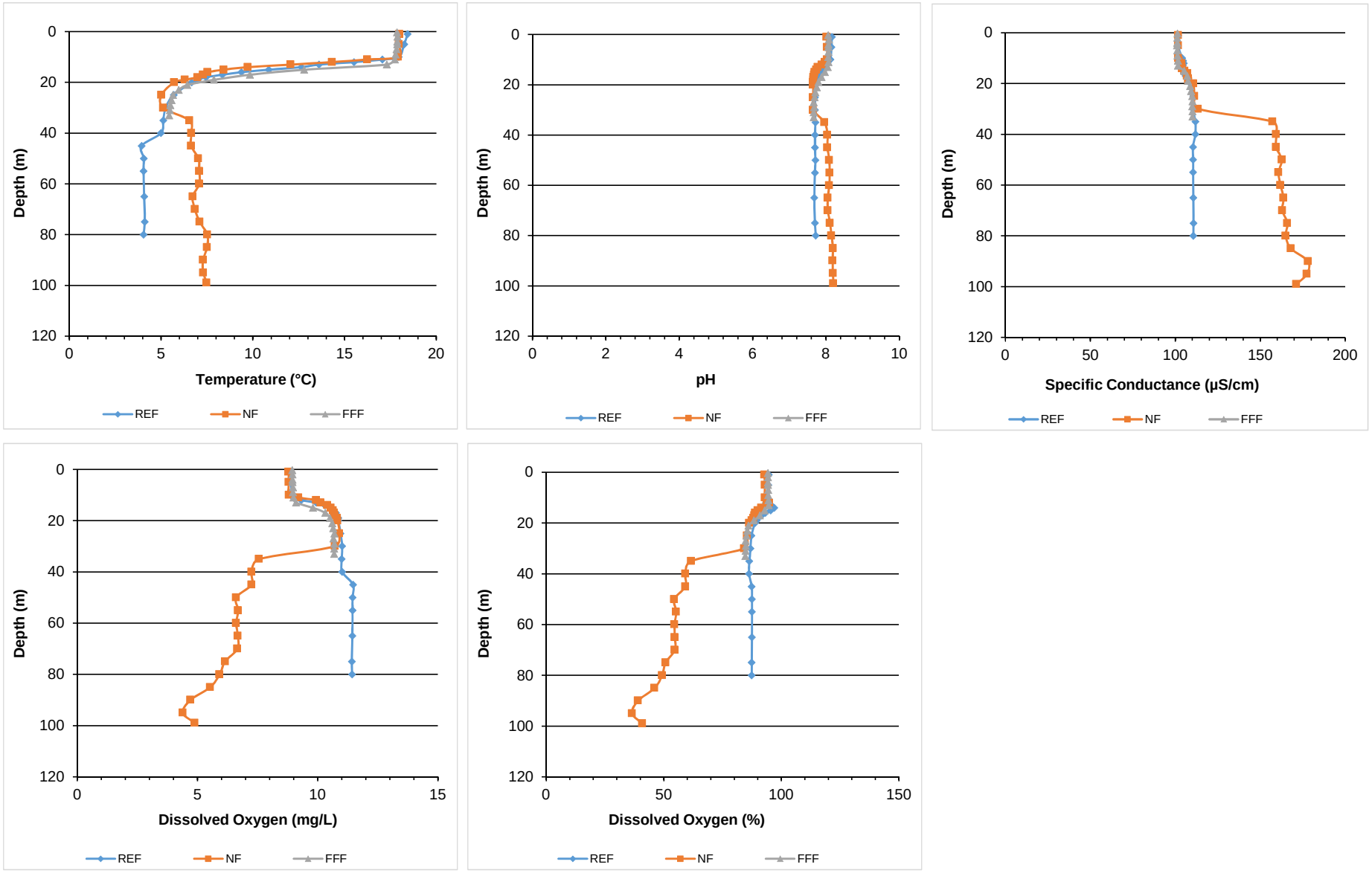


Figure A.1: Vertical profiles of temperature, pH, specific conductance, and dissolved oxygen in Quesnel Lake during the deployment of sediment traps, Mount Polley Mine, August 2014 [1].

[1] Vertical profile measures were not collected during deployment of sediment traps in Polley Lake, October 2014.

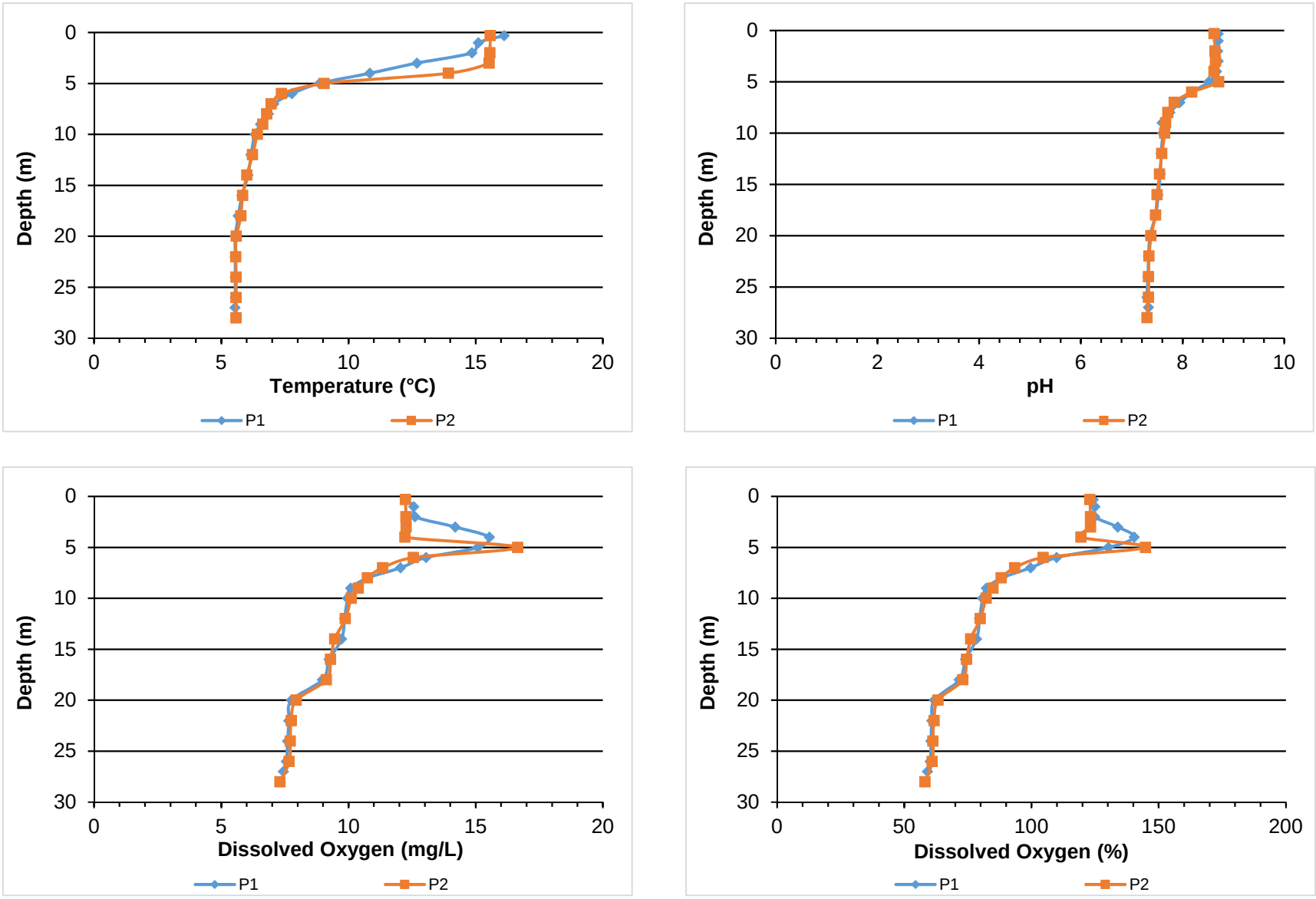
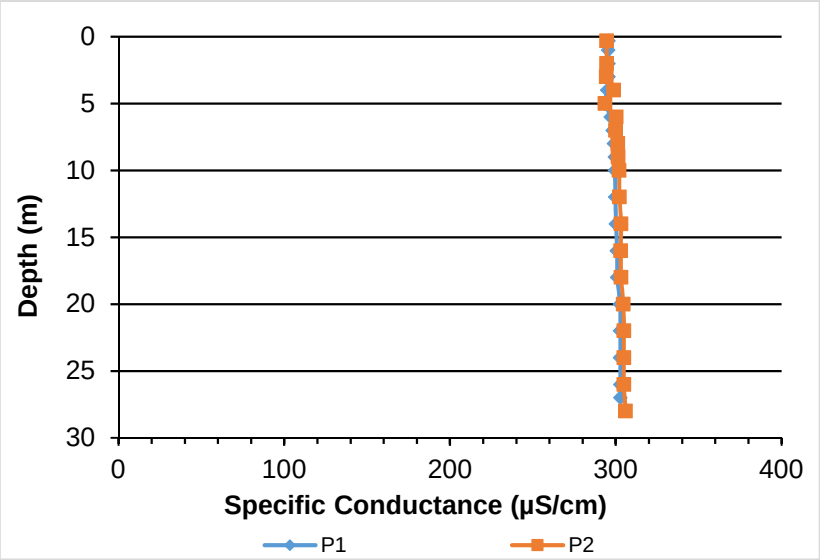


Figure A.2: Vertical profiles of temperature, pH, dissolved oxygen, specific conductance, and oxidation/reduction potential in Polley Lake during the retrieval and deployment of sediment traps, Mount Polley Mine, May 2015.



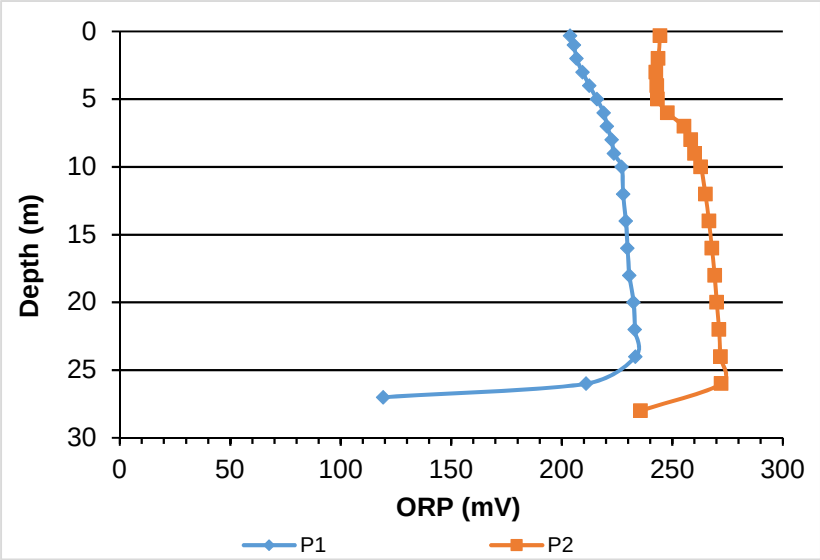


Figure A.2: Vertical profiles of temperature, pH, dissolved oxygen, specific conductance, and oxidation/reduction potential in Polley Lake during the retrieval and deployment of sediment traps, Mount Polley Mine, May 2015.

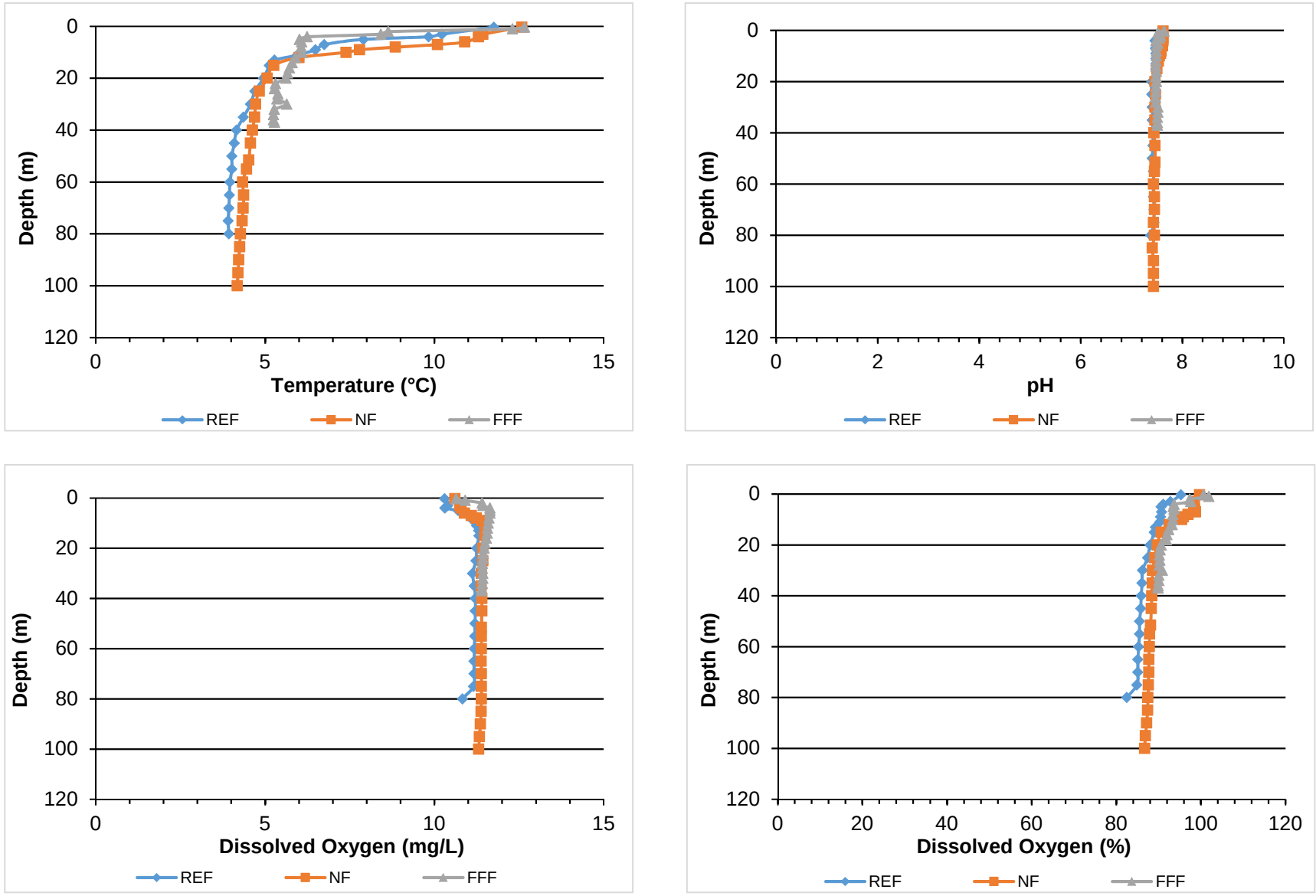
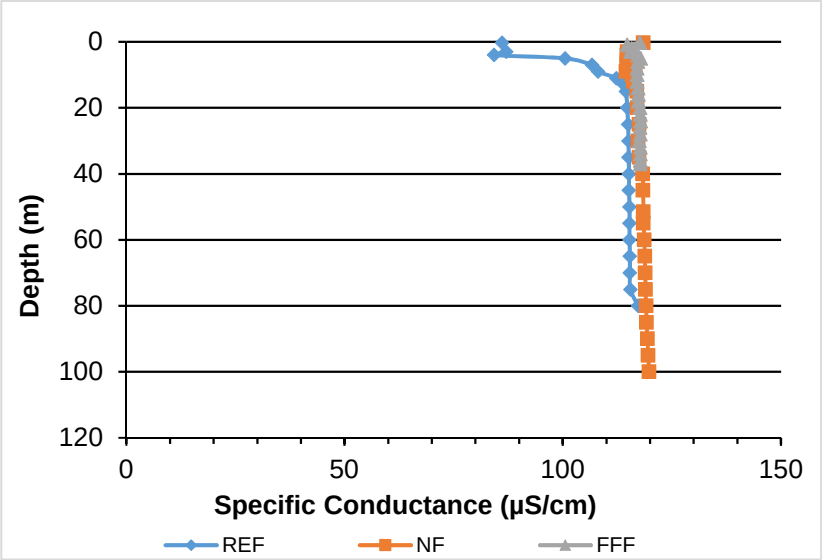


Figure A.3: Vertical profiles of temperature, pH, dissolved oxygen, specific conductance, and oxidation/reduction potential in Quesnel Lake during the retrieval and deployment of sediment traps, Mount Polley Mine, May 2015.



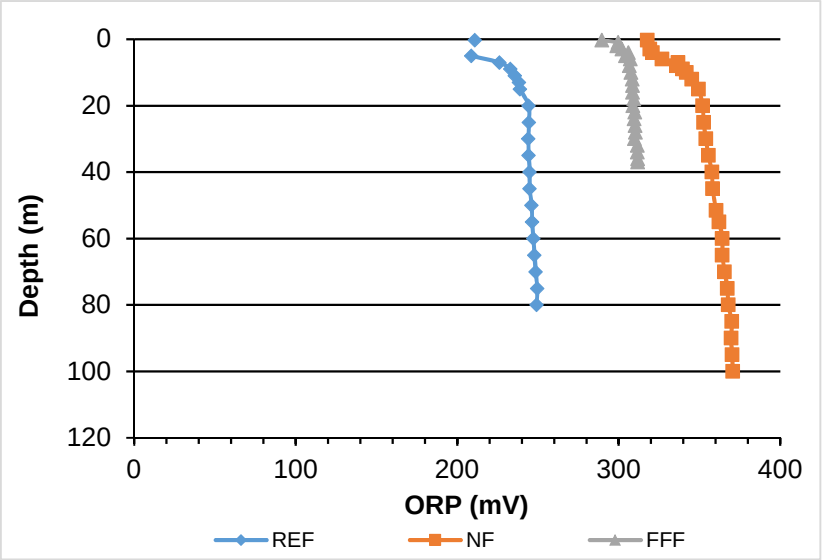


Figure A.3: Vertical profiles of temperature, pH, dissolved oxygen, specific conductance, and oxidation/reduction potential in Quesnel Lake during the retrieval and deployment of sediment traps, Mount Polley Mine, May 2015.

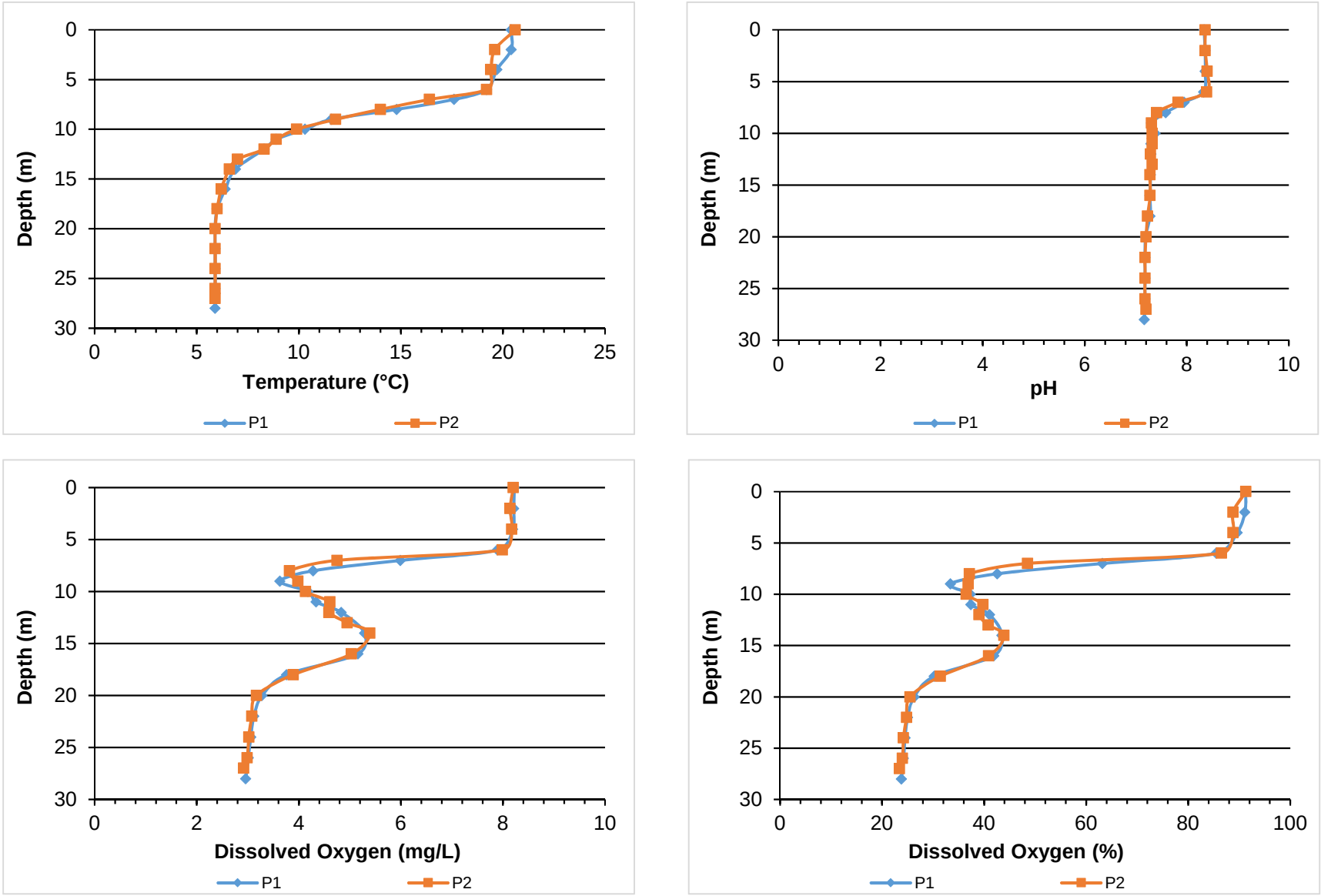
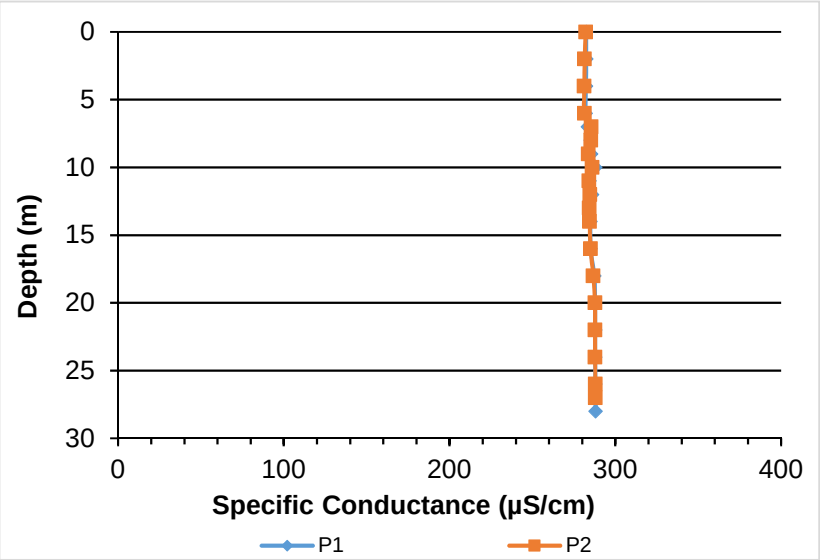


Figure A.4: Vertical profiles of temperature, pH, dissolved oxygen, specific conductance, and oxidation/reduction potential in Polley Lake during the retrieval of sediment traps, Mount Polley Mine, August 2015.



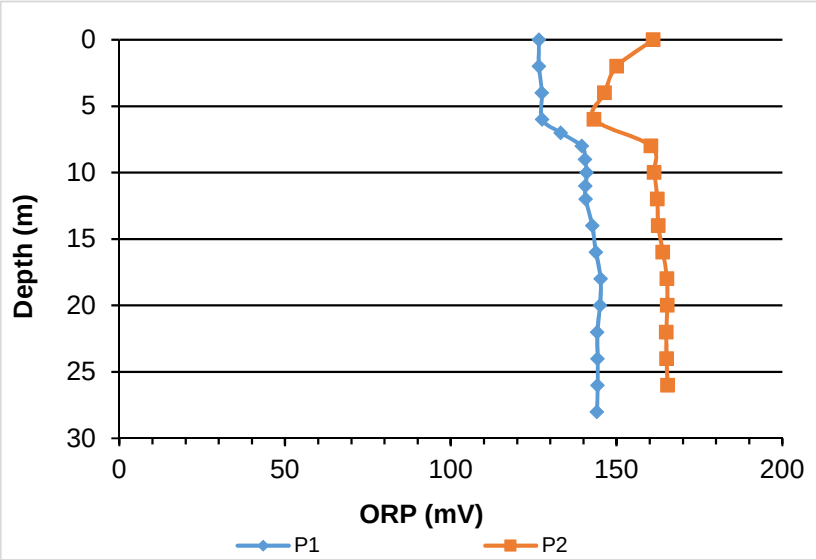


Figure A.4: Vertical profiles of temperature, pH, dissolved oxygen, specific conductance, and oxidation/reduction potential in Polley Lake during the retrieval of sediment traps, Mount Polley Mine, August 2015.

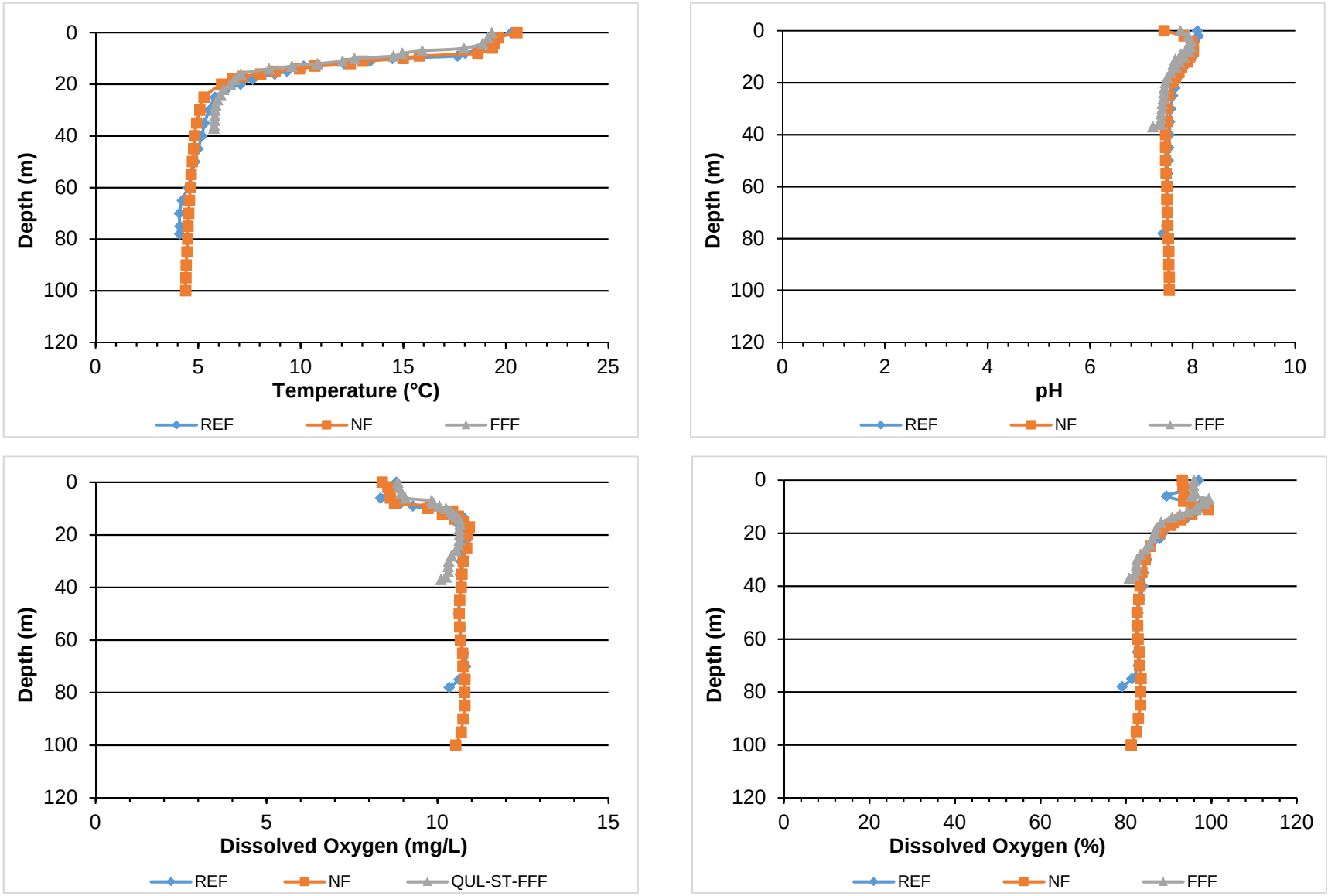
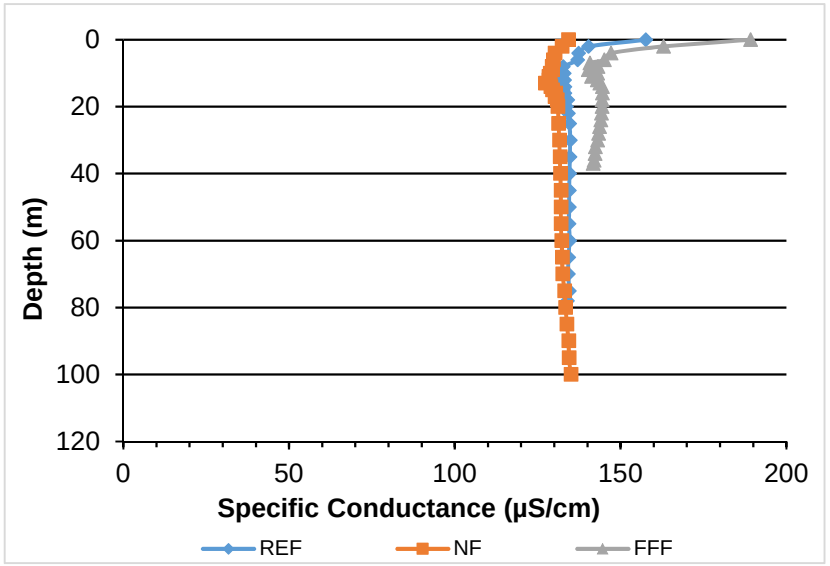


Figure A.5: Vertical profiles of temperature, pH, dissolved oxygen, specific conductance, and oxidation/reduction potential in Quesnel Lake during the retrieval of sediment traps, Mount Polley Mine, August 2015.



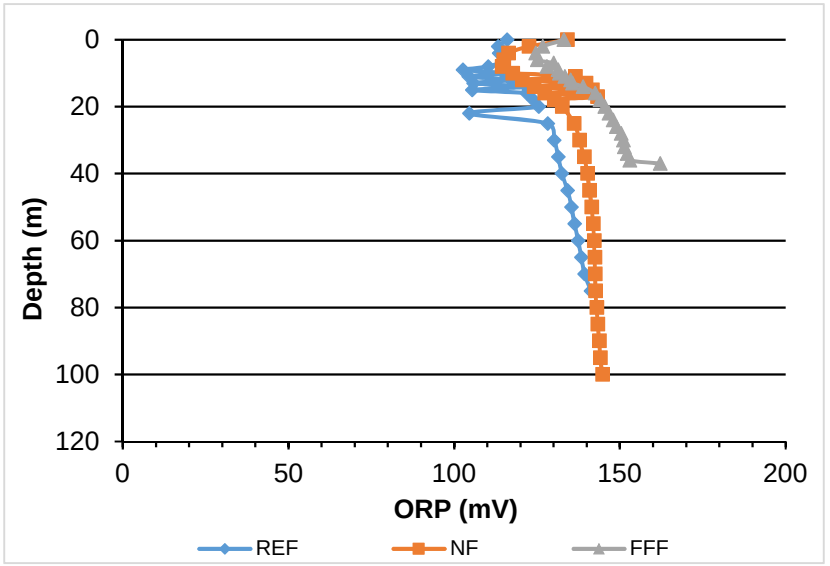


Figure A.5: Vertical profiles of temperature, pH, dissolved oxygen, specific conductance, and oxidation/reduction potential in Quesnel Lake during the retrieval of sediment traps, Mount Polley Mine, August 2015.

APPENDIX B

ANALYTICAL REPORTS

Results of Dry Bulk Density and Porosity Measurements Revised October 15th, 2015

Flett Research Ltd.
440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
Fax/Phone: (204) 667-2505
E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

Client: Wiramanaden, Cheryl

Address: Minnow Environmental Inc., 2 Lamb Street, Georgetown, ON, L7G 3M9
Core ID: n/a
Date Received: 8-Jul-15
Sampling Date: May 21-24, 2015
Project: #2542

Transaction ID: 752
PO/Contract No.: TOE Aug 2-11
Analysis Dates: July 23 - August 5, 2015
Analysts: B. Nykyforuk / L. Hesketh-Jost / X. Hu

Salt correction applied? No

Analytical Method: N20110 Determination of Lead-210 in Sediment, Soil and Peat by Alpha Spectrometry (Version 2)
Deviations from Method:
Comments: This report replaces Dry Bulk Density and Porosity *Wiramanaden Aug 5-15 Final.xlsm*, originally emailed on August 7th, 2015. The dry weight of sample POL-ST-P1-5 was corrected by adding 2.4 g to the incorrect weight of 10.402 g and the results for dry bulk density, porosity and % loss on drying were then recalculated.

Detection Limit:
Estimated Uncertainty:

Results authorized by Dr. Robert J. Flett, Chief Scientist

Section Number	Sample ID	Upper Depth (cm)	Lower Depth (cm)	Extrapo-lated Upper Section Depth (cm)	Extrapo-lated Lower Section Depth (cm)	Dry Bulk Density (Dry wt./Wet vol.) (g/cm3)	% Loss on Drying	Porosity %	Total Dry Weight of sample (g)		Notes
1	POL-ST-P2-2					0.169	84.57%	**92.76%**	**1.649**		The client raised concerns about improbable measurements for sample POL-ST-P1-5 when the dry bulk density, % loss on drying and porosity were compared to sample POL-ST-P1-2. Samples POL-ST-P1-2 and POL-ST-P1-5 were collected in close proximity so the differences seen between the two seemed unlikely. Upon our investigation of the data we determined that the weight of the empty petri dish for sample POL-ST-P1-5 was impossibly low. In the Pb-210 and Bulk Density sheet the incorrect petri dish weight has been adjusted by adding the weight of 2.4 g to the weight of 10.402 g. The weight of -2.4 g was determined to be the cause of the incorrect petri dish by examination of our balance entry back up records. It was noticed that after the weight of 10.402 g was entered another weight of -2.4 g was also entered. This lead us to believe that, when the petri dish was weighed and gave a weight 10.402 g, the balance was at the time not zeroed. The comparison of the results for dry bulk density, % loss on drying and porosity for the two samples POL-ST-P1-2 and POL-ST-P1-5 (rows 38 and 40 on Pb-210 and Bulk Density sheet) leads us to believe that the weight of 12.802 g (10.402 + 2.4, cell CX40) used in the correction is reasonable. Additionally, the mean weight of 13 empty petri dishes was calculated as 13.003 g. This further validates the use of 12.802 g as it is very close to mean weight for empty petri dishes, falling within 1.4 standard deviations (1 SD = 0.146 g) of the mean petri dish weight (see cells CX51, CX52 and CX53 for mean, SD and %RSD calculations) .
2	QUL-ST-REF-2					0.671	53.04%	**75.83%**	**15.421**		
3	QUL-ST-FFF-5					0.280	76.16%	**89.41%**	**5.492**		
4	QUL-ST-FFF-3					0.284	75.85%	**89.19%**	**5.179**		
5	POL-ST-P1-2					0.146	86.57%	**94.07%**	**3.329**		
6	QUL-ST-REF-4					0.743	49.42%	**72.55%**	**43.345**		
7	POL-ST-P1-5					0.171	84.48%	**93.25%**	**3.157**		
8	POL-ST-P2-4					0.169	84.61%	**93.12%**	**2.326**		
9	QUL-ST-NF-1					0.646	54.25%	**76.63%**	**42.173**		
10	QUL-ST-NF-2					0.638	54.50%	**76.37%**	**43.324**		
11	QUL-ST-NF-3					0.630	54.90%	**76.69%**	**40.191**		
12	QUL-ST-NF-4					0.592	56.82%	**77.93%**	**53.640**		
13	QUL-ST-NF-5					**0.710**	**50.82%**	**73.36%**	**46.454**		
13	QUL-ST-NF-5					0.706	50.95%	73.31%			
13 Dup	QUL-ST-NF-5 Duplicate					0.714	50.69%	73.41%			

Results of Dry Bulk Density and Porosity Measurements

Flett Research Ltd.
440 DeSalaberry Ave. Winnipeg, MB R2L 0Y7
Fax/Phone: (204) 667-2505
E-mail: flett@flettresearch.ca Webpage: http://www.flettresearch.ca

Client: Wiramanaden, Cheryl

Address: Minnow Environmental Inc2 Lamb StreetGeorgetown, ON L7G 3M9
Core ID: n/a
Date Received: 6-Oct-15
Sampling Date: Aug 11-14, 2015
Project: #2574

Transaction ID: 767
PO/Contract No.: TOE Aug 2-11
Analysis Dates: October 16 - 26, 2015
Analysts: B. Nykyforuk

Salt correction applied? No

Analytical Method: N20110 Determination of Lead-210 in Sediment, Soil and Peat by Alpha Spectrometry (Version 2)
Deviations from Method:

Comments:

Detection Limit:

Estimated Uncertainty:

Results authorized by Dr. Robert J. Flett, Chief Scientist

Section Number	Sample ID					Volume of wet sample (ml)	Weight of wet sample (g)	Weight of dry sample (g)	Dry Bulk Density (Dry wt./Wet vol.) (g/cm3)	% Loss on Drying	Porosity %																	
1	QUL-ST15-NF-6					4.871	5.012	0.355	0.073	92.92%	95.60%																	
2	QUL-ST15-NF-4					4.871	5.239	0.696	0.143	86.72%	93.27%																	
3	QUL-ST15-NF-3					4.871	5.058	0.434	0.089	91.42%	94.93%																	
4	QUL-ST15-FFF-4					4.871	5.527	1.135	0.233	79.47%	90.17%																	
5	QUL-ST15-FFF-3					4.871	5.264	0.700	0.144	86.70%	93.70%																	
6	QUL-ST15-FFF-1					4.871	5.211	0.702	0.144	86.53%	92.58%																	
7	POL-ST15-P1-1					4.871	5.098	0.430	0.088	91.57%	95.83%																	
8	POL-ST15-P1-2					4.871	5.158	0.554	0.114	89.26%	94.52%																	
9	POL-ST15-P1-4					4.871	5.061	0.399	0.082	92.12%	95.71%																	
10	POL-ST15-P2-3					4.871	5.032	0.354	0.073	92.96%	96.03%																	
11	POL-ST15-P2-4								0.057	94.43%	96.85%																	
12	POL-ST15-P2-6					4.871	5.047	0.353	0.072	93.01%	96.37%																	
13	QUL-ST15-REF-3					4.871	5.941	1.732	0.356	70.84%	86.40%																	
14	QUL-ST15-REF-4					4.871	5.861	1.618	0.332	72.39%	87.11%																	
15	QUL-ST15-REF-6					4.871	6.046	1.928	0.396	68.11%	84.54%																	
11	POL-ST15-P2-4					4.871	5.007	0.274	0.056	94.54%	97.17%																	
11 Dup	POL-ST15-P2-4 Duplicate					4.871	4.985	0.283	0.058	94.32%	96.54%																	

Note: Results relate only to the items tested.
ISO / IEC 17025:2005 Accredited with the Canadian Association for Laboratory Accreditation (CALA Accreditation No. A3306)

MOUNT POLLEY MINING CORP.
ATTN: Colleen Hughes
PO Box 12
Likely BC V0L 1N0

Date Received: 28-MAY-15
Report Date: 10-AUG-15 14:56 (MT)
Version: FINAL

Client Phone: 250-790-2215

Certificate of Analysis

Lab Work Order #: L1618085

Project P.O. #: NOT SUBMITTED
Job Reference: 2542
C of C Numbers: 10-388603
Legal Site Desc:

Can Dang
Senior Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1618085-1 Sediment 21-MAY-15 QUL-ST-NF-1	L1618085-2 Sediment 21-MAY-15 QUL-ST-NF-2	L1618085-3 Sediment 22-MAY-15 QUL-ST-NF-3	L1618085-4 Sediment 22-MAY-15 QUL-ST-NF-4	L1618085-5 Sediment 22-MAY-15 QUL-ST-NF-5
SOIL						
Physical Tests	pH (1:2 soil:water) (pH)	8.49	8.47	8.53	8.54	8.50
Particle Size	% Gravel (>2mm) (%)	<0.10	<0.10	<0.10	<0.10	<0.10
	% Sand (2.0mm - 0.063mm) (%)	1.70	0.33	0.22	0.16	0.25
	% Silt (0.063mm - 4um) (%)	48.3	48.8	47.9	47.6	47.9
	% Clay (<4um) (%)	50.0	50.8	51.9	52.2	51.8
	Texture	Silty clay	Silty clay	Silty clay	Silty clay	Silty clay
Organic / Inorganic Carbon	Total Carbon by Combustion (%)	1.0	1.0	1.0	1.0	1.0
Metals	Aluminum (Al) (mg/kg)	33100	34700	34400	34400	35300
	Antimony (Sb) (mg/kg)	0.70	0.68	0.73	0.69	0.72
	Arsenic (As) (mg/kg)	17.0	17.1	17.2	16.9	17.0
	Barium (Ba) (mg/kg)	315	311	310	309	322
	Beryllium (Be) (mg/kg)	1.17	1.17	1.16	1.18	1.13
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Boron (B) (mg/kg)	13.3	12.8	12.8	12.9	12.7
	Cadmium (Cd) (mg/kg)	0.251	0.238	0.230	0.225	0.241
	Calcium (Ca) (mg/kg)	35000	35000	33500	33800	32200
	Chromium (Cr) (mg/kg)	21.4	21.9	21.9	22.0	22.1
	Cobalt (Co) (mg/kg)	32.9	33.6	33.9	33.5	33.8
	Copper (Cu) (mg/kg)	1130	1150	1130	1150	1160
	Iron (Fe) (mg/kg)	40600	38200	38800	38300	38700
	Lead (Pb) (mg/kg)	11.1	11.2	11.3	11.6	11.6
	Lithium (Li) (mg/kg)	36.9	34.3	32.9	35.4	32.9
	Magnesium (Mg) (mg/kg)	23400	24500	24500	24900	24800
	Manganese (Mn) (mg/kg)	1220	1260	1290	1260	1270
	Mercury (Hg) (mg/kg)	0.0996	0.104	0.103	0.106	0.105
	Molybdenum (Mo) (mg/kg)	4.58	4.49	4.55	4.46	4.38
	Nickel (Ni) (mg/kg)	23.5	24.3	24.7	24.4	24.6
	Phosphorus (P) (mg/kg)	1260	1220	1240	1180	1230
	Potassium (K) (mg/kg)	2960	3090	2960	2990	3010
	Selenium (Se) (mg/kg)	1.55	1.60	1.57	1.53	1.59
	Silver (Ag) (mg/kg)	0.49	0.47	0.49	0.48	0.48
	Sodium (Na) (mg/kg)	1530	1460	1520	1480	1430
	Strontium (Sr) (mg/kg)	234	233	235	237	227
	Sulfur (S)-Total (mg/kg)	1200	1200	1100	1200	1200
	Thallium (Tl) (mg/kg)	0.057	0.057	0.091	0.059	0.060
	Tin (Sn) (mg/kg)	2.5	2.5	2.4	2.4	2.5
	Titanium (Ti) (mg/kg)	2500	2470	2470	2470	2520

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1618085-1	L1618085-2	L1618085-3	L1618085-4	L1618085-5
	Description	Sediment	Sediment	Sediment	Sediment	Sediment
	Sampled Date	21-MAY-15	21-MAY-15	22-MAY-15	22-MAY-15	22-MAY-15
	Sampled Time					
	Client ID	QUL-ST-NF-1	QUL-ST-NF-2	QUL-ST-NF-3	QUL-ST-NF-4	QUL-ST-NF-5
Grouping	**Analyte**					
SOIL						
Metals	Uranium (U) (mg/kg)	1.50	1.46	1.49	1.50	1.51
	Vanadium (V) (mg/kg)	139	130	130	129	132
	Zinc (Zn) (mg/kg)	119	123	123	122	123
	Zirconium (Zr) (mg/kg)	12.6	12.6	12.7	12.7	12.4
Exchangeable & Adsorbed Metals	Aluminum (Al)-Leachable (mg/kg)	<50		<50		<50
	Antimony (Sb)-Leachable (mg/kg)	<0.10		<0.10		<0.10
	Arsenic (As)-Leachable (mg/kg)	0.085		0.074		0.072
	Barium (Ba)-Leachable (mg/kg)	23.3		22.9		21.6
	Beryllium (Be)-Leachable (mg/kg)	<0.20		<0.20		<0.20
	Bismuth (Bi)-Leachable (mg/kg)	<0.20		<0.20		<0.20
	Cadmium (Cd)-Leachable (mg/kg)	0.065		0.061		0.063
	Calcium (Ca)-Leachable (mg/kg)	3600		3480		3290
	Chromium (Cr)-Leachable (mg/kg)	<0.50		<0.50		<0.50
	Cobalt (Co)-Leachable (mg/kg)	<0.10		<0.10		<0.10
	Copper (Cu)-Leachable (mg/kg)	7.62		7.40		7.33
	Iron (Fe)-Leachable (mg/kg)	<50		<50		<50
	Lead (Pb)-Leachable (mg/kg)	<0.50		<0.50		<0.50
	Lithium (Li)-Leachable (mg/kg)	<5.0		<5.0		<5.0
	Manganese (Mn)-Leachable (mg/kg)	34.0		32.9		31.8
	Molybdenum (Mo)-Leachable (mg/kg)	<0.50		<0.50		<0.50
	Nickel (Ni)-Leachable (mg/kg)	<0.7 DLB		<0.7 DLB		<0.7 DLB
	Phosphorus (P)-Leachable (mg/kg)	<50		<50		<50
	Potassium (K)-Leachable (mg/kg)	280		270		260
	Selenium (Se)-Leachable (mg/kg)	<0.20		<0.20		<0.20
	Silver (Ag)-Leachable (mg/kg)	<0.10		<0.10		<0.10
	Sodium (Na)-Leachable (mg/kg)	120		120		110
	Strontium (Sr)-Leachable (mg/kg)	50.2		47.8		45.5
	Thallium (Tl)-Leachable (mg/kg)	<0.050		<0.050		<0.050
	Tin (Sn)-Leachable (mg/kg)	<2.0		<2.0		<2.0
	Titanium (Ti)-Leachable (mg/kg)	<1.0		<1.0		<1.0
	Uranium (U)-Leachable (mg/kg)	0.073		0.072		0.073
	Vanadium (V)-Leachable (mg/kg)	<0.3 DLB		<0.3 DLB		<0.3 DLB
	Zinc (Zn)-Leachable (mg/kg)	<1.0		<1.0		<1.0
Carbonate Metals	Aluminum (Al)-Leachable (mg/kg)	137		136		140
	Antimony (Sb)-Leachable (mg/kg)	<0.10		<0.10		<0.10
	Arsenic (As)-Leachable (mg/kg)	0.099		0.096		0.108
	Barium (Ba)-Leachable (mg/kg)	82.2		83.2		85.7

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1618085-1	L1618085-2	L1618085-3	L1618085-4	L1618085-5
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	21-MAY-15	21-MAY-15	22-MAY-15	22-MAY-15	22-MAY-15
Sampled Time					
Client ID	QUL-ST-NF-1	QUL-ST-NF-2	QUL-ST-NF-3	QUL-ST-NF-4	QUL-ST-NF-5
Grouping / **Analyte**					
SOIL					
Carbonate Metals					
Beryllium (Be)-Leachable (mg/kg)	<0.20		<0.20		<0.20
Bismuth (Bi)-Leachable (mg/kg)	<0.20		<0.20		<0.20
Cadmium (Cd)-Leachable (mg/kg)	0.083		0.084		0.080
Calcium (Ca)-Leachable (mg/kg)	13600		13300		13600
Chromium (Cr)-Leachable (mg/kg)	<5.0		<5.0		<5.0
Cobalt (Co)-Leachable (mg/kg)	0.51		0.52		0.55
Copper (Cu)-Leachable (mg/kg)	95.8		98.8		102
Iron (Fe)-Leachable (mg/kg)	128		128		129
Lead (Pb)-Leachable (mg/kg)	1.15		1.16		1.23
Lithium (Li)-Leachable (mg/kg)	<5.0		<5.0		<5.0
Manganese (Mn)-Leachable (mg/kg)	126		126		128
Molybdenum (Mo)-Leachable (mg/kg)	<0.50		<0.50		<0.50
Nickel (Ni)-Leachable (mg/kg)	<2.0		<2.0		<2.0
Phosphorus (P)-Leachable (mg/kg)	<50		<50		<50
Selenium (Se)-Leachable (mg/kg)	<0.20		<0.20		<0.20
Silver (Ag)-Leachable (mg/kg)	<0.10		<0.10		<0.10
Strontium (Sr)-Leachable (mg/kg)	73.7		68.8		72.9
Thallium (Tl)-Leachable (mg/kg)	<0.050		<0.050		<0.050
Tin (Sn)-Leachable (mg/kg)	<2.0		<2.0		<2.0
Titanium (Ti)-Leachable (mg/kg)	<5.0		<5.0		<5.0
Uranium (U)-Leachable (mg/kg)	0.149		0.154		0.163
Vanadium (V)-Leachable (mg/kg)	<0.20		<0.20		<0.20
Zinc (Zn)-Leachable (mg/kg)	1.8		1.8		1.8
Easily Reducible Metals and Iron Oxides					
Aluminum (Al)-Leachable (mg/kg)	2340		2490		2320
Antimony (Sb)-Leachable (mg/kg)	<0.10		<0.10		<0.10
Arsenic (As)-Leachable (mg/kg)	2.01		2.30		1.98
Barium (Ba)-Leachable (mg/kg)	38.1		44.9		39.2
Beryllium (Be)-Leachable (mg/kg)	0.33		0.34		0.34
Bismuth (Bi)-Leachable (mg/kg)	<0.20		<0.20		<0.20
Cadmium (Cd)-Leachable (mg/kg)	0.074		0.075		0.074
Calcium (Ca)-Leachable (mg/kg)	2180		2380		2180
Chromium (Cr)-Leachable (mg/kg)	3.21		3.09		3.13
Cobalt (Co)-Leachable (mg/kg)	3.23		3.29		3.15
Copper (Cu)-Leachable (mg/kg)	174		193		176
Iron (Fe)-Leachable (mg/kg)	4810		4880		4640
Lead (Pb)-Leachable (mg/kg)	4.30		4.79		4.32

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1618085-1	L1618085-2	L1618085-3	L1618085-4	L1618085-5
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	21-MAY-15	21-MAY-15	22-MAY-15	22-MAY-15	22-MAY-15
Sampled Time					
Client ID	QUL-ST-NF-1	QUL-ST-NF-2	QUL-ST-NF-3	QUL-ST-NF-4	QUL-ST-NF-5
Grouping / **Analyte**					
SOIL					
Easily Reducible Metals and Iron Oxides					
Lithium (Li)-Leachable (mg/kg)	<5.0		<5.0		<5.0
Manganese (Mn)-Leachable (mg/kg)	146		151		145
Molybdenum (Mo)-Leachable (mg/kg)	<0.50		<0.50		<0.50
Nickel (Ni)-Leachable (mg/kg)	3.79		3.98		3.77
Phosphorus (P)-Leachable (mg/kg)	103		131		130
Selenium (Se)-Leachable (mg/kg)	<0.20		<0.20		<0.20
Silver (Ag)-Leachable (mg/kg)	<0.10		<0.10		<0.10
Strontium (Sr)-Leachable (mg/kg)	22.8		25.1		23.1
Thallium (Tl)-Leachable (mg/kg)	<0.050		<0.050		<0.050
Tin (Sn)-Leachable (mg/kg)	<2.0		<2.0		<2.0
Titanium (Ti)-Leachable (mg/kg)	<1.0		<1.0		<1.0
Uranium (U)-Leachable (mg/kg)	0.212		0.220		0.211
Vanadium (V)-Leachable (mg/kg)	12.0		12.2		11.7
Zinc (Zn)-Leachable (mg/kg)	15.7		16.2		15.3
Organic Bound Metals					
Aluminum (Al)-Leachable (mg/kg)	1760		1810		1830
Antimony (Sb)-Leachable (mg/kg)	<0.10		<0.10		<0.10
Arsenic (As)-Leachable (mg/kg)	0.334		0.332		0.317
Barium (Ba)-Leachable (mg/kg)	32.1		27.9		33.7
Beryllium (Be)-Leachable (mg/kg)	<0.20		<0.20		<0.20
Bismuth (Bi)-Leachable (mg/kg)	<0.20		<0.20		<0.20
Cadmium (Cd)-Leachable (mg/kg)	<0.050		<0.050		<0.050
Calcium (Ca)-Leachable (mg/kg)	680		677		729
Chromium (Cr)-Leachable (mg/kg)	0.92		0.96		0.94
Cobalt (Co)-Leachable (mg/kg)	2.17		2.17		2.21
Copper (Cu)-Leachable (mg/kg)	673		677		657
Iron (Fe)-Leachable (mg/kg)	417		399		418
Lead (Pb)-Leachable (mg/kg)	1.35		1.22		1.45
Lithium (Li)-Leachable (mg/kg)	<5.0		<5.0		<5.0
Manganese (Mn)-Leachable (mg/kg)	26.5		27.4		27.2
Molybdenum (Mo)-Leachable (mg/kg)	0.75		0.75		0.75
Nickel (Ni)-Leachable (mg/kg)	0.95		0.86		0.86
Selenium (Se)-Leachable (mg/kg)	1.30		1.26		1.26
Silver (Ag)-Leachable (mg/kg)	<0.10		<0.10		<0.10
Strontium (Sr)-Leachable (mg/kg)	6.25		5.42		6.59
Thallium (Tl)-Leachable (mg/kg)	<0.050		<0.050		<0.050
Tin (Sn)-Leachable (mg/kg)	<2.0		<2.0		<2.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1618085-1 Sediment 21-MAY-15 QUL-ST-NF-1	L1618085-2 Sediment 21-MAY-15 QUL-ST-NF-2	L1618085-3 Sediment 22-MAY-15 QUL-ST-NF-3	L1618085-4 Sediment 22-MAY-15 QUL-ST-NF-4	L1618085-5 Sediment 22-MAY-15 QUL-ST-NF-5
SOIL						
Organic Bound Metals	Titanium (Ti)-Leachable (mg/kg)	<1.0		<1.0		<1.0
	Uranium (U)-Leachable (mg/kg)	0.133		0.146		0.145
	Vanadium (V)-Leachable (mg/kg)	0.58		0.64		0.61
	Zinc (Zn)-Leachable (mg/kg)	5.5		5.5		5.6
Residual Metals	Aluminum (Al)-Leachable (mg/kg)	30300		30800		32400
	Antimony (Sb)-Leachable (mg/kg)	0.65		0.61		0.56
	Arsenic (As)-Leachable (mg/kg)	13.5		13.4		14.3
	Barium (Ba)-Leachable (mg/kg)	119		119		128
	Beryllium (Be)-Leachable (mg/kg)	0.75		0.73		0.79
	Bismuth (Bi)-Leachable (mg/kg)	<0.20		<0.20		<0.20
	Cadmium (Cd)-Leachable (mg/kg)	<0.050		<0.050		<0.050
	Calcium (Ca)-Leachable (mg/kg)	13300		13100		14100
	Chromium (Cr)-Leachable (mg/kg)	16.3		16.5		17.3
	Cobalt (Co)-Leachable (mg/kg)	26.1		26.5		27.2
	Copper (Cu)-Leachable (mg/kg)	233		222		253
	Iron (Fe)-Leachable (mg/kg)	32300		32200		33400
	Lead (Pb)-Leachable (mg/kg)	5.03		4.86		5.45
	Lithium (Li)-Leachable (mg/kg)	38.7		39.1		40.3
	Manganese (Mn)-Leachable (mg/kg)	877		892		930
	Molybdenum (Mo)-Leachable (mg/kg)	3.27		3.25		3.42
	Nickel (Ni)-Leachable (mg/kg)	16.6		17.1		17.7
	Selenium (Se)-Leachable (mg/kg)	<0.20		<0.20		<0.20
	Silver (Ag)-Leachable (mg/kg)	0.39		0.39		0.40
	Strontium (Sr)-Leachable (mg/kg)	88.1		87.1		92.9
	Thallium (Tl)-Leachable (mg/kg)	<0.050		<0.050		0.051
	Tin (Sn)-Leachable (mg/kg)	4.8		4.9		5.1
	Titanium (Ti)-Leachable (mg/kg)	2340		2400		2520
	Uranium (U)-Leachable (mg/kg)	1.05		1.05		1.09
	Vanadium (V)-Leachable (mg/kg)	116		115		122
	Zinc (Zn)-Leachable (mg/kg)	96.9		98.6		103

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Calcium (Ca)-Leachable	B	L1618085-1, -3, -5
Method Blank	Strontium (Sr)-Leachable	B	L1618085-1, -3, -5
Duplicate	Arsenic (As)	DUP-H	L1618085-1, -2, -3, -4, -5
Duplicate	Cadmium (Cd)	DUP-H	L1618085-1, -2, -3, -4, -5
Method Blank	Nickel (Ni)-Leachable	MB-LOR	L1618085-1, -3, -5
Method Blank	Vanadium (V)-Leachable	MB-LOR	L1618085-1, -3, -5

Qualifiers for Individual Parameters Listed:

Qualifier	Description
B	Method Blank exceeds ALS DQO. All associated sample results are at least 5 times greater than blank levels and are considered reliable.
DLB	Detection Limit Raised. Analyte detected at comparable level in Method Blank.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
C-TOT-LECO-SK	Soil	Total Carbon by combustion method	SSSA (1996) P. 973-974

The sample is ignited in a combustion analyzer where carbon in the reduced CO2 gas is determined using a thermal conductivity detector.

HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAFS	EPA 200.2/1631E (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAFS.

MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction. depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.

MET-TESS-CM-CCMS-VA	Soil	METALS BY CCMS (TESSIER EXTRACTION #2)	Tessier Extraction 1979/EPA 6020A

This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals" Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with 5 or 6 (if a pre-liminary water extraction is included) different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For Extraction #2, the extraction solution is 1M Sodium Acetate adjusted to pH 5 and is intended to extract the "Carbonate" metals.

MET-TESS-EA-CCMS-VA	Soil	METALS BY CCMS (TESSIER EXTRACTION #1)	Tessier Extraction 1979/EPA 6020A

This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals" Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with 5 or 6 (if a pre-liminary water extraction is included) different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For Extraction #1, the extraction solution is 1M Magnesium Chloride and is intended to extract the "Exchangeable and Adsorbed" metals.

MET-TESS-FEO-CCMS-VA	Soil	METALS BY CCMS (TESSIER EXTRACTION #3)	Tessier Extraction 1979/EPA 6020A

This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals" Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with 5 or 6 (if a pre-liminary water extraction is included) different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For Extraction #3, the extraction solution is 0.1 M Hydroxylamine Hydro› Chloride in 25% v/v Acetic Acid and is intended to extract the Easily Reducible Metals and Iron Oxides .

MET-TESS-OB-CCMS-VA	Soil	METALS BY CCMS (TESSIER EXTRACTION #4)	Tessier Extraction 1979/EPA 6020A

"This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals"

Reference Information

Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with 5 or 6 (if a pre-liminary water extraction is included) different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For Extraction #4, the extraction solution is 0.02 M Nitric Acid followed by 3.2M Ammonium Acetate and is intended to extract the Organic Bound metals.

MET-TESS-RM-CCMS-VA Soil METALS BY CCMS (TESSIER RM EXTRACTION) Tessier Extraction 1979/EPA 6020A

"This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals" Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with up to 6 different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For the Tessier "RM" Extraction, the extraction solution is 50/50 mix of 1:1 Nitric Acid along with 1:1 Hydrochloric Acid, and is hot block digested as per the BC SALM procedure. This is intended to extract the Residual metals.

PH-1:2-VA Soil pH in Soil (1:2 Soil:Water Extraction) BC WLAP METHOD: PH, ELECTROMETRIC, SOIL

This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.

PSA-PIPET+GRAVEL-SK Soil Particle size - Sieve and Pipette SSIR-51 METHOD 3.2.1

Particle size distribution is determined by a combination of techniques. Dry sieving is performed for coarse particles, wet sieving for sand particles and the pipette sedimentation method for clay particles.

Reference:

Burt, R. (2009). Soil Survey Field and Laboratory Methods Manual. Soil Survey Investigations Report No. 5. Method 3.2.1.2.2. United States Department of Agriculture Natural Resources Conservation Service.

S-TOT-LECO-SK Soil Total Sulphur by combustion method ISO 15178:2000

The sample is ignited in a combustion analyzer where sulfur in the reduced SO2 gas is determined using a thermal conductivity detector.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location

Chain of Custody Numbers:

10-388603

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
C-TOT-LECO-SK	**Soil**							
Batch R3199996								
WG2095076-4 DUP		**L1618085-3**						
Total Carbon by Combustion		1.0	1.0		%	0.5	20	01-JUN-15
WG2095076-5 IRM		**08-109_SOIL**						
Total Carbon by Combustion			110.7		%		80-120	01-JUN-15
WG2095076-6 MB								
Total Carbon by Combustion			<0.1		%		0.1	01-JUN-15
HG-200.2-CVAF-VA	**Soil**							
Batch R3199294								
WG2097667-4 CRM		**VA-NRC-STSD1**						
Mercury (Hg)			88.4		%		70-130	01-JUN-15
WG2097667-5 CRM		**VA-NRC-PACS3**						
Mercury (Hg)			91.4		%		70-130	01-JUN-15
WG2097667-3 LCS								
Mercury (Hg)			80.3		%		70-130	01-JUN-15
WG2097667-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	01-JUN-15
MET-200.2-CCMS-VA	**Soil**							
Batch R3198818								
WG2097667-4 CRM		**VA-NRC-STSD1**						
Aluminum (Al)			96.9		%		70-130	31-MAY-15
Antimony (Sb)			90.9		%		70-130	31-MAY-15
Arsenic (As)			96.8		%		70-130	31-MAY-15
Barium (Ba)			90.4		%		70-130	31-MAY-15
Beryllium (Be)			96.9		%		70-130	31-MAY-15
Bismuth (Bi)			91.3		%		70-130	31-MAY-15
Boron (B)			107.1		%		70-130	31-MAY-15
Cadmium (Cd)			96.1		%		70-130	31-MAY-15
Calcium (Ca)			88.9		%		70-130	31-MAY-15
Chromium (Cr)			95.5		%		70-130	31-MAY-15
Cobalt (Co)			97.8		%		70-130	31-MAY-15
Copper (Cu)			92.3		%		70-130	31-MAY-15
Iron (Fe)			97.2		%		70-130	31-MAY-15
Lead (Pb)			95.2		%		70-130	31-MAY-15
Lithium (Li)			93.9		%		70-130	31-MAY-15
Magnesium (Mg)			91.6		%		70-130	31-MAY-15
Manganese (Mn)			94.0		%		70-130	31-MAY-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3198818								
WG2097667-4 CRM		**VA-NRC-STSD1**						
Molybdenum (Mo)			84.4		%		70-130	31-MAY-15
Nickel (Ni)			101.2		%		70-130	31-MAY-15
Phosphorus (P)			95.7		%		70-130	31-MAY-15
Potassium (K)			105.9		%		70-130	31-MAY-15
Selenium (Se)			96.3		%		70-130	31-MAY-15
Silver (Ag)			94.5		%		70-130	31-MAY-15
Sodium (Na)			104.5		%		70-130	31-MAY-15
Strontium (Sr)			91.0		%		70-130	31-MAY-15
Thallium (Tl)			95.0		%		70-130	31-MAY-15
Tin (Sn)			99.8		%		70-130	31-MAY-15
Titanium (Ti)			103.8		%		70-130	31-MAY-15
Vanadium (V)			100.8		%		70-130	31-MAY-15
Zinc (Zn)			97.2		%		70-130	31-MAY-15
WG2097667-5 CRM		**VA-NRC-PACS3**						
Aluminum (Al)			93.6		%		70-130	31-MAY-15
Antimony (Sb)			92.5		%		70-130	31-MAY-15
Arsenic (As)			89.9		%		70-130	31-MAY-15
Barium (Ba)			92.9		%		70-130	31-MAY-15
Beryllium (Be)			95.2		%		70-130	31-MAY-15
Boron (B)			98.5		%		70-130	31-MAY-15
Cadmium (Cd)			93.5		%		70-130	31-MAY-15
Calcium (Ca)			86.9		%		70-130	31-MAY-15
Chromium (Cr)			93.5		%		70-130	31-MAY-15
Cobalt (Co)			94.6		%		70-130	31-MAY-15
Copper (Cu)			92.0		%		70-130	31-MAY-15
Iron (Fe)			96.1		%		70-130	31-MAY-15
Lead (Pb)			88.6		%		70-130	31-MAY-15
Lithium (Li)			96.6		%		70-130	31-MAY-15
Magnesium (Mg)			97.8		%		70-130	31-MAY-15
Manganese (Mn)			87.6		%		70-130	31-MAY-15
Molybdenum (Mo)			81.8		%		70-130	31-MAY-15
Nickel (Ni)			99.1		%		70-130	31-MAY-15
Phosphorus (P)			93.2		%		70-130	31-MAY-15
Potassium (K)			97.1		%		70-130	31-MAY-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3198818								
WG2097667-5 CRM		**VA-NRC-PACS3**						
Selenium (Se)			102.5		%		70-130	31-MAY-15
Silver (Ag)			107.9		%		70-130	31-MAY-15
Sodium (Na)			90.9		%		70-130	31-MAY-15
Strontium (Sr)			88.0		%		70-130	31-MAY-15
Thallium (Tl)			90.9		%		70-130	31-MAY-15
Tin (Sn)			82.2		%		70-130	31-MAY-15
Titanium (Ti)			92.6		%		70-130	31-MAY-15
Uranium (U)			89.5		%		70-130	31-MAY-15
Vanadium (V)			95.6		%		70-130	31-MAY-15
Zinc (Zn)			98.6		%		70-130	31-MAY-15
Zirconium (Zr)			90.3		%		70-130	31-MAY-15
WG2097667-3 LCS								
Aluminum (Al)			94.7		%		70-130	31-MAY-15
Antimony (Sb)			93.1		%		70-130	31-MAY-15
Arsenic (As)			97.5		%		70-130	31-MAY-15
Barium (Ba)			96.4		%		70-130	31-MAY-15
Beryllium (Be)			92.4		%		70-130	31-MAY-15
Bismuth (Bi)			89.6		%		70-130	31-MAY-15
Boron (B)			91.3		%		70-130	31-MAY-15
Cadmium (Cd)			100.2		%		70-130	31-MAY-15
Calcium (Ca)			87.3		%		70-130	31-MAY-15
Chromium (Cr)			95.2		%		70-130	31-MAY-15
Cobalt (Co)			95.0		%		70-130	31-MAY-15
Copper (Cu)			91.9		%		70-130	31-MAY-15
Iron (Fe)			93.3		%		70-130	31-MAY-15
Lead (Pb)			91.0		%		70-130	31-MAY-15
Lithium (Li)			100.7		%		70-130	31-MAY-15
Magnesium (Mg)			92.7		%		70-130	31-MAY-15
Manganese (Mn)			96.3		%		70-130	31-MAY-15
Molybdenum (Mo)			89.5		%		70-130	31-MAY-15
Nickel (Ni)			98.6		%		70-130	31-MAY-15
Phosphorus (P)			92.9		%		70-130	31-MAY-15
Potassium (K)			100.7		%		70-130	31-MAY-15
Selenium (Se)			101.4		%		70-130	31-MAY-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3198818								
WG2097667-3 LCS								
Silver (Ag)			85.7		%		70-130	31-MAY-15
Sodium (Na)			93.3		%		70-130	31-MAY-15
Strontium (Sr)			89.9		%		70-130	31-MAY-15
Thallium (Tl)			89.5		%		70-130	31-MAY-15
Tin (Sn)			90.8		%		70-130	31-MAY-15
Titanium (Ti)			88.1		%		70-130	31-MAY-15
Uranium (U)			90.9		%		70-130	31-MAY-15
Vanadium (V)			98.5		%		70-130	31-MAY-15
Zinc (Zn)			94.9		%		70-130	31-MAY-15
Zirconium (Zr)			89.9		%		70-130	31-MAY-15
WG2097667-1 MB								
Aluminum (Al)			<50		mg/kg		50	31-MAY-15
Antimony (Sb)			<0.10		mg/kg		0.1	31-MAY-15
Arsenic (As)			<0.10		mg/kg		0.1	31-MAY-15
Barium (Ba)			<0.50		mg/kg		0.5	31-MAY-15
Beryllium (Be)			<0.10		mg/kg		0.1	31-MAY-15
Bismuth (Bi)			<0.20		mg/kg		0.2	31-MAY-15
Boron (B)			<5.0		mg/kg		5	31-MAY-15
Cadmium (Cd)			<0.020		mg/kg		0.02	31-MAY-15
Calcium (Ca)			<50		mg/kg		50	31-MAY-15
Chromium (Cr)			<0.50		mg/kg		0.5	31-MAY-15
Cobalt (Co)			<0.10		mg/kg		0.1	31-MAY-15
Copper (Cu)			<0.50		mg/kg		0.5	31-MAY-15
Iron (Fe)			<50		mg/kg		50	31-MAY-15
Lead (Pb)			<0.50		mg/kg		0.5	31-MAY-15
Lithium (Li)			<2.0		mg/kg		2	31-MAY-15
Magnesium (Mg)			<20		mg/kg		20	31-MAY-15
Manganese (Mn)			<1.0		mg/kg		1	31-MAY-15
Molybdenum (Mo)			<0.10		mg/kg		0.1	31-MAY-15
Nickel (Ni)			<0.50		mg/kg		0.5	31-MAY-15
Phosphorus (P)			<50		mg/kg		50	31-MAY-15
Potassium (K)			<100		mg/kg		100	31-MAY-15
Selenium (Se)			<0.20		mg/kg		0.2	31-MAY-15
Silver (Ag)			<0.10		mg/kg		0.1	31-MAY-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3198818								
WG2097667-1 MB								
Sodium (Na)			<50		mg/kg		50	31-MAY-15
Strontium (Sr)			<0.50		mg/kg		0.5	31-MAY-15
Thallium (Tl)			<0.050		mg/kg		0.05	31-MAY-15
Tin (Sn)			<2.0		mg/kg		2	31-MAY-15
Titanium (Ti)			<1.0		mg/kg		1	31-MAY-15
Uranium (U)			<0.050		mg/kg		0.05	31-MAY-15
Vanadium (V)			<0.20		mg/kg		0.2	31-MAY-15
Zinc (Zn)			<2.0		mg/kg		2	31-MAY-15
Zirconium (Zr)			<1.0		mg/kg		1	31-MAY-15
MET-TESS-CM-CCMS-VA	**Soil**							
Batch R3235766								
WG2137485-4 DUP		**L1618085-5**						
Aluminum (Al)-Leachable		140	139		mg/kg	0.8	30	29-JUL-15
Antimony (Sb)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	29-JUL-15
Arsenic (As)-Leachable		0.108	0.085		mg/kg	23	30	29-JUL-15
Barium (Ba)-Leachable		85.7	83.4		mg/kg	2.8	30	29-JUL-15
Beryllium (Be)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	29-JUL-15
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	29-JUL-15
Cadmium (Cd)-Leachable		0.080	0.089		mg/kg	10	30	29-JUL-15
Calcium (Ca)-Leachable		13600	13700		mg/kg	0.7	30	29-JUL-15
Chromium (Cr)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	29-JUL-15
Cobalt (Co)-Leachable		0.55	0.54		mg/kg	1.1	30	29-JUL-15
Copper (Cu)-Leachable		102	101		mg/kg	1.1	30	29-JUL-15
Iron (Fe)-Leachable		129	129		mg/kg	0.4	30	29-JUL-15
Lead (Pb)-Leachable		1.23	1.17		mg/kg	4.3	30	29-JUL-15
Lithium (Li)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	29-JUL-15
Manganese (Mn)-Leachable		128	128		mg/kg	0.1	30	29-JUL-15
Molybdenum (Mo)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	29-JUL-15
Nickel (Ni)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	29-JUL-15
Phosphorus (P)-Leachable		<50	<50	RPD-NA	mg/kg	N/A	30	29-JUL-15
Selenium (Se)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	29-JUL-15
Silver (Ag)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	29-JUL-15
Strontium (Sr)-Leachable		72.9	71.9		mg/kg	1.4	30	29-JUL-15
Thallium (Tl)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	29-JUL-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-CM-CCMS-VA	**Soil**							
Batch	**R3235766**							
WG2137485-4 DUP		**L1618085-5**						
Tin (Sn)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	29-JUL-15
Titanium (Ti)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	29-JUL-15
Uranium (U)-Leachable		0.163	0.155		mg/kg	4.6	30	29-JUL-15
Vanadium (V)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	29-JUL-15
Zinc (Zn)-Leachable		1.8	1.9		mg/kg	1.5	30	29-JUL-15
WG2137485-2 LCS								
Aluminum (Al)-Leachable			98.3		%		70-130	29-JUL-15
Antimony (Sb)-Leachable			94.2		%		70-130	29-JUL-15
Arsenic (As)-Leachable			105.0		%		70-130	29-JUL-15
Barium (Ba)-Leachable			106.6		%		70-130	29-JUL-15
Beryllium (Be)-Leachable			111.6		%		70-130	29-JUL-15
Bismuth (Bi)-Leachable			95.8		%		70-130	29-JUL-15
Cadmium (Cd)-Leachable			102.7		%		70-130	29-JUL-15
Calcium (Ca)-Leachable			106.4		%		70-130	29-JUL-15
Chromium (Cr)-Leachable			98.0		%		70-130	29-JUL-15
Cobalt (Co)-Leachable			97.6		%		70-130	29-JUL-15
Copper (Cu)-Leachable			97.2		%		70-130	29-JUL-15
Iron (Fe)-Leachable			99.1		%		70-130	29-JUL-15
Lead (Pb)-Leachable			96.5		%		70-130	29-JUL-15
Lithium (Li)-Leachable			117.3		%		70-130	29-JUL-15
Manganese (Mn)-Leachable			95.9		%		70-130	29-JUL-15
Molybdenum (Mo)-Leachable			91.9		%		70-130	29-JUL-15
Nickel (Ni)-Leachable			96.7		%		70-130	29-JUL-15
Phosphorus (P)-Leachable			101.7		%		70-130	29-JUL-15
Selenium (Se)-Leachable			104.3		%		70-130	29-JUL-15
Silver (Ag)-Leachable			103.7		%		70-130	29-JUL-15
Strontium (Sr)-Leachable			103.5		%		70-130	29-JUL-15
Thallium (Tl)-Leachable			96.2		%		70-130	29-JUL-15
Tin (Sn)-Leachable			91.4		%		70-130	29-JUL-15
Titanium (Ti)-Leachable			94.7		%		70-130	29-JUL-15
Uranium (U)-Leachable			99.4		%		70-130	29-JUL-15
Vanadium (V)-Leachable			101.2		%		70-130	29-JUL-15
Zinc (Zn)-Leachable			90.3		%		70-130	29-JUL-15
WG2137485-1 MB								
Aluminum (Al)-Leachable			<50		mg/kg		50	29-JUL-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-CM-CCMS-VA	**Soil**							
Batch	**R3235766**							
WG2137485-1	**MB**							
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	29-JUL-15
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	29-JUL-15
Barium (Ba)-Leachable			<2.0		mg/kg		2	29-JUL-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	29-JUL-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	29-JUL-15
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	29-JUL-15
Calcium (Ca)-Leachable			<50		mg/kg		50	29-JUL-15
Chromium (Cr)-Leachable			<5.0		mg/kg		5	29-JUL-15
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	29-JUL-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	29-JUL-15
Iron (Fe)-Leachable			<50		mg/kg		50	29-JUL-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	29-JUL-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	29-JUL-15
Manganese (Mn)-Leachable			<5.0		mg/kg		5	29-JUL-15
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	29-JUL-15
Nickel (Ni)-Leachable			<2.0		mg/kg		2	29-JUL-15
Phosphorus (P)-Leachable			<50		mg/kg		50	29-JUL-15
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	29-JUL-15
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	29-JUL-15
Strontium (Sr)-Leachable			<5.0		mg/kg		5	29-JUL-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	29-JUL-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	29-JUL-15
Titanium (Ti)-Leachable			<5.0		mg/kg		5	29-JUL-15
Uranium (U)-Leachable			<0.050		mg/kg		0.05	29-JUL-15
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	29-JUL-15
Zinc (Zn)-Leachable			<1.0		mg/kg		1	29-JUL-15
MET-TESS-EA-CCMS-VA	**Soil**							
Batch	**R3239390**							
WG2137485-4	**DUP**	**L1618085-5**						
Aluminum (Al)-Leachable		<50	<50	RPD-NA	mg/kg	N/A	30	04-AUG-15
Antimony (Sb)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	04-AUG-15
Arsenic (As)-Leachable		0.072	0.069		mg/kg	4.3	30	04-AUG-15
Barium (Ba)-Leachable		21.6	22.3		mg/kg	3.3	30	04-AUG-15
Beryllium (Be)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	04-AUG-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-EA-CCMS-VA	**Soil**							
Batch R3239390								
WG2137485-4 DUP		**L1618085-5**						
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	04-AUG-15
Cadmium (Cd)-Leachable		0.063	0.065		mg/kg	3.9	30	04-AUG-15
Calcium (Ca)-Leachable		3290	3410		mg/kg	3.8	30	04-AUG-15
Chromium (Cr)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	04-AUG-15
Cobalt (Co)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	04-AUG-15
Copper (Cu)-Leachable		7.33	7.93		mg/kg	7.9	30	04-AUG-15
Iron (Fe)-Leachable		<50	<50	RPD-NA	mg/kg	N/A	30	04-AUG-15
Lead (Pb)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	04-AUG-15
Lithium (Li)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	04-AUG-15
Manganese (Mn)-Leachable		31.8	34.5		mg/kg	8.1	30	04-AUG-15
Molybdenum (Mo)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	04-AUG-15
Nickel (Ni)-Leachable		<0.7	<0.7		mg/kg	2.9	30	04-AUG-15
Phosphorus (P)-Leachable		<50	<50	RPD-NA	mg/kg	N/A	30	04-AUG-15
Potassium (K)-Leachable		260	280		mg/kg	8.7	30	04-AUG-15
Selenium (Se)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	04-AUG-15
Silver (Ag)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	04-AUG-15
Sodium (Na)-Leachable		110	120		mg/kg	7.3	30	04-AUG-15
Strontium (Sr)-Leachable		45.5	46.1		mg/kg	1.4	30	04-AUG-15
Thallium (Tl)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	04-AUG-15
Tin (Sn)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	04-AUG-15
Titanium (Ti)-Leachable		<1.0	<1.0	RPD-NA	mg/kg	N/A	30	04-AUG-15
Uranium (U)-Leachable		0.073	0.076		mg/kg	3.4	30	04-AUG-15
Vanadium (V)-Leachable		<0.3	<0.3		mg/kg	12	30	04-AUG-15
Zinc (Zn)-Leachable		<1.0	<1.0	RPD-NA	mg/kg	N/A	30	04-AUG-15
WG2137485-1 MB								
Aluminum (Al)-Leachable			<50		mg/kg		50	04-AUG-15
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Barium (Ba)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Calcium (Ca)-Leachable			287	B	mg/kg		50	04-AUG-15
Chromium (Cr)-Leachable			<0.50		mg/kg		0.5	04-AUG-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-EA-CCMS-VA	**Soil**							
Batch	**R3239390**							
WG2137485-1	**MB**							
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Iron (Fe)-Leachable			<50		mg/kg		50	04-AUG-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	04-AUG-15
Manganese (Mn)-Leachable			<1.0		mg/kg		1	04-AUG-15
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Nickel (Ni)-Leachable			1.15	MB-LOR	mg/kg		0.5	04-AUG-15
Phosphorus (P)-Leachable			<50		mg/kg		50	04-AUG-15
Potassium (K)-Leachable			<100		mg/kg		100	04-AUG-15
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Sodium (Na)-Leachable			<100		mg/kg		100	04-AUG-15
Strontium (Sr)-Leachable			0.88	B	mg/kg		0.5	04-AUG-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	04-AUG-15
Titanium (Ti)-Leachable			<1.0		mg/kg		1	04-AUG-15
Uranium (U)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Vanadium (V)-Leachable			0.20	MB-LOR	mg/kg		0.2	04-AUG-15
Zinc (Zn)-Leachable			<1.0		mg/kg		1	04-AUG-15
Batch	**R3241349**							
WG2137485-2	**LCS**							
Aluminum (Al)-Leachable			114.5		%		70-130	05-AUG-15
Antimony (Sb)-Leachable			115.6		%		70-130	05-AUG-15
Arsenic (As)-Leachable			114.5		%		70-130	05-AUG-15
Barium (Ba)-Leachable			121.4		%		70-130	05-AUG-15
Beryllium (Be)-Leachable			109.5		%		70-130	05-AUG-15
Bismuth (Bi)-Leachable			97.3		%		70-130	05-AUG-15
Cadmium (Cd)-Leachable			116.8		%		70-130	05-AUG-15
Calcium (Ca)-Leachable			114.9		%		70-130	05-AUG-15
Chromium (Cr)-Leachable			112.8		%		70-130	05-AUG-15
Cobalt (Co)-Leachable			108.3		%		70-130	05-AUG-15
Copper (Cu)-Leachable			105.9		%		70-130	05-AUG-15
Iron (Fe)-Leachable			110.5		%		70-130	05-AUG-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-EA-CCMS-VA	**Soil**							
Batch	**R3241349**							
WG2137485-2	**LCS**							
Lead (Pb)-Leachable			97.3		%		70-130	05-AUG-15
Lithium (Li)-Leachable			115.0		%		70-130	05-AUG-15
Manganese (Mn)-Leachable			115.2		%		70-130	05-AUG-15
Molybdenum (Mo)-Leachable			107.3		%		70-130	05-AUG-15
Nickel (Ni)-Leachable			107.0		%		70-130	05-AUG-15
Phosphorus (P)-Leachable			116.4		%		70-130	05-AUG-15
Potassium (K)-Leachable			115.3		%		70-130	05-AUG-15
Selenium (Se)-Leachable			110.9		%		70-130	05-AUG-15
Silver (Ag)-Leachable			114.6		%		70-130	05-AUG-15
Sodium (Na)-Leachable			110.4		%		70-130	05-AUG-15
Strontium (Sr)-Leachable			116.6		%		70-130	05-AUG-15
Thallium (Tl)-Leachable			98.4		%		70-130	05-AUG-15
Tin (Sn)-Leachable			113.3		%		70-130	05-AUG-15
Titanium (Ti)-Leachable			111.4		%		70-130	05-AUG-15
Uranium (U)-Leachable			102.9		%		70-130	05-AUG-15
Vanadium (V)-Leachable			114.1		%		70-130	05-AUG-15
Zinc (Zn)-Leachable			99.2		%		70-130	05-AUG-15
MET-TESS-FEO-CCMS-VA	**Soil**							
Batch	**R3237773**							
WG2137485-4	**DUP**	**L1618085-5**						
Aluminum (Al)-Leachable		2320	2400		mg/kg	3.4	30	31-JUL-15
Antimony (Sb)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	31-JUL-15
Arsenic (As)-Leachable		1.98	2.31		mg/kg	15	30	31-JUL-15
Barium (Ba)-Leachable		39.2	43.4		mg/kg	10	30	31-JUL-15
Beryllium (Be)-Leachable		0.34	0.32		mg/kg	7.1	30	31-JUL-15
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	31-JUL-15
Cadmium (Cd)-Leachable		0.074	0.076		mg/kg	2.6	30	31-JUL-15
Calcium (Ca)-Leachable		2180	2330		mg/kg	6.7	30	31-JUL-15
Chromium (Cr)-Leachable		3.13	3.25		mg/kg	3.8	30	31-JUL-15
Cobalt (Co)-Leachable		3.15	3.21		mg/kg	1.6	30	31-JUL-15
Copper (Cu)-Leachable		176	186		mg/kg	5.5	30	31-JUL-15
Iron (Fe)-Leachable		4640	4710		mg/kg	1.5	30	31-JUL-15
Lead (Pb)-Leachable		4.32	4.62		mg/kg	6.7	30	31-JUL-15
Lithium (Li)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	31-JUL-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-FEO-CCMS-VA	**Soil**							
Batch	**R3237773**							
WG2137485-4	**DUP**	**L1618085-5**						
Manganese (Mn)-Leachable		145	146		mg/kg	0.7	30	31-JUL-15
Molybdenum (Mo)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	31-JUL-15
Nickel (Ni)-Leachable		3.77	3.75		mg/kg	0.5	30	31-JUL-15
Phosphorus (P)-Leachable		130	117		mg/kg	10	30	31-JUL-15
Selenium (Se)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	31-JUL-15
Silver (Ag)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	31-JUL-15
Strontium (Sr)-Leachable		23.1	24.2		mg/kg	4.4	30	31-JUL-15
Thallium (Tl)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	31-JUL-15
Tin (Sn)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	31-JUL-15
Titanium (Ti)-Leachable		<1.0	<1.0	RPD-NA	mg/kg	N/A	30	31-JUL-15
Uranium (U)-Leachable		0.211	0.210		mg/kg	0.8	30	31-JUL-15
Vanadium (V)-Leachable		11.7	11.9		mg/kg	1.8	30	31-JUL-15
Zinc (Zn)-Leachable		15.3	15.9		mg/kg	3.8	30	31-JUL-15
WG2137485-2	**LCS**							
Aluminum (Al)-Leachable			101.2		%		70-130	31-JUL-15
Antimony (Sb)-Leachable			99.4		%		70-130	31-JUL-15
Arsenic (As)-Leachable			107.4		%		70-130	31-JUL-15
Barium (Ba)-Leachable			98.9		%		70-130	31-JUL-15
Beryllium (Be)-Leachable			98.5		%		70-130	31-JUL-15
Bismuth (Bi)-Leachable			98.4		%		70-130	31-JUL-15
Cadmium (Cd)-Leachable			96.3		%		70-130	31-JUL-15
Calcium (Ca)-Leachable			102.9		%		70-130	31-JUL-15
Chromium (Cr)-Leachable			98.2		%		70-130	31-JUL-15
Cobalt (Co)-Leachable			100.2		%		70-130	31-JUL-15
Copper (Cu)-Leachable			102.6		%		70-130	31-JUL-15
Iron (Fe)-Leachable			99.8		%		70-130	31-JUL-15
Lead (Pb)-Leachable			101.4		%		70-130	31-JUL-15
Lithium (Li)-Leachable			98.4		%		70-130	31-JUL-15
Manganese (Mn)-Leachable			106.4		%		70-130	31-JUL-15
Molybdenum (Mo)-Leachable			103.7		%		70-130	31-JUL-15
Nickel (Ni)-Leachable			101.5		%		70-130	31-JUL-15
Phosphorus (P)-Leachable			100.8		%		70-130	31-JUL-15
Selenium (Se)-Leachable			123.1		%		70-130	31-JUL-15
Silver (Ag)-Leachable			99.1		%		70-130	31-JUL-15

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-FEO-CCMS-VA	**Soil**							
Batch	**R3237773**							
WG2137485-2	**LCS**							
Strontium (Sr)-Leachable			103.6		%		70-130	31-JUL-15
Thallium (Tl)-Leachable			98.3		%		70-130	31-JUL-15
Tin (Sn)-Leachable			99.2		%		70-130	31-JUL-15
Titanium (Ti)-Leachable			96.6		%		70-130	31-JUL-15
Uranium (U)-Leachable			97.2		%		70-130	31-JUL-15
Vanadium (V)-Leachable			99.0		%		70-130	31-JUL-15
Zinc (Zn)-Leachable			93.6		%		70-130	31-JUL-15
WG2137485-1	**MB**							
Aluminum (Al)-Leachable			<50		mg/kg		50	31-JUL-15
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	31-JUL-15
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	31-JUL-15
Barium (Ba)-Leachable			<0.50		mg/kg		0.5	31-JUL-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	31-JUL-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	31-JUL-15
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	31-JUL-15
Calcium (Ca)-Leachable			<50		mg/kg		50	31-JUL-15
Chromium (Cr)-Leachable			<0.50		mg/kg		0.5	31-JUL-15
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	31-JUL-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	31-JUL-15
Iron (Fe)-Leachable			<50		mg/kg		50	31-JUL-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	31-JUL-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	31-JUL-15
Manganese (Mn)-Leachable			<1.0		mg/kg		1	31-JUL-15
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	31-JUL-15
Nickel (Ni)-Leachable			<0.50		mg/kg		0.5	31-JUL-15
Phosphorus (P)-Leachable			<50		mg/kg		50	31-JUL-15
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	31-JUL-15
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	31-JUL-15
Strontium (Sr)-Leachable			<0.50		mg/kg		0.5	31-JUL-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	31-JUL-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	31-JUL-15
Titanium (Ti)-Leachable			<1.0		mg/kg		1	31-JUL-15
Uranium (U)-Leachable			<0.050		mg/kg		0.05	31-JUL-15
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	31-JUL-15

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-FEO-CCMS-VA	**Soil**							
Batch R3237773								
WG2137485-1 MB								
Zinc (Zn)-Leachable			<1.0		mg/kg		1	31-JUL-15
MET-TESS-OB-CCMS-VA	**Soil**							
Batch R3241251								
WG2137485-4 DUP		**L1618085-5**						
Aluminum (Al)-Leachable		1830	1770		mg/kg	3.2	30	04-AUG-15
Antimony (Sb)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	04-AUG-15
Arsenic (As)-Leachable		0.317	0.312		mg/kg	1.7	30	04-AUG-15
Barium (Ba)-Leachable		33.7	28.5		mg/kg	17	30	04-AUG-15
Beryllium (Be)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	04-AUG-15
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	04-AUG-15
Cadmium (Cd)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	04-AUG-15
Calcium (Ca)-Leachable		729	696		mg/kg	4.7	30	04-AUG-15
Chromium (Cr)-Leachable		0.94	0.94		mg/kg	0.1	30	04-AUG-15
Cobalt (Co)-Leachable		2.21	2.13		mg/kg	3.7	30	04-AUG-15
Copper (Cu)-Leachable		657	651		mg/kg	1.0	30	04-AUG-15
Iron (Fe)-Leachable		418	397		mg/kg	5.2	30	04-AUG-15
Lead (Pb)-Leachable		1.45	1.26		mg/kg	13	30	04-AUG-15
Lithium (Li)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	04-AUG-15
Manganese (Mn)-Leachable		27.2	27.7		mg/kg	2.0	30	04-AUG-15
Molybdenum (Mo)-Leachable		0.75	0.73		mg/kg	1.7	30	04-AUG-15
Nickel (Ni)-Leachable		0.86	0.89		mg/kg	3.0	30	04-AUG-15
Selenium (Se)-Leachable		1.26	1.29		mg/kg	2.1	30	04-AUG-15
Silver (Ag)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	04-AUG-15
Strontium (Sr)-Leachable		6.59	5.64		mg/kg	16	30	04-AUG-15
Thallium (Tl)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	04-AUG-15
Tin (Sn)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	04-AUG-15
Titanium (Ti)-Leachable		<1.0	<1.0	RPD-NA	mg/kg	N/A	30	04-AUG-15
Uranium (U)-Leachable		0.145	0.143		mg/kg	1.4	30	04-AUG-15
Vanadium (V)-Leachable		0.61	0.63		mg/kg	3.2	30	04-AUG-15
Zinc (Zn)-Leachable		5.6	5.5		mg/kg	2.9	30	04-AUG-15
WG2137485-1 MB								
Aluminum (Al)-Leachable			<50		mg/kg		50	04-AUG-15
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	04-AUG-15

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-OB-CCMS-VA	**Soil**							
Batch	**R3241251**							
WG2137485-1	**MB**							
Barium (Ba)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Calcium (Ca)-Leachable			<50		mg/kg		50	04-AUG-15
Chromium (Cr)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Iron (Fe)-Leachable			<50		mg/kg		50	04-AUG-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	04-AUG-15
Manganese (Mn)-Leachable			<1.0		mg/kg		1	04-AUG-15
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Nickel (Ni)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Strontium (Sr)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	04-AUG-15
Titanium (Ti)-Leachable			<1.0		mg/kg		1	04-AUG-15
Uranium (U)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Zinc (Zn)-Leachable			<1.0		mg/kg		1	04-AUG-15
MET-TESS-RM-CCMS-VA	**Soil**							
Batch	**R3241251**							
WG2137485-4	**DUP**	**L1618085-5**						
Aluminum (Al)-Leachable		32400	31300		mg/kg	3.5	30	04-AUG-15
Antimony (Sb)-Leachable		0.56	0.59		mg/kg	4.7	30	04-AUG-15
Arsenic (As)-Leachable		14.3	13.7		mg/kg	4.6	30	04-AUG-15
Barium (Ba)-Leachable		128	123		mg/kg	4.0	30	04-AUG-15
Beryllium (Be)-Leachable		0.79	0.74		mg/kg	6.6	30	04-AUG-15
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	04-AUG-15
Cadmium (Cd)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	04-AUG-15
Calcium (Ca)-Leachable		14100	13300		mg/kg	5.5	30	04-AUG-15

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-RM-CCMS-VA	**Soil**							
Batch	**R3241251**							
WG2137485-4	**DUP**	**L1618085-5**						
Chromium (Cr)-Leachable		17.3	16.8		mg/kg	3.0	30	04-AUG-15
Cobalt (Co)-Leachable		27.2	26.8		mg/kg	1.4	30	04-AUG-15
Copper (Cu)-Leachable		253	235		mg/kg	7.4	30	04-AUG-15
Iron (Fe)-Leachable		33400	33100		mg/kg	1.1	30	04-AUG-15
Lead (Pb)-Leachable		5.45	5.02		mg/kg	8.3	30	04-AUG-15
Lithium (Li)-Leachable		40.3	38.8		mg/kg	3.8	30	04-AUG-15
Manganese (Mn)-Leachable		930	898		mg/kg	3.5	30	04-AUG-15
Molybdenum (Mo)-Leachable		3.42	3.33		mg/kg	2.6	30	04-AUG-15
Nickel (Ni)-Leachable		17.7	17.3		mg/kg	2.5	30	04-AUG-15
Selenium (Se)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	04-AUG-15
Silver (Ag)-Leachable		0.40	0.41		mg/kg	3.8	30	04-AUG-15
Strontium (Sr)-Leachable		92.9	89.1		mg/kg	4.1	30	04-AUG-15
Thallium (Tl)-Leachable		0.051	0.064		mg/kg	24	30	04-AUG-15
Tin (Sn)-Leachable		5.1	5.0		mg/kg	1.2	30	04-AUG-15
Titanium (Ti)-Leachable		2520	2490		mg/kg	1.2	30	04-AUG-15
Uranium (U)-Leachable		1.09	1.06		mg/kg	2.8	30	04-AUG-15
Vanadium (V)-Leachable		122	119		mg/kg	2.7	30	04-AUG-15
Zinc (Zn)-Leachable		103	99.7		mg/kg	2.9	30	04-AUG-15
WG2137485-1	**MB**							
Aluminum (Al)-Leachable			<50		mg/kg		50	04-AUG-15
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Arsenic (As)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Barium (Ba)-Leachable			<2.0		mg/kg		2	04-AUG-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Calcium (Ca)-Leachable			<50		mg/kg		50	04-AUG-15
Chromium (Cr)-Leachable			<5.0		mg/kg		5	04-AUG-15
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Iron (Fe)-Leachable			<50		mg/kg		50	04-AUG-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	04-AUG-15
Manganese (Mn)-Leachable			<5.0		mg/kg		5	04-AUG-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-RM-CCMS-VA	**Soil**							
Batch **R3241251**								
WG2137485-1 **MB**								
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Nickel (Ni)-Leachable			<2.0		mg/kg		2	04-AUG-15
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Strontium (Sr)-Leachable			<5.0		mg/kg		5	04-AUG-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	04-AUG-15
Titanium (Ti)-Leachable			<5.0		mg/kg		5	04-AUG-15
Uranium (U)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Zinc (Zn)-Leachable			<1.0		mg/kg		1	04-AUG-15
PSA-PIPET+GRAVEL-SK	**Soil**							
Batch **R3200036**								
WG2097730-1 **DUP**		**L1618085-3**						
% Gravel (>2mm)		<0.10	<0.10	RPD-NA	%	N/A	25	02-JUN-15
% Sand (2.0mm - 0.063mm)		0.22	0.20	J	%	0.02	5	02-JUN-15
% Silt (0.063mm - 4um)		47.9	48.5	J	%	0.54	5	02-JUN-15
% Clay (<4um)		51.9	51.3	J	%	0.51	5	02-JUN-15
WG2097730-2 **IRM**		**FARM2010**						
% Sand (2.0mm - 0.063mm)			33.1		%		29-39	02-JUN-15
% Silt (0.063mm - 4um)			40.9		%		34-44	02-JUN-15
% Clay (<4um)			26.0		%		22-32	02-JUN-15
S-TOT-LECO-SK	**Soil**							
Batch **R3199996**								
WG2095076-4 **DUP**		**L1618085-3**						
Sulfur (S)-Total		1100	1200		mg/kg	6.0	30	01-JUN-15
WG2095076-7 **IRM**		**1646A_SOIL**						
Sulfur (S)-Total			3600		mg/kg		2500-4600	01-JUN-15
WG2095076-6 **MB**								
Sulfur (S)-Total			<500		mg/kg		500	01-JUN-15

Quality Control Report

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
B	Method Blank exceeds ALS DQO. All associated sample results are at least 5 times greater than blank levels and are considered reliable.
J	Duplicate results and limits are expressed in terms of absolute difference.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

10 - 388603

ALS Environmental

Chain of Custody / Analytical Request Form
Canada Toll Free: 1 800 668 9878
www.alsglobal.com

Page 1 of 1

Report To		Report Format / Distribution		Service Request: (Rush subject to availability - Contact ALS to confirm TAT)	
Company:	Mount Polley Mining Corporation	Standard: ✓ Other (specify):		✓	Regular (Standard Turnaround Times - Business Days)
Contact:	Colleen Hughes	Select: PDF ✓ Excel ✓ Digital Fax			Priority (2-4 Business Days) - 50% surcharge - Contact ALS to confirm TAT
Address:	Box 12, Likely, BC, V0L 1N0	Email 1:	chughes@mountpolley.com		Emergency (1-2 Business Days) - 100% Surcharge - Contact ALS to confirm TAT
		Email 2:	pstecko@minnow.ca		Same Day or Weekend Emergency - Contact ALS to confirm TAT
Phone:	250-790-2617 Fax:		kbatchelar@minnow.ca	Analysis Request	
Invoice To	Same as Report ? (circle) Yes or No (if No, provide details)	Client / Project Information		(Indicate Filtered or Preserved, F/P)	
	Copy of Invoice with Report? (circle) Yes or No	Job #:	2542		
Company:		PO / AFE:			
Contact:		LSD:			
Address:					
Phone:	Fax:	Quote #:	Q50734		
Lab Work Order # (lab use only)	L1618085	ALS Contact:	Can Dang	Sampler:	Katharina Batchelar

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	MET-CCME #Full VA	MET-TESS-STD-VA	C-TOT-LECO-SK	Particle Size	Number of Containers
	QUL-ST-NF-1	21-May-15	-	Sediment	X	X	X	X	3
	QUL-ST-NF-2	21-May-15	-	Sediment	X		X	X	3
	QUL-ST-NF-3	22-May-15	-	Sediment	X	X	X	X	3
	QUL-ST-NF-4	22-May-15	-	Sediment	X		X	X	6
	QUL-ST-NF-5	22-May-15	-	Sediment	X	X	X	X	6

Special Instructions / Regulation with water or land use (CCME- Freshwater Aquatic Life/BC CSR-Commercial/AB Tier 1-Natural/ETC) / Hazardous Details

MET-CCME on <2mm sediment fraction, TOC on <2mm sediment fraction.

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date:	Time:	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ? If Yes add SIF
Katharina Batchelar	May 26/15	17:43	Lady	05/28	8AM	6.9/7.1°C				

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION | WHITE - LABORATORY COPY | YELLOW - CLIENT COPY | GENF 18.01 Front

MOUNT POLLEY MINING CORP.
ATTN: Colleen Hughes
PO Box 12
Likely BC V0L 1N0

Date Received: 08-JUL-15
Report Date: 06-OCT-15 16:08 (MT)
Version: FINAL REV. 3

Client Phone: 250-790-2215

Certificate of Analysis

Lab Work Order #: L1638961

Project P.O. #: NOT SUBMITTED
Job Reference: 2542
C of C Numbers: 1, 2, 3
Legal Site Desc:

Comments:
- The sample identify as "POL-ST-P1-6 was broken in transit to ALS.
- Refer to the table appended for Total wet and dry weight of sample received per each sample.
- PALL GN-6 Mixed Cellulose Ester filters, 0.45um were provided to the client for sample collection. To obtain the sediment weights for each sample, an average filter weight correction was applied. 3 different lots were used for the average - 10 filters of each lot were dried in an oven at <60 degrees and cooled to room temperature. The average weight obtained and used for calculations was 0.065367g (excel filed attached with details).
- Filter blanks were also analyzed and reported in this report for reference.

23-SEP-2015 Revision 2: This revision includes additional Total Sulphur and Total Carbon analysis for some of the samples.

6-OCT-2015 Revision 3: As requested, this revision includes data for Total Organic Carbon analysis in lieu of Total Carbon originally reported.

Can Dang
Senior Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1638961-1	L1638961-2	L1638961-3	L1638961-4	L1638961-5
	Description	Sediment	Sediment	Sediment	Sediment	Sediment
	Sampled Date	23-MAY-15	23-MAY-15	23-MAY-15	21-MAY-15	21-MAY-15
	Sampled Time	13:00	11:20	09:55		11:35
	Client ID	POL-ST-P2-2	QUL-ST-REF-5	QUL-ST-REF-2	QUL-ST-FFF-1 AND 4	QUL-ST-FFF-5
Grouping	**Analyte**					
SOIL						
Physical Tests	pH (1:2 soil:water) (pH)	7.77	7.02	6.97	7.16	7.09
Organic / Inorganic Carbon	Total Organic Carbon (%)	4.94	2.17	2.15	3.28	2.69
Metals	Aluminum (Al) (mg/kg)	25000	16100	16300	26000	28100
	Antimony (Sb) (mg/kg)	2.08	0.39	0.43	1.61	1.37
	Arsenic (As) (mg/kg)	15.8	6.89	7.37	98.6	80.6
	Barium (Ba) (mg/kg)	530	134	143	211	230
	Beryllium (Be) (mg/kg)	0.85	0.42	0.45	0.71	0.83
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	0.24	0.27
	Boron (B) (mg/kg)	12.4	<5.0	<5.0	5.2	7.2
	Cadmium (Cd) (mg/kg)	0.287	0.388	0.416	0.701	0.626
	Calcium (Ca) (mg/kg)	22100	8090	8480	12300	14300
	Chromium (Cr) (mg/kg)	18.1	53.4	53.2	63.5	60.3
	Cobalt (Co) (mg/kg)	22.9	14.0	14.5	27.8	26.8
	Copper (Cu) (mg/kg)	719	61.9	66.6	225	300
	Iron (Fe) (mg/kg)	27800	27800	29000	51400	51100
	Lead (Pb) (mg/kg)	9.35	6.78	6.96	17.5	17.8
	Lithium (Li) (mg/kg)	19.3	12.6	13.7	22.8	24.7
	Magnesium (Mg) (mg/kg)	12500	7700	7620	13100	13400
	Manganese (Mn) (mg/kg)	24700	687	665	5280	5170
	Mercury (Hg) (mg/kg)	0.116	0.0511	0.0539	0.144	0.146
	Molybdenum (Mo) (mg/kg)	6.71	1.04	1.13	3.35	3.59
	Nickel (Ni) (mg/kg)	18.3	35.7	37.0	59.5	57.1
	Phosphorus (P) (mg/kg)	2250	987	1010	1230	1240
	Potassium (K) (mg/kg)	2530	1490	1480	2140	2610
	Selenium (Se) (mg/kg)	7.55	0.91	0.94	1.49	1.63
	Silver (Ag) (mg/kg)	0.31	0.18	0.20	0.39	0.38
	Sodium (Na) (mg/kg)	1490	441	435	569	742
	Strontium (Sr) (mg/kg)	283	81.0	80.6	134	161
	Sulfur (S)-Total (mg/kg)	3400	700	700	700	
	Thallium (Tl) (mg/kg)	0.050	0.157	0.156	0.200	0.221
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	1490	1150	1110	1160	1420
	Uranium (U) (mg/kg)	1.18	1.26	1.27	2.13	2.42
	Vanadium (V) (mg/kg)	126	64.3	64.3	98.5	102
	Zinc (Zn) (mg/kg)	78.2	71.3	74.0	112	110
	Zirconium (Zr) (mg/kg)	3.3	3.3	3.6	2.9	2.8

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1638961-6 Sediment 21-MAY-15 10:30 QUL-ST-FFF-3	L1638961-7 Sediment 24-MAY-15 09:20 POL-ST-P1-2	L1638961-8 Sediment 24-MAY-15 09:00 POL-ST-P1-1	L1638961-9 Sediment 23-MAY-15 14:40 POL-ST-P2-6	L1638961-10 Sediment 22-MAY-15 10:55 QUL-ST-REF-4
Sample ID / Description / Sampled Date / Sampled Time / Client ID						
SOIL						
Physical Tests	pH (1:2 soil:water) (pH)	7.20	7.44	7.58	7.79	6.95
Organic / Inorganic Carbon	Total Organic Carbon (%)	3.03		5.82	4.19	2.23
Metals	Aluminum (Al) (mg/kg)	26200	26300	23600	24500	16600
	Antimony (Sb) (mg/kg)	1.63	1.92	1.68	1.71	0.43
	Arsenic (As) (mg/kg)	98.0	15.1	13.7	14.3	7.98
	Barium (Ba) (mg/kg)	204	485	484	464	149
	Beryllium (Be) (mg/kg)	0.71	0.90	0.87	0.91	0.48
	Bismuth (Bi) (mg/kg)	0.24	<0.20	<0.20	<0.20	<0.20
	Boron (B) (mg/kg)	6.2	12.1	11.2	11.4	<5.0
	Cadmium (Cd) (mg/kg)	0.727	0.277	0.238	0.247	0.468
	Calcium (Ca) (mg/kg)	13000	20100	17900	21400	8540
	Chromium (Cr) (mg/kg)	67.0	19.7	17.8	16.4	55.3
	Cobalt (Co) (mg/kg)	27.2	21.6	21.3	22.0	15.4
	Copper (Cu) (mg/kg)	189	727	643	725	76.4
	Iron (Fe) (mg/kg)	52400	29000	26900	26500	29800
	Lead (Pb) (mg/kg)	15.9	10.5	9.54	9.60	7.58
	Lithium (Li) (mg/kg)	23.2	20.1	19.5	20.1	14.3
	Magnesium (Mg) (mg/kg)	13400	12500	11700	12800	7870
	Manganese (Mn) (mg/kg)	5650	16100	16800	20000	738
	Mercury (Hg) (mg/kg)	0.137	0.120	0.116	0.105	0.0613
	Molybdenum (Mo) (mg/kg)	3.49	8.23	5.01	9.58	1.19
	Nickel (Ni) (mg/kg)	61.7	19.5	17.9	16.7	38.8
	Phosphorus (P) (mg/kg)	1250	2160	2470	2050	1060
	Potassium (K) (mg/kg)	2240	2720	2680	2500	1390
	Selenium (Se) (mg/kg)	1.58	7.47	6.56	6.90	1.11
	Silver (Ag) (mg/kg)	0.38	0.32	0.30	0.29	0.21
	Sodium (Na) (mg/kg)	545	1510	1450	1580	451
	Strontium (Sr) (mg/kg)	137	289	268	293	83.6
	Sulfur (S)-Total (mg/kg)		3900	3000	3700	
	Thallium (Tl) (mg/kg)	0.214	0.060	<0.050	<0.050	0.162
	Tin (Sn) (mg/kg)	<2.0	2.1	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	1330	1490	1290	1470	1120
	Uranium (U) (mg/kg)	2.34	1.23	1.11	1.17	1.39
	Vanadium (V) (mg/kg)	103	114	110	116	66.5
	Zinc (Zn) (mg/kg)	107	77.5	75.4	76.5	78.2
	Zirconium (Zr) (mg/kg)	2.5	3.2	2.2	3.5	4.4

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1638961-11 Sediment 24-MAY-15 10:40 POL-ST-P1-5	L1638961-12 Sediment 24-MAY-15 09:40 POL-ST-P1-3	L1638961-14 Sediment 23-MAY-15 12:30 POL-ST-P2-1	L1638961-15 Sediment 23-MAY-15 13:30 POL-ST-P2-3	L1638961-16 Sediment 22-MAY-15 09:25 QUL-ST-REF-1
SOIL						
Physical Tests	pH (1:2 soil:water) (pH)	7.51	7.51	7.24	7.74	6.90
Organic / Inorganic Carbon	Total Organic Carbon (%)		5.24	4.00	5.17	2.08
Metals	Aluminum (Al) (mg/kg)	22800	23000	27200	24700	16000
	Antimony (Sb) (mg/kg)	1.66	1.84	2.14	1.70	0.41
	Arsenic (As) (mg/kg)	14.1	15.0	15.7	17.0	7.18
	Barium (Ba) (mg/kg)	437	493	507	491	147
	Beryllium (Be) (mg/kg)	0.81	0.80	0.96	0.87	0.45
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Boron (B) (mg/kg)	10.2	9.5	11.8	11.6	<5.0
	Cadmium (Cd) (mg/kg)	0.251	0.274	0.292	0.231	0.419
	Calcium (Ca) (mg/kg)	17700	18100	22500	20100	8410
	Chromium (Cr) (mg/kg)	18.6	18.9	19.9	16.7	53.1
	Cobalt (Co) (mg/kg)	21.3	21.2	23.4	22.5	14.6
	Copper (Cu) (mg/kg)	644	660	799	682	68.6
	Iron (Fe) (mg/kg)	27800	26500	29800	27300	29100
	Lead (Pb) (mg/kg)	9.50	9.63	11.2	9.37	7.15
	Lithium (Li) (mg/kg)	18.4	18.4	21.3	19.8	13.7
	Magnesium (Mg) (mg/kg)	11700	11700	13700	12600	7410
	Manganese (Mn) (mg/kg)	14400	15400	16000	25800	724
	Mercury (Hg) (mg/kg)	0.118	0.117	0.118	0.114	0.0523
	Molybdenum (Mo) (mg/kg)	9.76	8.88	8.72	13.2	1.11
	Nickel (Ni) (mg/kg)	18.0	18.9	19.5	16.9	37.0
	Phosphorus (P) (mg/kg)	2390	2240	2010	2350	986
	Potassium (K) (mg/kg)	2490	2350	2570	2510	1570
	Selenium (Se) (mg/kg)	6.83	7.00	8.15	7.13	0.97
	Silver (Ag) (mg/kg)	0.29	0.29	0.35	0.30	0.20
	Sodium (Na) (mg/kg)	1350	1460	1660	1400	449
	Strontium (Sr) (mg/kg)	245	289	294	279	81.5
	Sulfur (S)-Total (mg/kg)	3900		2500	3100	800
	Thallium (Tl) (mg/kg)	<0.050	<0.050	0.050	<0.050	0.162
	Tin (Sn) (mg/kg)	<2.0	<2.0	2.2	<2.0	<2.0
	Titanium (Ti) (mg/kg)	1210	1140	1660	1390	1120
	Uranium (U) (mg/kg)	1.11	1.11	1.36	1.20	1.31
	Vanadium (V) (mg/kg)	104	107	125	120	64.4
	Zinc (Zn) (mg/kg)	89.3	73.6	85.5	85.6	74.7
	Zirconium (Zr) (mg/kg)	2.4	2.4	3.9	2.5	3.6

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1638961-17 Sediment 23-MAY-15 13:50 POL-ST-P2-4	L1638961-18 Sediment 23-MAY-15 14:10 POL-ST-P2-5	L1638961-19 Sediment 22-MAY-15 10:30 QUL-ST-REF-3	L1638961-20 Composite 23-MAY-15 13:00 POL-ST-P2-2 FILTER AND SEDIMENT	L1638961-21 Composite 22-MAY-15 11:20 QUL-ST-REF-5 FILTER AND SEDIMENT
Sample ID						
Description						
Sampled Date						
Sampled Time						
Client ID						
SOIL						
Physical Tests	pH (1:2 soil:water) (pH)	7.66	7.56	6.80		
Organic / Inorganic Carbon	Total Organic Carbon (%)	5.27	3.20	2.14		
Metals	Aluminum (Al) (mg/kg)	25800	24900	15500	21900	16000
	Antimony (Sb) (mg/kg)	1.78	1.67	0.42	1.99	0.37
	Arsenic (As) (mg/kg)	15.1	13.8	6.88	16.1	9.37
	Barium (Ba) (mg/kg)	482	482	145	551	156
	Beryllium (Be) (mg/kg)	0.89	0.86	0.46	0.92	0.51
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Boron (B) (mg/kg)	11.4	10.3	<5.0	12.9	<5.0
	Cadmium (Cd) (mg/kg)	0.261	0.206	0.415	0.296	0.575
	Calcium (Ca) (mg/kg)	21900	18900	8140	20700	9220
	Chromium (Cr) (mg/kg)	17.8	15.7	52.4	19.0	54.1
	Cobalt (Co) (mg/kg)	23.3	21.6	14.6	21.2	15.1
	Copper (Cu) (mg/kg)	741	757	67.8	679	77.6
	Iron (Fe) (mg/kg)	28300	26200	28500	26000	30200
	Lead (Pb) (mg/kg)	9.85	10.0	7.43	9.12	7.53
	Lithium (Li) (mg/kg)	20.3	19.3	14.1	20.5	16.0
	Magnesium (Mg) (mg/kg)	13400	12900	7420	12000	8200
	Manganese (Mn) (mg/kg)	22500	13000	666	20800	924
	Mercury (Hg) (mg/kg)	0.109	0.103	0.0538	0.127	0.0638
	Molybdenum (Mo) (mg/kg)	13.1	5.58	1.18	13.4	1.37
	Nickel (Ni) (mg/kg)	18.2	15.9	36.7	18.1	38.4
	Phosphorus (P) (mg/kg)	2250	1560	1000	2480	1100
	Potassium (K) (mg/kg)	2550	2400	1370	2630	1550
	Selenium (Se) (mg/kg)	7.62	5.99	1.03	9.41	1.12
	Silver (Ag) (mg/kg)	0.32	0.30	0.20	0.29	0.23
	Sodium (Na) (mg/kg)	1670	1580	416	1340	464
	Strontium (Sr) (mg/kg)	283	298	79.5	290	92.8
	Sulfur (S)-Total (mg/kg)	3700	2800	700		
	Thallium (Tl) (mg/kg)	<0.050	<0.050	0.164	<0.050	0.161
	Tin (Sn) (mg/kg)	2.7	2.1	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	1480	1480	1030	1380	911
	Uranium (U) (mg/kg)	1.27	1.15	1.34	1.15	1.32
	Vanadium (V) (mg/kg)	120	107	62.9	120	64.9
	Zinc (Zn) (mg/kg)	80.5	79.2	75.0	75.2	81.4
	Zirconium (Zr) (mg/kg)	3.2	4.4	3.7	2.3	5.1

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1638961-22 Composite 22-MAY-15 09:55 QUL-ST-REF-2 FILTER AND SEDIMENT	L1638961-23 Composite 21-MAY-15 QUL-ST-FFF-1 AND 4 FILTER AND SEDIMENT	L1638961-24 Composite 21-MAY-15 11:35 QUL-ST-FFF-5 FILTER AND SEDIMENT	L1638961-25 Composite 21-MAY-15 10:30 QUL-ST-FFF-3 FILTER AND SEDIMENT	L1638961-26 Composite 24-MAY-15 10:30 POL-ST-P1-2 FILTER AND SEDIMENT
SOIL						
Physical Tests	pH (1:2 soil:water) (pH)					
Organic / Inorganic Carbon	Total Organic Carbon (%)					
Metals	Aluminum (Al) (mg/kg)	5650	23700	26000	23400	23200
	Antimony (Sb) (mg/kg)	<0.50 DLIV	1.35	1.07	0.87	1.77
	Arsenic (As) (mg/kg)	149	68.4	60.7	92.3	17.2
	Barium (Ba) (mg/kg)	173	257	259	209	570
	Beryllium (Be) (mg/kg)	<0.50 DLIV	0.74	0.91	0.72	0.85
	Bismuth (Bi) (mg/kg)	<1.0 DLIV	<0.40 DLIV	0.25	0.22	<0.20
	Boron (B) (mg/kg)	<25 DLIV	<10 DLIV	8.3	5.4	11.9
	Cadmium (Cd) (mg/kg)	0.53	2.11	0.575	0.703	0.418
	Calcium (Ca) (mg/kg)	12100	11700	13700	12500	18700
	Chromium (Cr) (mg/kg)	<30 DLB	<60 DLB	53.7	61.1	<25 DLB
	Cobalt (Co) (mg/kg)	8.56	22.2	24.0	25.7	20.8
	Copper (Cu) (mg/kg)	97.6	311	369	192	695
	Iron (Fe) (mg/kg)	86200	40400	44900	49200	28600
	Lead (Pb) (mg/kg)	7.3	22.2	16.9	14.7	10.3
	Lithium (Li) (mg/kg)	<10 DLIV	21.0	25.9	24.4	19.0
	Magnesium (Mg) (mg/kg)	2550	11300	13000	12800	12600
	Manganese (Mn) (mg/kg)	3700	2940	3190	4540	15600
	Mercury (Hg) (mg/kg)	0.0895	0.147	0.145	0.133	0.128
	Molybdenum (Mo) (mg/kg)	3.16	2.64	3.22	3.31	11.7
	Nickel (Ni) (mg/kg)	18.1	48.0	49.7	58.3	20.2
	Phosphorus (P) (mg/kg)	2860	1110	1060	1210	2710
	Potassium (K) (mg/kg)	1290	3240	2960	2080	2870
	Selenium (Se) (mg/kg)	3.3	1.40	1.41	1.54	7.51
	Silver (Ag) (mg/kg)	<0.50 DLIV	0.70	0.41	0.37	0.31
	Sodium (Na) (mg/kg)	360	1010	913	513	1500
	Strontium (Sr) (mg/kg)	147	173	190	145	291
	Sulfur (S)-Total (mg/kg)					
	Thallium (Tl) (mg/kg)	<0.25 DLIV	0.16	0.180	0.193	0.060
	Tin (Sn) (mg/kg)	<10 DLIV	<4.0 DLIV	11.3	3.3	2.0
	Titanium (Ti) (mg/kg)	296	1130	1270	1050	1580
	Uranium (U) (mg/kg)	0.51	1.60	1.95	2.19	1.22
	Vanadium (V) (mg/kg)	34.1	83.3	91.6	96.3	112
	Zinc (Zn) (mg/kg)	41	114	107	101	80.2
	Zirconium (Zr) (mg/kg)	5.7	6.4	4.9	2.4	2.6

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1638961-27 Composite 24-MAY-15 09:00 POL-ST-P1-1 FILTER AND SEDIMENT	L1638961-28 Composite 23-MAY-15 14:40 POL-ST-P2-6 FILTER AND SEDIMENT	L1638961-29 Filter FILTER BLANK (7 FILTERS)	L1638961-30 Filter FILTER BLANK (11 FILTERS)	
SOIL						
Physical Tests	pH (1:2 soil:water) (pH)					
Organic / Inorganic Carbon	Total Organic Carbon (%)					
Metals	Aluminum (Al) (mg/kg)	21500	20700	<50	<50	
	Antimony (Sb) (mg/kg)	1.21	1.81	<0.10	<0.10	
	Arsenic (As) (mg/kg)	15.1	22.4	<0.10	<0.10	
	Barium (Ba) (mg/kg)	545	649	<0.50	<0.50	
	Beryllium (Be) (mg/kg)	0.74	0.84	<0.10	<0.10	
	Bismuth (Bi) (mg/kg)	<0.80 DLIV	<0.40 DLIV	<0.20	<0.20	
	Boron (B) (mg/kg)	<20 DLIV	14	<5.0	<5.0	
	Cadmium (Cd) (mg/kg)	0.367	0.436	<0.020	<0.020	
	Calcium (Ca) (mg/kg)	16300	20100	<50	58	
	Chromium (Cr) (mg/kg)	<30 DLB	<20 DLB	3.57	5.11	
	Cobalt (Co) (mg/kg)	19.6	19.1	<0.10	<0.10	
	Copper (Cu) (mg/kg)	574	634	<0.50	<0.50	
	Iron (Fe) (mg/kg)	23600	27700	<50	<50	
	Lead (Pb) (mg/kg)	10.5	17.3	<0.50	<0.50	
	Lithium (Li) (mg/kg)	16.2	17.9	<2.0	<2.0	
	Magnesium (Mg) (mg/kg)	11100	11200	<20	<20	
	Manganese (Mn) (mg/kg)	16000	17000	<1.0	<1.0	
	Mercury (Hg) (mg/kg)	0.137	0.140	<0.0050	<0.0050	
	Molybdenum (Mo) (mg/kg)	4.73	6.76	<0.10	<0.10	
	Nickel (Ni) (mg/kg)	19.8	19.6	<0.50	<0.50	
	Phosphorus (P) (mg/kg)	3030	3820	<50	<50	
	Potassium (K) (mg/kg)	3210	2730	<100	<100	
	Selenium (Se) (mg/kg)	6.67	8.88	<0.20	<0.20	
	Silver (Ag) (mg/kg)	<0.40 DLIV	0.39	<0.10	<0.10	
	Sodium (Na) (mg/kg)	2010	1420	<50	<50	
	Strontium (Sr) (mg/kg)	253	307	<0.50	<0.50	
	Sulfur (S)-Total (mg/kg)					
	Thallium (Tl) (mg/kg)	<0.20 DLIV	<0.10 DLIV	<0.050	<0.050	
	Tin (Sn) (mg/kg)	<8.0 DLIV	<4.0 DLIV	<2.0	<2.0	
	Titanium (Ti) (mg/kg)	1410	1520	<1.0	<1.0	
	Uranium (U) (mg/kg)	0.94	1.07	<0.050	<0.050	
	Vanadium (V) (mg/kg)	93.1	103	<0.20	<0.20	
	Zinc (Zn) (mg/kg)	85.3	97.2	<2.0	<2.0	
	Zirconium (Zr) (mg/kg)	<4.0 DLIV	2.7	<1.0	<1.0	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1638961-1	L1638961-2	L1638961-3	L1638961-4	L1638961-5
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	23-MAY-15	23-MAY-15	23-MAY-15	21-MAY-15	21-MAY-15
Sampled Time	13:00	11:20	09:55		11:35
Client ID	POL-ST-P2-2	QUL-ST-REF-5	QUL-ST-REF-2	QUL-ST-FFF-1 AND 4	QUL-ST-FFF-5
Grouping / **Analyte**					
SOIL					
Exchangeable & Adsorbed Metals					
Aluminum (Al)-Leachable (mg/kg)		<50	<50		
Antimony (Sb)-Leachable (mg/kg)		<0.10	<0.10		
Arsenic (As)-Leachable (mg/kg)		0.054	<0.050		
Barium (Ba)-Leachable (mg/kg)		15.8	16.9		
Beryllium (Be)-Leachable (mg/kg)		<0.20	<0.20		
Bismuth (Bi)-Leachable (mg/kg)		<0.20	<0.20		
Cadmium (Cd)-Leachable (mg/kg)		0.178	0.166		
Calcium (Ca)-Leachable (mg/kg)		2570	2470		
Chromium (Cr)-Leachable (mg/kg)		<0.50	<0.50		
Cobalt (Co)-Leachable (mg/kg)		0.23	0.31		
Copper (Cu)-Leachable (mg/kg)		0.69	0.83		
Iron (Fe)-Leachable (mg/kg)		<50	<50		
Lead (Pb)-Leachable (mg/kg)		<0.50	<0.50		
Lithium (Li)-Leachable (mg/kg)		<5.0	<5.0		
Manganese (Mn)-Leachable (mg/kg)		222	246		
Molybdenum (Mo)-Leachable (mg/kg)		<0.50	<0.50		
Nickel (Ni)-Leachable (mg/kg)		<1.0 DLB	<1.5 DLB		
Phosphorus (P)-Leachable (mg/kg)		<50	<50		
Potassium (K)-Leachable (mg/kg)		<100	<100		
Selenium (Se)-Leachable (mg/kg)		<0.20	<0.20		
Silver (Ag)-Leachable (mg/kg)		<0.10	<0.10		
Sodium (Na)-Leachable (mg/kg)		<100	<100		
Strontium (Sr)-Leachable (mg/kg)		21.7	20.2		
Thallium (Tl)-Leachable (mg/kg)		<0.050	<0.050		
Tin (Sn)-Leachable (mg/kg)		<2.0	<2.0		
Titanium (Ti)-Leachable (mg/kg)		<1.0	<1.0		
Uranium (U)-Leachable (mg/kg)		<0.050	<0.050		
Vanadium (V)-Leachable (mg/kg)		<0.25 DLB	<0.25 DLB		
Zinc (Zn)-Leachable (mg/kg)		<1.0	<1.0		
Carbonate Metals					
Aluminum (Al)-Leachable (mg/kg)		<50	<50		
Antimony (Sb)-Leachable (mg/kg)		<0.10	<0.10		
Arsenic (As)-Leachable (mg/kg)		0.191	0.205		
Barium (Ba)-Leachable (mg/kg)		20.3	19.2		
Beryllium (Be)-Leachable (mg/kg)		<0.20	<0.20		
Bismuth (Bi)-Leachable (mg/kg)		<0.20	<0.20		
Cadmium (Cd)-Leachable (mg/kg)		0.075	0.071		
Calcium (Ca)-Leachable (mg/kg)		361	365		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1638961-6	L1638961-7	L1638961-8	L1638961-9	L1638961-10
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	21-MAY-15	24-MAY-15	24-MAY-15	23-MAY-15	22-MAY-15
Sampled Time	10:30	09:20	09:00	14:40	10:55
Client ID	QUL-ST-FFF-3	POL-ST-P1-2	POL-ST-P1-1	POL-ST-P2-6	QUL-ST-REF-4
Grouping / **Analyte**					
SOIL					
Exchangeable & Adsorbed Metals					
Aluminum (Al)-Leachable (mg/kg)					<50
Antimony (Sb)-Leachable (mg/kg)					<0.10
Arsenic (As)-Leachable (mg/kg)					<0.050
Barium (Ba)-Leachable (mg/kg)					18.3
Beryllium (Be)-Leachable (mg/kg)					<0.20
Bismuth (Bi)-Leachable (mg/kg)					<0.20
Cadmium (Cd)-Leachable (mg/kg)					0.180
Calcium (Ca)-Leachable (mg/kg)					2470
Chromium (Cr)-Leachable (mg/kg)					<0.50
Cobalt (Co)-Leachable (mg/kg)					0.31
Copper (Cu)-Leachable (mg/kg)					0.88
Iron (Fe)-Leachable (mg/kg)					<50
Lead (Pb)-Leachable (mg/kg)					<0.50
Lithium (Li)-Leachable (mg/kg)					<5.0
Manganese (Mn)-Leachable (mg/kg)					263
Molybdenum (Mo)-Leachable (mg/kg)					<0.50
Nickel (Ni)-Leachable (mg/kg)					<1.5 DLB
Phosphorus (P)-Leachable (mg/kg)					<50
Potassium (K)-Leachable (mg/kg)					<100
Selenium (Se)-Leachable (mg/kg)					<0.20
Silver (Ag)-Leachable (mg/kg)					<0.10
Sodium (Na)-Leachable (mg/kg)					<100
Strontium (Sr)-Leachable (mg/kg)					20.6
Thallium (Tl)-Leachable (mg/kg)					<0.050
Tin (Sn)-Leachable (mg/kg)					<2.0
Titanium (Ti)-Leachable (mg/kg)					<1.0
Uranium (U)-Leachable (mg/kg)					<0.050
Vanadium (V)-Leachable (mg/kg)					<0.25 DLB
Zinc (Zn)-Leachable (mg/kg)					<1.0
Carbonate Metals					
Aluminum (Al)-Leachable (mg/kg)					<50
Antimony (Sb)-Leachable (mg/kg)					<0.10
Arsenic (As)-Leachable (mg/kg)					0.191
Barium (Ba)-Leachable (mg/kg)					19.4
Beryllium (Be)-Leachable (mg/kg)					<0.20
Bismuth (Bi)-Leachable (mg/kg)					<0.20
Cadmium (Cd)-Leachable (mg/kg)					0.069
Calcium (Ca)-Leachable (mg/kg)					331

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1638961-11	L1638961-12	L1638961-14	L1638961-15	L1638961-16
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	24-MAY-15	24-MAY-15	23-MAY-15	23-MAY-15	22-MAY-15
Sampled Time	10:40	09:40	12:30	13:30	09:25
Client ID	POL-ST-P1-5	POL-ST-P1-3	POL-ST-P2-1	POL-ST-P2-3	QUL-ST-REF-1
Grouping / **Analyte**					
SOIL					
Exchangeable & Adsorbed Metals					
Aluminum (Al)-Leachable (mg/kg)					<50
Antimony (Sb)-Leachable (mg/kg)					<0.10
Arsenic (As)-Leachable (mg/kg)					0.052
Barium (Ba)-Leachable (mg/kg)					18.5
Beryllium (Be)-Leachable (mg/kg)					<0.20
Bismuth (Bi)-Leachable (mg/kg)					<0.20
Cadmium (Cd)-Leachable (mg/kg)					0.190
Calcium (Ca)-Leachable (mg/kg)					2390
Chromium (Cr)-Leachable (mg/kg)					<0.50
Cobalt (Co)-Leachable (mg/kg)					0.34
Copper (Cu)-Leachable (mg/kg)					0.98
Iron (Fe)-Leachable (mg/kg)					<50
Lead (Pb)-Leachable (mg/kg)					<0.50
Lithium (Li)-Leachable (mg/kg)					<5.0
Manganese (Mn)-Leachable (mg/kg)					274
Molybdenum (Mo)-Leachable (mg/kg)					<0.50
Nickel (Ni)-Leachable (mg/kg)					<1.5 DLB
Phosphorus (P)-Leachable (mg/kg)					<50
Potassium (K)-Leachable (mg/kg)					<100
Selenium (Se)-Leachable (mg/kg)					<0.20
Silver (Ag)-Leachable (mg/kg)					<0.10
Sodium (Na)-Leachable (mg/kg)					<100
Strontium (Sr)-Leachable (mg/kg)					20.1
Thallium (Tl)-Leachable (mg/kg)					<0.050
Tin (Sn)-Leachable (mg/kg)					<2.0
Titanium (Ti)-Leachable (mg/kg)					<1.0
Uranium (U)-Leachable (mg/kg)					<0.050
Vanadium (V)-Leachable (mg/kg)					<0.25 DLB
Zinc (Zn)-Leachable (mg/kg)					<1.0
Carbonate Metals					
Aluminum (Al)-Leachable (mg/kg)					<50
Antimony (Sb)-Leachable (mg/kg)					<0.10
Arsenic (As)-Leachable (mg/kg)					0.194
Barium (Ba)-Leachable (mg/kg)					18.7
Beryllium (Be)-Leachable (mg/kg)					<0.20
Bismuth (Bi)-Leachable (mg/kg)					<0.20
Cadmium (Cd)-Leachable (mg/kg)					0.069
Calcium (Ca)-Leachable (mg/kg)					307

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1638961-17	L1638961-18	L1638961-19	L1638961-20	L1638961-21
Description	Sediment	Sediment	Sediment	Composite	Composite
Sampled Date	23-MAY-15	23-MAY-15	22-MAY-15	23-MAY-15	22-MAY-15
Sampled Time	13:50	14:10	10:30	13:00	11:20
Client ID	POL-ST-P2-4	POL-ST-P2-5	QUL-ST-REF-3	POL-ST-P2-2 FILTER AND SEDIMENT	QUL-ST-REF-5 FILTER AND SEDIMENT
Grouping **Analyte**					
SOIL					
Exchangeable & Adsorbed Metals Aluminum (Al)-Leachable (mg/kg)			<50		
Antimony (Sb)-Leachable (mg/kg)			<0.10		
Arsenic (As)-Leachable (mg/kg)			<0.050		
Barium (Ba)-Leachable (mg/kg)			17.1		
Beryllium (Be)-Leachable (mg/kg)			<0.20		
Bismuth (Bi)-Leachable (mg/kg)			<0.20		
Cadmium (Cd)-Leachable (mg/kg)			0.178		
Calcium (Ca)-Leachable (mg/kg)			2260		
Chromium (Cr)-Leachable (mg/kg)			<0.50		
Cobalt (Co)-Leachable (mg/kg)			0.32		
Copper (Cu)-Leachable (mg/kg)			0.86		
Iron (Fe)-Leachable (mg/kg)			<50		
Lead (Pb)-Leachable (mg/kg)			<0.50		
Lithium (Li)-Leachable (mg/kg)			<5.0		
Manganese (Mn)-Leachable (mg/kg)			229		
Molybdenum (Mo)-Leachable (mg/kg)			<0.50		
Nickel (Ni)-Leachable (mg/kg)			<1.5 DLB		
Phosphorus (P)-Leachable (mg/kg)			<50		
Potassium (K)-Leachable (mg/kg)			<100		
Selenium (Se)-Leachable (mg/kg)			<0.20		
Silver (Ag)-Leachable (mg/kg)			<0.10		
Sodium (Na)-Leachable (mg/kg)			<100		
Strontium (Sr)-Leachable (mg/kg)			19.1		
Thallium (Tl)-Leachable (mg/kg)			<0.050		
Tin (Sn)-Leachable (mg/kg)			<2.0		
Titanium (Ti)-Leachable (mg/kg)			<1.0		
Uranium (U)-Leachable (mg/kg)			<0.050		
Vanadium (V)-Leachable (mg/kg)			<0.25 DLB		
Zinc (Zn)-Leachable (mg/kg)			<1.0		
Carbonate Metals Aluminum (Al)-Leachable (mg/kg)			<50		
Antimony (Sb)-Leachable (mg/kg)			<0.10		
Arsenic (As)-Leachable (mg/kg)			0.171		
Barium (Ba)-Leachable (mg/kg)			17.7		
Beryllium (Be)-Leachable (mg/kg)			<0.20		
Bismuth (Bi)-Leachable (mg/kg)			<0.20		
Cadmium (Cd)-Leachable (mg/kg)			0.066		
Calcium (Ca)-Leachable (mg/kg)			271		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1638961-22	L1638961-23	L1638961-24	L1638961-25	L1638961-26
	Description	Composite	Composite	Composite	Composite	Composite
	Sampled Date	22-MAY-15	21-MAY-15	21-MAY-15	21-MAY-15	24-MAY-15
	Sampled Time	09:55		11:35	10:30	10:30
	Client ID	QUL-ST-REF-2 FILTER AND SEDIMENT	QUL-ST-FFF-1 AND 4 FILTER AND SEDIMENT	QUL-ST-FFF-5 FILTER AND SEDIMENT	QUL-ST-FFF-3 FILTER AND SEDIMENT	POL-ST-P1-2 FILTER AND SEDIMENT
Grouping	**Analyte**					
SOIL						
Exchangeable & Adsorbed Metals	Aluminum (Al)-Leachable (mg/kg)					
	Antimony (Sb)-Leachable (mg/kg)					
	Arsenic (As)-Leachable (mg/kg)					
	Barium (Ba)-Leachable (mg/kg)					
	Beryllium (Be)-Leachable (mg/kg)					
	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					
	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					
	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					
	Phosphorus (P)-Leachable (mg/kg)					
	Potassium (K)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Sodium (Na)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					
	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					
Carbonate Metals	Aluminum (Al)-Leachable (mg/kg)					
	Antimony (Sb)-Leachable (mg/kg)					
	Arsenic (As)-Leachable (mg/kg)					
	Barium (Ba)-Leachable (mg/kg)					
	Beryllium (Be)-Leachable (mg/kg)					
	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1638961-27	L1638961-28	L1638961-29	L1638961-30	
	Description	Composite	Composite	Filter	Filter	
	Sampled Date	24-MAY-15	23-MAY-15			
	Sampled Time	09:00	14:40			
	Client ID	POL-ST-P1-1 FILTER AND SEDIMENT	POL-ST-P2-6 FILTER AND SEDIMENT	FILTER BLANK (7 FILTERS)	FILTER BLANK (11 FILTERS)	
Grouping	**Analyte**					
SOIL						
Exchangeable & Adsorbed Metals	Aluminum (Al)-Leachable (mg/kg)					
	Antimony (Sb)-Leachable (mg/kg)					
	Arsenic (As)-Leachable (mg/kg)					
	Barium (Ba)-Leachable (mg/kg)					
	Beryllium (Be)-Leachable (mg/kg)					
	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					
	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					
	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					
	Phosphorus (P)-Leachable (mg/kg)					
	Potassium (K)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Sodium (Na)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					
	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					
Carbonate Metals	Aluminum (Al)-Leachable (mg/kg)					
	Antimony (Sb)-Leachable (mg/kg)					
	Arsenic (As)-Leachable (mg/kg)					
	Barium (Ba)-Leachable (mg/kg)					
	Beryllium (Be)-Leachable (mg/kg)					
	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1638961-1	L1638961-2	L1638961-3	L1638961-4	L1638961-5
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	23-MAY-15	23-MAY-15	23-MAY-15	21-MAY-15	21-MAY-15
Sampled Time	13:00	11:20	09:55		11:35
Client ID	POL-ST-P2-2	QUL-ST-REF-5	QUL-ST-REF-2	QUL-ST-FFF-1 AND 4	QUL-ST-FFF-5
Grouping / **Analyte**					
SOIL					
Carbonate Metals					
Chromium (Cr)-Leachable (mg/kg)		<5.0	<5.0		
Cobalt (Co)-Leachable (mg/kg)		0.69	0.70		
Copper (Cu)-Leachable (mg/kg)		4.10	3.53		
Iron (Fe)-Leachable (mg/kg)		359	438		
Lead (Pb)-Leachable (mg/kg)		<0.50	<0.50		
Lithium (Li)-Leachable (mg/kg)		<5.0	<5.0		
Manganese (Mn)-Leachable (mg/kg)		121	73.1		
Molybdenum (Mo)-Leachable (mg/kg)		<0.50	<0.50		
Nickel (Ni)-Leachable (mg/kg)		<2.0	<2.0		
Phosphorus (P)-Leachable (mg/kg)		<50	<50		
Selenium (Se)-Leachable (mg/kg)		<0.20	<0.20		
Silver (Ag)-Leachable (mg/kg)		<0.10	<0.10		
Strontium (Sr)-Leachable (mg/kg)		7.8	7.2		
Thallium (Tl)-Leachable (mg/kg)		<0.050	<0.050		
Tin (Sn)-Leachable (mg/kg)		<2.0	<2.0		
Titanium (Ti)-Leachable (mg/kg)		<5.0	<5.0		
Uranium (U)-Leachable (mg/kg)		0.335	0.327		
Vanadium (V)-Leachable (mg/kg)		0.36	0.53		
Zinc (Zn)-Leachable (mg/kg)		1.7	1.7		
Easily Reducible Metals and Iron Oxides					
Aluminum (Al)-Leachable (mg/kg)		1050	1050		
Antimony (Sb)-Leachable (mg/kg)		<0.10	<0.10		
Arsenic (As)-Leachable (mg/kg)		1.53	1.50		
Barium (Ba)-Leachable (mg/kg)		24.1	22.9		
Beryllium (Be)-Leachable (mg/kg)		<0.20	0.20		
Bismuth (Bi)-Leachable (mg/kg)		<0.20	<0.20		
Cadmium (Cd)-Leachable (mg/kg)		0.145	0.166		
Calcium (Ca)-Leachable (mg/kg)		643	807		
Chromium (Cr)-Leachable (mg/kg)		3.71	3.80		
Cobalt (Co)-Leachable (mg/kg)		4.82	4.74		
Copper (Cu)-Leachable (mg/kg)		11.1	10.2		
Iron (Fe)-Leachable (mg/kg)		6540	6220		
Lead (Pb)-Leachable (mg/kg)		2.35	2.48		
Lithium (Li)-Leachable (mg/kg)		<5.0	<5.0		
Manganese (Mn)-Leachable (mg/kg)		159	138		
Molybdenum (Mo)-Leachable (mg/kg)		<0.50	<0.50		
Nickel (Ni)-Leachable (mg/kg)		9.19	9.20		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1638961-6	L1638961-7	L1638961-8	L1638961-9	L1638961-10
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	21-MAY-15	24-MAY-15	24-MAY-15	23-MAY-15	22-MAY-15
Sampled Time	10:30	09:20	09:00	14:40	10:55
Client ID	QUL-ST-FFF-3	POL-ST-P1-2	POL-ST-P1-1	POL-ST-P2-6	QUL-ST-REF-4
Grouping **Analyte**					
SOIL					
Carbonate Metals Chromium (Cr)-Leachable (mg/kg)					<5.0
Cobalt (Co)-Leachable (mg/kg)					0.56
Copper (Cu)-Leachable (mg/kg)					3.67
Iron (Fe)-Leachable (mg/kg)					371
Lead (Pb)-Leachable (mg/kg)					<0.50
Lithium (Li)-Leachable (mg/kg)					<5.0
Manganese (Mn)-Leachable (mg/kg)					65.2
Molybdenum (Mo)-Leachable (mg/kg)					<0.50
Nickel (Ni)-Leachable (mg/kg)					<2.0
Phosphorus (P)-Leachable (mg/kg)					<50
Selenium (Se)-Leachable (mg/kg)					<0.20
Silver (Ag)-Leachable (mg/kg)					<0.10
Strontium (Sr)-Leachable (mg/kg)					7.2
Thallium (Tl)-Leachable (mg/kg)					<0.050
Tin (Sn)-Leachable (mg/kg)					<2.0
Titanium (Ti)-Leachable (mg/kg)					<5.0
Uranium (U)-Leachable (mg/kg)					0.325
Vanadium (V)-Leachable (mg/kg)					0.32
Zinc (Zn)-Leachable (mg/kg)					1.4
Easily Reducible Metals and Iron Oxides Aluminum (Al)-Leachable (mg/kg)					1050
Antimony (Sb)-Leachable (mg/kg)					<0.10
Arsenic (As)-Leachable (mg/kg)					1.49
Barium (Ba)-Leachable (mg/kg)					22.4
Beryllium (Be)-Leachable (mg/kg)					0.20
Bismuth (Bi)-Leachable (mg/kg)					<0.20
Cadmium (Cd)-Leachable (mg/kg)					0.146
Calcium (Ca)-Leachable (mg/kg)					744
Chromium (Cr)-Leachable (mg/kg)					3.62
Cobalt (Co)-Leachable (mg/kg)					4.84
Copper (Cu)-Leachable (mg/kg)					10.8
Iron (Fe)-Leachable (mg/kg)					6400
Lead (Pb)-Leachable (mg/kg)					2.65
Lithium (Li)-Leachable (mg/kg)					<5.0
Manganese (Mn)-Leachable (mg/kg)					137
Molybdenum (Mo)-Leachable (mg/kg)					<0.50
Nickel (Ni)-Leachable (mg/kg)					9.15

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1638961-11	L1638961-12	L1638961-14	L1638961-15	L1638961-16
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	24-MAY-15	24-MAY-15	23-MAY-15	23-MAY-15	22-MAY-15
Sampled Time	10:40	09:40	12:30	13:30	09:25
Client ID	POL-ST-P1-5	POL-ST-P1-3	POL-ST-P2-1	POL-ST-P2-3	QUL-ST-REF-1
Grouping **Analyte**					
SOIL					
Carbonate Metals Chromium (Cr)-Leachable (mg/kg)					<5.0
Cobalt (Co)-Leachable (mg/kg)					0.54
Copper (Cu)-Leachable (mg/kg)					3.79
Iron (Fe)-Leachable (mg/kg)					364
Lead (Pb)-Leachable (mg/kg)					<0.50
Lithium (Li)-Leachable (mg/kg)					<5.0
Manganese (Mn)-Leachable (mg/kg)					62.1
Molybdenum (Mo)-Leachable (mg/kg)					<0.50
Nickel (Ni)-Leachable (mg/kg)					<2.0
Phosphorus (P)-Leachable (mg/kg)					<50
Selenium (Se)-Leachable (mg/kg)					<0.20
Silver (Ag)-Leachable (mg/kg)					<0.10
Strontium (Sr)-Leachable (mg/kg)					6.9
Thallium (Tl)-Leachable (mg/kg)					<0.050
Tin (Sn)-Leachable (mg/kg)					<2.0
Titanium (Ti)-Leachable (mg/kg)					<5.0
Uranium (U)-Leachable (mg/kg)					0.308
Vanadium (V)-Leachable (mg/kg)					0.31
Zinc (Zn)-Leachable (mg/kg)					1.3
Easily Reducible Metals and Iron Oxides Aluminum (Al)-Leachable (mg/kg)					1060
Antimony (Sb)-Leachable (mg/kg)					<0.10
Arsenic (As)-Leachable (mg/kg)					1.42
Barium (Ba)-Leachable (mg/kg)					22.4
Beryllium (Be)-Leachable (mg/kg)					<0.20
Bismuth (Bi)-Leachable (mg/kg)					<0.20
Cadmium (Cd)-Leachable (mg/kg)					0.136
Calcium (Ca)-Leachable (mg/kg)					757
Chromium (Cr)-Leachable (mg/kg)					3.53
Cobalt (Co)-Leachable (mg/kg)					4.85
Copper (Cu)-Leachable (mg/kg)					10.6
Iron (Fe)-Leachable (mg/kg)					6310
Lead (Pb)-Leachable (mg/kg)					2.64
Lithium (Li)-Leachable (mg/kg)					<5.0
Manganese (Mn)-Leachable (mg/kg)					137
Molybdenum (Mo)-Leachable (mg/kg)					<0.50
Nickel (Ni)-Leachable (mg/kg)					9.17

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1638961-17	L1638961-18	L1638961-19	L1638961-20	L1638961-21
Description	Sediment	Sediment	Sediment	Composite	Composite
Sampled Date	23-MAY-15	23-MAY-15	22-MAY-15	23-MAY-15	22-MAY-15
Sampled Time	13:50	14:10	10:30	13:00	11:20
Client ID	POL-ST-P2-4	POL-ST-P2-5	QUL-ST-REF-3	POL-ST-P2-2 FILTER AND SEDIMENT	QUL-ST-REF-5 FILTER AND SEDIMENT
Grouping **Analyte**					
SOIL					
Carbonate Metals Chromium (Cr)-Leachable (mg/kg)			<5.0		
Cobalt (Co)-Leachable (mg/kg)			0.48		
Copper (Cu)-Leachable (mg/kg)			3.51		
Iron (Fe)-Leachable (mg/kg)			312		
Lead (Pb)-Leachable (mg/kg)			<0.50		
Lithium (Li)-Leachable (mg/kg)			<5.0		
Manganese (Mn)-Leachable (mg/kg)			56.3		
Molybdenum (Mo)-Leachable (mg/kg)			<0.50		
Nickel (Ni)-Leachable (mg/kg)			<2.0		
Phosphorus (P)-Leachable (mg/kg)			<50		
Selenium (Se)-Leachable (mg/kg)			<0.20		
Silver (Ag)-Leachable (mg/kg)			<0.10		
Strontium (Sr)-Leachable (mg/kg)			6.1		
Thallium (Tl)-Leachable (mg/kg)			<0.050		
Tin (Sn)-Leachable (mg/kg)			<2.0		
Titanium (Ti)-Leachable (mg/kg)			<5.0		
Uranium (U)-Leachable (mg/kg)			0.334		
Vanadium (V)-Leachable (mg/kg)			<0.20		
Zinc (Zn)-Leachable (mg/kg)			1.2		
Easily Reducible Metals and Iron Oxides Aluminum (Al)-Leachable (mg/kg)			1040		
Antimony (Sb)-Leachable (mg/kg)			<0.10		
Arsenic (As)-Leachable (mg/kg)			1.38		
Barium (Ba)-Leachable (mg/kg)			21.8		
Beryllium (Be)-Leachable (mg/kg)			<0.20		
Bismuth (Bi)-Leachable (mg/kg)			<0.20		
Cadmium (Cd)-Leachable (mg/kg)			0.135		
Calcium (Ca)-Leachable (mg/kg)			682		
Chromium (Cr)-Leachable (mg/kg)			3.69		
Cobalt (Co)-Leachable (mg/kg)			4.88		
Copper (Cu)-Leachable (mg/kg)			10.1		
Iron (Fe)-Leachable (mg/kg)			6490		
Lead (Pb)-Leachable (mg/kg)			2.60		
Lithium (Li)-Leachable (mg/kg)			<5.0		
Manganese (Mn)-Leachable (mg/kg)			133		
Molybdenum (Mo)-Leachable (mg/kg)			<0.50		
Nickel (Ni)-Leachable (mg/kg)			9.08		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1638961-22	L1638961-23	L1638961-24	L1638961-25	L1638961-26
	Description	Composite	Composite	Composite	Composite	Composite
	Sampled Date	22-MAY-15	21-MAY-15	21-MAY-15	21-MAY-15	24-MAY-15
	Sampled Time	09:55		11:35	10:30	10:30
	Client ID	QUL-ST-REF-2 FILTER AND SEDIMENT	QUL-ST-FFF-1 AND 4 FILTER AND SEDIMENT	QUL-ST-FFF-5 FILTER AND SEDIMENT	QUL-ST-FFF-3 FILTER AND SEDIMENT	POL-ST-P1-2 FILTER AND SEDIMENT
Grouping	**Analyte**					
SOIL						
Carbonate Metals	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					
	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					
	Phosphorus (P)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					
	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					
Easily Reducible Metals and Iron Oxides	Aluminum (Al)-Leachable (mg/kg)					
	Antimony (Sb)-Leachable (mg/kg)					
	Arsenic (As)-Leachable (mg/kg)					
	Barium (Ba)-Leachable (mg/kg)					
	Beryllium (Be)-Leachable (mg/kg)					
	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					
	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					
	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1638961-27	L1638961-28	L1638961-29	L1638961-30	
	Description	Composite	Composite	Filter	Filter	
	Sampled Date	24-MAY-15	23-MAY-15			
	Sampled Time	09:00	14:40			
	Client ID	POL-ST-P1-1 FILTER AND SEDIMENT	POL-ST-P2-6 FILTER AND SEDIMENT	FILTER BLANK (7 FILTERS)	FILTER BLANK (11 FILTERS)	
Grouping	**Analyte**					
SOIL						
Carbonate Metals	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					
	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					
	Phosphorus (P)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					
	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					
Easily Reducible Metals and Iron Oxides	Aluminum (Al)-Leachable (mg/kg)					
	Antimony (Sb)-Leachable (mg/kg)					
	Arsenic (As)-Leachable (mg/kg)					
	Barium (Ba)-Leachable (mg/kg)					
	Beryllium (Be)-Leachable (mg/kg)					
	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					
	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					
	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1638961-1	L1638961-2	L1638961-3	L1638961-4	L1638961-5
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	23-MAY-15	23-MAY-15	23-MAY-15	21-MAY-15	21-MAY-15
Sampled Time	13:00	11:20	09:55		11:35
Client ID	POL-ST-P2-2	QUL-ST-REF-5	QUL-ST-REF-2	QUL-ST-FFF-1 AND 4	QUL-ST-FFF-5
Grouping / **Analyte**					
SOIL					
Easily Reducible Metals and Iron Oxides					
Phosphorus (P)-Leachable (mg/kg)		78	89		
Selenium (Se)-Leachable (mg/kg)		<0.20	<0.20		
Silver (Ag)-Leachable (mg/kg)		<0.10	<0.10		
Strontium (Sr)-Leachable (mg/kg)		7.63	9.08		
Thallium (Tl)-Leachable (mg/kg)		<0.050	<0.050		
Tin (Sn)-Leachable (mg/kg)		<2.0	<2.0		
Titanium (Ti)-Leachable (mg/kg)		1.0	<1.0		
Uranium (U)-Leachable (mg/kg)		0.257	0.274		
Vanadium (V)-Leachable (mg/kg)		8.88	9.25		
Zinc (Zn)-Leachable (mg/kg)		18.2	18.4		
Organic Bound Metals					
Aluminum (Al)-Leachable (mg/kg)		1380	1430		
Antimony (Sb)-Leachable (mg/kg)		<0.10	<0.10		
Arsenic (As)-Leachable (mg/kg)		0.267	0.248		
Barium (Ba)-Leachable (mg/kg)		15.4	15.4		
Beryllium (Be)-Leachable (mg/kg)		<0.20	<0.20		
Bismuth (Bi)-Leachable (mg/kg)		<0.20	<0.20		
Cadmium (Cd)-Leachable (mg/kg)		<0.050	<0.050		
Calcium (Ca)-Leachable (mg/kg)		377	372		
Chromium (Cr)-Leachable (mg/kg)		5.43	5.66		
Cobalt (Co)-Leachable (mg/kg)		1.32	1.37		
Copper (Cu)-Leachable (mg/kg)		21.4	18.6		
Iron (Fe)-Leachable (mg/kg)		609	647		
Lead (Pb)-Leachable (mg/kg)		<0.50	<0.50		
Lithium (Li)-Leachable (mg/kg)		<5.0	<5.0		
Manganese (Mn)-Leachable (mg/kg)		19.5	19.0		
Molybdenum (Mo)-Leachable (mg/kg)		<0.50	<0.50		
Nickel (Ni)-Leachable (mg/kg)		3.43	3.53		
Selenium (Se)-Leachable (mg/kg)		0.77	0.80		
Silver (Ag)-Leachable (mg/kg)		<0.10	<0.10		
Strontium (Sr)-Leachable (mg/kg)		3.33	3.32		
Thallium (Tl)-Leachable (mg/kg)		<0.050	<0.050		
Tin (Sn)-Leachable (mg/kg)		<2.0	<2.0		
Titanium (Ti)-Leachable (mg/kg)		48.0	36.8		
Uranium (U)-Leachable (mg/kg)		0.139	0.142		
Vanadium (V)-Leachable (mg/kg)		5.18	5.18		
Zinc (Zn)-Leachable (mg/kg)		6.7	6.8		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1638961-6	L1638961-7	L1638961-8	L1638961-9	L1638961-10
	Description	Sediment	Sediment	Sediment	Sediment	Sediment
	Sampled Date	21-MAY-15	24-MAY-15	24-MAY-15	23-MAY-15	22-MAY-15
	Sampled Time	10:30	09:20	09:00	14:40	10:55
	Client ID	QUL-ST-FFF-3	POL-ST-P1-2	POL-ST-P1-1	POL-ST-P2-6	QUL-ST-REF-4
Grouping	**Analyte**					
SOIL						
Easily Reducible Metals and Iron Oxides	Phosphorus (P)-Leachable (mg/kg)					85
	Selenium (Se)-Leachable (mg/kg)					<0.20
	Silver (Ag)-Leachable (mg/kg)					<0.10
	Strontium (Sr)-Leachable (mg/kg)					8.49
	Thallium (Tl)-Leachable (mg/kg)					<0.050
	Tin (Sn)-Leachable (mg/kg)					<2.0
	Titanium (Ti)-Leachable (mg/kg)					1.0
	Uranium (U)-Leachable (mg/kg)					0.306
	Vanadium (V)-Leachable (mg/kg)					9.00
	Zinc (Zn)-Leachable (mg/kg)					18.4
Organic Bound Metals	Aluminum (Al)-Leachable (mg/kg)					1420
	Antimony (Sb)-Leachable (mg/kg)					<0.10
	Arsenic (As)-Leachable (mg/kg)					0.279
	Barium (Ba)-Leachable (mg/kg)					15.9
	Beryllium (Be)-Leachable (mg/kg)					<0.20
	Bismuth (Bi)-Leachable (mg/kg)					<0.20
	Cadmium (Cd)-Leachable (mg/kg)					<0.050
	Calcium (Ca)-Leachable (mg/kg)					391
	Chromium (Cr)-Leachable (mg/kg)					5.72
	Cobalt (Co)-Leachable (mg/kg)					1.35
	Copper (Cu)-Leachable (mg/kg)					19.9
	Iron (Fe)-Leachable (mg/kg)					629
	Lead (Pb)-Leachable (mg/kg)					0.54
	Lithium (Li)-Leachable (mg/kg)					<5.0
	Manganese (Mn)-Leachable (mg/kg)					18.6
	Molybdenum (Mo)-Leachable (mg/kg)					<0.50
	Nickel (Ni)-Leachable (mg/kg)					3.42
	Selenium (Se)-Leachable (mg/kg)					0.82
	Silver (Ag)-Leachable (mg/kg)					<0.10
	Strontium (Sr)-Leachable (mg/kg)					3.42
	Thallium (Tl)-Leachable (mg/kg)					<0.050
	Tin (Sn)-Leachable (mg/kg)					<2.0
	Titanium (Ti)-Leachable (mg/kg)					35.7
	Uranium (U)-Leachable (mg/kg)					0.151
	Vanadium (V)-Leachable (mg/kg)					5.11
	Zinc (Zn)-Leachable (mg/kg)					7.1

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1638961-11	L1638961-12	L1638961-14	L1638961-15	L1638961-16
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	24-MAY-15	24-MAY-15	23-MAY-15	23-MAY-15	22-MAY-15
Sampled Time	10:40	09:40	12:30	13:30	09:25
Client ID	POL-ST-P1-5	POL-ST-P1-3	POL-ST-P2-1	POL-ST-P2-3	QUL-ST-REF-1
Grouping / **Analyte**					
SOIL					
Easily Reducible Metals and Iron Oxides					
Phosphorus (P)-Leachable (mg/kg)					79
Selenium (Se)-Leachable (mg/kg)					<0.20
Silver (Ag)-Leachable (mg/kg)					<0.10
Strontium (Sr)-Leachable (mg/kg)					8.43
Thallium (Tl)-Leachable (mg/kg)					<0.050
Tin (Sn)-Leachable (mg/kg)					<2.0
Titanium (Ti)-Leachable (mg/kg)					1.1
Uranium (U)-Leachable (mg/kg)					0.288
Vanadium (V)-Leachable (mg/kg)					8.87
Zinc (Zn)-Leachable (mg/kg)					17.9
Organic Bound Metals					
Aluminum (Al)-Leachable (mg/kg)					1310
Antimony (Sb)-Leachable (mg/kg)					<0.10
Arsenic (As)-Leachable (mg/kg)					0.241
Barium (Ba)-Leachable (mg/kg)					14.0
Beryllium (Be)-Leachable (mg/kg)					<0.20
Bismuth (Bi)-Leachable (mg/kg)					<0.20
Cadmium (Cd)-Leachable (mg/kg)					<0.050
Calcium (Ca)-Leachable (mg/kg)					375
Chromium (Cr)-Leachable (mg/kg)					5.11
Cobalt (Co)-Leachable (mg/kg)					1.27
Copper (Cu)-Leachable (mg/kg)					18.0
Iron (Fe)-Leachable (mg/kg)					527
Lead (Pb)-Leachable (mg/kg)					<0.50
Lithium (Li)-Leachable (mg/kg)					<5.0
Manganese (Mn)-Leachable (mg/kg)					17.6
Molybdenum (Mo)-Leachable (mg/kg)					<0.50
Nickel (Ni)-Leachable (mg/kg)					3.19
Selenium (Se)-Leachable (mg/kg)					0.74
Silver (Ag)-Leachable (mg/kg)					<0.10
Strontium (Sr)-Leachable (mg/kg)					3.24
Thallium (Tl)-Leachable (mg/kg)					<0.050
Tin (Sn)-Leachable (mg/kg)					<2.0
Titanium (Ti)-Leachable (mg/kg)					41.0
Uranium (U)-Leachable (mg/kg)					0.136
Vanadium (V)-Leachable (mg/kg)					4.80
Zinc (Zn)-Leachable (mg/kg)					6.5

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1638961-17	L1638961-18	L1638961-19	L1638961-20	L1638961-21
	Description	Sediment	Sediment	Sediment	Composite	Composite
	Sampled Date	23-MAY-15	23-MAY-15	22-MAY-15	23-MAY-15	22-MAY-15
	Sampled Time	13:50	14:10	10:30	13:00	11:20
	Client ID	POL-ST-P2-4	POL-ST-P2-5	QUL-ST-REF-3	POL-ST-P2-2 FILTER AND SEDIMENT	QUL-ST-REF-5 FILTER AND SEDIMENT
Grouping	**Analyte**					
SOIL						
Easily Reducible Metals and Iron Oxides	Phosphorus (P)-Leachable (mg/kg)			71		
	Selenium (Se)-Leachable (mg/kg)			<0.20		
	Silver (Ag)-Leachable (mg/kg)			<0.10		
	Strontium (Sr)-Leachable (mg/kg)			8.02		
	Thallium (Tl)-Leachable (mg/kg)			<0.050		
	Tin (Sn)-Leachable (mg/kg)			<2.0		
	Titanium (Ti)-Leachable (mg/kg)			1.1		
	Uranium (U)-Leachable (mg/kg)			0.291		
	Vanadium (V)-Leachable (mg/kg)			8.96		
	Zinc (Zn)-Leachable (mg/kg)			17.9		
Organic Bound Metals	Aluminum (Al)-Leachable (mg/kg)			1340		
	Antimony (Sb)-Leachable (mg/kg)			<0.10		
	Arsenic (As)-Leachable (mg/kg)			0.248		
	Barium (Ba)-Leachable (mg/kg)			14.7		
	Beryllium (Be)-Leachable (mg/kg)			<0.20		
	Bismuth (Bi)-Leachable (mg/kg)			<0.20		
	Cadmium (Cd)-Leachable (mg/kg)			<0.050		
	Calcium (Ca)-Leachable (mg/kg)			361		
	Chromium (Cr)-Leachable (mg/kg)			5.34		
	Cobalt (Co)-Leachable (mg/kg)			1.30		
	Copper (Cu)-Leachable (mg/kg)			16.8		
	Iron (Fe)-Leachable (mg/kg)			592		
	Lead (Pb)-Leachable (mg/kg)			<0.50		
	Lithium (Li)-Leachable (mg/kg)			<5.0		
	Manganese (Mn)-Leachable (mg/kg)			17.4		
	Molybdenum (Mo)-Leachable (mg/kg)			<0.50		
	Nickel (Ni)-Leachable (mg/kg)			3.28		
	Selenium (Se)-Leachable (mg/kg)			0.76		
	Silver (Ag)-Leachable (mg/kg)			<0.10		
	Strontium (Sr)-Leachable (mg/kg)			3.17		
	Thallium (Tl)-Leachable (mg/kg)			<0.050		
	Tin (Sn)-Leachable (mg/kg)			<2.0		
	Titanium (Ti)-Leachable (mg/kg)			44.1		
	Uranium (U)-Leachable (mg/kg)			0.129		
	Vanadium (V)-Leachable (mg/kg)			4.98		
	Zinc (Zn)-Leachable (mg/kg)			6.6		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1638961-22	L1638961-23	L1638961-24	L1638961-25	L1638961-26
	Description	Composite	Composite	Composite	Composite	Composite
	Sampled Date	22-MAY-15	21-MAY-15	21-MAY-15	21-MAY-15	24-MAY-15
	Sampled Time	09:55		11:35	10:30	10:30
	Client ID	QUL-ST-REF-2 FILTER AND SEDIMENT	QUL-ST-FFF-1 AND 4 FILTER AND SEDIMENT	QUL-ST-FFF-5 FILTER AND SEDIMENT	QUL-ST-FFF-3 FILTER AND SEDIMENT	POL-ST-P1-2 FILTER AND SEDIMENT
Grouping	**Analyte**					
SOIL						
Easily Reducible Metals and Iron Oxides	Phosphorus (P)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					
	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					
Organic Bound Metals	Aluminum (Al)-Leachable (mg/kg)					
	Antimony (Sb)-Leachable (mg/kg)					
	Arsenic (As)-Leachable (mg/kg)					
	Barium (Ba)-Leachable (mg/kg)					
	Beryllium (Be)-Leachable (mg/kg)					
	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					
	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					
	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					
	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1638961-27	L1638961-28	L1638961-29	L1638961-30	
	Description	Composite	Composite	Filter	Filter	
	Sampled Date	24-MAY-15	23-MAY-15			
	Sampled Time	09:00	14:40			
	Client ID	POL-ST-P1-1 FILTER AND SEDIMENT	POL-ST-P2-6 FILTER AND SEDIMENT	FILTER BLANK (7 FILTERS)	FILTER BLANK (11 FILTERS)	
Grouping	**Analyte**					
SOIL						
Easily Reducible Metals and Iron Oxides	Phosphorus (P)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					
	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					
Organic Bound Metals	Aluminum (Al)-Leachable (mg/kg)					
	Antimony (Sb)-Leachable (mg/kg)					
	Arsenic (As)-Leachable (mg/kg)					
	Barium (Ba)-Leachable (mg/kg)					
	Beryllium (Be)-Leachable (mg/kg)					
	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					
	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					
	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					
	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1638961-1	L1638961-2	L1638961-3	L1638961-4	L1638961-5
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	23-MAY-15	23-MAY-15	23-MAY-15	21-MAY-15	21-MAY-15
Sampled Time	13:00	11:20	09:55		11:35
Client ID	POL-ST-P2-2	QUL-ST-REF-5	QUL-ST-REF-2	QUL-ST-FFF-1 AND 4	QUL-ST-FFF-5
Grouping / **Analyte**					
SOIL					
Residual Metals					
Aluminum (Al)-Leachable (mg/kg)		16200	15900		
Antimony (Sb)-Leachable (mg/kg)		0.34	0.36		
Arsenic (As)-Leachable (mg/kg)		5.72	5.56		
Barium (Ba)-Leachable (mg/kg)		81.3	80.2		
Beryllium (Be)-Leachable (mg/kg)		0.23	0.23		
Bismuth (Bi)-Leachable (mg/kg)		<0.20	<0.20		
Cadmium (Cd)-Leachable (mg/kg)		<0.050	<0.050		
Calcium (Ca)-Leachable (mg/kg)		5000	5130		
Chromium (Cr)-Leachable (mg/kg)		47.5	47.6		
Cobalt (Co)-Leachable (mg/kg)		7.33	7.19		
Copper (Cu)-Leachable (mg/kg)		38.8	36.1		
Iron (Fe)-Leachable (mg/kg)		22300	22400		
Lead (Pb)-Leachable (mg/kg)		4.15	4.07		
Lithium (Li)-Leachable (mg/kg)		13.3	13.3		
Manganese (Mn)-Leachable (mg/kg)		225	225		
Molybdenum (Mo)-Leachable (mg/kg)		0.68	0.71		
Nickel (Ni)-Leachable (mg/kg)		24.3	23.9		
Selenium (Se)-Leachable (mg/kg)		<0.20	<0.20		
Silver (Ag)-Leachable (mg/kg)		<0.10	<0.10		
Strontium (Sr)-Leachable (mg/kg)		46.7	48.6		
Thallium (Tl)-Leachable (mg/kg)		0.136	0.138		
Tin (Sn)-Leachable (mg/kg)		2.9	3.0		
Titanium (Ti)-Leachable (mg/kg)		1250	1260		
Uranium (U)-Leachable (mg/kg)		0.685	0.680		
Vanadium (V)-Leachable (mg/kg)		56.5	55.7		
Zinc (Zn)-Leachable (mg/kg)		52.0	51.3		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1638961-6	L1638961-7	L1638961-8	L1638961-9	L1638961-10
	Description	Sediment	Sediment	Sediment	Sediment	Sediment
	Sampled Date	21-MAY-15	24-MAY-15	24-MAY-15	23-MAY-15	22-MAY-15
	Sampled Time	10:30	09:20	09:00	14:40	10:55
	Client ID	QUL-ST-FFF-3	POL-ST-P1-2	POL-ST-P1-1	POL-ST-P2-6	QUL-ST-REF-4
Grouping	**Analyte**					
SOIL						
Residual Metals	Aluminum (Al)-Leachable (mg/kg)					16000
	Antimony (Sb)-Leachable (mg/kg)					0.33
	Arsenic (As)-Leachable (mg/kg)					5.58
	Barium (Ba)-Leachable (mg/kg)					80.1
	Beryllium (Be)-Leachable (mg/kg)					0.24
	Bismuth (Bi)-Leachable (mg/kg)					<0.20
	Cadmium (Cd)-Leachable (mg/kg)					<0.050
	Calcium (Ca)-Leachable (mg/kg)					5020
	Chromium (Cr)-Leachable (mg/kg)					46.7
	Cobalt (Co)-Leachable (mg/kg)					7.27
	Copper (Cu)-Leachable (mg/kg)					37.1
	Iron (Fe)-Leachable (mg/kg)					22600
	Lead (Pb)-Leachable (mg/kg)					4.13
	Lithium (Li)-Leachable (mg/kg)					14.1
	Manganese (Mn)-Leachable (mg/kg)					219
	Molybdenum (Mo)-Leachable (mg/kg)					0.74
	Nickel (Ni)-Leachable (mg/kg)					24.5
	Selenium (Se)-Leachable (mg/kg)					<0.20
	Silver (Ag)-Leachable (mg/kg)					<0.10
	Strontium (Sr)-Leachable (mg/kg)					47.2
	Thallium (Tl)-Leachable (mg/kg)					0.134
	Tin (Sn)-Leachable (mg/kg)					2.9
	Titanium (Ti)-Leachable (mg/kg)					1220
	Uranium (U)-Leachable (mg/kg)					0.663
	Vanadium (V)-Leachable (mg/kg)					54.9
	Zinc (Zn)-Leachable (mg/kg)					51.8

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1638961-11	L1638961-12	L1638961-14	L1638961-15	L1638961-16
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	24-MAY-15	24-MAY-15	23-MAY-15	23-MAY-15	22-MAY-15
Sampled Time	10:40	09:40	12:30	13:30	09:25
Client ID	POL-ST-P1-5	POL-ST-P1-3	POL-ST-P2-1	POL-ST-P2-3	QUL-ST-REF-1
Grouping **Analyte**					
SOIL					
Residual Metals Aluminum (Al)-Leachable (mg/kg)					14700
Antimony (Sb)-Leachable (mg/kg)					0.31
Arsenic (As)-Leachable (mg/kg)					5.33
Barium (Ba)-Leachable (mg/kg)					73.4
Beryllium (Be)-Leachable (mg/kg)					0.21
Bismuth (Bi)-Leachable (mg/kg)					<0.20
Cadmium (Cd)-Leachable (mg/kg)					<0.050
Calcium (Ca)-Leachable (mg/kg)					4700
Chromium (Cr)-Leachable (mg/kg)					44.6
Cobalt (Co)-Leachable (mg/kg)					6.92
Copper (Cu)-Leachable (mg/kg)					35.5
Iron (Fe)-Leachable (mg/kg)					21300
Lead (Pb)-Leachable (mg/kg)					3.84
Lithium (Li)-Leachable (mg/kg)					12.8
Manganese (Mn)-Leachable (mg/kg)					207
Molybdenum (Mo)-Leachable (mg/kg)					0.65
Nickel (Ni)-Leachable (mg/kg)					22.9
Selenium (Se)-Leachable (mg/kg)					<0.20
Silver (Ag)-Leachable (mg/kg)					<0.10
Strontium (Sr)-Leachable (mg/kg)					43.2
Thallium (Tl)-Leachable (mg/kg)					0.123
Tin (Sn)-Leachable (mg/kg)					2.9
Titanium (Ti)-Leachable (mg/kg)					1080
Uranium (U)-Leachable (mg/kg)					0.585
Vanadium (V)-Leachable (mg/kg)					51.3
Zinc (Zn)-Leachable (mg/kg)					48.9

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1638961-17	L1638961-18	L1638961-19	L1638961-20	L1638961-21
	Description	Sediment	Sediment	Sediment	Composite	Composite
	Sampled Date	23-MAY-15	23-MAY-15	22-MAY-15	23-MAY-15	22-MAY-15
	Sampled Time	13:50	14:10	10:30	13:00	11:20
	Client ID	POL-ST-P2-4	POL-ST-P2-5	QUL-ST-REF-3	POL-ST-P2-2 FILTER AND SEDIMENT	QUL-ST-REF-5 FILTER AND SEDIMENT
Grouping	**Analyte**					
SOIL						
Residual Metals	Aluminum (Al)-Leachable (mg/kg)			14100		
	Antimony (Sb)-Leachable (mg/kg)			0.32		
	Arsenic (As)-Leachable (mg/kg)			5.11		
	Barium (Ba)-Leachable (mg/kg)			71.3		
	Beryllium (Be)-Leachable (mg/kg)			<0.20		
	Bismuth (Bi)-Leachable (mg/kg)			<0.20		
	Cadmium (Cd)-Leachable (mg/kg)			<0.050		
	Calcium (Ca)-Leachable (mg/kg)			4410		
	Chromium (Cr)-Leachable (mg/kg)			43.0		
	Cobalt (Co)-Leachable (mg/kg)			6.83		
	Copper (Cu)-Leachable (mg/kg)			34.2		
	Iron (Fe)-Leachable (mg/kg)			20900		
	Lead (Pb)-Leachable (mg/kg)			3.86		
	Lithium (Li)-Leachable (mg/kg)			12.0		
	Manganese (Mn)-Leachable (mg/kg)			198		
	Molybdenum (Mo)-Leachable (mg/kg)			0.64		
	Nickel (Ni)-Leachable (mg/kg)			23.0		
	Selenium (Se)-Leachable (mg/kg)			<0.20		
	Silver (Ag)-Leachable (mg/kg)			<0.10		
	Strontium (Sr)-Leachable (mg/kg)			39.3		
	Thallium (Tl)-Leachable (mg/kg)			0.124		
	Tin (Sn)-Leachable (mg/kg)			2.8		
	Titanium (Ti)-Leachable (mg/kg)			1030		
	Uranium (U)-Leachable (mg/kg)			0.564		
	Vanadium (V)-Leachable (mg/kg)			49.5		
	Zinc (Zn)-Leachable (mg/kg)			48.1		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1638961-22	L1638961-23	L1638961-24	L1638961-25	L1638961-26
	Description	Composite	Composite	Composite	Composite	Composite
	Sampled Date	22-MAY-15	21-MAY-15	21-MAY-15	21-MAY-15	24-MAY-15
	Sampled Time	09:55		11:35	10:30	10:30
	Client ID	QUL-ST-REF-2 FILTER AND SEDIMENT	QUL-ST-FFF-1 AND 4 FILTER AND SEDIMENT	QUL-ST-FFF-5 FILTER AND SEDIMENT	QUL-ST-FFF-3 FILTER AND SEDIMENT	POL-ST-P1-2 FILTER AND SEDIMENT
Grouping	**Analyte**					
SOIL						
Residual Metals	Aluminum (Al)-Leachable (mg/kg)					
	Antimony (Sb)-Leachable (mg/kg)					
	Arsenic (As)-Leachable (mg/kg)					
	Barium (Ba)-Leachable (mg/kg)					
	Beryllium (Be)-Leachable (mg/kg)					
	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					
	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					
	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					
	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1638961-27	L1638961-28	L1638961-29	L1638961-30	
	Description	Composite	Composite	Filter	Filter	
	Sampled Date	24-MAY-15	23-MAY-15			
	Sampled Time	09:00	14:40			
	Client ID	POL-ST-P1-1 FILTER AND SEDIMENT	POL-ST-P2-6 FILTER AND SEDIMENT	FILTER BLANK (7 FILTERS)	FILTER BLANK (11 FILTERS)	
Grouping	**Analyte**					
SOIL						
Residual Metals	Aluminum (Al)-Leachable (mg/kg)					
	Antimony (Sb)-Leachable (mg/kg)					
	Arsenic (As)-Leachable (mg/kg)					
	Barium (Ba)-Leachable (mg/kg)					
	Beryllium (Be)-Leachable (mg/kg)					
	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					
	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					
	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					
	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Calcium (Ca)-Leachable	B	L1638961-10, -16, -19, -2, -3
Method Blank	Strontium (Sr)-Leachable	B	L1638961-10, -16, -19, -2, -3
Method Blank	Nickel (Ni)-Leachable	MB-LOR	L1638961-10, -16, -19, -2, -3
Method Blank	Vanadium (V)-Leachable	MB-LOR	L1638961-10, -16, -19, -2, -3

Qualifiers for Individual Parameters Listed:

Qualifier	Description
B	Method Blank exceeds ALS DQO. All associated sample results are at least 5 times greater than blank levels and are considered reliable.
DLB	Detection Limit Raised. Analyte detected at comparable level in Method Blank.
DLIV	Detection Limit Adjusted: Lower Initial Volume
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
C-TOT-LECO-SK	Soil	Total Carbon by combustion method	SSSA (1996) P. 973-974

The sample is ignited in a combustion analyzer where carbon in the reduced CO2 gas is determined using a thermal conductivity detector.

C-TOT-ORG-LECO-SK Soil Organic Carbon by combustion method SSSA (1996) p. 973

Total Organic Carbon (C-TOT-ORG-LECO-SK, C-TOT-ORG-SK)

Total C and inorganic C are determined on separate samples. The total C is determined by combustion and thermal conductivity detection, while inorganic C is determined by weight lass after addition of hydrochloric acid. Organic C is calculated by the difference between these two determinations.

Reference for Total C:
Nelson, D.W. and Sommers, L.E. 1996. Total Carbon, organic carbon and organic matter. P. 961-1010 In: J.M. Bartels et al. (ed.) Methods of soil analysis: Part 3 Chemical methods. (3rd ed.) ASA and SSSA, Madison, WI. Book series no. 5

Reference for Inorganic C:
Loeppert, R.H. and Suarez, D.L. 1996. Gravimetric Method for Loss of Carbon Dioxide. P. 455-456 In: J.M. Bartels et al. (ed.) Methods of soil analysis: Part 3 Chemical methods. (3rd ed.) ASA and SSSA, Madison, WI. Book series no. 5

HG-200.2-CVAF-VA Soil Mercury in Soil by CVAFS EPA 200.2/1631E (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAFS.

MET-200.2-CCMS-VA Soil Metals in Soil by CRC ICPMS EPA 200.2/6020A (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction. depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.

MET-TESS-CM-CCMS-VA Soil METALS BY CCMS (TESSIER EXTRACTION #2) Tessier Extraction 1979/EPA 6020A

This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals" Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with 5 or 6 (if a pre-liminary water extraction is included) different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For Extraction #2, the extraction solution is 1M Sodium Acetate adjusted to pH 5 and is intended to extract the "Carbonate" metals.

MET-TESS-EA-CCMS-VA Soil METALS BY CCMS (TESSIER EXTRACTION #1) Tessier Extraction 1979/EPA 6020A

This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals" Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with 5 or 6 (if a pre-liminary water extraction is included) different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For Extraction #1, the extraction solution is 1M Magnesium Chloride and is intended to extract the "Exchangeable and Adsorbed" metals.

MET-TESS-FEO-CCMS-VA Soil METALS BY CCMS (TESSIER EXTRACTION #3) Tessier Extraction 1979/EPA 6020A

Reference Information

This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals" Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with 5 or 6 (if a pre-liminary water extraction is included) different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For Extraction #3, the extraction solution is 0.1 M Hydroxylamine Hydro› Chloride in 25% v/v Acetic Acid and is intended to extract the Easily Reducible Metals and Iron Oxides .

MET-TESS-OB-CCMS-VA Soil METALS BY CCMS (TESSIER EXTRACTION #4) Tessier Extraction 1979/EPA 6020A

"This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals" Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with 5 or 6 (if a pre-liminary water extraction is included) different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For Extraction #4, the extraction solution is 0.02 M Nitric Acid followed by 3.2M Ammonium Acetate and is intended to extract the Organic Bound metals.

MET-TESS-RM-CCMS-VA Soil METALS BY CCMS (TESSIER RM EXTRACTION) Tessier Extraction 1979/EPA 6020A

"This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals" Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with up to 6 different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For the Tessier "RM" Extraction, the extraction solution is 50/50 mix of 1:1 Nitric Acid along with 1:1 Hydrochloric Acid, and is hot block digested as per the BC SALM procedure. This is intended to extract the Residual metals.

PH-1:2-VA Soil pH in Soil (1:2 Soil:Water Extraction) BC WLAP METHOD: PH, ELECTROMETRIC, SOIL

This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.

S-TOT-LECO-SK Soil Total Sulphur by combustion method ISO 15178:2000

The sample is ignited in a combustion analyzer where sulfur in the reduced SO2 gas is determined using a thermal conductivity detector.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location

Chain of Custody Numbers:

1 2 3

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L1638961 Report Date: 07-OCT-15

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
C-TOT-ORG-LECO-SK	**Soil**							
Batch R3281229								
WG2183628-1 DUP		**L1638961-3**						
Total Organic Carbon		2.15	2.11		%	1.8	30	02-OCT-15
WG2183628-2 IRM		**08-109_SOIL**						
Total Organic Carbon			0.93		%		0.77-1.43	02-OCT-15
WG2183628-3 MB								
Total Organic Carbon			<0.10		%		0.1	02-OCT-15
HG-200.2-CVAF-VA	**Soil**							
Batch R3231550								
WG2134469-4 CRM		**VA-NRC-STSD1**						
Mercury (Hg)			97.1		%		70-130	23-JUL-15
WG2134469-5 CRM		**VA-NRC-PACS3**						
Mercury (Hg)			105.3		%		70-130	23-JUL-15
WG2134469-2 DUP		**L1638961-2**						
Mercury (Hg)		0.0511	0.0472		mg/kg	8.1	40	23-JUL-15
WG2134469-3 LCS								
Mercury (Hg)			93.8		%		70-130	23-JUL-15
WG2134469-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	23-JUL-15
Batch R3236784								
WG2134268-3 CRM		**VA-NRC-STSD1**						
Mercury (Hg)			105.0		%		70-130	31-JUL-15
WG2134268-4 CRM		**VA-NRC-PACS3**						
Mercury (Hg)			110.9		%		70-130	31-JUL-15
WG2134268-2 LCS								
Mercury (Hg)			95.9		%		70-130	31-JUL-15
WG2134268-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	31-JUL-15
MET-200.2-CCMS-VA	**Soil**							
Batch R3232149								
WG2134469-4 CRM		**VA-NRC-STSD1**						
Aluminum (Al)			106.6		%		70-130	23-JUL-15
Antimony (Sb)			104.6		%		70-130	23-JUL-15
Arsenic (As)			100.3		%		70-130	23-JUL-15
Barium (Ba)			92.1		%		70-130	23-JUL-15
Beryllium (Be)			101.9		%		70-130	23-JUL-15
Bismuth (Bi)			104.5		%		70-130	23-JUL-15
Boron (B)			117.5		%		70-130	23-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3232149								
WG2134469-4 CRM		**VA-NRC-STSD1**						
Cadmium (Cd)			99.5		%		70-130	23-JUL-15
Calcium (Ca)			105.4		%		70-130	23-JUL-15
Chromium (Cr)			105.9		%		70-130	23-JUL-15
Cobalt (Co)			105.0		%		70-130	23-JUL-15
Copper (Cu)			100.9		%		70-130	23-JUL-15
Iron (Fe)			100.4		%		70-130	23-JUL-15
Lead (Pb)			101.6		%		70-130	23-JUL-15
Lithium (Li)			97.1		%		70-130	23-JUL-15
Magnesium (Mg)			99.4		%		70-130	23-JUL-15
Manganese (Mn)			104.2		%		70-130	23-JUL-15
Molybdenum (Mo)			101.2		%		70-130	23-JUL-15
Nickel (Ni)			102.5		%		70-130	23-JUL-15
Phosphorus (P)			104.5		%		70-130	23-JUL-15
Potassium (K)			112.9		%		70-130	23-JUL-15
Selenium (Se)			102.6		%		70-130	23-JUL-15
Silver (Ag)			99.7		%		70-130	23-JUL-15
Sodium (Na)			115.6		%		70-130	23-JUL-15
Strontium (Sr)			104.6		%		70-130	23-JUL-15
Thallium (Tl)			102.2		%		70-130	23-JUL-15
Tin (Sn)			100.4		%		70-130	23-JUL-15
Titanium (Ti)			129.6		%		70-130	23-JUL-15
Vanadium (V)			108.2		%		70-130	23-JUL-15
Zinc (Zn)			98.1		%		70-130	23-JUL-15
WG2134469-5 CRM		**VA-NRC-PACS3**						
Aluminum (Al)			105.9		%		70-130	23-JUL-15
Antimony (Sb)			100.9		%		70-130	23-JUL-15
Arsenic (As)			91.7		%		70-130	23-JUL-15
Barium (Ba)			105.6		%		70-130	23-JUL-15
Beryllium (Be)			98.4		%		70-130	23-JUL-15
Boron (B)			107.5		%		70-130	23-JUL-15
Cadmium (Cd)			94.2		%		70-130	23-JUL-15
Calcium (Ca)			104.8		%		70-130	23-JUL-15
Chromium (Cr)			99.8		%		70-130	23-JUL-15
Cobalt (Co)			101.7		%		70-130	23-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3232149								
WG2134469-5 CRM		**VA-NRC-PACS3**						
Copper (Cu)			103.4		%		70-130	23-JUL-15
Iron (Fe)			98.5		%		70-130	23-JUL-15
Lead (Pb)			103.9		%		70-130	23-JUL-15
Lithium (Li)			92.3		%		70-130	23-JUL-15
Magnesium (Mg)			102.9		%		70-130	23-JUL-15
Manganese (Mn)			99.9		%		70-130	23-JUL-15
Molybdenum (Mo)			94.3		%		70-130	23-JUL-15
Nickel (Ni)			102.1		%		70-130	23-JUL-15
Phosphorus (P)			93.7		%		70-130	23-JUL-15
Potassium (K)			104.2		%		70-130	23-JUL-15
Selenium (Se)			102.0		%		70-130	23-JUL-15
Silver (Ag)			110.2		%		70-130	23-JUL-15
Sodium (Na)			96.4		%		70-130	23-JUL-15
Strontium (Sr)			102.2		%		70-130	23-JUL-15
Thallium (Tl)			99.9		%		70-130	23-JUL-15
Tin (Sn)			90.3		%		70-130	23-JUL-15
Titanium (Ti)			108.4		%		70-130	23-JUL-15
Uranium (U)			102.6		%		70-130	23-JUL-15
Vanadium (V)			101.9		%		70-130	23-JUL-15
Zinc (Zn)			100.0		%		70-130	23-JUL-15
Zirconium (Zr)			104.9		%		70-130	23-JUL-15
WG2134469-2 DUP		**L1638961-2**						
Aluminum (Al)		16100	15400		mg/kg	4.4	40	23-JUL-15
Antimony (Sb)		0.39	0.38		mg/kg	2.1	30	23-JUL-15
Arsenic (As)		6.89	7.19		mg/kg	4.3	30	23-JUL-15
Barium (Ba)		134	133		mg/kg	1.0	40	23-JUL-15
Beryllium (Be)		0.42	0.43		mg/kg	2.1	30	23-JUL-15
Bismuth (Bi)		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	23-JUL-15
Boron (B)		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	23-JUL-15
Cadmium (Cd)		0.388	0.387		mg/kg	0.1	30	23-JUL-15
Calcium (Ca)		8090	8010		mg/kg	1.0	30	23-JUL-15
Chromium (Cr)		53.4	51.2		mg/kg	4.1	30	23-JUL-15
Cobalt (Co)		14.0	13.6		mg/kg	3.0	30	23-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3232149								
WG2134469-2 DUP		**L1638961-2**						
Copper (Cu)		61.9	60.3		mg/kg	2.5	30	23-JUL-15
Iron (Fe)		27800	27500		mg/kg	1.1	30	23-JUL-15
Lead (Pb)		6.78	6.51		mg/kg	4.0	40	23-JUL-15
Lithium (Li)		12.6	12.6		mg/kg	0.0	30	23-JUL-15
Magnesium (Mg)		7700	7150		mg/kg	7.4	30	23-JUL-15
Manganese (Mn)		687	674		mg/kg	2.0	30	23-JUL-15
Molybdenum (Mo)		1.04	1.05		mg/kg	1.6	40	23-JUL-15
Nickel (Ni)		35.7	34.9		mg/kg	2.3	30	23-JUL-15
Phosphorus (P)		987	998		mg/kg	1.0	30	23-JUL-15
Potassium (K)		1490	1350		mg/kg	9.7	40	23-JUL-15
Selenium (Se)		0.91	0.88		mg/kg	4.3	30	23-JUL-15
Silver (Ag)		0.18	0.19		mg/kg	1.5	40	23-JUL-15
Sodium (Na)		441	419		mg/kg	5.0	40	23-JUL-15
Strontium (Sr)		81.0	76.6		mg/kg	5.6	40	23-JUL-15
Thallium (Tl)		0.157	0.152		mg/kg	3.5	30	23-JUL-15
Tin (Sn)		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	23-JUL-15
Titanium (Ti)		1150	1080		mg/kg	5.8	40	23-JUL-15
Uranium (U)		1.26	1.21		mg/kg	4.7	30	23-JUL-15
Vanadium (V)		64.3	61.5		mg/kg	4.4	30	23-JUL-15
Zinc (Zn)		71.3	69.2		mg/kg	3.1	30	23-JUL-15
Zirconium (Zr)		3.3	3.2		mg/kg	1.7	30	23-JUL-15
WG2134469-3 LCS								
Aluminum (Al)			103.2		%		70-130	23-JUL-15
Antimony (Sb)			104.4		%		70-130	23-JUL-15
Arsenic (As)			100.7		%		70-130	23-JUL-15
Barium (Ba)			95.0		%		70-130	23-JUL-15
Beryllium (Be)			91.3		%		70-130	23-JUL-15
Bismuth (Bi)			99.7		%		70-130	23-JUL-15
Boron (B)			92.7		%		70-130	23-JUL-15
Cadmium (Cd)			98.2		%		70-130	23-JUL-15
Calcium (Ca)			98.0		%		70-130	23-JUL-15
Chromium (Cr)			100.1		%		70-130	23-JUL-15
Cobalt (Co)			102.1		%		70-130	23-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3232149								
WG2134469-3 LCS								
Copper (Cu)			97.4		%		70-130	23-JUL-15
Iron (Fe)			104.8		%		70-130	23-JUL-15
Lead (Pb)			100.4		%		70-130	23-JUL-15
Lithium (Li)			85.3		%		70-130	23-JUL-15
Magnesium (Mg)			95.6		%		70-130	23-JUL-15
Manganese (Mn)			105.7		%		70-130	23-JUL-15
Molybdenum (Mo)			95.9		%		70-130	23-JUL-15
Nickel (Ni)			99.5		%		70-130	23-JUL-15
Phosphorus (P)			101.1		%		70-130	23-JUL-15
Potassium (K)			103.1		%		70-130	23-JUL-15
Selenium (Se)			100.0		%		70-130	23-JUL-15
Silver (Ag)			100.4		%		70-130	23-JUL-15
Sodium (Na)			102.4		%		70-130	23-JUL-15
Strontium (Sr)			96.9		%		70-130	23-JUL-15
Thallium (Tl)			95.4		%		70-130	23-JUL-15
Tin (Sn)			100.8		%		70-130	23-JUL-15
Titanium (Ti)			102.8		%		70-130	23-JUL-15
Uranium (U)			98.9		%		70-130	23-JUL-15
Vanadium (V)			101.9		%		70-130	23-JUL-15
Zinc (Zn)			94.5		%		70-130	23-JUL-15
Zirconium (Zr)			98.2		%		70-130	23-JUL-15
WG2134469-1 MB								
Aluminum (Al)			<50		mg/kg		50	23-JUL-15
Antimony (Sb)			<0.10		mg/kg		0.1	23-JUL-15
Arsenic (As)			<0.10		mg/kg		0.1	23-JUL-15
Barium (Ba)			<0.50		mg/kg		0.5	23-JUL-15
Beryllium (Be)			<0.10		mg/kg		0.1	23-JUL-15
Bismuth (Bi)			<0.20		mg/kg		0.2	23-JUL-15
Boron (B)			<5.0		mg/kg		5	23-JUL-15
Cadmium (Cd)			<0.020		mg/kg		0.02	23-JUL-15
Calcium (Ca)			<50		mg/kg		50	23-JUL-15
Chromium (Cr)			<0.50		mg/kg		0.5	23-JUL-15
Cobalt (Co)			<0.10		mg/kg		0.1	23-JUL-15
Copper (Cu)			<0.50		mg/kg		0.5	23-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3232149								
WG2134469-1 MB								
Iron (Fe)			<50		mg/kg		50	23-JUL-15
Lead (Pb)			<0.50		mg/kg		0.5	23-JUL-15
Lithium (Li)			<2.0		mg/kg		2	23-JUL-15
Magnesium (Mg)			<20		mg/kg		20	23-JUL-15
Manganese (Mn)			<1.0		mg/kg		1	23-JUL-15
Molybdenum (Mo)			<0.10		mg/kg		0.1	23-JUL-15
Nickel (Ni)			<0.50		mg/kg		0.5	23-JUL-15
Phosphorus (P)			<50		mg/kg		50	23-JUL-15
Potassium (K)			<100		mg/kg		100	23-JUL-15
Selenium (Se)			<0.20		mg/kg		0.2	23-JUL-15
Silver (Ag)			<0.10		mg/kg		0.1	23-JUL-15
Sodium (Na)			<50		mg/kg		50	23-JUL-15
Strontium (Sr)			<0.50		mg/kg		0.5	23-JUL-15
Thallium (Tl)			<0.050		mg/kg		0.05	23-JUL-15
Tin (Sn)			<2.0		mg/kg		2	23-JUL-15
Titanium (Ti)			<1.0		mg/kg		1	23-JUL-15
Uranium (U)			<0.050		mg/kg		0.05	23-JUL-15
Vanadium (V)			<0.20		mg/kg		0.2	23-JUL-15
Zinc (Zn)			<2.0		mg/kg		2	23-JUL-15
Zirconium (Zr)			<1.0		mg/kg		1	23-JUL-15
Batch R3239348								
WG2134268-3 CRM		**VA-NRC-STSD1**						
Aluminum (Al)			96.4		%		70-130	31-JUL-15
Antimony (Sb)			104.0		%		70-130	31-JUL-15
Arsenic (As)			97.7		%		70-130	31-JUL-15
Barium (Ba)			94.6		%		70-130	31-JUL-15
Beryllium (Be)			108.1		%		70-130	31-JUL-15
Bismuth (Bi)			103.5		%		70-130	31-JUL-15
Boron (B)			114.6		%		70-130	31-JUL-15
Cadmium (Cd)			96.6		%		70-130	31-JUL-15
Calcium (Ca)			101.1		%		70-130	31-JUL-15
Chromium (Cr)			102.9		%		70-130	31-JUL-15
Cobalt (Co)			99.3		%		70-130	31-JUL-15
Copper (Cu)			96.2		%		70-130	31-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3239348								
WG2134268-3 CRM		**VA-NRC-STSD1**						
Iron (Fe)			102.0		%		70-130	31-JUL-15
Lead (Pb)			98.5		%		70-130	31-JUL-15
Lithium (Li)			105.0		%		70-130	31-JUL-15
Magnesium (Mg)			97.2		%		70-130	31-JUL-15
Manganese (Mn)			89.2		%		70-130	31-JUL-15
Molybdenum (Mo)			102.0		%		70-130	31-JUL-15
Nickel (Ni)			98.4		%		70-130	31-JUL-15
Phosphorus (P)			98.0		%		70-130	31-JUL-15
Potassium (K)			113.4		%		70-130	31-JUL-15
Selenium (Se)			100.8		%		70-130	31-JUL-15
Silver (Ag)			98.3		%		70-130	31-JUL-15
Sodium (Na)			123.7		%		70-130	31-JUL-15
Strontium (Sr)			107.9		%		70-130	31-JUL-15
Thallium (Tl)			104.0		%		70-130	31-JUL-15
Tin (Sn)			97.8		%		70-130	31-JUL-15
Titanium (Ti)			109.7		%		70-130	31-JUL-15
Vanadium (V)			108.0		%		70-130	31-JUL-15
Zinc (Zn)			94.5		%		70-130	31-JUL-15
WG2134268-4 CRM		**VA-NRC-PACS3**						
Aluminum (Al)			94.5		%		70-130	31-JUL-15
Antimony (Sb)			90.4		%		70-130	31-JUL-15
Arsenic (As)			91.7		%		70-130	31-JUL-15
Barium (Ba)			97.8		%		70-130	31-JUL-15
Beryllium (Be)			103.7		%		70-130	31-JUL-15
Boron (B)			103.0		%		70-130	31-JUL-15
Cadmium (Cd)			98.4		%		70-130	31-JUL-15
Calcium (Ca)			105.6		%		70-130	31-JUL-15
Chromium (Cr)			97.1		%		70-130	31-JUL-15
Cobalt (Co)			97.7		%		70-130	31-JUL-15
Copper (Cu)			97.2		%		70-130	31-JUL-15
Iron (Fe)			96.2		%		70-130	31-JUL-15
Lead (Pb)			99.6		%		70-130	31-JUL-15
Lithium (Li)			97.7		%		70-130	31-JUL-15
Magnesium (Mg)			99.4		%		70-130	31-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3239348								
WG2134268-4 CRM		**VA-NRC-PACS3**						
Manganese (Mn)			89.6		%		70-130	31-JUL-15
Molybdenum (Mo)			94.9		%		70-130	31-JUL-15
Nickel (Ni)			97.4		%		70-130	31-JUL-15
Phosphorus (P)			95.9		%		70-130	31-JUL-15
Potassium (K)			105.6		%		70-130	31-JUL-15
Selenium (Se)			107.1		%		70-130	31-JUL-15
Silver (Ag)			98.2		%		70-130	31-JUL-15
Sodium (Na)			96.1		%		70-130	31-JUL-15
Strontium (Sr)			109.5		%		70-130	31-JUL-15
Thallium (Tl)			102.6		%		70-130	31-JUL-15
Tin (Sn)			87.0		%		70-130	31-JUL-15
Titanium (Ti)			94.0		%		70-130	31-JUL-15
Uranium (U)			107.1		%		70-130	31-JUL-15
Vanadium (V)			101.4		%		70-130	31-JUL-15
Zinc (Zn)			97.2		%		70-130	31-JUL-15
Zirconium (Zr)			108.2		%		70-130	31-JUL-15
WG2134268-2 LCS								
Aluminum (Al)			93.0		%		70-130	31-JUL-15
Antimony (Sb)			103.3		%		70-130	31-JUL-15
Arsenic (As)			100.1		%		70-130	31-JUL-15
Barium (Ba)			99.5		%		70-130	31-JUL-15
Beryllium (Be)			99.5		%		70-130	31-JUL-15
Bismuth (Bi)			102.3		%		70-130	31-JUL-15
Boron (B)			93.9		%		70-130	31-JUL-15
Cadmium (Cd)			101.6		%		70-130	31-JUL-15
Calcium (Ca)			99.4		%		70-130	31-JUL-15
Chromium (Cr)			98.7		%		70-130	31-JUL-15
Cobalt (Co)			97.9		%		70-130	31-JUL-15
Copper (Cu)			95.5		%		70-130	31-JUL-15
Iron (Fe)			111.4		%		70-130	31-JUL-15
Lead (Pb)			101.8		%		70-130	31-JUL-15
Lithium (Li)			96.6		%		70-130	31-JUL-15
Magnesium (Mg)			95.5		%		70-130	31-JUL-15
Manganese (Mn)			95.0		%		70-130	31-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3239348								
WG2134268-2 LCS								
Molybdenum (Mo)			101.0		%		70-130	31-JUL-15
Nickel (Ni)			98.1		%		70-130	31-JUL-15
Phosphorus (P)			97.5		%		70-130	31-JUL-15
Potassium (K)			105.6		%		70-130	31-JUL-15
Selenium (Se)			102.9		%		70-130	31-JUL-15
Silver (Ag)			101.0		%		70-130	31-JUL-15
Sodium (Na)			98.5		%		70-130	31-JUL-15
Strontium (Sr)			104.9		%		70-130	31-JUL-15
Thallium (Tl)			103.8		%		70-130	31-JUL-15
Tin (Sn)			101.1		%		70-130	31-JUL-15
Titanium (Ti)			94.3		%		70-130	31-JUL-15
Uranium (U)			107.5		%		70-130	31-JUL-15
Vanadium (V)			101.0		%		70-130	31-JUL-15
Zinc (Zn)			94.2		%		70-130	31-JUL-15
Zirconium (Zr)			97.0		%		70-130	31-JUL-15
WG2134268-1 MB								
Aluminum (Al)			<50		mg/kg		50	31-JUL-15
Antimony (Sb)			<0.10		mg/kg		0.1	31-JUL-15
Arsenic (As)			<0.10		mg/kg		0.1	31-JUL-15
Barium (Ba)			<0.50		mg/kg		0.5	31-JUL-15
Beryllium (Be)			<0.10		mg/kg		0.1	31-JUL-15
Bismuth (Bi)			<0.20		mg/kg		0.2	31-JUL-15
Boron (B)			<5.0		mg/kg		5	31-JUL-15
Cadmium (Cd)			<0.020		mg/kg		0.02	31-JUL-15
Calcium (Ca)			<50		mg/kg		50	31-JUL-15
Chromium (Cr)			<0.50		mg/kg		0.5	31-JUL-15
Cobalt (Co)			<0.10		mg/kg		0.1	31-JUL-15
Copper (Cu)			<0.50		mg/kg		0.5	31-JUL-15
Iron (Fe)			<50		mg/kg		50	31-JUL-15
Lead (Pb)			<0.50		mg/kg		0.5	31-JUL-15
Lithium (Li)			<2.0		mg/kg		2	31-JUL-15
Magnesium (Mg)			<20		mg/kg		20	31-JUL-15
Manganese (Mn)			<1.0		mg/kg		1	31-JUL-15
Molybdenum (Mo)			<0.10		mg/kg		0.1	31-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3239348								
WG2134268-1 MB								
Nickel (Ni)			<0.50		mg/kg		0.5	31-JUL-15
Phosphorus (P)			<50		mg/kg		50	31-JUL-15
Potassium (K)			<100		mg/kg		100	31-JUL-15
Selenium (Se)			<0.20		mg/kg		0.2	31-JUL-15
Silver (Ag)			<0.10		mg/kg		0.1	31-JUL-15
Sodium (Na)			<50		mg/kg		50	31-JUL-15
Strontium (Sr)			<0.50		mg/kg		0.5	31-JUL-15
Thallium (Tl)			<0.050		mg/kg		0.05	31-JUL-15
Tin (Sn)			<2.0		mg/kg		2	31-JUL-15
Titanium (Ti)			<1.0		mg/kg		1	31-JUL-15
Uranium (U)			<0.050		mg/kg		0.05	31-JUL-15
Vanadium (V)			<0.20		mg/kg		0.2	31-JUL-15
Zinc (Zn)			<2.0		mg/kg		2	31-JUL-15
Zirconium (Zr)			<1.0		mg/kg		1	31-JUL-15
MET-TESS-CM-CCMS-VA	**Soil**							
Batch R3235766								
WG2137485-4 DUP		**L1618085-5**						
Aluminum (Al)-Leachable		140	139		mg/kg	0.8	30	29-JUL-15
Antimony (Sb)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	29-JUL-15
Arsenic (As)-Leachable		0.108	0.085		mg/kg	23	30	29-JUL-15
Barium (Ba)-Leachable		85.7	83.4		mg/kg	2.8	30	29-JUL-15
Beryllium (Be)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	29-JUL-15
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	29-JUL-15
Cadmium (Cd)-Leachable		0.080	0.089		mg/kg	10	30	29-JUL-15
Calcium (Ca)-Leachable		13600	13700		mg/kg	0.7	30	29-JUL-15
Chromium (Cr)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	29-JUL-15
Cobalt (Co)-Leachable		0.55	0.54		mg/kg	1.1	30	29-JUL-15
Copper (Cu)-Leachable		102	101		mg/kg	1.1	30	29-JUL-15
Iron (Fe)-Leachable		129	129		mg/kg	0.4	30	29-JUL-15
Lead (Pb)-Leachable		1.23	1.17		mg/kg	4.3	30	29-JUL-15
Lithium (Li)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	29-JUL-15
Manganese (Mn)-Leachable		128	128		mg/kg	0.1	30	29-JUL-15
Molybdenum (Mo)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	29-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-CM-CCMS-VA	**Soil**							
Batch	**R3235766**							
WG2137485-4	**DUP**	**L1618085-5**						
Nickel (Ni)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	29-JUL-15
Phosphorus (P)-Leachable		<50	<50	RPD-NA	mg/kg	N/A	30	29-JUL-15
Selenium (Se)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	29-JUL-15
Silver (Ag)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	29-JUL-15
Strontium (Sr)-Leachable		72.9	71.9		mg/kg	1.4	30	29-JUL-15
Thallium (Tl)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	29-JUL-15
Tin (Sn)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	29-JUL-15
Titanium (Ti)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	29-JUL-15
Uranium (U)-Leachable		0.163	0.155		mg/kg	4.6	30	29-JUL-15
Vanadium (V)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	29-JUL-15
Zinc (Zn)-Leachable		1.8	1.9		mg/kg	1.5	30	29-JUL-15
WG2137485-2	**LCS**							
Aluminum (Al)-Leachable			98.3		%		70-130	29-JUL-15
Antimony (Sb)-Leachable			94.2		%		70-130	29-JUL-15
Arsenic (As)-Leachable			105.0		%		70-130	29-JUL-15
Barium (Ba)-Leachable			106.6		%		70-130	29-JUL-15
Beryllium (Be)-Leachable			111.6		%		70-130	29-JUL-15
Bismuth (Bi)-Leachable			95.8		%		70-130	29-JUL-15
Cadmium (Cd)-Leachable			102.7		%		70-130	29-JUL-15
Calcium (Ca)-Leachable			106.4		%		70-130	29-JUL-15
Chromium (Cr)-Leachable			98.0		%		70-130	29-JUL-15
Cobalt (Co)-Leachable			97.6		%		70-130	29-JUL-15
Copper (Cu)-Leachable			97.2		%		70-130	29-JUL-15
Iron (Fe)-Leachable			99.1		%		70-130	29-JUL-15
Lead (Pb)-Leachable			96.5		%		70-130	29-JUL-15
Lithium (Li)-Leachable			117.3		%		70-130	29-JUL-15
Manganese (Mn)-Leachable			95.9		%		70-130	29-JUL-15
Molybdenum (Mo)-Leachable			91.9		%		70-130	29-JUL-15
Nickel (Ni)-Leachable			96.7		%		70-130	29-JUL-15
Phosphorus (P)-Leachable			101.7		%		70-130	29-JUL-15
Selenium (Se)-Leachable			104.3		%		70-130	29-JUL-15
Silver (Ag)-Leachable			103.7		%		70-130	29-JUL-15
Strontium (Sr)-Leachable			103.5		%		70-130	29-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-CM-CCMS-VA	**Soil**							
Batch	**R3235766**							
WG2137485-2	**LCS**							
Thallium (Tl)-Leachable			96.2		%		70-130	29-JUL-15
Tin (Sn)-Leachable			91.4		%		70-130	29-JUL-15
Titanium (Ti)-Leachable			94.7		%		70-130	29-JUL-15
Uranium (U)-Leachable			99.4		%		70-130	29-JUL-15
Vanadium (V)-Leachable			101.2		%		70-130	29-JUL-15
Zinc (Zn)-Leachable			90.3		%		70-130	29-JUL-15
WG2137485-1	**MB**							
Aluminum (Al)-Leachable			<50		mg/kg		50	29-JUL-15
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	29-JUL-15
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	29-JUL-15
Barium (Ba)-Leachable			<2.0		mg/kg		2	29-JUL-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	29-JUL-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	29-JUL-15
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	29-JUL-15
Calcium (Ca)-Leachable			<50		mg/kg		50	29-JUL-15
Chromium (Cr)-Leachable			<5.0		mg/kg		5	29-JUL-15
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	29-JUL-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	29-JUL-15
Iron (Fe)-Leachable			<50		mg/kg		50	29-JUL-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	29-JUL-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	29-JUL-15
Manganese (Mn)-Leachable			<5.0		mg/kg		5	29-JUL-15
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	29-JUL-15
Nickel (Ni)-Leachable			<2.0		mg/kg		2	29-JUL-15
Phosphorus (P)-Leachable			<50		mg/kg		50	29-JUL-15
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	29-JUL-15
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	29-JUL-15
Strontium (Sr)-Leachable			<5.0		mg/kg		5	29-JUL-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	29-JUL-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	29-JUL-15
Titanium (Ti)-Leachable			<5.0		mg/kg		5	29-JUL-15
Uranium (U)-Leachable			<0.050		mg/kg		0.05	29-JUL-15
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	29-JUL-15
Zinc (Zn)-Leachable			<1.0		mg/kg		1	29-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-EA-CCMS-VA	**Soil**							
Batch R3239390								
WG2137485-4 DUP		**L1618085-5**						
Aluminum (Al)-Leachable		<50	<50	RPD-NA	mg/kg	N/A	30	04-AUG-15
Antimony (Sb)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	04-AUG-15
Arsenic (As)-Leachable		0.072	0.069		mg/kg	4.3	30	04-AUG-15
Barium (Ba)-Leachable		21.6	22.3		mg/kg	3.3	30	04-AUG-15
Beryllium (Be)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	04-AUG-15
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	04-AUG-15
Cadmium (Cd)-Leachable		0.063	0.065		mg/kg	3.9	30	04-AUG-15
Calcium (Ca)-Leachable		3290	3410		mg/kg	3.8	30	04-AUG-15
Chromium (Cr)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	04-AUG-15
Cobalt (Co)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	04-AUG-15
Copper (Cu)-Leachable		7.33	7.93		mg/kg	7.9	30	04-AUG-15
Iron (Fe)-Leachable		<50	<50	RPD-NA	mg/kg	N/A	30	04-AUG-15
Lead (Pb)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	04-AUG-15
Lithium (Li)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	04-AUG-15
Manganese (Mn)-Leachable		31.8	34.5		mg/kg	8.1	30	04-AUG-15
Molybdenum (Mo)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	04-AUG-15
Nickel (Ni)-Leachable		<0.7	<0.7		mg/kg	2.9	30	04-AUG-15
Phosphorus (P)-Leachable		<50	<50	RPD-NA	mg/kg	N/A	30	04-AUG-15
Potassium (K)-Leachable		260	280		mg/kg	8.7	30	04-AUG-15
Selenium (Se)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	04-AUG-15
Silver (Ag)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	04-AUG-15
Sodium (Na)-Leachable		110	120		mg/kg	7.3	30	04-AUG-15
Strontium (Sr)-Leachable		45.5	46.1		mg/kg	1.4	30	04-AUG-15
Thallium (Tl)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	04-AUG-15
Tin (Sn)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	04-AUG-15
Titanium (Ti)-Leachable		<1.0	<1.0	RPD-NA	mg/kg	N/A	30	04-AUG-15
Uranium (U)-Leachable		0.073	0.076		mg/kg	3.4	30	04-AUG-15
Vanadium (V)-Leachable		<0.3	<0.3		mg/kg	12	30	04-AUG-15
Zinc (Zn)-Leachable		<1.0	<1.0	RPD-NA	mg/kg	N/A	30	04-AUG-15
WG2137485-1 MB								
Aluminum (Al)-Leachable			<50		mg/kg		50	04-AUG-15
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	04-AUG-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-EA-CCMS-VA	**Soil**							
Batch	**R3239390**							
WG2137485-1	**MB**							
Barium (Ba)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Calcium (Ca)-Leachable			287	B	mg/kg		50	04-AUG-15
Chromium (Cr)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Iron (Fe)-Leachable			<50		mg/kg		50	04-AUG-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	04-AUG-15
Manganese (Mn)-Leachable			<1.0		mg/kg		1	04-AUG-15
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Nickel (Ni)-Leachable			1.15	MB-LOR	mg/kg		0.5	04-AUG-15
Phosphorus (P)-Leachable			<50		mg/kg		50	04-AUG-15
Potassium (K)-Leachable			<100		mg/kg		100	04-AUG-15
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Sodium (Na)-Leachable			<100		mg/kg		100	04-AUG-15
Strontium (Sr)-Leachable			0.88	B	mg/kg		0.5	04-AUG-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	04-AUG-15
Titanium (Ti)-Leachable			<1.0		mg/kg		1	04-AUG-15
Uranium (U)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Vanadium (V)-Leachable			0.20	MB-LOR	mg/kg		0.2	04-AUG-15
Zinc (Zn)-Leachable			<1.0		mg/kg		1	04-AUG-15
Batch	**R3241349**							
WG2137485-2	**LCS**							
Aluminum (Al)-Leachable			114.5		%		70-130	05-AUG-15
Antimony (Sb)-Leachable			115.6		%		70-130	05-AUG-15
Arsenic (As)-Leachable			114.5		%		70-130	05-AUG-15
Barium (Ba)-Leachable			121.4		%		70-130	05-AUG-15
Beryllium (Be)-Leachable			109.5		%		70-130	05-AUG-15
Bismuth (Bi)-Leachable			97.3		%		70-130	05-AUG-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-EA-CCMS-VA	**Soil**							
Batch	**R3241349**							
WG2137485-2	**LCS**							
Cadmium (Cd)-Leachable			116.8		%		70-130	05-AUG-15
Calcium (Ca)-Leachable			114.9		%		70-130	05-AUG-15
Chromium (Cr)-Leachable			112.8		%		70-130	05-AUG-15
Cobalt (Co)-Leachable			108.3		%		70-130	05-AUG-15
Copper (Cu)-Leachable			105.9		%		70-130	05-AUG-15
Iron (Fe)-Leachable			110.5		%		70-130	05-AUG-15
Lead (Pb)-Leachable			97.3		%		70-130	05-AUG-15
Lithium (Li)-Leachable			115.0		%		70-130	05-AUG-15
Manganese (Mn)-Leachable			115.2		%		70-130	05-AUG-15
Molybdenum (Mo)-Leachable			107.3		%		70-130	05-AUG-15
Nickel (Ni)-Leachable			107.0		%		70-130	05-AUG-15
Phosphorus (P)-Leachable			116.4		%		70-130	05-AUG-15
Potassium (K)-Leachable			115.3		%		70-130	05-AUG-15
Selenium (Se)-Leachable			110.9		%		70-130	05-AUG-15
Silver (Ag)-Leachable			114.6		%		70-130	05-AUG-15
Sodium (Na)-Leachable			110.4		%		70-130	05-AUG-15
Strontium (Sr)-Leachable			116.6		%		70-130	05-AUG-15
Thallium (Tl)-Leachable			98.4		%		70-130	05-AUG-15
Tin (Sn)-Leachable			113.3		%		70-130	05-AUG-15
Titanium (Ti)-Leachable			111.4		%		70-130	05-AUG-15
Uranium (U)-Leachable			102.9		%		70-130	05-AUG-15
Vanadium (V)-Leachable			114.1		%		70-130	05-AUG-15
Zinc (Zn)-Leachable			99.2		%		70-130	05-AUG-15
MET-TESS-FEO-CCMS-VA	**Soil**							
Batch	**R3237773**							
WG2137485-4	**DUP**	**L1618085-5**						
Aluminum (Al)-Leachable		2320	2400		mg/kg	3.4	30	31-JUL-15
Antimony (Sb)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	31-JUL-15
Arsenic (As)-Leachable		1.98	2.31		mg/kg	15	30	31-JUL-15
Barium (Ba)-Leachable		39.2	43.4		mg/kg	10	30	31-JUL-15
Beryllium (Be)-Leachable		0.34	0.32		mg/kg	7.1	30	31-JUL-15
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	31-JUL-15
Cadmium (Cd)-Leachable		0.074	0.076		mg/kg	2.6	30	31-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-FEO-CCMS-VA	**Soil**							
Batch	**R3237773**							
WG2137485-4	**DUP**	**L1618085-5**						
Calcium (Ca)-Leachable		2180	2330		mg/kg	6.7	30	31-JUL-15
Chromium (Cr)-Leachable		3.13	3.25		mg/kg	3.8	30	31-JUL-15
Cobalt (Co)-Leachable		3.15	3.21		mg/kg	1.6	30	31-JUL-15
Copper (Cu)-Leachable		176	186		mg/kg	5.5	30	31-JUL-15
Iron (Fe)-Leachable		4640	4710		mg/kg	1.5	30	31-JUL-15
Lead (Pb)-Leachable		4.32	4.62		mg/kg	6.7	30	31-JUL-15
Lithium (Li)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	31-JUL-15
Manganese (Mn)-Leachable		145	146		mg/kg	0.7	30	31-JUL-15
Molybdenum (Mo)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	31-JUL-15
Nickel (Ni)-Leachable		3.77	3.75		mg/kg	0.5	30	31-JUL-15
Phosphorus (P)-Leachable		130	117		mg/kg	10	30	31-JUL-15
Selenium (Se)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	31-JUL-15
Silver (Ag)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	31-JUL-15
Strontium (Sr)-Leachable		23.1	24.2		mg/kg	4.4	30	31-JUL-15
Thallium (Tl)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	31-JUL-15
Tin (Sn)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	31-JUL-15
Titanium (Ti)-Leachable		<1.0	<1.0	RPD-NA	mg/kg	N/A	30	31-JUL-15
Uranium (U)-Leachable		0.211	0.210		mg/kg	0.8	30	31-JUL-15
Vanadium (V)-Leachable		11.7	11.9		mg/kg	1.8	30	31-JUL-15
Zinc (Zn)-Leachable		15.3	15.9		mg/kg	3.8	30	31-JUL-15
WG2137485-2	**LCS**							
Aluminum (Al)-Leachable			101.2		%		70-130	31-JUL-15
Antimony (Sb)-Leachable			99.4		%		70-130	31-JUL-15
Arsenic (As)-Leachable			107.4		%		70-130	31-JUL-15
Barium (Ba)-Leachable			98.9		%		70-130	31-JUL-15
Beryllium (Be)-Leachable			98.5		%		70-130	31-JUL-15
Bismuth (Bi)-Leachable			98.4		%		70-130	31-JUL-15
Cadmium (Cd)-Leachable			96.3		%		70-130	31-JUL-15
Calcium (Ca)-Leachable			102.9		%		70-130	31-JUL-15
Chromium (Cr)-Leachable			98.2		%		70-130	31-JUL-15
Cobalt (Co)-Leachable			100.2		%		70-130	31-JUL-15
Copper (Cu)-Leachable			102.6		%		70-130	31-JUL-15
Iron (Fe)-Leachable			99.8		%		70-130	31-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-FEO-CCMS-VA	**Soil**							
Batch	**R3237773**							
WG2137485-2	**LCS**							
Lead (Pb)-Leachable			101.4		%		70-130	31-JUL-15
Lithium (Li)-Leachable			98.4		%		70-130	31-JUL-15
Manganese (Mn)-Leachable			106.4		%		70-130	31-JUL-15
Molybdenum (Mo)-Leachable			103.7		%		70-130	31-JUL-15
Nickel (Ni)-Leachable			101.5		%		70-130	31-JUL-15
Phosphorus (P)-Leachable			100.8		%		70-130	31-JUL-15
Selenium (Se)-Leachable			123.1		%		70-130	31-JUL-15
Silver (Ag)-Leachable			99.1		%		70-130	31-JUL-15
Strontium (Sr)-Leachable			103.6		%		70-130	31-JUL-15
Thallium (Tl)-Leachable			98.3		%		70-130	31-JUL-15
Tin (Sn)-Leachable			99.2		%		70-130	31-JUL-15
Titanium (Ti)-Leachable			96.6		%		70-130	31-JUL-15
Uranium (U)-Leachable			97.2		%		70-130	31-JUL-15
Vanadium (V)-Leachable			99.0		%		70-130	31-JUL-15
Zinc (Zn)-Leachable			93.6		%		70-130	31-JUL-15
WG2137485-1	**MB**							
Aluminum (Al)-Leachable			<50		mg/kg		50	31-JUL-15
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	31-JUL-15
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	31-JUL-15
Barium (Ba)-Leachable			<0.50		mg/kg		0.5	31-JUL-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	31-JUL-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	31-JUL-15
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	31-JUL-15
Calcium (Ca)-Leachable			<50		mg/kg		50	31-JUL-15
Chromium (Cr)-Leachable			<0.50		mg/kg		0.5	31-JUL-15
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	31-JUL-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	31-JUL-15
Iron (Fe)-Leachable			<50		mg/kg		50	31-JUL-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	31-JUL-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	31-JUL-15
Manganese (Mn)-Leachable			<1.0		mg/kg		1	31-JUL-15
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	31-JUL-15
Nickel (Ni)-Leachable			<0.50		mg/kg		0.5	31-JUL-15
Phosphorus (P)-Leachable			<50		mg/kg		50	31-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-FEO-CCMS-VA	**Soil**							
Batch	**R3237773**							
WG2137485-1	**MB**							
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	31-JUL-15
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	31-JUL-15
Strontium (Sr)-Leachable			<0.50		mg/kg		0.5	31-JUL-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	31-JUL-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	31-JUL-15
Titanium (Ti)-Leachable			<1.0		mg/kg		1	31-JUL-15
Uranium (U)-Leachable			<0.050		mg/kg		0.05	31-JUL-15
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	31-JUL-15
Zinc (Zn)-Leachable			<1.0		mg/kg		1	31-JUL-15
MET-TESS-OB-CCMS-VA	**Soil**							
Batch	**R3241251**							
WG2137485-4	**DUP**	**L1618085-5**						
Aluminum (Al)-Leachable		1830	1770		mg/kg	3.2	30	04-AUG-15
Antimony (Sb)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	04-AUG-15
Arsenic (As)-Leachable		0.317	0.312		mg/kg	1.7	30	04-AUG-15
Barium (Ba)-Leachable		33.7	28.5		mg/kg	17	30	04-AUG-15
Beryllium (Be)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	04-AUG-15
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	04-AUG-15
Cadmium (Cd)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	04-AUG-15
Calcium (Ca)-Leachable		729	696		mg/kg	4.7	30	04-AUG-15
Chromium (Cr)-Leachable		0.94	0.94		mg/kg	0.1	30	04-AUG-15
Cobalt (Co)-Leachable		2.21	2.13		mg/kg	3.7	30	04-AUG-15
Copper (Cu)-Leachable		657	651		mg/kg	1.0	30	04-AUG-15
Iron (Fe)-Leachable		418	397		mg/kg	5.2	30	04-AUG-15
Lead (Pb)-Leachable		1.45	1.26		mg/kg	13	30	04-AUG-15
Lithium (Li)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	04-AUG-15
Manganese (Mn)-Leachable		27.2	27.7		mg/kg	2.0	30	04-AUG-15
Molybdenum (Mo)-Leachable		0.75	0.73		mg/kg	1.7	30	04-AUG-15
Nickel (Ni)-Leachable		0.86	0.89		mg/kg	3.0	30	04-AUG-15
Selenium (Se)-Leachable		1.26	1.29		mg/kg	2.1	30	04-AUG-15
Silver (Ag)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	04-AUG-15
Strontium (Sr)-Leachable		6.59	5.64		mg/kg	16	30	04-AUG-15
Thallium (Tl)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	04-AUG-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-OB-CCMS-VA	**Soil**							
Batch R3241251								
WG2137485-4 DUP		**L1618085-5**						
Tin (Sn)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	04-AUG-15
Titanium (Ti)-Leachable		<1.0	<1.0	RPD-NA	mg/kg	N/A	30	04-AUG-15
Uranium (U)-Leachable		0.145	0.143		mg/kg	1.4	30	04-AUG-15
Vanadium (V)-Leachable		0.61	0.63		mg/kg	3.2	30	04-AUG-15
Zinc (Zn)-Leachable		5.6	5.5		mg/kg	2.9	30	04-AUG-15
WG2137485-1 MB								
Aluminum (Al)-Leachable			<50		mg/kg		50	04-AUG-15
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Barium (Ba)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Calcium (Ca)-Leachable			<50		mg/kg		50	04-AUG-15
Chromium (Cr)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Iron (Fe)-Leachable			<50		mg/kg		50	04-AUG-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	04-AUG-15
Manganese (Mn)-Leachable			<1.0		mg/kg		1	04-AUG-15
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Nickel (Ni)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Strontium (Sr)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	04-AUG-15
Titanium (Ti)-Leachable			<1.0		mg/kg		1	04-AUG-15
Uranium (U)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Zinc (Zn)-Leachable			<1.0		mg/kg		1	04-AUG-15
MET-TESS-RM-CCMS-VA	**Soil**							

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-RM-CCMS-VA	**Soil**							
Batch R3241251								
WG2137485-4 DUP		**L1618085-5**						
Aluminum (Al)-Leachable		32400	31300		mg/kg	3.5	30	04-AUG-15
Antimony (Sb)-Leachable		0.56	0.59		mg/kg	4.7	30	04-AUG-15
Arsenic (As)-Leachable		14.3	13.7		mg/kg	4.6	30	04-AUG-15
Barium (Ba)-Leachable		128	123		mg/kg	4.0	30	04-AUG-15
Beryllium (Be)-Leachable		0.79	0.74		mg/kg	6.6	30	04-AUG-15
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	04-AUG-15
Cadmium (Cd)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	04-AUG-15
Calcium (Ca)-Leachable		14100	13300		mg/kg	5.5	30	04-AUG-15
Chromium (Cr)-Leachable		17.3	16.8		mg/kg	3.0	30	04-AUG-15
Cobalt (Co)-Leachable		27.2	26.8		mg/kg	1.4	30	04-AUG-15
Copper (Cu)-Leachable		253	235		mg/kg	7.4	30	04-AUG-15
Iron (Fe)-Leachable		33400	33100		mg/kg	1.1	30	04-AUG-15
Lead (Pb)-Leachable		5.45	5.02		mg/kg	8.3	30	04-AUG-15
Lithium (Li)-Leachable		40.3	38.8		mg/kg	3.8	30	04-AUG-15
Manganese (Mn)-Leachable		930	898		mg/kg	3.5	30	04-AUG-15
Molybdenum (Mo)-Leachable		3.42	3.33		mg/kg	2.6	30	04-AUG-15
Nickel (Ni)-Leachable		17.7	17.3		mg/kg	2.5	30	04-AUG-15
Selenium (Se)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	04-AUG-15
Silver (Ag)-Leachable		0.40	0.41		mg/kg	3.8	30	04-AUG-15
Strontium (Sr)-Leachable		92.9	89.1		mg/kg	4.1	30	04-AUG-15
Thallium (Tl)-Leachable		0.051	0.064		mg/kg	24	30	04-AUG-15
Tin (Sn)-Leachable		5.1	5.0		mg/kg	1.2	30	04-AUG-15
Titanium (Ti)-Leachable		2520	2490		mg/kg	1.2	30	04-AUG-15
Uranium (U)-Leachable		1.09	1.06		mg/kg	2.8	30	04-AUG-15
Vanadium (V)-Leachable		122	119		mg/kg	2.7	30	04-AUG-15
Zinc (Zn)-Leachable		103	99.7		mg/kg	2.9	30	04-AUG-15
WG2137485-1 MB								
Aluminum (Al)-Leachable			<50		mg/kg		50	04-AUG-15
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Arsenic (As)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Barium (Ba)-Leachable			<2.0		mg/kg		2	04-AUG-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	04-AUG-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-RM-CCMS-VA	**Soil**							
Batch R3241251								
WG2137485-1 MB								
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Calcium (Ca)-Leachable			<50		mg/kg		50	04-AUG-15
Chromium (Cr)-Leachable			<5.0		mg/kg		5	04-AUG-15
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Iron (Fe)-Leachable			<50		mg/kg		50	04-AUG-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	04-AUG-15
Manganese (Mn)-Leachable			<5.0		mg/kg		5	04-AUG-15
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	04-AUG-15
Nickel (Ni)-Leachable			<2.0		mg/kg		2	04-AUG-15
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	04-AUG-15
Strontium (Sr)-Leachable			<5.0		mg/kg		5	04-AUG-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	04-AUG-15
Titanium (Ti)-Leachable			<5.0		mg/kg		5	04-AUG-15
Uranium (U)-Leachable			<0.050		mg/kg		0.05	04-AUG-15
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	04-AUG-15
Zinc (Zn)-Leachable			<1.0		mg/kg		1	04-AUG-15
PH-1:2-VA	**Soil**							
Batch R3231560								
WG2134469-2 DUP		**L1638961-2**						
pH (1:2 soil:water)		7.02	7.05	J	pH	0.03	0.3	23-JUL-15
S-TOT-LECO-SK	**Soil**							
Batch R3232590								
WG2135037-1 DUP		**L1638961-3**						
Sulfur (S)-Total		700	700		mg/kg	5.8	30	24-JUL-15
WG2135037-3 IRM		**1646A_SOIL**						
Sulfur (S)-Total			3400		mg/kg		2500-4600	24-JUL-15
WG2135037-4 MB								
Sulfur (S)-Total			<500		mg/kg		500	24-JUL-15

Quality Control Report

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
S-TOT-LECO-SK	**Soil**							
Batch R3269117								
WG2166908-1 DUP		**L1670370-1**						
Sulfur (S)-Total		3700	4300		mg/kg	14	30	16-SEP-15
WG2166908-2 IRM		**1646A_SOIL**						
Sulfur (S)-Total			3500		mg/kg		2500-4600	16-SEP-15
WG2166908-3 MB								
Sulfur (S)-Total			<500		mg/kg		500	16-SEP-15
Batch R3270376								
WG2172467-1 DUP		**L1671398-7**						
Sulfur (S)-Total		600	<500	RPD-NA	mg/kg	N/A	30	18-SEP-15
WG2172467-2 IRM		**1646A_SOIL**						
Sulfur (S)-Total			3600		mg/kg		2500-4600	18-SEP-15
WG2172467-3 MB								
Sulfur (S)-Total			<500		mg/kg		500	18-SEP-15

Quality Control Report

Workorder: L1638961 Report Date: 07-OCT-15

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
B	Method Blank exceeds ALS DQO. All associated sample results are at least 5 times greater than blank levels and are considered reliable.
J	Duplicate results and limits are expressed in terms of absolute difference.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L1638961 Report Date: 07-OCT-15

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Organic / Inorganic Carbon							
Organic Carbon by combustion method							
	1	23-MAY-15 13:00	02-OCT-15 00:00	28	131	days	EHTR
	2	23-MAY-15 11:20	02-OCT-15 00:00	28	132	days	EHTR
	3	23-MAY-15 09:55	02-OCT-15 00:00	28	132	days	EHTR
	4	21-MAY-15	02-OCT-15 00:00	28	134	days	EHTR
	5	21-MAY-15 11:35	02-OCT-15 00:00	28	134	days	EHTR
	6	21-MAY-15 10:30	02-OCT-15 00:00	28	134	days	EHTR
	8	24-MAY-15 09:00	02-OCT-15 00:00	28	131	days	EHTR
	9	23-MAY-15 14:40	02-OCT-15 00:00	28	131	days	EHTR
	10	22-MAY-15 10:55	02-OCT-15 00:00	28	133	days	EHTR
	12	24-MAY-15 09:40	02-OCT-15 00:00	28	131	days	EHTR
	14	23-MAY-15 12:30	02-OCT-15 00:00	28	131	days	EHTR
	15	23-MAY-15 13:30	02-OCT-15 00:00	28	131	days	EHTR
	16	22-MAY-15 09:25	02-OCT-15 00:00	28	133	days	EHTR
	17	23-MAY-15 13:50	02-OCT-15 00:00	28	131	days	EHTR
	18	23-MAY-15 14:10	02-OCT-15 00:00	28	131	days	EHTR
	19	22-MAY-15 10:30	02-OCT-15 00:00	28	133	days	EHTR
Metals							
Mercury in Soil by CVAFS							
	1	23-MAY-15 13:00	21-JUL-15 15:36	28	59	days	EHTR
	2	23-MAY-15 11:20	21-JUL-15 15:36	28	59	days	EHTR
	3	23-MAY-15 09:55	21-JUL-15 15:36	28	59	days	EHTR
	4	21-MAY-15	21-JUL-15 15:36	28	61	days	EHTR
	5	21-MAY-15 11:35	21-JUL-15 15:36	28	61	days	EHTR
	6	21-MAY-15 10:30	21-JUL-15 15:36	28	61	days	EHTR
	7	24-MAY-15 09:20	21-JUL-15 15:36	28	58	days	EHTR
	8	24-MAY-15 09:00	21-JUL-15 15:36	28	58	days	EHTR
	9	23-MAY-15 14:40	21-JUL-15 15:36	28	59	days	EHTR
	10	22-MAY-15 10:55	21-JUL-15 15:36	28	60	days	EHTR
	11	24-MAY-15 10:40	21-JUL-15 15:36	28	58	days	EHTR
	12	24-MAY-15 09:40	21-JUL-15 15:36	28	58	days	EHTR
	14	23-MAY-15 12:30	21-JUL-15 15:36	28	59	days	EHTR
	15	23-MAY-15 13:30	21-JUL-15 15:36	28	59	days	EHTR
	16	22-MAY-15 09:25	21-JUL-15 15:36	28	60	days	EHTR
	17	23-MAY-15 13:50	21-JUL-15 15:36	28	59	days	EHTR
	18	23-MAY-15 14:10	21-JUL-15 15:36	28	59	days	EHTR
	19	22-MAY-15 10:30	21-JUL-15 15:36	28	60	days	EHTR
	20	23-MAY-15 13:00	21-JUL-15 12:30	28	59	days	EHTR
	21	22-MAY-15 11:20	21-JUL-15 12:30	28	60	days	EHTR
	22	22-MAY-15 09:55	21-JUL-15 12:30	28	60	days	EHTR
	23	21-MAY-15	21-JUL-15 12:30	28	61	days	EHTR
	24	21-MAY-15 11:35	21-JUL-15 12:30	28	61	days	EHTR
	25	21-MAY-15 10:30	21-JUL-15 12:30	28	61	days	EHTR
	26	24-MAY-15 10:30	21-JUL-15 12:30	28	58	days	EHTR
	27	24-MAY-15 09:00	21-JUL-15 12:30	28	58	days	EHTR
	28	23-MAY-15 14:40	21-JUL-15 12:30	28	59	days	EHTR

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Quality Control Report

Workorder: L1638961 Report Date: 07-OCT-15

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0
Contact: Colleen Hughes

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1638961 were received on 08-JUL-15 09:35.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Special Request Moisture Calculation- Mount Polley

Date:

Workgroup:

$$\%\ Moisture = \left(1 - \left\{\frac{Mass\ of\ Dry\ weight}{Mass\ of\ Wet\ weight}\right\}\right)$$

Sample ID:	Wet Mass (wet weight) (g)	Dry Mass (Dry weight) (g)	Mass of Water (g)	Moisture (%)
L1638961-1	95.501	13.4270	82.0740	85.9405
L1638961-2	867.186	443.0780	424.108	48.9062
L1638961-3	892.248	438.8540	453.394	50.8148
L1638961-4	76.991	13.7420	63.249	82.1512
L1638961-5	95.582	21.5740	74.008	77.4288
L1638961-6	161.922	37.9230	123.999	76.5795
L1638961-7	39.721	5.1400	34.581	87.0597
L1638961-8	94.887	12.4560	82.431	86.8728
L1638961-9	129.431	22.2360	107.195	82.8202
L1638961-10	369.537	191.7780	177.759	48.1032
L1638961-11	76.605	10.1980	66.407	86.6876
L1638961-12	83.606	9.9470	73.659	88.1025
L1638961-14	66.79	9.7260	57.064	85.4379
L1638961-15	87.859	13.3150	74.544	84.8450
L1638961-16	367.093	196.0810	171.012	46.5855
L1638961-17	111.728	15.2780	96.45	86.3257
L1638961-18	60.685	10.9370	49.748	81.9774
L1638961-19	374.389	197.5230	176.866	47.2412
L1638961-20	5.386	2.1050	3.281	60.9172
L1638961-21	8.434	4.4880	3.946	46.7868
L1638961-22	2.142	0.5990	1.543	72.0355

Special Request Moisture Calculation- Mount Polley

Date:

Workgroup:

$$\%\ Moisture = \left(1 - \left\{\frac{Mass\ of\ Dry\ weight}{Mass\ of\ Wet\ weight}\right\}\right)$$

Sample ID:	Wet Mass (wet weight) (g)	Dry Mass (Dry weight) (g)	Mass of Water (g)	Moisture (%)
L1638961-23	3.527	1.0890	2.4380	69.1239
L1638961-24	3.968	1.7930	2.175	54.8135
L1638961-25	14.772	6.2150	8.557	57.9272
L1638961-26	3.701	1.4580	2.243	60.6052
L1638961-27	2.246	0.7560	1.49	66.3402
L1638961-28	2.728	1.1770	1.551	56.8548

Lot T41692	Post Weight
	0.06594
	0.06493
	0.06475
	0.06452
	0.06485
	0.06505
	0.06485
	0.063
	0.06254
	0.06263
Lot T42799	0.06696
	0.06673
	0.06711
	0.06756
	0.06764
	0.06493
	0.06571
	0.06692
	0.06559
	0.06551
Lot T41751	0.0652
	0.06242
	0.06607
	0.06707
	0.06214
	0.06957
	0.06323
	0.06578
	0.06564
	0.06618
Average Weight	0.065367333
STD	0.001753782

Chain of Custody (COC) / Analytical Request Form

ALS Environmental
www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L1638961-COFC

COC Number: 14 -

Page 1 of 3

Report To		Report Format		Turnaround Time (TAT) (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Mount Polley Mining Corporation	Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Colleen Hughes	Quality Control (QC) Report with Report	☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	Box 12, Likely, BC, V0L 1N0	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	250-790-2617	Email 1 or Fax	chughes@mountpolley.com	Specify Date Required for E2,E or P:
		Email 2	pstecko@minnow.ca; kbatchelar@minnow.ca	

Invoice To		Invoice Distribution	
	Same as Report To ☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☑ MAIL ☐ FAX
	Copy of Invoice with Report ☐ Yes ☐ No		
Company:		Email 1 or Fax	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q50734	Approver ID:	Cost Center:
Job #:	2542	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only): L1638961 | ALS Contact: Can Dang | Sampler: KB, CW, OB

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	MET-CCME+FULL-VA	MET-TESS-STD-VA	C-TOT-LECO-SK	WHOLE SAMPLE DRY WEIGHT	WHOLE SAMPLE WET WEIGHT	S-TOT-LECO-SK	PART-TSP-VA	Number of Containers
	POL-ST-P2-2	23-May-15	13:00	Sediment	R		R	R	R	R		1
	QUL-ST-REF-5	22-May-15	11:20	Sediment	R	R	R	R	R	R		1
	QUL-ST-REF-2	22-May-15	9:55	Sediment	R	R	R	R	R	R		1
	QUL-ST-FFF-1 and 4	21-May-15	-	Sediment	R		R	R	R			1
	QUL-ST-FFF-5	21-May-15	11:35	Sediment	R		R	R	R			1
	QUL-ST-FFF-3	21-May-15	10:30	Sediment	R		R	R	R			1
	POL-ST-P1-2	24-May-15	9:20	Sediment	R			R	R			1
	POL-ST-P1-1	24-May-15	9:00	Sediment	R		R	R	R			1
	POL-ST-P2-6	23-May-15	14:40	Sediment	R		R	R	R			1
	QUL-ST-REF-4	22-May-15	10:55	Sediment	R	R	R	R	R			1
	POL-ST-P1-5	24-May-15	10:40	Sediment	R			R	R			1
	POL-ST-P1-3	24-May-15	9:40	Sediment	R		R	R	R			1

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No	Limited sample volumes, please use minimum sample for each analysis. Please treat all filters within a sample cup as one sample. MET-CCME on <2mm sediment fraction, TOC on <2mm sediment fraction. Please do whole sample wet and dry weight as priority, followed by MET-CCME+FULL-VA, then C-TOT-LECO-SK, then the tessier, and then the sulphur analyses, in this order of priority
Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No ☐	
Ice packs	Yes ☐	No ☐	Custody seal intact	Yes ☐	No ☐
Cooling Initiated	☐				

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
9°C					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
	7-7-15	13:00	ISAAC	July 8	09:35			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION — WHITE - LABORATORY COPY — YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

Chain of Custody (COC) / Analytical Request Form

ALS Environmental

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L1638961-COFC

COC Number: 14 -

Page 2 of 3

Report To	
Company:	Mount Polley Mining Corporation
Contact:	Colleen Hughes
Address:	Box 12, Likely, BC, V0L 1N0
Phone:	250-790-2617

Report Format / Distribution

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)

Quality Control (QC) Report with Report ☑ Yes ☐ No

☐ Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: chughes@mountpolley.com

Email 2: pstecko@minnow.ca; kbatchelar@minnow.ca

Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)

- R ☑ Regular (Standard TAT if received by 3 pm - business days)
- P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
- E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
- E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge

Specify Date Required for E2,E or P:

Invoice To	
Same as Report To	☑ Yes ☐ No
Copy of Invoice with Report	☐ Yes ☐ No
Company:	
Contact:	

Invoice Distribution

Select Invoice Distribution: ☑ EMAIL ☑ MAIL ☐ FAX

Email 1 or Fax:

Email 2:

Project Information	
ALS Quote #:	Q50734
Job #:	2542
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)

Approver ID:	Cost Center:
GL Account:	Routing Code:
Activity Code:	
Location:	

ALS Lab Work Order # (lab use only): L1638961

ALS Contact: Can Dang

Sampler: KB, CW, OB

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	MET-CCME+FULL-VA	MET-TESS-STD-VA	C-TOT-LECO-SK	WHOLE SAMPLE DRY WEIGHT	WHOLE SAMPLE WET WEIGHT	S-TOT-LECO-SK	PART-TSP-VA	Number of Containers
	POL-ST-P1-6	24-May-15	11:10	Sediment	R		R	R	R			1
	POL-ST-P2-1	23-May-15	12:30	Sediment	R			R	R			1
	POL-ST-P2-3	23-May-15	13:30	Sediment	R		R	R	R			1
	QUL-ST-REF-1	22-May-15	9:25	Sediment	R	R	R	R	R			1
	POL-ST-P2-4	23-May-15	13:50	Sediment	R		R	R	R	R		1
	POL-ST-P2-5	23-May-15	14:10	Sediment	R			R	R			1
	QUL-ST-REF-3	22-May-15	10:30	Sediment	R	R	R	R	R			1
	POL-ST-P2-2 filter and sediment	23-May-15	13:00	Composite	R						R	1
	QUL-ST-REF-5 filter and sediment	22-May-15	11:20	Composite	R						R	1
	QUL-ST-REF-2 filter and sediment	22-May-15	9:55	Composite	R						R	1
	QUL-ST-FFF-1 and 4 filter and sediment	21-May-15	-	Composite	R						R	1

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ Yes ☐ No

Are samples for human drinking water use? ☐ Yes ☐ No

Special Instructions / Specify Criteria to add on report (client Use)

Limited sample volumes, please use minimum sample for each analysis. Please treat all filters within a sample cup as one sample. MET-CCME on <2mm sediment fraction, TOC on <2mm sediment fraction. Please do whole sample wet and dry weight as priority, followed by MET-CCME+FULL-VA, then C-TOT-LECO-SK, then the tessier, and then the sulphur analyses, in this order of priority. Composite samples are filter + sediment.

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐

Ice packs Yes ☐ No ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C: 9°C

FINAL COOLER TEMPERATURES °C:

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by: ISAAC	Date: July 8	Time: 09:35	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION — WHITE - LABORATORY COPY — YELLOW - CLIENT COPY

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

Chain of Custody (COC) / Analytical Request Form

ALS Environmental

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

L1638961-COFC

COC Number: 14 -

Page 3 of 3

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Mount Polley Mining Corporation	Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Colleen Hughes	Quality Control (QC) Report with Report	☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	Box 12, Likely, BC, V0L 1N0	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	250-790-2617	Email 1 or Fax	chughes@mountpolley.com	Specify Date Required for E2, E or P:
		Email 2	pstecko@minnow.ca; kbatchelar@minnow.ca	

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution	
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☑ MAIL ☐ FAX
Company:		Email 1 or Fax	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q50734	Approver ID:	Cost Center:
Job #:	2542	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only)	L1638961	ALS Contact:	Can Dang	Sampler:	KB, CW, OB

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	MET-CCME+FULL-VA	MET-TESS-STD-VA	C-TOT-LECO-SK	WHOLE SAMPLE DRY WEIGHT	WHOLE SAMPLE WET WEIGHT	S-TOT-LECO-SK	PART-TSP-VA	Number of Containers
	QUL-ST-FFF-5 filter and sediment	21-May-15	11:35	Composite	R						R	1
	QUL-ST-FFF-3 filter and sediment	21-May-15	10:30	Composite	R						R	1
	POL-ST-P1-2 filter and sediment	24-May-15	10:30	Composite	R						R	1
	POL-ST-P1-1 filter and sediment	24-May-15	9:00	Composite	R						R	1
	POL-ST-P2-6 filter and sediment	23-May-15	14:40	Composite	R						R	1

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No Are samples for human drinking water use? ☐ Yes ☐ No	Limited sample volumes, please use minimum sample for each analysis. Please treat all filters within a sample cup as one sample. MET-CCME on <2mm sediment fraction, TOC on <2mm sediment fraction. Please do whole sample wet and dry weight as priority, followed by MET-CCME+FULL-VA, then C-TOT-LECO-SK, then the tessier, and then the sulphur analyses, in this order of priority. Composite samples are filter + sediment.

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No ☐
Ice packs	Yes ☐	No ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated	☐			

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
9°C					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by: ISAAC	Date: July 8	Time: 09:35	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

MOUNT POLLEY MINING CORP.
ATTN: Colleen Hughes
PO Box 12
Likely BC V0L 1N0

Date Received: 10-NOV-15
Report Date: 24-FEB-16 13:20 (MT)
Version: FINAL REV. 2

Client Phone: 250-790-2215

Certificate of Analysis

Lab Work Order #: L1700936

Project P.O. #: NOT SUBMITTED
Job Reference: 2574/2542
C of C Numbers:
Legal Site Desc:

Comments: ADDITIONAL 24-DEC-15 14:11
ADDITIONAL 17-DEC-15 12:57

The Total Sample Weight determination is illustrated in the tables appended.

Revision2: This revision replaces and supersedes previous revision of this report. The metals data reported for the samples ALS identify as L1700936-61 to -65 have been modified. Also, to note that the filter/sediment sample client identify as "QUI-ST-REF-2014 FILTER AND SEDIMENT" was included in the composite sample L1700936-65.
24-FEB-2016 Revision 2: This revision replaces and supersedes previous revision of this report. The metals data reported for the samples ALS identify as L1700936-61 to -65 have been modified. Also, to note that the filter/sediment sample client identify as "QUI-ST-REF-2014 FILTER AND SEDIMENT" was included in the composited sample L1700936-65.

Can Dang
Senior Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1700936-1 Sediment 13-AUG-15 11:13 QUL-ST-REF 2014	L1700936-2 Sediment 13-AUG-15 12:00 QUL-ST15-REF-6	L1700936-3 Sediment 13-AUG-15 12:35 QUL-ST15-REF-5	L1700936-4 Sediment 14-AUG-15 10:15 QUL-ST15-REF-4	L1700936-5 Sediment 14-AUG-15 09:35 QUL-ST15-REF-3
SOIL						
Particle Size	% Gravel (>2mm) (%)	<0.10				
	% Sand (2.0mm - 0.063mm) (%)	16.9				
	% Silt (0.063mm - 4um) (%)	73.1				
	% Clay (<4um) (%)	9.99				
	Texture	Silt loam				
Organic / Inorganic Carbon	Total Organic Carbon (%)	2.10	3.29	3.36	3.66	3.20
Metals	Aluminum (Al) (mg/kg)	14200	17200	16500	17600	17300
	Antimony (Sb) (mg/kg)	0.37	0.48	0.45	0.44	0.45
	Arsenic (As) (mg/kg)	6.52	8.75	8.53	8.50	8.84
	Barium (Ba) (mg/kg)	135	152	147	156	155
	Beryllium (Be) (mg/kg)	0.45	0.55	0.54	0.57	0.55
	Bismuth (Bi) (mg/kg)	<0.20	0.20	<0.20	0.20	<0.20
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.367	0.575	0.588	0.614	0.580
	Calcium (Ca) (mg/kg)	7770	7990	7330	7990	7960
	Chromium (Cr) (mg/kg)	49.1	57.9	56.1	58.8	58.0
	Cobalt (Co) (mg/kg)	13.1	16.7	16.7	17.0	16.8
	Copper (Cu) (mg/kg)	48.9	60.6	59.0	65.2	60.6
	Iron (Fe) (mg/kg)	26500	32600	31600	33100	32600
	Lead (Pb) (mg/kg)	6.43	8.95	8.67	9.16	8.77
	Lithium (Li) (mg/kg)	15.0	20.0	19.7	20.4	19.9
	Magnesium (Mg) (mg/kg)	7440	8890	8720	9060	8910
	Manganese (Mn) (mg/kg)	568	969	980	1010	1050
	Mercury (Hg) (mg/kg)	0.0491	0.0680	0.0637	0.0795	0.0672
	Molybdenum (Mo) (mg/kg)	0.93	1.87	1.88	1.73	1.86
	Nickel (Ni) (mg/kg)	33.8	42.7	42.3	44.3	42.6
	Phosphorus (P) (mg/kg)	946	1100	1060	1120	1070
	Potassium (K) (mg/kg)	1300	1720	1630	1780	1750
	Selenium (Se) (mg/kg)	0.83	1.42	1.44	1.48	1.45
	Silver (Ag) (mg/kg)	0.18	0.31	0.29	0.32	0.30
	Sodium (Na) (mg/kg)	407	416	402	429	426
	Strontium (Sr) (mg/kg)	72.2	79.9	72.8	80.6	79.3
	Sulfur (S)-Total (mg/kg)	1800	2000	1600	1900	1500
	Thallium (Tl) (mg/kg)	0.169	0.198	0.192	0.186	0.190
	Tin (Sn) (mg/kg)	<2.0	<2.0	3.7	<2.0	<2.0
	Titanium (Ti) (mg/kg)	945	976	868	960	958
	Uranium (U) (mg/kg)	1.16	1.87	1.83	1.85	1.84

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1700936-6 Sediment 14-AUG-15 08:45 QUL-ST15-REF-2	L1700936-7 Sediment 13-AUG-15 11:13 QUL-ST15-REF-1	L1700936-8 Sediment 12-AUG-15 17:50 QUL-ST15-NF-6	L1700936-9 Sediment 12-AUG-15 15:20 QUL-ST15-NF-4	L1700936-10 Sediment 12-AUG-15 17:30 QUL-ST15-NF-3
Sample ID						
Description						
Sampled Date						
Sampled Time						
Client ID						
SOIL						
Particle Size	% Gravel (>2mm) (%)					
	% Sand (2.0mm - 0.063mm) (%)					
	% Silt (0.063mm - 4um) (%)					
	% Clay (<4um) (%)					
	Texture					
Organic / Inorganic Carbon	Total Organic Carbon (%)	3.33	3.38			
Metals	Aluminum (Al) (mg/kg)	17900	17700	24400	13500	11200
	Antimony (Sb) (mg/kg)	0.48	0.49	0.61	0.45	0.29
	Arsenic (As) (mg/kg)	9.00	8.79	15.0	8.03	6.67
	Barium (Ba) (mg/kg)	154	154	277	147	121
	Beryllium (Be) (mg/kg)	0.57	0.55	0.86	0.49	0.40
	Bismuth (Bi) (mg/kg)	0.21	<0.20	0.24	<0.20	<0.20
	Boron (B) (mg/kg)	<5.0	<5.0	7.9	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.611	0.582	0.375	0.251	0.187
	Calcium (Ca) (mg/kg)	8500	7800	11600	6000	5390
	Chromium (Cr) (mg/kg)	59.6	58.7	44.4	25.1	19.9
	Cobalt (Co) (mg/kg)	17.2	17.3	22.4	11.8	10.5
	Copper (Cu) (mg/kg)	62.7	65.6	376	217	201
	Iron (Fe) (mg/kg)	33500	32900	40200	22300	19700
	Lead (Pb) (mg/kg)	8.88	8.98	14.9	11.1	6.77
	Lithium (Li) (mg/kg)	20.2	20.2	26.7	14.6	12.3
	Magnesium (Mg) (mg/kg)	9190	9010	11100	6160	5410
	Manganese (Mn) (mg/kg)	998	961	4860	1300	1310
	Mercury (Hg) (mg/kg)	0.0685	0.0699	0.183	0.114	0.0905
	Molybdenum (Mo) (mg/kg)	1.97	1.80	3.92	1.24	1.09
	Nickel (Ni) (mg/kg)	44.2	43.6	41.7	22.9	18.7
	Phosphorus (P) (mg/kg)	1070	1090	996	540	473
	Potassium (K) (mg/kg)	1810	1820	3050	1720	1340
	Selenium (Se) (mg/kg)	1.46	1.47	1.23	0.71	0.60
	Silver (Ag) (mg/kg)	0.31	0.32	0.34	0.23	0.16
	Sodium (Na) (mg/kg)	438	434	1000	556	488
	Strontium (Sr) (mg/kg)	84.5	78.6	164	87.2	71.0
	Sulfur (S)-Total (mg/kg)	1700	1800			
	Thallium (Tl) (mg/kg)	0.209	0.190	0.149	0.083	0.063
	Tin (Sn) (mg/kg)	<2.0	<2.0	15.0	7.7	6.6
	Titanium (Ti) (mg/kg)	988	1000	1070	610	524
	Uranium (U) (mg/kg)	1.89	1.88	1.47	0.773	0.643

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1700936-11 Sediment 12-AUG-15 16:30 QUL-ST15-NF-2	L1700936-12 Sediment 12-AUG-15 16:00 QUL-ST15-NF-1	L1700936-13 Sediment 12-AUG-15 11:30 QUL-ST15-FFF-5	L1700936-14 Sediment 12-AUG-15 12:00 QUL-ST15-FFF-4	L1700936-15 Sediment 12-AUG-15 12:35 QUL-ST15-FFF-3
SOIL						
Particle Size	% Gravel (>2mm) (%)					
	% Sand (2.0mm - 0.063mm) (%)					
	% Silt (0.063mm - 4um) (%)					
	% Clay (<4um) (%)					
	Texture					
Organic / Inorganic Carbon	Total Organic Carbon (%)			4.02	3.64	
Metals	Aluminum (Al) (mg/kg)	9200	13800	23800	23500	23200
	Antimony (Sb) (mg/kg)	0.24	0.35	1.23	1.28	1.35
	Arsenic (As) (mg/kg)	5.80	8.37	68.1	92.9	108
	Barium (Ba) (mg/kg)	102	141	208	187	210
	Beryllium (Be) (mg/kg)	0.31	0.49	0.75	0.71	0.75
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	0.25	0.23	0.25
	Boron (B) (mg/kg)	<5.0	<5.0	5.6	5.3	6.4
	Cadmium (Cd) (mg/kg)	0.124	0.195	0.657	0.671	0.774
	Calcium (Ca) (mg/kg)	4400	5940	10500	11200	9380
	Chromium (Cr) (mg/kg)	14.2	24.5	60.1	65.0	60.9
	Cobalt (Co) (mg/kg)	8.00	12.5	25.0	25.6	25.3
	Copper (Cu) (mg/kg)	177	223	223	151	200
	Iron (Fe) (mg/kg)	13800	22300	49300	52000	47400
	Lead (Pb) (mg/kg)	5.08	7.82	18.9	15.0	22.2
	Lithium (Li) (mg/kg)	8.9	14.6	26.3	26.2	26.2
	Magnesium (Mg) (mg/kg)	4230	6390	12800	13600	12600
	Manganese (Mn) (mg/kg)	1090	1090	3580	4040	3460
	Mercury (Hg) (mg/kg)	0.0521	0.0934	0.157	0.145	0.160
	Molybdenum (Mo) (mg/kg)	0.96	1.23	2.76	2.31	2.32
	Nickel (Ni) (mg/kg)	13.8	22.6	57.7	61.6	57.6
	Phosphorus (P) (mg/kg)	372	549	1280	1320	1410
	Potassium (K) (mg/kg)	1050	1750	2190	2030	2180
	Selenium (Se) (mg/kg)	0.46	0.66	1.51	1.46	1.51
	Silver (Ag) (mg/kg)	0.13	0.19	0.38	0.35	0.38
	Sodium (Na) (mg/kg)	367	555	563	474	572
	Strontium (Sr) (mg/kg)	65.4	85.5	113	110	101
	Sulfur (S)-Total (mg/kg)			1400	1600	
	Thallium (Tl) (mg/kg)	0.050	0.080	0.197	0.191	0.182
	Tin (Sn) (mg/kg)	7.9	4.5	5.6	2.6	11.2
	Titanium (Ti) (mg/kg)	479	654	979	1060	1050
	Uranium (U) (mg/kg)	0.519	0.755	1.99	2.10	1.97

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1700936-16 Sediment 12-AUG-15 13:10 QUL-ST15-FFF-2	L1700936-17 Sediment 12-AUG-15 09:10 QUL-ST15-FFF-1	L1700936-18 Sediment 12-AUG-15 10:30 POL-ST15-P2-6	L1700936-19 Sediment 12-AUG-15 10:00 POL-ST15-P2-5	L1700936-20 Sediment 12-AUG-15 09:30 POL-ST15-P2-4
Sample ID						
Description						
Sampled Date						
Sampled Time						
Client ID						
SOIL						
Particle Size	% Gravel (>2mm) (%)					
	% Sand (2.0mm - 0.063mm) (%)					
	% Silt (0.063mm - 4um) (%)					
	% Clay (<4um) (%)					
	Texture					
Organic / Inorganic Carbon	Total Organic Carbon (%)	3.93		8.66		8.78
Metals	Aluminum (Al) (mg/kg)	22900	23800	19300	17000	19600
	Antimony (Sb) (mg/kg)	1.24	1.25	1.04	0.86	1.20
	Arsenic (As) (mg/kg)	82.1	63.2	11.8	11.3	17.2
	Barium (Ba) (mg/kg)	217	232	373	364	419
	Beryllium (Be) (mg/kg)	0.76	0.83	0.75	0.69	0.71
	Bismuth (Bi) (mg/kg)	0.23	0.28	<0.20	<0.20	<0.20
	Boron (B) (mg/kg)	6.5	6.6	12.1	11.4	12.1
	Cadmium (Cd) (mg/kg)	0.697	0.681	0.215	0.218	0.206
	Calcium (Ca) (mg/kg)	11400	10200	16400	14800	17300
	Chromium (Cr) (mg/kg)	56.2	58.5	18.3	15.8	19.2
	Cobalt (Co) (mg/kg)	24.9	25.2	19.5	18.2	21.3
	Copper (Cu) (mg/kg)	738	275	541	495	561
	Iron (Fe) (mg/kg)	49800	47600	27100	23200	28100
	Lead (Pb) (mg/kg)	50.5	25.3	12.6	16.8	8.79
	Lithium (Li) (mg/kg)	27.0	26.8	21.4	18.9	21.4
	Magnesium (Mg) (mg/kg)	12800	12000	12500	10900	13200
	Manganese (Mn) (mg/kg)	3940	3740	22200	19200	29700
	Mercury (Hg) (mg/kg)	0.186	0.172	0.130	0.128	0.131
	Molybdenum (Mo) (mg/kg)	2.85	3.04	6.93	6.04	12.0
	Nickel (Ni) (mg/kg)	52.3	54.2	16.7	14.7	18.4
	Phosphorus (P) (mg/kg)	1370	1220	2230	1970	2410
	Potassium (K) (mg/kg)	2210	2520	1840	1560	1830
	Selenium (Se) (mg/kg)	2.18	1.52	4.79	4.86	4.63
	Silver (Ag) (mg/kg)	0.65	0.43	0.30	0.29	0.27
	Sodium (Na) (mg/kg)	575	675	1120	1070	1180
	Strontium (Sr) (mg/kg)	122	118	202	181	213
	Sulfur (S)-Total (mg/kg)	1800		3600		4100
	Thallium (Tl) (mg/kg)	0.186	0.185	<0.050	<0.050	<0.050
	Tin (Sn) (mg/kg)	2.9	13.6	4.8	5.1	6.1
	Titanium (Ti) (mg/kg)	1130	1090	953	777	889
	Uranium (U) (mg/kg)	1.81	1.98	1.10	0.895	1.15

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1700936-21	L1700936-22	L1700936-23	L1700936-24	L1700936-25
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	12-AUG-15	12-AUG-15	11-AUG-15	12-AUG-15	12-AUG-15
Sampled Time	09:18	08:48	16:45	13:18	13:00
Client ID	POL-ST15-P2-3	POL-ST15-P2-2	POL-ST15-P2-1	POL-ST15-P1-6	POL-ST15-P1-5
Grouping / **Analyte**					
SOIL					
Particle Size					
% Gravel (>2mm) (%)					
% Sand (2.0mm - 0.063mm) (%)					
% Silt (0.063mm - 4um) (%)					
% Clay (<4um) (%)					
Texture					
Organic / Inorganic Carbon					
Total Organic Carbon (%)	9.70	9.17	8.66		8.62
Metals					
Aluminum (Al) (mg/kg)	19000	19700	19100	19200	20700
Antimony (Sb) (mg/kg)	1.01	0.99	1.21	0.98	1.16
Arsenic (As) (mg/kg)	12.0	11.9	13.2	11.9	14.3
Barium (Ba) (mg/kg)	340	343	404	331	372
Beryllium (Be) (mg/kg)	0.75	0.76	0.76	0.77	0.83
Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
Boron (B) (mg/kg)	12.5	12.5	12.7	14.2	13.1
Cadmium (Cd) (mg/kg)	0.248	0.219	0.214	0.275	0.235
Calcium (Ca) (mg/kg)	15900	15600	17100	14000	15900
Chromium (Cr) (mg/kg)	21.9	18.9	19.8	22.3	21.0
Cobalt (Co) (mg/kg)	19.2	20.3	21.9	18.3	20.0
Copper (Cu) (mg/kg)	530	574	536	542	630
Iron (Fe) (mg/kg)	27600	27700	27700	27200	29200
Lead (Pb) (mg/kg)	7.49	12.8	8.06	8.00	8.43
Lithium (Li) (mg/kg)	20.9	21.4	21.2	20.2	22.2
Magnesium (Mg) (mg/kg)	11900	12800	12500	11500	12700
Manganese (Mn) (mg/kg)	18400	10100	25800	7530	9180
Mercury (Hg) (mg/kg)	0.135	0.128	0.131	0.141	0.136
Molybdenum (Mo) (mg/kg)	8.97	9.13	10.3	4.76	8.51
Nickel (Ni) (mg/kg)	19.2	17.8	18.1	19.3	18.3
Phosphorus (P) (mg/kg)	2150	1990	2250	1940	2220
Potassium (K) (mg/kg)	1800	1830	1940	1860	1970
Selenium (Se) (mg/kg)	4.78	5.48	5.33	5.70	5.22
Silver (Ag) (mg/kg)	0.28	0.31	0.28	0.29	0.31
Sodium (Na) (mg/kg)	1070	1140	1130	1140	1180
Strontium (Sr) (mg/kg)	194	184	212	179	206
Sulfur (S)-Total (mg/kg)	5000	3000	2700		6000
Thallium (Tl) (mg/kg)	<0.050	<0.050	<0.050	<0.050	0.057
Tin (Sn) (mg/kg)	5.3	3.0	2.2	4.7	2.5
Titanium (Ti) (mg/kg)	925	997	1040	949	1160
Uranium (U) (mg/kg)	1.27	1.11	1.24	1.19	1.19

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1700936-26	L1700936-27	L1700936-28	L1700936-29	L1700936-59
Description	Sediment	Sediment	Sediment	Sediment	Composite
Sampled Date	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15	
Sampled Time	12:40	12:30	12:00	11:30	
Client ID	POL-ST15-P1-4	POL-ST15-P1-3	POL-ST15-P1-2	POL-ST15-P1-1	FILTER BLANK (1 FILTER)
Grouping / **Analyte**					
SOIL					
Particle Size					
% Gravel (>2mm) (%)					
% Sand (2.0mm - 0.063mm) (%)					
% Silt (0.063mm - 4um) (%)					
% Clay (<4um) (%)					
Texture					
Organic / Inorganic Carbon					
Total Organic Carbon (%)	10.0	9.70	9.11	9.31	
Metals					
Aluminum (Al) (mg/kg)	19100	19700	19700	19200	<50
Antimony (Sb) (mg/kg)	1.24	1.11	1.40	0.96	0.11
Arsenic (As) (mg/kg)	12.5	12.5	13.6	12.2	0.13
Barium (Ba) (mg/kg)	331	306	318	359	0.80
Beryllium (Be) (mg/kg)	0.78	0.75	0.77	0.75	<0.10
Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
Boron (B) (mg/kg)	13.0	12.6	11.8	11.6	<5.0
Cadmium (Cd) (mg/kg)	0.213	0.285	0.260	0.237	<0.020
Calcium (Ca) (mg/kg)	15600	14100	15900	15700	217
Chromium (Cr) (mg/kg)	21.9	24.6	22.0	19.6	13.9
Cobalt (Co) (mg/kg)	18.9	18.4	19.2	18.8	<0.10
Copper (Cu) (mg/kg)	567	565	595	562	0.59
Iron (Fe) (mg/kg)	27800	27900	27300	27100	<50
Lead (Pb) (mg/kg)	8.00	8.02	8.19	8.09	0.53
Lithium (Li) (mg/kg)	20.8	19.6	20.4	20.7	<2.0
Magnesium (Mg) (mg/kg)	11800	11200	11800	12000	<20
Manganese (Mn) (mg/kg)	10900	5560	7970	14100	2.9
Mercury (Hg) (mg/kg)	0.138	0.140	0.140	0.143	<0.0050
Molybdenum (Mo) (mg/kg)	8.31	7.86	10.7	5.99	<0.10
Nickel (Ni) (mg/kg)	19.1	21.6	19.2	17.5	0.69
Phosphorus (P) (mg/kg)	2400	1960	1790	2210	<50
Potassium (K) (mg/kg)	1850	1900	1830	1830	<100
Selenium (Se) (mg/kg)	5.06	5.67	4.89	5.21	<0.20
Silver (Ag) (mg/kg)	0.29	0.30	0.30	0.28	<0.10
Sodium (Na) (mg/kg)	1090	1110	1110	1130	136
Strontium (Sr) (mg/kg)	190	178	197	200	<0.50
Sulfur (S)-Total (mg/kg)	4400	5400	4500	3300	
Thallium (Tl) (mg/kg)	<0.050	0.054	<0.050	<0.050	<0.050
Tin (Sn) (mg/kg)	4.6	4.4	4.4	6.2	<2.0
Titanium (Ti) (mg/kg)	928	882	997	845	1.4
Uranium (U) (mg/kg)	1.17	1.24	1.14	1.18	<0.050

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1700936-60 Composite FILTER BLANK (4 FILTERS)	L1700936-61 Composite 13-AUG-15 QUL-ST15-REF FILTER AND SEDIMENT - COMPOSITE	L1700936-62 Composite 12-AUG-15 QUL-ST15-NF FILTER AND SEDIMENT - COMPOSITE	L1700936-63 Composite 12-AUG-15 QUL-ST15-FFF FILTER AND SEDIMENT - COMPOSITE	L1700936-64 Composite 12-AUG-15 POL-ST15-P2 FILTER AND SEDIMENT - COMPOSITE
SOIL						
Particle Size	% Gravel (>2mm) (%)					
	% Sand (2.0mm - 0.063mm) (%)					
	% Silt (0.063mm - 4um) (%)					
	% Clay (<4um) (%)					
	Texture					
Organic / Inorganic Carbon	Total Organic Carbon (%)					
Metals	Aluminum (Al) (mg/kg)	<50	13300	27100	19100	15900
	Antimony (Sb) (mg/kg)	<0.10	1.23	1.62	5.37	1.77
	Arsenic (As) (mg/kg)	<0.10	29.1	18.5	357	16.9
	Barium (Ba) (mg/kg)	<0.50	164	285	225	441
	Beryllium (Be) (mg/kg)	<0.10	0.44	0.90	0.62	0.59
	Bismuth (Bi) (mg/kg)	<0.20	0.24	0.54	1.85	<0.20
	Boron (B) (mg/kg)	<5.0	6.3	12.3	14.6	13.9
	Cadmium (Cd) (mg/kg)	<0.020	1.33	0.505	0.987	0.621
	Calcium (Ca) (mg/kg)	164	9140	14300	12500	15700
	Chromium (Cr) (mg/kg)	14.8	49.7	50.8	68.1	24.3
	Cobalt (Co) (mg/kg)	<0.10	13.6	22.8	21.6	14.8
	Copper (Cu) (mg/kg)	<0.50	82.8	529	255	448
	Iron (Fe) (mg/kg)	<50	45000	42200	72600	21900
	Lead (Pb) (mg/kg)	<0.50	10.5	18.9	43.0	66.3
	Lithium (Li) (mg/kg)	<2.0	13.8	26.3	19.6	15.7
	Magnesium (Mg) (mg/kg)	<20	6790	12900	9920	9520
	Manganese (Mn) (mg/kg)	1.1	2680	3210	7040	22400
	Mercury (Hg) (mg/kg)	<0.0050	0.292	0.592	0.525	0.248
	Molybdenum (Mo) (mg/kg)	<0.10	2.23	2.78	5.09	25.4
	Nickel (Ni) (mg/kg)	0.60	34.5	43.4	56.1	15.6
	Phosphorus (P) (mg/kg)	<50	1540	1220	2610	3390
	Potassium (K) (mg/kg)	<100	1670	3800	2620	1960
	Selenium (Se) (mg/kg)	<0.20	2.58	2.04	3.44	6.66
	Silver (Ag) (mg/kg)	<0.10	0.28	0.42	0.66	0.32
	Sodium (Na) (mg/kg)	<50	486	1330	822	1150
	Strontium (Sr) (mg/kg)	<0.50	87.3	181	134	195
	Sulfur (S)-Total (mg/kg)					
	Thallium (Tl) (mg/kg)	<0.050	0.122	0.129	0.149	0.282
	Tin (Sn) (mg/kg)	<2.0	31.6	22.6	26.1	43.5
	Titanium (Ti) (mg/kg)	<1.0	1010	1370	937	860
	Uranium (U) (mg/kg)	<0.050	1.40	1.54	2.32	0.896

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1700936-65				
	Description	Composite				
	Sampled Date	12-AUG-15				
	Sampled Time					
	Client ID	POL-ST15-P1 FILTER AND SEDIMENT - COMPOSITE				
Grouping	**Analyte**					
SOIL						
Particle Size	% Gravel (>2mm) (%)					
	% Sand (2.0mm - 0.063mm) (%)					
	% Silt (0.063mm - 4um) (%)					
	% Clay (<4um) (%)					
	Texture					
Organic / Inorganic Carbon	Total Organic Carbon (%)					
Metals	Aluminum (Al) (mg/kg)	16000				
	Antimony (Sb) (mg/kg)	0.68				
	Arsenic (As) (mg/kg)	14.1				
	Barium (Ba) (mg/kg)	237				
	Beryllium (Be) (mg/kg)	0.52				
	Bismuth (Bi) (mg/kg)	<0.20				
	Boron (B) (mg/kg)	6.4				
	Cadmium (Cd) (mg/kg)	0.359				
	Calcium (Ca) (mg/kg)	10600				
	Chromium (Cr) (mg/kg)	41.5				
	Cobalt (Co) (mg/kg)	14.9				
	Copper (Cu) (mg/kg)	175				
	Iron (Fe) (mg/kg)	28100				
	Lead (Pb) (mg/kg)	8.10				
	Lithium (Li) (mg/kg)	16.2				
	Magnesium (Mg) (mg/kg)	8280				
	Manganese (Mn) (mg/kg)	6810				
	Mercury (Hg) (mg/kg)	0.172				
	Molybdenum (Mo) (mg/kg)	6.08				
	Nickel (Ni) (mg/kg)	28.7				
	Phosphorus (P) (mg/kg)	1680				
	Potassium (K) (mg/kg)	1570				
	Selenium (Se) (mg/kg)	2.38				
	Silver (Ag) (mg/kg)	0.21				
	Sodium (Na) (mg/kg)	627				
	Strontium (Sr) (mg/kg)	116				
	Sulfur (S)-Total (mg/kg)					
	Thallium (Tl) (mg/kg)	0.109				
	Tin (Sn) (mg/kg)	14.9				
	Titanium (Ti) (mg/kg)	914				
	Uranium (U) (mg/kg)	1.12				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1700936-1 Sediment 13-AUG-15 11:13 QUL-ST-REF 2014	L1700936-2 Sediment 13-AUG-15 12:00 QUL-ST15-REF-6	L1700936-3 Sediment 13-AUG-15 12:35 QUL-ST15-REF-5	L1700936-4 Sediment 14-AUG-15 10:15 QUL-ST15-REF-4	L1700936-5 Sediment 14-AUG-15 09:35 QUL-ST15-REF-3
SOIL						
Metals	Vanadium (V) (mg/kg)	60.2	64.1	61.5	64.1	64.9
	Zinc (Zn) (mg/kg)	67.6	96.4	99.3	95.6	96.2
	Zirconium (Zr) (mg/kg)	3.5	2.2	2.4	2.2	2.2
Exchangeable & Adsorbed Metals	Aluminum (Al)-Leachable (mg/kg)	<50	<50		<50	
	Antimony (Sb)-Leachable (mg/kg)	<0.10	<0.10		<0.10	
	Arsenic (As)-Leachable (mg/kg)	<0.050	<0.050		<0.050	
	Barium (Ba)-Leachable (mg/kg)	16.5	19.6		19.7	
	Beryllium (Be)-Leachable (mg/kg)	<0.20	<0.20		<0.20	
	Bismuth (Bi)-Leachable (mg/kg)	<0.20	<0.20		<0.20	
	Cadmium (Cd)-Leachable (mg/kg)	0.165	0.278		0.283	
	Calcium (Ca)-Leachable (mg/kg)	2190	2960		3000	
	Chromium (Cr)-Leachable (mg/kg)	<0.50	<0.50		<0.50	
	Cobalt (Co)-Leachable (mg/kg)	0.28	0.44		0.50	
	Copper (Cu)-Leachable (mg/kg)	0.96	0.53		0.59	
	Iron (Fe)-Leachable (mg/kg)	<50	<50		<50	
	Lead (Pb)-Leachable (mg/kg)	<0.50	<0.50		<0.50	
	Lithium (Li)-Leachable (mg/kg)	<5.0	<5.0		<5.0	
	Manganese (Mn)-Leachable (mg/kg)	173	86.2		130	
	Molybdenum (Mo)-Leachable (mg/kg)	<0.50	<0.50		<0.50	
	Nickel (Ni)-Leachable (mg/kg)	<2.0 DLB	<3.0 DLB		<3.0 DLB	
	Phosphorus (P)-Leachable (mg/kg)	<50	<50		<50	
	Potassium (K)-Leachable (mg/kg)	<100	<100		<100	
	Selenium (Se)-Leachable (mg/kg)	<0.20	<0.20		<0.20	
	Silver (Ag)-Leachable (mg/kg)	<0.10	<0.10		<0.10	
	Sodium (Na)-Leachable (mg/kg)	<100	<100		<100	
	Strontium (Sr)-Leachable (mg/kg)	19.5	26.6		27.6	
	Thallium (Tl)-Leachable (mg/kg)	<0.050	<0.050		<0.050	
	Tin (Sn)-Leachable (mg/kg)	<2.0	<2.0		<2.0	
	Titanium (Ti)-Leachable (mg/kg)	<1.0	<1.0		<1.0	
	Uranium (U)-Leachable (mg/kg)	<0.050	<0.050		<0.050	
	Vanadium (V)-Leachable (mg/kg)	<0.20	<0.20		<0.20	
	Zinc (Zn)-Leachable (mg/kg)	<1.0	2.0		1.9	
Carbonate Metals	Aluminum (Al)-Leachable (mg/kg)	<50	63		52	
	Antimony (Sb)-Leachable (mg/kg)	<0.10	<0.10		<0.10	
	Arsenic (As)-Leachable (mg/kg)	0.185	<0.050		0.075	
	Barium (Ba)-Leachable (mg/kg)	17.2	15.0		15.3	
	Beryllium (Be)-Leachable (mg/kg)	<0.20	<0.20		<0.20	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1700936-6	L1700936-7	L1700936-8	L1700936-9	L1700936-10
		Description	Sediment	Sediment	Sediment	Sediment	Sediment
		Sampled Date	14-AUG-15	13-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15
		Sampled Time	08:45	11:13	17:50	15:20	17:30
		Client ID	QUL-ST15-REF-2	QUL-ST15-REF-1	QUL-ST15-NF-6	QUL-ST15-NF-4	QUL-ST15-NF-3
Grouping	**Analyte**						
SOIL							
Metals	Vanadium (V) (mg/kg)		66.5	65.7	91.7	50.2	45.9
	Zinc (Zn) (mg/kg)		97.8	99.2	108	66.2	53.1
	Zirconium (Zr) (mg/kg)		2.4	2.2	2.4	1.2	1.4
Exchangeable & Adsorbed Metals	Aluminum (Al)-Leachable (mg/kg)		<50				
	Antimony (Sb)-Leachable (mg/kg)		<0.10				
	Arsenic (As)-Leachable (mg/kg)		<0.050				
	Barium (Ba)-Leachable (mg/kg)		18.2				
	Beryllium (Be)-Leachable (mg/kg)		<0.20				
	Bismuth (Bi)-Leachable (mg/kg)		<0.20				
	Cadmium (Cd)-Leachable (mg/kg)		0.219				
	Calcium (Ca)-Leachable (mg/kg)		2980				
	Chromium (Cr)-Leachable (mg/kg)		<0.50				
	Cobalt (Co)-Leachable (mg/kg)		0.53				
	Copper (Cu)-Leachable (mg/kg)		0.58				
	Iron (Fe)-Leachable (mg/kg)		<50				
	Lead (Pb)-Leachable (mg/kg)		<0.50				
	Lithium (Li)-Leachable (mg/kg)		<5.0				
	Manganese (Mn)-Leachable (mg/kg)		190				
	Molybdenum (Mo)-Leachable (mg/kg)		<0.50				
	Nickel (Ni)-Leachable (mg/kg)		<2.0 DLB				
	Phosphorus (P)-Leachable (mg/kg)		<50				
	Potassium (K)-Leachable (mg/kg)		<100				
	Selenium (Se)-Leachable (mg/kg)		<0.20				
	Silver (Ag)-Leachable (mg/kg)		<0.10				
	Sodium (Na)-Leachable (mg/kg)		<100				
	Strontium (Sr)-Leachable (mg/kg)		26.4				
	Thallium (Tl)-Leachable (mg/kg)		<0.050				
	Tin (Sn)-Leachable (mg/kg)		<2.0				
	Titanium (Ti)-Leachable (mg/kg)		<1.0				
	Uranium (U)-Leachable (mg/kg)		<0.050				
	Vanadium (V)-Leachable (mg/kg)		<0.20				
	Zinc (Zn)-Leachable (mg/kg)		<1.0				
Carbonate Metals	Aluminum (Al)-Leachable (mg/kg)		59				
	Antimony (Sb)-Leachable (mg/kg)		<0.10				
	Arsenic (As)-Leachable (mg/kg)		0.091				
	Barium (Ba)-Leachable (mg/kg)		17.9				
	Beryllium (Be)-Leachable (mg/kg)		<0.20				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1700936-11	L1700936-12	L1700936-13	L1700936-14	L1700936-15
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15
Sampled Time	16:30	16:00	11:30	12:00	12:35
Client ID	QUL-ST15-NF-2	QUL-ST15-NF-1	QUL-ST15-FFF-5	QUL-ST15-FFF-4	QUL-ST15-FFF-3
Grouping **Analyte**					
SOIL					
Metals Vanadium (V) (mg/kg)	34.5	51.6	95.7	98.9	94.1
Zinc (Zn) (mg/kg)	75.1	58.4	124	111	136
Zirconium (Zr) (mg/kg)	1.3	1.3	2.4	2.6	2.1
Exchangeable & Adsorbed Metals Aluminum (Al)-Leachable (mg/kg)				<50	
Antimony (Sb)-Leachable (mg/kg)				<0.10	
Arsenic (As)-Leachable (mg/kg)				0.093	
Barium (Ba)-Leachable (mg/kg)				16.9	
Beryllium (Be)-Leachable (mg/kg)				<0.20	
Bismuth (Bi)-Leachable (mg/kg)				<0.20	
Cadmium (Cd)-Leachable (mg/kg)				0.348	
Calcium (Ca)-Leachable (mg/kg)				3760	
Chromium (Cr)-Leachable (mg/kg)				<0.50	
Cobalt (Co)-Leachable (mg/kg)				0.41	
Copper (Cu)-Leachable (mg/kg)				0.84	
Iron (Fe)-Leachable (mg/kg)				<50	
Lead (Pb)-Leachable (mg/kg)				<0.50	
Lithium (Li)-Leachable (mg/kg)				<5.0	
Manganese (Mn)-Leachable (mg/kg)				1020	
Molybdenum (Mo)-Leachable (mg/kg)				<0.50	
Nickel (Ni)-Leachable (mg/kg)				<2.0 DLB	
Phosphorus (P)-Leachable (mg/kg)				<50	
Potassium (K)-Leachable (mg/kg)				<100	
Selenium (Se)-Leachable (mg/kg)				<0.20	
Silver (Ag)-Leachable (mg/kg)				<0.10	
Sodium (Na)-Leachable (mg/kg)				<100	
Strontium (Sr)-Leachable (mg/kg)				37.0	
Thallium (Tl)-Leachable (mg/kg)				<0.050	
Tin (Sn)-Leachable (mg/kg)				<2.0	
Titanium (Ti)-Leachable (mg/kg)				<1.0	
Uranium (U)-Leachable (mg/kg)				<0.050	
Vanadium (V)-Leachable (mg/kg)				<0.20	
Zinc (Zn)-Leachable (mg/kg)				<1.0	
Carbonate Metals Aluminum (Al)-Leachable (mg/kg)				54	
Antimony (Sb)-Leachable (mg/kg)				<0.10	
Arsenic (As)-Leachable (mg/kg)				0.480	
Barium (Ba)-Leachable (mg/kg)				27.1	
Beryllium (Be)-Leachable (mg/kg)				<0.20	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1700936-16 Sediment 12-AUG-15 13:10 QUL-ST15-FFF-2	L1700936-17 Sediment 12-AUG-15 09:10 QUL-ST15-FFF-1	L1700936-18 Sediment 12-AUG-15 10:30 POL-ST15-P2-6	L1700936-19 Sediment 12-AUG-15 10:00 POL-ST15-P2-5	L1700936-20 Sediment 12-AUG-15 09:30 POL-ST15-P2-4
SOIL						
Metals	Vanadium (V) (mg/kg)	106	96.1	98.0	86.2	103
	Zinc (Zn) (mg/kg)	121	157	104	86.0	94.1
	Zirconium (Zr) (mg/kg)	2.0	1.9	1.4	<1.0	1.4
Exchangeable & Adsorbed Metals	Aluminum (Al)-Leachable (mg/kg)			<50		<50
	Antimony (Sb)-Leachable (mg/kg)			<0.10		<0.10
	Arsenic (As)-Leachable (mg/kg)			0.147		0.276
	Barium (Ba)-Leachable (mg/kg)			33.1		41.4
	Beryllium (Be)-Leachable (mg/kg)			<0.20		<0.20
	Bismuth (Bi)-Leachable (mg/kg)			<0.20		<0.20
	Cadmium (Cd)-Leachable (mg/kg)			0.058		0.063
	Calcium (Ca)-Leachable (mg/kg)			2960		3100
	Chromium (Cr)-Leachable (mg/kg)			<0.50		<0.50
	Cobalt (Co)-Leachable (mg/kg)			0.17		0.16
	Copper (Cu)-Leachable (mg/kg)			1.78		2.20
	Iron (Fe)-Leachable (mg/kg)			<50		<50
	Lead (Pb)-Leachable (mg/kg)			<0.50		<0.50
	Lithium (Li)-Leachable (mg/kg)			<5.0		<5.0
	Manganese (Mn)-Leachable (mg/kg)			2320		2530
	Molybdenum (Mo)-Leachable (mg/kg)			1.59		3.80
	Nickel (Ni)-Leachable (mg/kg)			<0.50		<0.50
	Phosphorus (P)-Leachable (mg/kg)			<50		<50
	Potassium (K)-Leachable (mg/kg)			150		170
	Selenium (Se)-Leachable (mg/kg)			<0.20		<0.20
	Silver (Ag)-Leachable (mg/kg)			<0.10		<0.10
	Sodium (Na)-Leachable (mg/kg)			160		180
	Strontium (Sr)-Leachable (mg/kg)			47.4		51.6
	Thallium (Tl)-Leachable (mg/kg)			<0.050		<0.050
	Tin (Sn)-Leachable (mg/kg)			<2.0		<2.0
	Titanium (Ti)-Leachable (mg/kg)			<1.0		<1.0
	Uranium (U)-Leachable (mg/kg)			<0.050		<0.050
	Vanadium (V)-Leachable (mg/kg)			0.22		0.27
	Zinc (Zn)-Leachable (mg/kg)			<1.0		<1.0
Carbonate Metals	Aluminum (Al)-Leachable (mg/kg)			<50		<50
	Antimony (Sb)-Leachable (mg/kg)			<0.10		<0.10
	Arsenic (As)-Leachable (mg/kg)			0.794		1.64
	Barium (Ba)-Leachable (mg/kg)			67.2		66.8
	Beryllium (Be)-Leachable (mg/kg)			<0.20		<0.20

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1700936-21	L1700936-22	L1700936-23	L1700936-24	L1700936-25
		Description	Sediment	Sediment	Sediment	Sediment	Sediment
		Sampled Date	12-AUG-15	12-AUG-15	11-AUG-15	12-AUG-15	12-AUG-15
		Sampled Time	09:18	08:48	16:45	13:18	13:00
		Client ID	POL-ST15-P2-3	POL-ST15-P2-2	POL-ST15-P2-1	POL-ST15-P1-6	POL-ST15-P1-5
Grouping	**Analyte**						
SOIL							
Metals	Vanadium (V) (mg/kg)		99.4	98.6	103	95.9	99.0
	Zinc (Zn) (mg/kg)		81.6	84.1	82.5	78.9	76.3
	Zirconium (Zr) (mg/kg)		1.8	1.5	1.1	1.1	1.5
Exchangeable & Adsorbed Metals	Aluminum (Al)-Leachable (mg/kg)		<50				
	Antimony (Sb)-Leachable (mg/kg)		<0.10				
	Arsenic (As)-Leachable (mg/kg)		0.171				
	Barium (Ba)-Leachable (mg/kg)		36.9				
	Beryllium (Be)-Leachable (mg/kg)		<0.20				
	Bismuth (Bi)-Leachable (mg/kg)		<0.20				
	Cadmium (Cd)-Leachable (mg/kg)		0.080				
	Calcium (Ca)-Leachable (mg/kg)		3140				
	Chromium (Cr)-Leachable (mg/kg)		<0.50				
	Cobalt (Co)-Leachable (mg/kg)		0.15				
	Copper (Cu)-Leachable (mg/kg)		1.39				
	Iron (Fe)-Leachable (mg/kg)		<50				
	Lead (Pb)-Leachable (mg/kg)		<0.50				
	Lithium (Li)-Leachable (mg/kg)		<5.0				
	Manganese (Mn)-Leachable (mg/kg)		2540				
	Molybdenum (Mo)-Leachable (mg/kg)		2.42				
	Nickel (Ni)-Leachable (mg/kg)		<0.50				
	Phosphorus (P)-Leachable (mg/kg)		<50				
	Potassium (K)-Leachable (mg/kg)		160				
	Selenium (Se)-Leachable (mg/kg)		<0.20				
	Silver (Ag)-Leachable (mg/kg)		<0.10				
	Sodium (Na)-Leachable (mg/kg)		160				
	Strontium (Sr)-Leachable (mg/kg)		46.0				
	Thallium (Tl)-Leachable (mg/kg)		<0.050				
	Tin (Sn)-Leachable (mg/kg)		<2.0				
	Titanium (Ti)-Leachable (mg/kg)		<1.0				
	Uranium (U)-Leachable (mg/kg)		<0.050				
	Vanadium (V)-Leachable (mg/kg)		0.25				
	Zinc (Zn)-Leachable (mg/kg)		<1.0				
Carbonate Metals	Aluminum (Al)-Leachable (mg/kg)		<50				
	Antimony (Sb)-Leachable (mg/kg)		<0.10				
	Arsenic (As)-Leachable (mg/kg)		0.762				
	Barium (Ba)-Leachable (mg/kg)		64.7				
	Beryllium (Be)-Leachable (mg/kg)		<0.20				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1700936-26	L1700936-27	L1700936-28	L1700936-29	L1700936-59
	Description	Sediment	Sediment	Sediment	Sediment	Composite
	Sampled Date	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15	
	Sampled Time	12:40	12:30	12:00	11:30	
	Client ID	POL-ST15-P1-4	POL-ST15-P1-3	POL-ST15-P1-2	POL-ST15-P1-1	FILTER BLANK (1 FILTER)
Grouping	**Analyte**					
SOIL						
Metals	Vanadium (V) (mg/kg)	93.9	96.0	92.0	90.2	0.22
	Zinc (Zn) (mg/kg)	78.3	148	81.7	76.6	<2.0
	Zirconium (Zr) (mg/kg)	1.4	1.6	2.0	1.2	<1.0
Exchangeable & Adsorbed Metals	Aluminum (Al)-Leachable (mg/kg)	<50		<50		
	Antimony (Sb)-Leachable (mg/kg)	<0.10		<0.10		
	Arsenic (As)-Leachable (mg/kg)	0.103		0.113		
	Barium (Ba)-Leachable (mg/kg)	34.2		39.1		
	Beryllium (Be)-Leachable (mg/kg)	<0.20		<0.20		
	Bismuth (Bi)-Leachable (mg/kg)	<0.20		<0.20		
	Cadmium (Cd)-Leachable (mg/kg)	0.104		0.115		
	Calcium (Ca)-Leachable (mg/kg)	4160		4280		
	Chromium (Cr)-Leachable (mg/kg)	<0.50		<0.50		
	Cobalt (Co)-Leachable (mg/kg)	0.30		0.34		
	Copper (Cu)-Leachable (mg/kg)	3.64		3.21		
	Iron (Fe)-Leachable (mg/kg)	<50		<50		
	Lead (Pb)-Leachable (mg/kg)	<0.50		<0.50		
	Lithium (Li)-Leachable (mg/kg)	<5.0		<5.0		
	Manganese (Mn)-Leachable (mg/kg)	3230		2780		
	Molybdenum (Mo)-Leachable (mg/kg)	1.62		2.58		
	Nickel (Ni)-Leachable (mg/kg)	<0.50		<0.50		
	Phosphorus (P)-Leachable (mg/kg)	<50		<50		
	Potassium (K)-Leachable (mg/kg)	180		160		
	Selenium (Se)-Leachable (mg/kg)	<0.20		<0.20		
	Silver (Ag)-Leachable (mg/kg)	<0.10		<0.10		
	Sodium (Na)-Leachable (mg/kg)	160		140		
	Strontium (Sr)-Leachable (mg/kg)	52.8		53.6		
	Thallium (Tl)-Leachable (mg/kg)	<0.050		<0.050		
	Tin (Sn)-Leachable (mg/kg)	<2.0		<2.0		
	Titanium (Ti)-Leachable (mg/kg)	<1.0		<1.0		
	Uranium (U)-Leachable (mg/kg)	<0.050		<0.050		
	Vanadium (V)-Leachable (mg/kg)	<0.20		<0.20		
	Zinc (Zn)-Leachable (mg/kg)	<1.0		<1.0		
Carbonate Metals	Aluminum (Al)-Leachable (mg/kg)	53		50		
	Antimony (Sb)-Leachable (mg/kg)	<0.10		<0.10		
	Arsenic (As)-Leachable (mg/kg)	0.409		0.444		
	Barium (Ba)-Leachable (mg/kg)	75.7		73.1		
	Beryllium (Be)-Leachable (mg/kg)	<0.20		<0.20		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1700936-60	L1700936-61	L1700936-62	L1700936-63	L1700936-64
		Description	Composite	Composite	Composite	Composite	Composite
		Sampled Date		13-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15
		Sampled Time					
		Client ID	FILTER BLANK (4 FILTERS)	QUL-ST15-REF FILTER AND SEDIMENT - COMPOSITE	QUL-ST15-NF FILTER AND SEDIMENT - COMPOSITE	QUL-ST15-FFF FILTER AND SEDIMENT - COMPOSITE	POL-ST15-P2 FILTER AND SEDIMENT - COMPOSITE
Grouping	**Analyte**						
SOIL							
Metals	Vanadium (V) (mg/kg)		<0.20	55.9	95.7	72.5	71.4
	Zinc (Zn) (mg/kg)		<2.0	126	212	267	350
	Zirconium (Zr) (mg/kg)		<1.0	4.6	6.9	4.1	<1.0
Exchangeable & Adsorbed Metals	Aluminum (Al)-Leachable (mg/kg)						
	Antimony (Sb)-Leachable (mg/kg)						
	Arsenic (As)-Leachable (mg/kg)						
	Barium (Ba)-Leachable (mg/kg)						
	Beryllium (Be)-Leachable (mg/kg)						
	Bismuth (Bi)-Leachable (mg/kg)						
	Cadmium (Cd)-Leachable (mg/kg)						
	Calcium (Ca)-Leachable (mg/kg)						
	Chromium (Cr)-Leachable (mg/kg)						
	Cobalt (Co)-Leachable (mg/kg)						
	Copper (Cu)-Leachable (mg/kg)						
	Iron (Fe)-Leachable (mg/kg)						
	Lead (Pb)-Leachable (mg/kg)						
	Lithium (Li)-Leachable (mg/kg)						
	Manganese (Mn)-Leachable (mg/kg)						
	Molybdenum (Mo)-Leachable (mg/kg)						
	Nickel (Ni)-Leachable (mg/kg)						
	Phosphorus (P)-Leachable (mg/kg)						
	Potassium (K)-Leachable (mg/kg)						
	Selenium (Se)-Leachable (mg/kg)						
	Silver (Ag)-Leachable (mg/kg)						
	Sodium (Na)-Leachable (mg/kg)						
	Strontium (Sr)-Leachable (mg/kg)						
	Thallium (Tl)-Leachable (mg/kg)						
	Tin (Sn)-Leachable (mg/kg)						
	Titanium (Ti)-Leachable (mg/kg)						
	Uranium (U)-Leachable (mg/kg)						
	Vanadium (V)-Leachable (mg/kg)						
	Zinc (Zn)-Leachable (mg/kg)						
Carbonate Metals	Aluminum (Al)-Leachable (mg/kg)						
	Antimony (Sb)-Leachable (mg/kg)						
	Arsenic (As)-Leachable (mg/kg)						
	Barium (Ba)-Leachable (mg/kg)						
	Beryllium (Be)-Leachable (mg/kg)						

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1700936-65				
		Description	Composite				
		Sampled Date	12-AUG-15				
		Sampled Time					
		Client ID	POL-ST15-P1 FILTER AND SEDIMENT - COMPOSITE				
Grouping	**Analyte**						
SOIL							
Metals	Vanadium (V) (mg/kg)		66.8				
	Zinc (Zn) (mg/kg)		95.7				
	Zirconium (Zr) (mg/kg)		1.9				
Exchangeable & Adsorbed Metals	Aluminum (Al)-Leachable (mg/kg)						
	Antimony (Sb)-Leachable (mg/kg)						
	Arsenic (As)-Leachable (mg/kg)						
	Barium (Ba)-Leachable (mg/kg)						
	Beryllium (Be)-Leachable (mg/kg)						
	Bismuth (Bi)-Leachable (mg/kg)						
	Cadmium (Cd)-Leachable (mg/kg)						
	Calcium (Ca)-Leachable (mg/kg)						
	Chromium (Cr)-Leachable (mg/kg)						
	Cobalt (Co)-Leachable (mg/kg)						
	Copper (Cu)-Leachable (mg/kg)						
	Iron (Fe)-Leachable (mg/kg)						
	Lead (Pb)-Leachable (mg/kg)						
	Lithium (Li)-Leachable (mg/kg)						
	Manganese (Mn)-Leachable (mg/kg)						
	Molybdenum (Mo)-Leachable (mg/kg)						
	Nickel (Ni)-Leachable (mg/kg)						
	Phosphorus (P)-Leachable (mg/kg)						
	Potassium (K)-Leachable (mg/kg)						
	Selenium (Se)-Leachable (mg/kg)						
	Silver (Ag)-Leachable (mg/kg)						
	Sodium (Na)-Leachable (mg/kg)						
	Strontium (Sr)-Leachable (mg/kg)						
	Thallium (Tl)-Leachable (mg/kg)						
	Tin (Sn)-Leachable (mg/kg)						
	Titanium (Ti)-Leachable (mg/kg)						
	Uranium (U)-Leachable (mg/kg)						
	Vanadium (V)-Leachable (mg/kg)						
	Zinc (Zn)-Leachable (mg/kg)						
Carbonate Metals	Aluminum (Al)-Leachable (mg/kg)						
	Antimony (Sb)-Leachable (mg/kg)						
	Arsenic (As)-Leachable (mg/kg)						
	Barium (Ba)-Leachable (mg/kg)						
	Beryllium (Be)-Leachable (mg/kg)						

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1700936-1	L1700936-2	L1700936-3	L1700936-4	L1700936-5
	Description	Sediment	Sediment	Sediment	Sediment	Sediment
	Sampled Date	13-AUG-15	13-AUG-15	13-AUG-15	14-AUG-15	14-AUG-15
	Sampled Time	11:13	12:00	12:35	10:15	09:35
	Client ID	QUL-ST-REF 2014	QUL-ST15-REF-6	QUL-ST15-REF-5	QUL-ST15-REF-4	QUL-ST15-REF-3
Grouping	**Analyte**					
SOIL						
Carbonate Metals	Bismuth (Bi)-Leachable (mg/kg)	<0.20	<0.20		<0.20	
	Cadmium (Cd)-Leachable (mg/kg)	<0.050	0.065		0.067	
	Calcium (Ca)-Leachable (mg/kg)	254	268		284	
	Chromium (Cr)-Leachable (mg/kg)	<5.0	<5.0		<5.0	
	Cobalt (Co)-Leachable (mg/kg)	0.44	0.29		0.36	
	Copper (Cu)-Leachable (mg/kg)	3.46	2.41		2.67	
	Iron (Fe)-Leachable (mg/kg)	291	146		147	
	Lead (Pb)-Leachable (mg/kg)	<0.50	<0.50		<0.50	
	Lithium (Li)-Leachable (mg/kg)	<5.0	<5.0		<5.0	
	Manganese (Mn)-Leachable (mg/kg)	49.2	78.4		90.6	
	Molybdenum (Mo)-Leachable (mg/kg)	<0.50	<0.50		<0.50	
	Nickel (Ni)-Leachable (mg/kg)	<2.0	<2.0		<2.0	
	Phosphorus (P)-Leachable (mg/kg)	<50	<50		<50	
	Selenium (Se)-Leachable (mg/kg)	<0.20	<0.20		<0.20	
	Silver (Ag)-Leachable (mg/kg)	<0.10	<0.10		<0.10	
	Strontium (Sr)-Leachable (mg/kg)	5.1	5.0		5.1	
	Thallium (Tl)-Leachable (mg/kg)	<0.050	<0.050		<0.050	
	Tin (Sn)-Leachable (mg/kg)	<2.0	<2.0		<2.0	
	Titanium (Ti)-Leachable (mg/kg)	<5.0	<5.0		<5.0	
	Uranium (U)-Leachable (mg/kg)	0.315	0.539		0.473	
	Vanadium (V)-Leachable (mg/kg)	0.26	<0.20		<0.20	
	Zinc (Zn)-Leachable (mg/kg)	1.3	2.8		2.8	
Easily Reducible Metals and Iron Oxides	Aluminum (Al)-Leachable (mg/kg)	912	1020		1070	
	Antimony (Sb)-Leachable (mg/kg)	<0.10	<0.10		<0.10	
	Arsenic (As)-Leachable (mg/kg)	1.29	1.35		1.27	
	Barium (Ba)-Leachable (mg/kg)	20.6	25.4		27.2	
	Beryllium (Be)-Leachable (mg/kg)	<0.20	0.22		0.23	
	Bismuth (Bi)-Leachable (mg/kg)	<0.20	<0.20		<0.20	
	Cadmium (Cd)-Leachable (mg/kg)	0.138	0.180		0.190	
	Calcium (Ca)-Leachable (mg/kg)	711	546		555	
	Chromium (Cr)-Leachable (mg/kg)	3.46	4.05		4.20	
	Cobalt (Co)-Leachable (mg/kg)	4.59	5.91		5.93	
	Copper (Cu)-Leachable (mg/kg)	7.08	5.56		5.35	
	Iron (Fe)-Leachable (mg/kg)	6030	7320		7890	
	Lead (Pb)-Leachable (mg/kg)	2.33	3.22		3.33	
	Lithium (Li)-Leachable (mg/kg)	<5.0	<5.0		<5.0	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1700936-6	L1700936-7	L1700936-8	L1700936-9	L1700936-10
	Description	Sediment	Sediment	Sediment	Sediment	Sediment
	Sampled Date	14-AUG-15	13-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15
	Sampled Time	08:45	11:13	17:50	15:20	17:30
	Client ID	QUL-ST15-REF-2	QUL-ST15-REF-1	QUL-ST15-NF-6	QUL-ST15-NF-4	QUL-ST15-NF-3
Grouping	**Analyte**					
SOIL						
Carbonate Metals	Bismuth (Bi)-Leachable (mg/kg)	<0.20				
	Cadmium (Cd)-Leachable (mg/kg)	0.074				
	Calcium (Ca)-Leachable (mg/kg)	341				
	Chromium (Cr)-Leachable (mg/kg)	<5.0				
	Cobalt (Co)-Leachable (mg/kg)	0.60				
	Copper (Cu)-Leachable (mg/kg)	2.64				
	Iron (Fe)-Leachable (mg/kg)	147				
	Lead (Pb)-Leachable (mg/kg)	<0.50				
	Lithium (Li)-Leachable (mg/kg)	<5.0				
	Manganese (Mn)-Leachable (mg/kg)	131				
	Molybdenum (Mo)-Leachable (mg/kg)	<0.50				
	Nickel (Ni)-Leachable (mg/kg)	<2.0				
	Phosphorus (P)-Leachable (mg/kg)	<50				
	Selenium (Se)-Leachable (mg/kg)	<0.20				
	Silver (Ag)-Leachable (mg/kg)	<0.10				
	Strontium (Sr)-Leachable (mg/kg)	5.5				
	Thallium (Tl)-Leachable (mg/kg)	<0.050				
	Tin (Sn)-Leachable (mg/kg)	<2.0				
	Titanium (Ti)-Leachable (mg/kg)	<5.0				
	Uranium (U)-Leachable (mg/kg)	0.558				
	Vanadium (V)-Leachable (mg/kg)	<0.20				
	Zinc (Zn)-Leachable (mg/kg)	3.2				
Easily Reducible Metals and Iron Oxides	Aluminum (Al)-Leachable (mg/kg)	1050				
	Antimony (Sb)-Leachable (mg/kg)	<0.10				
	Arsenic (As)-Leachable (mg/kg)	1.49				
	Barium (Ba)-Leachable (mg/kg)	25.1				
	Beryllium (Be)-Leachable (mg/kg)	0.23				
	Bismuth (Bi)-Leachable (mg/kg)	<0.20				
	Cadmium (Cd)-Leachable (mg/kg)	0.231				
	Calcium (Ca)-Leachable (mg/kg)	637				
	Chromium (Cr)-Leachable (mg/kg)	4.03				
	Cobalt (Co)-Leachable (mg/kg)	5.51				
	Copper (Cu)-Leachable (mg/kg)	5.23				
	Iron (Fe)-Leachable (mg/kg)	7360				
	Lead (Pb)-Leachable (mg/kg)	3.21				
	Lithium (Li)-Leachable (mg/kg)	<5.0				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1700936-11	L1700936-12	L1700936-13	L1700936-14	L1700936-15
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15
Sampled Time	16:30	16:00	11:30	12:00	12:35
Client ID	QUL-ST15-NF-2	QUL-ST15-NF-1	QUL-ST15-FFF-5	QUL-ST15-FFF-4	QUL-ST15-FFF-3
Grouping / **Analyte**					
SOIL					
Carbonate Metals					
Bismuth (Bi)-Leachable (mg/kg)				<0.20	
Cadmium (Cd)-Leachable (mg/kg)				0.115	
Calcium (Ca)-Leachable (mg/kg)				699	
Chromium (Cr)-Leachable (mg/kg)				<5.0	
Cobalt (Co)-Leachable (mg/kg)				0.97	
Copper (Cu)-Leachable (mg/kg)				6.97	
Iron (Fe)-Leachable (mg/kg)				258	
Lead (Pb)-Leachable (mg/kg)				<0.50	
Lithium (Li)-Leachable (mg/kg)				<5.0	
Manganese (Mn)-Leachable (mg/kg)				597	
Molybdenum (Mo)-Leachable (mg/kg)				<0.50	
Nickel (Ni)-Leachable (mg/kg)				3.3	
Phosphorus (P)-Leachable (mg/kg)				<50	
Selenium (Se)-Leachable (mg/kg)				<0.20	
Silver (Ag)-Leachable (mg/kg)				<0.10	
Strontium (Sr)-Leachable (mg/kg)				14.9	
Thallium (Tl)-Leachable (mg/kg)				<0.050	
Tin (Sn)-Leachable (mg/kg)				<2.0	
Titanium (Ti)-Leachable (mg/kg)				<5.0	
Uranium (U)-Leachable (mg/kg)				0.739	
Vanadium (V)-Leachable (mg/kg)				<0.20	
Zinc (Zn)-Leachable (mg/kg)				4.5	
Easily Reducible Metals and Iron Oxides					
Aluminum (Al)-Leachable (mg/kg)				1250	
Antimony (Sb)-Leachable (mg/kg)				<0.10	
Arsenic (As)-Leachable (mg/kg)				13.5	
Barium (Ba)-Leachable (mg/kg)				46.1	
Beryllium (Be)-Leachable (mg/kg)				0.24	
Bismuth (Bi)-Leachable (mg/kg)				<0.20	
Cadmium (Cd)-Leachable (mg/kg)				0.135	
Calcium (Ca)-Leachable (mg/kg)				609	
Chromium (Cr)-Leachable (mg/kg)				4.37	
Cobalt (Co)-Leachable (mg/kg)				8.12	
Copper (Cu)-Leachable (mg/kg)				19.8	
Iron (Fe)-Leachable (mg/kg)				12500	
Lead (Pb)-Leachable (mg/kg)				5.49	
Lithium (Li)-Leachable (mg/kg)				<5.0	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1700936-16	L1700936-17	L1700936-18	L1700936-19	L1700936-20
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15
Sampled Time	13:10	09:10	10:30	10:00	09:30
Client ID	QUL-ST15-FFF-2	QUL-ST15-FFF-1	POL-ST15-P2-6	POL-ST15-P2-5	POL-ST15-P2-4
Grouping / **Analyte**					
SOIL					
Carbonate Metals Bismuth (Bi)-Leachable (mg/kg)			<0.20		<0.20
Cadmium (Cd)-Leachable (mg/kg)			0.059		0.054
Calcium (Ca)-Leachable (mg/kg)			3580		3580
Chromium (Cr)-Leachable (mg/kg)			<5.0		<5.0
Cobalt (Co)-Leachable (mg/kg)			0.83		0.89
Copper (Cu)-Leachable (mg/kg)			7.77		9.62
Iron (Fe)-Leachable (mg/kg)			<50		<50
Lead (Pb)-Leachable (mg/kg)			0.76		0.68
Lithium (Li)-Leachable (mg/kg)			<5.0		<5.0
Manganese (Mn)-Leachable (mg/kg)			13400		16100
Molybdenum (Mo)-Leachable (mg/kg)			<0.50		0.79
Nickel (Ni)-Leachable (mg/kg)			<2.0		<2.0
Phosphorus (P)-Leachable (mg/kg)			128		130
Selenium (Se)-Leachable (mg/kg)			<0.20		<0.20
Silver (Ag)-Leachable (mg/kg)			<0.10		<0.10
Strontium (Sr)-Leachable (mg/kg)			68.3		62.4
Thallium (Tl)-Leachable (mg/kg)			<0.050		<0.050
Tin (Sn)-Leachable (mg/kg)			<2.0		<2.0
Titanium (Ti)-Leachable (mg/kg)			<5.0		<5.0
Uranium (U)-Leachable (mg/kg)			0.167		0.201
Vanadium (V)-Leachable (mg/kg)			1.77		1.57
Zinc (Zn)-Leachable (mg/kg)			17.0		11.1
Easily Reducible Metals and Iron Oxides Aluminum (Al)-Leachable (mg/kg)			968		904
Antimony (Sb)-Leachable (mg/kg)			<0.10		<0.10
Arsenic (As)-Leachable (mg/kg)			2.03		3.31
Barium (Ba)-Leachable (mg/kg)			85.9		80.6
Beryllium (Be)-Leachable (mg/kg)			0.21		<0.20
Bismuth (Bi)-Leachable (mg/kg)			<0.20		<0.20
Cadmium (Cd)-Leachable (mg/kg)			<0.050		<0.050
Calcium (Ca)-Leachable (mg/kg)			1040		1080
Chromium (Cr)-Leachable (mg/kg)			1.64		1.56
Cobalt (Co)-Leachable (mg/kg)			2.00		2.07
Copper (Cu)-Leachable (mg/kg)			7.52		6.78
Iron (Fe)-Leachable (mg/kg)			4080		3800
Lead (Pb)-Leachable (mg/kg)			2.45		2.06
Lithium (Li)-Leachable (mg/kg)			<5.0		<5.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1700936-21	L1700936-22	L1700936-23	L1700936-24	L1700936-25
	Description	Sediment	Sediment	Sediment	Sediment	Sediment
	Sampled Date	12-AUG-15	12-AUG-15	11-AUG-15	12-AUG-15	12-AUG-15
	Sampled Time	09:18	08:48	16:45	13:18	13:00
	Client ID	POL-ST15-P2-3	POL-ST15-P2-2	POL-ST15-P2-1	POL-ST15-P1-6	POL-ST15-P1-5
Grouping	**Analyte**					
SOIL						
Carbonate Metals	Bismuth (Bi)-Leachable (mg/kg)	<0.20				
	Cadmium (Cd)-Leachable (mg/kg)	0.074				
	Calcium (Ca)-Leachable (mg/kg)	2900				
	Chromium (Cr)-Leachable (mg/kg)	<5.0				
	Cobalt (Co)-Leachable (mg/kg)	0.73				
	Copper (Cu)-Leachable (mg/kg)	7.78				
	Iron (Fe)-Leachable (mg/kg)	53				
	Lead (Pb)-Leachable (mg/kg)	0.53				
	Lithium (Li)-Leachable (mg/kg)	<5.0				
	Manganese (Mn)-Leachable (mg/kg)	9960				
	Molybdenum (Mo)-Leachable (mg/kg)	<0.50				
	Nickel (Ni)-Leachable (mg/kg)	<2.0				
	Phosphorus (P)-Leachable (mg/kg)	95				
	Selenium (Se)-Leachable (mg/kg)	<0.20				
	Silver (Ag)-Leachable (mg/kg)	<0.10				
	Strontium (Sr)-Leachable (mg/kg)	57.4				
	Thallium (Tl)-Leachable (mg/kg)	<0.050				
	Tin (Sn)-Leachable (mg/kg)	<2.0				
	Titanium (Ti)-Leachable (mg/kg)	<5.0				
	Uranium (U)-Leachable (mg/kg)	0.204				
	Vanadium (V)-Leachable (mg/kg)	1.70				
	Zinc (Zn)-Leachable (mg/kg)	7.8				
Easily Reducible Metals and Iron Oxides	Aluminum (Al)-Leachable (mg/kg)	963				
	Antimony (Sb)-Leachable (mg/kg)	<0.10				
	Arsenic (As)-Leachable (mg/kg)	2.16				
	Barium (Ba)-Leachable (mg/kg)	71.6				
	Beryllium (Be)-Leachable (mg/kg)	0.23				
	Bismuth (Bi)-Leachable (mg/kg)	<0.20				
	Cadmium (Cd)-Leachable (mg/kg)	0.056				
	Calcium (Ca)-Leachable (mg/kg)	943				
	Chromium (Cr)-Leachable (mg/kg)	1.90				
	Cobalt (Co)-Leachable (mg/kg)	1.88				
	Copper (Cu)-Leachable (mg/kg)	6.42				
	Iron (Fe)-Leachable (mg/kg)	4060				
	Lead (Pb)-Leachable (mg/kg)	2.01				
	Lithium (Li)-Leachable (mg/kg)	<5.0				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1700936-26	L1700936-27	L1700936-28	L1700936-29	L1700936-59
Description	Sediment	Sediment	Sediment	Sediment	Composite
Sampled Date	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15	
Sampled Time	12:40	12:30	12:00	11:30	
Client ID	POL-ST15-P1-4	POL-ST15-P1-3	POL-ST15-P1-2	POL-ST15-P1-1	FILTER BLANK (1 FILTER)
Grouping / **Analyte**					
SOIL					
Carbonate Metals					
Bismuth (Bi)-Leachable (mg/kg)	<0.20		<0.20		
Cadmium (Cd)-Leachable (mg/kg)	<0.050		<0.050		
Calcium (Ca)-Leachable (mg/kg)	2470		2050		
Chromium (Cr)-Leachable (mg/kg)	<5.0		<5.0		
Cobalt (Co)-Leachable (mg/kg)	0.64		0.61		
Copper (Cu)-Leachable (mg/kg)	8.21		9.34		
Iron (Fe)-Leachable (mg/kg)	145		146		
Lead (Pb)-Leachable (mg/kg)	<0.50		0.51		
Lithium (Li)-Leachable (mg/kg)	<5.0		<5.0		
Manganese (Mn)-Leachable (mg/kg)	4800		2720		
Molybdenum (Mo)-Leachable (mg/kg)	<0.50		<0.50		
Nickel (Ni)-Leachable (mg/kg)	<2.0		<2.0		
Phosphorus (P)-Leachable (mg/kg)	<50		<50		
Selenium (Se)-Leachable (mg/kg)	<0.20		<0.20		
Silver (Ag)-Leachable (mg/kg)	<0.10		<0.10		
Strontium (Sr)-Leachable (mg/kg)	56.0		52.7		
Thallium (Tl)-Leachable (mg/kg)	<0.050		<0.050		
Tin (Sn)-Leachable (mg/kg)	<2.0		<2.0		
Titanium (Ti)-Leachable (mg/kg)	<5.0		<5.0		
Uranium (U)-Leachable (mg/kg)	0.183		0.138		
Vanadium (V)-Leachable (mg/kg)	1.48		1.06		
Zinc (Zn)-Leachable (mg/kg)	6.2		6.3		
Easily Reducible Metals and Iron Oxides					
Aluminum (Al)-Leachable (mg/kg)	1010		1270		
Antimony (Sb)-Leachable (mg/kg)	<0.10		<0.10		
Arsenic (As)-Leachable (mg/kg)	2.82		3.12		
Barium (Ba)-Leachable (mg/kg)	73.7		55.4		
Beryllium (Be)-Leachable (mg/kg)	0.22		0.23		
Bismuth (Bi)-Leachable (mg/kg)	<0.20		<0.20		
Cadmium (Cd)-Leachable (mg/kg)	<0.050		0.058		
Calcium (Ca)-Leachable (mg/kg)	954		919		
Chromium (Cr)-Leachable (mg/kg)	1.83		2.14		
Cobalt (Co)-Leachable (mg/kg)	1.94		2.01		
Copper (Cu)-Leachable (mg/kg)	7.03		5.73		
Iron (Fe)-Leachable (mg/kg)	6380		5510		
Lead (Pb)-Leachable (mg/kg)	2.08		2.08		
Lithium (Li)-Leachable (mg/kg)	<5.0		<5.0		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1700936-60	L1700936-61	L1700936-62	L1700936-63	L1700936-64
	Description	Composite	Composite	Composite	Composite	Composite
	Sampled Date		13-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15
	Sampled Time					
	Client ID	FILTER BLANK (4 FILTERS)	QUL-ST15-REF FILTER AND SEDIMENT - COMPOSITE	QUL-ST15-NF FILTER AND SEDIMENT - COMPOSITE	QUL-ST15-FFF FILTER AND SEDIMENT - COMPOSITE	POL-ST15-P2 FILTER AND SEDIMENT - COMPOSITE
Grouping	**Analyte**					
SOIL						
Carbonate Metals	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					
	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					
	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					
	Phosphorus (P)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					
	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					
Easily Reducible Metals and Iron Oxides	Aluminum (Al)-Leachable (mg/kg)					
	Antimony (Sb)-Leachable (mg/kg)					
	Arsenic (As)-Leachable (mg/kg)					
	Barium (Ba)-Leachable (mg/kg)					
	Beryllium (Be)-Leachable (mg/kg)					
	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					
	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1700936-65				
	Description	Composite				
	Sampled Date	12-AUG-15				
	Sampled Time					
	Client ID	POL-ST15-P1 FILTER AND SEDIMENT - COMPOSITE				
Grouping	**Analyte**					
SOIL						
Carbonate Metals	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					
	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					
	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					
	Phosphorus (P)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					
	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					
Easily Reducible Metals and Iron Oxides	Aluminum (Al)-Leachable (mg/kg)					
	Antimony (Sb)-Leachable (mg/kg)					
	Arsenic (As)-Leachable (mg/kg)					
	Barium (Ba)-Leachable (mg/kg)					
	Beryllium (Be)-Leachable (mg/kg)					
	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					
	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1700936-1	L1700936-2	L1700936-3	L1700936-4	L1700936-5
	Description	Sediment	Sediment	Sediment	Sediment	Sediment
	Sampled Date	13-AUG-15	13-AUG-15	13-AUG-15	14-AUG-15	14-AUG-15
	Sampled Time	11:13	12:00	12:35	10:15	09:35
	Client ID	QUL-ST-REF 2014	QUL-ST15-REF-6	QUL-ST15-REF-5	QUL-ST15-REF-4	QUL-ST15-REF-3
Grouping	**Analyte**					
SOIL						
Easily Reducible Metals and Iron Oxides	Manganese (Mn)-Leachable (mg/kg)	111	469		465	
	Molybdenum (Mo)-Leachable (mg/kg)	<0.50	<0.50		<0.50	
	Nickel (Ni)-Leachable (mg/kg)	8.15	8.29		8.92	
	Phosphorus (P)-Leachable (mg/kg)	78	<50		57	
	Selenium (Se)-Leachable (mg/kg)	<0.20	<0.20		<0.20	
	Silver (Ag)-Leachable (mg/kg)	<0.10	0.11		0.11	
	Strontium (Sr)-Leachable (mg/kg)	7.57	7.04		7.49	
	Thallium (Tl)-Leachable (mg/kg)	<0.050	<0.050		<0.050	
	Tin (Sn)-Leachable (mg/kg)	<2.0	<2.0		<2.0	
	Titanium (Ti)-Leachable (mg/kg)	1.1	<1.0		<1.0	
	Uranium (U)-Leachable (mg/kg)	0.271	0.476		0.473	
	Vanadium (V)-Leachable (mg/kg)	8.33	8.47		8.77	
	Zinc (Zn)-Leachable (mg/kg)	16.4	21.8		22.0	
Organic Bound Metals	Aluminum (Al)-Leachable (mg/kg)	1230	1630		1700	
	Antimony (Sb)-Leachable (mg/kg)	<0.10	<0.10		<0.10	
	Arsenic (As)-Leachable (mg/kg)	0.276	0.503		0.427	
	Barium (Ba)-Leachable (mg/kg)	14.2	18.3		19.5	
	Beryllium (Be)-Leachable (mg/kg)	<0.20	<0.20		<0.20	
	Bismuth (Bi)-Leachable (mg/kg)	<0.20	<0.20		<0.20	
	Cadmium (Cd)-Leachable (mg/kg)	<0.050	<0.050		<0.050	
	Calcium (Ca)-Leachable (mg/kg)	399	424		416	
	Chromium (Cr)-Leachable (mg/kg)	5.17	7.03		7.51	
	Cobalt (Co)-Leachable (mg/kg)	1.39	1.62		1.68	
	Copper (Cu)-Leachable (mg/kg)	14.4	17.8		17.7	
	Iron (Fe)-Leachable (mg/kg)	518	823		873	
	Lead (Pb)-Leachable (mg/kg)	<0.50	1.07		0.68	
	Lithium (Li)-Leachable (mg/kg)	<5.0	<5.0		<5.0	
	Manganese (Mn)-Leachable (mg/kg)	18.3	40.5		41.4	
	Molybdenum (Mo)-Leachable (mg/kg)	<0.50	<0.50		<0.50	
	Nickel (Ni)-Leachable (mg/kg)	3.45	4.12		4.30	
	Selenium (Se)-Leachable (mg/kg)	0.77	1.33		1.43	
	Silver (Ag)-Leachable (mg/kg)	<0.10	<0.10		<0.10	
	Strontium (Sr)-Leachable (mg/kg)	3.57	3.86		4.05	
	Thallium (Tl)-Leachable (mg/kg)	<0.050	<0.050		<0.050	
	Tin (Sn)-Leachable (mg/kg)	<2.0	<2.0		<2.0	
	Titanium (Ti)-Leachable (mg/kg)	2.1	1.8		2.1	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1700936-6	L1700936-7	L1700936-8	L1700936-9	L1700936-10
	Description	Sediment	Sediment	Sediment	Sediment	Sediment
	Sampled Date	14-AUG-15	13-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15
	Sampled Time	08:45	11:13	17:50	15:20	17:30
	Client ID	QUL-ST15-REF-2	QUL-ST15-REF-1	QUL-ST15-NF-6	QUL-ST15-NF-4	QUL-ST15-NF-3
Grouping	**Analyte**					
SOIL						
Easily Reducible Metals and Iron Oxides	Manganese (Mn)-Leachable (mg/kg)	296				
	Molybdenum (Mo)-Leachable (mg/kg)	<0.50				
	Nickel (Ni)-Leachable (mg/kg)	9.10				
	Phosphorus (P)-Leachable (mg/kg)	64				
	Selenium (Se)-Leachable (mg/kg)	<0.20				
	Silver (Ag)-Leachable (mg/kg)	0.13				
	Strontium (Sr)-Leachable (mg/kg)	7.90				
	Thallium (Tl)-Leachable (mg/kg)	<0.050				
	Tin (Sn)-Leachable (mg/kg)	<2.0				
	Titanium (Ti)-Leachable (mg/kg)	<1.0				
	Uranium (U)-Leachable (mg/kg)	0.510				
	Vanadium (V)-Leachable (mg/kg)	8.53				
	Zinc (Zn)-Leachable (mg/kg)	22.4				
Organic Bound Metals	Aluminum (Al)-Leachable (mg/kg)	1620				
	Antimony (Sb)-Leachable (mg/kg)	<0.10				
	Arsenic (As)-Leachable (mg/kg)	0.488				
	Barium (Ba)-Leachable (mg/kg)	18.6				
	Beryllium (Be)-Leachable (mg/kg)	<0.20				
	Bismuth (Bi)-Leachable (mg/kg)	<0.20				
	Cadmium (Cd)-Leachable (mg/kg)	<0.050				
	Calcium (Ca)-Leachable (mg/kg)	392				
	Chromium (Cr)-Leachable (mg/kg)	7.03				
	Cobalt (Co)-Leachable (mg/kg)	1.64				
	Copper (Cu)-Leachable (mg/kg)	37.0				
	Iron (Fe)-Leachable (mg/kg)	814				
	Lead (Pb)-Leachable (mg/kg)	0.72				
	Lithium (Li)-Leachable (mg/kg)	<5.0				
	Manganese (Mn)-Leachable (mg/kg)	32.3				
	Molybdenum (Mo)-Leachable (mg/kg)	<0.50				
	Nickel (Ni)-Leachable (mg/kg)	4.28				
	Selenium (Se)-Leachable (mg/kg)	1.39				
	Silver (Ag)-Leachable (mg/kg)	<0.10				
	Strontium (Sr)-Leachable (mg/kg)	3.97				
	Thallium (Tl)-Leachable (mg/kg)	<0.050				
	Tin (Sn)-Leachable (mg/kg)	<2.0				
	Titanium (Ti)-Leachable (mg/kg)	3.2				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1700936-11	L1700936-12	L1700936-13	L1700936-14	L1700936-15
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15
Sampled Time	16:30	16:00	11:30	12:00	12:35
Client ID	QUL-ST15-NF-2	QUL-ST15-NF-1	QUL-ST15-FFF-5	QUL-ST15-FFF-4	QUL-ST15-FFF-3
Grouping / **Analyte**					
SOIL					
Easily Reducible Metals and Iron Oxides					
Manganese (Mn)-Leachable (mg/kg)				1320	
Molybdenum (Mo)-Leachable (mg/kg)				<0.50	
Nickel (Ni)-Leachable (mg/kg)				10.9	
Phosphorus (P)-Leachable (mg/kg)				76	
Selenium (Se)-Leachable (mg/kg)				<0.20	
Silver (Ag)-Leachable (mg/kg)				0.18	
Strontium (Sr)-Leachable (mg/kg)				10.2	
Thallium (Tl)-Leachable (mg/kg)				<0.050	
Tin (Sn)-Leachable (mg/kg)				<2.0	
Titanium (Ti)-Leachable (mg/kg)				<1.0	
Uranium (U)-Leachable (mg/kg)				0.596	
Vanadium (V)-Leachable (mg/kg)				12.1	
Zinc (Zn)-Leachable (mg/kg)				22.2	
Organic Bound Metals					
Aluminum (Al)-Leachable (mg/kg)				1860	
Antimony (Sb)-Leachable (mg/kg)				<0.10	
Arsenic (As)-Leachable (mg/kg)				1.72	
Barium (Ba)-Leachable (mg/kg)				26.2	
Beryllium (Be)-Leachable (mg/kg)				<0.20	
Bismuth (Bi)-Leachable (mg/kg)				<0.20	
Cadmium (Cd)-Leachable (mg/kg)				<0.050	
Calcium (Ca)-Leachable (mg/kg)				560	
Chromium (Cr)-Leachable (mg/kg)				5.01	
Cobalt (Co)-Leachable (mg/kg)				1.44	
Copper (Cu)-Leachable (mg/kg)				47.9	
Iron (Fe)-Leachable (mg/kg)				799	
Lead (Pb)-Leachable (mg/kg)				1.10	
Lithium (Li)-Leachable (mg/kg)				<5.0	
Manganese (Mn)-Leachable (mg/kg)				102	
Molybdenum (Mo)-Leachable (mg/kg)				<0.50	
Nickel (Ni)-Leachable (mg/kg)				3.77	
Selenium (Se)-Leachable (mg/kg)				1.21	
Silver (Ag)-Leachable (mg/kg)				<0.10	
Strontium (Sr)-Leachable (mg/kg)				5.84	
Thallium (Tl)-Leachable (mg/kg)				<0.050	
Tin (Sn)-Leachable (mg/kg)				<2.0	
Titanium (Ti)-Leachable (mg/kg)				2.3	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1700936-16	L1700936-17	L1700936-18	L1700936-19	L1700936-20
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15
Sampled Time	13:10	09:10	10:30	10:00	09:30
Client ID	QUL-ST15-FFF-2	QUL-ST15-FFF-1	POL-ST15-P2-6	POL-ST15-P2-5	POL-ST15-P2-4
Grouping / **Analyte**					
SOIL					
Easily Reducible Metals and Iron Oxides					
Manganese (Mn)-Leachable (mg/kg)			2700		3890
Molybdenum (Mo)-Leachable (mg/kg)			0.53		0.86
Nickel (Ni)-Leachable (mg/kg)			2.48		2.43
Phosphorus (P)-Leachable (mg/kg)			320		332
Selenium (Se)-Leachable (mg/kg)			0.63		0.57
Silver (Ag)-Leachable (mg/kg)			<0.10		<0.10
Strontium (Sr)-Leachable (mg/kg)			21.5		19.3
Thallium (Tl)-Leachable (mg/kg)			<0.050		<0.050
Tin (Sn)-Leachable (mg/kg)			<2.0		<2.0
Titanium (Ti)-Leachable (mg/kg)			<1.0		<1.0
Uranium (U)-Leachable (mg/kg)			0.197		0.193
Vanadium (V)-Leachable (mg/kg)			14.6		13.3
Zinc (Zn)-Leachable (mg/kg)			23.7		15.9
Organic Bound Metals					
Aluminum (Al)-Leachable (mg/kg)			2360		2310
Antimony (Sb)-Leachable (mg/kg)			<0.10		<0.10
Arsenic (As)-Leachable (mg/kg)			0.929		1.15
Barium (Ba)-Leachable (mg/kg)			23.3		24.5
Beryllium (Be)-Leachable (mg/kg)			<0.20		<0.20
Bismuth (Bi)-Leachable (mg/kg)			<0.20		<0.20
Cadmium (Cd)-Leachable (mg/kg)			<0.050		<0.050
Calcium (Ca)-Leachable (mg/kg)			841		830
Chromium (Cr)-Leachable (mg/kg)			3.95		3.68
Cobalt (Co)-Leachable (mg/kg)			2.14		2.14
Copper (Cu)-Leachable (mg/kg)			408		400
Iron (Fe)-Leachable (mg/kg)			761		809
Lead (Pb)-Leachable (mg/kg)			0.55		<0.50
Lithium (Li)-Leachable (mg/kg)			<5.0		<5.0
Manganese (Mn)-Leachable (mg/kg)			256		400
Molybdenum (Mo)-Leachable (mg/kg)			3.32		4.23
Nickel (Ni)-Leachable (mg/kg)			2.21		2.28
Selenium (Se)-Leachable (mg/kg)			4.61		4.22
Silver (Ag)-Leachable (mg/kg)			<0.10		<0.10
Strontium (Sr)-Leachable (mg/kg)			11.3		12.1
Thallium (Tl)-Leachable (mg/kg)			<0.050		<0.050
Tin (Sn)-Leachable (mg/kg)			<2.0		<2.0
Titanium (Ti)-Leachable (mg/kg)			3.7		1.4

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1700936-21	L1700936-22	L1700936-23	L1700936-24	L1700936-25
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	12-AUG-15	12-AUG-15	11-AUG-15	12-AUG-15	12-AUG-15
Sampled Time	09:18	08:48	16:45	13:18	13:00
Client ID	POL-ST15-P2-3	POL-ST15-P2-2	POL-ST15-P2-1	POL-ST15-P1-6	POL-ST15-P1-5
Grouping / **Analyte**					
SOIL					
Easily Reducible Metals and Iron Oxides					
Manganese (Mn)-Leachable (mg/kg)	2270				
Molybdenum (Mo)-Leachable (mg/kg)	0.55				
Nickel (Ni)-Leachable (mg/kg)	2.83				
Phosphorus (P)-Leachable (mg/kg)	262				
Selenium (Se)-Leachable (mg/kg)	0.55				
Silver (Ag)-Leachable (mg/kg)	<0.10				
Strontium (Sr)-Leachable (mg/kg)	20.7				
Thallium (Tl)-Leachable (mg/kg)	<0.050				
Tin (Sn)-Leachable (mg/kg)	<2.0				
Titanium (Ti)-Leachable (mg/kg)	<1.0				
Uranium (U)-Leachable (mg/kg)	0.221				
Vanadium (V)-Leachable (mg/kg)	16.8				
Zinc (Zn)-Leachable (mg/kg)	14.8				
Organic Bound Metals					
Aluminum (Al)-Leachable (mg/kg)	2900				
Antimony (Sb)-Leachable (mg/kg)	<0.10				
Arsenic (As)-Leachable (mg/kg)	0.828				
Barium (Ba)-Leachable (mg/kg)	17.1				
Beryllium (Be)-Leachable (mg/kg)	<0.20				
Bismuth (Bi)-Leachable (mg/kg)	<0.20				
Cadmium (Cd)-Leachable (mg/kg)	<0.050				
Calcium (Ca)-Leachable (mg/kg)	938				
Chromium (Cr)-Leachable (mg/kg)	6.28				
Cobalt (Co)-Leachable (mg/kg)	2.93				
Copper (Cu)-Leachable (mg/kg)	416				
Iron (Fe)-Leachable (mg/kg)	1500				
Lead (Pb)-Leachable (mg/kg)	0.51				
Lithium (Li)-Leachable (mg/kg)	<5.0				
Manganese (Mn)-Leachable (mg/kg)	244				
Molybdenum (Mo)-Leachable (mg/kg)	3.37				
Nickel (Ni)-Leachable (mg/kg)	3.72				
Selenium (Se)-Leachable (mg/kg)	4.64				
Silver (Ag)-Leachable (mg/kg)	<0.10				
Strontium (Sr)-Leachable (mg/kg)	11.4				
Thallium (Tl)-Leachable (mg/kg)	<0.050				
Tin (Sn)-Leachable (mg/kg)	<2.0				
Titanium (Ti)-Leachable (mg/kg)	1.8				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1700936-26	L1700936-27	L1700936-28	L1700936-29	L1700936-59
	Description	Sediment	Sediment	Sediment	Sediment	Composite
	Sampled Date	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15	
	Sampled Time	12:40	12:30	12:00	11:30	
	Client ID	POL-ST15-P1-4	POL-ST15-P1-3	POL-ST15-P1-2	POL-ST15-P1-1	FILTER BLANK (1 FILTER)
Grouping	**Analyte**					
SOIL						
Easily Reducible Metals and Iron Oxides	Manganese (Mn)-Leachable (mg/kg)	1290		868		
	Molybdenum (Mo)-Leachable (mg/kg)	0.80		0.97		
	Nickel (Ni)-Leachable (mg/kg)	3.15		3.26		
	Phosphorus (P)-Leachable (mg/kg)	321		237		
	Selenium (Se)-Leachable (mg/kg)	0.83		0.72		
	Silver (Ag)-Leachable (mg/kg)	<0.10		<0.10		
	Strontium (Sr)-Leachable (mg/kg)	22.2		20.6		
	Thallium (Tl)-Leachable (mg/kg)	<0.050		<0.050		
	Tin (Sn)-Leachable (mg/kg)	<2.0		<2.0		
	Titanium (Ti)-Leachable (mg/kg)	<1.0		<1.0		
	Uranium (U)-Leachable (mg/kg)	0.250		0.223		
	Vanadium (V)-Leachable (mg/kg)	18.0		16.3		
	Zinc (Zn)-Leachable (mg/kg)	14.8		15.9		
Organic Bound Metals	Aluminum (Al)-Leachable (mg/kg)	3580		3150		
	Antimony (Sb)-Leachable (mg/kg)	<0.10		<0.10		
	Arsenic (As)-Leachable (mg/kg)	1.34		1.15		
	Barium (Ba)-Leachable (mg/kg)	24.3		21.6		
	Beryllium (Be)-Leachable (mg/kg)	<0.20		<0.20		
	Bismuth (Bi)-Leachable (mg/kg)	<0.20		<0.20		
	Cadmium (Cd)-Leachable (mg/kg)	<0.050		<0.050		
	Calcium (Ca)-Leachable (mg/kg)	1120		1110		
	Chromium (Cr)-Leachable (mg/kg)	6.31		5.85		
	Cobalt (Co)-Leachable (mg/kg)	2.81		2.74		
	Copper (Cu)-Leachable (mg/kg)	477		477		
	Iron (Fe)-Leachable (mg/kg)	1450		1250		
	Lead (Pb)-Leachable (mg/kg)	<0.50		<0.50		
	Lithium (Li)-Leachable (mg/kg)	<5.0		<5.0		
	Manganese (Mn)-Leachable (mg/kg)	153		111		
	Molybdenum (Mo)-Leachable (mg/kg)	5.27		6.17		
	Nickel (Ni)-Leachable (mg/kg)	3.42		3.23		
	Selenium (Se)-Leachable (mg/kg)	5.27		4.91		
	Silver (Ag)-Leachable (mg/kg)	<0.10		<0.10		
	Strontium (Sr)-Leachable (mg/kg)	13.1		13.6		
	Thallium (Tl)-Leachable (mg/kg)	<0.050		<0.050		
	Tin (Sn)-Leachable (mg/kg)	<2.0		<2.0		
	Titanium (Ti)-Leachable (mg/kg)	85.2		98.8		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1700936-60	L1700936-61	L1700936-62	L1700936-63	L1700936-64
Description	Composite	Composite	Composite	Composite	Composite
Sampled Date		13-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15
Sampled Time					
Client ID	FILTER BLANK (4 FILTERS)	QUL-ST15-REF FILTER AND SEDIMENT - COMPOSITE	QUL-ST15-NF FILTER AND SEDIMENT - COMPOSITE	QUL-ST15-FFF FILTER AND SEDIMENT - COMPOSITE	POL-ST15-P2 FILTER AND SEDIMENT - COMPOSITE
Grouping / **Analyte**					
SOIL					
Easily Reducible Metals and Iron Oxides	Manganese (Mn)-Leachable (mg/kg)				
	Molybdenum (Mo)-Leachable (mg/kg)				
	Nickel (Ni)-Leachable (mg/kg)				
	Phosphorus (P)-Leachable (mg/kg)				
	Selenium (Se)-Leachable (mg/kg)				
	Silver (Ag)-Leachable (mg/kg)				
	Strontium (Sr)-Leachable (mg/kg)				
	Thallium (Tl)-Leachable (mg/kg)				
	Tin (Sn)-Leachable (mg/kg)				
	Titanium (Ti)-Leachable (mg/kg)				
	Uranium (U)-Leachable (mg/kg)				
	Vanadium (V)-Leachable (mg/kg)				
	Zinc (Zn)-Leachable (mg/kg)				
Organic Bound Metals	Aluminum (Al)-Leachable (mg/kg)				
	Antimony (Sb)-Leachable (mg/kg)				
	Arsenic (As)-Leachable (mg/kg)				
	Barium (Ba)-Leachable (mg/kg)				
	Beryllium (Be)-Leachable (mg/kg)				
	Bismuth (Bi)-Leachable (mg/kg)				
	Cadmium (Cd)-Leachable (mg/kg)				
	Calcium (Ca)-Leachable (mg/kg)				
	Chromium (Cr)-Leachable (mg/kg)				
	Cobalt (Co)-Leachable (mg/kg)				
	Copper (Cu)-Leachable (mg/kg)				
	Iron (Fe)-Leachable (mg/kg)				
	Lead (Pb)-Leachable (mg/kg)				
	Lithium (Li)-Leachable (mg/kg)				
	Manganese (Mn)-Leachable (mg/kg)				
	Molybdenum (Mo)-Leachable (mg/kg)				
	Nickel (Ni)-Leachable (mg/kg)				
	Selenium (Se)-Leachable (mg/kg)				
	Silver (Ag)-Leachable (mg/kg)				
	Strontium (Sr)-Leachable (mg/kg)				
	Thallium (Tl)-Leachable (mg/kg)				
	Tin (Sn)-Leachable (mg/kg)				
	Titanium (Ti)-Leachable (mg/kg)				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1700936-65				
	Description	Composite				
	Sampled Date	12-AUG-15				
	Sampled Time					
	Client ID	POL-ST15-P1 FILTER AND SEDIMENT - COMPOSITE				
Grouping	**Analyte**					
SOIL						
Easily Reducible Metals and Iron Oxides	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					
	Phosphorus (P)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					
	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					
Organic Bound Metals	Aluminum (Al)-Leachable (mg/kg)					
	Antimony (Sb)-Leachable (mg/kg)					
	Arsenic (As)-Leachable (mg/kg)					
	Barium (Ba)-Leachable (mg/kg)					
	Beryllium (Be)-Leachable (mg/kg)					
	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					
	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					
	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1700936-1 Sediment 13-AUG-15 11:13 QUL-ST-REF 2014	L1700936-2 Sediment 13-AUG-15 12:00 QUL-ST15-REF-6	L1700936-3 Sediment 13-AUG-15 12:35 QUL-ST15-REF-5	L1700936-4 Sediment 14-AUG-15 10:15 QUL-ST15-REF-4	L1700936-5 Sediment 14-AUG-15 09:35 QUL-ST15-REF-3
SOIL						
Organic Bound Metals	Uranium (U)-Leachable (mg/kg)	0.129	0.208		0.218	
	Vanadium (V)-Leachable (mg/kg)	2.09	3.34		3.77	
	Zinc (Zn)-Leachable (mg/kg)	6.5	10.6		8.6	
Residual Metals	Aluminum (Al)-Leachable (mg/kg)	12600	14200		15100	
	Antimony (Sb)-Leachable (mg/kg)	0.24	0.34		0.32	
	Arsenic (As)-Leachable (mg/kg)	4.89	6.86		6.88	
	Barium (Ba)-Leachable (mg/kg)	66.7	67.8		69.0	
	Beryllium (Be)-Leachable (mg/kg)	<0.20	<0.20		0.21	
	Bismuth (Bi)-Leachable (mg/kg)	<0.20	<0.20		<0.20	
	Cadmium (Cd)-Leachable (mg/kg)	<0.050	<0.050		<0.050	
	Calcium (Ca)-Leachable (mg/kg)	4000	3370		3510	
	Chromium (Cr)-Leachable (mg/kg)	40.7	45.2		46.1	
	Cobalt (Co)-Leachable (mg/kg)	6.59	7.83		8.03	
	Copper (Cu)-Leachable (mg/kg)	32.8	40.8		43.5	
	Iron (Fe)-Leachable (mg/kg)	19700	22500		23900	
	Lead (Pb)-Leachable (mg/kg)	3.77	4.85		5.24	
	Lithium (Li)-Leachable (mg/kg)	11.4	14.4		15.0	
	Manganese (Mn)-Leachable (mg/kg)	194	202		207	
	Molybdenum (Mo)-Leachable (mg/kg)	0.75	1.42		1.39	
	Nickel (Ni)-Leachable (mg/kg)	22.4	28.5		29.2	
	Selenium (Se)-Leachable (mg/kg)	<0.20	<0.20		<0.20	
	Silver (Ag)-Leachable (mg/kg)	<0.10	<0.10		0.10	
	Strontium (Sr)-Leachable (mg/kg)	33.9	31.1		33.2	
	Thallium (Tl)-Leachable (mg/kg)	0.117	0.138		0.147	
	Tin (Sn)-Leachable (mg/kg)	2.6	3.5		3.4	
	Titanium (Ti)-Leachable (mg/kg)	845	847		914	
	Uranium (U)-Leachable (mg/kg)	0.465	0.522		0.551	
	Vanadium (V)-Leachable (mg/kg)	49.2	47.8		49.6	
	Zinc (Zn)-Leachable (mg/kg)	49.5	66.1		66.9	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1700936-6	L1700936-7	L1700936-8	L1700936-9	L1700936-10
	Description	Sediment	Sediment	Sediment	Sediment	Sediment
	Sampled Date	14-AUG-15	13-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15
	Sampled Time	08:45	11:13	17:50	15:20	17:30
	Client ID	QUL-ST15-REF-2	QUL-ST15-REF-1	QUL-ST15-NF-6	QUL-ST15-NF-4	QUL-ST15-NF-3
Grouping	**Analyte**					
SOIL						
Organic Bound Metals	Uranium (U)-Leachable (mg/kg)	0.211				
	Vanadium (V)-Leachable (mg/kg)	3.27				
	Zinc (Zn)-Leachable (mg/kg)	10.8				
Residual Metals	Aluminum (Al)-Leachable (mg/kg)	15100				
	Antimony (Sb)-Leachable (mg/kg)	0.33				
	Arsenic (As)-Leachable (mg/kg)	6.72				
	Barium (Ba)-Leachable (mg/kg)	70.7				
	Beryllium (Be)-Leachable (mg/kg)	0.20				
	Bismuth (Bi)-Leachable (mg/kg)	<0.20				
	Cadmium (Cd)-Leachable (mg/kg)	<0.050				
	Calcium (Ca)-Leachable (mg/kg)	3720				
	Chromium (Cr)-Leachable (mg/kg)	45.8				
	Cobalt (Co)-Leachable (mg/kg)	7.87				
	Copper (Cu)-Leachable (mg/kg)	83.8				
	Iron (Fe)-Leachable (mg/kg)	23200				
	Lead (Pb)-Leachable (mg/kg)	4.98				
	Lithium (Li)-Leachable (mg/kg)	14.9				
	Manganese (Mn)-Leachable (mg/kg)	206				
	Molybdenum (Mo)-Leachable (mg/kg)	1.49				
	Nickel (Ni)-Leachable (mg/kg)	28.5				
	Selenium (Se)-Leachable (mg/kg)	0.20				
	Silver (Ag)-Leachable (mg/kg)	0.19				
	Strontium (Sr)-Leachable (mg/kg)	33.7				
	Thallium (Tl)-Leachable (mg/kg)	0.149				
	Tin (Sn)-Leachable (mg/kg)	3.0				
	Titanium (Ti)-Leachable (mg/kg)	935				
	Uranium (U)-Leachable (mg/kg)	0.566				
	Vanadium (V)-Leachable (mg/kg)	50.1				
	Zinc (Zn)-Leachable (mg/kg)	65.0				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1700936-11	L1700936-12	L1700936-13	L1700936-14	L1700936-15
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15
Sampled Time	16:30	16:00	11:30	12:00	12:35
Client ID	QUL-ST15-NF-2	QUL-ST15-NF-1	QUL-ST15-FFF-5	QUL-ST15-FFF-4	QUL-ST15-FFF-3
Grouping / **Analyte**					
SOIL					
Organic Bound Metals					
Uranium (U)-Leachable (mg/kg)				0.166	
Vanadium (V)-Leachable (mg/kg)				5.13	
Zinc (Zn)-Leachable (mg/kg)				6.8	
Residual Metals					
Aluminum (Al)-Leachable (mg/kg)				19300	
Antimony (Sb)-Leachable (mg/kg)				0.81	
Arsenic (As)-Leachable (mg/kg)				76.6	
Barium (Ba)-Leachable (mg/kg)				52.8	
Beryllium (Be)-Leachable (mg/kg)				0.29	
Bismuth (Bi)-Leachable (mg/kg)				<0.20	
Cadmium (Cd)-Leachable (mg/kg)				0.055	
Calcium (Ca)-Leachable (mg/kg)				4760	
Chromium (Cr)-Leachable (mg/kg)				50.9	
Cobalt (Co)-Leachable (mg/kg)				12.1	
Copper (Cu)-Leachable (mg/kg)				77.8	
Iron (Fe)-Leachable (mg/kg)				34200	
Lead (Pb)-Leachable (mg/kg)				7.94	
Lithium (Li)-Leachable (mg/kg)				21.1	
Manganese (Mn)-Leachable (mg/kg)				378	
Molybdenum (Mo)-Leachable (mg/kg)				1.62	
Nickel (Ni)-Leachable (mg/kg)				41.1	
Selenium (Se)-Leachable (mg/kg)				<0.20	
Silver (Ag)-Leachable (mg/kg)				0.11	
Strontium (Sr)-Leachable (mg/kg)				32.7	
Thallium (Tl)-Leachable (mg/kg)				0.109	
Tin (Sn)-Leachable (mg/kg)				4.8	
Titanium (Ti)-Leachable (mg/kg)				940	
Uranium (U)-Leachable (mg/kg)				0.456	
Vanadium (V)-Leachable (mg/kg)				70.8	
Zinc (Zn)-Leachable (mg/kg)				75.0	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1700936-16	L1700936-17	L1700936-18	L1700936-19	L1700936-20
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15
Sampled Time	13:10	09:10	10:30	10:00	09:30
Client ID	QUL-ST15-FFF-2	QUL-ST15-FFF-1	POL-ST15-P2-6	POL-ST15-P2-5	POL-ST15-P2-4
Grouping **Analyte**					
SOIL					
Organic Bound Metals Uranium (U)-Leachable (mg/kg)			0.198		0.191
Vanadium (V)-Leachable (mg/kg)			10.5		10.2
Zinc (Zn)-Leachable (mg/kg)			8.5		8.5
Residual Metals Aluminum (Al)-Leachable (mg/kg)			17400		19000
Antimony (Sb)-Leachable (mg/kg)			0.78		0.88
Arsenic (As)-Leachable (mg/kg)			8.24		10.4
Barium (Ba)-Leachable (mg/kg)			179		194
Beryllium (Be)-Leachable (mg/kg)			0.46		0.45
Bismuth (Bi)-Leachable (mg/kg)			<0.20		<0.20
Cadmium (Cd)-Leachable (mg/kg)			<0.050		<0.050
Calcium (Ca)-Leachable (mg/kg)			8350		8330
Chromium (Cr)-Leachable (mg/kg)			12.8		14.2
Cobalt (Co)-Leachable (mg/kg)			13.9		15.2
Copper (Cu)-Leachable (mg/kg)			148		150
Iron (Fe)-Leachable (mg/kg)			21300		23000
Lead (Pb)-Leachable (mg/kg)			6.09		5.50
Lithium (Li)-Leachable (mg/kg)			19.5		17.9
Manganese (Mn)-Leachable (mg/kg)			468		507
Molybdenum (Mo)-Leachable (mg/kg)			0.90		1.08
Nickel (Ni)-Leachable (mg/kg)			11.6		12.5
Selenium (Se)-Leachable (mg/kg)			<0.20		<0.20
Silver (Ag)-Leachable (mg/kg)			0.28		0.28
Strontium (Sr)-Leachable (mg/kg)			47.1		47.0
Thallium (Tl)-Leachable (mg/kg)			<0.050		<0.050
Tin (Sn)-Leachable (mg/kg)			7.6		8.9
Titanium (Ti)-Leachable (mg/kg)			1310		1390
Uranium (U)-Leachable (mg/kg)			0.620		0.598
Vanadium (V)-Leachable (mg/kg)			73.3		84.4
Zinc (Zn)-Leachable (mg/kg)			54.2		59.4

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1700936-21	L1700936-22	L1700936-23	L1700936-24	L1700936-25
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	12-AUG-15	12-AUG-15	11-AUG-15	12-AUG-15	12-AUG-15
Sampled Time	09:18	08:48	16:45	13:18	13:00
Client ID	POL-ST15-P2-3	POL-ST15-P2-2	POL-ST15-P2-1	POL-ST15-P1-6	POL-ST15-P1-5
Grouping / **Analyte**					
SOIL					
Organic Bound Metals					
Uranium (U)-Leachable (mg/kg)	0.302				
Vanadium (V)-Leachable (mg/kg)	14.0				
Zinc (Zn)-Leachable (mg/kg)	10.2				
Residual Metals					
Aluminum (Al)-Leachable (mg/kg)	17100				
Antimony (Sb)-Leachable (mg/kg)	0.76				
Arsenic (As)-Leachable (mg/kg)	8.35				
Barium (Ba)-Leachable (mg/kg)	152				
Beryllium (Be)-Leachable (mg/kg)	0.41				
Bismuth (Bi)-Leachable (mg/kg)	<0.20				
Cadmium (Cd)-Leachable (mg/kg)	<0.050				
Calcium (Ca)-Leachable (mg/kg)	7430				
Chromium (Cr)-Leachable (mg/kg)	14.4				
Cobalt (Co)-Leachable (mg/kg)	13.0				
Copper (Cu)-Leachable (mg/kg)	133				
Iron (Fe)-Leachable (mg/kg)	21000				
Lead (Pb)-Leachable (mg/kg)	4.64				
Lithium (Li)-Leachable (mg/kg)	16.8				
Manganese (Mn)-Leachable (mg/kg)	438				
Molybdenum (Mo)-Leachable (mg/kg)	1.24				
Nickel (Ni)-Leachable (mg/kg)	12.1				
Selenium (Se)-Leachable (mg/kg)	<0.20				
Silver (Ag)-Leachable (mg/kg)	0.29				
Strontium (Sr)-Leachable (mg/kg)	44.3				
Thallium (Tl)-Leachable (mg/kg)	<0.050				
Tin (Sn)-Leachable (mg/kg)	8.0				
Titanium (Ti)-Leachable (mg/kg)	1360				
Uranium (U)-Leachable (mg/kg)	0.591				
Vanadium (V)-Leachable (mg/kg)	71.4				
Zinc (Zn)-Leachable (mg/kg)	51.5				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1700936-26	L1700936-27	L1700936-28	L1700936-29	L1700936-59
Description	Sediment	Sediment	Sediment	Sediment	Composite
Sampled Date	12-AUG-15	12-AUG-15	12-AUG-15	12-AUG-15	
Sampled Time	12:40	12:30	12:00	11:30	
Client ID	POL-ST15-P1-4	POL-ST15-P1-3	POL-ST15-P1-2	POL-ST15-P1-1	FILTER BLANK (1 FILTER)
Grouping / **Analyte**					
SOIL					
Organic Bound Metals					
Uranium (U)-Leachable (mg/kg)	0.280		0.272		
Vanadium (V)-Leachable (mg/kg)	16.5		14.4		
Zinc (Zn)-Leachable (mg/kg)	10.0		9.9		
Residual Metals					
Aluminum (Al)-Leachable (mg/kg)	19000		19900		
Antimony (Sb)-Leachable (mg/kg)	0.99		1.15		
Arsenic (As)-Leachable (mg/kg)	8.11		9.28		
Barium (Ba)-Leachable (mg/kg)	176		171		
Beryllium (Be)-Leachable (mg/kg)	0.44		0.46		
Bismuth (Bi)-Leachable (mg/kg)	<0.20		<0.20		
Cadmium (Cd)-Leachable (mg/kg)	<0.050		<0.050		
Calcium (Ca)-Leachable (mg/kg)	7760		8410		
Chromium (Cr)-Leachable (mg/kg)	15.3		15.4		
Cobalt (Co)-Leachable (mg/kg)	12.5		12.9		
Copper (Cu)-Leachable (mg/kg)	137		136		
Iron (Fe)-Leachable (mg/kg)	20600		21700		
Lead (Pb)-Leachable (mg/kg)	5.71		5.48		
Lithium (Li)-Leachable (mg/kg)	15.9		16.2		
Manganese (Mn)-Leachable (mg/kg)	438		450		
Molybdenum (Mo)-Leachable (mg/kg)	0.51		0.60		
Nickel (Ni)-Leachable (mg/kg)	12.4		12.7		
Selenium (Se)-Leachable (mg/kg)	<0.20		<0.20		
Silver (Ag)-Leachable (mg/kg)	0.30		0.33		
Strontium (Sr)-Leachable (mg/kg)	52.0		55.3		
Thallium (Tl)-Leachable (mg/kg)	<0.050		<0.050		
Tin (Sn)-Leachable (mg/kg)	7.4		7.6		
Titanium (Ti)-Leachable (mg/kg)	1420		1530		
Uranium (U)-Leachable (mg/kg)	0.660		0.660		
Vanadium (V)-Leachable (mg/kg)	64.8		69.9		
Zinc (Zn)-Leachable (mg/kg)	51.0		53.5		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	Sample ID / Description / Sampled Date / Sampled Time / Client ID	L1700936-60 Composite FILTER BLANK (4 FILTERS)	L1700936-61 Composite 13-AUG-15 QUL-ST15-REF FILTER AND SEDIMENT - COMPOSITE	L1700936-62 Composite 12-AUG-15 QUL-ST15-NF FILTER AND SEDIMENT - COMPOSITE	L1700936-63 Composite 12-AUG-15 QUL-ST15-FFF FILTER AND SEDIMENT - COMPOSITE	L1700936-64 Composite 12-AUG-15 POL-ST15-P2 FILTER AND SEDIMENT - COMPOSITE
SOIL							
Organic Bound Metals	Uranium (U)-Leachable (mg/kg)						
	Vanadium (V)-Leachable (mg/kg)						
	Zinc (Zn)-Leachable (mg/kg)						
Residual Metals	Aluminum (Al)-Leachable (mg/kg)						
	Antimony (Sb)-Leachable (mg/kg)						
	Arsenic (As)-Leachable (mg/kg)						
	Barium (Ba)-Leachable (mg/kg)						
	Beryllium (Be)-Leachable (mg/kg)						
	Bismuth (Bi)-Leachable (mg/kg)						
	Cadmium (Cd)-Leachable (mg/kg)						
	Calcium (Ca)-Leachable (mg/kg)						
	Chromium (Cr)-Leachable (mg/kg)						
	Cobalt (Co)-Leachable (mg/kg)						
	Copper (Cu)-Leachable (mg/kg)						
	Iron (Fe)-Leachable (mg/kg)						
	Lead (Pb)-Leachable (mg/kg)						
	Lithium (Li)-Leachable (mg/kg)						
	Manganese (Mn)-Leachable (mg/kg)						
	Molybdenum (Mo)-Leachable (mg/kg)						
	Nickel (Ni)-Leachable (mg/kg)						
	Selenium (Se)-Leachable (mg/kg)						
	Silver (Ag)-Leachable (mg/kg)						
	Strontium (Sr)-Leachable (mg/kg)						
	Thallium (Tl)-Leachable (mg/kg)						
	Tin (Sn)-Leachable (mg/kg)						
	Titanium (Ti)-Leachable (mg/kg)						
	Uranium (U)-Leachable (mg/kg)						
	Vanadium (V)-Leachable (mg/kg)						
	Zinc (Zn)-Leachable (mg/kg)						

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1700936-65				
	Description	Composite				
	Sampled Date	12-AUG-15				
	Sampled Time					
	Client ID	POL-ST15-P1 FILTER AND SEDIMENT - COMPOSITE				
Grouping	**Analyte**					
SOIL						
Organic Bound Metals	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					
Residual Metals	Aluminum (Al)-Leachable (mg/kg)					
	Antimony (Sb)-Leachable (mg/kg)					
	Arsenic (As)-Leachable (mg/kg)					
	Barium (Ba)-Leachable (mg/kg)					
	Beryllium (Be)-Leachable (mg/kg)					
	Bismuth (Bi)-Leachable (mg/kg)					
	Cadmium (Cd)-Leachable (mg/kg)					
	Calcium (Ca)-Leachable (mg/kg)					
	Chromium (Cr)-Leachable (mg/kg)					
	Cobalt (Co)-Leachable (mg/kg)					
	Copper (Cu)-Leachable (mg/kg)					
	Iron (Fe)-Leachable (mg/kg)					
	Lead (Pb)-Leachable (mg/kg)					
	Lithium (Li)-Leachable (mg/kg)					
	Manganese (Mn)-Leachable (mg/kg)					
	Molybdenum (Mo)-Leachable (mg/kg)					
	Nickel (Ni)-Leachable (mg/kg)					
	Selenium (Se)-Leachable (mg/kg)					
	Silver (Ag)-Leachable (mg/kg)					
	Strontium (Sr)-Leachable (mg/kg)					
	Thallium (Tl)-Leachable (mg/kg)					
	Tin (Sn)-Leachable (mg/kg)					
	Titanium (Ti)-Leachable (mg/kg)					
	Uranium (U)-Leachable (mg/kg)					
	Vanadium (V)-Leachable (mg/kg)					
	Zinc (Zn)-Leachable (mg/kg)					

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Calcium (Ca)-Leachable	B	L1700936-1, -14, -18, -2, -20, -21, -4, -6
Method Blank	Strontium (Sr)-Leachable	B	L1700936-1, -14, -18, -2, -20, -21, -4, -6
Method Blank	Zinc (Zn)-Leachable	B	L1700936-26, -28
Method Blank	Calcium (Ca)-Leachable	B	L1700936-26, -28
Method Blank	Strontium (Sr)-Leachable	B	L1700936-26, -28
Duplicate	Nickel (Ni)-Leachable	DLB	L1700936-1, -14, -18, -2, -20, -21, -4, -6
Method Blank	Nickel (Ni)-Leachable	MB-LOR	L1700936-1, -14, -18, -2, -20, -21, -4, -6
Method Blank	Nickel (Ni)-Leachable	MB-LOR	L1700936-26, -28

Qualifiers for Individual Parameters Listed:

Qualifier	Description
B	Method Blank exceeds ALS DQO. All associated sample results are at least 5 times greater than blank levels and are considered reliable.
DLB	Detection Limit Raised. Analyte detected at comparable level in Method Blank.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
C-TOT-ORG-LECO-SK	Soil	Organic Carbon by combustion method	SSSA (1996) p. 973

Total Organic Carbon (C-TOT-ORG-LECO-SK, C-TOT-ORG-SK)

Total C and inorganic C are determined on separate samples. The total C is determined by combustion and thermal conductivity detection, while inorganic C is determined by weight lass after addition of hydrochloric acid. Organic C is calculated by the difference between these two determinations.

Reference for Total C:
Nelson, D.W. and Sommers, L.E. 1996. Total Carbon, organic carbon and organic matter. P. 961-1010 In: J.M. Bartels et al. (ed.) Methods of soil analysis: Part 3 Chemical methods. (3rd ed.) ASA and SSSA, Madison, WI. Book series no. 5

Reference for Inorganic C:
Loeppert, R.H. and Suarez, D.L. 1996. Gravimetric Method for Loss of Carbon Dioxide. P. 455-456 In: J.M. Bartels et al. (ed.) Methods of soil analysis: Part 3 Chemical methods. (3rd ed.) ASA and SSSA, Madison, WI. Book series no. 5

HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAFS	EPA 200.2/1631E (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAFS.

MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction. depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.

MET-TESS-CM-CCMS-VA	Soil	METALS BY CCMS (TESSIER EXTRACTION #2)	Tessier Extraction 1979/EPA 6020A

This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals" Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with 5 or 6 (if a pre-liminary water extraction is included) different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For Extraction #2, the extraction solution is 1M Sodium Acetate adjusted to pH 5 and is intended to extract the "Carbonate" metals.

MET-TESS-EA-CCMS-VA	Soil	METALS BY CCMS (TESSIER EXTRACTION #1)	Tessier Extraction 1979/EPA 6020A

This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals" Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with 5 or 6 (if a pre-liminary water extraction is included) different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For Extraction #1, the extraction solution is 1M Magnesium Chloride and is intended to extract the "Exchangeable and Adsorbed" metals.

Reference Information

MET-TESS-FEO-CCMS-VA Soil METALS BY CCMS (TESSIER EXTRACTION #3) Tessier Extraction 1979/EPA 6020A

This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals" Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with 5 or 6 (if a pre-liminary water extraction is included) different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For Extraction #3, the extraction solution is 0.1 M Hydroxylamine Hydro› Chloride in 25% v/v Acetic Acid and is intended to extract the Easily Reducible Metals and Iron Oxides .

MET-TESS-OB-CCMS-VA Soil METALS BY CCMS (TESSIER EXTRACTION #4) Tessier Extraction 1979/EPA 6020A

"This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals" Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with 5 or 6 (if a pre-liminary water extraction is included) different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For Extraction #4, the extraction solution is 0.02 M Nitric Acid followed by 3.2M Ammonium Acetate and is intended to extract the Organic Bound metals.

MET-TESS-RM-CCMS-VA Soil METALS BY CCMS (TESSIER RM EXTRACTION) Tessier Extraction 1979/EPA 6020A

"This analysis is modified from the extraction procedure outlined in the "Sequential Extraction Procedure for the Speciation of Particulate Trace Metals" Analytical Chemistry, (A. Tessier, P.G.C. Campbell, and M. Bisson, June 1979). Initially, the sample is manually homogenized, dried at <60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve (this sieve step is omitted for international soil samples), and a representative subsample of the dry material is weighed for extraction. In summary, the sample is sequentially extracted with up to 6 different extraction solutions. The extract is then centrifuged for 30 minutes and the supernatant is subsequently removed and analysed. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Note: For the Tessier "RM" Extraction, the extraction solution is 50/50 mix of 1:1 Nitric Acid along with 1:1 Hydrochloric Acid, and is hot block digested as per the BC SALM procedure. This is intended to extract the Residual metals.

PSA-PIPET+GRAVEL-SK Soil Particle size - Sieve and Pipette SSIR-51 METHOD 3.2.1

Particle size distribution is determined by a combination of techniques. Dry sieving is performed for coarse particles, wet sieving for sand particles and the pipette sedimentation method for clay particles.

Reference:

Burt, R. (2009). Soil Survey Field and Laboratory Methods Manual. Soil Survey Investigations Report No. 5. Method 3.2.1.2.2. United States Department of Agriculture Natural Resources Conservation Service.

S-TOT-LECO-SK Soil Total Sulphur by combustion method ISO 15178:2000

The sample is ignited in a combustion analyzer where sulfur in the reduced SO2 gas is determined using a thermal conductivity detector.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location

Chain of Custody Numbers:

Reference Information

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L1700936 Report Date: 24-FEB-16

Client: MOUNT POLLEY MINING CORP.
PO Box 12
Likely BC V0L 1N0

Contact: Colleen Hughes

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
C-TOT-ORG-LECO-SK	**Soil**							
Batch R3326916								
WG2226183-1 DUP		**L1700936-5**						
Total Organic Carbon		3.20	3.20		%	0.3	30	08-DEC-15
WG2226183-2 IRM		**08-109_SOIL**						
Total Organic Carbon			0.97		%		0.77-1.43	08-DEC-15
WG2226183-3 MB								
Total Organic Carbon			<0.10		%		0.1	08-DEC-15
Batch R3328718								
WG2229549-1 DUP		**L1700936-6**						
Total Organic Carbon		3.33	3.29		%	1.0	30	11-DEC-15
WG2229549-2 IRM		**08-109_SOIL**						
Total Organic Carbon			1.03		%		0.77-1.43	11-DEC-15
WG2229549-3 MB								
Total Organic Carbon			<0.10		%		0.1	11-DEC-15
Batch R3339039								
WG2232686-2 IRM		**08-109_SOIL**						
Total Organic Carbon			1.03		%		0.77-1.43	18-DEC-15
WG2232686-3 MB								
Total Organic Carbon			<0.10		%		0.1	18-DEC-15
HG-200.2-CVAF-VA	**Soil**							
Batch R3327499								
WG2224601-4 CRM		**VA-NRC-STSD1**						
Mercury (Hg)			99.6		%		70-130	09-DEC-15
WG2224601-5 CRM		**VA-NRC-PACS3**						
Mercury (Hg)			104.4		%		70-130	09-DEC-15
WG2224601-2 DUP		**L1700936-6**						
Mercury (Hg)		0.0685	0.0659		mg/kg	3.9	40	09-DEC-15
WG2224601-6 DUP		**L1700936-1**						
Mercury (Hg)		0.0491	0.0494		mg/kg	0.7	40	09-DEC-15
WG2224601-3 LCS								
Mercury (Hg)			100.5		%		70-130	09-DEC-15
WG2224601-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	09-DEC-15
Batch R3328396								
WG2225340-3 CRM		**VA-NRC-STSD1**						
Mercury (Hg)			102.2		%		70-130	10-DEC-15
WG2225340-4 CRM		**VA-NRC-PACS3**						
Mercury (Hg)			107.0		%		70-130	10-DEC-15
WG2225340-2 LCS								

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-200.2-CVAF-VA	**Soil**							
Batch R3328396								
WG2225340-2 LCS								
Mercury (Hg)			97.4		%		70-130	10-DEC-15
WG2225340-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	10-DEC-15
MET-200.2-CCMS-VA	**Soil**							
Batch R3327476								
WG2224601-4 CRM		**VA-NRC-STSD1**						
Aluminum (Al)			97.9		%		70-130	08-DEC-15
Antimony (Sb)			97.4		%		70-130	08-DEC-15
Arsenic (As)			97.3		%		70-130	08-DEC-15
Barium (Ba)			92.8		%		70-130	08-DEC-15
Beryllium (Be)			108.4		%		70-130	08-DEC-15
Bismuth (Bi)			101.3		%		70-130	08-DEC-15
Boron (B)			117.1		%		70-130	08-DEC-15
Cadmium (Cd)			92.9		%		70-130	08-DEC-15
Calcium (Ca)			104.0		%		70-130	08-DEC-15
Chromium (Cr)			99.5		%		70-130	08-DEC-15
Cobalt (Co)			97.9		%		70-130	08-DEC-15
Copper (Cu)			94.4		%		70-130	08-DEC-15
Iron (Fe)			97.8		%		70-130	08-DEC-15
Lead (Pb)			99.5		%		70-130	08-DEC-15
Lithium (Li)			117.0		%		70-130	08-DEC-15
Magnesium (Mg)			99.5		%		70-130	08-DEC-15
Manganese (Mn)			99.9		%		70-130	08-DEC-15
Molybdenum (Mo)			101.4		%		70-130	08-DEC-15
Nickel (Ni)			94.5		%		70-130	08-DEC-15
Phosphorus (P)			97.2		%		70-130	08-DEC-15
Potassium (K)			106.1		%		70-130	08-DEC-15
Selenium (Se)			96.5		%		70-130	08-DEC-15
Silver (Ag)			99.0		%		70-130	08-DEC-15
Sodium (Na)			111.7		%		70-130	08-DEC-15
Strontium (Sr)			103.1		%		70-130	08-DEC-15
Thallium (Tl)			100.8		%		70-130	08-DEC-15
Tin (Sn)			103.6		%		70-130	08-DEC-15
Titanium (Ti)			104.0		%		70-130	08-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3327476								
WG2224601-4 CRM		**VA-NRC-STSD1**						
Vanadium (V)			100.7		%		70-130	08-DEC-15
Zinc (Zn)			93.1		%		70-130	08-DEC-15
WG2224601-5 CRM		**VA-NRC-PACS3**						
Aluminum (Al)			92.0		%		70-130	08-DEC-15
Antimony (Sb)			90.5		%		70-130	08-DEC-15
Arsenic (As)			85.0		%		70-130	08-DEC-15
Barium (Ba)			92.3		%		70-130	08-DEC-15
Beryllium (Be)			100.5		%		70-130	08-DEC-15
Boron (B)			105.1		%		70-130	08-DEC-15
Cadmium (Cd)			87.5		%		70-130	08-DEC-15
Calcium (Ca)			99.8		%		70-130	08-DEC-15
Chromium (Cr)			90.2		%		70-130	08-DEC-15
Cobalt (Co)			90.1		%		70-130	08-DEC-15
Copper (Cu)			91.9		%		70-130	08-DEC-15
Iron (Fe)			91.4		%		70-130	08-DEC-15
Lead (Pb)			102.8		%		70-130	08-DEC-15
Lithium (Li)			104.6		%		70-130	08-DEC-15
Magnesium (Mg)			97.1		%		70-130	08-DEC-15
Manganese (Mn)			91.0		%		70-130	08-DEC-15
Molybdenum (Mo)			90.5		%		70-130	08-DEC-15
Nickel (Ni)			90.2		%		70-130	08-DEC-15
Phosphorus (P)			84.7		%		70-130	08-DEC-15
Potassium (K)			92.6		%		70-130	08-DEC-15
Selenium (Se)			97.2		%		70-130	08-DEC-15
Silver (Ag)			97.3		%		70-130	08-DEC-15
Sodium (Na)			90.8		%		70-130	08-DEC-15
Strontium (Sr)			96.9		%		70-130	08-DEC-15
Thallium (Tl)			100.1		%		70-130	08-DEC-15
Tin (Sn)			81.0		%		70-130	08-DEC-15
Titanium (Ti)			90.1		%		70-130	08-DEC-15
Uranium (U)			99.8		%		70-130	08-DEC-15
Vanadium (V)			92.8		%		70-130	08-DEC-15
Zinc (Zn)			90.8		%		70-130	08-DEC-15
Zirconium (Zr)			96.6		%		70-130	08-DEC-15
WG2224601-2 DUP		**L1700936-6**						

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3327476								
WG2224601-2 DUP		**L1700936-6**						
Aluminum (Al)		17900	17700		mg/kg	1.4	40	08-DEC-15
Antimony (Sb)		0.48	0.44		mg/kg	8.4	30	08-DEC-15
Arsenic (As)		9.00	8.62		mg/kg	4.3	30	08-DEC-15
Barium (Ba)		154	155		mg/kg	0.8	40	08-DEC-15
Beryllium (Be)		0.57	0.55		mg/kg	2.4	30	08-DEC-15
Bismuth (Bi)		0.21	<0.20	RPD-NA	mg/kg	N/A	30	08-DEC-15
Boron (B)		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	08-DEC-15
Cadmium (Cd)		0.611	0.610		mg/kg	0.2	30	08-DEC-15
Calcium (Ca)		8500	8380		mg/kg	1.4	30	08-DEC-15
Chromium (Cr)		59.6	59.1		mg/kg	0.9	30	08-DEC-15
Cobalt (Co)		17.2	16.8		mg/kg	2.5	30	08-DEC-15
Copper (Cu)		62.7	61.1		mg/kg	2.5	30	08-DEC-15
Iron (Fe)		33500	32900		mg/kg	1.9	30	08-DEC-15
Lead (Pb)		8.88	8.70		mg/kg	2.1	40	08-DEC-15
Lithium (Li)		20.2	19.8		mg/kg	1.9	30	08-DEC-15
Magnesium (Mg)		9190	9100		mg/kg	1.0	30	08-DEC-15
Manganese (Mn)		998	960		mg/kg	3.8	30	08-DEC-15
Molybdenum (Mo)		1.97	2.00		mg/kg	1.1	40	08-DEC-15
Nickel (Ni)		44.2	43.5		mg/kg	1.6	30	08-DEC-15
Phosphorus (P)		1070	1060		mg/kg	0.4	30	08-DEC-15
Potassium (K)		1810	1790		mg/kg	0.9	40	08-DEC-15
Selenium (Se)		1.46	1.47		mg/kg	1.1	30	08-DEC-15
Silver (Ag)		0.31	0.30		mg/kg	2.4	40	08-DEC-15
Sodium (Na)		438	439		mg/kg	0.1	40	08-DEC-15
Strontium (Sr)		84.5	82.3		mg/kg	2.7	40	08-DEC-15
Thallium (Tl)		0.209	0.199		mg/kg	4.9	30	08-DEC-15
Tin (Sn)		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	08-DEC-15
Titanium (Ti)		988	991		mg/kg	0.3	40	08-DEC-15
Uranium (U)		1.89	1.85		mg/kg	2.0	30	08-DEC-15
Vanadium (V)		66.5	66.6		mg/kg	0.1	30	08-DEC-15
Zinc (Zn)		97.8	96.5		mg/kg	1.3	30	08-DEC-15
Zirconium (Zr)		2.4	2.2		mg/kg	6.3	30	08-DEC-15
WG2224601-6 DUP		**L1700936-1**						
Aluminum (Al)		14200	14500		mg/kg	1.8	40	08-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3327476								
WG2224601-6 DUP		**L1700936-1**						
Antimony (Sb)		0.37	0.36		mg/kg	2.2	30	08-DEC-15
Arsenic (As)		6.52	6.57		mg/kg	0.8	30	08-DEC-15
Barium (Ba)		135	140		mg/kg	3.3	40	08-DEC-15
Beryllium (Be)		0.45	0.44		mg/kg	2.7	30	08-DEC-15
Bismuth (Bi)		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	08-DEC-15
Boron (B)		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	08-DEC-15
Cadmium (Cd)		0.367	0.362		mg/kg	1.4	30	08-DEC-15
Calcium (Ca)		7770	7920		mg/kg	1.9	30	08-DEC-15
Chromium (Cr)		49.1	50.6		mg/kg	3.0	30	08-DEC-15
Cobalt (Co)		13.1	13.3		mg/kg	1.8	30	08-DEC-15
Copper (Cu)		48.9	48.4		mg/kg	1.0	30	08-DEC-15
Iron (Fe)		26500	26900		mg/kg	1.6	30	08-DEC-15
Lead (Pb)		6.43	6.44		mg/kg	0.2	40	08-DEC-15
Lithium (Li)		15.0	15.2		mg/kg	1.7	30	08-DEC-15
Magnesium (Mg)		7440	7580		mg/kg	1.8	30	08-DEC-15
Manganese (Mn)		568	579		mg/kg	2.0	30	08-DEC-15
Molybdenum (Mo)		0.93	0.91		mg/kg	1.8	40	08-DEC-15
Nickel (Ni)		33.8	34.1		mg/kg	1.1	30	08-DEC-15
Phosphorus (P)		946	989		mg/kg	4.5	30	08-DEC-15
Potassium (K)		1300	1370		mg/kg	5.1	40	08-DEC-15
Selenium (Se)		0.83	0.84		mg/kg	1.9	30	08-DEC-15
Silver (Ag)		0.18	0.18		mg/kg	1.0	40	08-DEC-15
Sodium (Na)		407	404		mg/kg	0.8	40	08-DEC-15
Strontium (Sr)		72.2	74.5		mg/kg	3.2	40	08-DEC-15
Thallium (Tl)		0.169	0.155		mg/kg	8.1	30	08-DEC-15
Tin (Sn)		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	08-DEC-15
Titanium (Ti)		945	982		mg/kg	3.8	40	08-DEC-15
Uranium (U)		1.16	1.20		mg/kg	3.6	30	08-DEC-15
Vanadium (V)		60.2	62.0		mg/kg	2.9	30	08-DEC-15
Zinc (Zn)		67.6	68.2		mg/kg	1.0	30	08-DEC-15
Zirconium (Zr)		3.5	3.8		mg/kg	7.8	30	08-DEC-15
WG2224601-3 LCS								
Aluminum (Al)			95.5		%		70-130	08-DEC-15
Antimony (Sb)			101.1		%		70-130	08-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3327476								
WG2224601-3 LCS								
Arsenic (As)			97.5		%		70-130	08-DEC-15
Barium (Ba)			97.0		%		70-130	08-DEC-15
Beryllium (Be)			102.9		%		70-130	08-DEC-15
Bismuth (Bi)			100.5		%		70-130	08-DEC-15
Boron (B)			101.8		%		70-130	08-DEC-15
Cadmium (Cd)			97.0		%		70-130	08-DEC-15
Calcium (Ca)			101.8		%		70-130	08-DEC-15
Chromium (Cr)			96.5		%		70-130	08-DEC-15
Cobalt (Co)			97.7		%		70-130	08-DEC-15
Copper (Cu)			94.0		%		70-130	08-DEC-15
Iron (Fe)			114.0		%		70-130	08-DEC-15
Lead (Pb)			101.9		%		70-130	08-DEC-15
Lithium (Li)			111.4		%		70-130	08-DEC-15
Magnesium (Mg)			97.6		%		70-130	08-DEC-15
Manganese (Mn)			105.0		%		70-130	08-DEC-15
Molybdenum (Mo)			101.8		%		70-130	08-DEC-15
Nickel (Ni)			94.8		%		70-130	08-DEC-15
Phosphorus (P)			98.1		%		70-130	08-DEC-15
Potassium (K)			97.9		%		70-130	08-DEC-15
Selenium (Se)			100.4		%		70-130	08-DEC-15
Silver (Ag)			98.8		%		70-130	08-DEC-15
Sodium (Na)			99.8		%		70-130	08-DEC-15
Strontium (Sr)			98.3		%		70-130	08-DEC-15
Thallium (Tl)			100.9		%		70-130	08-DEC-15
Tin (Sn)			96.7		%		70-130	08-DEC-15
Titanium (Ti)			88.6		%		70-130	08-DEC-15
Uranium (U)			97.6		%		70-130	08-DEC-15
Vanadium (V)			99.2		%		70-130	08-DEC-15
Zinc (Zn)			93.1		%		70-130	08-DEC-15
Zirconium (Zr)			97.7		%		70-130	08-DEC-15
WG2224601-1 MB								
Aluminum (Al)			<50		mg/kg		50	08-DEC-15
Antimony (Sb)			<0.10		mg/kg		0.1	08-DEC-15
Arsenic (As)			<0.10		mg/kg		0.1	08-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3327476								
WG2224601-1 MB								
Barium (Ba)			<0.50		mg/kg		0.5	08-DEC-15
Beryllium (Be)			<0.10		mg/kg		0.1	08-DEC-15
Bismuth (Bi)			<0.20		mg/kg		0.2	08-DEC-15
Boron (B)			<5.0		mg/kg		5	08-DEC-15
Cadmium (Cd)			<0.020		mg/kg		0.02	08-DEC-15
Calcium (Ca)			<50		mg/kg		50	08-DEC-15
Chromium (Cr)			<0.50		mg/kg		0.5	08-DEC-15
Cobalt (Co)			<0.10		mg/kg		0.1	08-DEC-15
Copper (Cu)			<0.50		mg/kg		0.5	08-DEC-15
Iron (Fe)			<50		mg/kg		50	08-DEC-15
Lead (Pb)			<0.50		mg/kg		0.5	08-DEC-15
Lithium (Li)			<2.0		mg/kg		2	08-DEC-15
Magnesium (Mg)			<20		mg/kg		20	08-DEC-15
Manganese (Mn)			<1.0		mg/kg		1	08-DEC-15
Molybdenum (Mo)			<0.10		mg/kg		0.1	08-DEC-15
Nickel (Ni)			<0.50		mg/kg		0.5	08-DEC-15
Phosphorus (P)			<50		mg/kg		50	08-DEC-15
Potassium (K)			<100		mg/kg		100	08-DEC-15
Selenium (Se)			<0.20		mg/kg		0.2	08-DEC-15
Silver (Ag)			<0.10		mg/kg		0.1	08-DEC-15
Sodium (Na)			<50		mg/kg		50	08-DEC-15
Strontium (Sr)			<0.50		mg/kg		0.5	08-DEC-15
Thallium (Tl)			<0.050		mg/kg		0.05	08-DEC-15
Tin (Sn)			<2.0		mg/kg		2	08-DEC-15
Titanium (Ti)			<1.0		mg/kg		1	08-DEC-15
Uranium (U)			<0.050		mg/kg		0.05	08-DEC-15
Vanadium (V)			<0.20		mg/kg		0.2	08-DEC-15
Zinc (Zn)			<2.0		mg/kg		2	08-DEC-15
Zirconium (Zr)			<1.0		mg/kg		1	08-DEC-15
Batch R3328236								
WG2225340-3 CRM		**VA-NRC-STSD1**						
Aluminum (Al)			106.8		%		70-130	09-DEC-15
Antimony (Sb)			102.6		%		70-130	09-DEC-15
Arsenic (As)			101.7		%		70-130	09-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3328236								
WG2225340-3 CRM		**VA-NRC-STSD1**						
Barium (Ba)			100.6		%		70-130	09-DEC-15
Beryllium (Be)			112.7		%		70-130	09-DEC-15
Bismuth (Bi)			95.8		%		70-130	09-DEC-15
Boron (B)			120.9		%		70-130	09-DEC-15
Cadmium (Cd)			100.2		%		70-130	09-DEC-15
Calcium (Ca)			106.3		%		70-130	09-DEC-15
Chromium (Cr)			96.6		%		70-130	09-DEC-15
Cobalt (Co)			98.4		%		70-130	09-DEC-15
Copper (Cu)			99.2		%		70-130	09-DEC-15
Iron (Fe)			100.7		%		70-130	09-DEC-15
Lead (Pb)			99.0		%		70-130	09-DEC-15
Lithium (Li)			121.0		%		70-130	09-DEC-15
Magnesium (Mg)			106.5		%		70-130	09-DEC-15
Manganese (Mn)			101.0		%		70-130	09-DEC-15
Molybdenum (Mo)			100.8		%		70-130	09-DEC-15
Nickel (Ni)			99.4		%		70-130	09-DEC-15
Phosphorus (P)			96.7		%		70-130	09-DEC-15
Potassium (K)			113.9		%		70-130	09-DEC-15
Selenium (Se)			98.9		%		70-130	09-DEC-15
Silver (Ag)			102.4		%		70-130	09-DEC-15
Sodium (Na)			116.9		%		70-130	09-DEC-15
Strontium (Sr)			105.0		%		70-130	09-DEC-15
Thallium (Tl)			102.9		%		70-130	09-DEC-15
Tin (Sn)			105.2		%		70-130	09-DEC-15
Titanium (Ti)			111.9		%		70-130	09-DEC-15
Vanadium (V)			104.8		%		70-130	09-DEC-15
Zinc (Zn)			99.7		%		70-130	09-DEC-15
WG2225340-4 CRM		**VA-NRC-PACS3**						
Aluminum (Al)			102.6		%		70-130	09-DEC-15
Antimony (Sb)			90.2		%		70-130	09-DEC-15
Arsenic (As)			88.1		%		70-130	09-DEC-15
Barium (Ba)			104.0		%		70-130	09-DEC-15
Beryllium (Be)			102.2		%		70-130	09-DEC-15
Boron (B)			105.2		%		70-130	09-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3328236								
WG2225340-4 CRM		**VA-NRC-PACS3**						
Cadmium (Cd)			94.3		%		70-130	09-DEC-15
Calcium (Ca)			102.0		%		70-130	09-DEC-15
Chromium (Cr)			90.0		%		70-130	09-DEC-15
Cobalt (Co)			94.1		%		70-130	09-DEC-15
Copper (Cu)			98.5		%		70-130	09-DEC-15
Iron (Fe)			97.0		%		70-130	09-DEC-15
Lead (Pb)			96.2		%		70-130	09-DEC-15
Lithium (Li)			101.6		%		70-130	09-DEC-15
Magnesium (Mg)			105.6		%		70-130	09-DEC-15
Manganese (Mn)			95.1		%		70-130	09-DEC-15
Molybdenum (Mo)			89.9		%		70-130	09-DEC-15
Nickel (Ni)			94.3		%		70-130	09-DEC-15
Phosphorus (P)			82.2		%		70-130	09-DEC-15
Potassium (K)			99.6		%		70-130	09-DEC-15
Selenium (Se)			102.0		%		70-130	09-DEC-15
Silver (Ag)			102.2		%		70-130	09-DEC-15
Sodium (Na)			95.1		%		70-130	09-DEC-15
Strontium (Sr)			99.0		%		70-130	09-DEC-15
Thallium (Tl)			98.0		%		70-130	09-DEC-15
Tin (Sn)			87.4		%		70-130	09-DEC-15
Titanium (Ti)			97.4		%		70-130	09-DEC-15
Uranium (U)			100.3		%		70-130	09-DEC-15
Vanadium (V)			95.1		%		70-130	09-DEC-15
Zinc (Zn)			97.4		%		70-130	09-DEC-15
Zirconium (Zr)			97.7		%		70-130	09-DEC-15
WG2225340-2 LCS								
Aluminum (Al)			100.8		%		70-130	09-DEC-15
Antimony (Sb)			103.2		%		70-130	09-DEC-15
Arsenic (As)			101.3		%		70-130	09-DEC-15
Barium (Ba)			105.9		%		70-130	09-DEC-15
Beryllium (Be)			103.5		%		70-130	09-DEC-15
Bismuth (Bi)			97.3		%		70-130	09-DEC-15
Boron (B)			101.5		%		70-130	09-DEC-15
Cadmium (Cd)			101.1		%		70-130	09-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3328236								
WG2225340-2 LCS								
Calcium (Ca)			101.0		%		70-130	09-DEC-15
Chromium (Cr)			94.4		%		70-130	09-DEC-15
Cobalt (Co)			97.2		%		70-130	09-DEC-15
Copper (Cu)			96.8		%		70-130	09-DEC-15
Iron (Fe)			102.2		%		70-130	09-DEC-15
Lead (Pb)			98.3		%		70-130	09-DEC-15
Lithium (Li)			108.1		%		70-130	09-DEC-15
Magnesium (Mg)			102.2		%		70-130	09-DEC-15
Manganese (Mn)			100.9		%		70-130	09-DEC-15
Molybdenum (Mo)			99.4		%		70-130	09-DEC-15
Nickel (Ni)			97.2		%		70-130	09-DEC-15
Phosphorus (P)			107.8		%		70-130	09-DEC-15
Potassium (K)			103.3		%		70-130	09-DEC-15
Selenium (Se)			102.9		%		70-130	09-DEC-15
Silver (Ag)			100.6		%		70-130	09-DEC-15
Sodium (Na)			101.0		%		70-130	09-DEC-15
Strontium (Sr)			98.7		%		70-130	09-DEC-15
Thallium (Tl)			100.9		%		70-130	09-DEC-15
Tin (Sn)			98.8		%		70-130	09-DEC-15
Titanium (Ti)			95.4		%		70-130	09-DEC-15
Uranium (U)			99.4		%		70-130	09-DEC-15
Vanadium (V)			100.4		%		70-130	09-DEC-15
Zinc (Zn)			96.8		%		70-130	09-DEC-15
Zirconium (Zr)			94.8		%		70-130	09-DEC-15
WG2225340-1 MB								
Aluminum (Al)			<50		mg/kg		50	09-DEC-15
Antimony (Sb)			<0.10		mg/kg		0.1	09-DEC-15
Arsenic (As)			<0.10		mg/kg		0.1	09-DEC-15
Barium (Ba)			<0.50		mg/kg		0.5	09-DEC-15
Beryllium (Be)			<0.10		mg/kg		0.1	09-DEC-15
Bismuth (Bi)			<0.20		mg/kg		0.2	09-DEC-15
Boron (B)			<5.0		mg/kg		5	09-DEC-15
Cadmium (Cd)			<0.020		mg/kg		0.02	09-DEC-15
Calcium (Ca)			<50		mg/kg		50	09-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3328236								
WG2225340-1 MB								
Chromium (Cr)			<0.50		mg/kg		0.5	09-DEC-15
Cobalt (Co)			<0.10		mg/kg		0.1	09-DEC-15
Copper (Cu)			<0.50		mg/kg		0.5	09-DEC-15
Iron (Fe)			<50		mg/kg		50	09-DEC-15
Lead (Pb)			<0.50		mg/kg		0.5	09-DEC-15
Lithium (Li)			<2.0		mg/kg		2	09-DEC-15
Magnesium (Mg)			<20		mg/kg		20	09-DEC-15
Manganese (Mn)			<1.0		mg/kg		1	09-DEC-15
Molybdenum (Mo)			<0.10		mg/kg		0.1	09-DEC-15
Nickel (Ni)			<0.50		mg/kg		0.5	09-DEC-15
Phosphorus (P)			<50		mg/kg		50	09-DEC-15
Potassium (K)			<100		mg/kg		100	09-DEC-15
Selenium (Se)			<0.20		mg/kg		0.2	09-DEC-15
Silver (Ag)			<0.10		mg/kg		0.1	09-DEC-15
Sodium (Na)			<50		mg/kg		50	09-DEC-15
Strontium (Sr)			<0.50		mg/kg		0.5	09-DEC-15
Thallium (Tl)			<0.050		mg/kg		0.05	09-DEC-15
Tin (Sn)			<2.0		mg/kg		2	09-DEC-15
Titanium (Ti)			<1.0		mg/kg		1	09-DEC-15
Uranium (U)			<0.050		mg/kg		0.05	09-DEC-15
Vanadium (V)			<0.20		mg/kg		0.2	09-DEC-15
Zinc (Zn)			<2.0		mg/kg		2	09-DEC-15
Zirconium (Zr)			<1.0		mg/kg		1	09-DEC-15
MET-TESS-CM-CCMS-VA	**Soil**							
Batch R3326415								
WG2225162-2 LCS								
Aluminum (Al)-Leachable			103.0		%		70-130	05-DEC-15
Antimony (Sb)-Leachable			102.2		%		70-130	05-DEC-15
Arsenic (As)-Leachable			98.7		%		70-130	05-DEC-15
Barium (Ba)-Leachable			101.9		%		70-130	05-DEC-15
Beryllium (Be)-Leachable			98.4		%		70-130	05-DEC-15
Bismuth (Bi)-Leachable			93.0		%		70-130	05-DEC-15
Cadmium (Cd)-Leachable			98.6		%		70-130	05-DEC-15
Calcium (Ca)-Leachable			99.8		%		70-130	05-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-CM-CCMS-VA	**Soil**							
Batch	**R3326415**							
WG2225162-2	**LCS**							
Chromium (Cr)-Leachable			95.6		%		70-130	05-DEC-15
Cobalt (Co)-Leachable			94.3		%		70-130	05-DEC-15
Copper (Cu)-Leachable			94.7		%		70-130	05-DEC-15
Iron (Fe)-Leachable			97.3		%		70-130	05-DEC-15
Lead (Pb)-Leachable			95.0		%		70-130	05-DEC-15
Lithium (Li)-Leachable			101.6		%		70-130	05-DEC-15
Manganese (Mn)-Leachable			95.7		%		70-130	05-DEC-15
Molybdenum (Mo)-Leachable			99.3		%		70-130	05-DEC-15
Nickel (Ni)-Leachable			93.1		%		70-130	05-DEC-15
Phosphorus (P)-Leachable			106.1		%		70-130	05-DEC-15
Selenium (Se)-Leachable			103.9		%		70-130	05-DEC-15
Silver (Ag)-Leachable			98.3		%		70-130	05-DEC-15
Strontium (Sr)-Leachable			99.1		%		70-130	05-DEC-15
Thallium (Tl)-Leachable			92.8		%		70-130	05-DEC-15
Tin (Sn)-Leachable			100.7		%		70-130	05-DEC-15
Titanium (Ti)-Leachable			92.4		%		70-130	05-DEC-15
Uranium (U)-Leachable			97.8		%		70-130	05-DEC-15
Vanadium (V)-Leachable			99.5		%		70-130	05-DEC-15
Zinc (Zn)-Leachable			89.6		%		70-130	05-DEC-15
Batch	**R3328395**							
WG2225162-4	**DUP**	**L1700936-1**						
Aluminum (Al)-Leachable		<50	<50	RPD-NA	mg/kg	N/A	30	09-DEC-15
Antimony (Sb)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	09-DEC-15
Arsenic (As)-Leachable		0.185	0.177		mg/kg	4.0	30	09-DEC-15
Barium (Ba)-Leachable		17.2	16.7		mg/kg	3.0	30	09-DEC-15
Beryllium (Be)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	09-DEC-15
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	09-DEC-15
Cadmium (Cd)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	09-DEC-15
Calcium (Ca)-Leachable		254	247		mg/kg	2.6	30	09-DEC-15
Chromium (Cr)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	09-DEC-15
Cobalt (Co)-Leachable		0.44	0.43		mg/kg	1.6	30	09-DEC-15
Copper (Cu)-Leachable		3.46	3.49		mg/kg	0.9	30	09-DEC-15
Iron (Fe)-Leachable		291	288		mg/kg	1.0	30	09-DEC-15
Lead (Pb)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	09-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-CM-CCMS-VA	**Soil**							
Batch	**R3328395**							
WG2225162-4	**DUP**	**L1700936-1**						
Lithium (Li)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	09-DEC-15
Manganese (Mn)-Leachable		49.2	48.6		mg/kg	1.4	30	09-DEC-15
Molybdenum (Mo)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	09-DEC-15
Nickel (Ni)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	09-DEC-15
Phosphorus (P)-Leachable		<50	<50	RPD-NA	mg/kg	N/A	30	09-DEC-15
Selenium (Se)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	09-DEC-15
Silver (Ag)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	09-DEC-15
Strontium (Sr)-Leachable		5.1	<5.0	RPD-NA	mg/kg	N/A	30	09-DEC-15
Thallium (Tl)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	09-DEC-15
Tin (Sn)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	09-DEC-15
Titanium (Ti)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	09-DEC-15
Uranium (U)-Leachable		0.315	0.308		mg/kg	2.5	30	09-DEC-15
Vanadium (V)-Leachable		0.26	0.27		mg/kg	6.5	30	09-DEC-15
Zinc (Zn)-Leachable		1.3	1.3		mg/kg	1.3	30	09-DEC-15
WG2225162-1	**MB**							
Aluminum (Al)-Leachable			<50		mg/kg		50	09-DEC-15
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	09-DEC-15
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	09-DEC-15
Barium (Ba)-Leachable			<2.0		mg/kg		2	09-DEC-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	09-DEC-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	09-DEC-15
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	09-DEC-15
Calcium (Ca)-Leachable			<50		mg/kg		50	09-DEC-15
Chromium (Cr)-Leachable			<5.0		mg/kg		5	09-DEC-15
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	09-DEC-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	09-DEC-15
Iron (Fe)-Leachable			<50		mg/kg		50	09-DEC-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	09-DEC-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	09-DEC-15
Manganese (Mn)-Leachable			<5.0		mg/kg		5	09-DEC-15
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	09-DEC-15
Nickel (Ni)-Leachable			<2.0		mg/kg		2	09-DEC-15
Phosphorus (P)-Leachable			<50		mg/kg		50	09-DEC-15
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	09-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-CM-CCMS-VA	**Soil**							
Batch	**R3328395**							
WG2225162-1	**MB**							
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	09-DEC-15
Strontium (Sr)-Leachable			<5.0		mg/kg		5	09-DEC-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	09-DEC-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	09-DEC-15
Titanium (Ti)-Leachable			<5.0		mg/kg		5	09-DEC-15
Uranium (U)-Leachable			<0.050		mg/kg		0.05	09-DEC-15
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	09-DEC-15
Zinc (Zn)-Leachable			<1.0		mg/kg		1	09-DEC-15
Batch	**R3363557**							
WG2241104-2	**LCS**							
Aluminum (Al)-Leachable			115.2		%		70-130	08-JAN-16
Antimony (Sb)-Leachable			106.3		%		70-130	08-JAN-16
Arsenic (As)-Leachable			105.1		%		70-130	08-JAN-16
Barium (Ba)-Leachable			107.0		%		70-130	08-JAN-16
Beryllium (Be)-Leachable			101.3		%		70-130	08-JAN-16
Bismuth (Bi)-Leachable			93.7		%		70-130	08-JAN-16
Cadmium (Cd)-Leachable			105.8		%		70-130	08-JAN-16
Calcium (Ca)-Leachable			100.1		%		70-130	08-JAN-16
Chromium (Cr)-Leachable			101.1		%		70-130	08-JAN-16
Cobalt (Co)-Leachable			99.3		%		70-130	08-JAN-16
Copper (Cu)-Leachable			97.0		%		70-130	08-JAN-16
Iron (Fe)-Leachable			99.0		%		70-130	08-JAN-16
Lead (Pb)-Leachable			99.6		%		70-130	08-JAN-16
Lithium (Li)-Leachable			96.2		%		70-130	08-JAN-16
Manganese (Mn)-Leachable			101.4		%		70-130	08-JAN-16
Molybdenum (Mo)-Leachable			97.2		%		70-130	08-JAN-16
Nickel (Ni)-Leachable			97.2		%		70-130	08-JAN-16
Phosphorus (P)-Leachable			108.9		%		70-130	08-JAN-16
Selenium (Se)-Leachable			102.5		%		70-130	08-JAN-16
Silver (Ag)-Leachable			103.9		%		70-130	08-JAN-16
Strontium (Sr)-Leachable			100.5		%		70-130	08-JAN-16
Thallium (Tl)-Leachable			92.5		%		70-130	08-JAN-16
Tin (Sn)-Leachable			106.4		%		70-130	08-JAN-16
Titanium (Ti)-Leachable			106.6		%		70-130	08-JAN-16

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-CM-CCMS-VA	**Soil**							
Batch R3363557								
WG2241104-2 LCS								
Uranium (U)-Leachable			99.1		%		70-130	08-JAN-16
Vanadium (V)-Leachable			103.1		%		70-130	08-JAN-16
Zinc (Zn)-Leachable			91.6		%		70-130	08-JAN-16
WG2241104-1 MB								
Aluminum (Al)-Leachable			<50		mg/kg		50	08-JAN-16
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	08-JAN-16
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	08-JAN-16
Barium (Ba)-Leachable			<2.0		mg/kg		2	08-JAN-16
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	08-JAN-16
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	08-JAN-16
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	08-JAN-16
Calcium (Ca)-Leachable			<50		mg/kg		50	08-JAN-16
Chromium (Cr)-Leachable			<5.0		mg/kg		5	08-JAN-16
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	08-JAN-16
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	08-JAN-16
Iron (Fe)-Leachable			<50		mg/kg		50	08-JAN-16
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	08-JAN-16
Lithium (Li)-Leachable			<5.0		mg/kg		5	08-JAN-16
Manganese (Mn)-Leachable			<5.0		mg/kg		5	08-JAN-16
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	08-JAN-16
Nickel (Ni)-Leachable			<2.0		mg/kg		2	08-JAN-16
Phosphorus (P)-Leachable			<50		mg/kg		50	08-JAN-16
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	08-JAN-16
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	08-JAN-16
Strontium (Sr)-Leachable			<5.0		mg/kg		5	08-JAN-16
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	08-JAN-16
Tin (Sn)-Leachable			<2.0		mg/kg		2	08-JAN-16
Titanium (Ti)-Leachable			<5.0		mg/kg		5	08-JAN-16
Uranium (U)-Leachable			<0.050		mg/kg		0.05	08-JAN-16
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	08-JAN-16
Zinc (Zn)-Leachable			<1.0		mg/kg		1	08-JAN-16
MET-TESS-EA-CCMS-VA	**Soil**							

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-EA-CCMS-VA	**Soil**							
Batch	**R3326415**							
WG2225162-2	**LCS**							
Aluminum (Al)-Leachable			102.0		%		70-130	05-DEC-15
Antimony (Sb)-Leachable			105.6		%		70-130	05-DEC-15
Arsenic (As)-Leachable			96.9		%		70-130	05-DEC-15
Barium (Ba)-Leachable			102.3		%		70-130	05-DEC-15
Beryllium (Be)-Leachable			99.8		%		70-130	05-DEC-15
Bismuth (Bi)-Leachable			93.8		%		70-130	05-DEC-15
Cadmium (Cd)-Leachable			101.0		%		70-130	05-DEC-15
Calcium (Ca)-Leachable			103.8		%		70-130	05-DEC-15
Chromium (Cr)-Leachable			96.3		%		70-130	05-DEC-15
Cobalt (Co)-Leachable			92.3		%		70-130	05-DEC-15
Copper (Cu)-Leachable			93.0		%		70-130	05-DEC-15
Iron (Fe)-Leachable			97.5		%		70-130	05-DEC-15
Lead (Pb)-Leachable			95.5		%		70-130	05-DEC-15
Lithium (Li)-Leachable			103.3		%		70-130	05-DEC-15
Manganese (Mn)-Leachable			97.3		%		70-130	05-DEC-15
Molybdenum (Mo)-Leachable			98.7		%		70-130	05-DEC-15
Nickel (Ni)-Leachable			93.8		%		70-130	05-DEC-15
Phosphorus (P)-Leachable			107.9		%		70-130	05-DEC-15
Potassium (K)-Leachable			100.6		%		70-130	05-DEC-15
Selenium (Se)-Leachable			100.8		%		70-130	05-DEC-15
Silver (Ag)-Leachable			103.4		%		70-130	05-DEC-15
Sodium (Na)-Leachable			100.4		%		70-130	05-DEC-15
Strontium (Sr)-Leachable			100.4		%		70-130	05-DEC-15
Thallium (Tl)-Leachable			94.5		%		70-130	05-DEC-15
Tin (Sn)-Leachable			102.1		%		70-130	05-DEC-15
Titanium (Ti)-Leachable			93.1		%		70-130	05-DEC-15
Uranium (U)-Leachable			99.0		%		70-130	05-DEC-15
Vanadium (V)-Leachable			100.7		%		70-130	05-DEC-15
Zinc (Zn)-Leachable			87.8		%		70-130	05-DEC-15
Batch	**R3329092**							
WG2225162-4	**DUP**	**L1700936-1**						
Aluminum (Al)-Leachable		<50	<50	RPD-NA	mg/kg	N/A	30	10-DEC-15
Antimony (Sb)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	10-DEC-15
Arsenic (As)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	10-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-EA-CCMS-VA	**Soil**							
Batch R3329092								
WG2225162-4 DUP		**L1700936-1**						
Barium (Ba)-Leachable		16.5	18.8		mg/kg	13	30	10-DEC-15
Beryllium (Be)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	10-DEC-15
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	10-DEC-15
Cadmium (Cd)-Leachable		0.165	0.165		mg/kg	0.4	30	10-DEC-15
Calcium (Ca)-Leachable		2190	2460		mg/kg	12	30	10-DEC-15
Chromium (Cr)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	10-DEC-15
Cobalt (Co)-Leachable		0.28	0.32		mg/kg	14	30	10-DEC-15
Copper (Cu)-Leachable		0.96	1.03		mg/kg	7.1	30	10-DEC-15
Iron (Fe)-Leachable		<50	<50	RPD-NA	mg/kg	N/A	30	10-DEC-15
Lead (Pb)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	10-DEC-15
Lithium (Li)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	10-DEC-15
Manganese (Mn)-Leachable		173	192		mg/kg	10	30	10-DEC-15
Molybdenum (Mo)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	10-DEC-15
Nickel (Ni)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	10-DEC-15
Phosphorus (P)-Leachable		<50	<50	RPD-NA	mg/kg	N/A	30	10-DEC-15
Potassium (K)-Leachable		<100	<100	RPD-NA	mg/kg	N/A	30	10-DEC-15
Selenium (Se)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	10-DEC-15
Silver (Ag)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	10-DEC-15
Sodium (Na)-Leachable		<100	<100	RPD-NA	mg/kg	N/A	30	10-DEC-15
Strontium (Sr)-Leachable		19.5	21.6		mg/kg	10	30	10-DEC-15
Thallium (Tl)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	10-DEC-15
Tin (Sn)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	10-DEC-15
Titanium (Ti)-Leachable		<1.0	<1.0	RPD-NA	mg/kg	N/A	30	10-DEC-15
Uranium (U)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	10-DEC-15
Vanadium (V)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	10-DEC-15
Zinc (Zn)-Leachable		<1.0	<1.0	RPD-NA	mg/kg	N/A	30	10-DEC-15
WG2225162-1 MB								
Aluminum (Al)-Leachable			<50		mg/kg		50	10-DEC-15
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	10-DEC-15
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	10-DEC-15
Barium (Ba)-Leachable			<0.50		mg/kg		0.5	10-DEC-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	10-DEC-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	10-DEC-15
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	10-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-EA-CCMS-VA	**Soil**							
Batch	**R3329092**							
WG2225162-1	**MB**							
Calcium (Ca)-Leachable			186	B	mg/kg		50	10-DEC-15
Chromium (Cr)-Leachable			<0.50		mg/kg		0.5	10-DEC-15
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	10-DEC-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	10-DEC-15
Iron (Fe)-Leachable			<50		mg/kg		50	10-DEC-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	10-DEC-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	10-DEC-15
Manganese (Mn)-Leachable			<1.0		mg/kg		1	10-DEC-15
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	10-DEC-15
Nickel (Ni)-Leachable			1.18	MB-LOR	mg/kg		0.5	10-DEC-15
Phosphorus (P)-Leachable			<50		mg/kg		50	10-DEC-15
Potassium (K)-Leachable			<100		mg/kg		100	10-DEC-15
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	10-DEC-15
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	10-DEC-15
Sodium (Na)-Leachable			<100		mg/kg		100	10-DEC-15
Strontium (Sr)-Leachable			0.56	B	mg/kg		0.5	10-DEC-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	10-DEC-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	10-DEC-15
Titanium (Ti)-Leachable			<1.0		mg/kg		1	10-DEC-15
Uranium (U)-Leachable			<0.050		mg/kg		0.05	10-DEC-15
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	10-DEC-15
Zinc (Zn)-Leachable			<1.0		mg/kg		1	10-DEC-15
Batch	**R3366915**							
WG2241104-2	**LCS**							
Aluminum (Al)-Leachable			101.3		%		70-130	07-JAN-16
Antimony (Sb)-Leachable			92.7		%		70-130	07-JAN-16
Arsenic (As)-Leachable			98.5		%		70-130	07-JAN-16
Barium (Ba)-Leachable			95.0		%		70-130	07-JAN-16
Beryllium (Be)-Leachable			103.4		%		70-130	07-JAN-16
Bismuth (Bi)-Leachable			92.6		%		70-130	07-JAN-16
Cadmium (Cd)-Leachable			99.4		%		70-130	07-JAN-16
Calcium (Ca)-Leachable			108.7		%		70-130	07-JAN-16
Chromium (Cr)-Leachable			94.1		%		70-130	07-JAN-16
Cobalt (Co)-Leachable			90.8		%		70-130	07-JAN-16

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-EA-CCMS-VA	**Soil**							
Batch	**R3366915**							
WG2241104-2	**LCS**							
Copper (Cu)-Leachable			89.7		%		70-130	07-JAN-16
Iron (Fe)-Leachable			92.2		%		70-130	07-JAN-16
Lead (Pb)-Leachable			93.1		%		70-130	07-JAN-16
Lithium (Li)-Leachable			99.1		%		70-130	07-JAN-16
Manganese (Mn)-Leachable			95.3		%		70-130	07-JAN-16
Molybdenum (Mo)-Leachable			101.1		%		70-130	07-JAN-16
Nickel (Ni)-Leachable			91.8		%		70-130	07-JAN-16
Phosphorus (P)-Leachable			96.0		%		70-130	07-JAN-16
Potassium (K)-Leachable			97.3		%		70-130	07-JAN-16
Selenium (Se)-Leachable			97.7		%		70-130	07-JAN-16
Silver (Ag)-Leachable			94.1		%		70-130	07-JAN-16
Sodium (Na)-Leachable			102.2		%		70-130	07-JAN-16
Strontium (Sr)-Leachable			106.6		%		70-130	07-JAN-16
Thallium (Tl)-Leachable			89.7		%		70-130	07-JAN-16
Tin (Sn)-Leachable			94.5		%		70-130	07-JAN-16
Titanium (Ti)-Leachable			96.8		%		70-130	07-JAN-16
Uranium (U)-Leachable			97.5		%		70-130	07-JAN-16
Vanadium (V)-Leachable			96.6		%		70-130	07-JAN-16
Zinc (Zn)-Leachable			84.5		%		70-130	07-JAN-16
WG2241104-1	**MB**							
Aluminum (Al)-Leachable			<50		mg/kg		50	07-JAN-16
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	07-JAN-16
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	07-JAN-16
Barium (Ba)-Leachable			<0.50		mg/kg		0.5	07-JAN-16
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	07-JAN-16
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	07-JAN-16
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	07-JAN-16
Calcium (Ca)-Leachable			196	B	mg/kg		50	07-JAN-16
Chromium (Cr)-Leachable			<0.50		mg/kg		0.5	07-JAN-16
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	07-JAN-16
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	07-JAN-16
Iron (Fe)-Leachable			<50		mg/kg		50	07-JAN-16
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	07-JAN-16
Lithium (Li)-Leachable			<5.0		mg/kg		5	07-JAN-16

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-EA-CCMS-VA	**Soil**							
Batch	**R3366915**							
WG2241104-1	**MB**							
Manganese (Mn)-Leachable			<1.0		mg/kg		1	07-JAN-16
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	07-JAN-16
Nickel (Ni)-Leachable			1.32	MB-LOR	mg/kg		0.5	07-JAN-16
Phosphorus (P)-Leachable			<50		mg/kg		50	07-JAN-16
Potassium (K)-Leachable			<100		mg/kg		100	07-JAN-16
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	07-JAN-16
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	07-JAN-16
Sodium (Na)-Leachable			<100		mg/kg		100	07-JAN-16
Strontium (Sr)-Leachable			0.62	B	mg/kg		0.5	07-JAN-16
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	07-JAN-16
Tin (Sn)-Leachable			<2.0		mg/kg		2	07-JAN-16
Titanium (Ti)-Leachable			<1.0		mg/kg		1	07-JAN-16
Uranium (U)-Leachable			<0.050		mg/kg		0.05	07-JAN-16
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	07-JAN-16
Zinc (Zn)-Leachable			<1.0		mg/kg		1	07-JAN-16
MET-TESS-FEO-CCMS-VA	**Soil**							
Batch	**R3326192**							
WG2225162-4	**DUP**	**L1700936-1**						
Aluminum (Al)-Leachable		912	952		mg/kg	4.2	30	06-DEC-15
Antimony (Sb)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	06-DEC-15
Arsenic (As)-Leachable		1.29	1.32		mg/kg	2.5	30	06-DEC-15
Barium (Ba)-Leachable		20.6	21.6		mg/kg	4.7	30	06-DEC-15
Beryllium (Be)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	06-DEC-15
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	06-DEC-15
Cadmium (Cd)-Leachable		0.138	0.154		mg/kg	11	30	06-DEC-15
Calcium (Ca)-Leachable		711	718		mg/kg	0.9	30	06-DEC-15
Chromium (Cr)-Leachable		3.46	3.56		mg/kg	2.9	30	06-DEC-15
Cobalt (Co)-Leachable		4.59	4.75		mg/kg	3.4	30	06-DEC-15
Copper (Cu)-Leachable		7.08	7.59		mg/kg	6.9	30	06-DEC-15
Iron (Fe)-Leachable		6030	6280		mg/kg	4.1	30	06-DEC-15
Lead (Pb)-Leachable		2.33	2.42		mg/kg	3.7	30	06-DEC-15
Lithium (Li)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	06-DEC-15
Manganese (Mn)-Leachable		111	114		mg/kg	2.2	30	06-DEC-15
Molybdenum (Mo)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	06-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-FEO-CCMS-VA	**Soil**							
Batch	**R3326192**							
WG2225162-4	**DUP**	**L1700936-1**						
Nickel (Ni)-Leachable		8.15	8.49		mg/kg	4.1	30	06-DEC-15
Phosphorus (P)-Leachable		78	82		mg/kg	4.7	30	06-DEC-15
Selenium (Se)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	06-DEC-15
Silver (Ag)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	06-DEC-15
Strontium (Sr)-Leachable		7.57	7.95		mg/kg	5.0	30	06-DEC-15
Thallium (Tl)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	06-DEC-15
Tin (Sn)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	06-DEC-15
Titanium (Ti)-Leachable		1.1	1.2		mg/kg	14	30	06-DEC-15
Uranium (U)-Leachable		0.271	0.280		mg/kg	3.0	30	06-DEC-15
Vanadium (V)-Leachable		8.33	8.76		mg/kg	5.0	30	06-DEC-15
Zinc (Zn)-Leachable		16.4	16.9		mg/kg	3.2	30	06-DEC-15
WG2225162-2	**LCS**							
Aluminum (Al)-Leachable			99.8		%		70-130	06-DEC-15
Antimony (Sb)-Leachable			95.1		%		70-130	06-DEC-15
Arsenic (As)-Leachable			106.1		%		70-130	06-DEC-15
Barium (Ba)-Leachable			101.3		%		70-130	06-DEC-15
Beryllium (Be)-Leachable			100.8		%		70-130	06-DEC-15
Bismuth (Bi)-Leachable			97.8		%		70-130	06-DEC-15
Cadmium (Cd)-Leachable			103.4		%		70-130	06-DEC-15
Calcium (Ca)-Leachable			101.7		%		70-130	06-DEC-15
Chromium (Cr)-Leachable			98.4		%		70-130	06-DEC-15
Cobalt (Co)-Leachable			100.3		%		70-130	06-DEC-15
Copper (Cu)-Leachable			97.7		%		70-130	06-DEC-15
Iron (Fe)-Leachable			98.7		%		70-130	06-DEC-15
Lead (Pb)-Leachable			100.7		%		70-130	06-DEC-15
Lithium (Li)-Leachable			100.9		%		70-130	06-DEC-15
Manganese (Mn)-Leachable			97.8		%		70-130	06-DEC-15
Molybdenum (Mo)-Leachable			94.9		%		70-130	06-DEC-15
Nickel (Ni)-Leachable			99.3		%		70-130	06-DEC-15
Phosphorus (P)-Leachable			102.1		%		70-130	06-DEC-15
Selenium (Se)-Leachable			124.0		%		70-130	06-DEC-15
Silver (Ag)-Leachable			99.9		%		70-130	06-DEC-15
Strontium (Sr)-Leachable			101.3		%		70-130	06-DEC-15
Thallium (Tl)-Leachable			98.6		%		70-130	06-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-FEO-CCMS-VA	**Soil**							
Batch	**R3326192**							
WG2225162-2	**LCS**							
Tin (Sn)-Leachable			96.7		%		70-130	06-DEC-15
Titanium (Ti)-Leachable			94.0		%		70-130	06-DEC-15
Uranium (U)-Leachable			97.4		%		70-130	06-DEC-15
Vanadium (V)-Leachable			99.4		%		70-130	06-DEC-15
Zinc (Zn)-Leachable			95.7		%		70-130	06-DEC-15
WG2225162-1	**MB**							
Aluminum (Al)-Leachable			<50		mg/kg		50	06-DEC-15
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	06-DEC-15
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	06-DEC-15
Barium (Ba)-Leachable			<0.50		mg/kg		0.5	06-DEC-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	06-DEC-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	06-DEC-15
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	06-DEC-15
Calcium (Ca)-Leachable			<50		mg/kg		50	06-DEC-15
Chromium (Cr)-Leachable			<0.50		mg/kg		0.5	06-DEC-15
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	06-DEC-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	06-DEC-15
Iron (Fe)-Leachable			<50		mg/kg		50	06-DEC-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	06-DEC-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	06-DEC-15
Manganese (Mn)-Leachable			<1.0		mg/kg		1	06-DEC-15
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	06-DEC-15
Nickel (Ni)-Leachable			<0.50		mg/kg		0.5	06-DEC-15
Phosphorus (P)-Leachable			<50		mg/kg		50	06-DEC-15
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	06-DEC-15
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	06-DEC-15
Strontium (Sr)-Leachable			<0.50		mg/kg		0.5	06-DEC-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	06-DEC-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	06-DEC-15
Titanium (Ti)-Leachable			<1.0		mg/kg		1	06-DEC-15
Uranium (U)-Leachable			<0.050		mg/kg		0.05	06-DEC-15
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	06-DEC-15
Zinc (Zn)-Leachable			<1.0		mg/kg		1	06-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-FEO-CCMS-VA	**Soil**							
Batch	**R3366762**							
WG2241104-2	**LCS**							
Aluminum (Al)-Leachable			103.8		%		70-130	11-JAN-16
Antimony (Sb)-Leachable			95.7		%		70-130	11-JAN-16
Arsenic (As)-Leachable			105.5		%		70-130	11-JAN-16
Barium (Ba)-Leachable			98.7		%		70-130	11-JAN-16
Beryllium (Be)-Leachable			95.7		%		70-130	11-JAN-16
Bismuth (Bi)-Leachable			102.5		%		70-130	11-JAN-16
Cadmium (Cd)-Leachable			100.2		%		70-130	11-JAN-16
Calcium (Ca)-Leachable			98.0		%		70-130	11-JAN-16
Chromium (Cr)-Leachable			97.1		%		70-130	11-JAN-16
Cobalt (Co)-Leachable			98.9		%		70-130	11-JAN-16
Copper (Cu)-Leachable			100.3		%		70-130	11-JAN-16
Iron (Fe)-Leachable			100.5		%		70-130	11-JAN-16
Lead (Pb)-Leachable			100.6		%		70-130	11-JAN-16
Lithium (Li)-Leachable			98.0		%		70-130	11-JAN-16
Manganese (Mn)-Leachable			100.1		%		70-130	11-JAN-16
Molybdenum (Mo)-Leachable			95.1		%		70-130	11-JAN-16
Nickel (Ni)-Leachable			99.2		%		70-130	11-JAN-16
Phosphorus (P)-Leachable			102.8		%		70-130	11-JAN-16
Selenium (Se)-Leachable			121.1		%		70-130	11-JAN-16
Silver (Ag)-Leachable			95.0		%		70-130	11-JAN-16
Strontium (Sr)-Leachable			98.4		%		70-130	11-JAN-16
Thallium (Tl)-Leachable			97.3		%		70-130	11-JAN-16
Tin (Sn)-Leachable			96.2		%		70-130	11-JAN-16
Titanium (Ti)-Leachable			96.8		%		70-130	11-JAN-16
Uranium (U)-Leachable			102.9		%		70-130	11-JAN-16
Vanadium (V)-Leachable			100.2		%		70-130	11-JAN-16
Zinc (Zn)-Leachable			92.5		%		70-130	11-JAN-16
WG2241104-1	**MB**							
Aluminum (Al)-Leachable			<50		mg/kg		50	11-JAN-16
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	11-JAN-16
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	11-JAN-16
Barium (Ba)-Leachable			<0.50		mg/kg		0.5	11-JAN-16
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	11-JAN-16
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	11-JAN-16

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-FEO-CCMS-VA	**Soil**							
Batch	**R3366762**							
WG2241104-1	**MB**							
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	11-JAN-16
Calcium (Ca)-Leachable			<50		mg/kg		50	11-JAN-16
Chromium (Cr)-Leachable			<0.50		mg/kg		0.5	11-JAN-16
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	11-JAN-16
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	11-JAN-16
Iron (Fe)-Leachable			<50		mg/kg		50	11-JAN-16
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	11-JAN-16
Lithium (Li)-Leachable			<5.0		mg/kg		5	11-JAN-16
Manganese (Mn)-Leachable			<1.0		mg/kg		1	11-JAN-16
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	11-JAN-16
Nickel (Ni)-Leachable			<0.50		mg/kg		0.5	11-JAN-16
Phosphorus (P)-Leachable			<50		mg/kg		50	11-JAN-16
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	11-JAN-16
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	11-JAN-16
Strontium (Sr)-Leachable			<0.50		mg/kg		0.5	11-JAN-16
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	11-JAN-16
Tin (Sn)-Leachable			<2.0		mg/kg		2	11-JAN-16
Titanium (Ti)-Leachable			<1.0		mg/kg		1	11-JAN-16
Uranium (U)-Leachable			<0.050		mg/kg		0.05	11-JAN-16
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	11-JAN-16
Zinc (Zn)-Leachable			1.0	B	mg/kg		1	11-JAN-16
MET-TESS-OB-CCMS-VA	**Soil**							
Batch	**R3326997**							
WG2225162-4	**DUP**	**L1700936-1**						
Aluminum (Al)-Leachable		1230	1300		mg/kg	5.5	30	07-DEC-15
Antimony (Sb)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	07-DEC-15
Arsenic (As)-Leachable		0.276	0.301		mg/kg	8.7	30	07-DEC-15
Barium (Ba)-Leachable		14.2	14.7		mg/kg	3.4	30	07-DEC-15
Beryllium (Be)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	07-DEC-15
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	07-DEC-15
Cadmium (Cd)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	07-DEC-15
Calcium (Ca)-Leachable		399	444		mg/kg	11	30	07-DEC-15
Chromium (Cr)-Leachable		5.17	5.52		mg/kg	6.6	30	07-DEC-15
Cobalt (Co)-Leachable		1.39	1.45		mg/kg	4.4	30	07-DEC-15

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-OB-CCMS-VA	**Soil**							
Batch	**R3326997**							
WG2225162-4	**DUP**	**L1700936-1**						
Copper (Cu)-Leachable		14.4	15.3		mg/kg	5.9	30	07-DEC-15
Iron (Fe)-Leachable		518	549		mg/kg	5.7	30	07-DEC-15
Lead (Pb)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	07-DEC-15
Lithium (Li)-Leachable		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	07-DEC-15
Manganese (Mn)-Leachable		18.3	19.2		mg/kg	5.0	30	07-DEC-15
Molybdenum (Mo)-Leachable		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	07-DEC-15
Nickel (Ni)-Leachable		3.45	3.60		mg/kg	4.3	30	07-DEC-15
Selenium (Se)-Leachable		0.77	0.70		mg/kg	9.3	30	07-DEC-15
Silver (Ag)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	07-DEC-15
Strontium (Sr)-Leachable		3.57	3.78		mg/kg	5.8	30	07-DEC-15
Thallium (Tl)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	07-DEC-15
Tin (Sn)-Leachable		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	07-DEC-15
Titanium (Ti)-Leachable		2.1	2.2		mg/kg	6.4	30	07-DEC-15
Uranium (U)-Leachable		0.129	0.134		mg/kg	4.0	30	07-DEC-15
Vanadium (V)-Leachable		2.09	2.25		mg/kg	7.6	30	07-DEC-15
Zinc (Zn)-Leachable		6.5	7.6		mg/kg	15	30	07-DEC-15
WG2225162-2	**LCS**							
Aluminum (Al)-Leachable			97.4		%		70-130	07-DEC-15
Antimony (Sb)-Leachable			98.5		%		70-130	07-DEC-15
Arsenic (As)-Leachable			100.8		%		70-130	07-DEC-15
Barium (Ba)-Leachable			99.7		%		70-130	07-DEC-15
Beryllium (Be)-Leachable			97.5		%		70-130	07-DEC-15
Bismuth (Bi)-Leachable			98.2		%		70-130	07-DEC-15
Cadmium (Cd)-Leachable			99.1		%		70-130	07-DEC-15
Calcium (Ca)-Leachable			98.6		%		70-130	07-DEC-15
Chromium (Cr)-Leachable			98.1		%		70-130	07-DEC-15
Cobalt (Co)-Leachable			100.2		%		70-130	07-DEC-15
Copper (Cu)-Leachable			99.7		%		70-130	07-DEC-15
Iron (Fe)-Leachable			98.8		%		70-130	07-DEC-15
Lead (Pb)-Leachable			99.3		%		70-130	07-DEC-15
Lithium (Li)-Leachable			109.7		%		70-130	07-DEC-15
Manganese (Mn)-Leachable			101.4		%		70-130	07-DEC-15
Molybdenum (Mo)-Leachable			95.7		%		70-130	07-DEC-15
Nickel (Ni)-Leachable			98.9		%		70-130	07-DEC-15

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-OB-CCMS-VA	**Soil**							
Batch	**R3326997**							
WG2225162-2	**LCS**							
Selenium (Se)-Leachable			107.4		%		70-130	07-DEC-15
Silver (Ag)-Leachable			99.5		%		70-130	07-DEC-15
Strontium (Sr)-Leachable			99.4		%		70-130	07-DEC-15
Thallium (Tl)-Leachable			97.8		%		70-130	07-DEC-15
Tin (Sn)-Leachable			100.1		%		70-130	07-DEC-15
Titanium (Ti)-Leachable			96.3		%		70-130	07-DEC-15
Uranium (U)-Leachable			98.7		%		70-130	07-DEC-15
Vanadium (V)-Leachable			98.8		%		70-130	07-DEC-15
Zinc (Zn)-Leachable			92.8		%		70-130	07-DEC-15
Batch	**R3328395**							
WG2225162-1	**MB**							
Aluminum (Al)-Leachable			<50		mg/kg		50	09-DEC-15
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	09-DEC-15
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	09-DEC-15
Barium (Ba)-Leachable			<0.50		mg/kg		0.5	09-DEC-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	09-DEC-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	09-DEC-15
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	09-DEC-15
Calcium (Ca)-Leachable			<50		mg/kg		50	09-DEC-15
Chromium (Cr)-Leachable			<0.50		mg/kg		0.5	09-DEC-15
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	09-DEC-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	09-DEC-15
Iron (Fe)-Leachable			<50		mg/kg		50	09-DEC-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	09-DEC-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	09-DEC-15
Manganese (Mn)-Leachable			<1.0		mg/kg		1	09-DEC-15
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	09-DEC-15
Nickel (Ni)-Leachable			<0.50		mg/kg		0.5	09-DEC-15
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	09-DEC-15
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	09-DEC-15
Strontium (Sr)-Leachable			<0.50		mg/kg		0.5	09-DEC-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	09-DEC-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	09-DEC-15
Titanium (Ti)-Leachable			<1.0		mg/kg		1	09-DEC-15

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-OB-CCMS-VA	**Soil**							
Batch	**R3328395**							
WG2225162-1	**MB**							
Uranium (U)-Leachable			<0.050		mg/kg		0.05	09-DEC-15
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	09-DEC-15
Zinc (Zn)-Leachable			<1.0		mg/kg		1	09-DEC-15
Batch	**R3372193**							
WG2241104-2	**LCS**							
Aluminum (Al)-Leachable			108.8		%		70-130	13-JAN-16
Antimony (Sb)-Leachable			101.7		%		70-130	13-JAN-16
Arsenic (As)-Leachable			99.8		%		70-130	13-JAN-16
Barium (Ba)-Leachable			102.9		%		70-130	13-JAN-16
Beryllium (Be)-Leachable			91.6		%		70-130	13-JAN-16
Bismuth (Bi)-Leachable			93.4		%		70-130	13-JAN-16
Cadmium (Cd)-Leachable			99.6		%		70-130	13-JAN-16
Calcium (Ca)-Leachable			92.8		%		70-130	13-JAN-16
Chromium (Cr)-Leachable			97.2		%		70-130	13-JAN-16
Cobalt (Co)-Leachable			97.7		%		70-130	13-JAN-16
Copper (Cu)-Leachable			97.3		%		70-130	13-JAN-16
Iron (Fe)-Leachable			97.4		%		70-130	13-JAN-16
Lead (Pb)-Leachable			99.4		%		70-130	13-JAN-16
Lithium (Li)-Leachable			92.2		%		70-130	13-JAN-16
Manganese (Mn)-Leachable			97.9		%		70-130	13-JAN-16
Molybdenum (Mo)-Leachable			91.0		%		70-130	13-JAN-16
Nickel (Ni)-Leachable			98.5		%		70-130	13-JAN-16
Selenium (Se)-Leachable			107.9		%		70-130	13-JAN-16
Silver (Ag)-Leachable			98.2		%		70-130	13-JAN-16
Strontium (Sr)-Leachable			94.7		%		70-130	13-JAN-16
Thallium (Tl)-Leachable			96.0		%		70-130	13-JAN-16
Tin (Sn)-Leachable			108.6		%		70-130	13-JAN-16
Titanium (Ti)-Leachable			104.6		%		70-130	13-JAN-16
Uranium (U)-Leachable			98.3		%		70-130	13-JAN-16
Vanadium (V)-Leachable			97.8		%		70-130	13-JAN-16
Zinc (Zn)-Leachable			88.7		%		70-130	13-JAN-16
WG2241104-1	**MB**							
Aluminum (Al)-Leachable			<50		mg/kg		50	13-JAN-16
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	13-JAN-16
Arsenic (As)-Leachable			<0.050		mg/kg		0.05	13-JAN-16

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-OB-CCMS-VA	**Soil**							
Batch	**R3372193**							
WG2241104-1	**MB**							
Barium (Ba)-Leachable			<0.50		mg/kg		0.5	13-JAN-16
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	13-JAN-16
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	13-JAN-16
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	13-JAN-16
Calcium (Ca)-Leachable			<50		mg/kg		50	13-JAN-16
Chromium (Cr)-Leachable			<0.50		mg/kg		0.5	13-JAN-16
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	13-JAN-16
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	13-JAN-16
Iron (Fe)-Leachable			<50		mg/kg		50	13-JAN-16
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	13-JAN-16
Lithium (Li)-Leachable			<5.0		mg/kg		5	13-JAN-16
Manganese (Mn)-Leachable			<1.0		mg/kg		1	13-JAN-16
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	13-JAN-16
Nickel (Ni)-Leachable			<0.50		mg/kg		0.5	13-JAN-16
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	13-JAN-16
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	13-JAN-16
Strontium (Sr)-Leachable			<0.50		mg/kg		0.5	13-JAN-16
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	13-JAN-16
Tin (Sn)-Leachable			<2.0		mg/kg		2	13-JAN-16
Titanium (Ti)-Leachable			<1.0		mg/kg		1	13-JAN-16
Uranium (U)-Leachable			<0.050		mg/kg		0.05	13-JAN-16
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	13-JAN-16
Zinc (Zn)-Leachable			<1.0		mg/kg		1	13-JAN-16
MET-TESS-RM-CCMS-VA	**Soil**							
Batch	**R3328395**							
WG2225162-4	**DUP**	**L1700936-1**						
Aluminum (Al)-Leachable		12600	12800		mg/kg	1.6	30	09-DEC-15
Antimony (Sb)-Leachable		0.24	0.26		mg/kg	8.8	30	09-DEC-15
Arsenic (As)-Leachable		4.89	4.77		mg/kg	2.5	30	09-DEC-15
Barium (Ba)-Leachable		66.7	66.4		mg/kg	0.5	30	09-DEC-15
Beryllium (Be)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	09-DEC-15
Bismuth (Bi)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	09-DEC-15
Cadmium (Cd)-Leachable		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	09-DEC-15
Calcium (Ca)-Leachable		4000	3820		mg/kg	4.7	30	09-DEC-15

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-RM-CCMS-VA	**Soil**							
Batch	**R3328395**							
WG2225162-4	**DUP**	**L1700936-1**						
Chromium (Cr)-Leachable		40.7	40.1		mg/kg	1.4	30	09-DEC-15
Cobalt (Co)-Leachable		6.59	6.54		mg/kg	0.7	30	09-DEC-15
Copper (Cu)-Leachable		32.8	33.1		mg/kg	1.0	30	09-DEC-15
Iron (Fe)-Leachable		19700	19300		mg/kg	1.8	30	09-DEC-15
Lead (Pb)-Leachable		3.77	3.60		mg/kg	4.6	30	09-DEC-15
Lithium (Li)-Leachable		11.4	11.1		mg/kg	3.1	30	09-DEC-15
Manganese (Mn)-Leachable		194	183		mg/kg	6.3	30	09-DEC-15
Molybdenum (Mo)-Leachable		0.75	0.76		mg/kg	0.9	30	09-DEC-15
Nickel (Ni)-Leachable		22.4	22.3		mg/kg	0.6	30	09-DEC-15
Selenium (Se)-Leachable		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	09-DEC-15
Silver (Ag)-Leachable		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	09-DEC-15
Strontium (Sr)-Leachable		33.9	33.6		mg/kg	0.9	30	09-DEC-15
Thallium (Tl)-Leachable		0.117	0.109		mg/kg	7.1	30	09-DEC-15
Tin (Sn)-Leachable		2.6	2.6		mg/kg	0.6	30	09-DEC-15
Titanium (Ti)-Leachable		845	792		mg/kg	6.4	30	09-DEC-15
Uranium (U)-Leachable		0.465	0.490		mg/kg	5.3	30	09-DEC-15
Vanadium (V)-Leachable		49.2	47.1		mg/kg	4.3	30	09-DEC-15
Zinc (Zn)-Leachable		49.5	48.7		mg/kg	1.7	30	09-DEC-15
WG2225162-2	**LCS**							
Aluminum (Al)-Leachable			97.1		%		70-130	09-DEC-15
Antimony (Sb)-Leachable			100.2		%		70-130	09-DEC-15
Arsenic (As)-Leachable			98.8		%		70-130	09-DEC-15
Barium (Ba)-Leachable			102.7		%		70-130	09-DEC-15
Beryllium (Be)-Leachable			103.5		%		70-130	09-DEC-15
Bismuth (Bi)-Leachable			94.8		%		70-130	09-DEC-15
Cadmium (Cd)-Leachable			98.8		%		70-130	09-DEC-15
Calcium (Ca)-Leachable			103.4		%		70-130	09-DEC-15
Chromium (Cr)-Leachable			99.2		%		70-130	09-DEC-15
Cobalt (Co)-Leachable			98.7		%		70-130	09-DEC-15
Copper (Cu)-Leachable			98.4		%		70-130	09-DEC-15
Iron (Fe)-Leachable			95.9		%		70-130	09-DEC-15
Lead (Pb)-Leachable			95.7		%		70-130	09-DEC-15
Lithium (Li)-Leachable			109.1		%		70-130	09-DEC-15
Manganese (Mn)-Leachable			99.0		%		70-130	09-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-RM-CCMS-VA	**Soil**							
Batch	**R3328395**							
WG2225162-2	**LCS**							
Molybdenum (Mo)-Leachable			99.1		%		70-130	09-DEC-15
Nickel (Ni)-Leachable			98.8		%		70-130	09-DEC-15
Selenium (Se)-Leachable			96.4		%		70-130	09-DEC-15
Silver (Ag)-Leachable			102.0		%		70-130	09-DEC-15
Strontium (Sr)-Leachable			98.1		%		70-130	09-DEC-15
Thallium (Tl)-Leachable			94.4		%		70-130	09-DEC-15
Tin (Sn)-Leachable			97.8		%		70-130	09-DEC-15
Titanium (Ti)-Leachable			100.1		%		70-130	09-DEC-15
Uranium (U)-Leachable			95.9		%		70-130	09-DEC-15
Vanadium (V)-Leachable			100.7		%		70-130	09-DEC-15
Zinc (Zn)-Leachable			94.7		%		70-130	09-DEC-15
WG2225162-1	**MB**							
Aluminum (Al)-Leachable			<50		mg/kg		50	09-DEC-15
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	09-DEC-15
Arsenic (As)-Leachable			<0.50		mg/kg		0.5	09-DEC-15
Barium (Ba)-Leachable			<2.0		mg/kg		2	09-DEC-15
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	09-DEC-15
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	09-DEC-15
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	09-DEC-15
Calcium (Ca)-Leachable			<50		mg/kg		50	09-DEC-15
Chromium (Cr)-Leachable			<5.0		mg/kg		5	09-DEC-15
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	09-DEC-15
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	09-DEC-15
Iron (Fe)-Leachable			<50		mg/kg		50	09-DEC-15
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	09-DEC-15
Lithium (Li)-Leachable			<5.0		mg/kg		5	09-DEC-15
Manganese (Mn)-Leachable			<5.0		mg/kg		5	09-DEC-15
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	09-DEC-15
Nickel (Ni)-Leachable			<2.0		mg/kg		2	09-DEC-15
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	09-DEC-15
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	09-DEC-15
Strontium (Sr)-Leachable			<5.0		mg/kg		5	09-DEC-15
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	09-DEC-15
Tin (Sn)-Leachable			<2.0		mg/kg		2	09-DEC-15

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-RM-CCMS-VA	**Soil**							
Batch	**R3328395**							
WG2225162-1	**MB**							
Titanium (Ti)-Leachable			<5.0		mg/kg		5	09-DEC-15
Uranium (U)-Leachable			<0.050		mg/kg		0.05	09-DEC-15
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	09-DEC-15
Zinc (Zn)-Leachable			<1.0		mg/kg		1	09-DEC-15
Batch	**R3372134**							
WG2241104-2	**LCS**							
Aluminum (Al)-Leachable			98.6		%		70-130	14-JAN-16
Antimony (Sb)-Leachable			101.1		%		70-130	14-JAN-16
Arsenic (As)-Leachable			98.5		%		70-130	14-JAN-16
Barium (Ba)-Leachable			99.9		%		70-130	14-JAN-16
Beryllium (Be)-Leachable			97.4		%		70-130	14-JAN-16
Bismuth (Bi)-Leachable			102.1		%		70-130	14-JAN-16
Cadmium (Cd)-Leachable			100.2		%		70-130	14-JAN-16
Calcium (Ca)-Leachable			99.4		%		70-130	14-JAN-16
Chromium (Cr)-Leachable			99.9		%		70-130	14-JAN-16
Cobalt (Co)-Leachable			100.1		%		70-130	14-JAN-16
Copper (Cu)-Leachable			100.1		%		70-130	14-JAN-16
Iron (Fe)-Leachable			99.6		%		70-130	14-JAN-16
Lead (Pb)-Leachable			101.6		%		70-130	14-JAN-16
Lithium (Li)-Leachable			99.3		%		70-130	14-JAN-16
Manganese (Mn)-Leachable			101.1		%		70-130	14-JAN-16
Molybdenum (Mo)-Leachable			96.6		%		70-130	14-JAN-16
Nickel (Ni)-Leachable			100.5		%		70-130	14-JAN-16
Selenium (Se)-Leachable			97.7		%		70-130	14-JAN-16
Silver (Ag)-Leachable			105.2		%		70-130	14-JAN-16
Strontium (Sr)-Leachable			100.6		%		70-130	14-JAN-16
Thallium (Tl)-Leachable			100.3		%		70-130	14-JAN-16
Tin (Sn)-Leachable			100.8		%		70-130	14-JAN-16
Titanium (Ti)-Leachable			102.2		%		70-130	14-JAN-16
Uranium (U)-Leachable			102.0		%		70-130	14-JAN-16
Vanadium (V)-Leachable			100.5		%		70-130	14-JAN-16
Zinc (Zn)-Leachable			93.1		%		70-130	14-JAN-16
WG2241104-1	**MB**							
Aluminum (Al)-Leachable			<50		mg/kg		50	14-JAN-16
Antimony (Sb)-Leachable			<0.10		mg/kg		0.1	14-JAN-16

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TESS-RM-CCMS-VA	**Soil**							
Batch **R3372134**								
WG2241104-1 **MB**								
Arsenic (As)-Leachable			<0.50		mg/kg		0.5	14-JAN-16
Barium (Ba)-Leachable			<2.0		mg/kg		2	14-JAN-16
Beryllium (Be)-Leachable			<0.20		mg/kg		0.2	14-JAN-16
Bismuth (Bi)-Leachable			<0.20		mg/kg		0.2	14-JAN-16
Cadmium (Cd)-Leachable			<0.050		mg/kg		0.05	14-JAN-16
Calcium (Ca)-Leachable			<50		mg/kg		50	14-JAN-16
Chromium (Cr)-Leachable			<5.0		mg/kg		5	14-JAN-16
Cobalt (Co)-Leachable			<0.10		mg/kg		0.1	14-JAN-16
Copper (Cu)-Leachable			<0.50		mg/kg		0.5	14-JAN-16
Iron (Fe)-Leachable			<50		mg/kg		50	14-JAN-16
Lead (Pb)-Leachable			<0.50		mg/kg		0.5	14-JAN-16
Lithium (Li)-Leachable			<5.0		mg/kg		5	14-JAN-16
Manganese (Mn)-Leachable			<5.0		mg/kg		5	14-JAN-16
Molybdenum (Mo)-Leachable			<0.50		mg/kg		0.5	14-JAN-16
Nickel (Ni)-Leachable			<2.0		mg/kg		2	14-JAN-16
Selenium (Se)-Leachable			<0.20		mg/kg		0.2	14-JAN-16
Silver (Ag)-Leachable			<0.10		mg/kg		0.1	14-JAN-16
Strontium (Sr)-Leachable			<5.0		mg/kg		5	14-JAN-16
Thallium (Tl)-Leachable			<0.050		mg/kg		0.05	14-JAN-16
Tin (Sn)-Leachable			<2.0		mg/kg		2	14-JAN-16
Titanium (Ti)-Leachable			<5.0		mg/kg		5	14-JAN-16
Uranium (U)-Leachable			<0.050		mg/kg		0.05	14-JAN-16
Vanadium (V)-Leachable			<0.20		mg/kg		0.2	14-JAN-16
Zinc (Zn)-Leachable			<1.0		mg/kg		1	14-JAN-16
PSA-PIPET+GRAVEL-SK	**Soil**							
Batch **R3360933**								
WG2241164-4 **IRM**		**FARM2010**						
% Sand (2.0mm - 0.063mm)			33.9		%		29-39	07-JAN-16
% Silt (0.063mm - 4um)			39.7		%		34-44	07-JAN-16
% Clay (<4um)			26.4		%		22-32	07-JAN-16
S-TOT-LECO-SK	**Soil**							
Batch **R3325389**								
WG2226180-1 **DUP**		**L1700936-5**						
Sulfur (S)-Total		1500	1600		mg/kg	5.1	30	04-DEC-15
WG2226180-2		**1646A_SOIL**						

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
S-TOT-LECO-SK	**Soil**							
Batch R3325389								
WG2226180-2 IRM		**1646A_SOIL**						
Sulfur (S)-Total			2900		mg/kg		2500-4600	04-DEC-15
WG2226180-3 MB								
Sulfur (S)-Total			<500		mg/kg		500	04-DEC-15
Batch R3328568								
WG2229547-1 DUP		**L1700936-6**						
Sulfur (S)-Total		1700	1500		mg/kg	12	30	10-DEC-15
WG2229547-2 IRM		**1646A_SOIL**						
Sulfur (S)-Total			3200		mg/kg		2500-4600	10-DEC-15
WG2229547-3 MB								
Sulfur (S)-Total			<500		mg/kg		500	10-DEC-15
Batch R3339554								
WG2234994-1 DUP		**L1700936-23**						
Sulfur (S)-Total		2700	2700		mg/kg	0.6	30	18-DEC-15
WG2234994-2 IRM		**1646A_SOIL**						
Sulfur (S)-Total			2900		mg/kg		2500-4600	18-DEC-15
WG2234994-3 MB								
Sulfur (S)-Total			<500		mg/kg		500	18-DEC-15

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
B	Method Blank exceeds ALS DQO. All associated sample results are at least 5 times greater than blank levels and are considered reliable.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Organic / Inorganic Carbon							
Organic Carbon by combustion method							
	1	13-AUG-15 11:13	08-DEC-15 00:00	28	117	days	EHTR
	2	13-AUG-15 12:00	08-DEC-15 00:00	28	117	days	EHTR
	3	13-AUG-15 12:35	18-DEC-15 00:00	28	126	days	EHTR
	4	14-AUG-15 10:15	08-DEC-15 00:00	28	116	days	EHTR
	5	14-AUG-15 09:35	08-DEC-15 00:00	28	116	days	EHTR
	6	14-AUG-15 08:45	11-DEC-15 00:00	28	119	days	EHTR
	7	13-AUG-15 11:13	08-DEC-15 00:00	28	117	days	EHTR
	13	12-AUG-15 11:30	18-DEC-15 00:00	28	128	days	EHTR
	14	12-AUG-15 12:00	08-DEC-15 00:00	28	118	days	EHTR
	16	12-AUG-15 13:10	18-DEC-15 00:00	28	127	days	EHTR
	18	12-AUG-15 10:30	08-DEC-15 00:00	28	118	days	EHTR
	20	12-AUG-15 09:30	08-DEC-15 00:00	28	118	days	EHTR
	21	12-AUG-15 09:18	08-DEC-15 00:00	28	118	days	EHTR
	22	12-AUG-15 08:48	18-DEC-15 00:00	28	128	days	EHTR
	23	11-AUG-15 16:45	18-DEC-15 00:00	28	128	days	EHTR
	25	12-AUG-15 13:00	08-DEC-15 00:00	28	117	days	EHTR
	26	12-AUG-15 12:40	18-DEC-15 00:00	28	127	days	EHTR
	27	12-AUG-15 12:30	18-DEC-15 00:00	28	127	days	EHTR
	28	12-AUG-15 12:00	18-DEC-15 00:00	28	128	days	EHTR
	29	12-AUG-15 11:30	18-DEC-15 00:00	28	128	days	EHTR
Metals							
Mercury in Soil by CVAFS							
	1	13-AUG-15 11:13	01-DEC-15 14:00	28	110	days	EHTR
	2	13-AUG-15 12:00	01-DEC-15 14:00	28	110	days	EHTR
	3	13-AUG-15 12:35	01-DEC-15 14:00	28	110	days	EHTR
	4	14-AUG-15 10:15	01-DEC-15 14:00	28	109	days	EHTR
	5	14-AUG-15 09:35	01-DEC-15 14:00	28	109	days	EHTR
	6	14-AUG-15 08:45	01-DEC-15 14:00	28	109	days	EHTR
	7	13-AUG-15 11:13	01-DEC-15 14:00	28	110	days	EHTR
	8	12-AUG-15 17:50	01-DEC-15 14:00	28	111	days	EHTR
	9	12-AUG-15 15:20	01-DEC-15 14:00	28	111	days	EHTR
	10	12-AUG-15 17:30	01-DEC-15 14:00	28	111	days	EHTR
	11	12-AUG-15 16:30	01-DEC-15 14:00	28	111	days	EHTR
	12	12-AUG-15 16:00	01-DEC-15 14:00	28	111	days	EHTR
	13	12-AUG-15 11:30	01-DEC-15 14:00	28	111	days	EHTR
	14	12-AUG-15 12:00	01-DEC-15 14:00	28	111	days	EHTR
	15	12-AUG-15 12:35	01-DEC-15 14:00	28	111	days	EHTR
	16	12-AUG-15 13:10	01-DEC-15 14:00	28	111	days	EHTR
	17	12-AUG-15 09:10	01-DEC-15 14:00	28	111	days	EHTR
	18	12-AUG-15 10:30	01-DEC-15 14:00	28	111	days	EHTR
	19	12-AUG-15 10:00	01-DEC-15 14:00	28	111	days	EHTR
	20	12-AUG-15 09:30	01-DEC-15 14:00	28	111	days	EHTR
	21	12-AUG-15 09:18	01-DEC-15 14:00	28	111	days	EHTR
	22	12-AUG-15 08:48	01-DEC-15 14:00	28	111	days	EHTR
	23	11-AUG-15 16:45	01-DEC-15 14:00	28	112	days	EHTR
	24	12-AUG-15 13:18	01-DEC-15 14:00	28	111	days	EHTR
	25	12-AUG-15 13:00	01-DEC-15 14:00	28	111	days	EHTR
	26	12-AUG-15 12:40	01-DEC-15 14:00	28	111	days	EHTR
	27	12-AUG-15 12:30	01-DEC-15 14:00	28	111	days	EHTR
	28	12-AUG-15 12:00	01-DEC-15 14:00	28	111	days	EHTR
	29	12-AUG-15 11:30	01-DEC-15 14:00	28	111	days	EHTR
	59	Not provided	09-DEC-15 12:49	28	29	days	EHT
	60	Not provided	09-DEC-15 12:49	28	29	days	EHT
	61	13-AUG-15	02-DEC-15 12:13	28	111	days	EHTR
	62	12-AUG-15	02-DEC-15 12:13	28	112	days	EHTR
	63	12-AUG-15	02-DEC-15 12:13	28	112	days	EHTR
	64	12-AUG-15	02-DEC-15 12:13	28	112	days	EHTR

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Metals							
Mercury in Soil by CVAFS							
	65	12-AUG-15	02-DEC-15 12:13	28	112	days	EHTR

Legend & Qualifier Definitions:

EHTR-FM:	Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR:	Exceeded ALS recommended hold time prior to sample receipt.
EHTL:	Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT:	Exceeded ALS recommended hold time prior to analysis.
Rec. HT:	ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L1700936 were received on 10-NOV-15 10:30.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

ALS Sample ID	Wet Weight Filter + Sed (g)	# of Filters per Sample	Dry Weight Filter + Sed (g)	Dry Weight of Sediment = (Dry Weight Filter + sed) - (Filter Weight) (0.065367) (g)
L1700936-30	0.091	1	0.088	0.022633
L1700936-31	0.093	1	0.086	0.020633
L1700936-32	0.366	2	0.361	0.0230266
L1700936-33	0.086	1	0.086	0.020633
L1700936-34	0.099	1	0.099	0.033633
L1700936-35	0.095	1	0.094	0.028633
L1700936-36	0.084	1	0.084	0.018633
L1700936-37	0.099	1	0.098	0.032633
L1700936-38	0.259	2	0.259	0.128266
L1700936-39	0.481	2	0.162	0.031266
L1700936-40	0.101	1	0.101	0.035633
L1700936-41	0.083	1	0.083	0.017633
L1700936-42	0.102	1	0.101	0.035633
L1700936-43	0.095	1	0.091	0.025633
L1700936-44	0.157	1	0.078	0.012633
L1700936-45	0.073	1	0.073	0.007633
L1700936-46	0.754	7	0.725	0.267431
L1700936-47	0.454	2	0.172	0.041266
L1700936-48	2.021	6	0.594	0.201798
L1700936-49	1.901	6	0.543	0.150798
L1700936-50	0.99	3	0.351	0.154899
L1700936-51	1.642	5	0.468	0.141165
L1700936-52	0.446	3	0.438	0.241899
L1700936-53	1.384	4	0.453	0.191532
L1700936-54	0.333	4	0.332	0.070532
L1700936-55	0.161	2	0.161	0.030266
L1700936-56	1.346	4	0.414	0.152532
L1700936-57	0.48	4	0.466	0.204532
L1700936-58	4.387	2	2.827	2.2696266
L1700936-59 Blank	0.066	1	0.066	0.000633
L1700936-60 Blank	0.262	4	0.262	0.000532

Note: 0.065367 g is the average filter weight obtained from previous submision (L1638961).

Special Request - Total Sample Weight (Dry) Determination - L1700936

ALS Sample ID	Wet Weight (g)	Dry Weight) (g)	Mass of Water (g)	Moisture (%)	Total Sample Dry Weight (ALS+ Client) (g)
L1700936-1	970.692	442.2300	528.4620	54.4418	442.2300
L1700936-2	40.205	12.5510	27.654	68.7825	14.436g
L1700936-3	16.781	4.0050	12.776	76.1337	4.0050
L1700936-4	39.472	10.4300	29.042	73.5762	12.015g
L1700936-5	38.82	11.5230	27.297	70.3168	13.217g
L1700936-6	82.207	25.9620	56.245	68.4187	25.9620
L1700936-7	33.78	9.7200	24.06	71.2256	9.7200
L1700936-8	9.369	0.7120	8.657	92.4005	1.048g
L1700936-9	1.498	0.0850	1.413	94.3258	0.772g
L1700936-10	7.39	0.4030	6.987	94.5467	0.794g
L1700936-11	3.009	0.2830	2.726	90.5949	0.2830
L1700936-12	5.009	0.5160	4.493	89.6985	0.5160
L1700936-13	18.09	2.3980	15.692	86.7441	2.3980
L1700936-14	41.167	8.3880	32.779	79.6245	9.476g
L1700936-15	3.105	0.3920	2.713	87.3752	1.062g
L1700936-16	17.654	3.0780	14.576	82.5649	3.0780
L1700936-17	5.671	0.5520	5.119	90.2663	1.221g
L1700936-18	103.072	6.7680	96.304	93.4337	7.11g
L1700936-19	27.254	1.2800	25.974	95.3034	1.2800
L1700936-20	107.279	5.8790	101.4	94.5199	6.429g
L1700936-21	113.044	7.1460	105.898	93.6786	7.476g
L1700936-22	54.185	3.5850	50.6000	93.3838	3.5850
L1700936-23	49.566	3.2650	46.301	93.4128	3.2650
L1700936-24	20.588	1.0970	19.491	94.6717	1.0970
L1700936-25	67.979	6.1530	61.826	90.9487	6.1530
L1700936-26	60.056	3.8150	56.241	93.6476	4.183g
L1700936-27	28.026	1.4480	26.578	94.8334	1.4480
L1700936-28	52.627	5.0640	47.563	90.3776	5.57g
L1700936-29	28.27	1.9790	26.291	92.9996	2.34g

$$\%\ Moisture = \left(1 - \left\{\frac{Mass\ of\ Dry\ weight}{Mass\ of\ Wet\ weight}\right\}\right) * 100$$

Chain of Custody (COC) / Analytical Request Form

ALS Environmental

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

L1700936-COFC

COC Number: 14 -

Page 1 of 6

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Mount Polley Mining Corporation	Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Colleen Hughes	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	Box 12, Likely, BC, V0L 1N0	☐ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	250-790-2617	Email 1 or Fax chughes@mountpolley.com	Specify Date Required for E2,E or P:
		Email 2 pstecko@minnow.ca; kbatchelar@minnow.ca	Analysis Request

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☑ MAIL ☐ FAX	
Company:		Email 1 or Fax chughes@mountpolley.com	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q50734	Approver ID:	Cost Center:
Job #:	2574	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only)		ALS Contact: Can Dang	Sampler: KB, PS, CW

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	WHOLE SAMPLE DRY WEIGHT	WHOLE SAMPLE WET WEIGHT	MET-CCME+FULL-VA	C-TOT-ORG-LECO-SK (total organic carbon)	MET-TESS-STD-VA (Tessier)	S-TOT-LECO-SK (total sulphur)	PSA-PIPET+GRAVEL-SK (Particle Size)	PART-TSP-VA						Number of Containers
	QUL-ST-REF 2014	13-Aug-15	11:13	Sediment	R	R	R	R	R	R	R							3
	QUL-ST15-REF-6	13-Aug-15	12:00	Sediment	R	R	R	R	R	R								2
	QUL-ST15-REF-5	13-Aug-15	12:35	Sediment	R	R	R	R										1
	QUL-ST15-REF-4	14-Aug-15	10:15	Sediment	R	R	R	R	R	R								2
	QUL-ST15-REF-3	14-Aug-15	9:35	Sediment	R	R	R	R		R								2
	QUL-ST15-REF-2	14-Aug-15	8:45	Sediment	R	R	R	R	R	R	R							1
	QUL-ST15-REF-1	13-Aug-15	11:13	Sediment	R	R	R	R		R								1
	QUL-ST15-NF-6	12-Aug-15	17:50	Sediment	R	R	R	R										2
	QUL-ST15-NF-4	12-Aug-15	15:20	Sediment	R	R	R	R										2
	QUL-ST15-NF-3	12-Aug-15	17:30	Sediment	R	R	R											2
	QUL-ST15-NF-2	12-Aug-15	16:30	Sediment	R	R	R											1
	QUL-ST15-NF-1	12-Aug-15	16:00	Sediment	R	R	R											1

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No	PLEASE SPEAK TO CAN DANG BEFORE PROCESSING. Limited sample volumes, please use minimum sample for each analysis. Please treat all filters within a sample cup as one sample. MET-CCME on <2mm sediment fraction, TOC on <2mm sediment fraction. Please prioritize whole sample wet and dry weight, MET-CCME+FULL-VA, C-TOT-LECO-SK, then the tessier, and then the sulphur analyses, in this order of priority
Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)					
Frozen ☐		SIF Observations	Yes ☐	No ☐	
Ice packs	Yes ☐	No ☐	Custody seal intact	Yes ☐	No ☐
Cooling Initiated ☐					

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
			8.9	8	

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
	11/09/2015	10:30am					Nov 10	10:00

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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ALS-FM-0026e v08 Front/CH January 2014

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1. If any water samples are taken from a Regulated Drinking Water (DW) System please submit using an Authorized DW COC form

ALS Environmental

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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L1700936-COFC

COC Number: 14 -

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Mount Polley Mining Corporation	Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Colleen Hughes	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	Box 12, Likely, BC, V0L 1N0	☐ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	250-790-2617	Email 1 or Fax: chughes@mountpolley.com	Specify Date Required for E2, E or P:
		Email 2: pstecko@minnow.ca; kbatchelar@minnow.ca	

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☑ MAIL ☐ FAX
Company:		Email 1 or Fax
Contact:		Email 2

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q50734	Approver ID:	Cost Center:
Job #:	2542	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only)		ALS Contact: Can Dang	Sampler: KB, CW, OB

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	WHOLE SAMPLE DRY WEIGHT	WHOLE SAMPLE WET WEIGHT	MET-CCME+FULL-VA	C-TOT-ORG-LECO-SK (total organic carbon	MET-TESS-STD-VA (Tessier)	S-TOT-LECO-SK (total sulphur)	PSA-PIPET+GRAVEL-SK (Particle Size)	PART-TSP-VA	Number of Containers
													1
	QUL-ST15-FFF-5	12-Aug-15	11:30	Sediment	R	R	R	R					2
	QUL-ST15-FFF-4	12-Aug-15	12:00	Sediment	R	R	R	R	R	R			2
	QUL-ST15-FFF-3	12-Aug-15	12:35	Sediment	R	R	R	R					1
	QUL-ST15-FFF-2	12-Aug-15	13:10	Sediment	R	R	R	R					2
	QUL-ST15-FFF-1	12-Aug-15	9:10	Sediment	R	R	R	R					2
	POL-ST15-P2-6	12-Aug-15	10:30	Sediment	R	R	R	R	R	R	R		1
	POL-ST15-P2-5	12-Aug-15	10:00	Sediment	R	R	R	R					2
	POL-ST15-P2-4	12-Aug-15	9:30	Sediment	R	R	R	R	R	R	R		2
	POL-ST15-P2-3	12-Aug-15	9:18	Sediment	R	R	R	R	R	R	R		1
	POL-ST15-P2-2	12-Aug-15	8:48	Sediment	R	R	R	R		R	R		1
	POL-ST15-P2-1	11-Aug-15	16:45	Sediment	R	R	R	R		R	R		1

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No Are samples for human drinking water use? ☐ Yes ☐ No	PLEASE SPEAK TO CAN DANG BEFORE PROCESSING. Limited sample volumes, please use minimum sample for each analysis. Please treat all filters within a sample cup as one sample. MET-CCME on <2mm sediment fraction, TOC on <2mm sediment fraction. Please prioritize whole sample wet and dry weight, MET-CCME+FULL-VA, C-TOT-LECO-SK, then the tessier, and then the sulphur analyses, in this order of priority

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No ☐
Ice packs	Yes ☐	No ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated	☐			

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
			8.9	8	

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
	11/09/2015	10:30				Shafee	Nov. 10	10:00

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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1. If any water samples are taken from a Regulated Drinking Water (DW) System please submit using an Authorized DW COC form

ALS Environmental

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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L1700936-COFC

COC Number: 14 -

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Mount Polley Mining Corporation	Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Colleen Hughes	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	Box 12, Likely, BC, V0L 1N0	☐ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	250-790-2617	Email 1 or Fax: chughes@mountpolley.com	Specify Date Required for E2,E or P:
		Email 2: pstecko@minnow.ca; kbatchelar@minnow.ca	

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☑ MAIL ☐ FAX
Company:		Email 1 or Fax
Contact:		Email 2

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q50734	Approver ID:	Cost Center:
Job #:	2542	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only)		ALS Contact: Can Dang	Sampler: KB, CW, OB

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	WHOLE SAMPLE DRY WEIGHT	WHOLE SAMPLE WET WEIGHT	MET-CCME+FULL-VA	C-TOT-ORG-LECO-SK (total organic carbon)	MET-TESS-STD-VA (Tessier)	S-TOT-LECO-SK (total sulphur)	PSA-PIPET+GRAVEL-SK (Particle Size)	PART-TSP-VA	Number of Containers
	POL-ST15-P1-6	12-Aug-15	13:18	Sediment	R	R	R	R					1
	POL-ST15-P1-5	12-Aug-15	13:00	Sediment	R	R	R	R		R	R		1
	POL-ST15-P1-4	12-Aug-15	12:40	Sediment	R	R	R	R	R	R	R		2
	POL-ST15-P1-3	12-Aug-15	12:30	Sediment	R	R	R	R					1
	POL-ST15-P1-2	12-Aug-15	12:00	Sediment	R	R	R	R	R	R			2
	POL-ST15-P1-1	12-Aug-15	11:30	Sediment	R	R	R	R	R	R			2
	QUL-ST15-REF-6 Filter and Sediment	13-Aug-15	12:00	Composite			R					R	1
	QUL-ST15-REF-5 Filter and Sediment	13-Aug-15	12:35	Composite			R					R	1
	QUL-ST15-REF-4 Filter and Sediment	14-Aug-15	10:15	Composite			R					R	1
	QUL-ST15-REF-3 Filter and Sediment	14-Aug-15	9:35	Composite			R					R	1
	QUL-ST15-REF-2 Filter and Sediment	14-Aug-15	8:45	Composite			R					R	1

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ Yes ☐ No

Are samples for human drinking water use? ☐ Yes ☐ No

Special Instructions / Specify Criteria to add on report (client Use)

PLEASE SPEAK TO CAN DANG BEFORE PROCESSING. Limited sample volumes, please use minimum sample for each analysis. Please treat all filters within a sample cup as one sample. MET-CCME on <2mm sediment fraction, TOC on <2mm sediment fraction. Please prioritize whole sample wet and dry weight, MET-CCME+FULL-VA, C-TOT-LECO-SK, then the tessier, and then the sulphur analyses, in this order of priority

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐

Ice packs Yes ☐ No ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
			8.9	8	

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
	11/09/2015	10:30				Shafee	Nov. 10	10 00

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System please submit using an Authorized DW COC form

ALS Environmental
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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L1700936-COFC

COC Number: **14 -**

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Mount Polley Mining Corporation	Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Colleen Hughes	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	Box 12, Likely, BC, V0L 1N0	☐ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
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Phone:	250-790-2617	Email 1 or Fax chughes@mountpolley.com	Specify Date Required for E2,E or P:
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Invoice To		Invoice Distribution
Same as Report To	☑ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☑ MAIL ☐ FAX
Copy of Invoice with Report	☐ Yes ☐ No	
Company:		Email 1 or Fax
Contact:		Email 2

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q50734	Approver ID:	Cost Center:
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LSD:		Location:	
ALS Lab Work Order # (lab use only)		ALS Contact: Can Dang	Sampler: KB, CW, OB

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	WHOLE SAMPLE DRY WEIGHT	WHOLE SAMPLE WET WEIGHT	MET-CCME+FULL-VA	C-TOT-ORG-LECO-SK (total organic carbon)	MET-TESS-STD-VA (Tessier)	S-TOT-LECO-SK (total sulphur)	PSA-PIPET+GRAVEL-SK (Particle Size)	PART-TSP-VA						Number of Containers
	QUL-ST15-REF-1 Filter and Sediment	13-Aug-15	11:13	Composite			R					R						1
	QUL-ST15-NF-6 Filter and Sediment	12-Aug-15	17:50	Composite			R					R						1
	QUL-ST15-NF-4 Filter and Sediment	12-Aug-15	15:20	Composite			R					R						1
	QUL-ST15-NF-3 Filter and Sediment	12-Aug-15	17:30	Composite			R					R						1
	QUL-ST15-NF-2 Filter and Sediment	12-Aug-15	16:30	Composite			R					R						1
	QUL-ST15-NF-1 Filter and Sediment	12-Aug-15	16:00	Composite			R					R						1
	QUL-ST15-FFF-5 Filter and Sediment	12-Aug-15	11:30	Composite			R					R						1
	QUL-ST15-FFF-4 Filter and Sediment	12-Aug-15	12:00	Composite			R					R						1
	QUL-ST15-FFF-3 Filter and Sediment	12-Aug-15	12:35	Composite			R					R						1
	QUL-ST15-FFF-2 Filter and Sediment	12-Aug-15	13:10	Composite			R					R						1
	QUL-ST15-FFF-1 Filter and Sediment	12-Aug-15	9:10	Composite			R					R						1

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ Yes ☐ No

Are samples for human drinking water use? ☐ Yes ☐ No

Special Instructions / Specify Criteria to add on report (client Use)

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SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐
Ice packs Yes ☐ No ☐ Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C	FINAL COOLER TEMPERATURES °C
	8.9 8

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: [signature]	Date: 01/09/2015	Time: 10:30	Received by:	Date:	Time:	Received by: Shotell	Date: Nov 10	Time: 1000

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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Chain of Custody (COC) / Analytical Request Form

ALS Environmental
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Canada Toll Free: 1 800 668 9878

L1700936-COFC

COC Number: 14 -

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
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Phone:	250-790-2617	Email 1 or Fax	chughes@mountpolley.com	Specify Date Required for E2,E or P:
		Email 2	pstecko@minnow.ca; kbatchelar@minnow.ca	

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution	
	Copy of Invoice with Report ☐ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☑ MAIL ☐ FAX
Company:		Email 1 or Fax	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q50734	Approver ID:	Cost Center:
Job #:	2542	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only)		ALS Contact:	Can Dang	Sampler:	KB, CW, OB

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	WHOLE SAMPLE DRY WEIGHT	WHOLE SAMPLE WET WEIGHT	MET-CCME+FULL-VA	C-TOT-ORG-LECO-SK (total organic carbon)	MET-TESS-STD-VA (Tessier)	S-TOT-LECO-SK (total sulphur)	PSA-PIPET+GRAVEL-SK (Particle Size)	PART-TSP-VA	Number of Containers
	POL-ST15-P2-6 Filter and Sediment	12-Aug-15	10:30	Composite			R					R	1
	POL-ST15-P2-5 Filter and Sediment	12-Aug-15	10:00	Composite			R					R	1
	POL-ST15-P2-4 Filter and Sediment	12-Aug-15	9:30	Composite			R					R	1
	POL-ST15-P2-3 Filter and Sediment	12-Aug-15	9:18	Composite			R					R	1
	POL-ST15-P2-2 Filter and Sediment	12-Aug-15	8:48	Composite			R					R	1
	POL-ST15-P2-1 Filter and Sediment	11-Aug-15	16:45	Composite			R					R	1
	POL-ST15-P1-6 Filter and Sediment	12-Aug-15	13:16	Composite			R					R	1
	POL-ST15-P1-5 Filter and Sediment	12-Aug-15	13:00	Composite			R					R	1
	POL-ST15-P1-4 Filter and Sediment	12-Aug-15	12:40	Composite			R					R	1
	POL-ST15-P1-3 Filter and Sediment	12-Aug-15	12:30	Composite			R					R	1
	POL-ST15-P1-2 Filter and Sediment	12-Aug-15	12:00	Composite			R					R	1

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No Are samples for human drinking water use? ☐ Yes ☐ No	PLEASE SPEAK TO CAN DANG BEFORE PROCESSING. Limited sample volumes, please use minimum sample for each analysis. Please treat all filters within a sample cup as one sample. MET-CCME on <2mm sediment fraction, TOC on <2mm sediment fraction. Please prioritize whole sample wet and dry weight, MET-CCME+FULL-VA, C-TOT-LECO-SK, then the tessier, and then the sulphur analyses, in this order of priority

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No ☐
Ice packs	Yes ☐	No ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated	☐			

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
			8.9	8	

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
	11/09/2015	10:30				Shalee	Nov. 10	10 00

1. If any water samples are taken from a Regulated Drinking Water (DW) System please submit using an Authorized DW COC form

(ALS) Environmental

www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L1700936-COFC

COC Number: 14 -

Report To	
Company:	Mount Polley Mining Corporation
Contact:	Colleen Hughes
Address:	Box 12, Likely, BC, V0L 1N0
Phone:	250-790-2617

Report Format / Distribution	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report	☑ Yes ☐ No
☐ Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	chughes@mountpolley.com
Email 2	pstecko@minnow.ca; kbatchelar@minnow.ca

Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)

- R ☑ Regular (Standard TAT if received by 3 pm - business days)
- P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
- E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
- E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge

Specify Date Required for E2,E or P:

Invoice To	
Same as Report To	☑ Yes ☐ No
Copy of Invoice with Report	☐ Yes ☑ No
Company:	
Contact:	

Invoice Distribution	
Select Invoice Distribution:	☑ EMAIL ☑ MAIL ☐ FAX
Email 1 or Fax	
Email 2	

Project Information	
ALS Quote #:	Q50734
Job #:	2542
PO / AFE:	
LSD:	
ALS Lab Work Order # (lab use only)	

Oil and Gas Required Fields (client use)	
Approver ID:	Cost Center:
GL Account:	Routing Code:
Activity Code:	
Location:	
ALS Contact: Can Dang	Sampler: KB, CW, OB

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	WHOLE SAMPLE DRY WEIGHT	WHOLE SAMPLE WET WEIGHT	MET-CCME+FULL-VA	C-TOT-ORG-LECO-SK (total organic carbon)	MET-TESS-STD-VA (Tessier)	S-TOT-LECO-SK (total sulphur)	PSA-PIPET+GRAVEL-SK (Particle Size)	PART-TSP-VA	Number of Containers
	POL-ST15-P1-1 Filter and Sediment	12-Aug-15	11:30	Composite			R					R	1
	QUL-ST-REF-2014 Filter and Sediment	13-Aug-15	11:13	Composite			R					R	1
	Filter Blank (1 Filter)			Composite			R						1
	Filter Blank (4 Filters)			Composite			R						1

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ Yes ☐ No

Are samples for human drinking water use? ☐ Yes ☐ No

Special Instructions / Specify Criteria to add on report (client Use)

PLEASE SPEAK TO CAN DANG BEFORE PROCESSING. Limited sample volumes, please use minimum sample for each analysis. Please treat all filters within a sample cup as one sample. MET-CCME on <2mm sediment fraction, TOC on <2mm sediment fraction. Please prioritize whole sample wet and dry weight, MET-CCME+FULL-VA, C-TOT-LECO-SK, then the tessier, and then the sulphur analyses, in this order of priority

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐
Ice packs Yes ☐ No ☐ Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C:
FINAL COOLER TEMPERATURES °C: 8.9 8

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: [signature]	Date: 11/09/2015	Time: 10:30	Received by:	Date:	Time:	Received by: [signature]	Date: Nov.10	Time: 10:00

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1 If any water samples are taken from a Regulated Drinking Water (DW) System please submit using an Authorized DW COC form

8081 Lougheed Highway
Burnaby, British Columbia V5A 1W9
T: +1 604 253 4188
F: +1 604 253 6700
www.alsglobal.com

March 2, 2016

Minnow Environmental Inc. -A Trinity Consultants Company
101 - 1025 Hillside Ave.
Victoria, BC V8T 2A2

Dear Ms. Batchelar /Mr. Stecko

RE: **ALS CORRECTIVE ACTION REPORT (CAR) #13597 – ALS FILE L1700936 MOUNT POLLEY SEDIMENT COMPOSITE ERROR**

On November 10, 2015, the ALS Environmental – Burnaby laboratory received a submission of sediment samples collected on filters with a request for chemical analysis. ALS informed Minnow that some of the samples submitted had low quantities and insufficient weight to be able to meet the requested detection limits. On November 13, 2015, Minnow instructed ALS, via e-mail, to combine some samples as a single composite, to ensure sufficient sample to reach lower detection limits. All other samples were to remain as discrete samples.

Specifically, Minnow provided written instructions for preparing the sample "POL-ST15-P1 FILTER AND SEDIMENT COMPOSITE" by combining whole samples of those listed below:

- POL-ST15-P1-1 FILTER AND SEDIMENT
- POL-ST15-P1-2 FILTER AND SEDIMENT
- POL-ST15-P1-3 FILTER AND SEDIMENT
- POL-ST15-P1-4 FILTER AND SEDIMENT
- POL-ST15-P1-5 FILTER AND SEDIMENT
- POL-ST15-P1-6 FILTER AND SEDIMENT

During this process, ALS inadvertently included the sample identified as "QUL-ST-REF-2014 FILTER AND SEDIMENT" in the composite. This sample was intended to be analyzed as a discrete sample. Unfortunately, the entire sample volume was used in preparing this composite and results for the intended composite excluding the discrete sample cannot be separated out. In addition to the above, some data associated with this submission was also erroneously reported due to manual transcription errors of sample weights during the preparation process.

The causes of the errors have been investigated and have been determined to be due to an analyst error at the bench level and a missed peer review of the sample weight data used to calculate the results prior to data entry.

Corrective actions for this issue include:

- Correction of data results and reissue of the report

- Correction to sample identification to reflect the samples used in preparation of the erroneous composite sample

- All future projects involving non-routine sample handling or data calculations will require a data entry spreadsheet reviewed by the Department Supervisor prior to implementation.

- Where projects are identified with limited sample volumes, and compositing or other unique sample handling is required, a peer review step will be included in the procedure. This extra QC step will be used to confirm that the sample IDs match the requested sample composite or preparation plan provided by the client, prior to any final sample preparation steps.

We sincerely apologize for the inconvenience that this issue has caused to both Minnow Environmental Inc. and Mount Polley Mining Corp. We recognize the potential negative impacts that this issue has caused on the project and would be open to discussing any further suggestions to assist in resolution and mitigation of this issue.

Please feel free to contact myself or Can Dang if you require any additional information.

Sincerely,

Katherine Thomas, B.Sc.
Operations Manager

Can Dang, B.Sc.
Senior Account Manager

APPENDIX C

DATA QUALITY ASSESSMENT

APPENDIX C: DATA QUALITY ASSESSMENT

LIST OF TABLES

After Page…

C1.0 INTRODUCTION

Data Quality Assessment (DQA) was conducted on data collected as part of the Mount Polley Mining Corporation (MPMC) Sediment Quality Data Report. The objective of DQA is to define the overall quality of the data presented in the report, and, by extension, the confidence with which the data can be used to derive conclusions.

C1.1 Background

A variety of factors can influence the physical, chemical and biological measurements made in an environmental study and thus affect the accuracy and/or precision of the data. Depending on the magnitude of the problem, inaccuracy or imprecision have the potential to affect the reliability of any conclusions made from the data. Therefore, it is important to ensure that programs incorporate appropriate steps to control the non-natural sources of data variability (i.e., minimize the variability that does not reflect natural spatial and temporal variability in the environment) and thus assure the quality of the data.

Data quality as a concept is meaningful only when it relates to the intended use of the data. That is, one must know the context in which the data will be interpreted in order to establish a relevant basis for judging whether or not the data set are adequate. DQA involves comparison of actual field and laboratory measurement performance to data quality objectives (DQOs) established for a particular study, such as evaluation of method detection limits, blank sample data, data precision (based on field and laboratory duplicate samples), and data accuracy (based on matrix spike recoveries and/or analysis of standards or certified reference materials). A trusted analytical laboratory certified by Canadian Association for Laboratory Accreditation (CALA) with a rigorous internal quality assurance program was selected to ensure the highest possible quality.

DQOs were established a-priori to reflect reasonable and achievable performance expectations. Programs involving a large number of samples and analytes usually yield some results that exceed the DQOs. This is particularly so for multi-element scans since the analytical conditions are not necessarily optimal for every element included in the scan. Generally, scan results may be considered acceptable if no more than 20% of the parameters fail to meet the DQOs. Overall, the intent of DQA is not to reject any measurement that did not meet a DQO, but to ensure that any questionable data received more scrutiny to determine what effect, if any, this had on interpretation of results within the context of this project.

C1.2 Types of Quality Control Samples

Several types of quality control (QC) samples were assessed based on samples collected (or prepared) in the field and laboratory. These samples include the following:

- **Blanks** are samples of de-ionized water and/or appropriate reagent(s) that are handled and analyzed the same way as regular samples. These samples will reflect any contamination that occurred in the field (in the case of field or trip blanks) or the laboratory (in the case of laboratory or method blanks). Analyte concentrations should be non-detectable, however sample results associated with detectable laboratory (method) blank results are considered reliable as long as samples results are more than 5 times greater than the method blank result.
- **Laboratory Duplicates** are sub-sample pairs created in the laboratory from randomly selected field samples which are sub-sampled and then analyzed independently using identical analytical methods. The laboratory duplicate sample results reflect any variability introduced during laboratory sample handling and analysis and thus provide a measure of laboratory precision.
- **Certified Reference Materials and QC Standards** are samples containing known chemical concentrations that are processed and analyzed along with batches of environmental samples. The sample results are then compared to target results to provide a measure of analytical accuracy. The results are reported as the percent of the known amount

C2.0 BULK AND FILTERED SEDIMENT SAMPLES

C2.1 Method Detection Limits

The method detection limits (MDLs) of all analytical laboratory reports (L1618085, L1638961, L1700936; Appendix B) were examined and assessed only in cases where sample results for a given analyte were reported as less than the MDL. For the results of metals analyses of sediment and filtered sediment, MDLs were assessed relative to existing British Columbia sediment quality guidelines (BCSQG; BCMOE 2015, 2016). Achieved MDLs were below the available BCSQG for all analytes with the exception of chromium (Table C.1), which exceeded the Threshold Effect Level guideline in one sample only. Chromium has not been shown to be a parameter of interest or an indicator parameter in the areas sampled (Minnow 2015), therefore this did not affect data interpretation.

Achieved MDLs for the Selective Extraction Analysis (SEA or "Tessier" extractions) of sediment were assessed relative to target MDLs provided by the analytical laboratory (ALS Environmental) prior to sample submission and analysis. The reported MDLs for most SEA metals and extractants met the laboratory target MDLs with the exception of nickel and vanadium in the "exchangeable" extracts (Table C.2), which exceeded the target in 72% and 44% of results, respectively. Nickel was identified as a parameter of interest in sediment from some of the areas sampled (Minnow 2015), however the maximum reported MDL (3 mg/kg) was still well below the lower BCSQG of 16 mg/kg. Vanadium has not been identified as a parameter of interest (Minnow 2015). Therefore the achieved MDLs were appropriate for the study and the rare instances of results reported as <MDL did not adversely affect data interpretability.

C2.2 Laboratory Blank Sample Analysis

All of the reported method blank results associated with the analyses of total carbon, total organic carbon and metals in sediment were non-detectable (Appendix B) and are therefore considered reliable. Only eleven of the 582 (2%) of laboratory method blank results were detectable, and were predominantly associated with the "exchangeable and adsorbed" fraction of SEA. Seven of these detectable method blank samples were associated with sample results at least five-times greater than blank levels, and are therefore considered reliable. For the rest (four method blank samples), the Limits of Reporting were adjusted by the laboratory for samples with positive hits below five-times blank level (Appendix B). Consequently, the data with the adjusted MDLs are considered

Table C.1: Laboratory method detection limit (MDL) evaluation for sediment chemistry analysis relative to numerical sediment criteria. Only analytes with < MDL values are reported.

Parameter	Units	BC SQGs [a]	Maximum Method Detection Limit Achieved
Particle Size			
% Gravel (>2mm)	%	-	0.1
Metals			
Aluminum	mg/kg	- / -	50
Antimony	mg/kg	- / -	0.5
Arsenic	mg/kg	5.9 / 17	0.1
Barium	mg/kg	- / -	0.5
Beryllium	mg/kg	- / -	0.5
Bismuth	mg/kg	- / -	1
Boron	mg/kg	- / -	25
Cadmium	mg/kg	0.6 / 3.5	0.02
Calcium	mg/kg	- / -	50
Chromium	mg/kg	37.3 / 90	60
Cobalt	mg/kg	- / -	0.1
Copper	mg/kg	35.7 / 197	0.5
Iron	mg/kg	21,200 / 43,776	50
Lead	mg/kg	35 / 91	0.5
Lithium	mg/kg	- / -	10
Magnesium	mg/kg	- / -	20
Manganese	mg/kg	460 / 1,100	1
Mercury	mg/kg	0.17 / 0.486	0.005
Molybdenum	mg/kg	- / -	0.1
Nickel	mg/kg	16 / 75	0.5
Phosphorus	mg/kg	- / -	50
Potassium	mg/kg	- / -	100
Selenium	mg/kg	2 / -	0.2
Silver	mg/kg	0.5 / -	0.5
Sodium	mg/kg	- / -	50
Strontium	mg/kg	- / -	0.5
Thallium	mg/kg	- / -	0.25
Tin	mg/kg	- / -	10
Titanium	mg/kg	- / -	1
Uranium	mg/kg	- / -	0.05
Vanadium	mg/kg	- / -	0.2
Zinc	mg/kg	123 / 315	2
Zirconium	mg/kg	-	4

Maximum achieved method detection limit exceeds the BC Working Sediment Quality Guideline TEL or PEL.

[a] British Columbia Working Sediment Quality Guidelines (BCMOE 2015, 2016); TEL (Threshold or Lowest Effect Level) / PEL (Probable or Severe Effect Level).

Table C.2: Laboratory method detection limit (MDL) evaluation for selective extraction analyses (Tessier extracti relative to laboratory target method detection limits. Only analytes with < MDL values are reported.

Parameter	Units	ALS Laboratory Target Method Detection Limit	Maximum Method Detection Limit Achieved
Exchangeable & Adsorbed Metals			
Aluminum	mg/kg	50	50
Antimony	mg/kg	0.1	0.1
Arsenic	mg/kg	0.05	0.05
Beryllium	mg/kg	0.2	0.2
Bismuth	mg/kg	0.2	0.2
Chromium	mg/kg	0.5	0.5
Cobalt	mg/kg	0.1	0.1
Iron	mg/kg	50	50
Lead	mg/kg	0.5	0.5
Lithium	mg/kg	5	5
Molybdenum	mg/kg	0.5	0.5
Nickel	mg/kg	0.5	3
Phosphorus	mg/kg	50	50
Potassium	mg/kg	100	100
Selenium	mg/kg	0.2	0.2
Silver	mg/kg	0.1	0.1
Sodium	mg/kg	100	100
Thallium	mg/kg	0.05	0.05
Tin	mg/kg	2	2
Titanium	mg/kg	1	1
Uranium	mg/kg	0.05	0.05
Vanadium	mg/kg	0.2	0.3
Zinc	mg/kg	1	1
Carbonate Metals	mg/kg		
Aluminum	mg/kg	50	50
Antimony	mg/kg	0.1	0.1
Arsenic	mg/kg	0.05	0.05
Beryllium	mg/kg	0.2	0.2
Bismuth	mg/kg	0.2	0.2
Cadmium	mg/kg	0.05	0.05
Chromium	mg/kg	5	5
Iron	mg/kg	50	50
Lead	mg/kg	0.5	0.5
Lithium	mg/kg	5	5
Molybdenum	mg/kg	0.5	0.5
Nickel	mg/kg	2	2
Phosphorus	mg/kg	50	50
Selenium	mg/kg	0.2	0.2
Silver	mg/kg	0.1	0.1
Thallium	mg/kg	0.05	0.05
Tin	mg/kg	2	2
Titanium	mg/kg	5	5
Vanadium	mg/kg	0.2	0.2
Easily Reducible Metals and Iron Oxides	mg/kg		
Antimony	mg/kg	0.1	0.1
Beryllium	mg/kg	0.2	0.2
Bismuth	mg/kg	0.2	0.2
Cadmium	mg/kg	0.05	0.05
Lithium	mg/kg	5	5
Molybdenum	mg/kg	0.5	0.5
Phosphorus	mg/kg	50	50
Selenium	mg/kg	0.2	0.2
Silver	mg/kg	0.1	0.1
Thallium	mg/kg	0.05	0.05
Tin	mg/kg	2	2
Titanium	mg/kg	1	1
Organic and Mineral Bound Metals	mg/kg		
Antimony	mg/kg	0.1	0.1
Beryllium	mg/kg	0.2	0.2
Bismuth	mg/kg	0.2	0.2
Cadmium	mg/kg	0.05	0.05
Lead	mg/kg	0.5	0.5
Lithium	mg/kg	5	5
Molybdenum	mg/kg	0.5	0.5
Silver	mg/kg	0.1	0.1
Thallium	mg/kg	0.05	0.05
Tin	mg/kg	2	2
Titanium	mg/kg	1	1
Residual Metals	mg/kg		
Beryllium	mg/kg	0.2	0.2
Bismuth	mg/kg	0.2	0.2
Cadmium	mg/kg	0.05	0.05
Selenium	mg/kg	0.2	0.2
Silver	mg/kg	0.1	0.1
Thallium	mg/kg	0.05	0.05

Achieved Method Detection Limit exceeds the target MDL quoted by ALS Laboratory

reliable. The method blank results for this study indicate no inadvertent contamination of samples within the laboratory during sediment analysis.

C2.3 Data Precision

Field Duplicate Samples

Sediment collected from the sediment traps was generally quite limited in volume. Due to this limited sample availability, field duplicate precision was not evaluated.

Laboratory Duplicate Samples

Within the three laboratory reports L1618085, L1638961, and L1700936, three laboratory duplicate samples were used to separately evaluate the precision of metals and total sulphur results; two laboratory duplicates were used to separately evaluate the precision of total organic carbon, total carbon, and SEA metals results; and pH and particle size precision were each evaluated in one laboratory duplicate (Appendix B). All laboratory duplicate results (383 in total) met the data quality objectives of ALS Environmental (Appendix B), thus laboratory precision achieved in this study is considered good.

C2.4 Data Accuracy

Data accuracy within all three laboratory reports was evaluated based on results of internal reference materials (IRM), certified reference materials (CRM), and laboratory control samples (LCS; Appendix B). Specifically, six IRM samples were used to evaluate the accuracy of total sulphur results, four for total organic carbon results, and one each to assess the accuracy of particle size and total carbon. Ten CRM and five LCS samples were used to evaluate the accuracy of metals analyses, and three LCS were used in evaluating the accuracy of SEA metals (Appendix B). All IRM, CRM and LCS results (852 in total) met ALS Environmental's data quality objectives for accuracy (Appendix B), thus laboratory accuracy achieved in this study is considered good.

C2.5 Holding Time and General Laboratory Flags

Recommended holding times for all sediment samples within laboratory reports L1638961 and L1700936 were exceeded for both total organic carbon and mercury analyses (28 days; Appendix B). Mercury is not a parameter of interest in the sampled sediments (Minnow 2015), therefore data interpretability will not be affected by the exceeded hold time. Although the exceeded hold time for total organic carbon analyses is unlikely to affect analysis results, this should considered in the data interpretation.

C3.0 DATA QUALITY STATEMENT

Data collected for the 2014 - 2015 Assessment of Sediment Deposition Rate and Quality at the Mount Polley Mine was of acceptable quality as characterized by good detectability, negligible analyte concentrations in method blanks, good laboratory precision, and good laboratory accuracy. Therefore, the associated data can be used with a good level of confidence in the derivation of conclusions.

C4.0 REFERENCES

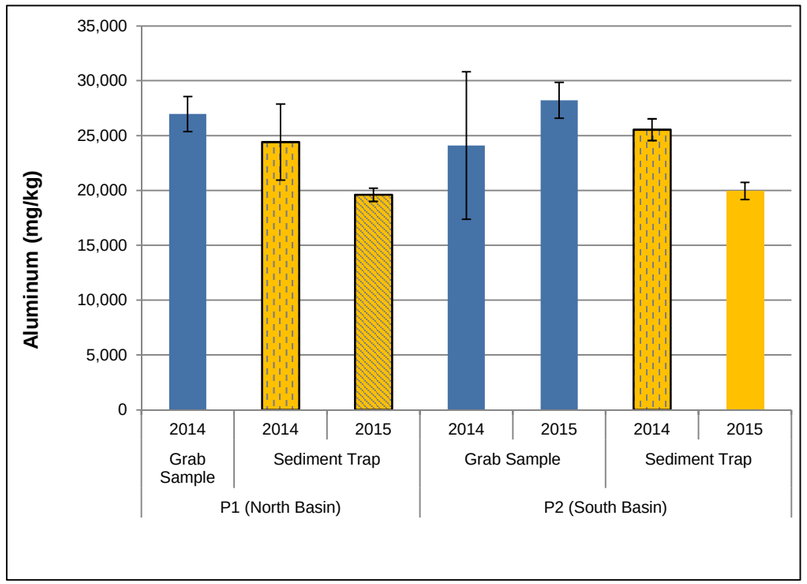
BCMoE (British Columbia Ministry of Environment). 2015. Working Water Quality Guidelines for British Columbia (2015). Updated April 2015.

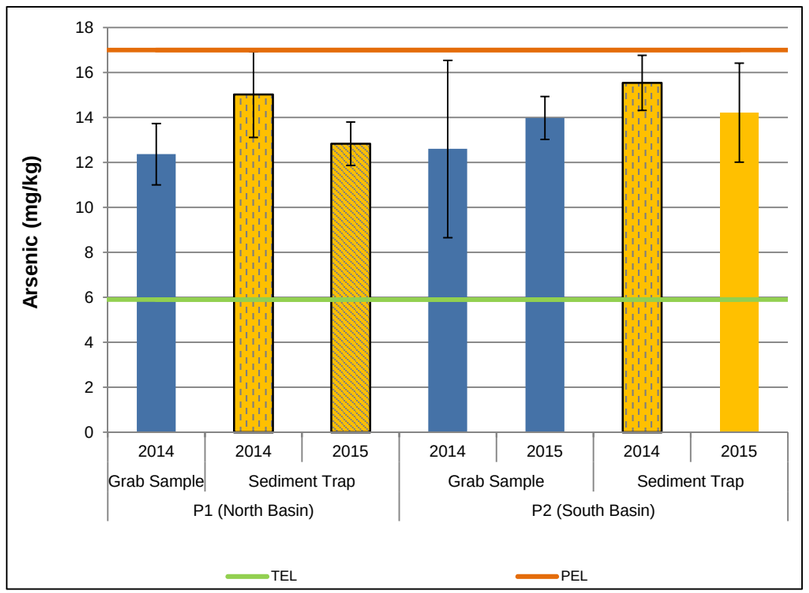
BCMoE (British Columbia Ministry of Environment). 2016. Approved Water Quality Guidelines for British Columbia (2016). Updated March 2016. Available from http://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/waterquality/waterqualityguidesobjs/approved-wat-qual-guides/final_approved_wqg_summary_march_2016.pdf.

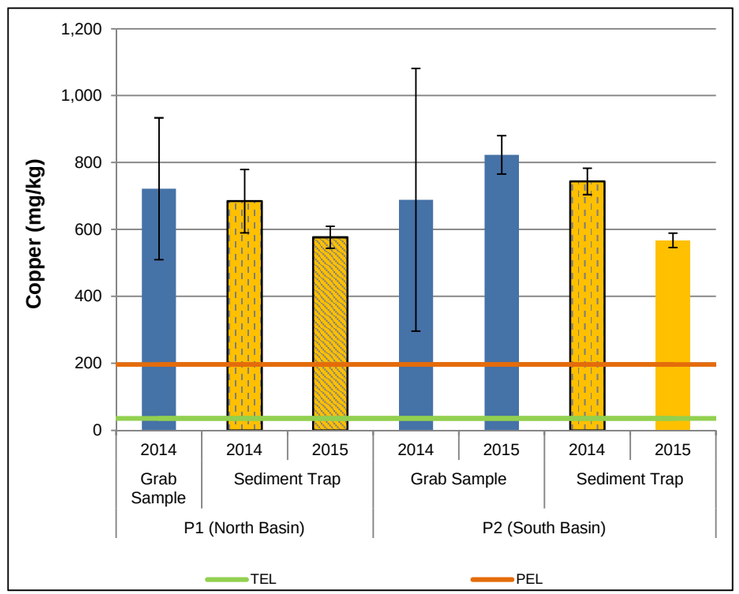
Minnow (Minnow Environmental Inc.). 2015. Mount Polley Tailings Dam Failure – Sediment Quality Impact Characterization. Prepared for Mount Polley Mining Corporation, May 2015.

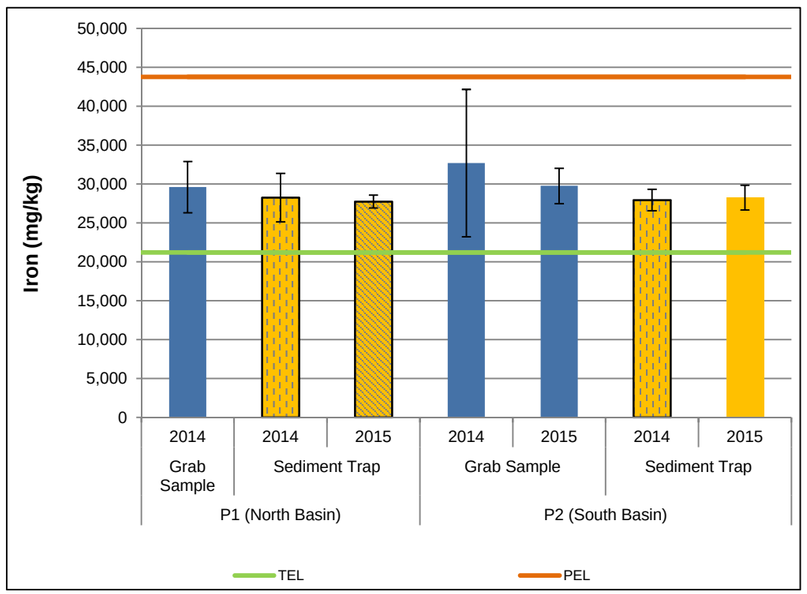
APPENDIX D

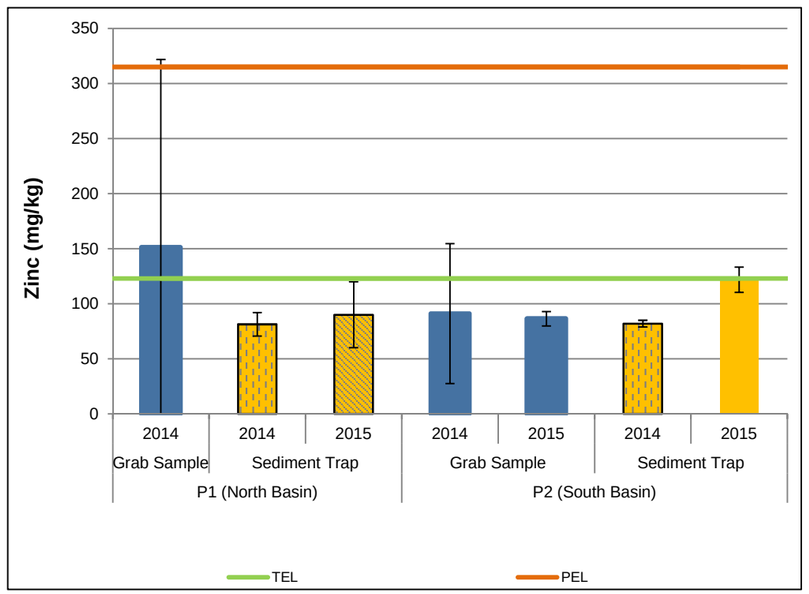
SEDIMENT QUALITY DATA











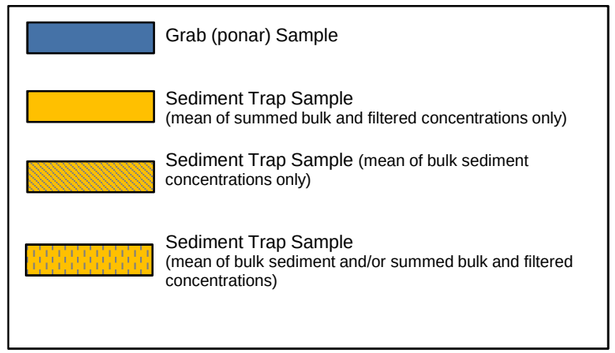


Figure D.1: Polley Lake sediment mean metal concentrations (± t*SE) for parameters of interest and aluminum collected by grab sampling and by sediment traps, 2014 - 2015 [1,2]. Displayed sediment trap metal concentrations are the sum of bulk and filtered sediment (where available) [3].

[1] "2014" sediment traps = August/October 2014 to May 2015 deployment; "2015" sediment traps = May 2015 to August 2015 deployment.

[2] TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015).

[3] Metal concentrations were measured in the < 63µm sediment fraction for grab sampling, and < 2mm fraction for sediment trap material.

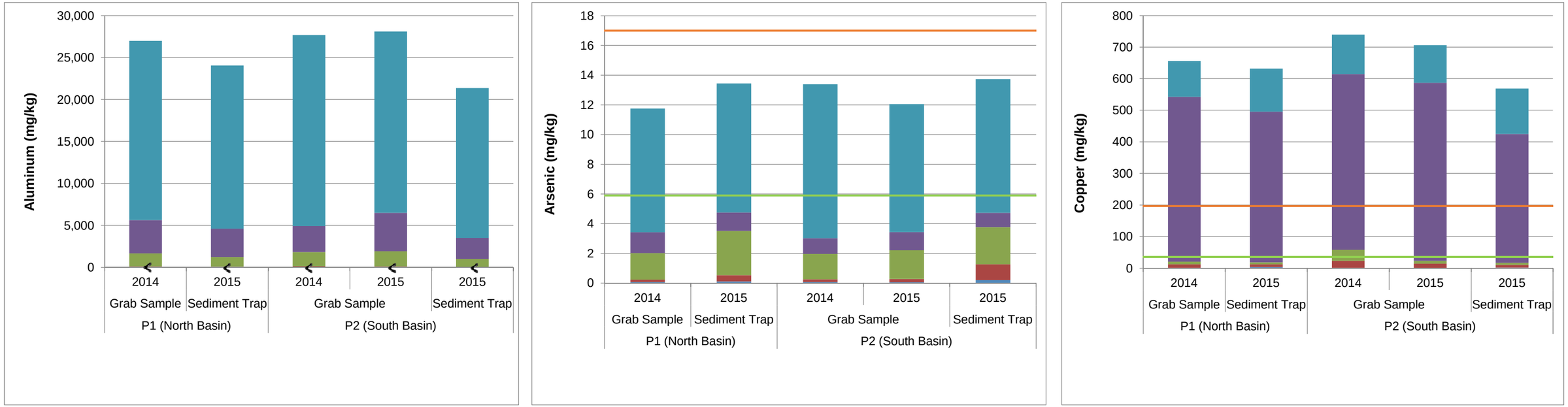


Figure D.2: Polley Lake mean concentrations of selectively extracted parameters of interest in sediment collected by grab sampling and by sediment traps, 2015 [1]. Selective extractions included Exchangeable and Adsorbed Metals (Ex), Carbonate Metals (Carb), Easily Reducible Metals and Iron Oxides (ER&Fe), Organic and Mineral Bound Metals (O), and Residual Metals (Res) [2].

[1] 2015 sediment traps were deployed in May 2015 and retrieved in August 2015.
[2] TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015). Mean values are shown with a < symbol if all data used in their calculation were below the method detection limit (MDL).

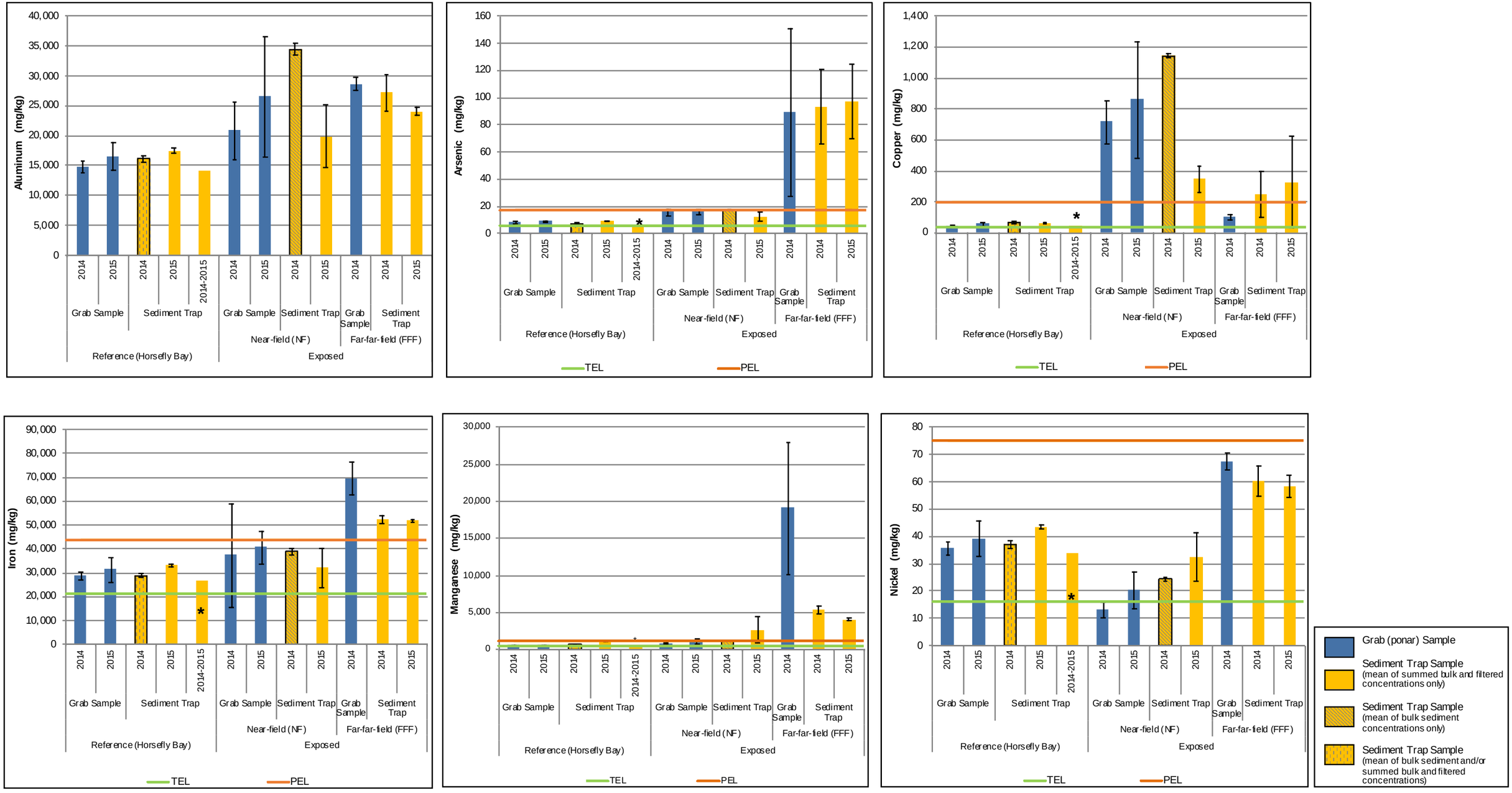


Figure D.3: Quesnel Lake profundal area sediment mean metal concentrations (± t*SE) for parameters of interest and aluminum collected by grab sampling and in sediment traps, 2014 - 2015 [1,2]. Displayed sediment trap metal concentrations are the sum of bulk and filtered sediment (where available) [3].

* Metal analyses were only performed on a single sediment trap sample (n=1), therefore mean values are not shown.

[1] "2014" sediment traps = August/October 2014 to May 2015 deployment; "2015" sediment traps = May 2015 to August 2015 deployment; "2014-2015" sediment traps = September 2014 to August 2015 deployment.

[2] TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015). Mean values are shown with a < symbol if all data used in their calculation were below the method detection limit (MDL).

[3] Metal concentrations were measured in the < 63µm sediment fraction for grab sampling, and < 2mm fraction for sediment trap material.

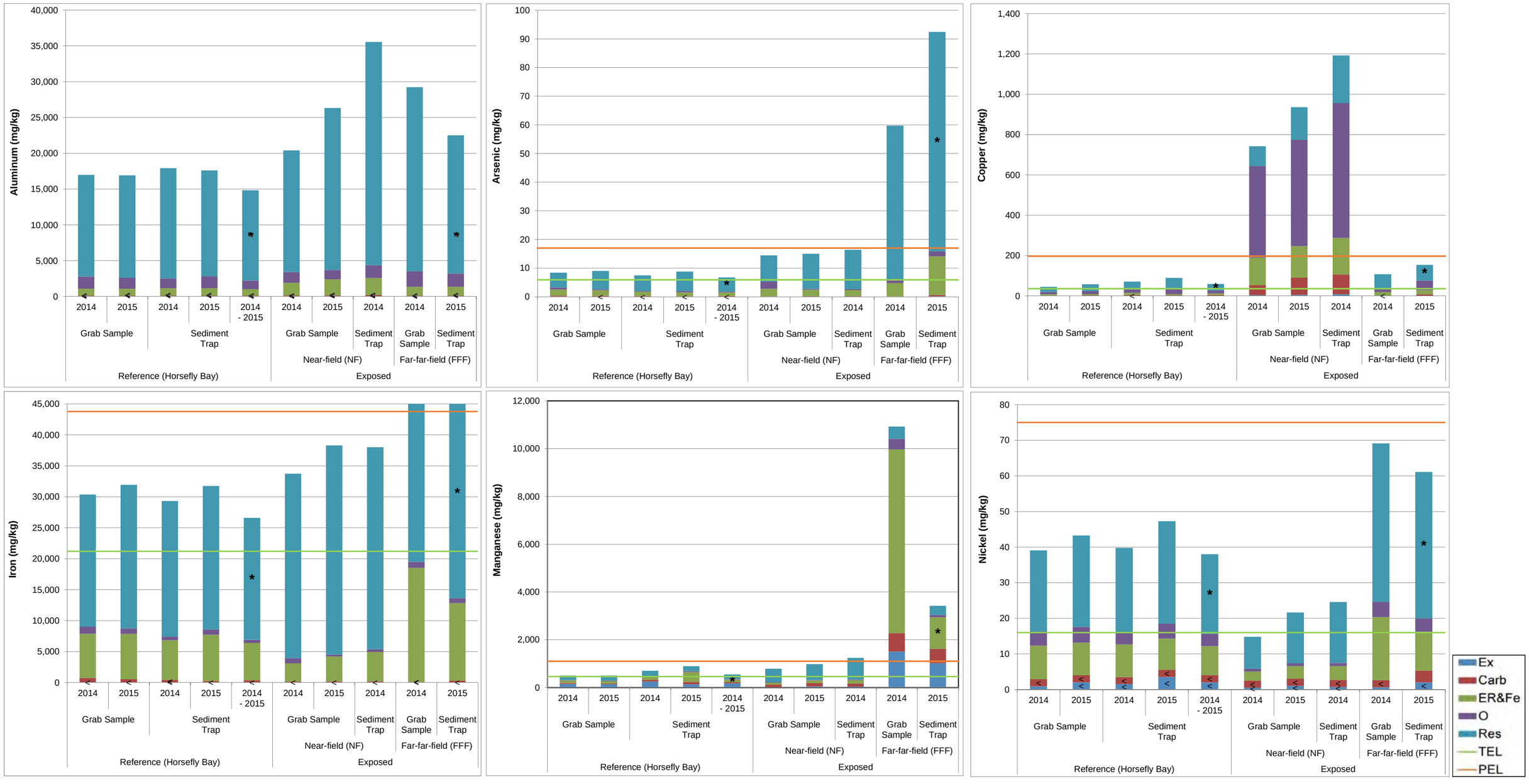


Figure D.4: Mean concentrations of selectively extracted parameters of interest in sediment collected by grab sampling and by sediment traps in exposed (NF and FFF) are reference (REF) areas of Quesnel Lake, Mount Polley Mine, 2014 - 2015 [1]. Selective extractions included Exchangeable & Adsorbed Metals (Ex), Carbonate Metals (Carb), Easily Reducible Metals and Iron Oxides (ER&Fe), Organic and Mineral Bound Metals (O), and Residual Metals (Res) [2].

* Selective extraction analyses were performed on a single sediment trap sample (n=1), therefore mean values are not shown.

[1] "2014" sediment traps = August 2014 to May 2015 deployment; "2015" sediment traps = May 2015 to August 2015 deployment; "2014-2015" sediment traps = August 2014 to August 2015 deployment.

[2] TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015). Mean values are shown with a < symbol if all data used in their calculation were below the method detection limit (MDL).

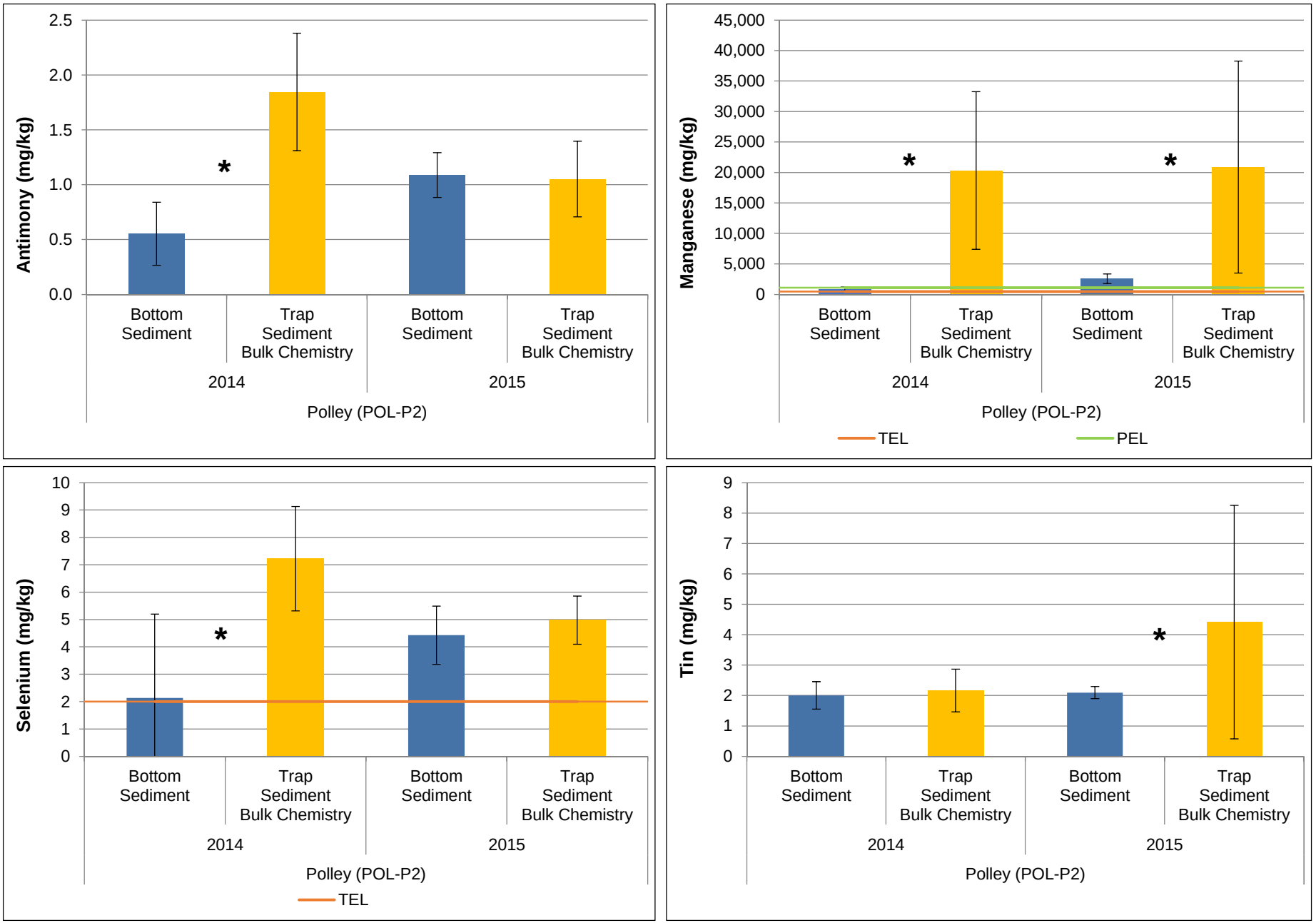
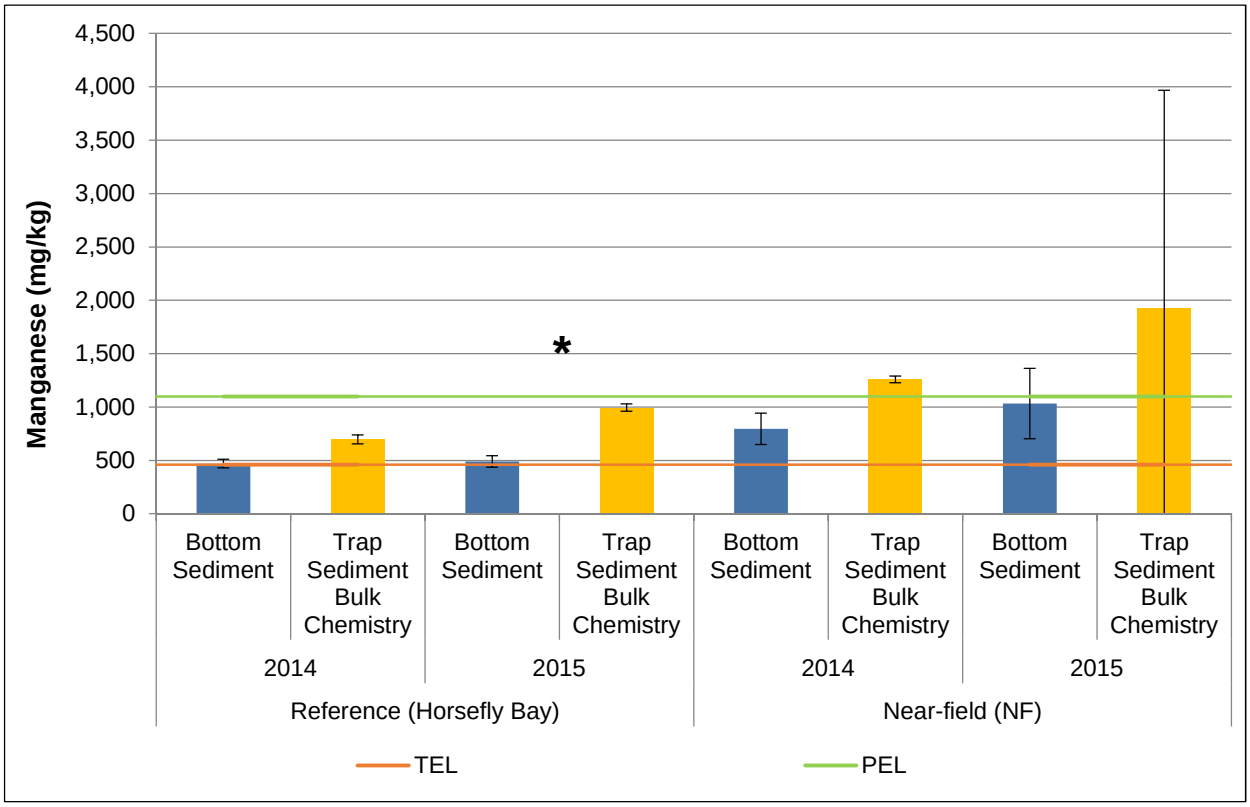


Figure D.5: Polley Lake exposed area sediment mean metal concentrations (± t*SE), 2014 and 2015. Asterisk (*) indicates that sediment trap concentrations are greater than or equal to double the grab sample concentrations within the year.



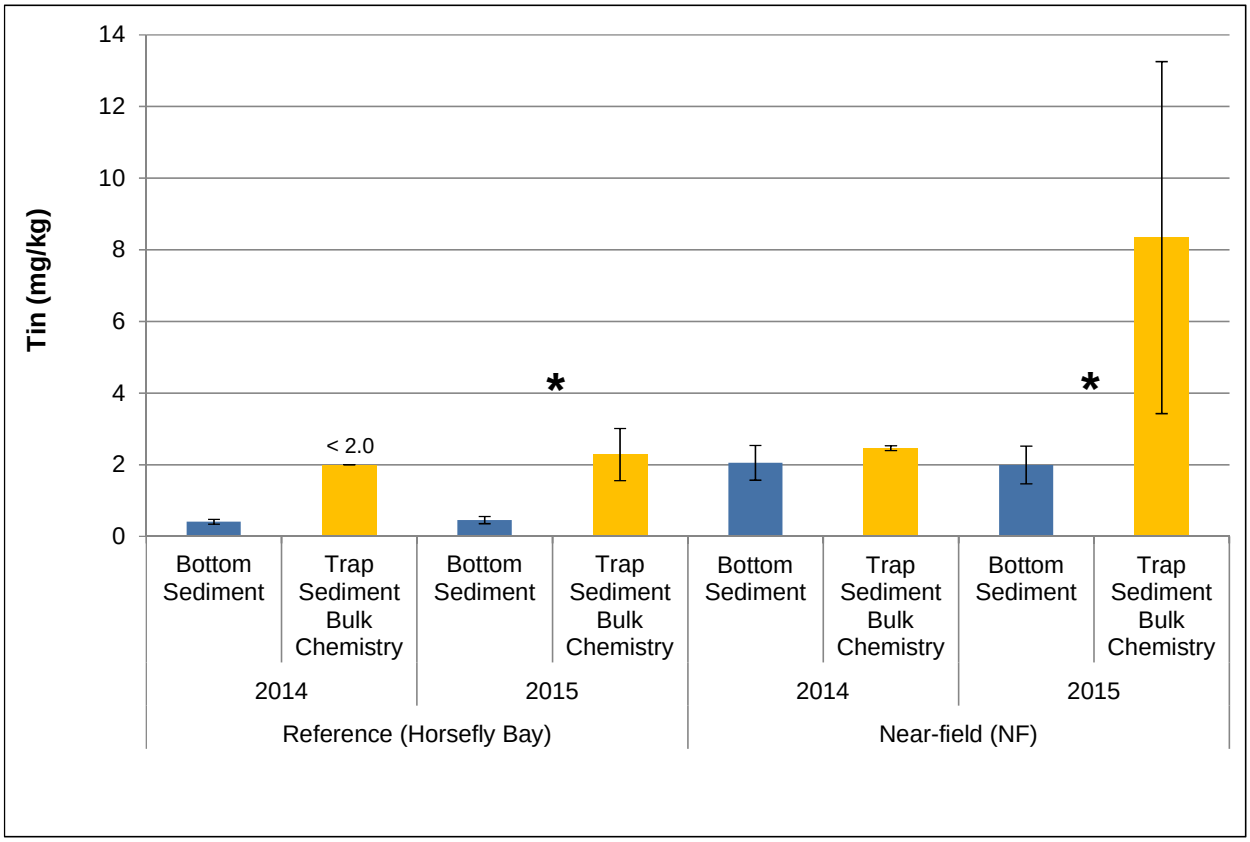


Figure D.6: Quesnel Lake exposed area sediment mean metal concentrations (± t*SE), 2014 and 2015. Asterisk (*) indicates that sediment trap concentrations are greater than or equal to 200% greater than grab sample concentrations within the year.

Table D.1: Raw sediment quality data for bulk material collected in sediment traps deployed in Polley Lake, Mount Polley Mine, 2014 Set (October 2014 - May 2015) [1].

Parameter	Units	BC SQGs [2]		P1 (North Basin)											
				POL-ST-P1-1	POL-ST-P1-2	POL-ST-P1-3	POL-ST-P1-5	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		TEL	PEL	24-May-15	24-May-15	24-May-15	24-May-15								
Physical Tests															
pH (1:2 soil:water)	pH	-	-	7.58	7.44	7.51	7.51	7.51	7.51	0.06	0.03	7.44	7.58	7.42	7.60
Organic / Inorganic Carbon (<2mm fraction)															
Total Organic Carbon	%	-	-	5.82	-	5.24	-	5.53	5.53	0.41	0.29	5.24	5.82	1.84	9.22
Metals (<2mm fraction)															
Aluminum	mg/kg	-	-	23,600	26,300	23,000	22,800	23,925	23,300	1,619	810	22,800	26,300	21,349	26,501
Antimony	mg/kg	-	-	1.68	1.92	1.84	1.66	1.78	1.76	0.13	0.06	1.66	1.92	1.57	1.98
Arsenic	mg/kg	5.9	17	13.7	15.1	15.0	14.1	14.5	14.6	0.7	0.3	13.7	15.1	13.4	15.6
Barium	mg/kg	-	-	484	485	493	437	475	485	25	13	437	493	434	515
Beryllium	mg/kg	-	-	0.87	0.90	0.80	0.81	0.85	0.84	0.05	0.02	0.80	0.90	0.77	0.92
Bismuth	mg/kg	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	-	-	11.2	12.1	9.5	10.2	10.8	10.7	1.1	0.6	9.5	12.1	8.9	12.6
Cadmium	mg/kg	0.6	3.5	0.238	0.277	0.274	0.251	0.260	0.263	0.019	0.009	0.238	0.277	0.230	0.290
Calcium	mg/kg	-	-	17,900	20,100	18,100	17,700	18,450	18,000	1,112	556	17,700	20,100	16,681	20,219
Chromium	mg/kg	37.3	90	17.8	19.7	18.9	18.6	18.8	18.8	0.8	0.4	17.8	19.7	17.5	20.0
Cobalt	mg/kg	-	-	21.3	21.6	21.2	21.3	21.4	21.3	0.2	0.1	21.2	21.6	21.1	21.6
Copper	mg/kg	35.7	197	643	727	660	644	669	652	40	20	643	727	605	732
Iron	mg/kg	21,200	43,776	26,900	29,000	26,500	27,800	27,550	27,350	1,109	555	26,500	29,000	25,785	29,315
Lead	mg/kg	35	91	9.54	10.5	9.63	9.50	9.79	9.59	0.47	0.24	9.50	10.5	9.04	10.5
Lithium	mg/kg	-	-	19.5	20.1	18.4	18.4	19.1	19.0	0.8	0.4	18.4	20.1	17.8	20.4
Magnesium	mg/kg	-	-	11,700	12,500	11,700	11,700	11,900	11,700	400	200	11,700	12,500	11,264	12,536
Manganese	mg/kg	460	1,100	16,800	16,100	15,400	14,400	15,675	15,750	1,024	512	14,400	16,800	14,045	17,305
Mercury	mg/kg	0.17	0.49	0.116	0.120	0.117	0.118	0.118	0.118	0.002	0.001	0.116	0.120	0.115	0.120
Molybdenum	mg/kg	-	-	5.01	8.23	8.88	9.76	7.97	8.56	2.07	1.04	5.01	9.76	4.68	11.26
Nickel	mg/kg	16	75	17.9	19.5	18.9	18.0	18.6	18.5	0.76	0.38	17.9	19.5	17.4	19.8
Phosphorus	mg/kg	-	-	2,470	2,160	2,240	2,390	2,315	2,315	141	70	2,160	2,470	2,091	2,539
Potassium	mg/kg	-	-	2,680	2,720	2,350	2,490	2,560	2,585	172	86	2,350	2,720	2,286	2,834
Selenium	mg/kg	2	-	6.56	7.47	7.00	6.83	6.97	6.92	0.38	0.19	6.56	7.47	6.36	7.57
Silver	mg/kg	0.5	-	0.30	0.32	0.29	0.29	0.30	0.30	0.01	0.01	0.29	0.32	0.28	0.32
Sodium	mg/kg	-	-	1,450	1,510	1,460	1,350	1,443	1,455	67	34	1,350	1,510	1,336	1,549
Strontium	mg/kg	-	-	268	289	289	245	273	279	21	10	245	289	239	306
Total Sulphur	mg/kg	-	-	3,000	3,900	-	3,900	3,600	3,900	520	300	3,000	3,900	2,309	4,891
Thallium	mg/kg	-	-	<0.050	0.06	<0.050	<0.050	0.05	<0.050	0.01	0.003	<0.050	0.06	0.04	0.06
Tin	mg/kg	-	-	<2.0	2.1	<2.0	<2.0	2.0	<2.0	0.1	0.03	<2.0	2.1	1.9	2.1
Titanium	mg/kg	-	-	1,290	1,490	1,140	1,210	1,283	1,250	151	76	1,140	1,490	1,042	1,523
Uranium	mg/kg	-	-	1.11	1.23	1.11	1.11	1.14	1.11	0.06	0.03	1.11	1.23	1.04	1.24
Vanadium	mg/kg	-	-	110	114	107	104	109	109	4	2	104	114	102	116
Zinc	mg/kg	123	315	75.4	77.5	73.6	89.3	79.0	76.5	7.1	3.5	73.6	89.3	67.7	90.2
Zirconium	mg/kg	-	-	2.2	3.2	2.4	2.4	2.6	2.4	0.4	0.2	2.2	3.2	1.8	3.3

Value is greater than TEL.
Value is greater than PEL.

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] British Columbia Sediment Quality Guidelines; TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015, 2016).

Table D.1: Raw sediment quality data for bulk material collected in sediment traps deployed in Polley Lake, Mount Polley Mine, 2014 Set (October 2014 - May 2015) [1].

Parameter	Units	BC SQGs [2]		P2 (South Basin)													
				POL-ST-P2-1	POL-ST-P2-2	POL-ST-P2-3	POL-ST-P2-4	POL-ST-P2-5	POL-ST-P2-6	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**23-May-15**	**23-May-15**	**23-May-15**	**23-May-15**	**23-May-15**	**23-May-15**								
Physical Tests																	
pH (1:2 soil:water)	pH	-	-	7.24	7.77	7.74	7.66	7.56	7.79	7.63	7.70	0.21	0.08	7.24	7.79	7.41	7.84
Organic / Inorganic Carbon (<2mm fraction)																	
Total Organic Carbon	%	-	-	4.00	4.94	5.17	5.27	3.20	4.19	4.46	4.57	0.81	0.33	3.20	5.27	3.61	5.31
Metals (<2mm fraction)																	
Aluminum	mg/kg	-	-	27,200	25,000	24,700	25,800	24,900	24,500	25,350	24,950	1,009	412	24,500	27,200	24,290	26,410
Antimony	mg/kg	-	-	2.14	2.08	1.70	1.78	1.67	1.71	1.85	1.75	0.21	0.08	1.67	2.14	1.63	2.06
Arsenic	mg/kg	5.9	17	15.7	15.8	17.0	15.1	13.8	14.3	15.3	15.4	1.1	0.5	13.8	17.0	14.1	16.5
Barium	mg/kg	-	-	507	530	491	482	482	464	493	487	23	9.4	464	530	468	517
Beryllium	mg/kg	-	-	0.96	0.85	0.87	0.89	0.86	0.91	0.89	0.88	0.04	0.02	0.85	0.96	0.85	0.93
Bismuth	mg/kg	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	-	-	11.8	12.4	11.6	11.4	10.3	11.4	11.5	11.5	0.7	0.3	10.3	12.4	10.8	12.2
Cadmium	mg/kg	0.6	3.5	0.292	0.287	0.231	0.261	0.206	0.247	0.254	0.254	0.033	0.013	0.206	0.292	0.219	0.289
Calcium	mg/kg	-	-	22,500	22,100	20,100	21,900	18,900	21,400	21,150	21,650	1,379	563	18,900	22,500	19,702	22,598
Chromium	mg/kg	37.3	90	19.9	18.1	16.7	17.8	15.7	16.4	17.4	17.3	1.5	0.6	15.7	19.9	15.9	19.0
Cobalt	mg/kg	-	-	23.4	22.9	22.5	23.3	21.6	22.0	22.6	22.7	0.7	0.3	21.6	23.4	21.9	23.4
Copper	mg/kg	35.7	197	799	719	682	741	757	725	737	733	39	16	682	799	696	778
Iron	mg/kg	21,200	43,776	29,800	27,800	27,300	28,300	26,200	26,500	27,650	27,550	1,313	536	26,200	29,800	26,272	29,028
Lead	mg/kg	35	91	11.2	9.35	9.37	9.85	10.0	9.60	9.90	9.73	0.69	0.28	9.35	11.2	9.17	10.6
Lithium	mg/kg	-	-	21.3	19.3	19.8	20.3	19.3	20.1	20.0	20.0	0.7	0.3	19.3	21.3	19.2	20.8
Magnesium	mg/kg	-	-	13,700	12,500	12,600	13,400	12,900	12,800	12,983	12,850	471	192	12,500	13,700	12,489	13,478
Manganese	mg/kg	460	1,100	16,000	24,700	25,800	22,500	13,000	20,000	20,333	21,250	5,026	2,052	13,000	25,800	15,058	25,609
Mercury	mg/kg	0.17	0.49	0.118	0.116	0.114	0.109	0.103	0.105	0.111	0.112	0.006	0.002	0.103	0.118	0.104	0.117
Molybdenum	mg/kg	-	-	8.72	6.71	13.2	13.1	5.58	9.58	9.48	9.15	3.18	1.30	5.58	13.2	6.15	12.8
Nickel	mg/kg	16	75	19.5	18.3	16.9	18.2	15.9	16.7	17.6	17.6	1.32	0.54	15.9	19.5	16.2	19.0
Phosphorus	mg/kg	-	-	2,010	2,250	2,350	2,250	1,560	2,050	2,078	2,150	285	116	1,560	2,350	1,779	2,378
Potassium	mg/kg	-	-	2,570	2,530	2,510	2,550	2,400	2,500	2,510	2,520	60	24	2,400	2,570	2,447	2,573
Selenium	mg/kg	2	-	8.15	7.55	7.13	7.62	5.99	6.90	7.22	7.34	0.74	0.30	5.99	8.15	6.44	8.00
Silver	mg/kg	0.5	-	0.35	0.31	0.30	0.32	0.30	0.29	0.31	0.31	0.02	0.01	0.29	0.35	0.29	0.33
Sodium	mg/kg	-	-	1,660	1,490	1,400	1,670	1,580	1,580	1,563	1,580	103	42	1,400	1,670	1,455	1,672
Strontium	mg/kg	-	-	294	283	279	283	298	293	288	288	7.6	3.1	279	298	280	296
Total Sulphur	mg/kg	-	-	2,500	3,400	3,100	3,700	2,800	3,700	3,200	3,250	490	200	2,500	3,700	2,686	3,714
Thallium	mg/kg	-	-	0.050	0.050	<0.050	<0.050	<0.050	<0.050	0.050	<0.050	0	0	<0.050	0.050	0.050	0.050
Tin	mg/kg	-	-	2.2	<2.0	<2.0	2.7	2.1	<2.0	2.2	2.1	0.3	0.1	<2.0	2.7	1.9	2.5
Titanium	mg/kg	-	-	1,660	1,490	1,390	1,480	1,480	1,470	1,495	1,480	89	36	1,390	1,660	1,402	1,588
Uranium	mg/kg	-	-	1.36	1.18	1.20	1.27	1.15	1.17	1.22	1.19	0.08	0.03	1.15	1.36	1.14	1.30
Vanadium	mg/kg	-	-	125	126	120	120	107	116	119	120	6.9	2.8	107	126	112	126
Zinc	mg/kg	123	315	85.5	78.2	85.6	80.5	79.2	76.5	80.9	79.9	3.8	1.6	76.5	85.6	76.9	84.9
Zirconium	mg/kg	-	-	3.9	3.3	2.5	3.2	4.4	3.5	3.5	3.4	0.6	0.3	2.5	4.4	2.8	4.1

Value is greater than TEL.
Value is greater than PEL.

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] British Columbia Sediment Quality Guidelines; TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015, 2016).

Table D.2: Raw sediment quality data for bulk material collected in sediment traps deployed in Polley Lake, Mount Polley Mine, 2015 Set (May 2015 to August 2015) [1].

Parameter	Units	BC SQGs [2]		P1 (North Basin)													
				POL-ST15-P1-1	POL-ST15-P1-2	POL-ST15-P1-3	POL-ST15-P1-4	POL-ST15-P1-5	POL-ST15-P1-6	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**								
Organic / Inorganic Carbon (<2mm fraction)																	
Total Organic Carbon	%	-	-	9.31	9.11	9.70	10.0	8.62	-	9.35	9.31	0.53	0.24	8.62	10.0	8.69	10.01
Metals (<2mm fraction)																	
Aluminum	mg/kg	-	-	19,200	19,700	19,700	19,100	20,700	19,200	19,600	19,450	600	245	19,100	20,700	18,970	20,230
Antimony	mg/kg	-	-	0.96	1.40	1.11	1.24	1.16	0.98	1.14	1.14	0.17	0.07	0.96	1.40	0.97	1.32
Arsenic	mg/kg	5.9	17	12.2	13.6	12.5	12.5	14.3	11.9	12.8	12.5	0.9	0.4	11.9	14.3	11.9	13.8
Barium	mg/kg	-	-	359	318	306	331	372	331	336	331	25	10	306	372	310	362
Beryllium	mg/kg	-	-	0.75	0.77	0.75	0.78	0.83	0.77	0.78	0.77	0.03	0.01	0.75	0.83	0.74	0.81
Bismuth	mg/kg	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	-	-	11.6	11.8	12.6	13.0	13.1	14.2	12.7	12.8	1.0	0.4	11.6	14.2	11.7	13.7
Cadmium	mg/kg	0.6	3.5	0.237	0.260	0.285	0.213	0.235	0.275	0.251	0.249	0.027	0.011	0.213	0.285	0.222	0.279
Calcium	mg/kg	-	-	15,700	15,900	14,100	15,600	15,900	14,000	15,200	15,650	899	367	14,000	15,900	14,257	16,143
Chromium	mg/kg	37.3	90	19.6	22.0	24.6	21.9	21.0	22.3	21.9	22.0	1.6	0.7	19.6	24.6	20.2	23.6
Cobalt	mg/kg	-	-	18.8	19.2	18.4	18.9	20.0	18.3	18.9	18.9	0.6	0.3	18.3	20.0	18.3	19.6
Copper	mg/kg	35.7	197	562	595	565	567	630	542	577	566	31	13	542	630	544	609
Iron	mg/kg	21,200	43,776	27,100	27,300	27,900	27,800	29,200	27,200	27,750	27,550	782	319	27,100	29,200	26,930	28,570
Lead	mg/kg	35	91	8.09	8.19	8.02	8.00	8.43	8.00	8.12	8.06	0.17	0.07	8.00	8.43	7.95	8.30
Lithium	mg/kg	-	-	20.7	20.4	19.6	20.8	22.2	20.2	20.7	20.6	0.9	0.4	19.6	22.2	19.7	21.6
Magnesium	mg/kg	-	-	12,000	11,800	11,200	11,800	12,700	11,500	11,833	11,800	509	208	11,200	12,700	11,300	12,367
Manganese	mg/kg	460	1,100	14,100	7,970	5,560	10,900	9,180	7,530	9,207	8,575	2,982	1,217	5,560	14,100	6,077	12,336
Mercury	mg/kg	0.17	0.49	0.143	0.140	0.140	0.138	0.136	0.141	0.140	0.140	0.002	0.001	0.136	0.143	0.137	0.142
Molybdenum	mg/kg	-	-	5.99	10.7	7.86	8.31	8.51	4.76	7.69	8.09	2.08	0.85	4.76	10.7	5.51	9.87
Nickel	mg/kg	16	75	17.5	19.2	21.6	19.1	18.3	19.3	19.2	19.2	1.4	0.6	17.5	21.6	17.7	20.6
Phosphorus	mg/kg	-	-	2,210	1,790	1,960	2,400	2,220	1,940	2,087	2,085	227	93	1,790	2,400	1,849	2,325
Potassium	mg/kg	-	-	1,830	1,830	1,900	1,850	1,970	1,860	1,873	1,855	54	22	1,830	1,970	1,817	1,930
Selenium	mg/kg	2	-	5.21	4.89	5.67	5.06	5.22	5.70	5.29	5.22	0.33	0.13	4.89	5.70	4.95	5.64
Silver	mg/kg	0.5	-	0.28	0.30	0.30	0.29	0.31	0.29	0.30	0.30	0.01	0.004	0.28	0.31	0.28	0.31
Sodium	mg/kg	-	-	1,130	1,110	1,110	1,090	1,180	1,140	1,127	1,120	31	13	1,090	1,180	1,094	1,160
Strontium	mg/kg	-	-	200	197	178	190	206	179	192	194	11	4.7	178	206	180	204
Total Sulphur	mg/kg	-	-	3,300	4,500	5,400	4,400	6,000	-	4,720	4,500	1,033	462	3,300	6,000	3,438	6,002
Thallium	mg/kg	-	-	<0.050	<0.050	0.054	<0.050	0.057	<0.050	0.052	<0.050	0.003	0.001	<0.050	0.057	0.049	0.055
Tin	mg/kg	-	-	6.2	4.4	4.4	4.6	2.5	4.7	4.5	4.5	1.2	0.5	2.5	6.2	3.2	5.7
Titanium	mg/kg	-	-	845	997	882	928	1,160	949	960	939	111	45	845	1,160	843	1,077
Uranium	mg/kg	-	-	1.18	1.14	1.24	1.17	1.19	1.19	1.19	1.19	0.03	0.01	1.14	1.24	1.15	1.22
Vanadium	mg/kg	-	-	90.2	92.0	96.0	93.9	99.0	95.9	94.5	94.9	3.1	1.3	90.2	99.0	91.2	97.8
Zinc	mg/kg	123	315	76.6	81.7	148	78.3	76.3	78.9	90.0	78.6	28.5	11.6	76.3	148	60.1	120
Zirconium	mg/kg	-	-	1.2	2.0	1.6	1.4	1.5	1.1	1.5	1.5	0.3	0.1	1.1	2.0	1.1	1.8

Value is greater than TEL.
Value is greater than PEL.

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] British Columbia Sediment Quality Guidelines; TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015, 2016).

Table D.2: Raw sediment quality data for bulk material collected in sediment traps deployed in Polley Lake, Mount Polley Mine, 2015 Set (May 2015 to August 2015) [1].

Parameter	Units	BC SQGs [2]		P2 (South Basin)													
				POL-ST15-P2-1	POL-ST15-P2-2	POL-ST15-P2-3	POL-ST15-P2-4	POL-ST15-P2-5	POL-ST15-P2-6	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**11-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**								
Organic / Inorganic Carbon (<2mm fraction)																	
Total Organic Carbon	%	-	-	8.66	9.17	9.70	8.78	-	8.66	8.99	8.78	0.45	0.20	8.66	9.70	8.44	9.55
Metals (<2mm fraction)																	
Aluminum	mg/kg	-	-	19,100	19,700	19,000	19,600	17,000	19,300	18,950	19,200	993	406	17,000	19,700	17,907	19,993
Antimony	mg/kg	-	-	1.21	0.99	1.01	1.20	0.86	1.04	1.05	1.03	0.13	0.05	0.86	1.21	0.91	1.19
Arsenic	mg/kg	5.9	17	13.2	11.9	12.0	17.2	11.3	11.8	12.9	12.0	2.2	0.9	11.3	17.2	10.6	15.2
Barium	mg/kg	-	-	404	343	340	419	364	373	374	369	32	13	340	419	340	407
Beryllium	mg/kg	-	-	0.76	0.76	0.75	0.71	0.69	0.75	0.74	0.75	0.03	0.01	0.69	0.76	0.71	0.77
Bismuth	mg/kg	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	-	-	12.7	12.5	12.5	12.1	11.4	12.1	12.2	12.3	0.5	0.2	11.4	12.7	11.7	12.7
Cadmium	mg/kg	0.6	3.5	0.214	0.219	0.248	0.206	0.218	0.215	0.220	0.217	0.014	0.006	0.206	0.248	0.205	0.235
Calcium	mg/kg	-	-	17,100	15,600	15,900	17,300	14,800	16,400	16,183	16,150	945	386	14,800	17,300	15,191	17,176
Chromium	mg/kg	37.3	90	19.8	18.9	21.9	19.2	15.8	18.3	19.0	19.1	2.0	0.8	15.8	21.9	16.9	21.1
Cobalt	mg/kg	-	-	21.9	20.3	19.2	21.3	18.2	19.5	20.1	19.9	1.4	0.6	18.2	21.9	18.6	21.5
Copper	mg/kg	35.7	197	536	574	530	561	495	541	540	539	27	11	495	574	511	568
Iron	mg/kg	21,200	43,776	27,700	27,700	27,600	28,100	23,200	27,100	26,900	27,650	1,841	751	23,200	28,100	24,968	28,832
Lead	mg/kg	35	91	8.06	12.8	7.49	8.79	16.8	12.6	11.1	10.7	3.61	1.47	7.49	16.8	7.30	14.9
Lithium	mg/kg	-	-	21.2	21.4	20.9	21.4	18.9	21.4	20.9	21.3	1.0	0.4	18.9	21.4	19.8	21.9
Magnesium	mg/kg	-	-	12,500	12,800	11,900	13,200	10,900	12,500	12,300	12,500	807	330	10,900	13,200	11,452	13,148
Manganese	mg/kg	460	1,100	25,800	10,100	18,400	29,700	19,200	22,200	20,900	20,700	6,766	2,762	10,100	29,700	13,798	28,002
Mercury	mg/kg	0.17	0.49	0.131	0.128	0.135	0.131	0.128	0.130	0.131	0.131	0.003	0.001	0.128	0.135	0.128	0.133
Molybdenum	mg/kg	-	-	10.3	9.13	8.97	12.0	6.04	6.93	8.90	9.05	2.18	0.89	6.04	12.0	6.61	11.2
Nickel	mg/kg	16	75	18.1	17.8	19.2	18.4	14.7	16.7	17.5	18.0	1.6	0.6	14.7	19.2	15.8	19.2
Phosphorus	mg/kg	-	-	2,250	1,990	2,150	2,410	1,970	2,230	2,167	2,190	168	68	1,970	2,410	1,991	2,343
Potassium	mg/kg	-	-	1,940	1,830	1,800	1,830	1,560	1,840	1,800	1,830	127	52	1,560	1,940	1,667	1,933
Selenium	mg/kg	2	-	5.33	5.48	4.78	4.63	4.86	4.79	4.98	4.83	0.34	0.14	4.63	5.48	4.62	5.34
Silver	mg/kg	0.5	-	0.28	0.31	0.28	0.27	0.29	0.30	0.29	0.29	0.01	0.01	0.27	0.31	0.27	0.30
Sodium	mg/kg	-	-	1,130	1,140	1,070	1,180	1,070	1,120	1,118	1,125	43	17	1,070	1,180	1,074	1,163
Strontium	mg/kg	-	-	212	184	194	213	181	202	198	198	14	5.6	181	213	183	212
Total Sulphur	mg/kg	-	-	2,700	3,000	5,000	4,100	-	3,600	3,680	3,600	915	409	2,700	5,000	2,544	4,816
Thallium	mg/kg	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	-	-	2.2	3.0	5.3	6.1	5.1	4.8	4.4	5.0	1.5	0.6	2.2	6.1	2.8	6.0
Titanium	mg/kg	-	-	1,040	997	925	889	777	953	930	939	92	38	777	1,040	834	1,027
Uranium	mg/kg	-	-	1.24	1.11	1.27	1.15	0.90	1.10	1.13	1.13	0.13	0.05	0.90	1.27	0.99	1.27
Vanadium	mg/kg	-	-	103	98.6	99.4	103	86.2	98.0	98.0	99.0	6.2	2.5	86.2	103	91.5	105
Zinc	mg/kg	123	315	82.5	84.1	81.6	94.1	86.0	104	88.7	85.1	8.7	3.6	81.6	104	79.6	97.9
Zirconium	mg/kg	-	-	1.1	1.5	1.8	1.4	<1.0	1.4	1.4	1.4	0.3	0.1	<1.0	1.8	1.1	1.7

Value is greater than TEL.
Value is greater than PEL.

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] British Columbia Sediment Quality Guidelines; TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015, 2016).

Table D.3: Chemistry of material collected from sediment traps deployed in Polley Lake, Mount Polley Mine, 2014 Set. The sum of bulk and filtered sediment metal concentrations are shown (where available) [1,2].

Parameter	Units	BC SQGs [3]		P1 (North Basin)											
				POL-ST-P1-1 *	POL-ST-P1-2 *	POL-ST-P1-3	POL-ST-P1-5	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**24-May-15**	**24-May-15**	**24-May-15**	**24-May-15**								
Physical Tests															
pH (1:2 soil:water)	pH	-	-	7.58	7.44	7.51	7.51	7.51	7.51	0.06	0.03	7.44	7.58	7.42	7.60
Organic / Inorganic Carbon (<2mm fraction)															
Total Organic Carbon	%	-	-	5.82	-	5.24	-	5.53	5.53	0.41	0.29	5.24	5.82	1.84	9.22
Metals (< 2mm fraction)															
Aluminum	mg/kg	-	-	24,321	27,522	23,000	22,800	24,411	23,661	2,181	1,091	22,800	27,522	20,941	27,881
Antimony	mg/kg	-	-	1.71	2.02	1.84	1.66	1.81	1.78	0.16	0.08	1.66	2.02	1.55	2.07
Arsenic	mg/kg	5.9	17	14.3	16.7	15.0	14.1	15.0	14.6	1.2	0.6	14.1	16.7	13.1	16.9
Barium	mg/kg	-	-	505	541	493	437	494	499	43	22	437	541	425	563
Beryllium	mg/kg	-	-	0.89	0.95	0.80	0.81	0.86	0.85	0.07	0.04	0.80	0.95	0.75	0.98
Bismuth	mg/kg	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	-	-	12.0	12.8	9.5	10.2	11.1	11.1	1.5	0.8	9.5	12.8	8.7	13.6
Cadmium	mg/kg	0.6	3.5	0.254	0.330	0.274	0.251	0.277	0.264	0.037	0.018	0.251	0.330	0.219	0.336
Calcium	mg/kg	-	-	18,446	21,264	18,100	17,700	18,877	18,273	1,620	810	17,700	21,264	16,301	21,454
Chromium	mg/kg	37.3	90	19.0	22.2	18.9	18.6	19.7	19.0	1.7	0.8	18.6	22.2	17.0	22.3
Cobalt	mg/kg	-	-	22.0	23.0	21.2	21.3	21.9	21.6	0.8	0.4	21.2	23.0	20.5	23.2
Copper	mg/kg	35.7	197	662	774	660	644	685	661	60	30	644	774	590	780
Iron	mg/kg	21,200	43,776	27,669	31,064	26,500	27,800	28,258	27,734	1,960	980	26,500	31,064	25,140	31,376
Lead	mg/kg	35	91	9.93	11.2	9.63	9.50	10.1	9.78	0.79	0.39	9.50	11.2	8.82	11.3
Lithium	mg/kg	-	-	20.0	21.3	18.4	18.4	19.5	19.2	1.4	0.7	18.4	21.3	17.3	21.7
Magnesium	mg/kg	-	-	12,084	13,454	11,700	11,700	12,235	11,892	833	417	11,700	13,454	10,909	13,560
Manganese	mg/kg	460	1,100	17,355	17,181	15,400	14,400	16,084	16,290	1,429	714	14,400	17,355	13,811	18,357
Mercury	mg/kg	0.17	0.49	0.121	0.131	0.117	0.118	0.122	0.120	0.006	0.003	0.117	0.131	0.112	0.132
Molybdenum	mg/kg	-	-	5.17	9.66	8.88	9.76	8.37	9.27	2.17	1.08	5.17	9.76	4.92	11.82
Nickel	mg/kg	16	75	18.6	21.1	18.9	18.0	19.2	18.8	1.3	0.7	18.0	21.1	17.0	21.3
Phosphorus	mg/kg	-	-	2,591	2,450	2,240	2,390	2,418	2,420	145	73	2,240	2,591	2,186	2,649
Potassium	mg/kg	-	-	2,806	2,955	2,350	2,490	2,650	2,648	278	139	2,350	2,955	2,207	3,093
Selenium	mg/kg	2	-	6.80	8.03	7.00	6.83	7.16	6.92	0.58	0.29	6.80	8.03	6.24	8.09
Silver	mg/kg	0.5	-	0.31	0.34	0.29	0.29	0.31	0.30	0.02	0.01	0.29	0.34	0.27	0.34
Sodium	mg/kg	-	-	1,534	1,618	1,460	1,350	1,491	1,497	114	57	1,350	1,618	1,309	1,672
Strontium	mg/kg	-	-	277	311	289	245	280	283	28	14	245	311	237	324
Total Sulphur - Bulk Sediment [4]	mg/kg	-	-	3,000	3,900	-	3,900	3,600	3,900	520	300	3,000	3,900	2,309	4,891
Thallium	mg/kg	-	-	<0.050	0.063	<0.050	<0.050	0.053	<0.050	0.006	0.003	<0.050	0.063	0.043	0.063
Tin	mg/kg	-	-	<2.0	2.2	<2.0	<2.0	2.0	<2.0	0.1	0.04	<2.0	2.2	1.9	2.2
Titanium	mg/kg	-	-	1,343	1,622	1,140	1,210	1,329	1,277	213	107	1,140	1,622	990	1,668
Uranium	mg/kg	-	-	1.14	1.32	1.11	1.11	1.17	1.12	0.10	0.05	1.11	1.32	1.01	1.33
Vanadium	mg/kg	-	-	113	122	107	104	111	110	7.9	4.0	104	122	99	124
Zinc	mg/kg	123	315	78.7	83.8	73.6	89.3	81.3	81.2	6.8	3.4	73.6	89.3	70.6	92.1
Zirconium	mg/kg	-	-	2.4	3.3	2.4	2.4	2.6	2.4	0.4	0.2	2.4	3.3	1.9	3.3
Bulk Sediment Total Dry weight	g	-	-	12.5	5.14	9.95	10.2	-	-	-	-	-	-	-	-
# of Filters used for Filtered Sediment	-	-	-	7	7	-	-	-	-	-	-	-	-	-	-
Filtered Sediment Total Dry Weight [5]	g	-	-	0.30	1.00	-	-	-	-	-	-	-	-	-	-

Value is > TEL.
Value is > PEL.

[1] Samples shown with a * symbol display the sum of bulk and filtered sediment metal concentrations while the remainder of samples display bulk sediment metal concentrations only. Summary statistics are based on displayed data and were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] Summed bulk and filtered sediment metal concentrations were calculated using the above displayed bulk and filtered dry weight data, and raw bulk and filtered sediment chemistry data shown in Tables D.1 and D.12, respectively. If metal concentrations in the bulk sediment (the majority of the material) were < MDL, the summed bulk and filtered sediment concentrations are shown as < the MDL reported for bulk sediment.

[3] British Columbia Working Sediment Quality Guidelines (BCMOE 2015, 2016); TEL (Threshold or Lowest Effect Level) / PEL (Probable or Severe Effect Level).

[4] Due to limited sample sizes for filtered sediment samples, total sulphur was measured in bulk sediment samples only. Bulk sediment results are displayed for all samples.

[5] Filtered sediment dry weight was calculated as: [(total dry weight of filters + sediment(g)) - (# of filters * average blank filter weight (g))]. An average blank filter weight of 0.06537 g/filter was used for filter weight subtraction (see Appendix B for average filter weight determination).

Table D.3: Chemistry of material collected from sediment traps deployed in Polley Lake, Mount Polley Mine, 2014 Set. The sum of bulk and filtered sediment metal concentrations are shown (where available) [1,2].

Parameter	Units	BC SQGs [3]		P2 (South Basin)													
				POL-ST-P2-1	POL-ST-P2-2 *	POL-ST-P2-3	POL-ST-P2-4	POL-ST-P2-5	POL-ST-P2-6 *	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**23-May-15**	**23-May-15**	**23-May-15**	**23-May-15**	**23-May-15**	**23-May-15**								
Physical Tests																	
pH (1:2 soil:water)	pH	-	-	7.24	7.77	7.74	7.66	7.56	7.79	7.63	7.70	0.21	0.08	7.24	7.79	7.41	7.84
Organic / Inorganic Carbon (<2mm fraction)																	
Total Organic Carbon	%	-	-	4.00	4.94	5.17	5.27	3.20	4.19	4.46	4.57	0.81	0.33	3.20	5.27	3.61	5.31
Metals (< 2mm fraction)																	
Aluminum	mg/kg	-	-	27,200	25,772	24,700	25,800	24,900	24,864	25,539	25,336	943	385	24,700	27,200	24,549	26,529
Antimony	mg/kg	-	-	2.14	2.17	1.70	1.78	1.67	1.75	1.87	1.77	0.22	0.09	1.67	2.17	1.63	2.10
Arsenic	mg/kg	5.9	17	15.7	16.6	17.0	15.1	13.8	15.0	15.5	15.4	1.2	0.5	13.8	17.0	14.3	16.8
Barium	mg/kg	-	-	507	559	491	482	482	484	501	488	30	12	482	559	469	532
Beryllium	mg/kg	-	-	0.96	0.90	0.87	0.89	0.86	0.93	0.90	0.89	0.04	0.02	0.86	0.96	0.86	0.94
Bismuth	mg/kg	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	-	-	11.8	13.0	11.6	11.4	10.3	11.7	11.6	11.7	0.8	0.3	10.3	13.0	10.7	12.5
Cadmium	mg/kg	0.6	3.5	0.292	0.302	0.231	0.261	0.206	0.262	0.259	0.262	0.036	0.015	0.206	0.302	0.221	0.297
Calcium	mg/kg	-	-	22,500	22,971	20,100	21,900	18,900	21,821	21,365	21,861	1,552	633	18,900	22,971	19,737	22,994
Chromium	mg/kg	37.3	90	19.9	18.9	16.7	17.8	15.7	16.9	17.6	17.3	1.5	0.6	15.7	19.9	16.0	19.3
Cobalt	mg/kg	-	-	23.4	23.8	22.5	23.3	21.6	22.4	22.8	22.9	0.8	0.3	21.6	23.8	22.0	23.7
Copper	mg/kg	35.7	197	799	748	682	741	757	737	744	745	38	15	682	799	704	784
Iron	mg/kg	21,200	43,776	29,800	28,892	27,300	28,300	26,200	27,167	27,943	27,800	1,306	533	26,200	29,800	26,572	29,314
Lead	mg/kg	35	91	11.2	9.76	9.37	9.85	10.0	10.2	10.1	9.93	0.62	0.25	9.37	11.2	9.41	10.7
Lithium	mg/kg	-	-	21.3	20.4	19.8	20.3	19.3	20.4	20.2	20.3	0.7	0.3	19.3	21.3	19.5	21.0
Magnesium	mg/kg	-	-	13,700	13,035	12,600	13,400	12,900	13,010	13,108	13,023	388	158	12,600	13,700	12,700	13,515
Manganese	mg/kg	460	1,100	16,000	25,345	25,800	22,500	13,000	20,303	20,491	21,401	5,140	2,098	13,000	25,800	15,096	25,886
Mercury	mg/kg	0.17	0.49	0.118	0.123	0.114	0.109	0.103	0.109	0.113	0.112	0.007	0.003	0.103	0.123	0.105	0.120
Molybdenum	mg/kg	-	-	8.72	7.98	13.2	13.1	5.58	9.65	9.71	9.19	2.99	1.22	5.58	13.2	6.57	12.8
Nickel	mg/kg	16	75	19.5	19.1	16.9	18.2	15.9	17.2	17.8	17.7	1.4	0.6	15.9	19.5	16.4	19.3
Phosphorus	mg/kg	-	-	2,010	2,391	2,350	2,250	1,560	2,187	2,125	2,219	308	126	1,560	2,391	1,802	2,448
Potassium	mg/kg	-	-	2,570	2,665	2,510	2,550	2,400	2,568	2,544	2,559	87	35	2,400	2,665	2,453	2,635
Selenium	mg/kg	2	-	8.15	8.18	7.13	7.62	5.99	7.16	7.37	7.39	0.82	0.33	5.99	8.18	6.51	8.23
Silver	mg/kg	0.5	-	0.35	0.32	0.30	0.32	0.30	0.30	0.32	0.31	0.02	0.01	0.30	0.35	0.29	0.34
Sodium	mg/kg	-	-	1,660	1,540	1,400	1,670	1,580	1,607	1,576	1,594	99	40	1,400	1,670	1,472	1,680
Strontium	mg/kg	-	-	294	298	279	283	298	300	292	296	9	4	279	300	283	301
Total Sulphur - Bulk Sediment [4]	mg/kg	-	-	2,500	3,400	3,100	3,700	2,800	3,700	3,200	3,250	490	200	2,500	3,700	2,686	3,714
Thallium	mg/kg	-	-	0.050	0.051	<0.050	<0.050	<0.050	<0.050	0.050	<0.050	0	0	<0.050	0.051	0.050	0.051
Tin	mg/kg	-	-	2.2	<2.0	<2.0	2.7	2.1	<2.0	2.2	2.1	0.3	0.1	<2.0	2.7	1.9	2.5
Titanium	mg/kg	-	-	1,660	1,547	1,390	1,480	1,480	1,506	1,510	1,493	90	37	1,390	1,660	1,417	1,604
Uranium	mg/kg	-	-	1.36	1.23	1.20	1.27	1.15	1.19	1.23	1.22	0.07	0.03	1.15	1.36	1.16	1.31
Vanadium	mg/kg	-	-	125	131	120	120	107	118	120	120	8	3	107	131	112	129
Zinc	mg/kg	123	315	85.5	81.5	85.6	80.5	79.2	79.3	81.9	81.0	2.9	1.2	79.2	85.6	78.9	85.0
Zirconium	mg/kg	-	-	3.9	3.3	2.5	3.2	4.4	3.5	3.5	3.4	0.6	0.3	2.5	4.4	2.8	4.2
Bulk Sediment Total Dry weight	g	-	-	9.73	13.4	13.3	15.3	10.9	22.2	-	-	-	-	-	-	-	-
# of Filters used for Filtered Sediment	-	-	-	-	11	-	-	-	8	-	-	-	-	-	-	-	-
Filtered Sediment Total Dry Weight [5]	g	-	-	-	1.39	-	-	-	0.65	-	-	-	-	-	-	-	-

Value is > TEL.
Value is > PEL.

[1] Samples shown with a * symbol display the sum of bulk and filtered sediment metal concentrations while the remainder of samples display bulk sediment metal concentrations only. Summary statistics are based on displayed data and were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] Summed bulk and filtered sediment metal concentrations were calculated using the above displayed bulk and filtered dry weight data, and raw bulk and filtered sediment chemistry data shown in Tables D.1 and D.12, respectively. If metal concentrations in the bulk sediment (the majority of the material) were < MDL, the summed bulk and filtered sediment concentrations are shown as < the MDL reported for bulk sediment.

[3] British Columbia Working Sediment Quality Guidelines (BCMOE 2015, 2016); TEL (Threshold or Lowest Effect Level) / PEL (Probable or Severe Effect Level).

[4] Due to limited sample sizes for filtered sediment samples, total sulphur was measured in bulk sediment samples only. Bulk sediment results are displayed for all samples.

[5] Filtered sediment dry weight was calculated as: [(total dry weight of filters + sediment(g)) - (# of filters * average blank filter weight (g))]. An average blank filter weight of 0.06537 g/filter was used for filter weight subtraction (see Appendix B for average filter weight determination).

Table D.4: Chemistry of material collected from sediment traps deployed in Polley Lake, Mount Polley Mine, 2015 Set. The sum of bulk and filtered sediment metal concentrations are shown (where available) [1,2].

Parameter	Units	BC SQGs [3]		P1 (North Basin) [4]													
				POL-ST15-P1-1	POL-ST15-P1-2	POL-ST15-P1-3	POL-ST15-P1-4	POL-ST15-P1-5	POL-ST15-P1-6	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**								
Organic / Inorganic Carbon (<2mm fraction)																	
Total Organic Carbon	%	-	-	9.31	9.11	9.70	10.0	8.62	-	9.35	9.31	0.53	0.24	8.62	10.0	8.7	10.0
Metals (<2mm fraction)																	
Aluminum	mg/kg	-	-	19,200	19,700	19,700	19,100	20,700	19,200	19,600	19,450	600	245	19,100	20,700	18,970	20,230
Antimony	mg/kg	-	-	0.96	1.40	1.11	1.24	1.16	0.98	1.14	1.14	0.17	0.07	0.96	1.40	0.97	1.32
Arsenic	mg/kg	5.9	17	12.2	13.6	12.5	12.5	14.3	11.9	12.8	12.5	0.9	0.4	11.9	14.3	11.9	13.8
Barium	mg/kg	-	-	359	318	306	331	372	331	336	331	25	10	306	372	310	362
Beryllium	mg/kg	-	-	0.75	0.77	0.75	0.78	0.83	0.77	0.78	0.77	0.03	0.01	0.75	0.83	0.74	0.81
Bismuth	mg/kg	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	-	-	11.6	11.8	12.6	13.0	13.1	14.2	12.7	12.8	1.0	0.4	11.6	14.2	11.7	13.7
Cadmium	mg/kg	0.6	3.5	0.237	0.260	0.285	0.213	0.235	0.275	0.251	0.249	0.027	0.011	0.213	0.285	0.222	0.279
Calcium	mg/kg	-	-	15,700	15,900	14,100	15,600	15,900	14,000	15,200	15,650	899	367	14,000	15,900	14,257	16,143
Chromium	mg/kg	37.3	90	19.6	22.0	24.6	21.9	21.0	22.3	21.9	22.0	1.6	0.7	19.6	24.6	20.2	23.6
Cobalt	mg/kg	-	-	18.8	19.2	18.4	18.9	20.0	18.3	18.9	18.9	0.6	0.3	18.3	20.0	18.3	19.6
Copper	mg/kg	35.7	197	562	595	565	567	630	542	577	566	31	13	542	630	544	609
Iron	mg/kg	21,200	43,776	27,100	27,300	27,900	27,800	29,200	27,200	27,750	27,550	782	319	27,100	29,200	26,930	28,570
Lead	mg/kg	35	91	8.09	8.19	8.02	8.00	8.43	8.00	8.12	8.06	0.17	0.07	8.00	8.43	7.95	8.30
Lithium	mg/kg	-	-	20.7	20.4	19.6	20.8	22.2	20.2	20.7	20.6	0.9	0.4	19.6	22.2	19.7	21.6
Magnesium	mg/kg	-	-	12,000	11,800	11,200	11,800	12,700	11,500	11,833	11,800	509	208	11,200	12,700	11,300	12,367
Manganese	mg/kg	460	1,100	14,100	7,970	5,560	10,900	9,180	7,530	9,207	8,575	2,982	1,217	5,560	14,100	6,077	12,336
Mercury	mg/kg	0.17	0.49	0.143	0.140	0.140	0.138	0.136	0.141	0.140	0.140	0.002	0.001	0.136	0.143	0.137	0.142
Molybdenum	mg/kg	-	-	5.99	10.70	7.86	8.31	8.51	4.76	7.69	8.09	2.08	0.85	4.76	10.70	5.51	9.87
Nickel	mg/kg	16	75	17.5	19.2	21.6	19.1	18.3	19.3	19.2	19.2	1.4	0.6	17.5	21.6	17.7	20.6
Phosphorus	mg/kg	-	-	2,210	1,790	1,960	2,400	2,220	1,940	2,087	2,085	227	93	1,790	2,400	1,849	2,325
Potassium	mg/kg	-	-	1,830	1,830	1,900	1,850	1,970	1,860	1,873	1,855	54	22	1,830	1,970	1,817	1,930
Selenium	mg/kg	2	-	5.21	4.89	5.67	5.06	5.22	5.70	5.29	5.22	0.33	0.13	4.89	5.70	4.95	5.64
Silver	mg/kg	0.5	-	0.28	0.30	0.30	0.29	0.31	0.29	0.30	0.30	0.01	0.004	0.28	0.31	0.28	0.31
Sodium	mg/kg	-	-	1,130	1,110	1,110	1,090	1,180	1,140	1,127	1,120	31	13	1,090	1,180	1,094	1,160
Strontium	mg/kg	-	-	200	197	178	190	206	179	192	194	11	5	178	206	180	204
Total Sulphur - Bulk Sediment [5]	mg/kg	-	-	3,300	4,500	5,400	4,400	6,000	-	4,720	4,500	1,033	462	3,300	6,000	3,438	6,002
Thallium	mg/kg	-	-	<0.050	<0.050	0.054	<0.050	0.057	<0.050	0.052	<0.050	0.003	0.001	<0.050	0.057	0.049	0.055
Tin	mg/kg	-	-	6.2	4.4	4.4	4.6	2.5	4.7	4.5	4.5	1.2	0.5	2.5	6.2	3.2	5.7
Titanium	mg/kg	-	-	845	997	882	928	1,160	949	960	939	111	45	845	1,160	843	1,077
Uranium	mg/kg	-	-	1.18	1.14	1.24	1.17	1.19	1.19	1.19	1.19	0.03	0.01	1.14	1.24	1.15	1.22
Vanadium	mg/kg	-	-	90.2	92.0	96.0	93.9	99.0	95.9	94.5	94.9	3.1	1.3	90.2	99.0	91.2	97.8
Zinc	mg/kg	123	315	76.6	81.7	148	78.3	76.3	78.9	90.0	78.6	28.5	11.6	76.3	148	60.1	119.9
Zirconium	mg/kg	-	-	1.2	2.0	1.6	1.4	1.5	1.1	1.5	1.5	0.3	0.1	1.1	2.0	1.1	1.8
Bulk Sediment Total Dry weight [6]	g	-	-	2.41	5.62	1.45	4.21	6.15	1.10	-	-	-	-	-	-	-	-
# of Filters used for Filtered Sediment	-	-	-	4	4	2	4	4	3	-	-	-	-	-	-	-	-
Filtered Sediment Total Dry Weight [7]	g	-	-	0.20	0.15	0.03	0.07	0.19	0.24	-	-	-	-	-	-	-	-

Value is > TEL.

Value is > PEL.

[1] Samples shown with a * symbol display the sum of bulk and filtered sediment metal concentrations while the remainder of samples display bulk sediment metal concentrations only. Summary statistics are based on displayed data and were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] Summed bulk and filtered sediment metal concentrations were calculated using the above displayed bulk and filtered dry weight data, and raw bulk and filtered sediment chemistry data shown in Tables D.2 and D.13, respectively. If metal concentrations in the bulk sediment (the majority of the material) were < MDL, the summed bulk and filtered sediment concentrations are shown as < the MDL reported for bulk sediment.

[3] British Columbia Working Sediment Quality Guidelines (BCMOE 2015, 2016); TEL (Threshold or Lowest Effect Level) / PEL (Probable or Severe Effect Level).

[4] Combined bulk and filtered sediment metal concentrations could not be calculated for P1 samples due to a laboratory error which rendered filtered sediment data for this area unuseable (improper compositing of filtered samples; Appendix B).

[5] Due to limited sample sizes for filtered sediment samples, total sulphur was measured in bulk sediment samples only. Bulk sediment results are displayed for all samples.

[6] Bulk sediment total dry weight displayed is the sum of the sample "Dry Weight (g)" reported by ALS Laboratory (L1700936 report; Appendix B) and the "Weight of dry sample (g)" reported by Flett Research (October 16-26, 2015 report; Appendix B) for samples submitted to Flett Research for bulk density analysis. For samples without aliquots submitted to Flett Research, the "Dry weight (g)" reported by ALS Laboratory only is displayed.

[7] Filtered sediment dry weight calculated as: [(total dry weight of filters + sediment(g)) - (# of filters * average blank filter weight (g))]. An average blank filter weight of 0.06537 g/filter was used for filter weight subtraction (see Appendix B for average filter weight determination).

Table D.4: Chemistry of material collected from sediment traps deployed in Polley Lake, Mount Polley Mine, 2015 Set. The sum of bulk and filtered sediment metal concentrations are shown (where available) [1,2].

Parameter	Units	BC SQGs [3]		P2 (South Basin)													
				POL-ST15-P2-1 *	POL-ST15-P2-2 *	POL-ST15-P2-3 *	POL-ST15-P2-4 *	POL-ST15-P2-5 *	POL-ST15-P2-6 *	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**11-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**								
Organic / Inorganic Carbon (<2mm fraction)																	
Total Organic Carbon	%	-	-	8.66	9.17	9.70	8.78	-	8.66	8.99	8.78	0.45	0.20	8.66	9.70	8.44	9.55
Metals (<2mm fraction)																	
Aluminum	mg/kg	-	-	20,491	20,375	19,753	20,426	18,536	20,160	19,957	20,268	746	304	18,536	20,491	19,174	20,739
Antimony	mg/kg	-	-	1.40	1.11	1.11	1.32	1.06	1.17	1.20	1.14	0.13	0.05	1.06	1.40	1.06	1.34
Arsenic	mg/kg	5.9	17	15.0	13.0	13.0	18.2	13.1	13.0	14.2	13.1	2.1	0.9	13.0	18.2	12.0	16.4
Barium	mg/kg	-	-	448	370	365	446	410	403	407	406	36	15	365	448	369	444
Beryllium	mg/kg	-	-	0.80	0.78	0.77	0.74	0.74	0.78	0.77	0.78	0.03	0.01	0.74	0.80	0.74	0.80
Bismuth	mg/kg	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	-	-	13.8	13.2	13.1	12.8	12.6	12.9	13.1	13.0	0.4	0.2	12.6	13.8	12.6	13.5
Cadmium	mg/kg	0.6	3.5	0.289	0.268	0.287	0.255	0.291	0.268	0.276	0.277	0.015	0.006	0.255	0.291	0.261	0.292
Calcium	mg/kg	-	-	18,543	16,424	16,698	18,176	16,376	17,343	17,260	17,021	926	378	16,376	18,543	16,288	18,232
Chromium	mg/kg	37.3	90	21.8	20.1	22.9	20.5	18.0	19.7	20.5	20.3	1.7	0.7	18.0	22.9	18.7	22.3
Cobalt	mg/kg	-	-	23.0	20.8	19.9	22.0	19.6	20.2	20.9	20.5	1.3	0.5	19.6	23.0	19.5	22.3
Copper	mg/kg	35.7	197	575	592	551	584	538	565	568	570	20	8	538	592	546	589
Iron	mg/kg	21,200	43,776	29,559	28,607	28,609	29,204	25,324	28,267	28,261	28,608	1,513	618	25,324	29,559	26,674	29,849
Lead	mg/kg	35	91	16.8	18.5	12.0	14.4	24.9	18.6	17.5	17.6	4.39	1.79	12.0	24.9	12.9	22.2
Lithium	mg/kg	-	-	22.4	21.9	21.6	22.1	20.3	22.1	21.7	22.0	0.8	0.3	20.3	22.4	20.9	22.5
Magnesium	mg/kg	-	-	13,289	13,163	12,341	13,650	11,798	12,981	12,870	13,072	680	278	11,798	13,650	12,157	13,584
Manganese	mg/kg	460	1,100	27,808	11,784	19,627	30,802	21,516	23,594	22,522	22,555	6,669	2,722	11,784	30,802	15,523	29,521
Mercury	mg/kg	0.17	0.49	0.159	0.146	0.150	0.149	0.156	0.149	0.152	0.150	0.005	0.002	0.146	0.159	0.146	0.157
Molybdenum	mg/kg	-	-	13.4	11.1	10.6	13.9	9.15	9.17	11.2	10.9	2.03	0.83	9.15	13.9	9.08	13.4
Nickel	mg/kg	16	75	19.5	18.5	19.9	19.2	16.2	17.6	18.5	18.9	1.4	0.6	16.2	19.9	17.1	19.9
Phosphorus	mg/kg	-	-	2,620	2,224	2,347	2,639	2,347	2,480	2,443	2,414	166	68	2,224	2,639	2,269	2,617
Potassium	mg/kg	-	-	2,124	1,936	1,901	1,947	1,761	1,963	1,939	1,941	116	48	1,761	2,124	1,816	2,061
Selenium	mg/kg	2	-	6.01	5.87	5.15	5.08	5.57	5.26	5.49	5.41	0.39	0.16	5.08	6.01	5.08	5.90
Silver	mg/kg	0.5	-	0.31	0.32	0.29	0.29	0.32	0.32	0.31	0.31	0.01	0.01	0.29	0.32	0.29	0.32
Sodium	mg/kg	-	-	1,239	1,199	1,129	1,246	1,184	1,191	1,198	1,195	42	17	1,129	1,246	1,154	1,242
Strontium	mg/kg	-	-	230	195	204	224	201	214	211	209	14	5.6	195	230	197	226
Total Sulphur - Bulk Sediment [5]	mg/kg	-	-	2,700	3,000	5,000	4,100	-	3,600	3,680	3,600	915	409	2,700	5,000	2,544	4,816
Thallium	mg/kg	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	-	-	8.0	6.9	8.2	9.7	10.5	8.8	8.7	8.5	1.3	0.5	6.9	10.5	7.3	10.1
Titanium	mg/kg	-	-	1,115	1,036	968	939	865	1,003	988	985	86	35	865	1,115	898	1,078
Uranium	mg/kg	-	-	1.31	1.15	1.31	1.19	0.98	1.15	1.18	1.17	0.12	0.05	0.98	1.31	1.05	1.31
Vanadium	mg/kg	-	-	109	101	103	106	92.8	101	102	102	5.4	2.2	92.8	109	96.4	108
Zinc	mg/kg	123	315	127	113	105	123	129	135	122	125	10.9	4.5	105	135	110	133
Zirconium	mg/kg	-	-	1.1	1.5	1.8	1.4	<1.0	1.4	1.4	1.4	0.3	0.1	<1.0	1.8	1.1	1.7
Bulk Sediment Total Dry weight [6]	g	-	-	3.27	3.59	7.50	6.44	1.28	7.12	-	-	-	-	-	-	-	-
# of Filters used for Filtered Sediment	-	-	-	5	3	6	6	2	7	-	-	-	-	-	-	-	-
Filtered Sediment Total Dry Weight [7]	g	-	-	0.14	0.15	0.15	0.20	0.04	0.27	-	-	-	-	-	-	-	-

Value is > TEL.

Value is > PEL.

[1] Samples shown with a * symbol display the sum of bulk and filtered sediment metal concentrations while the remainder of samples display bulk sediment metal concentrations only. Summary statistics are based on displayed data and were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] Summed bulk and filtered sediment metal concentrations were calculated using the above displayed bulk and filtered dry weight data, and raw bulk and filtered sediment chemistry data shown in Tables D.2 and D.13, respectively. If metal concentrations in the bulk sediment (the majority of the material) were < MDL, the summed bulk and filtered sediment concentrations are shown as < the MDL reported for bulk sediment.

[3] British Columbia Working Sediment Quality Guidelines (BCMOE 2015, 2016); TEL (Threshold or Lowest Effect Level) / PEL (Probable or Severe Effect Level).

[4] Combined bulk and filtered sediment metal concentrations could not be calculated for P1 samples due to a laboratory error which rendered filtered sediment data for this area unuseable (improper compositing of filtered samples; Appendix B).

[5] Due to limited sample sizes for filtered sediment samples, total sulphur was measured in bulk sediment samples only. Bulk sediment results are displayed for all samples.

[6] Bulk sediment total dry weight displayed is the sum of the sample "Dry Weight (g)" reported by ALS Laboratory (L1700936 report; Appendix B) and the "Weight of dry sample (g)" reported by Flett Research (October 16-26, 2015 report; Appendix B) for samples submitted to Flett Research for bulk density analysis. For samples without aliquots submitted to Flett Research, the "Dry weight (g)" reported by ALS Laboratory only is displayed.

[7] Filtered sediment dry weight calculated as: [(total dry weight of filters + sediment(g)) - (# of filters * average blank filter weight (g))]. An average blank filter weight of 0.06537 g/filter was used for filter weight subtraction (see Appendix B for average filter weight determination).

Table D.5: Selective extraction analysis (Tessier et al. 1979) metals data for sediment traps deployed at Polley Lake stations, Mount Polley Mine, 2015 Set (May 2015 to August 2015)[1].

Parameter	Units	P1 (North Basin)										P2 (South Basin)									
		POL-ST15-P1-2	POL-ST15-P1-4	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit	POL-ST15-P2-3	POL-ST15-P2-4	POL-ST15-P2-6	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		12-Aug-15	12-Aug-15									12-Aug-15	12-Aug-15	12-Aug-15								
Exchangeable & Adsorbed Metals																						
Aluminum	mg/kg	<50	<50	<50	<50	0	0	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50
Antimony	mg/kg	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Arsenic	mg/kg	0.113	0.103	0.108	0.108	0.007	0.005	0.103	0.113	0.044	0.172	0.171	0.276	0.147	0.198	0.171	0.069	0.040	0.147	0.276	0.028	0.368
Barium	mg/kg	39.1	34.2	36.7	36.7	3.5	2.5	34.2	39.1	5.5	67.8	36.9	41.4	33.1	37.1	36.9	4.2	2.4	33.1	41.4	26.8	47.5
Beryllium	mg/kg	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	0.115	0.104	0.110	0.110	0.008	0.006	0.104	0.115	0.040	0.179	0.080	0.063	0.058	0.067	0.063	0.012	0.007	0.058	0.080	0.038	0.096
Calcium	mg/kg	4,280	4,160	4,220	4,220	84.9	60.0	4,160	4,280	3,457	4,983	3,140	3,100	2,960	3,067	3,100	94.5	54.6	2,960	3,140	2,832	3,301
Chromium	mg/kg	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50
Cobalt	mg/kg	0.34	0.30	0.32	0.32	0.03	0.02	0.30	0.34	0.07	0.57	0.15	0.16	0.17	0.16	0.16	0.01	0.01	0.15	0.17	0.14	0.18
Copper	mg/kg	3.21	3.64	3.43	3.43	0.30	0.22	3.21	3.64	0.69	6.16	1.39	2.20	1.78	1.79	1.78	0.41	0.23	1.39	2.20	0.78	2.80
Iron	mg/kg	<50	<50	<50	<50	0	0	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50
Lead	mg/kg	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50
Lithium	mg/kg	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Manganese	mg/kg	2,780	3,230	3,005	3,005	318	225	2,780	3,230	145	5,865	2,540	2,530	2,320	2,463	2,530	124	72	2,320	2,540	2,155	2,772
Molybdenum	mg/kg	2.58	1.62	2.10	2.1	0.68	0.48	1.62	2.58	-4.00	8.20	2.42	3.80	1.59	2.60	2.42	1.12	0.64	1.59	3.80	-0.17	5.38
Nickel	mg/kg	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50
Phosphorus	mg/kg	<50	<50	<50	<50	0	0	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50
Potassium	mg/kg	160	180	170	170	14	10	160	180	43	297	160	170	150	160	160	10	5.8	150	170	135	185
Selenium	mg/kg	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Silver	mg/kg	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Sodium	mg/kg	140	160	150	150	14.1	10.0	140	160	23	277	160	180	160	167	160	11.5	6.7	160	180	138	195
Strontium	mg/kg	53.6	52.8	53.2	53.2	0.6	0.4	52.8	53.6	48.1	58.3	46.0	51.6	47.4	48.3	47.4	2.9	1.7	46.0	51.6	41.1	55.6
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	<1.0	<1.0	<1.0	<1.0	0	0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0	0	<1.0	<1.0	<1.0	<1.0
Uranium	mg/kg	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Vanadium	mg/kg	<0.20	<0.20	<0.20	<0.20	0.00	0.00	<0.20	<0.20	<0.20	<0.20	0.25	0.27	0.22	0.25	0.25	0.03	0.01	0.22	0.27	0.18	0.31
Zinc	mg/kg	<1.0	<1.0	<1.0	<1.0	0	0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0	0	<1.0	<1.0	<1.0	<1.0
Carbonate Metals																						
Aluminum	mg/kg	50	53	52	52	2.1	1.5	50	53	32	71	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50
Antimony	mg/kg	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Arsenic	mg/kg	0.444	0.409	0.427	0.427	0.025	0.018	0.409	0.444	0.204	0.649	0.762	1.64	0.794	1.07	0.794	0.498	0.287	0.762	1.64	-0.172	2.30
Barium	mg/kg	73.1	75.7	74.4	74.4	1.8	1.3	73.1	75.7	57.9	90.9	64.7	66.8	67.2	66.2	66.8	1.3	0.8	64.7	67.2	62.9	69.6
Beryllium	mg/kg	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	0.074	0.054	0.059	0.062	0.059	0.010	0.006	0.054	0.074	0.036	0.088
Calcium	mg/kg	2,050	2,470	2,260	2,260	297	210	2,050	2,470	-409	4,929	2,900	3,580	3,580	3,353	3,580	393	227	2,900	3,580	2,378	4,329
Chromium	mg/kg	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Cobalt	mg/kg	0.61	0.64	0.63	0.63	0.02	0.02	0.61	0.64	0.43	0.82	0.73	0.89	0.83	0.82	0.83	0.08	0.05	0.73	0.89	0.62	1.02
Copper	mg/kg	9.34	8.21	8.78	8.78	0.80	0.57	8.21	9.34	1.59	16.0	7.78	9.62	7.77	8.39	7.78	1.07	0.62	7.77	9.62	5.74	11.04
Iron	mg/kg	146	145	146	146	0.7	0.5	145	146	139	152	53	<50	<50	51	<50	1.7	1.0	<50	53	47	55
Lead	mg/kg	0.51	<0.50	0.51	0.51	0.01	0.01	<0.50	0.51	0.44	0.57	0.53	0.68	0.76	0.66	0.68	0.12	0.07	0.53	0.76	0.37	0.95
Lithium	mg/kg	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Manganese	mg/kg	2,720	4,800	3,760	3,760	1,471	1,040	2,720	4,800	-9,458	16,978	9,960	16,100	13,400	13,153	13,400	3,077	1,777	9,960	16,100	5,508	20,799
Molybdenum	mg/kg	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	0.79	<0.50	0.60	<0.50	0.17	0.10	<0.50	0.79	0.18	1.01
Nickel	mg/kg	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0
Phosphorus	mg/kg	<50	<50	<50	<50	0	0	<50	<50	<50	<50	95	130	128	118	128	20	11	95	130	69	166
Selenium	mg/kg	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Silver	mg/kg	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Strontium	mg/kg	52.7	56.0	54.4	54.4	2.3	1.7	52.7	56.0	33.4	75.3	57.4	62.4	68.3	62.7	62.4	5.5	3.2	57.4	68.3	49.1	76.3
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Uranium	mg/kg	0.138	0.183	0.161	0.161	0.032	0.022	0.138	0.183	-0.125	0.446	0.204	0.201	0.167	0.191	0.201	0.021	0.012	0.167	0.204	0.140	0.242
Vanadium	mg/kg	1.06	1.48	1.27	1.27	0.30	0.21	1.06	1.48	-1.40	3.94	1.70	1.57	1.77	1.68	1.70	0.10	0.06	1.57	1.77	1.43	1.93
Zinc	mg/kg	6.3	6.2	6.3	6.3	0.1	0.0	6.2	6.3	5.6	6.9	7.8	11.1	17.0	12.0	11.1	4.7	2.7	7.8	17.0	0.4	23.5

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL. If MDLs were variable, means were reported as < the maximum MDL and this value was used in 95% confidence limit calculations.

Table D.5: Selective extraction analysis (Tessier et al. 1979) metals data for sediment traps deployed at Polley Lake stations, Mount Polley Mine, 2015 Set (May 2015 to August 2015)[1].

Parameter	Units	P1 (North Basin)										P2 (South Basin)									
		POL-ST15-P1-2	POL-ST15-P1-4	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit	POL-ST15-P2-3	POL-ST15-P2-4	POL-ST15-P2-6	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		12-Aug-15	12-Aug-15									12-Aug-15	12-Aug-15	12-Aug-15								
Easily Reducible Metals and Iron Oxides																						
Aluminum	mg/kg	1,270	1,010	1,140	1,140	184	130	1,010	1,270	-512	2,792	963	904	968	945	963	36	21	904	968	857	1,033
Antimony	mg/kg	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Arsenic	mg/kg	3.12	2.82	2.97	2.97	0.21	0.15	2.82	3.12	1.06	4.88	2.16	3.31	2.03	2.50	2.16	0.70	0.41	2.03	3.31	0.75	4.25
Barium	mg/kg	55.4	73.7	64.6	64.6	12.9	9.2	55.4	73.7	-51.7	181	71.6	80.6	85.9	79.4	80.6	7.2	4.2	71.6	85.9	61.4	97.3
Beryllium	mg/kg	0.23	0.22	0.23	0.23	0.01	0.01	0.22	0.23	0.16	0.29	0.23	<0.20	0.21	0.21	0.21	0.02	0.01	<0.20	0.23	0.18	0.25
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	0.058	<0.050	0.054	0.054	0.006	0.004	<0.050	0.058	0.003	0.105	0.056	<0.050	<0.050	0.052	<0.050	0.003	0.002	<0.050	0.056	0.043	0.061
Calcium	mg/kg	919	954	937	937	25	18	919	954	714	1,159	943	1,080	1,040	1,021	1,040	70	41	943	1,080	846	1,196
Chromium	mg/kg	2.14	1.83	1.99	1.99	0.22	0.16	1.83	2.14	0.01	3.96	1.90	1.56	1.64	1.70	1.64	0.18	0.10	1.56	1.90	1.26	2.14
Cobalt	mg/kg	2.01	1.94	1.98	1.98	0.05	0.03	1.94	2.01	1.53	2.42	1.88	2.07	2.00	1.98	2.00	0.10	0.06	1.88	2.07	1.74	2.22
Copper	mg/kg	5.73	7.03	6.38	6.38	0.92	0.65	5.73	7.03	-1.88	14.6	6.42	6.78	7.52	6.91	6.78	0.56	0.32	6.42	7.52	5.51	8.30
Iron	mg/kg	5,510	6,380	5,945	5,945	615	435	5,510	6,380	416	11,474	4,060	3,800	4,080	3,980	4,060	156	90	3,800	4,080	3,592	4,368
Lead	mg/kg	2.08	2.08	2.08	2.08	0	0	2.08	2.08	2.08	2.08	2.01	2.06	2.45	2.17	2.06	0.24	0.14	2.01	2.45	1.57	2.77
Lithium	mg/kg	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Manganese	mg/kg	868	1,290	1,079	1,079	298	211	868	1,290	-1,603	3,761	2,270	3,890	2,700	2,953	2,700	839	485	2,270	3,890	869	5,038
Molybdenum	mg/kg	0.97	0.80	0.89	0.885	0.12	0.09	0.8	0.97	-0.20	1.97	0.55	0.86	0.53	0.65	0.55	0.19	0.11	0.53	0.86	0.19	1.11
Nickel	mg/kg	3.26	3.15	3.21	3.21	0.08	0.05	3.15	3.26	2.51	3.90	2.83	2.43	2.48	2.58	2.48	0.22	0.13	2.43	2.83	2.04	3.12
Phosphorus	mg/kg	237	321	279	279	59	42	237	321	-255	813	262	332	320	305	320	37	22	262	332	212	398
Selenium	mg/kg	0.72	0.83	0.78	0.78	0.08	0.06	0.72	0.83	0.08	1.47	0.55	0.57	0.63	0.58	0.57	0.04	0.02	0.55	0.63	0.48	0.69
Silver	mg/kg	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Strontium	mg/kg	20.6	22.2	21.4	21.4	1.1	0.8	20.6	22.2	11.2	31.6	20.7	19.3	21.5	20.5	20.7	1.11	0.64	19.3	21.5	17.7	23.3
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	<1.0	<1.0	<1.0	<1.0	0	0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0	0	<1.0	<1.0	<1.0	<1.0
Uranium	mg/kg	0.223	0.250	0.237	0.237	0.019	0.014	0.223	0.250	0.065	0.408	0.221	0.193	0.197	0.204	0.197	0.015	0.009	0.193	0.221	0.166	0.241
Vanadium	mg/kg	16.3	18.0	17.2	17.2	1.2	0.9	16.3	18.0	6.3	28.0	16.8	13.3	14.6	14.9	14.6	1.8	1.0	13.3	16.8	10.5	19.3
Zinc	mg/kg	15.9	14.8	15.4	15.4	0.8	0.6	14.8	15.9	8.4	22.3	14.8	15.9	23.7	18.1	15.9	4.9	2.8	14.8	23.7	6.1	30.2
Organic and Mineral Bound Metals																						
Aluminum	mg/kg	3,150	3,580	3,365	3,365	304	215	3,150	3,580	632	6,098	2,900	2,310	2,360	2,523	2,360	327	189	2,310	2,900	1,711	3,336
Antimony	mg/kg	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Arsenic	mg/kg	1.15	1.34	1.25	1.25	0.13	0.10	1.15	1.34	0.04	2.45	0.83	1.15	0.93	0.97	0.93	0.16	0.10	0.83	1.15	0.56	1.38
Barium	mg/kg	21.6	24.3	23.0	23.0	1.9	1.4	21.6	24.3	5.8	40.1	17.1	24.5	23.3	21.6	23.3	4.0	2.3	17.1	24.5	11.8	31.5
Beryllium	mg/kg	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Calcium	mg/kg	1,110	1,120	1,115	1,115	7.1	5.0	1,110	1,120	1,051	1,179	938	830	841	870	841	59	34	830	938	722	1,017
Chromium	mg/kg	5.85	6.31	6.08	6.08	0.33	0.23	5.85	6.31	3.16	9.00	6.28	3.68	3.95	4.64	3.95	1.43	0.83	3.68	6.28	1.09	8.19
Cobalt	mg/kg	2.74	2.81	2.78	2.78	0.05	0.03	2.74	2.81	2.33	3.22	2.93	2.14	2.14	2.40	2.14	0.46	0.26	2.14	2.93	1.27	3.54
Copper	mg/kg	477	477	477	477	0	0	477	477	477	477	416	400	408	408	408	8.0	4.6	400	416	388	428
Iron	mg/kg	1,250	1,450	1,350	1,350	141	100	1,250	1,450	79	2,621	1,500	809	761	1,023	809	414	239	761	1,500	-3.9	2,051
Lead	mg/kg	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	0.51	<0.50	0.55	0.52	0.51	0.03	0.02	<0.50	0.55	0.45	0.59
Lithium	mg/kg	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Manganese	mg/kg	111	153	132	132	29.7	21.0	111	153	-135	399	244	400	256	300	256	86.8	50.1	244	400	84.3	516
Molybdenum	mg/kg	6.17	5.27	5.72	5.72	0.64	0.45	5.27	6.17	0.0005	11.4	3.37	4.23	3.32	3.64	3.37	0.51	0.30	3.32	4.23	2.37	4.91
Nickel	mg/kg	3.23	3.42	3.33	3.33	0.13	0.10	3.23	3.42	2.12	4.53	3.72	2.28	2.21	2.74	2.28	0.85	0.49	2.21	3.72	0.62	4.85
Selenium	mg/kg	4.91	5.27	5.09	5.09	0.25	0.18	4.91	5.27	2.80	7.38	4.64	4.22	4.61	4.49	4.61	0.23	0.14	4.22	4.64	3.91	5.07
Silver	mg/kg	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Strontium	mg/kg	13.6	13.1	13.4	13.4	0.35	0.25	13.1	13.6	10.2	16.5	11.4	12.1	11.3	11.6	11.4	0.44	0.25	11.3	12.1	10.5	12.7
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	98.8	85.2	92.0	92.0	9.6	6.8	85.2	98.8	5.6	178	1.8	1.4	3.7	2.3	1.8	1.2	0.7	1.4	3.7	-0.8	5.4
Uranium	mg/kg	0.272	0.280	0.276	0.276	0.006	0.004	0.272	0.280	0.225	0.327	0.302	0.191	0.198	0.230	0.198	0.062	0.036	0.191	0.302	0.076	0.385
Vanadium	mg/kg	14.4	16.5	15.5	15.5	1.48	1.05	14.4	16.5	2.10	28.8	14.0	10.2	10.5	11.6	10.5	2.11	1.22	10.2	14.0	6.32	16.8
Zinc	mg/kg	9.9	10.0	10.0	10.0	0.1	0.05	9.9	10.0	9.3	10.6	10.2	8.5	8.5	9.1	8.5	1.0	0.6	8.5	10.2	6.6	11.5

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL. If MDLs were variable, means were reported as < the maximum MDL and this value was used in 95% confidence limit calculations.

Table D.5: Selective extraction analysis (Tessier et al. 1979) metals data for sediment traps deployed at Polley Lake stations, Mount Polley Mine, 2015 Set (May 2015 to August 2015)[1].

Parameter	Units	P1 (North Basin)										P2 (South Basin)									
		POL-ST15-P1-2	POL-ST15-P1-4	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit	POL-ST15-P2-3	POL-ST15-P2-4	POL-ST15-P2-6	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		12-Aug-15	12-Aug-15									12-Aug-15	12-Aug-15	12-Aug-15								
Residual Metals																						
Aluminum	mg/kg	19,900	19,000	19,450	19,450	636	450	19,000	19,900	13,731	25,170	17,100	19,000	17,400	17,833	17,400	1,021	590	17,100	19,000	15,296	20,371
Antimony	mg/kg	1.15	0.99	1.07	1.07	0.11	0.08	0.99	1.15	0.05	2.09	0.76	0.88	0.78	0.81	0.78	0.06	0.04	0.76	0.88	0.65	0.97
Arsenic	mg/kg	9.28	8.1	8.70	8.70	0.83	0.59	8.11	9.28	1.26	16.1	8.35	10.4	8.24	9.00	8.35	1.22	0.70	8.24	10.4	5.97	12.0
Barium	mg/kg	171	176	174	174	3.5	2.5	171	176	142	205	152	194	179	175	179	21.3	12.3	152	194	122	228
Beryllium	mg/kg	0.46	0.44	0.45	0.45	0.01	0.01	0.44	0.46	0.32	0.58	0.41	0.45	0.46	0.44	0.45	0.03	0.02	0.41	0.46	0.37	0.51
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Calcium	mg/kg	8,410	7,760	8,085	8,085	460	325	7,760	8,410	3,954	12,216	7,430	8,330	8,350	8,037	8,330	525	303	7,430	8,350	6,731	9,342
Chromium	mg/kg	15.4	15.3	15.4	15.4	0.071	0.050	15.3	15.4	14.7	16.0	14.4	14.2	12.8	13.8	14.2	0.9	0.5	12.8	14.4	11.6	16.0
Cobalt	mg/kg	12.9	12.5	12.7	12.7	0.3	0.2	12.5	12.9	10.2	15.2	13.0	15.2	13.9	14.0	13.9	1.11	0.64	13.0	15.2	11.3	16.8
Copper	mg/kg	136	137	137	137	0.7	0.5	136	137	130	143	133	150	148	144	148	9.3	5.4	133	150	121	167
Iron	mg/kg	21,700	20,600	21,150	21,150	778	550	20,600	21,700	14,160	28,141	21,000	23,000	21,300	21,767	21,300	1,079	623	21,000	23,000	19,087	24,446
Lead	mg/kg	5.48	5.71	5.60	5.60	0.16	0.12	5.48	5.71	4.13	7.06	4.64	5.50	6.09	5.41	5.50	0.73	0.42	4.64	6.09	3.60	7.22
Lithium	mg/kg	16.2	15.9	16.1	16.1	0.2	0.1	15.9	16.2	14.1	18.0	16.8	17.9	19.5	18.1	17.9	1.4	0.8	16.8	19.5	14.7	21.4
Manganese	mg/kg	450	438	444	444	8.5	6.0	438	450	368	520	438	507	468	471	468	35	20	438	507	385	557
Molybdenum	mg/kg	0.60	0.51	0.56	0.56	0.06	0.05	0.51	0.60	-0.02	1.13	1.24	1.08	0.90	1.07	1.08	0.17	0.10	0.90	1.24	0.65	1.50
Nickel	mg/kg	12.7	12.4	12.6	12.6	0.2	0.1	12.4	12.7	10.6	14.5	12.1	12.5	11.6	12.1	12.1	0.5	0.3	11.6	12.5	10.9	13.2
Selenium	mg/kg	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Silver	mg/kg	0.33	0.30	0.32	0.32	0.02	0.02	0.30	0.33	0.12	0.51	0.29	0.28	0.28	0.28	0.28	0.01	0.003	0.28	0.29	0.27	0.30
Strontium	mg/kg	55.3	52.0	53.7	53.7	2.3	1.7	52.0	55.3	32.7	74.6	44.3	47.0	47.1	46.1	47.0	1.6	0.9	44.3	47.1	42.2	50.1
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	7.6	7.4	7.5	7.5	0.1	0.1	7.4	7.6	6.2	8.8	8.0	8.9	7.6	8.2	8.0	0.7	0.4	7.6	8.9	6.5	9.8
Titanium	mg/kg	1,530	1,420	1,475	1,475	78	55	1,420	1,530	776	2,174	1,360	1,390	1,310	1,353	1,360	40	23	1,310	1,390	1,253	1,454
Uranium	mg/kg	0.660	0.660	0.660	0.660	0	0	0.660	0.660	0.660	0.660	0.591	0.598	0.620	0.603	0.598	0.015	0.009	0.591	0.620	0.565	0.641
Vanadium	mg/kg	69.9	64.8	67.4	67.4	3.6	2.6	64.8	69.9	34.9	99.8	71.4	84.4	73.3	76.4	73.3	7.0	4.1	71.4	84.4	58.9	93.8
Zinc	mg/kg	53.5	51.0	52.3	52.3	1.8	1.3	51.0	53.5	36.4	68.1	51.5	59.4	54.2	55.0	54.2	4.0	2.3	51.5	59.4	45.1	65.0

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL. If MDLs were variable, means were reported as < the maximum MDL and this value was used in 95% confidence limit calculations.

Table D.6: Raw sediment quality data for bulk material collected in sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2014 Set (August 2014 to May 2015) [1].

Parameter	Units	BC SQGs [2]		Reference Area (Horsefly Bay)													
				QUL-ST-REF-1	QUL-ST-REF-2	QUL-ST-REF-3	QUL-ST-REF-4	QUL-ST-REF-5	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**22-May-15**	**23-May-15**	**22-May-15**	**22-May-15**	**23-May-15**								
Physical Tests																
pH (1:2 soil:water)	pH	-	-	6.90	6.97	6.80	6.95	7.02	6.93	6.95	0.08	0.04	6.80	7.02	6.82	7.03
Particle Size																
% Gravel (>2mm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand (2.0mm - 0.063mm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Silt (0.063mm - 4µm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Clay (<4µm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organic / Inorganic Carbon (<2mm fraction)																
Total Organic Carbon	%	-	-	2.08	2.15	2.14	2.23	2.17	2.15	2.15	0.05	0.02	2.08	2.23	2.09	2.22
Total Carbon by Combustion	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals (<2mm fraction)																
Aluminum	mg/kg	-	-	16,000	16,300	15,500	16,600	16,100	16,100	16,100	406	182	15,500	16,600	15,596	16,604
Antimony	mg/kg	-	-	0.41	0.43	0.42	0.43	0.39	0.42	0.42	0.02	0.01	0.39	0.43	0.40	0.44
Arsenic	mg/kg	5.9	17	7.18	7.37	6.88	7.98	6.89	7.26	7.18	0.45	0.20	6.88	7.98	6.70	7.82
Barium	mg/kg	-	-	147	143	145	149	134	144	145	5.8	2.6	134	149	136	151
Beryllium	mg/kg	-	-	0.45	0.45	0.46	0.48	0.42	0.45	0.45	0.02	0.01	0.42	0.48	0.43	0.48
Bismuth	mg/kg	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Cadmium	mg/kg	0.6	3.5	0.419	0.416	0.415	0.468	0.388	0.421	0.416	0.029	0.013	0.388	0.468	0.385	0.457
Calcium	mg/kg	-	-	8,410	8,480	8,140	8,540	8,090	8,332	8,410	204	91	8,090	8,540	8,079	8,585
Chromium	mg/kg	37.3	90	53.1	53.2	52.4	55.3	53.4	53.5	53.2	1.1	0.5	52.4	55.3	52.1	54.8
Cobalt	mg/kg	-	-	14.6	14.5	14.6	15.4	14.0	14.6	14.6	0.5	0.2	14.0	15.4	14.0	15.2
Copper	mg/kg	35.7	197	68.6	66.6	67.8	76.4	61.9	68.3	67.8	5.2	2.3	61.9	76.4	61.8	74.8
Iron	mg/kg	21,200	43,776	29,100	29,000	28,500	29,800	27,800	28,840	29,000	744	333	27,800	29,800	27,917	29,763
Lead	mg/kg	35	91	7.15	6.96	7.43	7.58	6.78	7.18	7.15	0.33	0.15	6.78	7.58	6.77	7.59
Lithium	mg/kg	-	-	13.7	13.7	14.1	14.3	12.6	13.7	13.7	0.7	0.3	12.6	14.3	12.9	14.5
Magnesium	mg/kg	-	-	7,410	7,620	7,420	7,870	7,700	7,604	7,620	195	87	7,410	7,870	7,362	7,846
Manganese	mg/kg	460	1,100	724	665	666	738	687	696	687	34	15	665	738	654	738
Mercury	mg/kg	0.17	0.49	0.052	0.054	0.054	0.061	0.051	0.054	0.054	0.004	0.002	0.051	0.061	0.050	0.059
Molybdenum	mg/kg	-	-	1.11	1.13	1.18	1.19	1.04	1.13	1.13	0.06	0.03	1.04	1.19	1.05	1.21
Nickel	mg/kg	16	75	37.0	37.0	36.7	38.8	35.7	37.0	37.0	1.1	0.5	35.7	38.8	35.7	38.4
Phosphorus	mg/kg	-	-	986	1,010	1,000	1,060	987	1,009	1,000	30	14	986	1,060	971	1,046
Potassium	mg/kg	-	-	1,570	1,480	1,370	1,390	1,490	1,460	1,480	81	36	1,370	1,570	1,359	1,561
Selenium	mg/kg	2	-	0.97	0.94	1.03	1.11	0.91	0.99	0.97	0.08	0.04	0.91	1.11	0.89	1.09
Silver	mg/kg	0.5	-	0.20	0.20	0.20	0.21	0.18	0.20	0.20	0.01	0.005	0.18	0.21	0.18	0.21
Sodium	mg/kg	-	-	449	435	416	451	441	438	441	14	6	416	451	421	456
Strontium	mg/kg	-	-	81.5	80.6	79.5	83.6	81.0	81.2	81.0	1.5	0.7	79.5	83.6	79.4	83.1
Total Sulphur	mg/kg	-	-	800	700	700	-	700	725	700	50	25	700	800	645	805
Thallium	mg/kg	-	-	0.162	0.156	0.164	0.162	0.157	0.160	0.162	0.003	0.002	0.156	0.164	0.156	0.165
Tin	mg/kg	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	-	-	1,120	1,110	1,030	1,120	1,150	1,106	1,120	45	20	1,030	1,150	1,050	1,162
Uranium	mg/kg	-	-	1.31	1.27	1.34	1.39	1.26	1.31	1.31	0.05	0.02	1.26	1.39	1.25	1.38
Vanadium	mg/kg	-	-	64.4	64.3	62.9	66.5	64.3	64.5	64.3	1.3	0.6	62.9	66.5	62.9	66.1
Zinc	mg/kg	123	315	74.7	74.0	75.0	78.2	71.3	74.6	74.7	2.5	1.1	71.3	78.2	71.6	77.7
Zirconium	mg/kg	-	-	3.6	3.6	3.7	4.4	3.3	3.7	3.6	0.4	0.2	3.3	4.4	3.2	4.2

Value is greater than TEL.
Value is greater than PEL.

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] British Columbia Sediment Quality Guidelines; TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015, 2016).

Table D.6: Raw sediment quality data for bulk material collected in sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2014 Set (August 2014 to May 2015) [1].

Parameter	Units	BC SQGs [2]		Near-field Area												
				QUL-ST-NF-1	QUL-ST-NF-2	QUL-ST-NF-3	QUL-ST-NF-4	QUL-ST-NF-5	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**21-May-15**	**21-May-15**	**22-May-15**	**22-May-15**	**22-May-15**								
Physical Tests																
pH (1:2 soil:water)	pH	-	-	8.49	8.47	8.53	8.54	8.50	8.51	8.50	0.03	0.01	8.47	8.54	8.47	8.54
Particle Size																
% Gravel (>2mm)	%	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
% Sand (2.0mm - 0.063mm)	%	-	-	1.70	0.33	0.22	0.16	0.25	0.53	0.25	0.66	0.29	0.16	1.70	-0.28	1.35
% Silt (0.063mm - 4µm)	%	-	-	48.3	48.8	47.9	47.6	47.9	48.1	47.9	0.5	0.2	47.6	48.8	47.5	48.7
% Clay (<4µm)	%	-	-	50.0	50.8	51.9	52.2	51.8	51.3	51.8	0.9	0.4	50.0	52.2	50.2	52.5
Texture	-	-	-	Silty clay	Silty clay	Silty clay	Silty clay	Silty clay	-	-	-	-	-	-	-	-
Organic / Inorganic Carbon (<2mm fraction)																
Total Organic Carbon	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Carbon by Combustion	%	-	-	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0	0	1.0	1.0	1.0	1.0
Metals (<2mm fraction)																
Aluminum	mg/kg	-	-	33,100	34,700	34,400	34,400	35,300	34,380	34,400	804	360	33,100	35,300	33,381	35,379
Antimony	mg/kg	-	-	0.70	0.68	0.73	0.69	0.72	0.70	0.70	0.02	0.01	0.68	0.73	0.68	0.73
Arsenic	mg/kg	5.9	17	17.0	17.1	17.2	16.9	17.0	17.0	17.0	0.1	0.1	16.9	17.2	16.9	17.2
Barium	mg/kg	-	-	315	311	310	309	322	313	311	5.3	2.4	309	322	307	320
Beryllium	mg/kg	-	-	1.17	1.17	1.16	1.18	1.13	1.16	1.17	0.02	0.01	1.13	1.18	1.14	1.19
Bismuth	mg/kg	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	-	-	13.3	12.8	12.8	12.9	12.7	12.9	12.8	0.2	0.1	12.7	13.3	12.6	13.2
Cadmium	mg/kg	0.6	3.5	0.251	0.238	0.230	0.225	0.241	0.237	0.238	0.010	0.005	0.225	0.251	0.224	0.250
Calcium	mg/kg	-	-	35,000	35,000	33,500	33,800	32,200	33,900	33,800	1,170	523	32,200	35,000	32,447	35,353
Chromium	mg/kg	37.3	90	21.4	21.9	21.9	22.0	22.1	21.9	21.9	0.3	0.1	21.4	22.1	21.5	22.2
Cobalt	mg/kg	-	-	32.9	33.6	33.9	33.5	33.8	33.5	33.6	0.4	0.2	32.9	33.9	33.1	34.0
Copper	mg/kg	35.7	197	1,130	1,150	1,130	1,150	1,160	1,144	1,150	13	6	1,130	1,160	1,127	1,161
Iron	mg/kg	21,200	43,776	40,600	38,200	38,800	38,300	38,700	38,920	38,700	973	435	38,200	40,600	37,712	40,128
Lead	mg/kg	35	91	11.1	11.2	11.3	11.6	11.6	11.4	11.3	0.2	0.1	11.1	11.6	11.1	11.6
Lithium	mg/kg	-	-	36.9	34.3	32.9	35.4	32.9	34.5	34.3	1.7	0.8	32.9	36.9	32.4	36.6
Magnesium	mg/kg	-	-	23,400	24,500	24,500	24,900	24,800	24,420	24,500	597	267	23,400	24,900	23,678	25,162
Manganese	mg/kg	460	1,100	1,220	1,260	1,290	1,260	1,270	1,260	1,260	25	11	1,220	1,290	1,228	1,292
Mercury	mg/kg	0.17	0.49	0.100	0.104	0.103	0.106	0.105	0.104	0.104	0.002	0.001	0.100	0.106	0.100	0.107
Molybdenum	mg/kg	-	-	4.58	4.49	4.55	4.46	4.38	4.49	4.49	0.08	0.04	4.38	4.58	4.39	4.59
Nickel	mg/kg	16	75	23.5	24.3	24.7	24.4	24.6	24.3	24.4	0.5	0.2	23.5	24.7	23.7	24.9
Phosphorus	mg/kg	-	-	1,260	1,220	1,240	1,180	1,230	1,226	1,230	30	13	1,180	1,260	1,189	1,263
Potassium	mg/kg	-	-	2,960	3,090	2,960	2,990	3,010	3,002	2,990	54	24	2,960	3,090	2,935	3,069
Selenium	mg/kg	2	-	1.55	1.60	1.57	1.53	1.59	1.57	1.57	0.03	0.01	1.53	1.60	1.53	1.60
Silver	mg/kg	0.5	-	0.49	0.47	0.49	0.48	0.48	0.48	0.48	0.01	0.004	0.47	0.49	0.47	0.49
Sodium	mg/kg	-	-	1,530	1,460	1,520	1,480	1,430	1,484	1,480	42	19	1,430	1,530	1,432	1,536
Strontium	mg/kg	-	-	234	233	235	237	227	233	234	3.8	1.7	227	237	229	238
Total Sulphur	mg/kg	-	-	1,200	1,200	1,100	1,200	1,200	1,180	1,200	45	20	1,100	1,200	1,124	1,236
Thallium	mg/kg	-	-	0.057	0.057	0.091	0.059	0.060	0.065	0.059	0.015	0.007	0.057	0.091	0.047	0.083
Tin	mg/kg	-	-	2.5	2.5	2.4	2.4	2.5	2.5	2.5	0.1	0.02	2.4	2.5	2.4	2.5
Titanium	mg/kg	-	-	2,500	2,470	2,470	2,470	2,520	2,486	2,470	23	10	2,470	2,520	2,457	2,515
Uranium	mg/kg	-	-	1.50	1.46	1.49	1.50	1.51	1.49	1.50	0.02	0.01	1.46	1.51	1.47	1.52
Vanadium	mg/kg	-	-	139	130	130	129	132	132	130	4.1	1.8	129	139	127	137
Zinc	mg/kg	123	315	119	123	123	122	123	122	123	1.7	0.8	119	123	120	124
Zirconium	mg/kg	-	-	12.6	12.6	12.7	12.7	12.4	12.6	12.6	0.1	0.1	12.4	12.7	12.4	12.8

Value is greater than TEL.
Value is greater than PEL.

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] British Columbia Sediment Quality Guidelines; TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015, 2016).

Table D.6: Raw sediment quality data for bulk material collected in sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2014 Set (August 2014 to May 2015) [1].

Parameter	Units	BC SQGs [2]		Far-far-field Area									
				QUL-ST-FFF-1 AND 4	QUL-ST-FFF-3	QUL-ST-FFF-5	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**21-May-15**	**21-May-15**	**21-May-15**								
Physical Tests														
pH (1:2 soil:water)	pH	-	-	7.16	7.20	7.09	7.15	7.16	0.06	0.03	7.09	7.20	7.01	7.29
Particle Size														
% Gravel (>2mm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand (2.0mm - 0.063mm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-
% Silt (0.063mm - 4µm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-
% Clay (<4µm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organic / Inorganic Carbon (<2mm fraction)														
Total Organic Carbon	%	-	-	3.28	3.03	2.69	3.00	3.03	0.30	0.17	2.69	3.28	2.26	3.74
Total Carbon by Combustion	%	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals (<2mm fraction)														
Aluminum	mg/kg	-	-	26,000	26,200	28,100	26,767	26,200	1,159	669	26,000	28,100	23,887	29,646
Antimony	mg/kg	-	-	1.61	1.63	1.37	1.54	1.61	0.14	0.08	1.37	1.63	1.18	1.90
Arsenic	mg/kg	5.9	17	98.6	98.0	80.6	92.4	98.0	10.2	5.9	80.6	98.6	67.0	118
Barium	mg/kg	-	-	211	204	230	215	211	13	7.8	204	230	182	248
Beryllium	mg/kg	-	-	0.71	0.71	0.83	0.75	0.71	0.07	0.04	0.71	0.83	0.58	0.92
Bismuth	mg/kg	-	-	0.24	0.24	0.27	0.25	0.24	0.02	0.01	0.24	0.27	0.21	0.29
Boron	mg/kg	-	-	5.2	6.2	7.2	6.2	6.2	1.0	0.6	5.2	7.2	3.7	8.7
Cadmium	mg/kg	0.6	3.5	0.701	0.727	0.626	0.685	0.701	0.052	0.030	0.626	0.727	0.554	0.815
Calcium	mg/kg	-	-	12,300	13,000	14,300	13,200	13,000	1,015	586	12,300	14,300	10,679	15,721
Chromium	mg/kg	37.3	90	63.5	67.0	60.3	63.6	63.5	3.4	1.9	60.3	67.0	55.3	71.9
Cobalt	mg/kg	-	-	27.8	27.2	26.8	27.3	27.2	0.5	0.3	26.8	27.8	26.0	28.5
Copper	mg/kg	35.7	197	225	189	300	238	225	57	33	189	300	97	379
Iron	mg/kg	21,200	43,776	51,400	52,400	51,100	51,633	51,400	681	393	51,100	52,400	49,942	53,324
Lead	mg/kg	35	91	17.5	15.9	17.8	17.1	17.5	1.0	0.6	15.9	17.8	14.5	19.6
Lithium	mg/kg	-	-	22.8	23.2	24.7	23.6	23.2	1.0	0.6	22.8	24.7	21.1	26.1
Magnesium	mg/kg	-	-	13,100	13,400	13,400	13,300	13,400	173	100	13,100	13,400	12,870	13,730
Manganese	mg/kg	460	1,100	5,280	5,650	5,170	5,367	5,280	251	145	5,170	5,650	4,742	5,991
Mercury	mg/kg	0.17	0.49	0.144	0.137	0.146	0.142	0.144	0.005	0.003	0.137	0.146	0.131	0.154
Molybdenum	mg/kg	-	-	3.35	3.49	3.59	3.48	3.49	0.12	0.07	3.35	3.59	3.18	3.78
Nickel	mg/kg	16	75	59.5	61.7	57.1	59.4	59.5	2.3	1.3	57.1	61.7	53.7	65.1
Phosphorus	mg/kg	-	-	1,230	1,250	1,240	1,240	1,240	10.0	5.8	1,230	1,250	1,215	1,265
Potassium	mg/kg	-	-	2,140	2,240	2,610	2,330	2,240	248	143	2,140	2,610	1,715	2,945
Selenium	mg/kg	2	-	1.49	1.58	1.63	1.57	1.58	0.07	0.04	1.49	1.63	1.39	1.74
Silver	mg/kg	0.5	-	0.39	0.38	0.38	0.38	0.38	0.01	0.003	0.38	0.39	0.37	0.40
Sodium	mg/kg	-	-	569	545	742	619	569	107	62	545	742	352	886
Strontium	mg/kg	-	-	134	137	161	144	137	14.8	8.5	134	161	107	181
Total Sulphur	mg/kg	-	-	700	-	-	700		-	-	700		700	
Thallium	mg/kg	-	-	0.200	0.214	0.221	0.212	0.214	0.011	0.006	0.200	0.221	0.185	0.238
Tin	mg/kg	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	-	-	1,160	1,330	1,420	1,303	1,330	132	76	1,160	1,420	975	1,631
Uranium	mg/kg	-	-	2.13	2.34	2.42	2.30	2.34	0.15	0.09	2.13	2.42	1.92	2.67
Vanadium	mg/kg	-	-	98.5	103	102	101	102	2.4	1.4	98.5	103	95.3	107
Zinc	mg/kg	123	315	112	107	110	110	110	2.5	1.5	107	112	103	116
Zirconium	mg/kg	-	-	2.9	2.5	2.8	2.7	2.8	0.2	0.1	2.5	2.9	2.2	3.3

Value is greater than TEL.
Value is greater than PEL.

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] British Columbia Sediment Quality Guidelines; TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015, 2016).

Table D.7: Raw sediment quality data for bulk material collected in sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2015 Set (May 2015 to August 2015)[1].

Parameter	Units	BC SQGs [2]		Reference Area (Horsefly Bay)															
				2014 - 2015 Set [3]	2015 Set														
				QUL-ST-REF 2014	QUL-ST15-REF-1	QUL-ST15-REF-2	QUL-ST15-REF-3	QUL-ST15-REF-4	QUL-ST15-REF-5	QUL-ST15-REF-6	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**13-Aug-15**	**13-Aug-15**	**14-Aug-15**	**14-Aug-15**	**14-Aug-15**	**13-Aug-15**	**13-Aug-15**								
Particle Size																			
% Gravel (>2mm)	%	-	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand (2.0mm - 0.063mm)	%	-	-	16.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Silt (0.063mm - 4µm)	%	-	-	73.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Clay (<4µm)	%	-	-	9.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-	-	-	Silt loam	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organic / Inorganic Carbon (<2mm fraction)																			
Total Organic Carbon	%	-	-	2.10	3.38	3.33	3.20	3.66	3.36	3.29	3.37	3.35	0.16	0.06	3.20	3.66	3.21	3.53
Metals (<2mm fraction)																			
Aluminum	mg/kg	-	-	14,200	17,700	17,900	17,300	17,600	16,500	17,200	17,367	17,450	497	203	16,500	17,900	16,845	17,888
Antimony	mg/kg	-	-	0.37	0.49	0.48	0.45	0.44	0.45	0.48	0.47	0.47	0.02	0.01	0.44	0.49	0.44	0.49
Arsenic	mg/kg	5.9	17	6.52	8.79	9.00	8.84	8.50	8.53	8.75	8.74	8.77	0.19	0.08	8.50	9.00	8.53	8.94
Barium	mg/kg	-	-	135	154	154	155	156	147	152	153	154	3.2	1.3	147	156	150	156
Beryllium	mg/kg	-	-	0.45	0.55	0.57	0.55	0.57	0.54	0.55	0.56	0.55	0.01	0.005	0.54	0.57	0.54	0.57
Bismuth	mg/kg	-	-	<0.20	<0.20	0.21	<0.20	0.20	<0.20	0.20	0.20	0.20	0.004	0.002	<0.20	0.21	0.20	0.21
Boron	mg/kg	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Cadmium	mg/kg	0.6	3.5	0.367	0.582	0.611	0.580	0.614	0.588	0.575	0.592	0.585	0.017	0.007	0.575	0.614	0.574	0.609
Calcium	mg/kg	-	-	7,770	7,800	8,500	7,960	7,990	7,330	7,990	7,928	7,975	377	154	7,330	8,500	7,533	8,324
Chromium	mg/kg	37.3	90	49.1	58.7	59.6	58.0	58.8	56.1	57.9	58.2	58.4	1.2	0.5	56.1	59.6	56.9	59.4
Cobalt	mg/kg	-	-	13.1	17.3	17.2	16.8	17.0	16.7	16.7	17.0	16.9	0.3	0.1	16.7	17.3	16.7	17.2
Copper	mg/kg	35.7	197	48.9	65.6	62.7	60.6	65.2	59.0	60.6	62.3	61.7	2.7	1.1	59.0	65.6	59.5	65.1
Iron	mg/kg	21,200	43,776	26,500	32,900	33,500	32,600	33,100	31,600	32,600	32,717	32,750	643	263	31,600	33,500	32,042	33,392
Lead	mg/kg	35	91	6.43	8.98	8.88	8.77	9.16	8.67	8.95	8.90	8.92	0.17	0.07	8.67	9.16	8.72	9.08
Lithium	mg/kg	-	-	15.0	20.2	20.2	19.9	20.4	19.7	20.0	20.1	20.1	0.3	0.1	19.7	20.4	19.8	20.3
Magnesium	mg/kg	-	-	7,440	9,010	9,190	8,910	9,060	8,720	8,890	8,963	8,960	161	66	8,720	9,190	8,794	9,133
Manganese	mg/kg	460	1,100	568	961	998	1,050	1,010	980	969	995	989	33	13	961	1,050	960	1,029
Mercury	mg/kg	0.17	0.49	0.049	0.070	0.069	0.067	0.080	0.064	0.068	0.069	0.068	0.005	0.002	0.064	0.080	0.064	0.075
Molybdenum	mg/kg	-	-	0.93	1.80	1.97	1.86	1.73	1.88	1.87	1.85	1.87	0.08	0.03	1.73	1.97	1.77	1.94
Nickel	mg/kg	16	75	33.8	43.6	44.2	42.6	44.3	42.3	42.7	43.3	43.2	0.9	0.4	42.3	44.3	42.4	44.2
Phosphorus	mg/kg	-	-	946	1,090	1,070	1,070	1,120	1,060	1,100	1,085	1,080	23	9.2	1,060	1,120	1,061	1,109
Potassium	mg/kg	-	-	1,300	1,820	1,810	1,750	1,780	1,630	1,720	1,752	1,765	70	29	1,630	1,820	1,678	1,825
Selenium	mg/kg	2	-	0.83	1.47	1.46	1.45	1.48	1.44	1.42	1.45	1.46	0.02	0.01	1.42	1.48	1.43	1.48
Silver	mg/kg	0.5	-	0.18	0.32	0.31	0.30	0.32	0.29	0.31	0.31	0.31	0.01	0.005	0.29	0.32	0.30	0.32
Sodium	mg/kg	-	-	407	434	438	426	429	402	416	424	428	13	5	402	438	410	438
Strontium	mg/kg	-	-	72.2	78.6	84.5	79.3	80.6	72.8	79.9	79.3	79.6	3.8	1.5	72.8	84.5	75.3	83.3
Total Sulphur	mg/kg	-	-	1,800	1,800	1,700	1,500	1,900	1,600	2,000	1,750	1,750	187	76	1,500	2,000	1,554	1,946
Thallium	mg/kg	-	-	0.169	0.190	0.209	0.190	0.186	0.192	0.198	0.194	0.191	0.008	0.003	0.186	0.209	0.186	0.203
Tin	mg/kg	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	3.7	<2.0	2.3	<2.0	0.7	0.3	<2.0	3.7	1.6	3.0
Titanium	mg/kg	-	-	945	1,000	988	958	960	868	976	958	968	47	19	868	1,000	909	1,008
Uranium	mg/kg	-	-	1.16	1.88	1.89	1.84	1.85	1.83	1.87	1.86	1.86	0.02	0.01	1.83	1.89	1.84	1.88
Vanadium	mg/kg	-	-	60.2	65.7	66.5	64.9	64.1	61.5	64.1	64.5	64.5	1.7	0.7	61.5	66.5	62.7	66.3
Zinc	mg/kg	123	315	67.6	99.2	97.8	96.2	95.6	99.3	96.4	97.4	97.1	1.6	0.7	95.6	99.3	95.7	99.1
Zirconium	mg/kg	-	-	3.5	2.2	2.4	2.2	2.2	2.4	2.2	2.3	2.2	0.1	0.04	2.2	2.4	2.2	2.4

Value is greater than TEL.
Value is greater than PEL.

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.
[2] British Columbia Sediment Quality Guidelines; TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015, 2016).
[3] "2014 - 2015 Set" sediment traps = August 2014 to August 2015 Deployment.

Table D.7: Raw sediment quality data for bulk material collected in sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2015 Set (May 2015 to August 2015)[1].

Parameter	Units	BC SQGs [2]		Near-field Area												
				QUL-ST15-NF-1	QUL-ST15-NF-2	QUL-ST15-NF-3	QUL-ST15-NF-4	QUL-ST15-NF-6	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**								
Particle Size																
% Gravel (>2mm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand (2.0mm - 0.063mm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Silt (0.063mm - 4µm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Clay (<4µm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organic / Inorganic Carbon (<2mm fraction)																
Total Organic Carbon	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals (<2mm fraction)																
Aluminum	mg/kg	-	-	13,800	9,200	11,200	13,500	24,400	14,420	13,500	5,883	2,631	9,200	24,400	7,116	21,724
Antimony	mg/kg	-	-	0.35	0.24	0.29	0.45	0.61	0.39	0.35	0.15	0.07	0.24	0.61	0.21	0.57
Arsenic	mg/kg	5.9	17	8.37	5.80	6.67	8.03	15.0	8.77	8.03	3.63	1.62	5.80	15.0	4.27	13.3
Barium	mg/kg	-	-	141	102	121	147	277	158	141	69	31	102	277	72	243
Beryllium	mg/kg	-	-	0.49	0.31	0.40	0.49	0.86	0.51	0.49	0.21	0.09	0.31	0.86	0.25	0.77
Bismuth	mg/kg	-	-	<0.20	<0.20	<0.20	<0.20	0.24	0.21	<0.20	0.02	0.01	<0.20	0.24	0.19	0.23
Boron	mg/kg	-	-	<5.0	<5.0	<5.0	<5.0	7.9	5.6	<5.0	1.3	0.6	<5.0	7.9	4.0	7.2
Cadmium	mg/kg	0.6	3.5	0.195	0.124	0.187	0.251	0.375	0.226	0.195	0.094	0.042	0.124	0.375	0.109	0.344
Calcium	mg/kg	-	-	5,940	4,400	5,390	6,000	11,600	6,666	5,940	2,832	1,266	4,400	11,600	3,150	10,182
Chromium	mg/kg	37.3	90	24.5	14.2	19.9	25.1	44.4	25.6	24.5	11.4	5.1	14.2	44.4	11.5	39.7
Cobalt	mg/kg	-	-	12.5	8.0	10.5	11.8	22.4	13.0	11.8	5.5	2.5	8.0	22.4	6.2	19.9
Copper	mg/kg	35.7	197	223	177	201	217	376	239	217	79	35	177	376	141	337
Iron	mg/kg	21,200	43,776	22,300	13,800	19,700	22,300	40,200	23,660	22,300	9,876	4,417	13,800	40,200	11,399	35,921
Lead	mg/kg	35	91	7.82	5.08	6.77	11.1	14.9	9.13	7.82	3.90	1.74	5.08	14.9	4.29	14.0
Lithium	mg/kg	-	-	14.6	8.9	12.3	14.6	26.7	15.4	14.6	6.7	3.0	8.9	26.7	7.1	23.8
Magnesium	mg/kg	-	-	6,390	4,230	5,410	6,160	11,100	6,658	6,160	2,622	1,173	4,230	11,100	3,403	9,913
Manganese	mg/kg	460	1,100	1,090	1,090	1,310	1,300	4,860	1,930	1,300	1,641	734	1,090	4,860	-108	3,968
Mercury	mg/kg	0.17	0.49	0.093	0.052	0.091	0.114	0.183	0.107	0.093	0.048	0.022	0.052	0.183	0.047	0.166
Molybdenum	mg/kg	-	-	1.23	0.96	1.09	1.24	3.92	1.69	1.23	1.25	0.56	0.96	3.92	0.13	3.24
Nickel	mg/kg	16	75	22.6	13.8	18.7	22.9	41.7	23.9	22.6	10.6	4.7	13.8	41.7	10.8	37.1
Phosphorus	mg/kg	-	-	549	372	473	540	996	586	540	240	107	372	996	288	884
Potassium	mg/kg	-	-	1,750	1,050	1,340	1,720	3,050	1,782	1,720	765	342	1,050	3,050	832	2,732
Selenium	mg/kg	2	-	0.66	0.46	0.60	0.71	1.23	0.73	0.66	0.29	0.13	0.46	1.23	0.37	1.10
Silver	mg/kg	0.5	-	0.19	0.13	0.16	0.23	0.34	0.21	0.19	0.08	0.04	0.13	0.34	0.11	0.31
Sodium	mg/kg	-	-	555	367	488	556	1,000	593	555	240	107	367	1,000	295	891
Strontium	mg/kg	-	-	85.5	65.4	71.0	87.2	164	94.6	85.5	39.9	17.8	65.4	164	45.1	144
Total Sulphur	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg	-	-	0.080	0.050	0.063	0.083	0.149	0.085	0.080	0.038	0.017	0.050	0.149	0.038	0.132
Tin	mg/kg	-	-	4.5	7.9	6.6	7.7	15.0	8.3	7.7	4.0	1.8	4.5	15.0	3.4	13.3
Titanium	mg/kg	-	-	654	479	524	610	1,070	667	610	235	105	479	1,070	375	960
Uranium	mg/kg	-	-	0.755	0.519	0.643	0.773	1.47	0.832	0.755	0.371	0.166	0.519	1.47	0.372	1.29
Vanadium	mg/kg	-	-	51.6	34.5	45.9	50.2	91.7	54.8	50.2	21.7	9.7	34.5	91.7	27.8	81.7
Zinc	mg/kg	123	315	58.4	75.1	53.1	66.2	108	72.2	66.2	21.7	9.7	53.1	108	45.2	99.1
Zirconium	mg/kg	-	-	1.3	1.3	1.4	1.2	2.4	1.5	1.3	0.5	0.2	1.2	2.4	0.9	2.1

Value is greater than TEL.
Value is greater than PEL.

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.
[2] British Columbia Sediment Quality Guidelines; TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015, 2016).
[3] "2014 - 2015 Set" sediment traps = August 2014 to August 2015 Deployment.

Table D.7: Raw sediment quality data for bulk material collected in sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2015 Set (May 2015 to August 2015)[1].

Parameter	Units	BC SQGs [2]		Far-far-field Area												
				QUL-ST15-FFF-1	QUL-ST15-FFF-2	QUL-ST15-FFF-3	QUL-ST15-FFF-4	QUL-ST15-FFF-5	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**								
Particle Size																
% Gravel (>2mm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Sand (2.0mm - 0.063mm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Silt (0.063mm - 4µm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Clay (<4µm)	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Texture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organic / Inorganic Carbon (<2mm fraction)																
Total Organic Carbon	%	-	-	-	3.93	-	3.64	4.02	3.86	3.93	0.20	0.11	3.64	4.02	3.37	4.36
Metals (<2mm fraction)																
Aluminum	mg/kg	-	-	23,800	22,900	23,200	23,500	23,800	23,440	23,500	391	175	22,900	23,800	22,954	23,926
Antimony	mg/kg	-	-	1.25	1.24	1.35	1.28	1.23	1.27	1.25	0.05	0.02	1.23	1.35	1.21	1.33
Arsenic	mg/kg	5.9	17	63.2	82.1	108	92.9	68.1	82.9	82.1	18.3	8.2	63.2	108	60.2	106
Barium	mg/kg	-	-	232	217	210	187	208	211	210	16	7.3	187	232	191	231
Beryllium	mg/kg	-	-	0.83	0.76	0.75	0.71	0.75	0.76	0.75	0.04	0.02	0.71	0.83	0.71	0.81
Bismuth	mg/kg	-	-	0.28	0.23	0.25	0.23	0.25	0.25	0.25	0.02	0.01	0.23	0.28	0.22	0.27
Boron	mg/kg	-	-	6.6	6.5	6.4	5.3	5.6	6.1	6.4	0.6	0.3	5.3	6.6	5.3	6.8
Cadmium	mg/kg	0.6	3.5	0.681	0.697	0.774	0.671	0.657	0.696	0.681	0.046	0.021	0.657	0.774	0.639	0.753
Calcium	mg/kg	-	-	10,200	11,400	9,380	11,200	10,500	10,536	10,500	812	363	9,380	11,400	9,528	11,544
Chromium	mg/kg	37.3	90	58.5	56.2	60.9	65.0	60.1	60.1	60.1	3.3	1.5	56.2	65.0	56.1	64.2
Cobalt	mg/kg	-	-	25.2	24.9	25.3	25.6	25.0	25.2	25.2	0.3	0.1	24.9	25.6	24.9	25.5
Copper	mg/kg	35.7	197	275	738	200	151	223	317	223	239	107	151	738	20	615
Iron	mg/kg	21,200	43,776	47,600	49,800	47,400	52,000	49,300	49,220	49,300	1,871	837	47,400	52,000	46,897	51,543
Lead	mg/kg	35	91	25.3	50.5	22.2	15.0	18.9	26.4	22.2	14.0	6.3	15.0	50.5	9.0	43.8
Lithium	mg/kg	-	-	26.8	27.0	26.2	26.2	26.3	26.5	26.3	0.4	0.2	26.2	27.0	26.0	27.0
Magnesium	mg/kg	-	-	12,000	12,800	12,600	13,600	12,800	12,760	12,800	573	256	12,000	13,600	12,049	13,471
Manganese	mg/kg	460	1,100	3,740	3,940	3,460	4,040	3,580	3,752	3,740	241	108	3,460	4,040	3,452	4,052
Mercury	mg/kg	0.17	0.49	0.172	0.186	0.160	0.145	0.157	0.164	0.160	0.016	0.007	0.145	0.186	0.145	0.183
Molybdenum	mg/kg	-	-	3.04	2.85	2.32	2.31	2.76	2.66	2.76	0.33	0.15	2.31	3.04	2.25	3.06
Nickel	mg/kg	16	75	54.2	52.3	57.6	61.6	57.7	56.7	57.6	3.6	1.6	52.3	61.6	52.2	61.1
Phosphorus	mg/kg	-	-	1,220	1,370	1,410	1,320	1,280	1,320	1,320	74	33	1,220	1,410	1,228	1,412
Potassium	mg/kg	-	-	2,520	2,210	2,180	2,030	2,190	2,226	2,190	179	80	2,030	2,520	2,003	2,449
Selenium	mg/kg	2	-	1.52	2.18	1.51	1.46	1.51	1.64	1.51	0.31	0.14	1.46	2.18	1.26	2.01
Silver	mg/kg	0.5	-	0.43	0.65	0.38	0.35	0.38	0.44	0.38	0.12	0.05	0.35	0.65	0.29	0.59
Sodium	mg/kg	-	-	675	575	572	474	563	572	572	71	32	474	675	483	660
Strontium	mg/kg	-	-	118	122	101	110	113	113	113	8.0	3.6	101	122	103	123
Total Sulphur	mg/kg	-	-	-	1,800	-	1,600	1,400	1,600	1,600	200	115	1,400	1,800	1,103	2,097
Thallium	mg/kg	-	-	0.185	0.186	0.182	0.191	0.197	0.188	0.186	0.006	0.003	0.182	0.197	0.181	0.196
Tin	mg/kg	-	-	13.6	2.9	11.2	2.6	5.6	7.2	5.6	5.0	2.2	2.6	13.6	1.0	13.4
Titanium	mg/kg	-	-	1,090	1,130	1,050	1,060	979	1,062	1,060	56	25	979	1,130	993	1,131
Uranium	mg/kg	-	-	1.98	1.81	1.97	2.10	1.99	1.97	1.98	0.10	0.05	1.81	2.10	1.84	2.10
Vanadium	mg/kg	-	-	96.1	106	94.1	98.9	95.7	98.2	96.1	4.7	2.1	94.1	106	92.3	104
Zinc	mg/kg	123	315	157	121	136	111	124	130	124	18	7.9	111	157	108	152
Zirconium	mg/kg	-	-	1.9	2.0	2.1	2.6	2.4	2.2	2.1	0.3	0.1	1.9	2.6	1.8	2.6

Value is greater than TEL.
Value is greater than PEL.

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.
[2] British Columbia Sediment Quality Guidelines; TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015, 2016).
[3] "2014 - 2015 Set" sediment traps = August 2014 to August 2015 Deployment.

Table D.8: Chemistry of material collected from sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2014 Set. The sum of bulk and filtered sediment metal concentrations are shown (where available) [1,2]

Parameter	Units	BC SQGs [3]		Reference Area (Horsefly Bay)												
				QUL-ST-REF-1	QUL-ST-REF-2 *	QUL-ST-REF-3	QUL-ST-REF-4	QUL-ST-REF-5 *	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**22-May-15**	**23-May-15**	**22-May-15**	**22-May-15**	**23-May-15**								
Physical Tests																
pH (1:2 soil:water)	pH	-	-	6.90	6.97	6.80	6.95	7.02	6.93	6.95	0.08	0.04	6.80	7.02	6.82	7.03
Organic / Inorganic Carbon (<2mm fraction)																
Total Carbon by Combustion	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%	-	-	2.08	2.15	2.14	2.23	2.17	2.15	2.15	0.05	0.02	2.08	2.23	2.09	2.22
Metals (< 2mm fraction)																
Aluminum	mg/kg	-	-	16,000	16,300	15,500	16,600	16,125	16,105	16,125	406	182	15,500	16,600	15,600	16,609
Antimony	mg/kg	-	-	0.41	0.43	0.42	0.43	0.39	0.42	0.42	0.02	0.01	0.39	0.43	0.40	0.44
Arsenic	mg/kg	5.9	17	7.18	7.57	6.88	7.98	6.93	7.31	7.18	0.47	0.21	6.88	7.98	6.73	7.88
Barium	mg/kg	-	-	147	143	145	149	134	144	145	6	3	134	149	137	151
Beryllium	mg/kg	-	-	0.45	0.45	0.46	0.48	0.42	0.45	0.45	0.02	0.01	0.42	0.48	0.43	0.48
Bismuth	mg/kg	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Cadmium	mg/kg	0.6	3.5	0.419	0.417	0.415	0.468	0.390	0.422	0.417	0.028	0.013	0.390	0.468	0.387	0.457
Calcium	mg/kg	-	-	8,410	8,492	8,140	8,540	8,114	8,339	8,410	199	89	8,114	8,540	8,092	8,587
Chromium	mg/kg	37.3	90	53.1	53.2	52.4	55.3	53.5	53.5	53.2	1.1	0.5	52.4	55.3	52.2	54.8
Cobalt	mg/kg	-	-	14.6	14.5	14.6	15.4	14.0	14.6	14.6	0.5	0.2	14.0	15.4	14.0	15.2
Copper	mg/kg	35.7	197	68.6	66.7	67.8	76.4	62.2	68.3	67.8	5.2	2.3	62.2	76.4	61.9	74.7
Iron	mg/kg	21,200	43,776	29,100	29,104	28,500	29,800	27,869	28,875	29,100	727	325	27,869	29,800	27,973	29,777
Lead	mg/kg	35	91	7.15	6.97	7.43	7.58	6.80	7.18	7.15	0.32	0.14	6.80	7.58	6.79	7.58
Lithium	mg/kg	-	-	13.7	13.7	14.1	14.3	12.7	13.7	13.7	0.6	0.3	12.7	14.3	12.9	14.5
Magnesium	mg/kg	-	-	7,410	7,620	7,420	7,870	7,717	7,607	7,620	197	88	7,410	7,870	7,363	7,852
Manganese	mg/kg	460	1,100	724	670	666	738	690	698	690	32	14	666	738	658	738
Mercury	mg/kg	0.17	0.49	0.052	0.054	0.054	0.061	0.051	0.055	0.054	0.004	0.002	0.051	0.061	0.050	0.059
Molybdenum	mg/kg	-	-	1.11	1.13	1.18	1.19	1.04	1.13	1.13	0.06	0.03	1.04	1.19	1.06	1.20
Nickel	mg/kg	16	75	37.0	37.0	36.7	38.8	35.8	37.1	37.0	1.1	0.5	35.8	38.8	35.7	38.4
Phosphorus	mg/kg	-	-	986	1,013	1,000	1,060	990	1,010	1,000	30	13	986	1,060	973	1,047
Potassium	mg/kg	-	-	1,570	1,481	1,370	1,390	1,493	1,461	1,481	82	36	1,370	1,570	1,360	1,562
Selenium	mg/kg	2	-	0.97	0.94	1.03	1.11	0.91	0.99	0.97	0.08	0.03	0.91	1.11	0.90	1.09
Silver	mg/kg	0.5	-	0.20	0.20	0.20	0.21	0.18	0.20	0.20	0.01	0.005	0.18	0.21	0.18	0.21
Sodium	mg/kg	-	-	449	435	416	451	442	439	442	14	6.3	416	451	421	456
Strontium	mg/kg	-	-	81.5	80.8	79.5	83.6	81.2	81.3	81.2	1.5	0.7	79.5	83.6	79.5	83.2
Total Sulphur - Bulk Sediment [4]	mg/kg	-	-	800	700	700	-	700	725	700	50	25	700	800	645	805
Thallium	mg/kg	-	-	0.162	0.156	0.164	0.162	0.157	0.160	0.162	0.003	0.002	0.156	0.164	0.156	0.164
Tin	mg/kg	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	-	-	1,120	1,110	1,030	1,120	1,149	1,106	1,120	45	20	1,030	1,149	1,050	1,162
Uranium	mg/kg	-	-	1.31	1.27	1.34	1.39	1.26	1.31	1.31	0.05	0.02	1.26	1.39	1.25	1.38
Vanadium	mg/kg	-	-	64.4	64.3	62.9	66.5	64.4	64.5	64.4	1.3	0.6	62.9	66.5	62.9	66.1
Zinc	mg/kg	123	315	74.7	74.0	75.0	78.2	71.5	74.7	74.7	2.4	1.1	71.5	78.2	71.7	77.7
Zirconium	mg/kg	-	-	3.6	3.6	3.7	4.4	3.3	3.7	3.6	0.4	0.2	3.3	4.4	3.2	4.2
Bulk Sediment Total Dry weight	g	-	-	196	439	198	192	443	-	-	-	-	-	-	-	-
# of Filters used for Filtered Sediment	-	-	-	-	6	-	-	11	-	-	-	-	-	-	-	-
Filtered Sediment Total Dry Weight [5]	g	-	-	-	0.21	-	-	3.77	-	-	-	-	-	-	-	-

Value is > TEL.
Value is > PEL.

[1] Samples shown with a * symbol display the sum of bulk and filtered sediment metal concentrations while the remainder of samples display bulk sediment metal concentrations only. Summary statistics are based on displayed data and were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] Summed bulk and filtered sediment metal concentrations were calculated using the above displayed bulk and filtered dry weight data, and raw bulk and filtered sediment chemistry data shown in Tables D.6 and D.12, respectively. If metal concentrations in the bulk sediment (the majority of the material) were < MDL, the summed bulk and filtered sediment concentration are shown as < the MDL reported for bulk sediment.

[3] British Columbia Working Sediment Quality Guidelines (BCMOE 2015, 2016); TEL (Threshold or Lowest Effect Level) / PEL (Probable or Severe Effect Level).

[4] Due to limited sample sizes for filtered sediment samples, total sulphur was measured in bulk sediment samples only. Bulk sediment results are displayed for all samples.

[5] Filtered sediment dry weight calculated as: [(total dry weight of filters + sediment(g)) - (# of filters * average blank filter weight (g))]. An average blank filter weight of 0.06537 g/filter was used for filter weight subtraction (see Appendix B for average filter weight determination).

Table D.8: Chemistry of material collected from sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2014 Set. The sum of bulk and filtered sediment metal concentrations are shown (where available) [1,2]

Parameter	Units	BC SQGs [3]		Exposed (Near-field)												
				QUL-ST-NF-1	QUL-ST-NF-2	QUL-ST-NF-3	QUL-ST-NF-4	QUL-ST-NF-5	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**21-May-15**	**21-May-15**	**22-May-15**	**22-May-15**	**22-May-15**								
Physical Tests																
pH (1:2 soil:water)	pH	-	-	8.49	8.47	8.53	8.54	8.50	8.51	8.50	0.03	0.01	8.47	8.54	8.47	8.54
Organic / Inorganic Carbon (<2mm fraction)																
Total Carbon by Combustion	%	-	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0	0	1.00	1.00	1.00	1.00
Total Organic Carbon	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals (< 2mm fraction)																
Aluminum	mg/kg	-	-	33,100	34,700	34,400	34,400	35,300	34,380	34,400	804	360	33,100	35,300	33,381	35,379
Antimony	mg/kg	-	-	0.70	0.68	0.73	0.69	0.72	0.70	0.70	0.02	0.01	0.68	0.73	0.68	0.73
Arsenic	mg/kg	5.9	17	17.0	17.1	17.2	16.9	17.0	17.0	17.0	0.1	0.1	16.9	17.2	16.9	17.2
Barium	mg/kg	-	-	315	311	310	309	322	313	311	5	2	309	322	307	320
Beryllium	mg/kg	-	-	1.17	1.17	1.16	1.18	1.13	1.16	1.17	0.02	0.01	1.13	1.18	1.14	1.19
Bismuth	mg/kg	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	-	-	13.3	12.8	12.8	12.9	12.7	12.9	12.8	0.2	0.1	12.7	13.3	12.6	13.2
Cadmium	mg/kg	0.6	3.5	0.251	0.238	0.230	0.225	0.241	0.237	0.238	0.010	0.005	0.225	0.251	0.224	0.250
Calcium	mg/kg	-	-	35,000	35,000	33,500	33,800	32,200	33,900	33,800	1,170	523	32,200	35,000	32,447	35,353
Chromium	mg/kg	37.3	90	21.4	21.9	21.9	22.0	22.1	21.9	21.9	0.3	0.1	21.4	22.1	21.5	22.2
Cobalt	mg/kg	-	-	32.9	33.6	33.9	33.5	33.8	33.5	33.6	0.4	0.2	32.9	33.9	33.1	34.0
Copper	mg/kg	35.7	197	1,130	1,150	1,130	1,150	1,160	1,144	1,150	13	6	1,130	1,160	1,127	1,161
Iron	mg/kg	21,200	43,776	40,600	38,200	38,800	38,300	38,700	38,920	38,700	973	435	38,200	40,600	37,712	40,128
Lead	mg/kg	35	91	11.1	11.2	11.3	11.6	11.6	11.4	11.3	0.2	0.1	11.1	11.6	11.1	11.6
Lithium	mg/kg	-	-	36.9	34.3	32.9	35.4	32.9	34.5	34.3	1.7	0.8	32.9	36.9	32.4	36.6
Magnesium	mg/kg	-	-	23,400	24,500	24,500	24,900	24,800	24,420	24,500	597	267	23,400	24,900	23,678	25,162
Manganese	mg/kg	460	1,100	1,220	1,260	1,290	1,260	1,270	1,260	1,260	25	11	1,220	1,290	1,228	1,292
Mercury	mg/kg	0.17	0.49	0.100	0.104	0.103	0.106	0.105	0.104	0.104	0.002	0.001	0.100	0.106	0.100	0.107
Molybdenum	mg/kg	-	-	4.58	4.49	4.55	4.46	4.38	4.49	4.49	0.08	0.04	4.38	4.58	4.39	4.59
Nickel	mg/kg	16	75	23.5	24.3	24.7	24.4	24.6	24.3	24.4	0.5	0.2	23.5	24.7	23.7	24.9
Phosphorus	mg/kg	-	-	1,260	1,220	1,240	1,180	1,230	1,226	1,230	30	13	1,180	1,260	1,189	1,263
Potassium	mg/kg	-	-	2,960	3,090	2,960	2,990	3,010	3,002	2,990	54	24	2,960	3,090	2,935	3,069
Selenium	mg/kg	2	-	1.55	1.60	1.57	1.53	1.59	1.57	1.57	0.03	0.01	1.53	1.60	1.53	1.60
Silver	mg/kg	0.5	-	0.49	0.47	0.49	0.48	0.48	0.48	0.48	0.01	0.004	0.47	0.49	0.47	0.49
Sodium	mg/kg	-	-	1,530	1,460	1,520	1,480	1,430	1,484	1,480	42	19	1,430	1,530	1,432	1,536
Strontium	mg/kg	-	-	234	233	235	237	227	233	234	4	2	227	237	229	238
Total Sulphur - Bulk Sediment [4]	mg/kg	-	-	1,200	1,200	1,100	1,200	1,200	1,180	1,200	45	20	1,100	1,200	1,124	1,236
Thallium	mg/kg	-	-	0.057	0.057	0.091	0.059	0.060	0.065	0.059	0.015	0.007	0.057	0.091	0.047	0.083
Tin	mg/kg	-	-	2.5	2.5	2.4	2.4	2.5	2.5	2.5	0.1	0.02	2.4	2.5	2.4	2.5
Titanium	mg/kg	-	-	2,500	2,470	2,470	2,470	2,520	2,486	2,470	23	10	2,470	2,520	2,457	2,515
Uranium	mg/kg	-	-	1.50	1.46	1.49	1.50	1.51	1.49	1.50	0.02	0.01	1.46	1.51	1.47	1.52
Vanadium	mg/kg	-	-	139	130	130	129	132	132	130	4.1	1.8	129	139	127	137
Zinc	mg/kg	123	315	119	123	123	122	123	122	123	1.7	0.8	119	123	120	124
Zirconium	mg/kg	-	-	12.6	12.6	12.7	12.7	12.4	12.6	12.6	0.1	0.1	12.4	12.7	12.4	12.8
Bulk Sediment Total Dry weight	g	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
# of Filters used for Filtered Sediment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Filtered Sediment Total Dry Weight [5]	g	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Value is > TEL.
Value is > PEL.

[1] Samples shown with a * symbol display the sum of bulk and filtered sediment metal concentrations while the remainder of samples display bulk sediment metal concentrations only. Summary statistics are based on displayed data and were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] Summed bulk and filtered sediment metal concentrations were calculated using the above displayed bulk and filtered dry weight data, and raw bulk and filtered sediment chemistry data shown in Tables D.6 and D.12, respectively. If metal concentrations in the bulk sediment (the majority of the material) were < MDL, the summed bulk and filtered sediment concentration are shown as < the MDL reported for bulk sediment.

[3] British Columbia Working Sediment Quality Guidelines (BCMOE 2015, 2016); TEL (Threshold or Lowest Effect Level) / PEL (Probable or Severe Effect Level).

[4] Due to limited sample sizes for filtered sediment samples, total sulphur was measured in bulk sediment samples only. Bulk sediment results are displayed for all samples.

[5] Filtered sediment dry weight calculated as: [(total dry weight of filters + sediment(g)) - (# of filters * average blank filter weight (g))]. An average blank filter weight of 0.06537 g/filter was used for filter weight subtraction (see Appendix B for average filter weight determination).

Table D.8: Chemistry of material collected from sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2014 Set. The sum of bulk and filtered sediment metal concentrations are shown (where available) [1,2]

Parameter	Units	BC SQGs [3]		Exposed Area (Near-field)											
				QUL-ST-FFF-1 AND 4 *	QUL-ST-FFF-3 *	QUL-ST-FFF-5 *	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**21-May-15**	**21-May-15**	**21-May-15**								
Physical Tests														
pH (1:2 soil:water)	pH	-	-	7.16	7.20	7.09	7.15	7.16	0.06	0.03	7.09	7.20	7.01	7.29
Organic / Inorganic Carbon (<2mm fraction)														
Total Carbon by Combustion	%	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Organic Carbon	%	-	-	3.28	3.03	2.69	3.00	3.03	0.30	0.17	2.69	3.28	2.26	3.74
Metals (< 2mm fraction)														
Aluminum	mg/kg	-	-	27,021	26,076	28,496	27,198	27,021	1,220	704	26,076	28,496	24,167	30,228
Antimony	mg/kg	-	-	1.66	1.54	1.37	1.52	1.54	0.15	0.08	1.37	1.66	1.16	1.88
Arsenic	mg/kg	5.9	17	101	98.2	80.7	93.2	98.2	11.0	6.3	80.7	100.8	66.0	120
Barium	mg/kg	-	-	224	207	237	223	224	15	9	207	237	185	260
Beryllium	mg/kg	-	-	0.74	0.72	0.85	0.77	0.74	0.07	0.04	0.72	0.85	0.59	0.95
Bismuth	mg/kg	-	-	0.26	0.24	0.27	0.26	0.26	0.02	0.01	0.24	0.27	0.21	0.30
Boron	mg/kg	-	-	5.7	6.1	7.4	6.4	6.1	0.9	0.5	5.7	7.4	4.2	8.6
Cadmium	mg/kg	0.6	3.5	0.841	0.731	0.634	0.735	0.731	0.103	0.060	0.634	0.841	0.478	0.993
Calcium	mg/kg	-	-	12,818	13,065	14,538	13,474	13,065	930	537	12,818	14,538	11,163	15,784
Chromium	mg/kg	37.3	90	65.9	66.8	60.9	64.6	65.9	3.2	1.8	60.9	66.8	56.6	72.5
Cobalt	mg/kg	-	-	28.6	27.3	27.1	27.7	27.3	0.8	0.5	27.1	28.6	25.6	29.8
Copper	mg/kg	35.7	197	242	191	311	248	242	60	35	191	311	99	398
Iron	mg/kg	21,200	43,776	52,924	52,493	51,635	52,351	52,493	656	379	51,635	52,924	50,720	53,981
Lead	mg/kg	35	91	18.7	15.9	18.1	17.5	18.1	1.5	0.8	15.9	18.7	13.9	21.2
Lithium	mg/kg	-	-	23.7	23.6	25.3	24.2	23.7	0.9	0.5	23.6	25.3	21.8	26.5
Magnesium	mg/kg	-	-	13,565	13,455	13,636	13,552	13,565	91	53	13,455	13,636	13,325	13,779
Manganese	mg/kg	460	1,100	5,344	5,551	5,118	5,338	5,344	217	125	5,118	5,551	4,800	5,876
Mercury	mg/kg	0.17	0.49	0.151	0.138	0.149	0.146	0.149	0.007	0.004	0.138	0.151	0.129	0.163
Molybdenum	mg/kg	-	-	3.45	3.50	3.63	3.53	3.50	0.09	0.05	3.45	3.63	3.29	3.76
Nickel	mg/kg	16	75	61.3	61.9	57.7	60.3	61.3	2.3	1.3	57.7	61.9	54.6	66.0
Phosphorus	mg/kg	-	-	1,276	1,257	1,250	1,261	1,257	14	8	1,250	1,276	1,228	1,295
Potassium	mg/kg	-	-	2,321	2,240	2,689	2,417	2,321	239	138	2,240	2,689	1,823	3,010
Selenium	mg/kg	2	-	1.55	1.59	1.64	1.59	1.59	0.05	0.03	1.55	1.64	1.47	1.71
Silver	mg/kg	0.5	-	0.43	0.38	0.39	0.40	0.39	0.03	0.01	0.38	0.43	0.34	0.46
Sodium	mg/kg	-	-	628	546	770	648	628	113	65	546	770	367	929
Strontium	mg/kg	-	-	143	140	166	150	143	15	8	140	166	113	186
Total Sulphur - Bulk Sediment [4]	mg/kg	-	-	700	-	-	700		-	-	700		700	
Thallium	mg/kg	-	-	0.205	0.213	0.222	0.213	0.213	0.008	0.005	0.205	0.222	0.192	0.234
Tin	mg/kg	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	-	-	1,211	1,304	1,437	1,317	1,304	113	65	1,211	1,437	1,036	1,599
Uranium	mg/kg	-	-	2.19	2.34	2.43	2.32	2.34	0.12	0.07	2.19	2.43	2.01	2.63
Vanadium	mg/kg	-	-	102	103	103	103	103	0.8	0.4	102	103	101	105
Zinc	mg/kg	123	315	117	107	112	112	112	5.0	2.9	107	117	100	125
Zirconium	mg/kg	-	-	3.3	2.5	3.0	2.9	3.0	0.4	0.2	2.5	3.3	2.0	3.9
Bulk Sediment Total Dry weight	g	-	-	13.7	37.9	21.6	-	-	-	-	-	-	-	-
# of Filters used for Filtered Sediment	-	-	-	10	7	7	-	-	-	-	-	-	-	-
Filtered Sediment Total Dry Weight [5]	g	-	-	0.44	5.76	1.34	-	-	-	-	-	-	-	-

Value is > TEL.
Value is > PEL.

[1] Samples shown with a * symbol display the sum of bulk and filtered sediment metal concentrations while the remainder of samples display bulk sediment metal concentrations only. Summary statistics are based on displayed data and were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] Summed bulk and filtered sediment metal concentrations were calculated using the above displayed bulk and filtered dry weight data, and raw bulk and filtered sediment chemistry data shown in Tables D.6 and D.12, respectively. If metal concentrations in the bulk sediment (the majority of the material) were < MDL, the summed bulk and filtered sediment concentration are shown as < the MDL reported for bulk sediment.

[3] British Columbia Working Sediment Quality Guidelines (BCMOE 2015, 2016); TEL (Threshold or Lowest Effect Level) / PEL (Probable or Severe Effect Level).

[4] Due to limited sample sizes for filtered sediment samples, total sulphur was measured in bulk sediment samples only. Bulk sediment results are displayed for all samples.

[5] Filtered sediment dry weight calculated as: [(total dry weight of filters + sediment(g)) - (# of filters * average blank filter weight (g))]. An average blank filter weight of 0.06537 g/filter was used for filter weight subtraction (see Appendix B for average filter weight determination).

Table D.9: Chemistry of material collected from sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2015 Set. The sum of bulk and filtered sediment metal concentrations are shown [1,2].

Parameter	Units	BC SQGs [3]		Reference (Horsefly Bay)															
				2014 - 2015 Set [4]	2015 Set														
				QUL-ST-REF-2014	QUL-ST15-REF-1	QUL-ST15-REF-2	QUL-ST15-REF-3	QUL-ST15-REF-4	QUL-ST15-REF-5	QUL-ST15-REF-6	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**13-Aug-15**	**13-Aug-15**	**14-Aug-15**	**14-Aug-15**	**14-Aug-15**	**13-Aug-15**	**13-Aug-15**								
Organic / Inorganic Carbon (<2mm fraction)																			
Total Organic Carbon	%	-	-	2.10	3.38	3.33	3.20	3.66	3.36	3.29	3.37	3.35	0.16	0.06	3.20	3.66	3.21	3.53
Metals (< 2mm fraction)																			
Aluminum	mg/kg	-	-	14,198	17,776	17,927	17,359	17,661	16,699	17,254	17,446	17,510	445	182	16,699	17,927	16,979	17,913
Antimony	mg/kg	-	-	0.38	0.50	0.48	0.46	0.47	0.47	0.49	0.48	0.48	0.02	0.01	0.46	0.50	0.46	0.50
Arsenic	mg/kg	5.9	17	6.67	9.04	9.10	9.01	9.20	9.11	8.91	9.06	9.07	0.10	0.04	8.91	9.20	8.95	9.17
Barium	mg/kg	-	-	135	155	154	156	158	150	153	154	155	2.8	1.2	150	158	151	158
Beryllium	mg/kg	-	-	0.45	0.55	0.57	0.55	0.57	0.55	0.55	0.56	0.55	0.01	0.005	0.55	0.57	0.54	0.57
Bismuth	mg/kg	-	-	<0.20	<0.20	0.21	<0.20	0.20	<0.20	0.20	0.20	0.20	0.004	0.002	<0.20	0.21	0.20	0.21
Boron	mg/kg	-	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Cadmium	mg/kg	0.6	3.5	0.373	0.593	0.615	0.588	0.641	0.613	0.582	0.605	0.603	0.022	0.010	0.582	0.641	0.580	0.631
Calcium	mg/kg	-	-	7,781	7,865	8,524	8,007	8,109	7,487	8,033	8,004	8,020	337	151	7,487	8,524	7,616	8,392
Chromium	mg/kg	37.3	90	49.1	59.0	59.7	58.2	59.1	56.8	58.1	58.5	58.6	1.0	0.5	56.8	59.7	57.3	59.7
Cobalt	mg/kg	-	-	13.1	17.4	17.2	16.9	17.1	16.9	16.8	17.0	17.0	0.2	0.1	16.8	17.4	16.8	17.3
Copper	mg/kg	35.7	197	49.1	66.2	62.9	61.0	66.4	60.5	61.0	63.0	62.0	2.7	1.2	60.5	66.4	59.9	66.1
Iron	mg/kg	21,200	43,776	26,625	33,237	33,628	32,841	33,802	32,399	32,822	33,121	33,039	534	239	32,399	33,802	32,508	33,735
Lead	mg/kg	35	91	6.46	9.05	8.91	8.82	9.29	8.85	9.00	8.99	8.95	0.17	0.08	8.82	9.29	8.79	9.19
Lithium	mg/kg	-	-	15.0	20.3	20.2	20.0	20.4	19.9	20.0	20.1	20.1	0.2	0.1	19.9	20.4	19.9	20.4
Magnesium	mg/kg	-	-	7,438	9,049	9,204	8,940	9,090	8,820	8,917	9,003	8,995	138	62	8,820	9,204	8,845	9,162
Manganese	mg/kg	460	1,100	582	984	1,007	1,066	1,070	1,032	984	1,024	1,020	39	17	984	1,070	979	1,068
Mercury	mg/kg	0.17	0.49	0.051	0.072	0.070	0.069	0.087	0.070	0.070	0.073	0.070	0.007	0.003	0.069	0.087	0.065	0.081
Molybdenum	mg/kg	-	-	0.94	1.82	1.98	1.87	1.76	1.92	1.88	1.87	1.88	0.07	0.03	1.76	1.98	1.78	1.96
Nickel	mg/kg	16	75	33.8	43.8	44.3	42.8	44.5	42.8	42.8	43.5	43.3	0.8	0.4	42.8	44.5	42.6	44.4
Phosphorus	mg/kg	-	-	950	1,101	1,074	1,078	1,144	1,087	1,108	1,099	1,094	26	11.5	1,074	1,144	1,069	1,128
Potassium	mg/kg	-	-	1,303	1,830	1,814	1,758	1,795	1,657	1,727	1,764	1,777	65	29	1,657	1,830	1,689	1,838
Selenium	mg/kg	2	-	0.84	1.49	1.47	1.46	1.53	1.49	1.43	1.48	1.48	0.03	0.01	1.43	1.53	1.44	1.51
Silver	mg/kg	0.5	-	0.18	0.32	0.31	0.30	0.32	0.29	0.31	0.31	0.31	0.01	0.005	0.29	0.32	0.30	0.32
Sodium	mg/kg	-	-	408	437	439	428	435	410	418	428	432	12	5.2	410	439	415	441
Strontium	mg/kg	-	-	72.3	79.2	84.7	79.7	81.7	74.3	80.3	80.0	80.0	3.4	1.5	74.3	84.7	76.1	83.9
Total Sulphur - Bulk Sediment [5]	mg/kg	-	-	1,800	1,800	1,700	1,500	1,900	1,600	2,000	1,750	1,750	187	76	1,500	2,000	1,554	1,946
Thallium	mg/kg	-	-	0.169	0.190	0.209	0.190	0.186	0.193	0.198	0.195	0.192	0.008	0.004	0.186	0.209	0.185	0.204
Tin	mg/kg	-	-	<2.0	<2.0	<2.0	<2.0	<2.0	4.3	<2.0	2.4	<2.0	1.0	0.4	<2.0	4.3	1.3	3.5
Titanium	mg/kg	-	-	946	1,007	991	963	972	885	981	966	976	43	19	885	1,007	917	1,015
Uranium	mg/kg	-	-	1.16	1.89	1.89	1.85	1.86	1.85	1.88	1.87	1.87	0.02	0.01	1.85	1.89	1.85	1.89
Vanadium	mg/kg	-	-	60.2	66.0	66.6	65.2	64.5	62.4	64.3	64.8	64.9	1.5	0.7	62.4	66.6	63.1	66.6
Zinc	mg/kg	123	315	68.0	100	98.2	96.9	97.5	101	97.0	98.5	97.8	1.9	0.8	96.9	101	96.4	101
Zirconium	mg/kg	-	-	3.5	2.2	2.4	2.2	2.3	2.5	2.2	2.3	2.3	0.1	0.05	2.2	2.5	2.2	2.4
Bulk Sediment Total Dry weight [6]	g	-	-	442	9.72	26.0	13.3	12.0	4.01	14.5	-	-	-	-	-	-	-	-
# of Filters used for Filtered Sediment	-	-	-	2	1	1	1	2	1	1	-	-	-	-	-	-	-	-
Filtered Sediment Total Dry Weight [7]	g	-	-	2.70	0.029	0.034	0.021	0.230	0.021	0.023	-	-	-	-	-	-	-	-

Value is > TEL.

Value is > PEL.

[1] Summary statistics are based on displayed data and were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] Summed bulk and filtered sediment metal concentrations were calculated using the above displayed bulk and filtered dry weight data, and raw bulk and filtered sediment chemistry data shown in Tables D.7 and D.13, respectively. If metal concentrations in the bulk sediment (the majority of the material) were < MDL, the combined bulk and filtered sediment concentration are shown as < the MDL reported for bulk sediment.

[3] British Columbia Working Sediment Quality Guidelines (BCMOE 2015, 2016); TEL (Threshold or Lowest Effect Level) / PEL (Probable or Severe Effect Level).

[4] "2014 - 2015 Set" sediment traps = August 2014 to August 2015 Deployment.

[5] Due to limited sample sizes for filtered sediment samples, total sulphur was measured in bulk sediment samples only. Bulk sediment results are displayed for all samples.

[6] Bulk sediment total dry weight displayed is the sum of the sample "Dry Weight (g)" reported by ALS Laboratory (L1700936 report; Appendix B) and the "Weight of dry sample (g)" reported by Flett Research (October 16-26, 2015 report; Appendix B) for samples submitted to Flett Research for bulk density analysis. For samples without aliquots submitted to Flett Research, the "Dry weight (g)" reported by ALS Laboratory only is displayed.

[7] Filtered sediment dry weight calculated as: [(total dry weight of filters + sediment(g)) - (# of filters * average blank filter weight (g))]. An average blank filter weight of 0.06537 g/filter was used for filter weight subtraction (see report L1638961, Appendix B for average filter weight determination).

Table D.9: Chemistry of material collected from sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2015 Set. The sum of bulk and filtered sediment metal concentrations are shown [1,2].

Parameter	Units	BC SQGs [3]		Exposed (Near-field)												
				QUL-ST15-NF-1	QUL-ST15-NF-2	QUL-ST15-NF-3	QUL-ST15-NF-4	QUL-ST15-NF-6	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**								
Organic / Inorganic Carbon (<2mm fraction)																
Total Organic Carbon	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals (< 2mm fraction)																
Aluminum	mg/kg	-	-	17,867	22,244	16,980	16,222	26,076	19,878	17,867	4,178	1,869	16,222	26,076	14,691	25,065
Antimony	mg/kg	-	-	0.62	1.03	0.68	0.62	0.72	0.73	0.68	0.17	0.08	0.62	1.03	0.52	0.95
Arsenic	mg/kg	5.9	17	11.2	14.7	10.7	9.9	16.2	12.6	11.2	2.73	1.22	9.93	16.2	9.17	15.9
Barium	mg/kg	-	-	184	239	181	175	294	215	184	51	23	175	294	151	278
Beryllium	mg/kg	-	-	0.62	0.72	0.58	0.57	0.91	0.68	0.62	0.14	0.06	0.57	0.91	0.51	0.86
Bismuth	mg/kg	-	-	<0.20	<0.20	<0.20	<0.20	0.27	0.21	<0.20	0.03	0.01	<0.20	0.27	0.17	0.25
Boron	mg/kg	-	-	<5.0	<5.0	<5.0	<5.0	8.6	5.7	<5.0	1.6	0.7	<5.0	8.6	3.7	7.7
Cadmium	mg/kg	0.6	3.5	0.274	0.368	0.296	0.301	0.407	0.329	0.301	0.056	0.025	0.274	0.407	0.260	0.399
Calcium	mg/kg	-	-	8,172	11,323	8,507	7,480	12,506	9,598	8,507	2,187	978	7,480	12,506	6,882	12,313
Chromium	mg/kg	37.3	90	31.8	37.5	30.4	29.9	47.4	35.4	31.8	7.3	3.3	29.9	47.4	26.3	44.5
Cobalt	mg/kg	-	-	15.9	18.9	15.2	14.1	23.8	17.6	15.9	3.9	1.7	14.1	23.8	12.7	22.4
Copper	mg/kg	35.7	197	305	432	316	272	410	347	316	70	31	272	432	260	434
Iron	mg/kg	21,200	43,776	28,583	34,170	28,402	26,488	42,774	32,083	28,583	6,628	2,964	26,488	42,774	23,854	40,312
Lead	mg/kg	35	91	10.7	14.2	10.9	12.9	16.1	13.0	12.9	2.26	1.01	10.7	16.1	10.2	15.8
Lithium	mg/kg	-	-	18.4	21.2	17.6	17.1	28.2	20.5	18.4	4.6	2.1	17.1	28.2	14.8	26.2
Magnesium	mg/kg	-	-	8,338	10,455	8,151	7,466	11,907	9,263	8,338	1,853	829	7,466	11,907	6,963	11,564
Manganese	mg/kg	460	1,100	1,607	2,636	1,997	1,635	5,025	2,580	1,997	1,428	639	1,607	5,025	807	4,353
Mercury	mg/kg	0.17	0.49	0.195	0.351	0.237	0.181	0.226	0.238	0.226	0.067	0.030	0.181	0.351	0.155	0.321
Molybdenum	mg/kg	-	-	1.65	2.28	1.68	1.52	4.06	2.24	1.68	1.06	0.47	1.52	4.06	0.92	3.56
Nickel	mg/kg	16	75	29.1	34.7	27.8	27.2	44.3	32.6	29.1	7.2	3.2	27.2	44.3	23.7	41.5
Phosphorus	mg/kg	-	-	734	953	734	663	1,072	831	734	173	77	663	1,072	616	1,046
Potassium	mg/kg	-	-	2,327	2,884	2,175	2,105	3,289	2,556	2,327	511	229	2,105	3,289	1,921	3,190
Selenium	mg/kg	2	-	0.98	1.42	1.05	0.92	1.36	1.15	1.05	0.23	0.10	0.92	1.42	0.86	1.43
Silver	mg/kg	0.5	-	0.25	0.31	0.24	0.27	0.36	0.29	0.27	0.05	0.02	0.24	0.36	0.22	0.35
Sodium	mg/kg	-	-	760	1,006	777	692	1,084	864	777	171	76	692	1,084	652	1,076
Strontium	mg/kg	-	-	113	152	110	105	175	131	113	30.8	13.8	105	175	92.9	169
Total Sulphur - Bulk Sediment [5]	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg	-	-	0.095	0.101	0.086	0.093	0.155	0.106	0.095	0.028	0.012	0.086	0.155	0.072	0.141
Tin	mg/kg	-	-	8.2	18.3	11.7	10.0	16.4	12.9	11.7	4.3	1.9	8.2	18.3	7.6	18.3
Titanium	mg/kg	-	-	863	1,137	822	751	1,158	946	863	188	84	751	1,158	712	1,180
Uranium	mg/kg	-	-	0.985	1.251	0.967	0.926	1.56	1.14	0.985	0.269	0.121	0.926	1.56	0.804	1.47
Vanadium	mg/kg	-	-	65.8	80.4	65.5	59.7	97.5	73.8	65.8	15.3	6.8	59.7	97.5	54.8	92.8
Zinc	mg/kg	123	315	93.3	176	103	89.0	122	117	103	35.8	16.0	89.0	176	72.4	161
Zirconium	mg/kg	-	-	2.4	4.5	3.0	1.9	2.9	2.9	2.9	1.0	0.4	1.9	4.5	1.7	4.2
Bulk Sediment Total Dry weight [6]	g	-	-	0.52	0.28	0.84	0.78	1.07	-	-	-	-	-	-	-	-
# of Filters used for Filtered Sediment	-	-	-	1	2	2	1	1	-	-	-	-	-	-	-	-
Filtered Sediment Total Dry Weight [7]	g	-	-	0.036	0.031	0.128	0.033	0.019	-	-	-	-	-	-	-	-

Value is > TEL.

Value is > PEL.

[1] Summary statistics are based on displayed data and were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] Summed bulk and filtered sediment metal concentrations were calculated using the above displayed bulk and filtered dry weight data, and raw bulk and filtered sediment chemistry data shown in Tables D.7 and D.13, respectively. If metal concentrations in the bulk sediment (the majority of the material) were < MDL, the combined bulk and filtered sediment concentration are shown as < the MDL reported for bulk sediment.

[3] British Columbia Working Sediment Quality Guidelines (BCMOE 2015, 2016); TEL (Threshold or Lowest Effect Level) / PEL (Probable or Severe Effect Level).

[4] "2014 - 2015 Set" sediment traps = August 2014 to August 2015 Deployment.

[5] Due to limited sample sizes for filtered sediment samples, total sulphur was measured in bulk sediment samples only. Bulk sediment results are displayed for all samples.

[6] Bulk sediment total dry weight displayed is the sum of the sample "Dry Weight (g)" reported by ALS Laboratory (L1700936 report; Appendix B) and the "Weight of dry sample (g)" reported by Flett Research (October 16-26, 2015 report; Appendix B) for samples submitted to Flett Research for bulk density analysis. For samples without aliquots submitted to Flett Research, the "Dry weight (g)" reported by ALS Laboratory only is displayed.

[7] Filtered sediment dry weight calculated as: [(total dry weight of filters + sediment(g)) - (# of filters * average blank filter weight (g))]. An average blank filter weight of 0.06537 g/filter was used for filter weight subtraction (see report L1638961, Appendix B for average filter weight determination).

Table D.9: Chemistry of material collected from sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2015 Set. The sum of bulk and filtered sediment metal concentrations are shown [1,2].

Parameter	Units	BC SQGs [3]		Exposed (Far-far-field)													
				QUL-ST15-FFF-1	QUL-ST15-FFF-2	QUL-ST15-FFF-3	QUL-ST15-FFF-4	QUL-ST15-FFF-5	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		**TEL**	**PEL**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**	**12-Aug-15**								
Organic / Inorganic Carbon (<2mm fraction)																
Total Organic Carbon	%	-	-	-	3.93	-	3.64	4.02	3.86	3.93	0.20	0.11	3.64	4.02	3.37	4.36
Metals (< 2mm fraction)																
Aluminum	mg/kg	-	-	24,760	23,288	24,221	23,614	24,282	24,033	24,221	582	260	23,288	24,760	23,310	24,756
Antimony	mg/kg	-	-	1.55	1.37	1.75	1.33	1.40	1.48	1.40	0.17	0.08	1.33	1.75	1.27	1.70
Arsenic	mg/kg	5.9	17	83.5	90.8	135	96.3	79.9	97.0	90.8	22.0	9.8	79.9	135	69.7	124
Barium	mg/kg	-	-	244	222	223	189	214	218	222	20	8.9	189	244	194	243
Beryllium	mg/kg	-	-	0.86	0.77	0.78	0.71	0.76	0.78	0.77	0.05	0.02	0.71	0.86	0.71	0.84
Bismuth	mg/kg	-	-	0.38	0.27	0.39	0.25	0.31	0.32	0.31	0.06	0.03	0.25	0.39	0.24	0.40
Boron	mg/kg	-	-	7.3	6.8	7.3	5.4	6.0	6.6	6.8	0.8	0.4	5.4	7.3	5.5	7.6
Cadmium	mg/kg	0.6	3.5	0.733	0.719	0.836	0.679	0.686	0.731	0.719	0.063	0.028	0.679	0.836	0.652	0.809
Calcium	mg/kg	-	-	10,853	11,665	10,173	11,289	10,848	10,966	10,853	559	250	10,173	11,665	10,272	11,660
Chromium	mg/kg	37.3	90	61.3	57.4	64.2	65.4	61.6	62.0	61.6	3.1	1.4	57.4	65.4	58.1	65.8
Cobalt	mg/kg	-	-	26.3	25.3	26.5	25.7	25.6	25.9	25.7	0.5	0.2	25.3	26.5	25.3	26.5
Copper	mg/kg	35.7	197	288	741	216	153	230	326	230	237	106	153	741	31	620
Iron	mg/kg	21,200	43,776	51,512	51,428	52,222	52,573	51,434	51,834	51,512	530	237	51,428	52,573	51,175	52,492
Lead	mg/kg	35	91	27.6	51.4	25.2	15.4	20.2	28.0	25.2	13.9	6.2	15.4	51.4	10.7	45.2
Lithium	mg/kg	-	-	27.7	27.4	27.1	26.3	26.8	27.1	27.1	0.5	0.2	26.3	27.7	26.4	27.7
Magnesium	mg/kg	-	-	12,501	12,998	13,118	13,654	13,047	13,064	13,047	410	183	12,501	13,654	12,554	13,573
Manganese	mg/kg	460	1,100	4,125	4,102	3,954	4,099	3,796	4,015	4,099	140	63	3,796	4,125	3,841	4,189
Mercury	mg/kg	0.17	0.49	0.201	0.198	0.199	0.150	0.174	0.184	0.198	0.022	0.010	0.150	0.201	0.157	0.212
Molybdenum	mg/kg	-	-	3.31	2.97	2.68	2.35	2.91	2.85	2.91	0.36	0.16	2.35	3.31	2.40	3.29
Nickel	mg/kg	16	75	57.1	53.5	60.8	62.0	59.2	58.5	59.2	3.3	1.5	53.5	62.0	54.3	62.7
Phosphorus	mg/kg	-	-	1,362	1,430	1,589	1,342	1,360	1,417	1,362	102	46	1,342	1,589	1,290	1,543
Potassium	mg/kg	-	-	2,654	2,266	2,340	2,050	2,263	2,315	2,266	218	98	2,050	2,654	2,043	2,586
Selenium	mg/kg	2	-	1.70	2.26	1.75	1.49	1.61	1.76	1.70	0.29	0.13	1.49	2.26	1.40	2.13
Silver	mg/kg	0.5	-	0.46	0.66	0.42	0.36	0.40	0.46	0.42	0.12	0.05	0.36	0.66	0.31	0.61
Sodium	mg/kg	-	-	717	593	624	481	586	600	593	85	38	481	717	495	706
Strontium	mg/kg	-	-	125	125	110	111	117	117	117	7.4	3.3	110	125	108	127
Total Sulphur - Bulk Sediment [5]	mg/kg	-	-	-	1,800	-	1,600	1,400	1,600	1,600	200	115	1,400	1,800	1,103	2,097
Thallium	mg/kg	-	-	0.191	0.188	0.188	0.192	0.200	0.192	0.191	0.005	0.002	0.188	0.200	0.186	0.198
Tin	mg/kg	-	-	15.0	3.5	13.0	2.9	6.4	8.2	6.4	5.5	2.5	2.9	15.0	1.3	15.0
Titanium	mg/kg	-	-	1,138	1,149	1,102	1,066	1,004	1,092	1,102	59	26	1,004	1,149	1,019	1,165
Uranium	mg/kg	-	-	2.10	1.86	2.11	2.12	2.05	2.05	2.10	0.11	0.05	1.86	2.12	1.91	2.18
Vanadium	mg/kg	-	-	99.7	107	97.8	99.3	97.5	100	99.3	4.1	1.8	97.5	107	95.3	105
Zinc	mg/kg	123	315	171	127	155	113	132	140	132	23	10	113	171	111	168
Zirconium	mg/kg	-	-	2.1	2.1	2.4	2.6	2.5	2.3	2.4	0.2	0.1	2.1	2.6	2.0	2.6
Bulk Sediment Total Dry weight [6]	g	-	-	1.25	3.08	1.09	9.52	2.40	-	-	-	-	-	-	-	-
# of Filters used for Filtered Sediment	-	-	-	1	1	1	1	1	-	-	-	-	-	-	-	-
Filtered Sediment Total Dry Weight [7]	g	-	-	0.008	0.013	0.026	0.036	0.018	-	-	-	-	-	-	-	-

Value is > TEL.

Value is > PEL.

[1] Summary statistics are based on displayed data and were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL.

[2] Summed bulk and filtered sediment metal concentrations were calculated using the above displayed bulk and filtered dry weight data, and raw bulk and filtered sediment chemistry data shown in Tables D.7 and D.13, respectively. If metal concentrations in the bulk sediment (the majority of the material) were < MDL, the combined bulk and filtered sediment concentration are shown as < the MDL reported for bulk sediment.

[3] British Columbia Working Sediment Quality Guidelines (BCMOE 2015, 2016); TEL (Threshold or Lowest Effect Level) / PEL (Probable or Severe Effect Level).

[4] "2014 - 2015 Set" sediment traps = August 2014 to August 2015 Deployment.

[5] Due to limited sample sizes for filtered sediment samples, total sulphur was measured in bulk sediment samples only. Bulk sediment results are displayed for all samples.

[6] Bulk sediment total dry weight displayed is the sum of the sample "Dry Weight (g)" reported by ALS Laboratory (L1700936 report; Appendix B) and the "Weight of dry sample (g)" reported by Flett Research (October 16-26, 2015 report; Appendix B) for samples submitted to Flett Research for bulk density analysis. For samples without aliquots submitted to Flett Research, the "Dry weight (g)" reported by ALS Laboratory only is displayed.

[7] Filtered sediment dry weight calculated as: [(total dry weight of filters + sediment(g)) - (# of filters * average blank filter weight (g))]. An average blank filter weight of 0.06537 g/filter was used for filter weight subtraction (see report L1638961, Appendix B for average filter weight determination).

Table D.10: Raw selectively extracted (Tessier extraction) metals data for sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2014 Set (August 2014 to May 2015) [1].

Parameter	Units	Reference Area (Horsefly Bay)													Exposed Area (Near-field)									
		QUL-ST-REF-1	QUL-ST-REF-2	QUL-ST-REF-3	QUL-ST-REF-4	QUL-ST-REF-5	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit	QUL-ST-NF-1	QUL-ST-NF-3	QUL-ST-NF-5	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		22-May-15	23-May-15	22-May-15	22-May-15	23-May-15									21-May-15	22-May-15	22-May-15								
Exchangeable & Adsorbed Metals																									
Aluminum	mg/kg	<50	<50	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50
Antimony	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Arsenic	mg/kg	0.052	<0.050	<0.050	<0.050	0.054	0.051	<0.050	0.002	0.001	<0.050	0.054	0.049	0.053	0.085	0.074	0.072	0.077	0.074	0.007	0.004	0.072	0.085	0.060	0.094
Barium	mg/kg	18.5	16.9	17.1	18.3	15.8	17.3	17.1	1.1	0.5	15.8	18.5	15.9	18.7	23.3	22.9	21.6	22.6	22.9	0.9	0.5	21.6	23.3	20.4	24.8
Beryllium	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	0.190	0.166	0.178	0.180	0.178	0.178	0.178	0.009	0.004	0.166	0.190	0.168	0.189	0.065	0.061	0.063	0.063	0.063	0.002	0.001	0.061	0.065	0.058	0.068
Calcium	mg/kg	2,390	2,470	2,260	2,470	2,570	2,432	2,470	115	52	2,260	2,570	2,289	2,575	3,600	3,480	3,290	3,457	3,480	156	90	3,290	3,600	3,068	3,845
Chromium	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50
Cobalt	mg/kg	0.34	0.31	0.32	0.31	0.23	0.30	0.31	0.04	0.02	0.23	0.34	0.25	0.35	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Copper	mg/kg	0.98	0.83	0.86	0.88	0.69	0.85	0.86	0.10	0.05	0.69	0.98	0.72	0.98	7.62	7.40	7.33	7.45	7.40	0.15	0.09	7.33	7.62	7.07	7.83
Iron	mg/kg	<50	<50	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50
Lead	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50
Lithium	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Manganese	mg/kg	274	246	229	263	222	247	246	22	10	222	274	219	274	34.0	32.9	31.8	32.9	32.9	1.1	0.6	31.8	34.0	30.2	35.6
Molybdenum	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50
Nickel	mg/kg	<1.5	<1.5	<1.5	<1.5	<1.0	<1.5	<1.5	0	0	<1.0	<1.5	1.2	1.8	<0.7	<0.7	<0.7	<0.7	<0.7	0	0	<0.7	<0.7	<0.7	<0.7
Phosphorus	mg/kg	<50	<50	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50
Potassium	mg/kg	<100	<100	<100	<100	<100	<100	<100	0	0	<100	<100	<100	<100	280	270	260	270	270	10	6	260	280	245	295
Selenium	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Silver	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Sodium	mg/kg	<100	<100	<100	<100	<100	<100	<100	0	0	<100	<100	<100	<100	120	120	110	117	120	6	3	110	120	102	131
Strontium	mg/kg	20.1	20.2	19.1	20.6	21.7	20.3	20.2	0.9	0.4	19.1	21.7	19.2	21.5	50.2	47.8	45.5	47.8	47.8	2.4	1.4	45.5	50.2	42.0	53.7
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0	0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0	0	<1.0	<1.0	<1.0	<1.0
Uranium	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	0.073	0.072	0.073	0.073	0.073	0.001	0.000	0.072	0.073	0.071	0.074
Vanadium	mg/kg	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	0	0	<0.25	<0.25	<0.25	<0.25	<0.3	<0.3	<0.3	<0.3	<0.3	0	0	<0.3	<0.3	<0.3	<0.3
Zinc	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0	0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0	0	<1.0	<1.0	<1.0	<1.0
Carbonate Metals																									
Aluminum	mg/kg	<50	<50	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50	137	136	140	138	137	2.1	1.2	136	140	132	143
Antimony	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Arsenic	mg/kg	0.194	0.205	0.171	0.191	0.191	0.190	0.191	0.012	0.005	0.171	0.205	0.175	0.206	0.099	0.096	0.108	0.101	0.099	0.006	0.004	0.096	0.108	0.085	0.117
Barium	mg/kg	18.7	19.2	17.7	19.4	20.3	19.1	19.2	1.0	0.4	17.7	20.3	17.9	20.2	82.2	83.2	85.7	83.7	83.2	1.8	1.0	82.2	85.7	79.2	88.2
Beryllium	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	0.069	0.071	0.066	0.069	0.075	0.070	0.069	0.003	0.001	0.066	0.075	0.066	0.074	0.083	0.084	0.080	0.082	0.083	0.002	0.001	0.080	0.084	0.077	0.088
Calcium	mg/kg	307	365	271	331	361	327	331	39	18	271	365	278	376	13,600	13,300	13,600	13,500	13,600	173	100	13,300	13,600	13,070	13,930
Chromium	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Cobalt	mg/kg	0.54	0.70	0.48	0.56	0.69	0.59	0.56	0.10	0.04	0.48	0.70	0.47	0.71	0.51	0.52	0.55	0.53	0.52	0.02	0.01	0.51	0.55	0.47	0.58
Copper	mg/kg	3.79	3.53	3.51	3.67	4.10	3.72	3.67	0.24	0.11	3.51	4.10	3.42	4.02	95.8	98.8	102	98.9	98.8	3.1	1.8	95.8	102	91.2	107
Iron	mg/kg	364	438	312	371	359	369	364	45	20	312	438	313	425	128	128	129	128	128	0.6	0.3	128	129	127	130
Lead	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	1.15	1.16	1.23	1.18	1.16	0.04	0.03	1.15	1.23	1.07	1.29
Lithium	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Manganese	mg/kg	62	73	56	65	121	76	65	26	12	56	121	43	108	126	126	128	127	126	1.2	0.7	126	128	124	130
Molybdenum	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50
Nickel	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0
Phosphorus	mg/kg	<50	<50	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50
Selenium	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Silver	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Strontium	mg/kg	6.9	7.2	6.1	7.2	7.8	7.0	7.2	0.6	0.3	6.1	7.8	6.3	7.8	73.7	68.8	72.9	71.8	72.9	2.6	1.5	68.8	73.7	65.3	78.3
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Uranium	mg/kg	0.308	0.327	0.334	0.325	0.335	0.326	0.327	0.011	0.005	0.308	0.335	0.312	0.339	0.149	0.154	0.163	0.155	0.154	0.007	0.004	0.149	0.163	0.138	0.173
Vanadium	mg/kg	0.31	0.53	<0.20	0.32	0.36	0.34	0.32	0.12	0.05	<0.20	0.53	0.20	0.49	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Zinc	mg/kg	1.3	1.7	1.2	1.4	1.7	1.5	1.4	0.2	0.1	1.2	1.7	1.2	1.7	1.8	1.8	1.8	1.8	1.8	0	0	1.8	1.8	1.8	1.8

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL. If MDLs were variable, means were reported as < the maximum MDL and this value was used in 95% confidence limit calculations.

Table D.10: Raw selectively extracted (Tessier extraction) metals data for sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2014 Set (August 2014 to May 2015) [1].

Parameter	Units	Reference Area (Horsefly Bay)													Exposed Area (Near-field)									
		QUL-ST-REF-1	QUL-ST-REF-2	QUL-ST-REF-3	QUL-ST-REF-4	QUL-ST-REF-5	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit	QUL-ST-NF-1	QUL-ST-NF-3	QUL-ST-NF-5	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		22-May-15	23-May-15	22-May-15	22-May-15	23-May-15									21-May-15	22-May-15	22-May-15								
Easily Reducible Metals and Iron Oxides																									
Aluminum	mg/kg	1,060	1,050	1,040	1,050	1,050	1,050	1,050	7.1	3.2	1,040	1,060	1,041	1,059	2,340	2,490	2,320	2,383	2,340	93	54	2,320	2,490	2,152	2,614
Antimony	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Arsenic	mg/kg	1.42	1.50	1.38	1.49	1.53	1.46	1.49	0.06	0.03	1.38	1.53	1.39	1.54	2.01	2.30	1.98	2.10	2.01	0.18	0.10	1.98	2.30	1.66	2.54
Barium	mg/kg	22.4	22.9	21.8	22.4	24.1	22.7	22.4	0.9	0.4	21.8	24.1	21.6	23.8	38.1	44.9	39.2	40.7	39.2	3.7	2.1	38.1	44.9	31.7	49.8
Beryllium	mg/kg	<0.20	0.20	<0.20	0.20	<0.20	0.20	<0.20	0	0	<0.20	0.20	0.20	0.20	0.33	0.34	0.34	0.34	0.34	0.01	0.003	0.33	0.34	0.32	0.35
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	0.136	0.166	0.135	0.146	0.145	0.146	0.145	0.012	0.006	0.135	0.166	0.130	0.161	0.074	0.075	0.074	0.074	0.074	0.001	0.0003	0.074	0.075	0.073	0.076
Calcium	mg/kg	757	807	682	744	643	727	744	65	29	643	807	646	807	2,180	2,380	2,180	2,247	2,180	115	67	2,180	2,380	1,960	2,534
Chromium	mg/kg	3.53	3.80	3.69	3.62	3.71	3.67	3.69	0.10	0.05	3.53	3.80	3.54	3.80	3.21	3.09	3.13	3.14	3.13	0.06	0.04	3.09	3.21	2.99	3.30
Cobalt	mg/kg	4.85	4.74	4.88	4.84	4.82	4.83	4.84	0.05	0.02	4.74	4.88	4.76	4.89	3.23	3.29	3.15	3.22	3.23	0.07	0.04	3.15	3.29	3.05	3.40
Copper	mg/kg	10.6	10.2	10.1	10.8	11.1	10.6	10.6	0.4	0.2	10.1	11.1	10.0	11.1	174	193	176	181	176	10.4	6.0	174	193	155	207
Iron	mg/kg	6,310	6,220	6,490	6,400	6,540	6,392	6,400	130	58	6,220	6,540	6,230	6,554	4,810	4,880	4,640	4,777	4,810	123	71	4,640	4,880	4,470	5,083
Lead	mg/kg	2.64	2.48	2.60	2.65	2.35	2.54	2.60	0.13	0.06	2.35	2.65	2.39	2.70	4.30	4.79	4.32	4.47	4.32	0.28	0.16	4.30	4.79	3.78	5.16
Lithium	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Manganese	mg/kg	137	138	133	137	159	141	137	10	4.6	133	159	128	154	146	151	145	147	146	3.2	1.9	145	151	139	155
Molybdenum	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50
Nickel	mg/kg	9.17	9.20	9.08	9.15	9.19	9.16	9.17	0.05	0.02	9.08	9.20	9.10	9.22	3.79	3.98	3.77	3.85	3.79	0.12	0.07	3.77	3.98	3.56	4.13
Phosphorus	mg/kg	79	89	71	85	78	80	79	6.9	3.1	71	89	72	89	103	131	130	121	130	16	9.2	103	131	82	161
Selenium	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Silver	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Strontium	mg/kg	8.4	9.1	8.0	8.5	7.6	8.3	8.4	0.5	0.2	7.6	9.1	7.7	9.0	22.8	25.1	23.1	23.7	23.1	1.3	0.7	22.8	25.1	20.6	26.8
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	1.1	<1.0	1.1	1.0	1.0	1.0	1.0	0.1	0.02	<1.0	1.1	1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	0	0	<1.0	<1.0	<1.0	<1.0
Uranium	mg/kg	0.288	0.274	0.291	0.306	0.257	0.283	0.288	0.019	0.008	0.257	0.306	0.260	0.306	0.212	0.220	0.211	0.214	0.212	0.005	0.003	0.211	0.220	0.202	0.227
Vanadium	mg/kg	8.9	9.3	9.0	9.0	8.9	9.0	9.0	0.2	0.1	8.9	9.3	8.8	9.2	12.0	12.2	11.7	12.0	12.0	0.3	0.1	11.7	12.2	11.3	12.6
Zinc	mg/kg	17.9	18.4	17.9	18.4	18.2	18.2	18.2	0.3	0.1	17.9	18.4	17.8	18.5	15.7	16.2	15.3	15.7	15.7	0.5	0.3	15.3	16.2	14.6	16.9
Organic Bound Metals																									
Aluminum	mg/kg	1,310	1,430	1,340	1,420	1,380	1,376	1,380	51	23	1,310	1,430	1,312	1,440	1,760	1,810	1,830	1,800	1,810	36	21	1,760	1,830	1,710	1,890
Antimony	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Arsenic	mg/kg	0.241	0.248	0.248	0.279	0.267	0.257	0.248	0.016	0.007	0.241	0.279	0.237	0.276	0.334	0.332	0.317	0.328	0.332	0.009	0.005	0.317	0.334	0.305	0.351
Barium	mg/kg	14.0	15.4	14.7	15.9	15.4	15.1	15.4	0.7	0.3	14.0	15.9	14.2	16.0	32.1	27.9	33.7	31.2	32.1	3.0	1.7	27.9	33.7	23.8	38.7
Beryllium	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Calcium	mg/kg	375	372	361	391	377	375	375	11	5	361	391	362	389	680	677	729	695	680	29	17	677	729	623	768
Chromium	mg/kg	5.11	5.66	5.34	5.72	5.43	5.45	5.43	0.25	0.11	5.11	5.72	5.14	5.76	0.92	0.96	0.94	0.94	0.94	0.02	0.01	0.92	0.96	0.89	0.99
Cobalt	mg/kg	1.27	1.37	1.30	1.35	1.32	1.32	1.32	0.04	0.02	1.27	1.37	1.27	1.37	2.17	2.17	2.21	2.18	2.17	0.02	0.01	2.17	2.21	2.13	2.24
Copper	mg/kg	18	19	17	20	21	19	19	2	1	17	21	17	21	673	677	657	669	673	11	6	657	677	643	695
Iron	mg/kg	527	647	592	629	609	601	609	46	21	527	647	544	658	417	399	418	411	417	11	6	399	418	385	438
Lead	mg/kg	<0.50	<0.50	<0.50	0.54	<0.50	0.51	<0.50	0.02	0.01	<0.50	0.54	0.49	0.53	1.35	1.22	1.45	1.34	1.35	0.12	0.07	1.22	1.45	1.05	1.63
Lithium	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0
Manganese	mg/kg	17.6	19.0	17.4	18.6	19.5	18.4	18.6	0.9	0.4	17.4	19.5	17.3	19.5	26.5	27.4	27.2	27.0	27.2	0.5	0.3	26.5	27.4	25.9	28.2
Molybdenum	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	0.75	0.75	0.75	0.75	0.75	0	0	0.75	0.75	0.75	0.75
Nickel	mg/kg	3.19	3.53	3.28	3.42	3.43	3.37	3.42	0.13	0.06	3.19	3.53	3.20	3.54	0.95	0.86	0.86	0.89	0.86	0.05	0.03	0.86	0.95	0.76	1.02
Selenium	mg/kg	0.74	0.80	0.76	0.82	0.77	0.78	0.77	0.03	0.01	0.74	0.82	0.74	0.82	1.30	1.26	1.26	1.27	1.26	0.02	0.01	1.26	1.30	1.22	1.33
Silver	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10
Strontium	mg/kg	3.24	3.32	3.17	3.42	3.33	3.30	3.32	0.10	0.04	3.17	3.42	3.18	3.41	6.25	5.42	6.59	6.09	6.25	0.60	0.35	5.42	6.59	4.59	7.58
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	41.0	36.8	44.1	35.7	48.0	41.1	41.0	5.1	2.3	35.7	48.0	34.8	47.5	<1.0	<1.0	<1.0	<1.0	<1.0	0	0	<1.0	<1.0	<1.0	<1.0
Uranium	mg/kg	0.136	0.142	0.129	0.151	0.139	0.139	0.139	0.008	0.004	0.129	0.151	0.129	0.149	0.133	0.146	0.145	0.141	0.145	0.007	0.004	0.133	0.146	0.123	0.159
Vanadium	mg/kg	4.80	5.18	4.98	5.11	5.18	5.05	5.11	0.16	0.07	4.80	5.18	4.85	5.25	0.58	0.64	0.61	0.61	0.61	0.03	0.02	0.58	0.64	0.54	0.68
Zinc	mg/kg	6.5	6.8	6.6	7.1	6.7	6.7	6.7	0.2	0.1	6.5	7.1	6.5	7.0	5.5	5.5	5.6	5.5	5.5	0.1	0.03	5.5	5.6	5.4	5.7

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL. If MDLs were variable, means were reported as < the maximum MDL and this value was used in 95% confidence limit calculations.

Table D.10: Raw selectively extracted (Tessier extraction) metals data for sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2014 Set (August 2014 to May 2015) [1].

Parameter	Units	Reference Area (Horsefly Bay)													Exposed Area (Near-field)									
		QUL-ST-REF-1	QUL-ST-REF-2	QUL-ST-REF-3	QUL-ST-REF-4	QUL-ST-REF-5	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit	QUL-ST-NF-1	QUL-ST-NF-3	QUL-ST-NF-5	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit
Date Sampled		22-May-15	23-May-15	22-May-15	22-May-15	23-May-15									21-May-15	22-May-15	22-May-15								
Residual Metals																									
Aluminum	mg/kg	14,700	15,900	14,100	16,000	16,200	15,380	15,900	926	414	14,100	16,200	14,231	16,529	30,300	30,800	32,400	31,167	30,800	1,097	633	30,300	32,400	28,441	33,892
Antimony	mg/kg	0.31	0.36	0.32	0.33	0.34	0.33	0.33	0.02	0.01	0.31	0.36	0.31	0.36	0.65	0.61	0.56	0.61	0.61	0.05	0.03	0.56	0.65	0.49	0.72
Arsenic	mg/kg	5.3	5.6	5.1	5.6	5.7	5.5	5.6	0.2	0.1	5.1	5.7	5.2	5.8	13.5	13.4	14.3	13.7	13.5	0.5	0.3	13.4	14.3	12.5	15.0
Barium	mg/kg	73	80	71	80	81	77	80	4.6	2.0	71	81	72	83	119	119	128	122	119	5	3	119	128	109	135
Beryllium	mg/kg	0.21	0.23	<0.20	0.24	0.23	0.22	0.23	0.02	0.01	<0.20	0.24	0.20	0.24	0.75	0.73	0.79	0.76	0.75	0.03	0.02	0.73	0.79	0.68	0.83
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050
Calcium	mg/kg	4,700	5,130	4,410	5,020	5,000	4,852	5,000	294	132	4,410	5,130	4,487	5,217	13,300	13,100	14,100	13,500	13,300	529	306	13,100	14,100	12,185	14,815
Chromium	mg/kg	44.6	47.6	43.0	46.7	47.5	45.9	46.7	2.0	0.9	43.0	47.6	43.4	48.4	16.3	16.5	17.3	16.7	16.5	0.5	0.3	16.3	17.3	15.4	18.0
Cobalt	mg/kg	6.9	7.2	6.8	7.3	7.3	7.1	7.2	0.2	0.1	6.8	7.3	6.8	7.4	26.1	26.5	27.2	26.6	26.5	0.6	0.3	26.1	27.2	25.2	28.0
Copper	mg/kg	36	36	34	37	39	36	36	1.7	0.8	34	39	34	38	233	222	253	236	233	16	9	222	253	197	275
Iron	mg/kg	21,300	22,400	20,900	22,600	22,300	21,900	22,300	752	336	20,900	22,600	20,967	22,833	32,300	32,200	33,400	32,633	32,300	666	384	32,200	33,400	30,979	34,287
Lead	mg/kg	3.84	4.07	3.86	4.13	4.15	4.01	4.07	0.15	0.07	3.84	4.15	3.82	4.20	5.03	4.86	5.45	5.11	5.03	0.30	0.18	4.86	5.45	4.36	5.87
Lithium	mg/kg	12.8	13.3	12.0	14.1	13.3	13.1	13.3	0.8	0.3	12.0	14.1	12.1	14.1	38.7	39.1	40.3	39.4	39.1	0.8	0.5	38.7	40.3	37.3	41.4
Manganese	mg/kg	207	225	198	219	225	215	219	12	5.3	198	225	200	230	877	892	930	900	892	27	16	877	930	832	968
Molybdenum	mg/kg	0.65	0.71	0.64	0.74	0.68	0.68	0.68	0.04	0.02	0.64	0.74	0.63	0.74	3.27	3.25	3.42	3.31	3.27	0.09	0.05	3.25	3.42	3.08	3.54
Nickel	mg/kg	22.9	23.9	23.0	24.5	24.3	23.7	23.9	0.7	0.3	22.9	24.5	22.8	24.6	16.6	17.1	17.7	17.1	17.1	0.6	0.3	16.6	17.7	15.8	18.5
Selenium	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20
Silver	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	0.39	0.39	0.40	0.39	0.39	0.01	0.003	0.39	0.40	0.38	0.41
Strontium	mg/kg	43.2	48.6	39.3	47.2	46.7	45.0	46.7	3.8	1.7	39.3	48.6	40.3	49.7	88.1	87.1	92.9	89.4	88.1	3.1	1.8	87.1	92.9	81.7	97.1
Thallium	mg/kg	0.123	0.138	0.124	0.134	0.136	0.131	0.134	0.007	0.003	0.123	0.138	0.122	0.140	<0.050	<0.050	0.051	0.050	0.050	0.001	0.0003	0.050	0.051	0.049	0.052
Tin	mg/kg	2.9	3.0	2.8	2.9	2.9	2.9	2.9	0.1	0.0	2.8	3.0	2.8	3.0	4.8	4.9	5.1	4.9	4.9	0.2	0.1	4.8	5.1	4.6	5.3
Titanium	mg/kg	1,080	1,260	1,030	1,220	1,250	1,168	1,220	106	47	1,030	1,260	1,037	1,299	2,340	2,400	2,520	2,420	2,400	92	53	2,340	2,520	2,192	2,648
Uranium	mg/kg	0.59	0.68	0.56	0.66	0.69	0.64	0.66	0.06	0.03	0.56	0.69	0.57	0.71	1.05	1.05	1.09	1.06	1.05	0.02	0.01	1.05	1.09	1.01	1.12
Vanadium	mg/kg	51	56	50	55	57	54	55	3.0	1.4	50	57	50	57	116	115	122	118	116	3.8	2.2	115	122	108	127
Zinc	mg/kg	49	51	48	52	52	50	51	1.8	0.8	48	52	48	53	96.9	98.6	103	100	99	3.1	1.8	97	103	92	107

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL. If MDLs were variable, means were reported as < the maximum MDL and this value was used in 95% confidence limit calculations.

Table D.11: Raw selectively extracted (Tessier extraction) metals data for sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2015 Set (May 2015 to August 2015) [1].

Parameter	Units	Reference Area (Horsefly Bay)												Far-far-field Area
		QUL-ST15-REF-2	QUL-ST15-REF-4	QUL-ST15-REF-6	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit	QUL-ST-REF-2014 [a,b]	QUL-ST15-FFF-4 [a]
Date Sampled		14-Aug-15	14-Aug-15	13-Aug-15									13-Aug-15	12-Aug-15
Exchangeable & Adsorbed Metals														
Aluminum	mg/kg	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50	<50	<50
Antimony	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	0.093
Barium	mg/kg	18.2	19.7	19.6	19.2	19.6	0.8	0.5	18.2	19.7	17.1	21.3	16.5	16.9
Beryllium	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	0.219	0.283	0.278	0.260	0.278	0.036	0.021	0.219	0.283	0.2	0.3	0.165	0.348
Calcium	mg/kg	2,980	3,000	2,960	2,980	2,980	20.0	11.5	2,960	3,000	2,930	3,030	2,190	3,760
Chromium	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cobalt	mg/kg	0.53	0.50	0.44	0.49	0.50	0.05	0.03	0.44	0.53	0.38	0.60	0.28	0.41
Copper	mg/kg	0.58	0.59	0.53	0.57	0.58	0.03	0.02	<0.50	0.59	0.5	0.6	0.96	0.84
Iron	mg/kg	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50	<50	<50
Lead	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Lithium	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Manganese	mg/kg	190	130	86	135	130	52	30	86	190	5.9	265	173	1,020
Molybdenum	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Nickel	mg/kg	<2.0	<3.0	<3.0	<3.5	<3.0	0.6	0.3	<2.0	<3.5	1.6	4.4	<2.0	<2.0
Phosphorus	mg/kg	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50	<50	<50
Potassium	mg/kg	<100	<100	<100	<100	<100	0	0	<100	<100	<100	<100	<100	<100
Selenium	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Silver	mg/kg	<0.10	<0.10	<0.10	0.1	<0.10	0	0	<0.10	0.1	<0.10	<0.10	<0.10	<0.10
Sodium	mg/kg	<100	<100	<100	<100	<100	0	0	<100	<100	<100	<100	<100	<100
Strontium	mg/kg	26.4	27.6	26.6	26.9	26.6	0.6	0.4	26.4	27.6	25.3	28.5	19.5	37.0
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	0	0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Uranium	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Vanadium	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Zinc	mg/kg	<1.0	1.9	2.0	1.6	1.9	0.6	0.3	<1.0	2.0	0.3	3.0	<1.0	<1.0
Carbonate Metals														
Aluminum	mg/kg	59	52	63	58	59	5.6	3.2	52	63	44	72	<50	54
Antimony	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	mg/kg	0.091	0.075	<0.050	0.072	0.075	0.021	0.012	<0.050	0.091	0.021	0.123	0.185	0.480
Barium	mg/kg	17.9	15.3	15.0	16.1	15.3	1.6	0.9	15.0	17.9	12.1	20.0	17.2	27.1
Beryllium	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	0.074	0.067	0.065	0.069	0.067	0.005	0.003	0.065	0.074	0.057	0.080	<0.050	0.115
Calcium	mg/kg	341	284	268	298	284	38	22	268	341	202	393	254	699
Chromium	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cobalt	mg/kg	0.60	0.36	0.29	0.42	0.36	0.16	0.09	0.29	0.60	0.01	0.82	0.44	0.97
Copper	mg/kg	2.64	2.67	2.41	2.57	2.64	0.14	0.08	2.41	2.67	2.22	2.93	3.46	6.97
Iron	mg/kg	147	147	146	147	147	0.6	0.3	146	147	145	148	291	258
Lead	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Lithium	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Manganese	mg/kg	131	91	78	100	91	28	16	78	131	32	168	49	597
Molybdenum	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Nickel	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	3.3
Phosphorus	mg/kg	<50	<50	<50	<50	<50	0	0	<50	<50	<50	<50	<50	<50
Selenium	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Silver	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Strontium	mg/kg	5.5	5.1	5.0	5.2	5.1	0.3	0.2	<5.0	5.5	4.5	5.9	5.1	14.9
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Uranium	mg/kg	0.558	0.473	0.539	0.523	0.539	0.045	0.026	0.473	0.558	0.412	0.634	0.315	0.739
Vanadium	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	0.26	<0.20
Zinc	mg/kg	3.2	2.8	2.8	2.9	2.8	0.2	0.1	2.8	3.2	2.4	3.5	1.3	4.5

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL. If MDLs were variable, means were reported as < the maximum MDL and this value was used in 95% confidence limit calculations.

[a] Data was available for a single sample only, therefore summary statistics were not calculated.

[b] Sample was retrieved from a sediment trap deployed in August 2014; deployment period of the trap differs from all other displayed samples (August 2014 to August 2015).

Table D.11: Raw selectively extracted (Tessier extraction) metals data for sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2015 Set (May 2015 to August 2015) [1].

Parameter	Units	Reference Area (Horsefly Bay)												Far-far-field Area
		QUL-ST15-REF-2	QUL-ST15-REF-4	QUL-ST15-REF-6	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit	QUL-ST-REF-2014 [a,b]	QUL-ST15-FFF-4 [a]
Date Sampled		**14-Aug-15**	**14-Aug-15**	**13-Aug-15**									**13-Aug-15**	**12-Aug-15**
Easily Reducible Metals and Iron Oxides														
Aluminum	mg/kg	1,050	1,070	1,020	1,047	1,050	25	15	1,020	1,070	984	1,109	912	1,250
Antimony	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	mg/kg	1.49	1.27	1.35	1.37	1.35	0.11	0.06	1.27	1.49	1.09	1.65	1.29	13.5
Barium	mg/kg	25.1	27.2	25.4	25.9	25.4	1.1	0.7	25.1	27.2	23.1	28.7	20.6	46.1
Beryllium	mg/kg	0.23	0.23	0.22	0.23	0.23	0.006	0.003	0.22	0.23	0.21	0.24	<0.20	0.24
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	0.231	0.190	0.180	0.200	0.190	0.027	0.016	0.180	0.231	0.133	0.267	0.138	0.135
Calcium	mg/kg	637	555	546	579	555	50	29	546	637	455	704	711	609
Chromium	mg/kg	4.03	4.20	4.05	4.09	4.05	0.09	0.05	4.03	4.20	3.86	4.32	3.46	4.37
Cobalt	mg/kg	5.51	5.93	5.91	5.78	5.91	0.24	0.14	5.51	5.93	5.19	6.37	4.59	8.12
Copper	mg/kg	5.23	5.35	5.56	5.38	5.35	0.17	0.10	5.23	5.56	4.97	5.79	7.08	19.8
Iron	mg/kg	7,360	7,890	7,320	7,523	7,360	318	184	7,320	7,890	6,733	8,314	6,030	12,500
Lead	mg/kg	3.21	3.33	3.22	3.25	3.22	0.07	0.04	3.21	3.33	3.09	3.42	2.33	5.49
Lithium	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Manganese	mg/kg	296	465	469	410	465	99	57	296	469	165	655	111	1,320
Molybdenum	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Nickel	mg/kg	9.10	8.92	8.29	8.77	8.92	0.43	0.25	8.29	9.10	7.71	9.83	8.15	10.9
Phosphorus	mg/kg	64	57	<50	57	57	7.0	4.0	<50	64	40	74	78	76
Selenium	mg/kg	<0.20	<0.20	<0.20	0.20	<0.20	0	0	<0.20	0.20	<0.20	<0.20	<0.20	<0.20
Silver	mg/kg	0.13	0.11	0.11	0.12	0.11	0.01	0.01	0.11	0.13	0.09	0.15	<0.10	0.18
Strontium	mg/kg	7.90	7.49	7.04	7.48	7.49	0.43	0.25	7.04	7.90	6.4	8.5	7.57	10.2
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	0	0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0
Uranium	mg/kg	0.510	0.473	0.476	0.486	0.476	0.021	0.012	0.473	0.510	0.435	0.537	0.271	0.596
Vanadium	mg/kg	8.53	8.77	8.47	8.59	8.53	0.16	0.09	8.47	8.77	8.2	9.0	8.33	12.1
Zinc	mg/kg	22.4	22.0	21.8	22.1	22.0	0.3	0.2	21.8	22.4	21.3	22.8	16.4	22.2
Organic and Mineral Bound Metals														
Aluminum	mg/kg	1,620	1,700	1,630	1,650	1,630	44	25	1,620	1,700	1,542	1,758	1,230	1,860
Antimony	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	mg/kg	0.488	0.427	0.503	0.473	0.488	0.040	0.023	0.427	0.503	0.373	0.573	0.276	1.72
Barium	mg/kg	18.6	19.5	18.3	18.8	18.6	0.6	0.4	18.3	19.5	17.2	20.4	14.2	26.2
Beryllium	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Calcium	mg/kg	392	416	424	411	416	17	10	392	424	369	452	399	560
Chromium	mg/kg	7.03	7.51	7.03	7.19	7.03	0.28	0.16	7.03	7.51	6.50	7.88	5.17	5.01
Cobalt	mg/kg	1.64	1.68	1.62	1.65	1.64	0.03	0.02	1.62	1.68	1.57	1.72	1.39	1.44
Copper	mg/kg	37.0	17.7	17.8	24.2	17.8	11.1	6.4	17.7	37.0	-3.4	51.8	14.4	47.9
Iron	mg/kg	814	873	823	837	823	32	18	814	873	758	916	518	799
Lead	mg/kg	0.72	0.68	1.07	0.82	0.72	0.21	0.12	0.68	1.07	0.29	1.36	<0.50	1.10
Lithium	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	0	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Manganese	mg/kg	32.3	41.4	40.5	38.1	40.5	5.0	2.9	32.3	41.4	25.6	50.5	18.3	102
Molybdenum	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	0	0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Nickel	mg/kg	4.28	4.30	4.12	4.23	4.28	0.10	0.06	4.12	4.30	3.99	4.48	3.45	3.77
Selenium	mg/kg	1.39	1.43	1.33	1.38	1.39	0.05	0.03	1.33	1.43	1.26	1.51	0.77	1.21
Silver	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	0	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Strontium	mg/kg	3.97	4.05	3.86	3.96	3.97	0.10	0.06	3.86	4.05	3.72	4.20	3.57	5.84
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	0	0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	3.2	2.1	1.8	2.4	2.1	0.7	0.4	1.8	3.2	0.5	4.2	2.1	2.3
Uranium	mg/kg	0.211	0.218	0.208	0.212	0.211	0.005	0.003	0.208	0.218	0.200	0.225	0.129	0.166
Vanadium	mg/kg	3.27	3.77	3.34	3.46	3.34	0.27	0.16	3.27	3.77	2.79	4.13	2.09	5.13
Zinc	mg/kg	10.8	8.6	10.6	10.0	10.6	1.2	0.7	8.6	10.8	7.0	13.0	6.5	6.8

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL. If MDLs were variable, means were reported as < the maximum MDL and this value was used in 95% confidence limit calculations.

[a] Data was available for a single sample only, therefore summary statistics were not calculated.

[b] Sample was retrieved from a sediment trap deployed in August 2014; deployment period of the trap differs from all other displayed samples (August 2014 to August 2015).

Table D.11: Raw selectively extracted (Tessier extraction) metals data for sediment traps deployed in Quesnel Lake, Mount Polley Mine, 2015 Set (May 2015 to August 2015) [1].

Parameter	Units	Reference Area (Horsefly Bay)												Far-far-field Area
		QUL-ST15-REF-2	QUL-ST15-REF-4	QUL-ST15-REF-6	Mean	Median	Standard Deviation	Standard Error	Minimum	Maximum	Lower 95th Confidence Limit	Upper 95th Confidence Limit	QUL-ST-REF-2014 [a,b]	QUL-ST15-FFF-4 [a]
Date Sampled		**14-Aug-15**	**14-Aug-15**	**13-Aug-15**									**13-Aug-15**	**12-Aug-15**
Residual Metals														
Aluminum	mg/kg	15,100	15,100	14,200	14,800	15,100	520	300	14,200	15,100	13,509	16,091	12,600	19,300
Antimony	mg/kg	0.33	0.32	0.34	0.33	0.33	0.01	0.01	0.32	0.34	0.31	0.35	0.24	0.81
Arsenic	mg/kg	6.72	6.88	6.86	6.82	6.86	0.09	0.05	6.72	6.88	6.60	7.04	4.89	76.6
Barium	mg/kg	70.7	69.0	67.8	69.2	69.0	1.5	0.8	67.8	70.7	65.5	72.8	66.7	52.8
Beryllium	mg/kg	0.20	0.21	<0.20	0.20	0.20	0.01	0.003	<0.20	0.21	0.19	0.22	<0.20	0.29
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	0	0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cadmium	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	0	0	<0.050	<0.050	<0.050	<0.050	<0.050	0.055
Calcium	mg/kg	3,720	3,510	3,370	3,533	3,510	176	102	3,370	3,720	3,096	3,971	4,000	4,760
Chromium	mg/kg	45.8	46.1	45.2	45.7	45.8	0.5	0.3	45.2	46.1	44.6	46.8	40.7	50.9
Cobalt	mg/kg	7.87	8.03	7.83	7.91	7.87	0.11	0.06	7.83	8.03	7.65	8.17	6.59	12.1
Copper	mg/kg	83.8	43.5	40.8	56.0	43.5	24.1	13.9	40.8	83.8	-3.8	116	32.8	77.8
Iron	mg/kg	23,200	23,900	22,500	23,200	23,200	700	404	22,500	23,900	21,461	24,939	19,700	34,200
Lead	mg/kg	4.98	5.24	4.85	5.02	4.98	0.20	0.11	4.85	5.24	4.53	5.52	3.77	7.94
Lithium	mg/kg	14.9	15.0	14.4	14.8	14.9	0.3	0.2	14.4	15.0	14.0	15.6	11.4	21.1
Manganese	mg/kg	206	207	202	205	206	2.6	1.5	202	207	198	212	194	378
Molybdenum	mg/kg	1.49	1.39	1.42	1.43	1.42	0.05	0.03	1.39	1.49	1.31	1.56	0.75	1.62
Nickel	mg/kg	28.5	29.2	28.5	28.7	28.5	0.4	0.2	28.5	29.2	27.7	29.7	22.4	41.1
Selenium	mg/kg	0.20	<0.20	<0.20	0.20	<0.20	0	0	<0.20	0.20	0.20	0.20	<0.20	<0.20
Silver	mg/kg	0.19	0.10	<0.10	0.13	0.10	0.05	0.03	<0.10	0.19	0.001	0.26	<0.10	0.11
Strontium	mg/kg	33.7	33.2	31.1	32.7	33.2	1.4	0.8	31.1	33.7	29.2	36.1	33.9	32.7
Thallium	mg/kg	0.149	0.147	0.138	0.145	0.147	0.006	0.003	0.138	0.149	0.130	0.159	0.117	0.109
Tin	mg/kg	3.0	3.4	3.5	3.3	3.4	0.3	0.2	3.0	3.5	2.6	4.0	2.6	4.8
Titanium	mg/kg	935	914	847	899	914	46	27	847	935	784	1,013	845	940
Uranium	mg/kg	0.566	0.551	0.522	0.546	0.551	0.022	0.013	0.522	0.566	0.491	0.602	0.465	0.456
Vanadium	mg/kg	50.1	49.6	47.8	49.2	49.6	1.2	0.7	47.8	50.1	46.2	52.2	49.2	70.8
Zinc	mg/kg	65.0	66.9	66.1	66.0	66.1	1.0	0.6	65.0	66.9	63.6	68.4	49.5	75.0

[1] Summary statistics were calculated using method detection limit (MDL) values if data were below the MDL. Means are shown with a < symbol if all data used in their calculation were < MDL. If MDLs were variable, means were reported as < the maximum MDL and this value was used in 95% confidence limit calculations.
[a] Data was available for a single sample only, therefore summary statistics were not calculated.
[b] Sample was retrieved from a sediment trap deployed in August 2014; deployment period of the trap differs from all other displayed samples (August 2014 to August 2015).

Table D.12: Raw chemistry data of filtered sediment collected from sediment traps deployed in Polley Lake and Quesnel Lake, Mount Polley Mine, 2014 Set (August/October 2014 to May 2015).

Parameter	Units	Polley Lake				Quesnel Lake				
		P1 (North Basin)		P2 (South Basin)		Reference (Horsefly Bay)		Far-far-field		
		POL-ST-P1-1	POL-ST-P1-2	POL-ST-P2-2	POL-ST-P2-6	QUL-ST-REF-2	QUL-ST-REF-5	QUL-ST-FFF-1 AND 4	QUL-ST-FFF-3	QUL-ST-FFF-5
Date Sampled		**24-May-15**	**24-May-15**	**23-May-15**	**23-May-15**	**22-May-15**	**22-May-15**	**21-May-15**	**21-May-15**	**21-May-15**
Metals										
Aluminum	mg/kg	21,500	23,200	21,900	20,700	5,650	16,000	23,700	23,400	26,000
Antimony	mg/kg	1.21	1.77	1.99	1.81	<0.50	0.37	1.35	0.87	1.07
Arsenic	mg/kg	15.1	17.2	16.1	22.4	149	9.37	68.4	92.3	60.7
Barium	mg/kg	545	570	551	649	173	156	257	209	259
Beryllium	mg/kg	0.74	0.85	0.92	0.84	<0.50	0.51	0.74	0.72	0.91
Bismuth	mg/kg	<0.80	<0.20	<0.20	<0.40	<1.0	<0.20	<0.40	0.22	0.25
Boron	mg/kg	<20	11.9	12.9	14	<25	<5.0	<10	5.4	8.3
Cadmium	mg/kg	0.367	0.418	0.296	0.436	0.530	0.575	2.11	0.703	0.575
Calcium	mg/kg	16,300	18,700	20,700	20,100	12,100	9,220	11,700	12,500	13,700
Chromium	mg/kg	<30	<25	19.0	<20	<30	54.1	<60	61.1	53.7
Cobalt	mg/kg	19.6	20.8	21.2	19.1	8.56	15.1	22.2	25.7	24.0
Copper	mg/kg	574	695	679	634	97.6	77.6	311	192	369
Iron	mg/kg	23,600	28,600	26,000	27,700	86,200	30,200	40,400	49,200	44,900
Lead	mg/kg	10.5	10.3	9.12	17.3	7.30	7.53	22.2	14.7	16.9
Lithium	mg/kg	16.2	19.0	20.5	17.9	<10	16.0	21.0	24.4	25.9
Magnesium	mg/kg	11,100	12,600	12,000	11,200	2,550	8,200	11,300	12,800	13,000
Manganese	mg/kg	16,000	15,600	20,800	17,000	3,700	924	2,940	4,540	3,190
Mercury	mg/kg	0.137	0.128	0.127	0.140	0.090	0.064	0.147	0.133	0.145
Molybdenum	mg/kg	4.73	11.7	13.4	6.76	3.16	1.37	2.64	3.31	3.22
Nickel	mg/kg	19.8	20.2	18.1	19.6	18.1	38.4	48.0	58.3	49.7
Phosphorus	mg/kg	3,030	2,710	2,480	3,820	2,860	1,100	1,110	1,210	1,060
Potassium	mg/kg	3,210	2,870	2,630	2,730	1,290	1,550	3,240	2,080	2,960
Selenium	mg/kg	6.67	7.51	9.41	8.88	3.30	1.12	1.40	1.54	1.41
Silver	mg/kg	<0.40	0.31	0.29	0.39	<0.50	0.23	0.70	0.37	0.41
Sodium	mg/kg	2,010	1,500	1,340	1,420	360	464	1,010	513	913
Strontium	mg/kg	253	291	290	307	147	92.8	173	145	190
Thallium	mg/kg	<0.20	0.06	<0.05	<0.10	<0.25	0.16	0.16	0.19	0.18
Tin	mg/kg	<8.0	2.0	<2.0	<4.0	<10	<2.0	<4.0	3.3	11.3
Titanium	mg/kg	1410	1,580	1,380	1,520	296	911	1,130	1,050	1,270
Uranium	mg/kg	0.94	1.22	1.15	1.07	0.51	1.32	1.60	2.19	1.95
Vanadium	mg/kg	93.1	112	120	103	34.1	64.9	83.3	96.3	91.6
Zinc	mg/kg	85.3	80.2	75.2	97.2	41.0	81.4	114	101	107
Zirconium	mg/kg	<4.0	2.6	2.3	2.7	5.7	5.1	6.4	2.4	4.9

Table D.13: Raw chemistry data of filtered sediment collected from sediment traps deployed in Polley Lake and Quesnel Lake, Mount Polley Mine, 2015 Set (May 2015 to August 2015).

Parameter	Units	Polley Lake		Quesnel Lake		
		P1 (North Basin) *	P2 (South Basin)	Reference (Horsefly Bay)	Near-field	Far-far-field
		POL-ST15-P1	POL-ST15-P2	QUL-ST15-REF	QUL-ST15-NF	QUL-ST15-FFF
Date Sampled		**12-Aug-15**	**12-Aug-15**	**13-Aug-15**	**12-Aug-15**	**12-Aug-15**
Metals						
Aluminum	mg/kg	16,000	15,900	13,300	27,100	19,100
Antimony	mg/kg	0.68	1.77	1.23	1.62	5.37
Arsenic	mg/kg	14.1	16.9	29.1	18.5	357
Barium	mg/kg	237	441	164	285	225
Beryllium	mg/kg	0.52	0.59	0.44	0.90	0.62
Bismuth	mg/kg	<0.20	<0.20	0.24	0.54	1.85
Boron	mg/kg	6.4	13.9	6.3	12.3	14.6
Cadmium	mg/kg	0.359	0.621	1.33	0.505	0.987
Calcium	mg/kg	10,600	15,700	9,140	14,300	12,500
Chromium	mg/kg	41.5	24.3	49.7	50.8	68.1
Cobalt	mg/kg	14.9	14.8	13.6	22.8	21.6
Copper	mg/kg	175	448	82.8	529	255
Iron	mg/kg	28,100	21,900	45,000	42,200	72,600
Lead	mg/kg	8.10	66.3	10.5	18.9	43.0
Lithium	mg/kg	16.2	15.7	13.8	26.3	19.6
Magnesium	mg/kg	8,280	9,520	6,790	12,900	9,920
Manganese	mg/kg	6,810	22,400	2,680	3,210	7,040
Mercury	mg/kg	0.172	0.248	0.292	0.592	0.525
Molybdenum	mg/kg	6.08	25.4	2.23	2.78	5.09
Nickel	mg/kg	28.7	15.6	34.5	43.4	56.1
Phosphorus	mg/kg	1,680	3,390	1,540	1,220	2,610
Potassium	mg/kg	1,570	1,960	1,670	3,800	2,620
Selenium	mg/kg	2.38	6.66	2.58	2.04	3.44
Silver	mg/kg	0.21	0.32	0.28	0.42	0.66
Sodium	mg/kg	627	1,150	486	1,330	822
Strontium	mg/kg	116	195	87.3	181	134
Thallium	mg/kg	0.109	0.282	0.122	0.129	0.149
Tin	mg/kg	14.9	43.5	31.6	22.6	26.1
Titanium	mg/kg	914	860	1,010	1,370	937
Uranium	mg/kg	1.12	0.90	1.40	1.54	2.32
Vanadium	mg/kg	66.8	71.4	55.9	95.7	72.5
Zinc	mg/kg	95.7	350	126	212	267
Zirconium	mg/kg	1.9	<1.0	4.6	6.9	4.1

* Due to a laboratory error, filtered sediment results for the sampling area POL-ST15-P1 included a sample from another area (QUL-ST-REF-2014 TRAP sample). The displayed data for this area (POL-ST15-P1) could therefore not be used in the calculation of summed bulk and filtered sediment concentrations. See ALS Report L1700936 for details of laboratory error (Appendix B).

Table D.14: Raw chemistry data for the analysis of filter blanks in batches of varying numbers [1].

Parameter	Units	# of filters per Filter Blank Sample			
		1 Filter	4 Filters	7 Filters	11 Filters
Metals					
Aluminum	mg/kg	<50	<50	<50	<50
Antimony	mg/kg	0.11	<0.10	<0.10	<0.10
Arsenic	mg/kg	0.13	<0.10	<0.10	<0.10
Barium	mg/kg	0.80	<0.50	<0.50	<0.50
Beryllium	mg/kg	<0.10	<0.10	<0.10	<0.10
Bismuth	mg/kg	<0.20	<0.20	<0.20	<0.20
Boron	mg/kg	<5.0	<5.0	<5.0	<5.0
Cadmium	mg/kg	<0.020	<0.020	<0.020	<0.020
Calcium	mg/kg	217	164	<50	58
Chromium	mg/kg	13.9	14.8	3.57	5.11
Cobalt	mg/kg	<0.10	<0.10	<0.10	<0.10
Copper	mg/kg	0.59	<0.50	<0.50	<0.50
Iron	mg/kg	<50	<50	<50	<50
Lead	mg/kg	0.53	<0.50	<0.50	<0.50
Lithium	mg/kg	<2.0	<2.0	<2.0	<2.0
Magnesium	mg/kg	<20	<20	<20	<20
Manganese	mg/kg	2.9	1.1	<1.0	<1.0
Mercury	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050
Molybdenum	mg/kg	<0.10	<0.10	<0.10	<0.10
Nickel	mg/kg	0.69	0.60	<0.50	<0.50
Phosphorus	mg/kg	<50	<50	<50	<50
Potassium	mg/kg	<100	<100	<100	<100
Selenium	mg/kg	<0.20	<0.20	<0.20	<0.20
Silver	mg/kg	<0.10	<0.10	<0.10	<0.10
Sodium	mg/kg	136	<50	<50	<50
Strontium	mg/kg	<0.50	<0.50	<0.50	<0.50
Thallium	mg/kg	<0.050	<0.050	<0.050	<0.050
Tin	mg/kg	<2.0	<2.0	<2.0	<2.0
Titanium	mg/kg	1.4	<1.0	<1.0	<1.0
Uranium	mg/kg	<0.050	<0.050	<0.050	<0.050
Vanadium	mg/kg	0.22	<0.20	<0.20	<0.20
Zinc	mg/kg	<2.0	<2.0	<2.0	<2.0
Zirconium	mg/kg	<1.0	<1.0	<1.0	<1.0

[1] Displayed concentrations were used in the subtraction of filter blank concentrations from filtered sediment concentrations (according to # of filters used in sediment filtration).

Table D.15: Mean trap sediment chemistry versus mean lake bottom sediment chemistry of exposed area POL-P2 in Polley Lake, 2014 and 2015.

Parameter	Units	BC SQGs [1]		Exposed			
				Polley (POL-P2)			
				2014		2015	
		TEL	PEL	Surface-Sediment	Trap Sediment Bulk	Surface-Sediment	Trap Sediment Bulk
				Mean	Mean	Mean	Mean
Physical Tests							
pH (1:2 soil:water)	pH	-	-	7.93	7.63	7.47	-
Organic / Inorganic Carbon (<63µm)							
Total Organic Carbon (TOC)	%	-	-	7.7	4.46	7.4	8.99
Metals (<63µm)							
Aluminum	mg/kg	-	-	24,100	25,350	28,220	18,950
Antimony	mg/kg	-	-	0.55	1.85	1.09	1.05
Arsenic	mg/kg	5.9	17	12.6	15.3	14.0	12.9
Barium	mg/kg	-	-	254	493	329	374
Beryllium	mg/kg	-	-	0.86	0.89	1.02	0.74
Bismuth	mg/kg	-	-	0.12	<0.20	0.12	<0.20
Boron	mg/kg	-	-	14	11.5	14	12.2
Cadmium	mg/kg	0.6	3.5	0.234	0.254	0.218	0.220
Calcium	mg/kg	-	-	29,467	21,150	24,500	16,183
Chromium	mg/kg	37.3	90	45.4	17.4	26.1	19.0
Cobalt	mg/kg	-	-	21.3	22.6	23.1	20.1
Copper	mg/kg	35.7	197	689	737	823	540
Iron	mg/kg	21,200	43,776	32,700	27,650	29,760	26,900
Lead	mg/kg	35	91	6.9	9.9	9.3	11.1
Lithium	mg/kg	-	-	24.0	20.0	25.4	20.9
Magnesium	mg/kg	-	-	14,333	12,983	15,920	12,300
Manganese	mg/kg	460	1,100	855	20,333	2,574	20,900
Mercury	mg/kg	0.17	0.49	0.104	0.111	0.110	0.131
Molybdenum	mg/kg	-	-	5.63	9.48	10.1	8.90
Nickel	mg/kg	16	75	34.2	17.6	22.0	17.5
Phosphorus	mg/kg	-	-	1,317	2,078	1,200	2,167
Potassium	mg/kg	-	-	2,110	2,510	2,766	1,800
Selenium	mg/kg	2	-	2.14	7.22	4.43	4.98
Silver	mg/kg	0.5	-	0.338	0.31	0.348	0.29
Sodium	mg/kg	-	-	1,143	1,563	1,828	1,118
Strontium	mg/kg	-	-	214	288	289	198
Sulfur	mg/kg	-	-	-	3,200	8,420	3,680
Thallium	mg/kg	-	-	0.065	0.050	0.058	<0.050
Tin	mg/kg	-	-	2.01	2.2	2.10	4.4
Titanium	mg/kg	-	-	1,653	1,495	1,832	930
Uranium	mg/kg	-	-	1.49	1.22	1.46	1.13
Vanadium	mg/kg	123	315	120	119	115	98.0
Zinc	mg/kg	-	-	91.0	80.9	86.4	88.7

[1] British Columbia Sediment Quality Guidelines; TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015, 2016).

(mean trap sediment concentration) / (mean lake bottom sediment chemistry) × 100 ≥ 150% .

(mean trap sediment concentration) / (mean lake bottom sediment chemistry) × 100 ≥ 200% .

(mean trap sediment concentration) / (mean lake bottom sediment chemistry) × 100 ≤ 50% .

Table D.16: Mean trap sediment chemistry versus mean lake bottom sediment chemistry of PREF1 (reference area) and PNF (near-field exposed area) in Quesnel Lake, 2014 and 2015.

Parameter	Units	BC SQGs [1]		Reference				Exposed			
				PRef1 (QULP-5)				PNF			
				2014		2015		2014		2015	
		TEL	PEL	Surface-Sediment	Trap Sediment Bulk	Surface-Sediment	Trap Sediment Bulk	Surface-Sediment	Trap Sediment Bulk	Surface-Sediment	Trap Sediment Bulk
Physical Tests											
Moisture	%	-	-	51.8	-	53.4	-	37.7	-	49.2	-
pH (1:2 soil:water)	pH	-	-	6.94	6.93	7.02	-	8.68	8.51	8.45	-
Organic / Inorganic Carbon (<63µm)											
Total Organic Carbon (TOC)	%	-	-	1.68	2.15	1.82	3.37	0.17	-	0.29	-
Metals (<63µm)											
Aluminum	mg/kg	-	-	14,780	16,100	16,567	17,367	20,800	34,380	26,520	14,420
Antimony	mg/kg	-	-	0.42	0.42	0.44	0.47	0.52	0.70	0.55	0.39
Arsenic	mg/kg	5.9	17	7.75	7.26	8.88	8.74	15.4	17.0	15.4	8.77
Barium	mg/kg	-	-	144	144	147	153	225	313	255	158
Beryllium	mg/kg	-	-	0.41	0.45	0.49	0.56	0.79	1.16	0.96	0.51
Bismuth	mg/kg	-	-	0.14	<0.20	0.16	0.20	0.10	<0.20	0.13	0.21
Boron	mg/kg	-	-	<10	<5.0	<10	<5.0	11	12.9	11	5.6
Cadmium	mg/kg	0.6	3.5	0.384	0.421	0.420	0.592	0.164	0.237	0.197	0.226
Calcium	mg/kg	-	-	7,742	8,332	8,747	7,928	33,340	33,900	31,160	6,666
Chromium	mg/kg	37.3	90	52.0	53.5	57.7	58.2	14.3	21.9	20.9	25.6
Cobalt	mg/kg	-	-	13.3	14.6	14.5	17.0	19.4	33.5	25.5	13.0
Copper	mg/kg	35.7	197	42.2	68.3	55.1	62.3	714	1,144	859	239
Iron	mg/kg	21,200	43,776	28,580	28,840	31,300	32,717	37,240	38,920	40,620	23,660
Lead	mg/kg	35	91	7.00	7.18	7.65	8.90	7.09	11.4	9.90	9.13
Lithium	mg/kg	-	-	13.1	13.7	14.4	20.1	20.5	34.5	29.8	15.4
Magnesium	mg/kg	-	-	7,666	7,604	8,150	8,963	12,958	24,420	17,320	6,658
Manganese	mg/kg	460	1,100	470	696	491	995	797	1,260	1,033	1,930
Mercury	mg/kg	0.17	0.49	0.0486	0.054	0.0579	0.069	0.0697	0.104	0.0954	0.107
Molybdenum	mg/kg	-	-	0.91	1.13	1.08	1.85	3.76	4.49	4.05	1.69
Nickel	mg/kg	16	75	35.6	37.0	39.1	43.3	12.9	24.3	20.2	23.9
Phosphorus	mg/kg	-	-	1,094	1,009	1,180	1,085	1,706	1,226	1,352	586
Potassium	mg/kg	-	-	1,312	1,460	1,517	1,752	1,942	3,002	2,640	1,782
Selenium	mg/kg	2	-	0.86	0.99	0.97	1.45	1.07	1.57	1.23	0.73
Silver	mg/kg	0.5	-	0.188	0.20	0.214	0.31	0.332	0.48	0.369	0.21
Sodium	mg/kg	-	-	396	438	497	424	1,118	1,484	1,396	593
Strontium	mg/kg	-	-	74.6	81.2	85.1	79.3	188	233	212	94.6
Sulfur (S)-Total	mg/kg	-	-	-	725	1,167	1,750	-	1,180	1,560	-
Thallium	mg/kg	-	-	0.157	0.160	0.174	0.194	<0.050	0.065	0.060	0.085
Tin	mg/kg	-	-	0.41	<2.0	0.45	2.3	2.05	2.5	1.99	8.3
Titanium	mg/kg	-	-	1,036	1,106	1,130	958	1,946	2,486	1,996	667
Uranium	mg/kg	-	-	1.30	1.31	1.46	1.86	1.43	1.49	1.39	0.832
Vanadium	mg/kg	123	315	62.2	64.5	70.1	64.5	145	132	142	54.8
Zinc	mg/kg	-	-	73.7	74.6	79.8	97.4	69.0	122	96.0	72.2

[1] British Columbia Sediment Quality Guidelines; TEL = Threshold (or Lowest) Effect Level; PEL = Probable (or Severe) Effect Level (BCMOE 2015, 2016).

(mean trap sediment concentration) / (mean lake bottom sediment chemistry) × 100 ≥ 150% .

(mean trap sediment concentration) / (mean lake bottom sediment chemistry) × 100 ≥ 200% .

(mean trap sediment concentration) / (mean lake bottom sediment chemistry) × 100 ≤ 50% .