

Appendix G15

Report: 2014 Wildlife Screening Level Risk Assessment



MEADOWBANK GOLD PROJECT

2014 Wildlife Screening Level Risk Assessment

In Accordance with NIRB Project Certificate No.004

Prepared by:

Agnico Eagle Mines Limited – Meadowbank Division

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EXECUTIVE SUMMARY

A wildlife screening level risk assessment (WSLRA) was conducted to evaluate risk to local wildlife from dietary ingestion of chemical contaminants during operation of AEM's Meadowbank mine.

The general approach and methodology of this assessment are based on those presented in the risk assessment of baseline conditions (Azimuth, 2006), using samples of soil, water and plant tissue collected onsite, near-site, along the all-weather access road (AWAR) and at external reference locations. Exposure (estimated daily intake; EDI) was calculated from 95th UCLM concentrations in environmental media for each location, and toxicity reference values (TRVs) were developed from lowest-observed adverse effect levels (LOAELs) from the literature. TRVs were the same as those used in previous assessments.

HQ values were calculated as: $HQ = EDI / TRV$. Risk was characterized as negligible when $HQ \leq 1$.

Key findings were as follows:

- Risk to ungulates (caribou), small mammals (northern red-backed vole), and waterfowl (Canada geese) was found to be negligible ($HQ < 1$) for all COPCs in all locations.
- Potentially unacceptable risks to songbirds from chromium and beryllium ($HQ > 1$) were identified for all locations including the external reference site, which is consistent with baseline and 2011 assessments.
 - o For chromium, the external reference HQ exceeded onsite, near-site and AWAR HQ values, indicating that risk from this COPC is not elevated as a result of mining activities. Chromium is naturally elevated in ultramafic rock, which is common in the region.
 - o For beryllium, the HQ threshold of 1 was marginally exceeded for all study areas using a NOAEL-based TRV, so risk for populations in all locations is assumed to be negligible (as in the baseline assessment).
- All 90th centile concentrations of COPCs in soil samples collected onsite were lower than values measured during the baseline (pre-construction) assessment.

Overall the operation of the Meadowbank mine does not appear to be contributing excess risk to wildlife via dietary uptake of chemical contaminants.

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1 INTRODUCTION

1.1 BACKGROUND

In 2010 Agnico-Eagle Mines Ltd. (AEM) began operation of the Meadowbank gold mine, near Baker Lake, Nunavut, after purchasing the rights from Cumberland Resources Ltd. Prior to the purchase, Cumberland contracted Azimuth Consulting Group Inc. to prepare a pre-construction wildlife screening level risk assessment (SLRA), to assess potential risks to wildlife via dietary uptake of mine-related contaminants (Azimuth, 2006).

Specifically, the pre-construction SLRA focused on determining the contaminants of potential concern (COPCs) from predicted minesite activities, evaluating potential risks to wildlife from exposure to contaminants under baseline conditions, and determining the magnitude of increase in contaminant exposure required to cause concern for wildlife populations. Preliminary estimates of post-development contaminant concentrations were then obtained from models, and based on those potential future changes, expected potential risks to local wildlife were evaluated.

The pre-construction SLRA included 18 metals as COPCs. Under baseline conditions, negligible risks were found for all COPCs except chromium, which was determined to pose an improbable but potential risk for songbirds at baseline concentrations. COPC exposure concentrations were not expected to increase during operation, so potential risks were not expected to change from baseline conditions.

As required under the Nunavut Impact Review Board Project Certificate -Condition 67, the WSLRA was updated in 2011 to assess potential risk during mine operation. Results were comparable to those presented in the baseline assessment, and operation of the Meadowbank mine did not appear to be contributing significant incremental risk to wildlife from consumption of chemical contaminants. As per Condition 67 and as outlined in the Terrestrial Ecosystem Monitoring Plan (Cumberland, 2005), monitoring was conducted again in 2014.

1.2 GENERAL APPROACH

While the goal in the baseline WSLRA was to determine whether there were potential risks to wildlife from the identified COPCs under baseline and projected future site conditions, the aim of this assessment is to characterize risk under current (operational) conditions. In particular, this assessment aims to distinguish risk due to operation of the mine from risk due to background conditions by taking soil and vegetation samples at on-site, near-site, AWAR and reference locations. The general approach is the same however, and includes the common risk assessment components of problem formulation, exposure assessment, hazard assessment and risk characterization.

This report follows a hazard quotient approach using food-chain modeling developed by Azimuth Consulting Group Inc. for the baseline wildlife screening level risk assessment (Azimuth, 2006). The risk assessment framework used by Azimuth was taken from various Canadian and American sources (Environment Canada, 1994; CCME, 1996; BCE, 1998; US EPA, 1992, 1998). All methods as described in that document are summarized here. Each component has been examined to ensure relevance to current site conditions, and details of any changes are described. The exposure assessment stage was updated with field data collected in 2014. Toxicity reference values (TRVs)

were compared to those used in a similar risk assessment in the Kiggavik region (Senes, 2008) and published databases. Hazard quotients were re-calculated based on the data collected in 2014 and assumptions of the risk assessment are discussed.

2 PROBLEM FORMULATION

2.1 SITE DESCRIPTION

The Meadowbank site is located 70 km north of the hamlet of Baker Lake, Nunavut, near the border of the Northern and Southern Arctic ecozones. Terrain in the Meadowbank area is typical barren-ground subarctic, with low-growing vegetation in poorly developed soil with continuous permafrost. The landscape is dominated by many interconnected lakes and isolated ponds with indistinct drainage patterns. Topography consists of rolling hills, boulder fields and bedrock outcrops. The mine site is located at the headwaters of the Quioch River system, which flows southeast through Chesterfield Inlet into Hudson Bay. Lakes in this region are ultra-oligotrophic, with low productivity levels. This region supports few terrestrial mammals (15 species) and birds (62 species) (Azimuth, 2006). Migratory species (primarily caribou and Canada geese) are present.

2.2 MINING ACTIVITIES

The Meadowbank project consists of several gold-bearing open-pit deposits (Portage, Goose and Vault pits). Much of the infrastructure is located in close proximity to the mill and mine facilities, with the exception for the Vault Pit which is approximately 10 km northeast of the site.

Waste rock from the Portage and Goose pits are stored in the Portage Rock Storage Facility (PRSF). During the construction period, non-potentially acid generating rock (NPAG) was used for dikes and roads with excess used as cover material in the PRSF. Potentially acid generating (PAG) waste rock is sent to the Portage waste rock area. The Portage Rock Storage Facility is constructed to minimize the disturbed area and will be capped with a layer of non-acid-generating rock. Waste rock from the Vault Pit will be stored in the Vault Rock Storage Facility. Mined ore is either processed in the mill or stockpiled for eventual processing.

Tailings are stored in the Tailings Storage Facility (TFS), defined by the series of dikes built around and across the basin of the dewatered northwest arm of Second Portage Lake. Tailings water is reclaimed for use in ore processing.

Much of the construction activity in 2013 and 2014 was related to increasing the level of the Central Dike to 132.0 masl, raising the level of the Stormwater Dike to 150.0 masl, and constructing the Vault Dike and associated infrastructure at the Vault pit. In 2014, infrastructure was installed in the south cell and tailings deposition moved from the north cell to the south cell of the TSF.

2.3 BASELINE CONDITIONS

For the 2005 pre-construction WSLRA, baseline concentrations of COPCs were screened against CCME surface water guidelines for the protection of freshwater aquatic life, or soil quality guidelines for the protection of environmental and human health. If a guideline value was not published for freshwater aquatic life, the most conservative value for other land uses was applied.

It was found that baseline concentrations of metals in the project lakes were below CCME guidelines, except for cadmium and mercury. However it should be noted that cadmium was not detected in the project lake samples, but the detection limit was above the CCME guideline (adjusted for hardness). Similarly, while mercury was not detected in the project lakes, the detection limit (50 ng/L) was above the CCME guideline (26 ng/L).

Soil samples from the project area were screened against the most conservative CCME soil quality guidelines for the protection of environmental and human health (typically agricultural use criteria). Under baseline conditions, concentrations of arsenic, chromium and nickel exceeded their CCME guidelines of 12, 64, and 50 mg/kg, respectively, in 10, 17 and 9 out of 26 samples, respectively. Soil pH was below the CCME guideline of 6-8 in 37 of 50 samples (See Section 2.3.2, Azimuth, 2006).

The initial WSLRA (Azimuth, 2006) predicted negligible risks ($HQ < 1$) under baseline conditions for all contaminants of potential concern (COPCs) with the exception of chromium for songbirds. While the HQ value for beryllium also exceeded 1, the risk for populations was assumed to be negligible because the TRV was NOAEL-based and the exceedance was marginal. Predictions for future operational conditions indicated no increased risks relative to baseline.

2.4 SOURCES OF CONTAMINANTS

Major mine site operations and their potential to contribute to COPCs (based on Azimuth, 2006) are summarized here. No new potential sources of COPCs were identified.

Open pits – Currently, mining of the Portage, Goose Island (scheduled to be complete March 2015) and Vault pits is underway. Along with ore, pits produce waste rock, which may contribute to COPCs through dust emissions.

Rock storage facilities – The North Portage and Vault rock storage facilities are currently in use. Waste rock (not containing ore) is moved to these areas. Dust may be blown from the rock piles during dumping and vehicle traffic during transport of material. Seepage from rock storage facilities is controlled in sumps and pumped back to the reclaim pond.

Borrow pits and quarries – Borrow pits and quarries were used for the construction of mine site roads and the airstrip. The COPCs for borrow pits and quarries are similar to open pits. Currently, there are no active borrow pits or quarries (material is borrowed and crushed for road maintenance from open pit operations).

Tailings Storage Facilities (TSF) – The northwest arm of Second Portage Lake was partitioned off by the East Dike and de-watered from 2009 to 2012. The northwestern portion of this area was further partitioned by the Stormwater Dike, and is used for storage of tailings. The Stormwater Dike created the North and South Cell TSF. The North Cell will be completed in 2015. Prior to 2013, much of the TSF had water cover or was covered by snow for most of the year; in 2013 and 2014, areas of the TSF had exposed tailings beaches. Although permafrost is expected to freeze the tailings, the material is fine-grained and could be a source of dust emissions during dry periods.

Roads and airstrip – Frequently used gravel haul roads run throughout the mine site to connect pits, waste rock storage and processing facilities. An airstrip, receiving approximately 4 planes per week, was built at the mine site to receive deliveries and personnel. Dust from these sources could be a potential source of contaminants. A 110 km long all weather access road (AWAR) was constructed between the mine and the Hamlet of Baker Lake, using gravel from quarries along the road. Previous SLRAs did not consider dust emissions from the AWAR in sampling programs, but following concerns from NIRB of dust deposition due to road activity a new station was added in 2014 to screen for potential risks associated with roadside habitat. The station was paired with dustfall studies and was located 100 m from the AWAR at km 78, on the downwind side (see Section 3.2).

Effluent discharge – De-watering of lakes for pit development or TSF construction is considered effluent discharge and is regulated under the current NWB Water License. Lake water is treated for

suspended solids removal before discharge, and since it is an existing surface water source, it is not likely to be a source of contaminants in the receiving water. Effluent is also periodically discharged from the Portage and Vault attenuation ponds into Third Portage Lake and Wally Lake respectively, pursuant to the existing Water License and MMER requirements. The Portage Attenuation Pond is no longer in use and has become the South Cell TSF. There will be no further discharge to Third Portage Lake from the Portage Attenuation Pond. However, metals regulated under MMER were considered as COPCs in this assessment.

Diesel generating plant, mine mill plant and associated facilities – Three diesel generating plants provide power for the mine. The Air Quality Impact Assessment (2005) determined emission of PAHs was “very low” and did not require modeling. The milling of rock in the processing plant takes place under wet conditions, and is not a source of particulate emissions. All health and safety-related requirements to reduce particulate emissions during handling of the ore at the mine plant before processing are met, so these are not expected to be a significant source of contaminants.

Overall, roads, waste rock and tailings were determined to be the main sources potentially contributing to COPCs through dust emissions. Dewatering effluent discharge may potentially contribute to COPCs in water sources.

2.5 CONTAMINANTS OF POTENTIAL CONCERN (COPCS)

In the baseline WSLRA, Azimuth (2006) identified contaminants of potential concern (COPCs) based on the chemical composition of the identified dust sources, the predicted effects of effluent on water quality in Third Portage Lake (from Golder, 2005), and a review of metals regulated under MMER (see Azimuth, 2006, Section 2.5 for details).

Projected concentrations of metals in four dust sources (roads, waste rock and tailings) that exceeded the 90th centile of baseline soil concentrations or the CCME guidelines (CCME 1999, 2001) were included as COPCs. Five metals regulated under MMER (arsenic, copper, lead, nickel and zinc) were also included in the assessment. Although mercury was not predicted to exceed baseline soil concentrations or CCME criteria, it was included because it was found to be of concern to the general public in the Arctic. All metals assessed in Azimuth (2006) were included in this assessment. CCME guidelines for tin and uranium (non-radiological) have been published since 2006, so these metals were added during the 2011 assessment.

The COPCs for this assessment are comprised of:

Antimony	Lead	Tin
Arsenic	Manganese	Uranium
Barium	Mercury	Vanadium
Beryllium	Molybdenum	Zinc
Cadmium	Nickel	
Chromium	Selenium	
Cobalt	Strontium	

Copper

Thallium

Certain chemicals which are controlled through best management practices and which were not addressed in the baseline SLRA include petroleum hydrocarbons, process chemicals, dioxins, nitrates, ammonia and PAHs. For each source of these chemicals, best management practices are in place and environmental exposures are not expected to occur.

2.6 RECEPTORS OF CONCERN

The WSLRA considers four Receptors of Concern (ROCs): ungulates, small mammals, waterfowl and songbirds. These choices were determined from the project's initial EIA, which included discussions with stakeholders, public meetings, traditional knowledge and experience from other mines. Specifically, the SLRA focusses on caribou, Canada goose, Lapland longspur and northern red-backed vole as representative species. An ecological description of the area and detailed descriptions of the biology of each of these receptors can be found in Azimuth (2006). Receptor-specific values such as dietary preferences that are used in this assessment are further discussed in Section 3.1 (Table 3-2).

In 2014, COPCs were measured in four general locations – onsite, near-site, along the all-weather access road (AWAR) and at an external reference area. Separate characterizations were conducted for the onsite, near-site, AWAR and external reference locations for northern red-backed vole, Lapland longspur and Canada goose because these species have small territories when not migrating and would not be expected to move between the sampling areas. Onsite and near-site samples were combined for the caribou risk characterization, because it was assumed that when caribou were present they would readily move between these sampling locations. See Section 3.4 for a discussion of how residence time in each area was handled as a dose-adjustment factor.

2.7 PROTECTION GOALS AND ENDPOINTS

Since the ROCs identified are not rare or endangered species, protection at the population level was determined to be appropriate (Azimuth, 2006). The assessment endpoint is no adverse effect of COPCs on populations of caribou, Canada goose, Lapland longspur and northern red-backed vole.

The measurement endpoints were calculated as exposure to the COPCs through ingestion of soil, water and food items. Ingested concentrations were compared to literature-based ecotoxicological benchmarks equivalent to maximum acceptable exposure levels for each ROC. Specifically, the ecotoxicological benchmarks used in this risk assessment are lowest observable adverse effect levels (LOAELs), which are generally considered to be appropriate for determining risk at the population level (Azimuth, 2006). See Azimuth (2006), Section 3.1.4 for further discussion of the derivation of toxicity reference values (TRVs). Sample et al. (1996) provided TRVs for most of the COPCs, but values for antimony, cobalt, and thallium were obtained from other sources (see references, Appendix C).

2.8 EXPOSURE PATHWAYS

The following exposure pathways were investigated in the baseline assessment, and are re-examined here:

Small mammals – ingestion of plants, insects, water, soil

Ungulates – ingestion of plants, water, soil

Songbirds – ingestion of plants, insects, water, soil

Waterfowl - ingestion of plants, insects, water, soil

Inhalation and dermal absorption of metals are generally considered to be insignificant in comparison to exposures through ingestion (USEPA, 2005), so they are not considered in Meadowbank WLSRAs.

3 EXPOSURE ASSESSMENT

Exposure assessment is used to calculate the dose of each COPC received by each ROC. The exposure assessment uses the food chain model developed by Azimuth (2006), and provided in Excel format. The model was developed to include the influence of COPC concentrations in exposure pathways, dietary preferences, ingestion rates and dose-adjustment factors. Estimated daily intake of each COPCs was calculated for each study area (onsite, near-site, AWAR) as:

$$EDI = [\sum (I_{w,s,f} \times C_{w,s,f}) \times BF \times T]_{\text{study}} + [\sum (I_{w,s,f} \times C_{w,s,f}) \times BF \times T]_{\text{ext ref}}$$

Where:

EDI = estimated daily intake (mg/kg body weight/day)

$I_{w,s,f}$ = intake of water, soil and food items (L/kg ww/d; kg dw/kg ww/d; kg dw/kg ww/d)

$C_{w,s,f}$ = concentration of COPC in water, soil and food items (L/kg ww/d; kg dw/kg ww/d; kg dw/kg ww/d)

BF = biotransfer factor (absorption factor)

T = proportion of time in area

Each component is described below, and an example calculation is provided in Appendix A.

3.1 INTAKE OF WATER, SOIL AND FOOD

Water, food and soil ingestion rates used in this assessment are shown in Table 3-2. All intake parameters are conservative and all values are identical to the 2011 assessment. Water and food ingestion rates were assumed to be identical to those used in the baseline assessment, which were derived from USEPA (1993). Soil ingestion rates used in the baseline assessment for Canada goose and Northern red-backed vole were also maintained here (from USEPA 1993). Although Beyer et al. (1994) was referenced as the source of most soil ingestion rates in the baseline assessment, the species chosen to represent caribou and Lapland longspur were not indicated. The soil consumption rate for caribou was increased from 2% of dry food consumption in the baseline WSLRA to 5% in subsequent assessments, which is the general rate for mammals in Beyer et al. (1994), as used in (Senes, 2008). The soil ingestion rate for Lapland longspur was increased from 2% to 7%, based on Hansen et al. (2011). This study identified a rate of 0.7% for Swainson's thrush, a ground-dwelling songbird that primarily feeds on flying insects and berries. A 10x safety factor was applied because Swainson's thrush is a foliage-gleaner, while Lapland longspur is considered a ground-forager (Cornell University, 2011). This factor is considered to be conservative however, because Lapland longspur does not scratch the ground to uncover food items as other ground foragers do (Harrison 1967, Greenslaw 1977).

Table 3-1. Body weight (BW), water intake (I_{water}), soil intake (I_{soil}), and wet and dry (I_{food} ; FI) food intake for the identified ROCs. Based on Azimuth (2006).

Parameter	Units	Value	Reference	Notes
Northern Red-backed Vole				
BW	kg wet	0.02	Nagorsen (2005)	Smallest body weight used
I_{water}	L/kg wet/day	0.253	USEPA (1993)	Species profile data for the Prairie Vole
I_{soil}	kg dry/kg wet/day	0.0008	USEPA (1993)	Assumed 2.4% of dry food ingestion rate (similar to Meadow Vole)
I_{food}	kg wet/kg wet/day	0.135	USEPA (1993)	Species profile data for the Prairie Vole
FI	kg dry/kg wet/day	0.049	Not available	Moisture in food assumed to be 64% as per diet moisture calculation
Caribou				
BW	kg wet	75	Dauphine (1976)	Smallest body weight used
I_{water}	L/kg wet/day	0.064	USEPA (1993)	Based on allometric equation for all mammals (L/day) $(0.099 \cdot (\text{BW})^{0.90})$
I_{soil}	kg dry/kg wet/day	0.0013	Beyer et al. (1994)	Assumed 5% of dry food ingestion rate (general rate for mammals)
I_{food}	kg wet/kg wet/day	0.047	Not available	Moisture in food assumed to be 43% as per diet moisture calculation
FI	kg dry/kg wet/day	0.027	USEPA (1993)	Based on total dry food intake for herbivorous mammals (g/day) $(0.577 \cdot (\text{BW})^{0.727})$
Lapland Longspur				
BW	kg wet	0.023	Cornell University (2011)	Smallest body weight used
I_{water}	L/kg wet/day	0.205	USEPA (1993)	Based on allometric equation for all birds (L/day) $(0.059 \cdot (\text{BW})^{0.67})$
I_{soil}	kg dry/kg wet/day	0.0174	Hansen et al. (2011)	Assumed 7% of dry food ingestion rate (rate of Swainson's thrush +10x safety factor)
I_{food}	kg wet/kg wet/day	0.656	USEPA (1993)	Moisture in food of insectivorous birds; assumed 62% as per diet moisture calculation
FI	kg dry/kg wet/day	0.249	USEPA (1993)	Based on total dry food intake for passerine birds (g/day) $(0.398 \cdot (\text{BW})^{0.850})$
Canada Goose				
BW	kg wet	2.000	Mowbray et al. (2002)	Smallest body weight used
I_{water}	L/kg wet/day	0.044	USEPA (1993)	Species profile data for Canada Goose
I_{soil}	kg dry/kg wet/day	0.0006	USEPA (1993)	Assumed 8.2% of dry food ingestion rate
I_{food}	kg wet/kg wet/day	0.032	USEPA (1993)	Species profile data for Canada Goose
FI	kg dry/kg wet/day	0.011	Not available	Moisture in food assumed to be 66% as per diet moisture calculation

3.2 DIETARY CONCENTRATIONS OF COPCS

Concentrations of COPCs were measured in and around the Meadowbank site in water, soil and plant tissue (food items: sedges, lichens, berries) in 2014. Methods of collection were as in Azimuth (2006) and in 2011. A total of 55 samples each of soil and plant tissue (lichen, sedge, berries) were collected. This included five samples of each media type from four onsite locations, three near-site locations, one AWAR location (km 78; 100 m downwind of the road) and three external reference locations (see Figure 3-1). Coordinates for all locations are provided in Table 3-2.

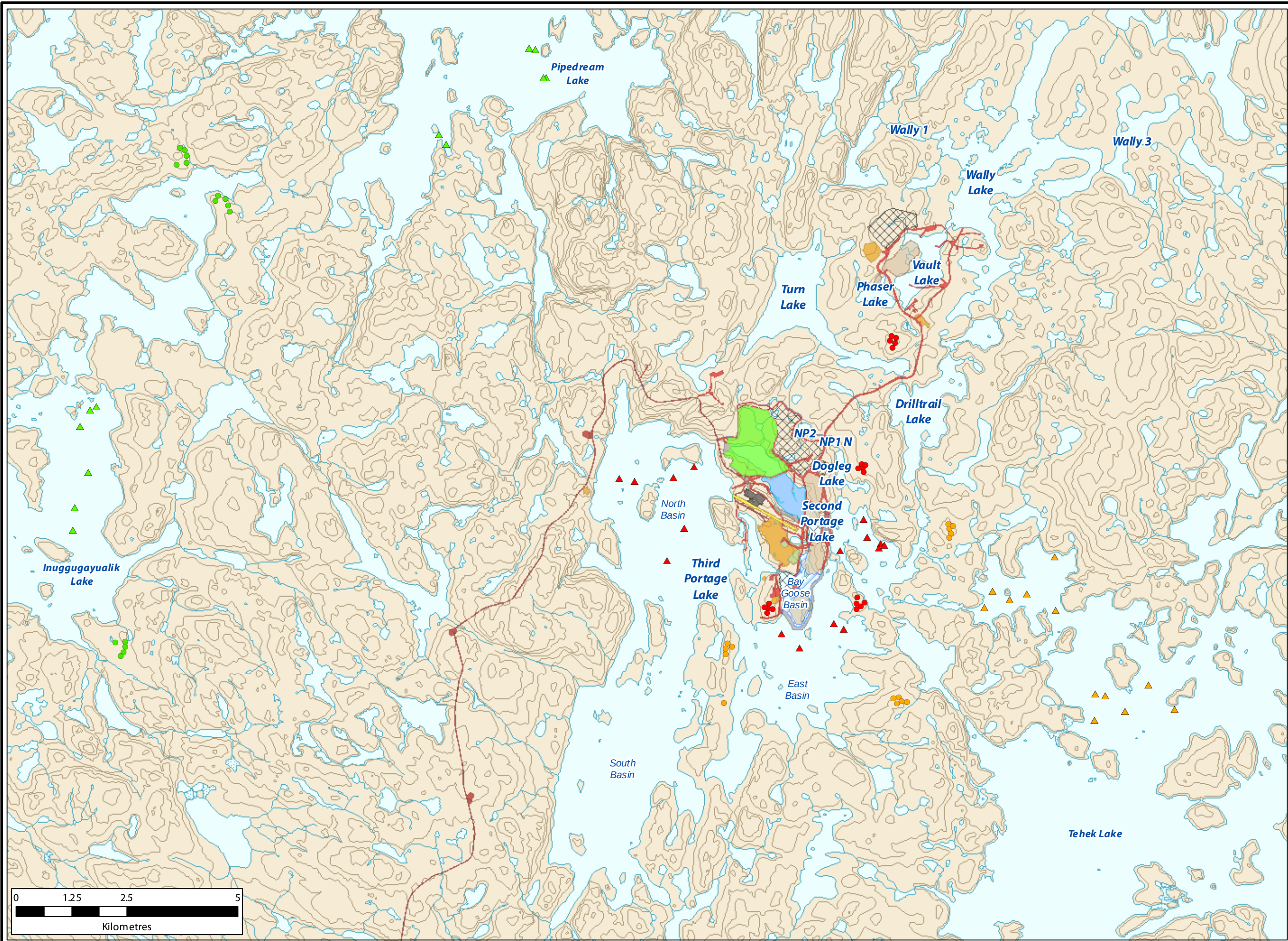
Water samples were from the 2014 Core Receiving Environment Monitoring Program (CREMP) data collection. Onsite concentrations are from samples collected in Second Portage Lake (SPL) and the east and north basins of Third Portage Lake (TPE, TPN). Near-site concentrations are from samples collected in Tehek Lake (TE), and external reference samples are from Inuggugayualik Lake (INUG) and Pipedream Lake (PDL).

Concentrations in soil and plant tissue used for food chain modeling were the upper 95% confidence limit of the mean (UCLM), as in the 2006 assessment. If values were below the detection limit, a value of $\frac{1}{2}$ the detection limit was used. Based on published literature, methyl mercury was assumed to comprise 1% of total mercury in water and soil, and 34% of total mercury in plant tissue, and inorganic mercury = total – methyl mercury (Azimuth, 2006, Section 3.1.3.2).

Concentrations of COPCs in insects were not measured in any assessment, but were modeled in several cases (arsenic, cadmium, copper, lead, zinc) from soil concentrations using published bioaccumulation models (see Azimuth (2006), Appendix D). This method is particularly conservative, because the modeled factors are for ground insects whereas the songbird population in this assessment consumes primarily flying insects. For the rest of the COPCs, an insect BAF of 1 was assumed.

Table 3-2. UTM coordinates for soil and vegetation sampling locations.

Sampling Location	Site #1	Site #2	Site #3	Site #4	Site #5
<i>Treatment Area</i>					
1 – Onsite	14W 0639238 7215692	14W 0639137 7215734	14W 0639061 7215668	14W 0639109 7215569	14W 0639010 7215459
2 – Near-site	15W 0359410 7214020	15W 0359403 7214128	15W 0359507 7214072	15W 0359459 7213912	15W 0359391 7213816
3 – Onsite	14W 0640069 7212342	14W 0640146 7212421	14W 0639967 7212281	14W 0639976 7212409	14W 0639991 7212541
4 – Near-site	14W 0640916 7210294	14W 0640994 7210201	14W 0641112 7210194	14W 0640890 7210137	14W 0640802 7210271
5 – Near-site	14W 0637020 7211270	14W 0636978 7211160	14W 0637013 7211394	14W 0637162 7211419	14W 0637057 7211513
6 – Onsite	14W 0638559 7213995	14W 0638651 7213953	14W 0638780 7214028	14W 0638515 7214226	14W 0638400 7214038
7 – Near-site	14W 0640847 7218280	14W 0640872 7218395	14W 0640755 7218444	14W 0640719 7218338	14W 0640788 7218177
8 - AWAR	14W 0626884 7200614	14W 0626837 7200520	14W 0626806 7200427	14W 0626746 7200306	14W 0626675 7200224
<i>External Reference Area</i>					
1 – Control	14W 0623453 7211586	14W 0623450 7211467	14W 0623416 7211345	14W 0623339 7211252	14W 0623217 7211558
2 – Control	14W 06255518 7221488	14W 0625569 7221607	14W 0625743 7221542	14W 0625790 7221388	14W 0625825 7221244
3 – Control	14W 0624717 7222685	14W 0624818 7222623	14W 0624850 7222504	14W 0624861 7222349	14W 0624636 7222313



Legend

Soil/Veg Sampling Location

- Onsite
- Near Site
- External Reference

Water Sampling Locations

- Onsite
- Near Site
- External Reference

2014 Mine Plan

- Quarry
- AWPAR Quarry
- Dewatered Lake
- Portage Attenuation Facility
- Tailings Storage Facility
- Roads
- AWPAR
- Dikes
- Diversion Ditch
- Stockpiles
- Pits
- Facility
- Airstrip
- Waste Dump

**Wildlife Screening
Level Risk Assessment**



77 WYNDHAM STREET SOUTH • GOSHEN, ON N1E 5R3
T 519.822.1609 • F 519.822.5389 • www.dougan.ca

PROJECT: DA11-062-03

CLIENT: Agnico-Eagle Mines Ltd., Meadowbank Div.

	DATE: MARCH 2015
	SCALE: 1:80,000
	DRAWN BY: LW
	CHECKED BY: MAY

FIGURE:
3-1

The information displayed on this map has been compiled from various sources. While every effort has been made to accurately depict the information, this map should not be relied on as being a precise indicator of locations, features, or roads, nor as a guide to navigation. MNR data provided by Queen's Printer of Ontario. Use of the data in any derivative product does not constitute an endorsement by the MNR or the Ontario Government of such products.

3.2.1 Dietary Preferences

The proportions of food items (sedge, lichen, berries, insects) that comprise each diet were determined by the literature reviews referred to in Section 2.6. Similar values have been used in another recent risk assessment (Senes, 2008) and all dietary preferences presented in Azimuth (2006) were used in subsequent assessments (Table 3-1). Consistent with Azimuth (2006) and the 2011 study, sedges, lichens and berries were considered surrogates for all plant matter ingested by the ROCs.

Table 3-3. Estimated dietary preferences for the receptors of concern at the Meadowbank site. From Azimuth, 2006.

Dietary Item	Northern red-backed vole	Caribou	Lapland longspur	Canada goose
Sedges	55%	30%	25%	50%
Lichens	0%	65%	0%	0%
Berries	40%	5%	5%	45%
Insects	5%	0%	70%	5%
Total	100%	100%	100%	100%

3.3 BIOTRANSFER FACTOR

The uptake efficiency factor (biotransfer or absorption factor) describes the proportion of the COPC that is absorbed into the animal from any ingested sources. Uptake efficiency was conservatively assumed to be 100% for all COPC/receptor combinations. This is likely an extremely conservative assumption; for example, chromium compounds were found to have a maximum absorption efficiency of 10% in the GI tract (Outridge and Scheuhammer, 1993).

3.4 TIME IN AREA

Territory size (foraging range) affects the proportion of an animal's diet that could be affected by mine-related contaminants. In the baseline assessment, an adjustment factor for foraging range was not applied (animals were assumed to spend 100% of time in the study area). For this assessment, the only ROC assumed to spend 100% of its time in any study area was the northern red-backed vole, because of its small territory size. Caribou, Canada geese and Lapland longspur are migratory species, and the fraction of time spent in each study area (onsite, near-site, AWAR) was estimated at 33%, based on a recent risk assessment completed in the Kivalliq region (Senes, 2008). The remaining fraction of exposure dose (67%) was calculated based on external reference samples. An examination of collared caribou from the Meadowbank region found that any one animal spent no more than a maximum of 12% of the year within 25 km of the minesite (Martin Gebauer and Jason Shaw, personal communication, March 2012), so the assumption of 33% is expected to be conservative. Risk was characterized for small-territory ROCs Northern red-backed vole, Canada

geese and Lapland longspur for onsite, near-site, AWAR and external reference locations separately, in order to determine whether those animals choosing territories on the mine-site were at increased risk compared to those choosing territories at nearby locations. Exposure data for onsite and near-site locations was combined for caribou because it was found that caribou could readily roam between the onsite and near-site locations in the course of a day.

4 TOXICITY ASSESSMENT

The toxicity reference values (TRVs) used in the 2006 assessment were collated from a review of the literature; mainly from Sample et al. (1996). This source was again used in subsequent assessments, including for the additional COPCs (tin and uranium), because it represents one of the most comprehensive and commonly used sources available for wildlife toxicity reference values and has been used in other recent similar assessments (e.g. Senes, 2008). In order to ensure the selected TRVs were relevant to the Meadowbank site and the conditions of this risk assessment, several criteria were used in the baseline assessment in screening toxicity studies. These included selecting values from studies conducted on species of similar phylogeny (i.e. bird or mammal), and selecting studies that examined individual or population-level effects over chronic time periods. All TRVs from the baseline assessment were maintained in this report. The following describes TRV selection, as performed by Azimuth (2006):

The TRVs chosen for use in the risk characterization include both no observable adverse effect levels (NOAELs) and lowest observable adverse effect levels (LOAELs) when available. If effects concentrations were reported in terms of food concentrations, these were converted to dose. If a LOAEL was reported but no NOAEL could be determined, it was estimated as 1% of the LOAEL (as in Sample et al. 1996, Chapman et al. 1998). LOAELs cannot be estimated if only a NOAEL is available. Since the protection goal of this risk assessment no adverse effect of COPCs on populations of the ROCs, LOAELs are the most relevant TRV, and are used in the final risk estimate. See Appendix C for TRVs used in this assessment.

Instead of species-to-species uncertainty factors, the baseline assessment used allometric scaling factors (Sample et al. 1996) to adjust mammalian TRVs from the test species (typically mouse or rat) to the ROC. A scaling factor of 1 was used for birds (Mineau et al. 1996).

Where toxicity information was found for multiple forms of a contaminant, the one with the greatest toxic potency was chosen. TRVs for chromium-VI were available for mammals, but only chromium-III was available for birds. No NOAELs or LOAELs were available for total mercury. Mammalian LOAELs were not available for inorganic mercury or beryllium. Avian LOAELs were not available for uranium or vanadium. Avian NOAELs were not available for antimony and beryllium and were extrapolated from the mammalian values. The avian LOAEL for antimony was extrapolated from the mammalian value.

5 RISK CHARACTERIZATION

5.1 HAZARD QUOTIENTS

The risk characterization compares predicted exposure concentrations with the toxicity reference values from the literature, using the hazard quotient approach. Hazard quotients for all locations (onsite, near-site, AWAR and external reference) were calculated as:

$$HQ = EDI / TRV$$

Where:

EDI = estimated daily intake (ug/kg body weight/day)

TRV = toxicity reference value (ug/kg body weight/day)

See Appendix A for an example calculation and Appendix C for all TRVs used in this assessment. As discussed above, the TRV used in this assessment corresponds to the LOAEL, unless only a NOAEL was available (indicated). Because of the conservative assumptions included at this level of assessment, there is generally considered to be a high degree of certainty associated with results indicating negligible risk. A hazard quotient > 1 in a SLRA indicates the possible need for more in-depth assessment, including analysis of assumptions used. However, when HQ values exceed 1 for both the baseline (or external reference) and the study areas, and are of similar magnitude, it may be assumed that the receptor is adapted to the measured exposure level, or that the assumptions used in calculating the HQ have resulted in an over-estimation of risk (Dominion Diamond, 2015). HQ values are shown in Table 3-3, and risk characterization is summarized below.

5.1.1 Northern red-backed vole

For the Northern red-backed vole, HQs were below 1 for all COPCs in all locations (onsite, near-site, AWAR and external reference). Risk for this ROC under current conditions is therefore classified as negligible.

5.1.2 Caribou

For caribou, HQs were below 1 for all COPCs in all locations (onsite, AWAR and external reference). Risk for this ROC under current conditions is therefore classified as negligible.

5.1.3 Lapland longspur

HQs were below 1 for all COPCs in all locations (onsite, near-site, AWAR, external reference) with the exception of chromium and beryllium. For chromium, the external reference site HQ was greater than onsite, near-site and AWAR values, and the difference for beryllium between sites was marginal (<0.065). HQ values exceeding 1 were also found for these two COPCs in the baseline (2005) and 2011 assessments, indicating that potentially elevated risk for Lapland longspur exists independent of mine-related activities. While further examination is beyond the scope of this screening level assessment, ultramafic rock, which is commonly found in the region, is generally known to contain elevated concentrations of chromium (e.g., on the order of 2000 mg/kg) relative to other rock types (Motzer and Engineers, 2004). In addition, conservative assumptions were used here that likely contribute to over-estimates of HQs. These include:

- NOAEL-based TRV for beryllium

- o Since HQ values marginally exceed 1 with a NOAEL-based TRV, negligible risk is expected at the population level, as indicated in the baseline assessment.
- Absorption efficiency of 100%
 - o This assessment assumes 100% absorption of the total ingested mass of COPC. However, absorption from the GI tract in wildlife has been reported at <10% for chromium (Outridge and Scheuhammer, 1993) and <1% for beryllium (in humans; ATSDR, 2002).
- BAF of 1
 - o Azimuth (2006) found that exposure doses were inflated by the use of a BAF of 1 for predicting concentrations in insects (the main food source for Lapland longspur). This means that concentrations in insects were assumed to equal concentrations in soil. Although concentrations of metals in insects were not measured directly in 2014, three samples were analyzed in 2006. The highest concentration of chromium was found to be 0.33 mg/kg, which is approximately 42 times lower than values predicted in this assessment. Beryllium was non-detectable in all insect samples (<0.1 mg/kg), while values up to 0.156 mg/kg were used here.

5.1.4 Canada goose

For the Canada goose, HQs were below 1 for all COPCs in all locations. Risk for this ROC under current conditions is therefore classified as negligible.

Table 5-1. Hazard quotients for identified COPCs for onsite study areas at the Meadowbank site. All values are LOAEL-based HQs, except where underline indicates NOAEL-based HQ. HQ for caribou represents calculation for onsite+near-site locations. Hazard quotients > 1 are shaded gray.

Onsite Locations				
COPC	Northern Red-backed Vole	Lapland Longspur	Canada Goose	Caribou
Antimony	0.0	0.0	0.0	0.0
Arsenic	0.0	0.1	0.0	0.3
Barium	0.0	0.2	0.0	0.2
Beryllium	<u>0.0</u>	<u>1.2</u>	<u>0.0</u>	<u>0.0</u>
Cadmium	0.0	0.0	0.0	0.0
Chromium	0.0	<u>3.8</u>	0.1	0.3
Cobalt	0.0	0.4	0.0	0.1
Copper	0.0	0.0	0.0	0.0
Lead	0.0	0.0	0.0	0.0
Manganese	0.0	<u>0.1</u>	<u>0.0</u>	0.1
Inorganic Mercury	<u>0.0</u>	0.0	0.0	<u>0.0</u>
Methyl Mercury	0.0	0.0	0.0	0.2
Molybdenum	0.0	0.0	0.0	0.1
Nickel	0.0	0.1	0.0	0.0
Selenium	0.0	0.0	0.0	0.0
Strontium	<u>0.0</u>	<u>0.2</u>	<u>0.0</u>	<u>0.0</u>
Thallium	0.0	0.0	0.0	0.0
Tin	0.0	0.0	0.0	0.0
Uranium	0.0	<u>0.0</u>	<u>0.0</u>	0.0
Vanadium	0.0	<u>0.4</u>	<u>0.0</u>	0.3
Zinc	0.0	0.3	0.0	0.0

Table 5-2. Hazard quotients for identified COPCs at the near-site study area at the Meadowbank site. All value are LOAEL-based HQs, except where underline indicates NOAEL-based HQ. Hazard quotients > 1 are shaded gray. For caribou, onsite and near-site sample results were combined (see Table 5-1).

Near-site Locations			
COPC	Northern Red-backed Vole	Lapland Longspur	Canada Goose
Antimony	0.0	0.0	0.0
Arsenic	0.1	0.1	0.0
Barium	0.0	0.2	0.0
Beryllium	<u>0.0</u>	<u>1.2</u>	<u>0.0</u>
Cadmium	0.0	0.0	0.0
Chromium	0.0	3.8	0.1
Cobalt	0.0	0.4	0.0
Copper	0.0	0.0	0.0
Lead	0.0	0.0	0.0
Manganese	0.0	<u>0.1</u>	<u>0.0</u>
Inorganic Mercury	<u>0.0</u>	0.0	0.0
Methyl Mercury	0.0	0.0	0.0
Molybdenum	0.0	0.0	0.0
Nickel	0.0	0.1	0.0
Selenium	0.0	0.0	0.0
Strontium	<u>0.0</u>	<u>0.2</u>	<u>0.0</u>
Thallium	0.0	0.0	0.0
Tin	0.0	0.0	0.0
Uranium	0.0	<u>0.0</u>	<u>0.0</u>
Vanadium	0.0	<u>0.4</u>	<u>0.0</u>
Zinc	0.0	0.3	0.0

Table 5-3. Hazard quotients for identified COPCs at the AWAR study area at the Meadowbank site. All value are LOAEL-based HQs, except where underline indicates NOAEL-based HQ. Hazard quotients > 1 are shaded gray.

AWAR Locations				
COPC	Northern Red-backed Vole	Lapland Longspur	Canada Goose	Caribou
Antimony	0.0	0.0	0.0	0.0
Arsenic	0.0	0.0	0.0	0.2
Barium	0.1	0.3	0.0	0.2
Beryllium	<u>0.0</u>	<u>1.0</u>	<u>0.0</u>	<u>0.0</u>
Cadmium	0.0	0.0	0.0	0.0
Chromium	0.0	3.7	0.1	0.3
Cobalt	0.0	0.4	0.0	0.1
Copper	0.0	0.0	0.0	0.0
Lead	0.0	0.0	0.0	0.0
Manganese	0.0	<u>0.1</u>	<u>0.0</u>	0.1
Inorganic Mercury	<u>0.0</u>	0.0	0.0	<u>0.0</u>
Methyl Mercury	0.0	0.0	0.0	0.1
Molybdenum	0.0	0.0	0.0	0.0
Nickel	0.0	0.1	0.0	0.0
Selenium	0.0	0.0	0.0	0.0
Strontium	<u>0.0</u>	<u>0.3</u>	<u>0.0</u>	<u>0.0</u>
Thallium	0.0	0.0	0.0	0.1
Tin	0.0	0.0	0.0	0.0
Uranium	0.0	<u>0.0</u>	<u>0.0</u>	0.0
Vanadium	0.1	<u>0.4</u>	<u>0.0</u>	0.4
Zinc	0.0	0.3	0.0	0.0

Table 5-4. Hazard quotients for identified COPCs at the external reference study area at the Meadowbank site. All value are LOAEL-based HQs, except where underline indicates NOAEL-based HQ. Hazard quotients > 1 are shaded gray.

External Reference Location				
COPC	Northern Red-backed Vole	Lapland Longspur	Canada Goose	Caribou
Antimony	0.0	0.0	0.0	0.0
Arsenic	0.0	0.1	0.0	0.2
Barium	0.1	0.3	0.0	0.2
Beryllium	<u>0.0</u>	<u>1.1</u>	<u>0.0</u>	<u>0.0</u>
Cadmium	0.0	0.0	0.0	0.0
Chromium	0.1	4.7	0.1	0.2
Cobalt	0.0	0.5	0.0	0.1
Copper	0.0	0.0	0.0	0.0
Lead	0.0	0.0	0.0	0.0
Manganese	0.0	<u>0.1</u>	<u>0.0</u>	0.1
Inorganic Mercury	<u>0.0</u>	0.0	0.0	<u>0.0</u>
Methyl Mercury	0.0	0.0	0.0	0.2
Molybdenum	0.0	0.0	0.0	0.0
Nickel	0.0	0.1	0.0	0.0
Selenium	0.0	0.0	0.0	0.0
Strontium	<u>0.0</u>	<u>0.3</u>	<u>0.0</u>	<u>0.0</u>
Thallium	0.0	0.0	0.0	0.1
Tin	0.0	0.0	0.0	0.0
Uranium	0.0	<u>0.0</u>	<u>0.0</u>	0.0
Vanadium	0.1	<u>0.5</u>	<u>0.0</u>	0.3
Zinc	0.0	0.3	0.0	0.0

5.2 UNCERTAINTY ASSESSMENT

The assumptions included in each section of the assessment are discussed here, along with implications for over- or under-estimating risk.

5.2.1 Exposure Assessment

ROCs used in the assessment are assumed to represent categories of species (ungulates, small mammals, waterfowl and song birds) that are found around the Meadowbank site. Exposure is assumed to be similar for other species in these categories. Compared to other Arctic animals, the exposure for the species chosen is expected to be realistic to conservative, because they all are assumed to forage in or on the soil.

Exposure concentrations in environmental media were assumed to be represented by the 95th UCLM of the measured concentrations. Since animals would be more likely to ingest food sources with a range of COPC concentrations, this is a conservative assumption.

Ingestion rates were applied using published values for similar but not identical species. Based on biological factors, these rates were chosen to be conservative.

Dietary preferences are from studies on the same or similar species, but are not from populations specifically inhabiting the study region.

It was assumed that flying insects accumulate the same proportion of metals from soil as ground-dwelling insects, because no flying insect BAFs were available. This assumption likely results in an over-estimation of risk for ROCs who primarily consume flying insects (Lapland longspur).

Absorption of COPCs in the gastrointestinal tract was assumed to be 100%. This assumption likely results in an over-estimation of risk for all COPCs/ROC combinations.

Methyl mercury proportions of total mercury concentrations were estimated from the available literature using the UCLM from two studies (Azimuth, 2006). While there is an unknown degree of uncertainty in the extrapolation of this data for use at the Meadowbank site, the fractions chosen were at the highest end of the published range, and are therefore designed to be conservative. Furthermore, mercury was included as a COPC because it was found to be of concern to the general public in the Arctic, and no source of elevated mercury was identified at the mine.

Ingestion of COPCs was the only route of exposure considered in this assessment. While this assumption may slightly under-estimate actual exposure, inhalation and dermal absorption of metals are generally considered to be insignificant in comparison to exposures through ingestion (USEPA, 2005).

5.2.2 Toxicity Assessment

TRVs were not available for the ROCs and species-to-species extrapolations were necessary. This included allometric scaling for mammals, 1:1 scaling for birds, and the application of uncertainty factors in mammal-to-avian extrapolation. Food intake-to-body weight ratios are well studied and uncertainty factors are designed to be protective, so these extrapolations are likely to be realistic or conservative.

As is common in screening level risk assessments and as per baseline and 2011 assessments, the estimation of risk is for each COPC in isolation, and does not consider potential additive, synergistic or antagonistic reactions. Models for determining mixture toxicity of a large suite of metals are not yet available, and guideline values are for single compounds only. This factor may lead to under-estimation of actual risk from metals overall, but the otherwise conservative nature of an SLRA is assumed to compensate for this issue.

6 ASSESSMENT OF IMPACT PREDICTIONS

In the baseline SLRA (Azimuth, 2006), estimates were made of the relative increase in metals concentrations in soil that would occur onsite due to dust generation during 10 years of mine operations. The majority of constituents were not expected to increase beyond 1%, with a maximum increase of 10% (thallium). Onsite concentrations measured in 2014 were compared to baseline values to determine whether any changes exceeded impact predictions (Table 4-1). In all cases, the 90th centile of measured concentrations in 2014 was the same as or lower than baseline concentrations. Therefore, impacts predicted in the baseline SLRA are not being exceeded.

Table 6-1. Baseline and 2014 onsite measured concentrations of COPCs in soil.

Chemical	Concentration in soil (90 th centile; mg/kg)		Predicted Increase from Baseline	Measured Increase from Baseline
	Baseline	Onsite 2014		
Antimony (Sb)	10	0.15	0%	-98%
Arsenic (As)	24.7	24.69	1%	0%
Barium (Ba)	56.9	42.51	2%	-25%
Beryllium (Be)	0.5	0.55	0%	9%
Cadmium (Cd)	0.5	0.13	1%	-74%
Chromium (Cr)	129.5	49.91	4%	-61%
Cobalt (Co)	13.6	10.21	1%	-25%
Copper (Cu)	20.3	14.92	2%	-26%
Lead (Pb)	30	14.46	0%	-52%
Manganese (Mn)	438.2	325.28	0%	-26%
Mercury (Hg)	0.1	0.01	-1%	-89%
Molybdenum (Mo)	4	0.99	1%	-75%
Nickel (Ni)	63.2	28.14	5%	-55%
Selenium (Se)	0.5	0.10	0%	-80%
Strontium (Sr)	25.8	14.75	2%	-43%
Thallium (Tl)	1	0.15	10%	-85%
Vanadium (V)	26.3	22.11	2%	-16%
Zinc (Zn)	55	44.78	0%	-19%

7 CONCLUSIONS

This SLRA evaluated the risks to wildlife from contaminant exposure in and around the Meadowbank site during operation. The hazard quotient approach was used, which is appropriate for screening level assessments. Because of the conservative assumptions included at this level of assessment, there is generally considered to be a high degree of certainty associated with results indicating negligible risk.

Important findings are as follows:

- Risk from all COPCs was found to be negligible for ungulates, small mammals and waterfowl (HQ<1) for onsite, near-site, AWAR, and external reference locations. This is consistent with predictions made in the baseline assessment.
- Potentially unacceptable risks to songbirds from chromium and beryllium (HQ>1) were identified for all locations including the external reference site, which is consistent with baseline and 2011 assessments.
 - o For chromium, the external reference HQ exceeded onsite, near-site and AWAR HQ values, indicating risk from this COPC is not elevated as a result of mining activities. Chromium is naturally elevated in ultramafic rock, which is common in the region.
 - o For beryllium, the HQ threshold of 1 was marginally exceeded for all study areas using a NOAEL-based TRV, so risk for populations in all locations is assumed to be negligible (as in the baseline assessment).
- Soil concentrations of all COPCs measured onsite are lower than baseline values (based on comparisons of 90th centile values). As a result, impacts predicted in the baseline assessment are not being exceeded.

Overall the operation of the Meadowbank mine does not appear to be contributing excess risk from chemical contaminants to wildlife residing in the area.

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Appendix A

Example Calculation

Exposure of Lapland longspur to Pb (onsite location)

Exposure Assessment

$$EDI = T_{\text{onsite}}(DS_{\text{onsite}} + DW_{\text{onsite}} + DF_{\text{onsite}}) + T_{\text{ref}}(DS_{\text{ref}} + DW_{\text{ref}} + DF_{\text{ref}})$$

Where:

EDI = estimated daily intake of COPC

T_{onsite} = fraction of time in study area (i.e. onsite) = 33%

T_{ref} = remaining fraction of time = 67% (remainder of exposure based on external reference concentrations)

DS = dose from incidental soil ingestion

I_{soil} = intake of soil

DW = dose from drinking water

I_{water} = intake of water

DF = dose from food

I_{food} = intake of food

$Pb_{(\text{media})}$ = measured concentration of lead in media (95% UCLM of onsite or external reference values, accordingly)

Example:

$$\begin{aligned} DS_{\text{onsite}} (\text{mg/kg ww/d}) &= Pb_{\text{soil}} (\text{mg/kg dw}) * I_{\text{soil}} (\text{mg dw/kg ww/d}) \\ &= 11.23 * 0.0174 \\ &= 0.195 \end{aligned}$$

$$\begin{aligned} DW_{\text{onsite}} (\text{mg/kg ww/d}) &= Pb_{\text{water}} (\text{mg/L}) * I_{\text{water}} (\text{L/kg ww/d}) \\ &= 0.00 * 0.205 \\ &= 0.00 \end{aligned}$$

$$\begin{aligned} DF_{\text{onsite}} (\text{mg/kg ww/d}) &= Pb_{\text{sedge}} (\text{mg/kg ww}) * 25\% + Pb_{\text{lichen}} (\text{mg/kg ww}) * 0\% + Pb_{\text{berries}} (\text{mg/kg ww}) * 5\% + \\ &\quad Pb_{\text{insects}} (\text{mg/kg ww}) * 70\% * I_{\text{food}} (\text{kg ww/kg ww/d}) \\ &= 0.35 * 25\% + 1.68 * 0\% + 0.03 * 5\% + 0.37 * 70\% * 0.656 \\ &= 0.228 \end{aligned}$$

$$\begin{aligned} DS_{\text{ref}} (\text{mg/kg ww/d}) &= Pb_{\text{soil}} (\text{mg/kg dw}) * I_{\text{soil}} (\text{mg dw/kg ww/d}) \\ &= 8.757 * 0.0174 \\ &= 0.152 \end{aligned}$$

$$DW_{\text{ref}} (\text{mg/kg ww/d}) = Pb_{\text{water}} (\text{mg/L}) * I_{\text{water}} (\text{L/kg ww/d})$$

$$= 0.00 * 0.205$$

$$= 0.00$$

$$\begin{aligned} DF_{ref} \text{ (mg/kg ww/d)} &= Pb_{sedge} \text{ (mg/kg ww)} * 25\% + Pb_{lichen} \text{ (mg/kg ww)} * 0\% + Pb_{berries} \text{ (mg/kg ww)} * 5\% + \\ &\quad Pb_{insects} \text{ (mg/kg ww)} * 70\% * I_{food} \text{ (kg ww/kg ww/d)} \\ &= 1.01 * 25\% + 2.85 * 0\% + 0.02 * 5\% + 0.31 * 70\% * 0.656 \\ &= 0.309 \end{aligned}$$

$$\begin{aligned} EDI_{Pb} \text{ (mg/kg ww/d)} &= 33\%(0.195 + 0.00 + 0.228) + 67\%(0.152 + 0.00 + 0.309) \\ &= 0.45 \end{aligned}$$

Risk Characterization

$$\begin{aligned} HQ &= EDI \text{ (mg/kg ww/d)} / LOAEL\text{-based TRV \text{ (mg/kg ww/d)}}^{**} \\ &= 0.45 / 11.30 \\ &= 0.04 \end{aligned}$$

**see values in Appendix C

Appendix B

Measured and Estimated COPC Concentrations in Soil, Plants, Water and Insects

**COPC Concentrations in Soil, Water, Plant Tissue and Insects:
Onsite Locations - 2014
(table based on Azimuth, 2006)**

		Moisture Content ¹	COPC Concentrations										
Units		(%)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Mercury
Soil (measured)													
95% UCLM	mg/kg dw	-	0.114	16.073	37.321	0.483	0.089	42.700	8.653	12.097	11.298	297.630	0.008
Lake Water (measured)													
95% UCLM	mg/L	-	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
Sedges (measured)													
95% UCLM	mg/kg ww	51.63%	0.004	0.613	19.566	0.016	0.025	10.224	0.466	1.964	0.350	177.170	0.015
Lichen (measured)													
95% UCLM	mg/kg ww	39.95%	0.009	2.186	15.948	0.054	0.107	33.940	1.390	2.693	1.679	126.183	0.094
Berries (measured)													
95% UCLM	mg/kg ww	83.34%	0.001	0.046	1.448	0.002	0.009	0.353	0.033	0.822	0.031	12.806	0.001
Insects (predicted) ³													
95% UCLM	mg/kg dw		0.114	1.142	37.321	0.483	0.330	42.700	8.653	14.773	1.070	297.630	0.008
	mg/kg ww	65.00%	0.040	0.400	13.062	0.169	0.116	14.945	3.029	5.171	0.374	104.171	0.003

Notes:

na not available

nd no data

¹ Moisture content for plants represents average of available site-specific data; moisture content for insects based on Azimuth (2005);
wet wt concentration = dry wt concentration*(1-Moisture)

² Assumed fractions of MeHg in exposure media (see text for details)

Soil 0.01

Plants 0.34

Invertebrates 0.17

Water 0

³ Predicted using soil 95th centile and Insect BAF; see text)

**COPC Concentrations in Soil, Water, Plant Tissue and Insects:
Onsite Locations - 2014
(table based on Azimuth, 2006)**

		COPC Concentrations										
	Units	Inorg-Hg ²	MeHg ²	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
Soil (measured)												
95% UCLM	mg/kg dw	0.008	0.000	0.859	23.827	0.100	13.397	0.137	1.000	2.888	20.117	38.984
Lake Water (measured)												
95% UCLM	mg/L	0.000	0.000	0.000	0.000	0.000	0.014	0.000	0.000	0.000	0.001	0.002
Sedges (measured)												
95% UCLM	mg/kg ww	0.010	0.005	1.220	4.419	0.012	7.190	0.005	0.013	0.052	1.071	15.368
Lichen (measured)												
95% UCLM	mg/kg ww	0.062	0.032	0.310	11.049	0.054	8.929	0.021	0.027	0.242	3.729	16.711
Berries (measured)												
95% UCLM	mg/kg ww	0.001	0.000	0.021	0.319	0.005	0.495	0.001	0.049	0.005	0.070	1.586
Insects (predicted)³												
95% UCLM	mg/kg dw	0.008	0.000	0.859	23.827	0.100	13.397	0.137	1.000	2.888	20.117	178.733
	mg/kg ww	0.003	0.000	0.301	8.340	0.035	4.689	0.048	0.350	1.011	7.041	62.556

Notes:

na not available

nd no data

¹ Moisture content for plants represents average of available site-specific data; moisture content for insects based on Azimuth (2005);
wet wt concentration = dry wt concentration*(1-Moisture)

² Assumed fractions of MeHg in exposure media (see text for details)

Soil 0.01

Plants 0.34

Invertebrates 0.17

Water 0

³ Predicted using soil 95% UCLM and Insect BAF; see text)

**COPC Concentrations in Soil, Water, Plant Tissue and Insects:
Near-site Locations - 2014
(table based on Azimuth, 2006)**

		Moisture Content ¹ (%)	COPC Concentrations										
Units			Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Mercury
Soil (measured)													
95% UCLM	mg/kg dw	-	0.050	6.004	29.354	0.425	0.066	41.208	5.572	6.191	6.882	288.234	0.010
Lake Water (measured)													
95% UCLM	mg/L	-	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
Sedges (measured)													
95% UCLM	mg/kg ww	46.03%	0.006	1.266	23.563	0.025	0.029	12.656	0.624	2.311	0.544	294.073	0.016
Lichen (measured)													
95% UCLM	mg/kg ww	23.39%	0.009	1.420	18.247	0.033	0.089	19.779	0.901	2.086	1.434	158.335	0.128
Berries (measured)													
95% UCLM	mg/kg ww	83.97%	0.001	0.009	1.610	0.001	0.005	0.115	0.009	0.727	0.006	17.917	0.001
Insects (predicted)³													
95% UCLM	mg/kg dw		0.050	0.457	29.354	0.425	0.275	41.208	5.572	12.003	0.756	288.234	0.010
	mg/kg ww	65.00%	0.018	0.160	10.274	0.149	0.096	14.423	1.950	4.201	0.265	100.882	0.004

Notes:

na not available

nd no data

¹ Moisture content for plants represents average of available site-specific data; moisture content for insects based on Azimuth (2005);
wet wt concentration = dry wt concentration*(1-Moisture)

² Assumed fractions of MeHg in exposure media (see text for details)

Soil 0.01

Plants 0.34

Invertebrates 0.17

Water 0

³ Predicted using soil 95% UCLM and Insect BAF; see text)

**COPC Concentrations in Soil, Water, Plant Tissue and Insects:
Near-site Locations - 2014
(table based on Azimuth, 2006)**

		COPC Concentrations										
	Units	Inorg-Hg ²	MeHg ²	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
Soil (measured)												
95% UCLM	mg/kg dw	0.010	0.000	0.651	17.661	0.100	11.569	0.117	1.000	2.659	15.001	30.119
Lake Water (measured)												
95% UCLM	mg/L	0.000	0.000	0.000	0.000	0.000	0.009	0.000	0.000	0.000	0.001	0.002
Sedges (measured)												
95% UCLM	mg/kg ww	0.011	0.006	1.329	5.891	0.016	7.267	0.006	0.012	0.073	1.159	32.616
Lichen (measured)												
95% UCLM	mg/kg ww	0.084	0.043	0.177	6.997	0.068	7.091	0.022	0.025	0.145	2.123	18.019
Berries (measured)												
95% UCLM	mg/kg ww	0.001	0.000	0.017	0.230	0.005	0.466	0.000	0.064	0.001	0.016	1.331
Insects (predicted)³												
95% UCLM	mg/kg dw	0.010	0.000	0.651	17.661	0.100	11.569	0.117	1.000	2.659	15.001	168.871
	mg/kg ww	0.004	0.000	0.228	6.181	0.035	4.049	0.041	0.350	0.931	5.250	59.105

Notes:

na not available

nd no data

¹ Moisture content for plants represents average of available site-specific data; moisture content for insects based on Azimuth (2005);
wet wt concentration = dry wt concentration*(1-Moisture)

² Assumed fractions of MeHg in exposure media (see text for details)

Soil 0.01

Plants 0.34

Invertebrates 0.17

Water 0

³ Predicted using soil 95% UCLM and Insect BAF; see text)

**COPC Concentrations in Soil, Water, Plant Tissue and Insects:
Onsite+Near-site Locations - 2014
(table based on Azimuth, 2006)**

		Moisture Content ¹ (%)	Antimony	Arsenic	Barium	COPC Concentrations				Cobalt	Copper	Lead	Manganese	Total Mercury
Units						Beryllium	Cadmium	Chromium						
Soil (measured)														
95% UCLM	mg/kg dw	-	0.087	10.917	33.109	0.444	0.072	39.939	7.191	9.391	9.125	285.387	0.008	
Lake Water (measured)														
95% UCLM	mg/L	-	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	
Sedges (measured)														
95% UCLM	mg/kg ww	49.23%	0.004	0.813	20.161	0.018	0.025	10.254	0.494	2.004	0.398	211.665	0.015	
Lichen (measured)														
95% UCLM	mg/kg ww	32.85%	0.008	1.788	15.964	0.043	0.093	26.808	1.127	2.332	1.493	133.103	0.104	
Berries (measured)														
95% UCLM	mg/kg ww	83.61%	0.001	0.029	1.443	0.002	0.007	0.245	0.023	0.768	0.020	13.964	0.001	
Insects (predicted)³														
95% UCLM	mg/kg dw		0.087	0.797	33.109	0.444	0.290	39.939	7.191	13.658	0.921	285.387	0.008	
	mg/kg ww	65.00%	0.031	0.279	11.588	0.156	0.101	13.979	2.517	4.780	0.322	99.886	0.003	

Notes:

na not available

nd no data

¹ Moisture content for plants represents average of available site-specific data; moisture content for insects based on Azimuth (2005);
wet wt concentration = dry wt concentration*(1-Moisture)

² Assumed fractions of MeHg in exposure media (see text for details)

Soil 0.01

Plants 0.34

Invertebrates 0.17

Water 0

³ Predicted using soil 95% UCLM and Insect BAF; see text)

**COPC Concentrations in Soil, Water, Plant Tissue and Insects:
Onsite+Near-site Locations - 2014
(table based on Azimuth, 2006)**

		COPC Concentrations										
	Units	Inorg-Hg ²	MeHg ²	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
Soil (measured)												
95% UCLM	mg/kg dw	0.008	0.000	0.747	20.338	0.100	12.344	0.126	1.000	2.689	17.771	34.353
Lake Water (measured)												
95% UCLM	mg/L	0.000	0.000	0.000	0.000	0.000	0.012	0.000	0.000	0.000	0.001	0.002
Sedges (measured)												
95% UCLM	mg/kg ww	0.010	0.005	1.138	4.714	0.013	6.919	0.005	0.012	0.056	1.014	21.760
Lichen (measured)												
95% UCLM	mg/kg ww	0.069	0.035	0.246	8.923	0.058	7.874	0.020	0.024	0.190	2.915	16.550
Berries (measured)												
95% UCLM	mg/kg ww	0.001	0.000	0.018	0.273	0.005	0.464	0.000	0.052	0.004	0.047	1.435
Insects (predicted)³												
95% UCLM	mg/kg dw	0.008	0.000	0.747	20.338	0.100	12.344	0.126	1.000	2.689	17.771	173.829
	mg/kg ww	0.003	0.000	0.262	7.118	0.035	4.320	0.044	0.350	0.941	6.220	60.840

Notes:

na not available

nd no data

¹ Moisture content for plants represents average of available site-specific data; moisture content for insects based on Azimuth (2005);
wet wt concentration = dry wt concentration*(1-Moisture)

² Assumed fractions of MeHg in exposure media (see text for details)

Soil 0.01

Plants 0.34

Invertebrates 0.17

Water 0

³ Predicted using soil 95% UCLM and Insect BAF; see text)

Measured and Estimated COPC Concentrations
AWAR Location - 2014
(table based on Azimuth, 2006)

		Moisture Content ¹ (%)	COPC Concentrations										
	Units		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Mercury
Soil (measured)													
95% UCLM	mg/kg dw	-	0.050	2.463	35.401	0.290	0.025	39.929	6.181	10.117	5.275	231.326	0.003
Lake Water (measured)													
95% UCLM	mg/L	-	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
Sedges (measured)													
95% UCLM	mg/kg ww	49.20%	0.004	0.298	26.167	0.018	0.031	8.489	0.678	3.276	0.195	218.074	0.011
Lichen (measured)													
95% UCLM	mg/kg ww	24.36%	0.017	1.631	41.223	0.086	0.152	30.501	2.793	4.163	2.044	226.147	0.062
Berries (measured)													
95% UCLM	mg/kg ww	83.60%	0.001	0.016	1.722	0.001	0.023	0.456	0.038	0.875	0.016	29.121	0.001
Insects (predicted) ³													
95% UCLM	mg/kg dw		0.050	0.200	35.401	0.290	0.153	39.929	6.181	13.977	0.628	231.326	0.003
	mg/kg ww	65.00%	0.018	0.070	12.390	0.102	0.053	13.975	2.163	4.892	0.220	80.964	0.001

Notes:

na not available

nd no data

¹ Moisture content for plants represents average of available site-specific data; moisture content for insects based on Azimuth (2005);
wet wt concentration = dry wt concentration*(1-Moisture)

² Assumed fractions of MeHg in exposure media (see text for details)

Soil 0.01

Plants 0.34

Invertebrates 0.17

Water 0

³ Predicted using soil 95% UCLM and Insect BAF; see text)

Measured and Estimated COPC Concentrations
AWAR Location - 2014
(table based on Azimuth, 2006)

		COPC Concentrations										
	Units	Inorg-Hg ²	MeHg ²	Molybdenum	Nickel	Selenium	Stontium	Thallium	Tin	Uranium	Vanadium	Zinc
Soil (measured)												
95% UCLM	mg/kg dw	0.000	0.000	0.689	18.491	0.100	22.341	0.104	1.000	2.328	19.333	25.655
Lake Water (measured)												
95% UCLM	mg/L	0.000	0.000	0.000	0.000	0.000	0.014	0.000	0.000	0.000	0.001	0.002
Sedges (measured)												
95% UCLM	mg/kg ww	0.000	0.000	0.663	4.278	0.018	12.788	0.007	0.010	0.093	1.733	28.964
Lichen (measured)												
95% UCLM	mg/kg ww	0.000	0.000	0.282	10.713	0.068	36.320	0.031	0.038	0.447	7.395	35.175
Berries (measured)												
95% UCLM	mg/kg ww	0.000	0.000	0.059	0.400	0.005	0.956	0.000	0.157	0.006	0.105	2.670
Insects (predicted) ³												
95% UCLM	mg/kg dw	0.000	0.000	0.689	18.491	0.100	22.341	0.104	1.000	2.328	19.333	163.015
	mg/kg ww	0.000	0.000	0.241	6.472	0.035	7.819	0.036	0.350	0.815	6.766	57.055

Notes:

na not available

nd no data

¹ Moisture content for plants represents average of available site-specific data; moisture content for insects based on Azimuth (2005);
wet wt concentration = dry wt concentration*(1-Moisture)

² Assumed fractions of MeHg in exposure media (see text for details)

Soil 0.01

Plants 0.34

Invertebrates 0.17

Water 0

³ Predicted using soil 95% UCLM and Insect BAF; see text)

Measured and Estimated COPC Concentrations
External Reference Location - 2014
(table based on Azimuth, 2006)

		Moisture Content ¹ (%)	COPC Concentrations										
	Units		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Mercury
Soil (measured)													
95% UCLM	mg/kg dw	-	0.098	9.880	33.465	0.385	0.081	120.286	11.619	12.950	8.757	305.428	0.011
Lake Water (measured)													
95% UCLM	mg/L	-	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.000
Sedges (measured)													
95% UCLM	mg/kg ww	51.21%	0.006	0.568	27.803	0.043	0.065	12.414	0.959	2.000	1.013	160.723	0.044
Lichen (measured)													
95% UCLM	mg/kg ww	44.09%	0.014	0.464	18.328	0.043	0.115	14.734	0.760	2.190	2.848	89.606	0.144
Berries (measured)													
95% UCLM	mg/kg ww	84.06%	0.001	0.012	1.668	0.001	0.006	0.133	0.022	0.904	0.022	11.671	0.001
Insects (predicted) ³													
95% UCLM	mg/kg dw		0.098	0.726	33.465	0.385	0.312	120.286	11.619	15.089	0.895	305.428	0.011
	mg/kg ww	65.00%	0.034	0.254	11.713	0.135	0.109	42.100	4.067	5.281	0.313	106.900	0.004

Notes:

na not available

nd no data

¹ Moisture content for plants represents average of available site-specific data; moisture content for insects based on Azimuth (2005);
wet wt concentration = dry wt concentration*(1-Moisture)

² Assumed fractions of MeHg in exposure media (see text for details)

Soil 0.01

Plants 0.34

Invertebrates 0.17

Water 0

³ Predicted using soil 95% UCLM and Insect BAF; see text)

Measured and Estimated COPC Concentrations
External Reference Location - 2014
(table based on Azimuth, 2006)

		COPC Concentrations										
	Units	Inorg-Hg ²	MeHg ²	Molybdenum	Nickel	Selenium	Stontium	Thallium	Tin	Uranium	Vanadium	Zinc
Soil (measured)												
95% UCLM	mg/kg dw	0.011	0.000	0.742	63.025	0.100	27.353	0.118	1.000	2.031	27.727	45.312
Lake Water (measured)												
95% UCLM	mg/L	0.000	0.000	0.000	0.000	0.000	0.009	0.000	0.000	0.000	0.001	0.002
Sedges (measured)												
95% UCLM	mg/kg ww	0.029	0.015	0.647	9.030	0.033	11.771	0.017	0.019	0.155	3.004	18.344
Lichen (measured)												
95% UCLM	mg/kg ww	0.095	0.049	0.174	9.078	0.081	7.414	0.020	0.045	0.163	1.772	13.866
Berries (measured)												
95% UCLM	mg/kg ww	0.001	0.000	0.017	0.328	0.005	0.599	0.001	0.134	0.002	0.078	1.320
Insects (predicted)³												
95% UCLM	mg/kg dw	0.011	0.000	0.742	63.025	0.100	27.353	0.118	1.000	2.031	27.727	184.746
	mg/kg ww	0.004	0.000	0.260	22.059	0.035	9.573	0.041	0.350	0.711	9.704	64.661

Notes:

na not available

nd no data

¹ Moisture content for plants represents average of available site-specific data; moisture content for insects based on Azimuth (2005);
wet wt concentration = dry wt concentration*(1-Moisture)

² Assumed fractions of MeHg in exposure media (see text for details)

Soil 0.01

Plants 0.34

Invertebrates 0.17

Water 0

³ Predicted using soil 95% UCLM and Insect BAF; see text)

Appendix B - References

Azimuth (Azimuth Consulting Group Inc.). 2005. Post closure ecological risk assessment of the Teck Cominco Operations site. Prepared for: Teck Cominco Metals Ltd., Kimberley, BC.

Appendix C

Toxicity Reference Values and Hazard Quotient Calculation

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dose (mg/kg wet/day)	Soil		0.000	0.019	0.044	0.001	0.000	0.050	0.010	0.014	0.013	0.347	0.000
	Water		0.0000	0.0001	0.0008	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0005	0.0000
	Sedges	55%	0.000	0.045	1.453	0.001	0.002	0.759	0.035	0.146	0.026	13.155	0.001
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	40%	0.0001	0.0025	0.0782	0.0001	0.0005	0.0190	0.0018	0.0444	0.0017	0.6915	0.0001
	Insects	5%	0.000	0.003	0.088	0.001	0.001	0.101	0.020	0.035	0.003	0.703	0.000
	Total Food	100%	0.0006	0.0507	1.6192	0.0025	0.0031	0.8791	0.0568	0.2251	0.0301	14.5496	0.0012
	Total Dose		0.001	0.070	1.663	0.003	0.003	0.929	0.067	0.239	0.043	14.897	0.001
Relative Contribution (% of total dose)	Soil		18%	27%	3%	19%	3%	5%	15%	6%	30%	2%	1%
	Water		2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		37%	65%	87%	39%	57%	82%	52%	61%	60%	88%	93%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		7%	4%	5%	4%	16%	2%	3%	19%	4%	5%	4%
	Insects		36%	4%	5%	37%	24%	11%	31%	15%	6%	5%	2%
	Total Food		80%	73%	97%	81%	97%	95%	85%	94%	70%	98%	99%
TRVs (mg/kg wet/day)	NOAEL _{TRV}		108.5	0.1	11.0	1.3	2.0	6.7	0.3	31.1	16.4	180.0	na
	LOAEL _{TRV}		216.4	1.4	40.5	na	19.7	26.9	7.0	40.3	163.6	580.9	na
Hazard Quotients (unitless)	HQ (NOAEL)		0.0	0.5	0.2	0.0	0.0	0.1	0.2	0.0	0.0	0.1	na
	HQ (LOAEL)		0.0	0.0	0.0	na	0.0	0.0	0.0	0.0	0.0	0.0	na

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
% Time			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dose (mg/kg wet/day)	Soil		0.000	0.000	0.001	0.028	0.000	0.016	0.000	0.001	0.003	0.023	0.045
	Water		0.0000	0.0000	0.0001	0.0001	0.0000	0.0035	0.0000	0.0000	0.0000	0.0001	0.0004
	Sedges	55%	0.001	0.000	0.091	0.328	0.001	0.534	0.000	0.001	0.004	0.079	1.141
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	40%	0.0000	0.0000	0.0011	0.0172	0.0003	0.0267	0.0000	0.0027	0.0003	0.0038	0.0857
	Insects	5%	0.000	0.000	0.002	0.056	0.000	0.032	0.000	0.002	0.007	0.048	0.422
	Total Food	100%	0.0008	0.0004	0.0938	0.4016	0.0014	0.5923	0.0007	0.0059	0.0110	0.1308	1.6490
	Total Dose		0.001	0.000	0.095	0.430	0.002	0.611	0.001	0.007	0.014	0.154	1.695
Relative Contribution (% of total dose)	Soil		1%	0%	1%	6%	8%	3%	18%	16%	24%	15%	3%
	Water		0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%
	Sedges		92%	95%	96%	76%	59%	87%	43%	13%	27%	51%	67%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		4%	4%	1%	4%	17%	4%	3%	37%	2%	2%	5%
	Insects		2%	0%	2%	13%	15%	5%	36%	33%	48%	31%	25%
	Total Food		99%	100%	99%	94%	92%	97%	82%	83%	76%	85%	97%
TRVs (mg/kg wet/day)	NOAEL _{TRV}		2.7	0.0	0.3	81.8	0.4	537.9	0.0	25.9	3.3	0.4	327.2
	LOAEL _{TRV}		na	0.1	2.9	163.6	0.7	na	0.2	38.7	6.7	4.0	654.5
Hazard Quotients (unitless)	HQ (NOAEL)		0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.4	0.0
	HQ (LOAEL)		na	0.0	0.0	0.0	0.0	na	0.0	0.0	0.0	0.0	0.0

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time													
(unitless)			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dose	Soil		0.000	0.007	0.034	0.000	0.000	0.048	0.007	0.007	0.008	0.336	0.000
	Water		0.0000	0.0000	0.0006	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0003	0.0000
	Sedges	55%	0.000	0.094	1.750	0.002	0.002	0.940	0.046	0.172	0.040	21.835	0.001
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	40%	0.0001	0.0005	0.0869	0.0001	0.0003	0.0062	0.0005	0.0393	0.0003	0.9675	0.0000
	Insects	5%	0.000	0.001	0.069	0.001	0.001	0.097	0.013	0.028	0.002	0.681	0.000
	Total Food	100%	0.0006	0.0956	1.9058	0.0029	0.0031	1.0432	0.0600	0.2392	0.0425	23.4834	0.0013
	Total Dose		0.001	0.103	1.941	0.003	0.003	1.091	0.066	0.247	0.051	23.820	0.001
Relative Contribution	Soil		8%	7%	2%	15%	2%	4%	10%	3%	16%	1%	1%
	Water		2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		65%	92%	90%	54%	68%	86%	70%	70%	80%	92%	94%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		8%	0%	4%	2%	9%	1%	1%	16%	1%	4%	4%
	Insects		17%	1%	4%	30%	20%	9%	20%	12%	4%	3%	2%
	Total Food		90%	93%	98%	85%	98%	96%	90%	97%	84%	99%	99%
TRVs	NOAEL _{TRV}		108.5	0.1	11.0	1.3	2.0	6.7	0.3	31.1	16.4	180.0	na
	LOAEL _{TRV}		216.4	1.4	40.5	na	19.7	26.9	7.0	40.3	163.6	580.9	na
Hazard Quotients	HQ (NOAEL)		0.0	0.7	0.2	0.0	0.0	0.2	0.2	0.0	0.0	0.1	na
	HQ (LOAEL)		0.0	0.1	0.0	na	0.0	0.0	0.0	0.0	0.0	0.0	na

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
% Time													
(unitless)			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dose	Soil		0.000	0.000	0.001	0.021	0.000	0.014	0.000	0.001	0.003	0.018	0.035
	Water		0.0000	0.0000	0.0000	0.0001	0.0000	0.0024	0.0000	0.0000	0.0000	0.0001	0.0004
	Sedges	55%	0.001	0.000	0.099	0.437	0.001	0.540	0.000	0.001	0.005	0.086	2.422
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	40%	0.0000	0.0000	0.0009	0.0124	0.0003	0.0252	0.0000	0.0035	0.0001	0.0008	0.0719
	Insects	5%	0.000	0.000	0.002	0.042	0.000	0.027	0.000	0.002	0.006	0.035	0.399
	Total Food	100%	0.0009	0.0004	0.1011	0.4916	0.0017	0.5921	0.0007	0.0067	0.0117	0.1223	2.8926
	Total Dose		0.001	0.000	0.102	0.512	0.002	0.608	0.001	0.008	0.015	0.140	2.928
Relative Contribution	Soil		1%	0%	1%	4%	6%	2%	16%	15%	21%	13%	1%
	Water		0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%
	Sedges		92%	96%	97%	85%	66%	89%	50%	11%	36%	61%	83%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		4%	4%	1%	2%	15%	4%	2%	44%	0%	1%	2%
	Insects		3%	0%	2%	8%	13%	4%	32%	30%	42%	25%	14%
	Total Food		99%	100%	99%	96%	93%	97%	84%	85%	79%	87%	99%
TRVs													
(mg/kg wet/day)	NOAEL _{TRV}		2.7	0.0	0.3	81.8	0.4	537.9	0.0	25.9	3.3	0.4	327.2
	LOAEL _{TRV}		na	0.1	2.9	163.6	0.7	na	0.2	38.7	6.7	4.0	654.5
Hazard Quotients	HQ (NOAEL)		0.0	0.0	0.4	0.0	0.0	0.0	0.1	0.0	0.0	0.4	0.0
	HQ (LOAEL)		na	0.0	0.0	0.0	0.0	na	0.0	0.0	0.0	0.0	0.0
(unitless)													

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time													
(unitless)			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dose	Soil		0.000	0.003	0.041	0.000	0.000	0.047	0.007	0.012	0.006	0.270	0.000
	Water		0.0000	0.0001	0.0008	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0005	0.0000
	Sedges	55%	0.000	0.022	1.943	0.001	0.002	0.630	0.050	0.243	0.015	16.192	0.001
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	40%	0.0001	0.0009	0.0930	0.0001	0.0012	0.0246	0.0021	0.0472	0.0009	1.5725	0.0001
	Insects	5%	0.000	0.000	0.084	0.001	0.000	0.094	0.015	0.033	0.001	0.547	0.000
	Total Food	100%	0.0005	0.0235	2.1195	0.0021	0.0039	0.7493	0.0670	0.3235	0.0169	18.3110	0.0009
	Total Dose		0.001	0.026	2.162	0.002	0.004	0.796	0.074	0.335	0.023	18.582	0.001
Relative Contribution	Soil		11%	11%	2%	14%	1%	6%	10%	4%	27%	1%	0%
	Water		2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
	Sedges		56%	84%	90%	56%	59%	79%	68%	73%	63%	87%	91%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		10%	3%	4%	2%	31%	3%	3%	14%	4%	8%	8%
	Insects		21%	2%	4%	28%	9%	12%	20%	10%	6%	3%	1%
	Total Food		87%	89%	98%	86%	99%	94%	90%	96%	73%	99%	100%
TRVs	NOAEL _{TRV}		108.5	0.1	11.0	1.3	2.0	6.7	0.3	31.1	16.4	180.0	na
	LOAEL _{TRV}		216.4	1.4	40.5	na	19.7	26.9	7.0	40.3	163.6	580.9	na
Hazard Quotients	HQ (NOAEL)		0.0	0.2	0.2	0.0	0.0	0.1	0.2	0.0	0.0	0.1	na
	HQ (LOAEL)		0.0	0.0	0.1	na	0.0	0.0	0.0	0.0	0.0	0.0	na

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
Parameter		Preference											
% Time													
(unitless)			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dose													
(mg/kg wet/day)	Soil		0.000	0.000	0.001	0.022	0.000	0.026	0.000	0.001	0.003	0.023	0.030
	Water		0.0000	0.0000	0.0001	0.0001	0.0000	0.0035	0.0000	0.0000	0.0000	0.0001	0.0004
	Sedges	55%	0.000	0.000	0.049	0.318	0.001	0.950	0.001	0.001	0.007	0.129	2.151
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	40%	0.0000	0.0000	0.0032	0.0216	0.0003	0.0516	0.0000	0.0085	0.0003	0.0057	0.1442
	Insects	5%	0.000	0.000	0.002	0.044	0.000	0.053	0.000	0.002	0.005	0.046	0.385
	Total Food	100%	0.0000	0.0000	0.0541	0.3829	0.0018	1.0539	0.0008	0.0116	0.0128	0.1800	2.6799
	Total Dose		0.000	0.000	0.055	0.405	0.002	1.083	0.001	0.013	0.016	0.203	2.710
Relative Contribution													
(% of total dose)	Soil		#DIV/0!	#DIV/0!	1%	5%	6%	2%	14%	9%	18%	11%	1%
	Water		#DIV/0!	#DIV/0!	0%	0%	1%	0%	0%	0%	0%	0%	0%
	Sedges		#DIV/0!	#DIV/0!	90%	79%	68%	88%	57%	6%	45%	63%	79%
	Lichens		#DIV/0!	#DIV/0!	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		#DIV/0!	#DIV/0!	6%	5%	14%	5%	1%	66%	2%	3%	5%
	Insects		#DIV/0!	#DIV/0!	3%	11%	12%	5%	28%	19%	35%	23%	14%
	Total Food		#DIV/0!	#DIV/0!	98%	95%	93%	97%	86%	91%	82%	89%	99%
TRVs													
(mg/kg wet/day)	NOAEL_{TRV}		2.7	0.0	0.3	81.8	0.4	537.9	0.0	25.9	3.3	0.4	327.2
	LOAEL_{TRV}		na	0.1	2.9	163.6	0.7	na	0.2	38.7	6.7	4.0	654.5
Hazard Quotients													
(unitless)	HQ (NOAEL)		0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.5	0.0
	HQ (LOAEL)		na	0.0	0.0	0.0	0.0	na	0.0	0.0	0.0	0.1	0.0

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time													
(unitless)			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dose	Soil		0.000	0.012	0.039	0.000	0.000	0.140	0.014	0.015	0.010	0.356	0.000
	Water		0.0000	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0003	0.0000
	Sedges	55%	0.000	0.042	2.064	0.003	0.005	0.922	0.071	0.148	0.075	11.934	0.003
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	40%	0.0001	0.0006	0.0901	0.0001	0.0003	0.0072	0.0012	0.0488	0.0012	0.6302	0.0001
	Insects	5%	0.000	0.002	0.079	0.001	0.001	0.284	0.027	0.036	0.002	0.722	0.000
	Total Food	100%	0.0008	0.0445	2.2335	0.0042	0.0059	1.2131	0.0998	0.2330	0.0785	13.2854	0.0033
	Total Dose		0.001	0.056	2.273	0.005	0.006	1.353	0.113	0.248	0.089	13.642	0.003
Relative Contribution	Soil		13%	21%	2%	10%	2%	10%	12%	6%	12%	3%	0%
	Water		1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		53%	75%	91%	69%	81%	68%	63%	60%	85%	87%	97%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		6%	1%	4%	1%	5%	1%	1%	20%	1%	5%	2%
	Insects		26%	3%	3%	20%	12%	21%	24%	14%	2%	5%	1%
	Total Food		86%	79%	98%	90%	98%	90%	88%	94%	88%	97%	100%
TRVs	NOAEL _{TRV}		108.5	0.1	11.0	1.3	2.0	6.7	0.3	31.1	16.4	180.0	na
	LOAEL _{TRV}		216.4	1.4	40.5	na	19.7	26.9	7.0	40.3	163.6	580.9	na
Hazard Quotients	HQ (NOAEL)		0.0	0.4	0.2	0.0	0.0	0.2	0.3	0.0	0.0	0.1	na
	HQ (LOAEL)		0.0	0.0	0.1	na	0.0	0.1	0.0	0.0	0.0	0.0	na

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
Parameter		Preference											
% Time (unitless)			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dose (mg/kg wet/day)	Soil		0.000	0.000	0.001	0.074	0.000	0.032	0.000	0.001	0.002	0.032	0.053
	Water		0.0000	0.0000	0.0000	0.0001	0.0000	0.0022	0.0000	0.0000	0.0000	0.0001	0.0004
	Sedges	55%	0.002	0.001	0.048	0.671	0.002	0.874	0.001	0.001	0.011	0.223	1.362
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	40%	0.0000	0.0000	0.0009	0.0177	0.0003	0.0323	0.0000	0.0072	0.0001	0.0042	0.0713
	Insects	5%	0.000	0.000	0.002	0.149	0.000	0.065	0.000	0.002	0.005	0.066	0.436
	Total Food	100%	0.0022	0.0011	0.0507	0.8371	0.0029	0.9709	0.0016	0.0110	0.0164	0.2928	1.8698
	Total Dose		0.002	0.001	0.052	0.911	0.003	1.005	0.002	0.012	0.019	0.325	1.923
Relative Contribution (% of total dose)	Soil		1%	0%	2%	8%	4%	3%	8%	10%	13%	10%	3%
	Water		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		96%	98%	93%	74%	79%	87%	74%	12%	61%	69%	71%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		2%	2%	2%	2%	9%	3%	2%	59%	1%	1%	4%
	Insects		1%	0%	3%	16%	8%	6%	16%	19%	26%	20%	23%
	Total Food		99%	100%	98%	92%	96%	97%	92%	90%	87%	90%	97%
TRVs (mg/kg wet/day)	NOAEL _{TRV}		2.7	0.0	0.3	81.8	0.4	537.9	0.0	25.9	3.3	0.4	327.2
	LOAEL _{TRV}		na	0.1	2.9	163.6	0.7	na	0.2	38.7	6.7	4.0	654.5
Hazard Quotients (unitless)	HQ (NOAEL)		0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.8	0.0
	HQ (LOAEL)		na	0.0	0.0	0.0	0.0	na	0.0	0.0	0.0	0.1	0.0

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time													
(unitless)			33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose	Soil		0.000	0.014	0.045	0.001	0.000	0.126	0.014	0.016	0.012	0.402	0.000
(mg/kg wet/day)	Water		0.00000	0.00001	0.00014	0.00000	0.00000	0.00001	0.00000	0.00003	0.00001	0.00010	0.00000
	Sedges	30%	0.0001	0.0092	0.3576	0.0005	0.0007	0.1655	0.0114	0.0283	0.0115	2.5110	0.0005
	Lichens	65%	0.000	0.028	0.538	0.001	0.003	0.574	0.027	0.069	0.074	3.186	0.004
	Berries	5%	0.00000	0.00004	0.00376	0.00000	0.00001	0.00040	0.00005	0.00203	0.00005	0.02930	0.00000
	Insects	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Total Food	100%	0.0005	0.0368	0.8991	0.0018	0.0040	0.7395	0.0385	0.0989	0.0851	5.7262	0.0045
	Total Dose		0.001	0.051	0.944	0.002	0.004	0.866	0.052	0.115	0.097	6.129	0.005
Relative Contribution	Soil		22%	27%	5%	23%	3%	15%	26%	14%	12%	7%	0%
(% of total dose)	Water		1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		14%	18%	38%	21%	18%	19%	22%	25%	12%	41%	11%
	Lichens		64%	55%	57%	56%	79%	66%	52%	60%	76%	52%	89%
	Berries		0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%
	Insects		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total Food		78%	73%	95%	77%	97%	85%	74%	86%	88%	93%	100%
TRVs	NOAEL _{TRV}		13.9	0.0	1.4	0.2	0.3	0.9	0.0	4.0	2.1	23.0	na
(mg/kg wet/day)	LOAEL _{TRV}		27.7	0.2	5.2	na	2.5	3.4	0.9	5.1	20.9	74.2	na
Hazard Quotients	HQ (NOAEL)		0.0	2.8	0.7	0.0	0.0	1.0	1.2	0.0	0.0	0.3	na
(unitless)	HQ (LOAEL)		0.0	0.3	0.2	na	0.0	0.3	0.1	0.0	0.0	0.1	na

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
% Time													
(unitless)			33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose	Soil		0.000	0.000	0.001	0.066	0.000	0.030	0.000	0.001	0.003	0.033	0.056
(mg/kg wet/day)	Water		0.00000	0.00000	0.00000	0.00003	0.00000	0.00062	0.00000	0.00000	0.00000	0.00003	0.00010
	Sedges	30%	0.0003	0.0002	0.0114	0.1076	0.0004	0.1438	0.0002	0.0002	0.0017	0.0332	0.2754
	Lichens	65%	0.003	0.001	0.006	0.277	0.002	0.232	0.001	0.001	0.005	0.066	0.452
	Berries	5%	0.00000	0.00000	0.00004	0.00073	0.00001	0.00131	0.00000	0.00025	0.00001	0.00016	0.00320
	Insects	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Total Food	100%	0.0030	0.0015	0.0176	0.3849	0.0026	0.3770	0.0008	0.0017	0.0070	0.0992	0.7307
	Total Dose		0.003	0.002	0.019	0.451	0.003	0.408	0.001	0.003	0.010	0.132	0.787
Relative Contribution	Soil		0%	0%	5%	15%	5%	7%	17%	45%	30%	25%	7%
(% of total dose)	Water		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		11%	11%	62%	24%	13%	35%	19%	8%	17%	25%	35%
	Lichens		89%	89%	33%	61%	81%	57%	64%	39%	52%	50%	57%
	Berries		0%	0%	0%	0%	0%	0%	0%	8%	0%	0%	0%
	Insects		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total Food		100%	100%	95%	85%	95%	92%	83%	55%	70%	75%	93%
TRVs	NOAEL _{TRV}		0.3	0.0	0.0	10.5	0.1	68.7	0.0	3.3	0.4	0.1	41.8
(mg/kg wet/day)	LOAEL _{TRV}		na	0.0	0.4	20.9	0.1	na	0.0	4.9	0.9	0.5	83.6
Hazard Quotients	HQ (NOAEL)		0.0	0.3	0.5	0.0	0.1	0.0	0.5	0.0	0.0	2.6	0.0
(unitless)	HQ (LOAEL)		na	0.2	0.1	0.0	0.0	na	0.0	0.0	0.0	0.3	0.0

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time													
(unitless)			33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose (mg/kg wet/day)	Soil		0.000	0.010	0.046	0.000	0.000	0.126	0.013	0.016	0.010	0.378	0.000
	Water		0.00000	0.00001	0.00015	0.00000	0.00000	0.00001	0.00000	0.00003	0.00001	0.00010	0.00000
	Sedges	30%	0.0001	0.0068	0.3856	0.0005	0.0008	0.1573	0.0123	0.0342	0.0105	2.5409	0.0005
	Lichens	65%	0.000	0.026	0.793	0.002	0.004	0.611	0.044	0.087	0.079	4.127	0.004
	Berries	5%	0.00000	0.00003	0.00397	0.00000	0.00003	0.00057	0.00006	0.00211	0.00005	0.04109	0.00000
	Insects	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Total Food	100%	0.0005	0.0328	1.1828	0.0023	0.0047	0.7688	0.0562	0.1234	0.0897	6.7089	0.0040
	Total Dose		0.001	0.043	1.229	0.003	0.005	0.895	0.069	0.140	0.100	7.087	0.004
Relative Contribution (% of total dose)	Soil		17%	23%	4%	17%	2%	14%	19%	12%	10%	5%	0%
	Water		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		12%	16%	31%	18%	16%	18%	18%	25%	11%	36%	11%
	Lichens		70%	61%	65%	64%	82%	68%	63%	62%	79%	58%	88%
	Berries		0%	0%	0%	0%	1%	0%	0%	2%	0%	1%	0%
	Insects		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total Food		83%	77%	96%	82%	98%	86%	81%	88%	90%	95%	100%
TRVs													
(mg/kg wet/day)													
	NOAEL _{TRV}		13.9	0.0	1.4	0.2	0.3	0.9	0.0	4.0	2.1	23.0	na
	LOAEL _{TRV}		27.7	0.2	5.2	na	2.5	3.4	0.9	5.1	20.9	74.2	na
Hazard Quotients (unitless)	HQ (NOAEL)		0.0	2.4	0.9	0.0	0.0	1.0	1.6	0.0	0.0	0.3	na
	HQ (LOAEL)		0.0	0.2	0.2	na	0.0	0.3	0.1	0.0	0.0	0.1	na

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment													
Parameter		Dietary Preference	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
% Time													
(unitless)			33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose	Soil		0.000	0.000	0.001	0.065	0.000	0.035	0.000	0.001	0.003	0.034	0.052
	Water		0.00000	0.00000	0.00001	0.00003	0.00000	0.00066	0.00000	0.00000	0.00000	0.00003	0.00010
	Sedges	30%	0.0003	0.0001	0.0092	0.1055	0.0004	0.1712	0.0002	0.0002	0.0019	0.0366	0.3090
	Lichens	65%	0.002	0.001	0.006	0.295	0.002	0.520	0.001	0.001	0.008	0.111	0.640
	Berries	5%	0.00000	0.00000	0.00007	0.00083	0.00001	0.00169	0.00000	0.00033	0.00001	0.00021	0.00416
	Insects	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Total Food	100%	0.0022	0.0011	0.0157	0.4011	0.0028	0.6924	0.0009	0.0019	0.0098	0.1479	0.9536
	Total Dose		0.002	0.001	0.017	0.466	0.003	0.728	0.001	0.003	0.013	0.182	1.006
Relative Contribution	Soil		0%	0%	6%	14%	5%	5%	14%	42%	23%	19%	5%
	Water		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		12%	12%	55%	23%	13%	24%	18%	7%	15%	20%	31%
	Lichens		87%	88%	38%	63%	81%	71%	68%	41%	62%	61%	64%
	Berries		0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%
	Insects		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total Food		100%	100%	94%	86%	95%	95%	86%	58%	77%	81%	95%
TRVs	NOAEL _{TRV}		0.3	0.0	0.0	10.5	0.1	68.7	0.0	3.3	0.4	0.1	41.8
	LOAEL _{TRV}		na	0.0	0.4	20.9	0.1	na	0.0	4.9	0.9	0.5	83.6
Hazard Quotients	HQ (NOAEL)		0.0	0.2	0.5	0.0	0.1	0.0	0.5	0.0	0.0	3.6	0.0
	HQ (LOAEL)		na	0.1	0.0	0.0	0.0	na	0.1	0.0	0.0	0.4	0.0
(unitless)													

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary										
Parameter	Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time (unitless)		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dose (mg/kg wet/day)	Soil	0.000	0.013	0.045	0.001	0.000	0.162	0.016	0.017	0.012	0.411	0.000
	Water	0.00000	0.00001	0.00012	0.00000	0.00000	0.00001	0.00000	0.00003	0.00001	0.00009	0.00000
	Sedges	30%	0.0001	0.0080	0.3932	0.0006	0.0009	0.1756	0.0136	0.0283	0.0143	0.0006
	Lichens	65%	0.000	0.014	0.562	0.001	0.004	0.452	0.023	0.067	0.087	0.004
	Berries	5%	0.00000	0.00003	0.00393	0.00000	0.00001	0.00031	0.00005	0.00213	0.00005	0.00000
	Insects	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Total Food	100%	0.0005	0.0223	0.9588	0.0019	0.0045	0.6274	0.0369	0.0975	0.1016	0.0050
	Total Dose		0.001	0.036	1.004	0.002	0.005	0.789	0.053	0.115	0.113	0.005
Relative Contribution (% of total dose)	Soil	20%	37%	4%	21%	2%	21%	30%	15%	10%	8%	0%
	Water	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges	14%	23%	39%	25%	20%	22%	26%	25%	13%	42%	12%
	Lichens	65%	40%	56%	54%	77%	57%	44%	58%	77%	50%	87%
	Berries	0%	0%	0%	0%	0%	0%	0%	2%	0%	1%	0%
	Insects	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total Food	79%	63%	95%	79%	98%	79%	70%	85%	90%	92%	100%
TRVs (mg/kg wet/day)	NOAEL _{TRV}	13.9	0.0	1.4	0.2	0.3	0.9	0.0	4.0	2.1	23.0	na
	LOAEL _{TRV}	27.7	0.2	5.2	na	2.5	3.4	0.9	5.1	20.9	74.2	na
Hazard Quotients (unitless)	HQ (NOAEL)	0.0	2.0	0.7	0.0	0.0	0.9	1.2	0.0	0.1	0.2	na
	HQ (LOAEL)	0.0	0.2	0.2	na	0.0	0.2	0.1	0.0	0.0	0.1	na

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary										
Parameter	Preference	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
% Time												
(unitless)		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dose												
(mg/kg wet/day)												
	Soil	0.000	0.000	0.001	0.085	0.000	0.037	0.000	0.001	0.003	0.037	0.061
	Water	0.00000	0.00000	0.00000	0.00003	0.00000	0.00055	0.00000	0.00000	0.00000	0.00003	0.00010
	Sedges	30%	0.0004	0.0002	0.0092	0.1277	0.0005	0.1665	0.0002	0.0003	0.0022	0.2595
	Lichens	65%	0.003	0.001	0.005	0.278	0.002	0.227	0.001	0.005	0.054	0.425
	Berries	5%	0.00000	0.00000	0.00004	0.00077	0.00001	0.00141	0.00000	0.00001	0.00018	0.00311
	Insects	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Total Food	100%	0.0033	0.0017	0.0145	0.4067	0.0030	0.3951	0.0009	0.0020	0.0072	0.6875
	Total Dose		0.003	0.002	0.016	0.492	0.003	0.432	0.001	0.003	0.010	0.749
Relative Contribution												
(% of total dose)												
	Soil	0%	0%	6%	17%	4%	9%	16%	41%	28%	28%	8%
	Water	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges	12%	12%	59%	26%	15%	38%	23%	8%	22%	32%	35%
	Lichens	87%	88%	34%	57%	80%	53%	61%	42%	50%	40%	57%
	Berries	0%	0%	0%	0%	0%	0%	0%	9%	0%	0%	0%
	Insects	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total Food	100%	100%	94%	83%	96%	91%	84%	59%	72%	72%	92%
TRVs												
(mg/kg wet/day)												
	NOAEL_{TRV}	0.3	0.0	0.0	10.5	0.1	68.7	0.0	3.3	0.4	0.1	41.8
	LOAEL_{TRV}	na	0.0	0.4	20.9	0.1	na	0.0	4.9	0.9	0.5	83.6
Hazard Quotients												
(unitless)												
	HQ (NOAEL)	0.0	0.3	0.4	0.0	0.1	0.0	0.5	0.0	0.0	2.6	0.0
	HQ (LOAEL)	na	0.2	0.0	0.0	0.0	na	0.1	0.0	0.0	0.3	0.0

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary										
Parameter	Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time												
(unitless)		33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose												
(mg/kg wet/day)	Soil	0.002	0.208	0.605	0.007	0.001	1.648	0.185	0.221	0.167	5.272	0.000
	Water	0.0000	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0003	0.0000
	Sedges	25%	0.001	0.095	4.111	0.006	0.008	1.916	0.130	0.326	0.130	0.006
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	5%	0.0000	0.0008	0.0523	0.0000	0.0002	0.0067	0.0008	0.0287	0.0008	0.3948
	Insects	70%	0.017	0.139	5.579	0.067	0.051	15.207	1.709	2.407	0.153	48.641
	Total Food	100%	0.0176	0.2349	9.7425	0.0727	0.0597	17.1295	1.8403	2.7612	0.2839	76.2653
	Total Dose		0.019	0.443	10.348	0.080	0.061	18.778	2.026	2.982	0.451	81.537
Relative Contribution												
(% of total dose)	Soil	9%	47%	6%	9%	2%	9%	9%	7%	37%	6%	2%
	Water	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges	5%	22%	40%	7%	14%	10%	6%	11%	29%	33%	76%
	Lichens	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%
	Insects	86%	31%	54%	84%	83%	81%	84%	81%	34%	60%	22%
	Total Food	91%	53%	94%	91%	98%	91%	91%	93%	63%	94%	98%
TRVs												
(mg/kg wet/day)	NOAEL_{TRV}	9.8	2.5	21.0	0.1	1.5	1.0	2.4	47.0	1.1	977.0	na
	LOAEL_{TRV}	11.3	7.4	42.0	na	20.0	5.0	4.7	61.7	11.3	na	na
Hazard Quotients												
(unitless)	HQ (NOAEL)	0.0	0.2	0.5	1.2	0.0	18.8	0.9	0.1	0.4	0.1	na
	HQ (LOAEL)	0.0	0.1	0.2	na	0.0	3.8	0.4	0.0	0.0	na	na

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
% Time													
(unitless)			33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose	Soil		0.000	0.000	0.014	0.872	0.002	0.396	0.002	0.017	0.040	0.439	0.752
	Water		0.0000	0.0000	0.0000	0.0001	0.0000	0.0021	0.0000	0.0000	0.0000	0.0001	0.0003
	Sedges	25%	0.004	0.002	0.137	1.231	0.004	1.681	0.002	0.003	0.020	0.388	2.845
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	5%	0.0000	0.0000	0.0006	0.0106	0.0002	0.0185	0.0000	0.0035	0.0001	0.0025	0.0461
	Insects	70%	0.002	0.000	0.125	8.045	0.016	3.653	0.020	0.161	0.372	4.050	29.353
	Total Food	100%	0.0054	0.0019	0.2630	9.2860	0.0205	5.3532	0.0220	0.1668	0.3915	4.4401	32.2445
	Total Dose		0.006	0.002	0.277	10.158	0.022	5.751	0.024	0.184	0.432	4.879	32.997
Relative Contribution	Soil		3%	0%	5%	9%	8%	7%	9%	9%	9%	9%	2%
	Water		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		68%	98%	50%	12%	19%	29%	9%	2%	5%	8%	9%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		0%	1%	0%	0%	1%	0%	0%	2%	0%	0%	0%
	Insects		29%	1%	45%	79%	72%	64%	82%	87%	86%	83%	89%
	Total Food		97%	100%	95%	91%	92%	93%	91%	91%	91%	91%	98%
TRVs	NOAEL _{TRV}		0.5	0.0	3.5	77.4	0.4	26.3	0.2	6.8	16.0	11.4	14.5
	LOAEL _{TRV}		0.9	0.1	35.3	107.0	0.8	na	0.8	16.9	na	na	130.9
Hazard Quotients	HQ (NOAEL)		0.0	0.3	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.4	2.3
	HQ (LOAEL)		0.0	0.0	0.0	0.1	0.0	na	0.0	0.0	na	na	0.3
(unitless)													

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary										
Parameter	Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time												
(unitless)		33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose												
(mg/kg wet/day)	Soil	0.001	0.150	0.559	0.007	0.001	1.640	0.168	0.187	0.142	5.218	0.000
	Water	0.0000	0.0000	0.0004	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0003	0.0000
	Sedges	25%	0.001	0.131	4.327	0.006	0.009	2.047	0.139	0.345	33.552	0.006
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	5%	0.0000	0.0004	0.0540	0.0000	0.0002	0.0042	0.0006	0.0277	0.0005	0.4501
	Insects	70%	0.013	0.102	5.157	0.064	0.048	15.128	1.546	2.260	48.143	0.002
	Total Food	100%	0.0143	0.2336	9.5382	0.0701	0.0570	17.1794	1.6852	2.6321	82.1450	0.0075
	Total Dose		0.016	0.383	10.097	0.077	0.058	18.819	1.853	2.819	87.363	0.008
Relative Contribution												
(% of total dose)	Soil	9%	39%	6%	9%	2%	9%	9%	7%	34%	6%	2%
	Water	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges	7%	34%	43%	8%	15%	11%	8%	12%	34%	38%	74%
	Lichens	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%	0%
	Insects	84%	27%	51%	83%	82%	80%	83%	80%	33%	55%	23%
	Total Food	91%	61%	94%	91%	98%	91%	91%	93%	66%	94%	98%
TRVs												
(mg/kg wet/day)	NOAEL_{TRV}	9.8	2.5	21.0	0.1	1.5	1.0	2.4	47.0	1.1	977.0	na
	LOAEL_{TRV}	11.3	7.4	42.0	na	20.0	5.0	4.7	61.7	11.3	na	na
Hazard Quotients												
(unitless)	HQ (NOAEL)	0.0	0.2	0.5	1.2	0.0	18.8	0.8	0.1	0.4	0.1	na
	HQ (LOAEL)	0.0	0.1	0.2	na	0.0	3.8	0.4	0.0	0.0	na	na

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
% Time													
(unitless)			33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose	Soil		0.000	0.000	0.012	0.836	0.002	0.385	0.002	0.017	0.039	0.410	0.701
	Water		0.0000	0.0000	0.0000	0.0001	0.0000	0.0018	0.0000	0.0000	0.0000	0.0001	0.0003
	Sedges	25%	0.004	0.002	0.143	1.310	0.004	1.685	0.002	0.003	0.021	0.393	3.778
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	5%	0.0000	0.0000	0.0006	0.0097	0.0002	0.0182	0.0000	0.0036	0.0001	0.0019	0.0434
	Insects	70%	0.002	0.000	0.114	7.718	0.016	3.556	0.019	0.161	0.359	3.779	28.830
	Total Food	100%	0.0055	0.0020	0.2579	9.0378	0.0207	5.2601	0.0210	0.1670	0.3804	4.1731	32.6519
	Total Dose		0.006	0.002	0.270	9.874	0.022	5.647	0.023	0.184	0.419	4.583	33.354
Relative Contribution	Soil		3%	0%	5%	8%	8%	7%	9%	9%	9%	9%	2%
	Water		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		66%	98%	53%	13%	20%	30%	9%	1%	5%	9%	11%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		0%	1%	0%	0%	1%	0%	0%	2%	0%	0%	0%
	Insects		30%	1%	42%	78%	72%	63%	82%	87%	86%	82%	86%
	Total Food		97%	100%	95%	92%	92%	93%	91%	91%	91%	91%	98%
TRVs	NOAEL _{TRV}		0.5	0.0	3.5	77.4	0.4	26.3	0.2	6.8	16.0	11.4	14.5
	LOAEL _{TRV}		0.9	0.1	35.3	107.0	0.8	na	0.8	16.9	na	na	130.9
Hazard Quotients	HQ (NOAEL)		0.0	0.3	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.4	2.3
	HQ (LOAEL)		0.0	0.0	0.0	0.1	0.0	na	0.0	0.0	na	na	0.3

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time													
(unitless)			33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose	Soil		0.001	0.129	0.594	0.006	0.001	1.632	0.171	0.209	0.132	4.891	0.000
	Water		0.0000	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0003	0.0000
	Sedges	25%	0.001	0.078	4.468	0.006	0.009	1.822	0.142	0.397	0.122	29.442	0.005
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	5%	0.0000	0.0004	0.0553	0.0000	0.0004	0.0079	0.0009	0.0293	0.0007	0.5713	0.0000
	Insects	70%	0.013	0.089	5.477	0.057	0.042	15.060	1.578	2.364	0.130	45.127	0.001
	Total Food	100%	0.0142	0.1677	10.0007	0.0626	0.0508	16.8900	1.7208	2.7905	0.2520	75.1398	0.0068
	Total Dose		0.016	0.297	10.595	0.069	0.052	18.522	1.892	3.000	0.384	80.031	0.007
Relative Contribution	Soil		9%	44%	6%	9%	2%	9%	9%	7%	34%	6%	2%
	Water		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		6%	26%	42%	8%	17%	10%	8%	13%	32%	37%	78%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		0%	0%	1%	0%	1%	0%	0%	1%	0%	1%	1%
	Insects		85%	30%	52%	83%	80%	81%	83%	79%	34%	56%	19%
	Total Food		91%	56%	94%	91%	98%	91%	91%	93%	66%	94%	98%
TRVs	NOAEL _{TRV}		9.8	2.5	21.0	0.1	1.5	1.0	2.4	47.0	1.1	977.0	na
	LOAEL _{TRV}		11.3	7.4	42.0	na	20.0	5.0	4.7	61.7	11.3	na	na
Hazard Quotients	HQ (NOAEL)		0.0	0.1	0.5	1.0	0.0	18.5	0.8	0.1	0.3	0.1	na
	HQ (LOAEL)		0.0	0.0	0.3	na	0.0	3.7	0.4	0.0	0.0	na	na

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
% Time													
(unitless)			33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose	Soil		0.000	0.000	0.013	0.841	0.002	0.447	0.002	0.017	0.037	0.434	0.676
	Water		0.0000	0.0000	0.0000	0.0001	0.0000	0.0021	0.0000	0.0000	0.0000	0.0001	0.0003
	Sedges	25%	0.003	0.002	0.107	1.223	0.005	1.984	0.002	0.003	0.022	0.424	3.581
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	5%	0.0000	0.0000	0.0010	0.0115	0.0002	0.0235	0.0000	0.0046	0.0001	0.0029	0.0579
	Insects	70%	0.001	0.000	0.116	7.762	0.016	4.127	0.018	0.161	0.342	4.008	28.520
	Total Food	100%	0.0044	0.0017	0.2244	8.9964	0.0208	6.1350	0.0204	0.1679	0.3641	4.4347	32.1585
	Total Dose		0.005	0.002	0.237	9.838	0.023	6.584	0.022	0.185	0.401	4.869	32.835
Relative Contribution	Soil		3%	0%	5%	9%	8%	7%	9%	9%	9%	9%	2%
	Water		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		71%	99%	45%	12%	20%	30%	10%	1%	5%	9%	11%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		0%	1%	0%	0%	1%	0%	0%	2%	0%	0%	0%
	Insects		26%	1%	49%	79%	71%	63%	81%	87%	85%	82%	87%
	Total Food		97%	100%	95%	91%	92%	93%	91%	91%	91%	91%	98%
TRVs	NOAEL _{TRV}		0.5	0.0	3.5	77.4	0.4	26.3	0.2	6.8	16.0	11.4	14.5
	LOAEL _{TRV}		0.9	0.1	35.3	107.0	0.8	na	0.8	16.9	na	na	130.9
Hazard Quotients	HQ (NOAEL)		0.0	0.3	0.1	0.1	0.1	0.3	0.1	0.0	0.0	0.4	2.3
	HQ (LOAEL)		0.0	0.0	0.0	0.1	0.0	na	0.0	0.0	na	na	0.3

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time													
(unitless)			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dose	Soil		0.002	0.172	0.583	0.007	0.001	2.094	0.202	0.225	0.152	5.317	0.00019
	Water		0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0003	0.00000
	Sedges	25%	0.001	0.093	4.557	0.007	0.011	2.034	0.157	0.328	0.166	26.340	0.007
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	5%	0.0000	0.0004	0.0547	0.0000	0.0002	0.0044	0.0007	0.0296	0.0007	0.3825	0.0000
	Insects	70%	0.016	0.117	5.375	0.062	0.050	19.319	1.866	2.423	0.144	49.054	0.002
	Total Food	100%	0.0169	0.2101	9.9860	0.0690	0.0609	21.3577	2.0240	2.7807	0.3104	75.7768	0.0090
	Total Dose		0.019	0.382	10.569	0.076	0.062	23.452	2.226	3.006	0.463	81.094	0.009
Relative Contribution	Soil		9%	45%	6%	9%	2%	9%	9%	7%	33%	7%	2%
	Water		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		6%	24%	43%	9%	17%	9%	7%	11%	36%	32%	78%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%
	Insects		85%	31%	51%	82%	80%	82%	84%	81%	31%	60%	19%
	Total Food		91%	55%	94%	91%	98%	91%	91%	92%	67%	93%	98%
TRVs	NOAEL _{TRV}		9.8	2.5	21.0	0.1	1.5	1.0	2.4	47.0	1.1	977.0	na
	LOAEL _{TRV}		11.3	7.4	42.0	na	20.0	5.0	4.7	61.7	11.3	na	na
Hazard Quotients	HQ (NOAEL)		0.0	0.2	0.5	1.1	0.0	23.5	0.9	0.1	0.4	0.1	na
	HQ (LOAEL)		0.0	0.1	0.3	na	0.0	4.7	0.5	0.0	0.0	na	na

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
% Time													
(unitless)			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dose	Soil		0.00019	0.000002	0.013	1.097	0.002	0.476	0.002	0.017	0.035	0.483	0.789
	Water		0.00000	0.0000	0.0000	0.0001	0.0000	0.0017	0.000	0.000	0.000	0.000	0.000
	Sedges	25%	0.005	0.002	0.106	1.480	0.005	1.929	0.003	0.003	0.025	0.492	3.006
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	5%	0.0000	0.0000	0.0006	0.0107	0.0002	0.0196	0.0000	0.0044	0.0001	0.0026	0.0433
	Insects	70%	0.002	0.000	0.119	10.122	0.016	4.393	0.019	0.161	0.326	4.453	29.672
	Total Food	100%	0.0065	0.0025	0.2258	11.6130	0.0216	6.3417	0.0216	0.1681	0.3516	4.9481	32.7213
	Total Dose		0.007	0.002	0.239	12.710	0.023	6.820	0.024	0.186	0.387	5.431	33.510
Relative Contribution	Soil		3%	0%	5%	9%	7%	7%	9%	9%	9%	9%	2%
	Water		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		71%	99%	44%	12%	23%	28%	12%	2%	7%	9%	9%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		0%	1%	0%	0%	1%	0%	0%	2%	0%	0%	0%
	Insects		26%	1%	50%	80%	69%	64%	80%	87%	84%	82%	89%
	Total Food		97%	100%	95%	91%	92%	93%	91%	91%	91%	91%	98%
TRVs	NOAEL _{TRV}		0.5	0.0	3.5	77.4	0.4	26.3	0.2	6.8	16.0	11.4	14.5
	LOAEL _{TRV}		0.9	0.1	35.3	107.0	0.8	na	0.8	16.9	na	na	130.9
Hazard Quotients	HQ (NOAEL)		0.0	0.4	0.1	0.2	0.1	0.3	0.1	0.0	0.0	0.5	2.3
	HQ (LOAEL)		0.0	0.0	0.0	0.1	0.0	na	0.0	0.0	na	na	0.3
(unitless)													

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time													
(unitless)			33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose	Soil		0.000	0.011	0.031	0.000	0.000	0.085	0.010	0.011	0.009	0.273	0.000
	Water		0.00000	0.00001	0.00010	0.00000	0.00000	0.00001	0.00000	0.00002	0.00000	0.00007	0.00000
	Sedges	50%	0.0001	0.0093	0.4014	0.0006	0.0008	0.1871	0.0127	0.0318	0.0127	2.6584	0.0006
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	45%	0.0000	0.0003	0.0230	0.0000	0.0001	0.0030	0.0004	0.0126	0.0004	0.1735	0.0000
	Insects	5%	0.000	0.000	0.019	0.000	0.000	0.053	0.006	0.008	0.001	0.170	0.000
	Total Food	100%	0.0002	0.0101	0.4438	0.0008	0.0011	0.2430	0.0191	0.0528	0.0136	3.0015	0.0006
	Total Dose		0.000	0.021	0.475	0.001	0.001	0.328	0.029	0.064	0.022	3.274	0.0006
	Relative Contribution												
	(% of total dose)												
	Soil		36%	51%	7%	32%	6%	26%	33%	18%	39%	8%	2%
	Water		1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		34%	45%	84%	47%	70%	57%	44%	50%	57%	81%	95%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		6%	2%	5%	2%	8%	1%	1%	20%	2%	5%	3%
	Insects		23%	2%	4%	20%	15%	16%	21%	13%	2%	5%	1%
	Total Food		63%	49%	93%	68%	94%	74%	67%	82%	61%	92%	98%
TRVs	NOAEL _{TRV}		9.8	2.5	21.0	0.1	1.5	1.0	2.4	47.0	1.1	977.0	na
	LOAEL _{TRV}		11.3	7.4	42.0	na	20.0	5.0	4.7	61.7	11.3	na	na
Hazard Quotients	HQ (NOAEL)		0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	na
	HQ (LOAEL)		0.0	0.0	0.0	na	0.0	0.1	0.0	0.0	0.0	na	na
(unitless)													

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
% Time													
(unitless)			33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose	Soil		0.000	0.000	0.001	0.045	0.000	0.020	0.000	0.001	0.002	0.023	0.039
	Water		0.00000	0.00000	0.00000	0.00002	0.00000	0.00046	0.00000	0.00000	0.00000	0.00002	0.00007
	Sedges	50%	0.0004	0.0002	0.0134	0.1201	0.0004	0.1641	0.0002	0.0003	0.0019	0.0379	0.2778
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	45%	0.0000	0.0000	0.0003	0.0047	0.0001	0.0081	0.0000	0.0015	0.0000	0.0011	0.0203
	Insects	5%	0.000	0.000	0.000	0.028	0.000	0.013	0.000	0.001	0.001	0.014	0.102
	Total Food	100%	0.0004	0.0002	0.0141	0.1529	0.0005	0.1850	0.0003	0.0024	0.0033	0.0531	0.4004
	Total Dose		0.0004	0.0002	0.015	0.198	0.001	0.206	0.000	0.003	0.005	0.076	0.439
Relative Contribution	Soil		2%	0%	5%	23%	14%	10%	28%	28%	39%	30%	9%
	Water		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		94%	97%	90%	61%	65%	80%	52%	8%	36%	50%	63%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		3%	3%	2%	2%	11%	4%	2%	47%	1%	1%	5%
	Insects		1%	0%	3%	14%	9%	6%	18%	17%	24%	19%	23%
	Total Food		98%	100%	95%	77%	85%	90%	72%	72%	61%	70%	91%
TRVs	NOAEL _{TRV}		0.5	0.0	3.5	77.4	0.4	26.3	0.2	6.8	16.0	11.4	14.5
	LOAEL _{TRV}		0.9	0.1	35.3	107.0	0.8	na	0.8	16.9	na	na	130.9
Hazard Quotients	HQ (NOAEL)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HQ (LOAEL)		0.0	0.0	0.0	0.0	0.0	na	0.0	0.0	na	na	0.0

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time													
(unitless)			33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose (mg/kg wet/day)	Soil		0.000	0.008	0.029	0.000	0.000	0.085	0.009	0.010	0.007	0.270	0.000
	Water		0.00000	0.00001	0.00009	0.00000	0.00000	0.00000	0.00000	0.00002	0.00000	0.00006	0.00000
	Sedges	50%	0.0001	0.0128	0.4225	0.0006	0.0009	0.1999	0.0136	0.0336	0.0137	3.2757	0.0006
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	45%	0.0000	0.0002	0.0237	0.0000	0.0001	0.0018	0.0003	0.0122	0.0002	0.1977	0.0000
	Insects	5%	0.000	0.000	0.018	0.000	0.000	0.053	0.005	0.008	0.000	0.168	0.000
	Total Food	100%	0.0002	0.0133	0.4642	0.0008	0.0011	0.2545	0.0192	0.0537	0.0144	3.6413	0.0006
	Total Dose		0.000	0.021	0.493	0.001	0.001	0.339	0.028	0.063	0.022	3.911	0.0006
Relative Contribution (% of total dose)	Soil		31%	37%	6%	30%	6%	25%	31%	15%	34%	7%	2%
	Water		1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		42%	61%	86%	50%	73%	59%	49%	53%	63%	84%	95%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		6%	1%	5%	1%	7%	1%	1%	19%	1%	5%	3%
	Insects		19%	2%	4%	19%	14%	16%	19%	12%	2%	4%	1%
	Total Food		68%	63%	94%	70%	94%	75%	69%	85%	66%	93%	98%
TRVs (mg/kg wet/day)	NOAEL _{TRV}		9.8	2.5	21.0	0.1	1.5	1.0	2.4	47.0	1.1	977.0	na
	LOAEL _{TRV}		11.3	7.4	42.0	na	20.0	5.0	4.7	61.7	11.3	na	na
Hazard Quotients (unitless)	HQ (NOAEL)		0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	na
	HQ (LOAEL)		0.0	0.0	0.0	na	0.0	0.1	0.0	0.0	0.0	na	na

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary										
Parameter	Preference	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
% Time												
(unitless)		33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose												
(mg/kg wet/day)												
	Soil	0.000	0.000	0.001	0.043	0.000	0.020	0.000	0.001	0.002	0.021	0.036
	Water	0.00000	0.00000	0.00000	0.00002	0.00000	0.00039	0.00000	0.00000	0.00000	0.00002	0.00007
	Sedges	50%	0.0004	0.0002	0.0140	0.0004	0.1646	0.0002	0.0003	0.0020	0.0383	0.3689
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	45%	0.0000	0.0000	0.0002	0.0043	0.0001	0.0080	0.0000	0.0016	0.0008	0.0191
	Insects	5%	0.000	0.000	0.000	0.027	0.000	0.012	0.000	0.001	0.013	0.101
	Total Food	100%	0.0004	0.0002	0.0146	0.1591	0.0006	0.1849	0.0003	0.0024	0.0523	0.4884
	Total Dose		0.0004	0.0002	0.015	0.202	0.001	0.205	0.000	0.003	0.005	0.525
Relative Contribution												
(% of total dose)												
	Soil	2%	0%	4%	21%	14%	10%	27%	27%	38%	29%	7%
	Water	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges	94%	97%	92%	63%	66%	80%	54%	8%	38%	52%	70%
	Lichens	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries	2%	3%	2%	2%	11%	4%	2%	48%	1%	1%	4%
	Insects	2%	0%	3%	13%	9%	6%	17%	17%	23%	18%	19%
	Total Food	98%	100%	96%	79%	86%	90%	73%	73%	62%	71%	93%
TRVs												
(mg/kg wet/day)												
	NOAEL_{TRV}	0.5	0.0	3.5	77.4	0.4	26.3	0.2	6.8	16.0	11.4	14.5
	LOAEL_{TRV}	0.9	0.1	35.3	107.0	0.8	na	0.8	16.9	na	na	130.9
Hazard Quotients												
(unitless)												
	HQ (NOAEL)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HQ (LOAEL)	0.0	0.0	0.0	0.0	0.0	na	0.0	0.0	na	na	0.0

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time													
(unitless)			33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose	Soil		0.000	0.007	0.031	0.000	0.000	0.084	0.009	0.011	0.007	0.253	0.000
	Water		0.00000	0.00001	0.00010	0.00000	0.00000	0.00001	0.00000	0.00002	0.00000	0.00007	0.00000
	Sedges	50%	0.0001	0.0077	0.4362	0.0006	0.0009	0.1779	0.0139	0.0387	0.0119	2.8744	0.0005
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	45%	0.0000	0.0002	0.0243	0.0000	0.0002	0.0035	0.0004	0.0129	0.0003	0.2510	0.0000
	Insects	5%	0.000	0.000	0.019	0.000	0.000	0.053	0.006	0.008	0.000	0.157	0.000
	Total Food	100%	0.0002	0.0082	0.4796	0.0008	0.0012	0.2339	0.0198	0.0599	0.0126	3.2827	0.0005
	Total Dose		0.000	0.015	0.510	0.001	0.001	0.318	0.029	0.071	0.019	3.536	0.0006
Relative Contribution	Soil		33%	45%	6%	29%	5%	27%	31%	15%	35%	7%	1%
	Water		1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		40%	52%	85%	51%	70%	56%	48%	55%	61%	81%	95%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		6%	1%	5%	1%	13%	1%	1%	18%	1%	7%	3%
	Insects		20%	2%	4%	18%	12%	16%	19%	12%	2%	4%	1%
	Total Food		66%	55%	94%	71%	95%	73%	69%	85%	65%	93%	99%
TRVs	NOAEL _{TRV}		9.8	2.5	21.0	0.1	1.5	1.0	2.4	47.0	1.1	977.0	na
	LOAEL _{TRV}		11.3	7.4	42.0	na	20.0	5.0	4.7	61.7	11.3	na	na
Hazard Quotients	HQ (NOAEL)		0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	na
	HQ (LOAEL)		0.0	0.0	0.0	na	0.0	0.1	0.0	0.0	0.0	na	na

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary										
Parameter	Preference	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
% Time (unitless)		33%	33%	33%	33%	33%	33%	33%	33%	33%	33%	33%
Dose (mg/kg wet/day)	Soil	0.000	0.000	0.001	0.044	0.000	0.023	0.000	0.001	0.002	0.022	0.035
	Water	0.00000	0.00000	0.00000	0.00002	0.00000	0.00046	0.00000	0.00000	0.00000	0.00002	0.00007
	Sedges	50%	0.0003	0.0002	0.0104	0.0004	0.1937	0.0002	0.0003	0.0022	0.0414	0.3496
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	45%	0.0000	0.0000	0.0004	0.0051	0.0001	0.0103	0.0000	0.0001	0.0013	0.0254
	Insects	5%	0.000	0.000	0.000	0.027	0.000	0.014	0.000	0.001	0.014	0.099
	Total Food	100%	0.0003	0.0002	0.0113	0.1515	0.0006	0.2184	0.0003	0.0029	0.0034	0.4744
	Total Dose		0.0003	0.0002	0.012	0.195	0.001	0.242	0.000	0.004	0.005	0.509
Relative Contribution (% of total dose)	Soil	2%	0%	5%	22%	14%	10%	26%	24%	36%	28%	7%
	Water	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges	95%	98%	87%	61%	67%	80%	56%	7%	40%	52%	69%
	Lichens	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries	2%	2%	4%	3%	11%	4%	2%	54%	1%	2%	5%
	Insects	1%	0%	3%	14%	8%	6%	16%	15%	22%	18%	20%
	Total Food	98%	100%	95%	78%	86%	90%	74%	76%	64%	72%	93%
TRVs (mg/kg wet/day)	NOEL_{TRV}	0.5	0.0	3.5	77.4	0.4	26.3	0.2	6.8	16.0	11.4	14.5
	LOEL_{TRV}	0.9	0.1	35.3	107.0	0.8	na	0.8	16.9	na	na	130.9
Hazard Quotients (unitless)	HQ (NOEL)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HQ (LOEL)	0.0	0.0	0.0	0.0	0.0	na	0.0	0.0	na	na	0.0

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Total Hg
% Time													
(unitless)			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dose	Soil		0.000	0.009	0.030	0.000	0.000	0.108	0.010	0.012	0.008	0.275	0.000
	Water		0.00000	0.00001	0.00009	0.00000	0.00000	0.00001	0.00000	0.00002	0.00000	0.00006	0.00000
	Sedges	50%	0.0001	0.0091	0.4449	0.0007	0.0010	0.1986	0.0153	0.0320	0.0162	2.5716	0.0007
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	45%	0.0000	0.0002	0.0240	0.0000	0.0001	0.0019	0.0003	0.0130	0.0003	0.1681	0.0000
	Insects	5%	0.000	0.000	0.019	0.000	0.000	0.067	0.007	0.008	0.001	0.171	0.000
	Total Food	100%	0.0002	0.0097	0.4876	0.0009	0.0013	0.2679	0.0222	0.0535	0.0170	2.9107	0.0007
	Total Dose		0.000	0.019	0.518	0.001	0.001	0.376	0.033	0.065	0.025	3.186	0.0007
Relative Contribution	Soil		34%	48%	6%	27%	5%	29%	32%	18%	32%	9%	1%
	Water		1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		39%	49%	86%	55%	76%	53%	47%	49%	65%	81%	96%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		5%	1%	5%	1%	6%	1%	1%	20%	1%	5%	2%
	Insects		21%	2%	4%	17%	13%	18%	20%	13%	2%	5%	1%
	Total Food		65%	52%	94%	73%	95%	71%	68%	82%	68%	91%	99%
TRVs	NOAEL _{TRV}		9.8	2.5	21.0	0.1	1.5	1.0	2.4	47.0	1.1	977.0	na
	LOAEL _{TRV}		11.3	7.4	42.0	na	20.0	5.0	4.7	61.7	11.3	na	na
Hazard Quotients	HQ (NOAEL)		0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	na
	HQ (LOAEL)		0.0	0.0	0.0	na	0.0	0.1	0.0	0.0	0.0	na	na

Notes:

na - not available

Dietary exposure and HQ calculations for Northern red-backed vole
External Reference - 2014
(table based on Azimuth, 2006)

Risk Assessment		Dietary											
Parameter		Preference	Inorg-Hg	MeHg	Molybdenum	Nickel	Selenium	Strontium	Thallium	Tin	Uranium	Vanadium	Zinc
% Time													
(unitless)			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dose	Soil		0.000	0.000	0.001	0.057	0.000	0.025	0.000	0.001	0.002	0.025	0.041
	Water		0.00000	0.00000	0.00000	0.00002	0.00000	0.00038	0.00000	0.00000	0.00000	0.00002	0.00007
	Sedges	50%	0.0005	0.0002	0.0104	0.1445	0.0005	0.1883	0.0003	0.0003	0.0025	0.0481	0.2935
	Lichens	0%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Berries	45%	0.0000	0.0000	0.0002	0.0047	0.0001	0.0086	0.0000	0.0019	0.0000	0.0011	0.0190
	Insects	5%	0.000	0.000	0.000	0.035	0.000	0.015	0.000	0.001	0.001	0.016	0.103
	Total Food	100%	0.0005	0.0002	0.0110	0.1845	0.0006	0.2123	0.0003	0.0028	0.0036	0.0647	0.4160
	Total Dose		0.0005	0.0002	0.012	0.241	0.001	0.237	0.000	0.004	0.005	0.090	0.457
Relative Contribution	Soil		2%	0%	6%	24%	12%	10%	24%	24%	33%	28%	9%
	Water		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Sedges		95%	98%	89%	60%	70%	79%	60%	8%	45%	54%	64%
	Lichens		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Berries		2%	2%	2%	2%	10%	4%	2%	52%	1%	1%	4%
	Insects		1%	0%	4%	15%	8%	6%	15%	15%	21%	17%	23%
	Total Food		98%	100%	94%	76%	88%	89%	76%	76%	67%	72%	91%
TRVs	NOAEL _{TRV}		0.5	0.0	3.5	77.4	0.4	26.3	0.2	6.8	16.0	11.4	14.5
	LOAEL _{TRV}		0.9	0.1	35.3	107.0	0.8	na	0.8	16.9	na	na	130.9
Hazard Quotients	HQ (NOAEL)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HQ (LOAEL)		0.0	0.0	0.0	0.0	0.0	na	0.0	0.0	na	na	0.0

Notes:

na - not available

Appendix C - References

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Appendix D

Laboratory Certificates of Analysis – Soil and Plant Tissue Samples¹

¹ For water samples see Core Receiving Environment Monitoring Program Report, 2014



AGNICO-EAGLE MINES LTD.
ATTN: Ryan Vanengen
Western Canada Exploration
400 - 543 Granville Street
Vancouver BC V6C 1X8

Date Received: 29-AUG-14
Report Date: 23-OCT-14 16:24 (MT)
Version: FINAL

Client Phone: 775-828-6070

Certificate of Analysis

Lab Work Order #: L1510356
Project P.O. #: OP 391251
Job Reference: MEADOWBANK SLRA
C of C Numbers:
Legal Site Desc:

Ariel Tang
Account Manager

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ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-1 SOIL 14-AUG-14 16:00 T1-NEAR FIELD STATION 1 SAMPLE 1 - SOIL	L1510356-5 SOIL 14-AUG-14 17:20 T1-NEAR FIELD STATION 2 SAMPLE 1 - SOIL	L1510356-9 SOIL 14-AUG-14 15:20 T1-NEAR FIELD STATION 3 SAMPLE 1 - SOIL	L1510356-13 SOIL 14-AUG-14 16:55 T1-NEAR FIELD STATION 4 SAMPLE 1 - SOIL	L1510356-17 SOIL 14-AUG-14 16:30 T1-NEAR FIELD STATION 5 SAMPLE 1 - SOIL
Grouping	Analyte					
SOIL						
Physical Tests	pH (1:2 soil:water) (pH)	5.73	6.65	5.56	6.15	6.42
Metals	Aluminum (Al) (mg/kg)	12600	7920	11700	9550	9150
	Antimony (Sb) (mg/kg)	0.11	<0.10	<0.10	<0.10	<0.10
	Arsenic (As) (mg/kg)	4.95	3.13	4.79	4.10	3.56
	Barium (Ba) (mg/kg)	43.9	30.9	35.8	36.5	28.5
	Beryllium (Be) (mg/kg)	0.61	0.47	0.57	0.45	0.43
	Bismuth (Bi) (mg/kg)	0.72	0.52	0.72	0.46	0.44
	Cadmium (Cd) (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Calcium (Ca) (mg/kg)	2050	2300	1410	1710	1830
	Chromium (Cr) (mg/kg)	41.4	24.9	37.9	31.1	30.7
	Cobalt (Co) (mg/kg)	8.21	5.27	6.85	7.10	5.95
	Copper (Cu) (mg/kg)	11.6	6.50	9.39	10.3	7.74
	Iron (Fe) (mg/kg)	33100	21000	32600	29100	26200
	Lead (Pb) (mg/kg)	7.83	5.72	7.79	6.14	6.79
	Lithium (Li) (mg/kg)	21.1	16.9	20.8	19.6	17.0
	Magnesium (Mg) (mg/kg)	6770	4720	6090	5640	5270
	Manganese (Mn) (mg/kg)	308	250	303	321	228
	Mercury (Hg) (mg/kg)	0.0101	<0.0050	0.0223	<0.0050	<0.0050
	Molybdenum (Mo) (mg/kg)	1.25	<0.50	0.90	0.70	0.70
	Nickel (Ni) (mg/kg)	22.3	13.4	18.9	17.8	16.9
	Phosphorus (P) (mg/kg)	360	385	299	349	444
	Potassium (K) (mg/kg)	1390	1190	1500	1360	1090
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)	120	<100	<100	<100	<100
	Strontium (Sr) (mg/kg)	15.3	13.6	11.5	10.0	10.7
	Thallium (Tl) (mg/kg)	0.136	0.107	0.132	0.124	0.109
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	687	615	621	493	468
	Uranium (U) (mg/kg)	2.98	2.20	2.41	2.54	2.60
	Vanadium (V) (mg/kg)	22.1	15.3	20.6	16.8	15.9
	Zinc (Zn) (mg/kg)	35.5	29.1	35.7	33.7	30.1

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-21 SOIL 19-AUG-14 11:42 T2-FAR FIELD STATION 1 SAMPLE 1 - SOIL	L1510356-25 SOIL 19-AUG-14 11:14 T2-FAR FIELD STATION 2 SAMPLE 1 - SOIL	L1510356-29 SOIL 19-AUG-14 12:07 T2-FAR FIELD STATION 3 SAMPLE 1 - SOIL	L1510356-33 SOIL 19-AUG-14 12:31 T2-FAR FIELD STATION 4 SAMPLE 1 - SOIL	L1510356-37 SOIL 19-AUG-14 12:58 T2-FAR FIELD STATION 5 SAMPLE 1 - SOIL
Grouping	Analyte					
SOIL						
Physical Tests	pH (1:2 soil:water) (pH)	7.21	5.12	6.49	5.36	5.07
Metals	Aluminum (Al) (mg/kg)	4430	5750	4280	7490	3730
	Antimony (Sb) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Arsenic (As) (mg/kg)	1.52	1.07	1.53	1.91	1.03
	Barium (Ba) (mg/kg)	19.1	18.3	20.2	32.4	11.8
	Beryllium (Be) (mg/kg)	0.30	0.31	0.31	0.76	0.32
	Bismuth (Bi) (mg/kg)	0.32	0.40	0.28	0.52	0.23
	Cadmium (Cd) (mg/kg)	<0.050	<0.050	<0.050	0.116	<0.050
	Calcium (Ca) (mg/kg)	2520	881	2140	842	1170
	Chromium (Cr) (mg/kg)	10.6	13.6	11.3	10.3	5.81
	Cobalt (Co) (mg/kg)	3.08	2.72	3.01	4.29	2.61
	Copper (Cu) (mg/kg)	3.21	2.97	3.06	3.78	2.22
	Iron (Fe) (mg/kg)	11100	12600	10900	12200	8830
	Lead (Pb) (mg/kg)	5.05	4.77	5.21	7.94	4.81
	Lithium (Li) (mg/kg)	11.5	13.4	11.5	18.3	11.2
	Magnesium (Mg) (mg/kg)	2360	2690	2380	3850	2120
	Manganese (Mn) (mg/kg)	202	153	174	607	168
	Mercury (Hg) (mg/kg)	<0.0050	0.0125	<0.0050	0.0247	<0.0050
	Molybdenum (Mo) (mg/kg)	0.51	0.58	<0.50	<0.50	<0.50
	Nickel (Ni) (mg/kg)	5.78	5.85	5.93	6.58	3.30
	Phosphorus (P) (mg/kg)	516	128	455	268	276
	Potassium (K) (mg/kg)	830	910	920	710	580
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)	<100	<100	<100	<100	<100
	Strontium (Sr) (mg/kg)	15.1	6.52	11.8	4.99	6.88
	Thallium (Tl) (mg/kg)	0.092	0.090	0.079	0.082	0.062
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	595	481	512	415	378
	Uranium (U) (mg/kg)	3.26	1.51	2.65	3.13	1.79
	Vanadium (V) (mg/kg)	10.5	12.9	10.2	10.7	7.35
	Zinc (Zn) (mg/kg)	17.3	22.1	17.8	43.3	17.9

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-41 SOIL 20-AUG-14 08:00 T3-NEAR FIELD STATION 1 SAMPLE 1 - SOIL	L1510356-45 SOIL 20-AUG-14 08:00 T3-NEAR FIELD STATION 2 SAMPLE 1 - SOIL	L1510356-49 SOIL 20-AUG-14 08:00 T3-NEAR FIELD STATION 3 SAMPLE 1 - SOIL	L1510356-53 SOIL 20-AUG-14 08:00 T3-NEAR FIELD STATION 4 SAMPLE 1 - SOIL	L1510356-57 SOIL 20-AUG-14 08:00 T3-NEAR FIELD STATION 5 SAMPLE 1 - SOIL
Grouping	Analyte					
SOIL						
Physical Tests	pH (1:2 soil:water) (pH)	6.51	7.01	6.15	6.93	6.59
Metals	Aluminum (Al) (mg/kg)	6610	10400	7930	10600	7720
	Antimony (Sb) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Arsenic (As) (mg/kg)	2.05	3.85	2.46	4.32	2.17
	Barium (Ba) (mg/kg)	22.3	49.0	30.3	53.9	28.9
	Beryllium (Be) (mg/kg)	0.50	0.62	0.49	0.58	0.56
	Bismuth (Bi) (mg/kg)	0.55	0.82	0.50	0.78	0.57
	Cadmium (Cd) (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Calcium (Ca) (mg/kg)	2340	2260	2210	2570	1690
	Chromium (Cr) (mg/kg)	16.4	36.7	25.5	37.7	18.7
	Cobalt (Co) (mg/kg)	4.67	6.87	6.01	7.11	4.44
	Copper (Cu) (mg/kg)	4.16	9.16	5.45	9.48	4.04
	Iron (Fe) (mg/kg)	14900	20500	16700	20500	15700
	Lead (Pb) (mg/kg)	5.11	7.72	6.05	8.51	5.31
	Lithium (Li) (mg/kg)	16.2	22.9	19.2	22.0	20.7
	Magnesium (Mg) (mg/kg)	4020	5730	4640	5560	4470
	Manganese (Mn) (mg/kg)	247	320	288	337	230
	Mercury (Hg) (mg/kg)	<0.0050	<0.0050	0.0050	<0.0050	<0.0050
	Molybdenum (Mo) (mg/kg)	0.75	0.94	0.77	1.00	0.65
	Nickel (Ni) (mg/kg)	9.26	18.1	13.7	21.2	9.99
	Phosphorus (P) (mg/kg)	578	366	510	474	338
	Potassium (K) (mg/kg)	1100	2010	1400	2320	1410
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)	<100	160	120	150	<100
	Strontium (Sr) (mg/kg)	13.8	15.6	14.7	17.6	11.2
	Thallium (Tl) (mg/kg)	0.098	0.167	0.127	0.167	0.128
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	568	787	637	821	598
	Uranium (U) (mg/kg)	2.21	3.97	2.56	4.99	1.93
	Vanadium (V) (mg/kg)	13.3	20.9	16.3	21.3	14.6
	Zinc (Zn) (mg/kg)	24.1	38.7	30.1	40.0	29.6

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-61 SOIL 16-AUG-14 13:30 T4-FAR FIELD STATION 1 SAMPLE 1 - SOIL	L1510356-65 SOIL 16-AUG-14 13:13 T4-FAR FIELD STATION 2 SAMPLE 1 - SOIL	L1510356-69 SOIL 16-AUG-14 12:54 T4-FAR FIELD STATION 3 SAMPLE 1 - SOIL	L1510356-73 SOIL 16-AUG-14 14:10 T4-FAR FIELD STATION 4 SAMPLE 1 - SOIL	L1510356-77 SOIL 16-AUG-14 13:45 T4-FAR FIELD STATION 5 SAMPLE 1 - SOIL
Grouping	Analyte					
SOIL						
Physical Tests	pH (1:2 soil:water) (pH)	6.57	6.72	5.61	6.45	5.15
Metals	Aluminum (Al) (mg/kg)	7980	5200	8160	5900	7440
	Antimony (Sb) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Arsenic (As) (mg/kg)	2.81	1.74	2.60	1.95	1.80
	Barium (Ba) (mg/kg)	41.2	25.1	36.7	25.8	25.3
	Beryllium (Be) (mg/kg)	0.46	0.31	0.46	0.35	0.49
	Bismuth (Bi) (mg/kg)	0.72	0.61	0.76	0.57	0.76
	Cadmium (Cd) (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Calcium (Ca) (mg/kg)	2170	2310	1740	2160	1350
	Chromium (Cr) (mg/kg)	24.5	13.2	26.2	16.9	18.5
	Cobalt (Co) (mg/kg)	5.84	3.97	5.58	4.12	4.87
	Copper (Cu) (mg/kg)	6.52	3.84	5.91	3.54	4.72
	Iron (Fe) (mg/kg)	17100	13600	17200	14300	15300
	Lead (Pb) (mg/kg)	6.40	4.78	6.93	4.74	5.78
	Lithium (Li) (mg/kg)	19.2	14.1	19.4	15.0	21.4
	Magnesium (Mg) (mg/kg)	4320	2900	4310	3320	4020
	Manganese (Mn) (mg/kg)	287	235	250	216	245
	Mercury (Hg) (mg/kg)	<0.0050	<0.0050	0.0108	<0.0050	0.0111
	Molybdenum (Mo) (mg/kg)	0.97	0.76	0.95	0.66	0.83
	Nickel (Ni) (mg/kg)	12.9	7.50	12.9	8.96	9.34
	Phosphorus (P) (mg/kg)	451	538	290	516	248
	Potassium (K) (mg/kg)	1620	1120	1370	1150	1230
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)	<100	110	110	<100	110
	Strontium (Sr) (mg/kg)	14.1	11.6	12.0	13.2	8.09
	Thallium (Tl) (mg/kg)	0.138	0.104	0.156	0.120	0.125
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	681	559	722	580	589
	Uranium (U) (mg/kg)	3.43	2.44	3.85	2.19	1.70
	Vanadium (V) (mg/kg)	16.6	12.7	16.7	13.3	13.9
	Zinc (Zn) (mg/kg)	32.8	22.3	30.4	24.1	31.6

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-81 SOIL 16-AUG-14 09:10 T5-FAR FIELD STATION 1 SAMPLE 1 - SOIL	L1510356-85 SOIL 16-AUG-14 10:35 T5-FAR FIELD STATION 2 SAMPLE 1 - SOIL	L1510356-89 SOIL 16-AUG-14 09:45 T5-FAR FIELD STATION 3 SAMPLE 1 - SOIL	L1510356-93 SOIL 16-AUG-14 11:00 T5-FAR FIELD STATION 4 SAMPLE 1 - SOIL	L1510356-97 SOIL 16-AUG-14 10:10 T5-FAR FIELD STATION 5 SAMPLE 1 - SOIL
Grouping	Analyte					
SOIL						
Physical Tests	pH (1:2 soil:water) (pH)	6.24	5.23	6.36	5.53	5.89
Metals	Aluminum (Al) (mg/kg)	6610	6620	5870	8280	9010
	Antimony (Sb) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Arsenic (As) (mg/kg)	2.77	2.87	2.71	3.66	23.0
	Barium (Ba) (mg/kg)	28.5	20.1	21.5	33.4	27.8
	Beryllium (Be) (mg/kg)	0.28	0.24	0.23	0.30	0.34
	Bismuth (Bi) (mg/kg)	0.47	0.35	0.32	0.43	0.44
	Cadmium (Cd) (mg/kg)	<0.050	<0.050	<0.050	0.061	0.189
	Calcium (Ca) (mg/kg)	1820	1220	1370	1450	1420
	Chromium (Cr) (mg/kg)	44.8	43.8	34.0	77.1	92.8
	Cobalt (Co) (mg/kg)	5.74	5.78	4.66	7.27	8.50
	Copper (Cu) (mg/kg)	6.62	5.47	4.96	7.94	11.6
	Iron (Fe) (mg/kg)	15500	14500	13800	16900	18800
	Lead (Pb) (mg/kg)	5.07	4.92	4.37	5.92	12.5
	Lithium (Li) (mg/kg)	14.3	14.4	12.4	16.5	17.2
	Magnesium (Mg) (mg/kg)	4460	4370	3730	6140	6330
	Manganese (Mn) (mg/kg)	202	194	175	255	221
	Mercury (Hg) (mg/kg)	<0.0050	0.0065	<0.0050	0.0158	0.0066
	Molybdenum (Mo) (mg/kg)	0.53	<0.50	<0.50	0.64	<0.50
	Nickel (Ni) (mg/kg)	20.6	19.5	15.9	30.3	35.2
	Phosphorus (P) (mg/kg)	378	293	303	297	230
	Potassium (K) (mg/kg)	1210	960	790	1290	970
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)	<100	<100	<100	<100	<100
	Strontium (Sr) (mg/kg)	11.5	8.48	9.17	9.30	10.9
	Thallium (Tl) (mg/kg)	0.098	0.095	0.085	0.136	0.114
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	539	437	359	492	498
	Uranium (U) (mg/kg)	1.94	1.24	1.61	1.94	1.79
	Vanadium (V) (mg/kg)	15.6	14.1	12.1	17.7	19.0
	Zinc (Zn) (mg/kg)	22.4	24.5	21.5	33.7	37.0

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1510356-101	L1510356-105	L1510356-109	L1510356-113	L1510356-117
		Description	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled Date	14-AUG-14	14-AUG-14	14-AUG-14	14-AUG-14	14-AUG-14
		Sampled Time	09:30	10:00	11:00	11:30	12:00
		Client ID	T6-SOUTH ISLAND STATION 1 SAMPLE 1 - SOIL	T6-SOUTH ISLAND STATION 2 SAMPLE 1 - SOIL	T6-SOUTH ISLAND STATION 3 SAMPLE 1 - SOIL	T6-SOUTH ISLAND STATION 4 SAMPLE 1 - SOIL	T6-SOUTH ISLAND STATION 5 SAMPLE 1 - SOIL
Grouping	Analyte						
SOIL							
Physical Tests	pH (1:2 soil:water) (pH)		7.08	6.31	6.34	5.20	6.55
Metals	Aluminum (Al) (mg/kg)		8020	7950	8530	9050	7790
	Antimony (Sb) (mg/kg)		<0.10	<0.10	<0.10	<0.10	<0.10
	Arsenic (As) (mg/kg)		4.25	4.40	4.31	5.18	3.55
	Barium (Ba) (mg/kg)		38.7	38.2	35.1	31.3	37.6
	Beryllium (Be) (mg/kg)		0.36	0.34	0.36	0.33	0.36
	Bismuth (Bi) (mg/kg)		0.46	0.46	0.47	0.49	0.45
	Cadmium (Cd) (mg/kg)		<0.050	<0.050	<0.050	<0.050	<0.050
	Calcium (Ca) (mg/kg)		1790	1700	1730	1440	1800
	Chromium (Cr) (mg/kg)		42.1	49.5	42.5	51.8	46.6
	Cobalt (Co) (mg/kg)		6.88	6.85	6.68	7.41	6.38
	Copper (Cu) (mg/kg)		8.49	7.67	9.87	9.83	8.02
	Iron (Fe) (mg/kg)		17700	18500	18500	20600	17500
	Lead (Pb) (mg/kg)		6.94	6.60	7.39	6.18	6.07
	Lithium (Li) (mg/kg)		17.9	17.1	17.3	16.6	18.7
	Magnesium (Mg) (mg/kg)		5110	4760	4950	5190	5010
	Manganese (Mn) (mg/kg)		274	230	216	253	230
	Mercury (Hg) (mg/kg)		<0.0050	0.0054	0.0108	0.0053	<0.0050
	Molybdenum (Mo) (mg/kg)		0.83	0.72	0.66	0.59	0.86
	Nickel (Ni) (mg/kg)		22.0	23.3	20.7	24.5	22.5
	Phosphorus (P) (mg/kg)		359	355	378	356	353
	Potassium (K) (mg/kg)		1660	1350	1500	1070	1700
	Selenium (Se) (mg/kg)		<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)		<0.10	<0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)		<100	<100	<100	<100	<100
	Strontium (Sr) (mg/kg)		11.3	10.8	9.92	10.3	10.8
	Thallium (Tl) (mg/kg)		0.145	0.138	0.142	0.126	0.151
	Tin (Sn) (mg/kg)		<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)		579	526	536	509	574
	Uranium (U) (mg/kg)		3.14	2.62	2.61	2.03	2.75
	Vanadium (V) (mg/kg)		18.0	17.4	17.9	18.8	18.0
	Zinc (Zn) (mg/kg)		29.8	27.7	30.2	28.6	29.7

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1510356-121	L1510356-125	L1510356-129	L1510356-133	L1510356-137
		Description	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled Date	14-AUG-14	14-AUG-14	14-AUG-14	14-AUG-14	14-AUG-14
		Sampled Time	10:45	10:30	10:05	09:35	11:15
		Client ID	T7-NEAR FIELD STATION 1 SAMPLE 1 - SOIL	T7-NEAR FIELD STATION 2 SAMPLE 1 - SOIL	T7-NEAR FIELD STATION 3 SAMPLE 1 - SOIL	T7-NEAR FIELD STATION 4 SAMPLE 1 - SOIL	T7-NEAR FIELD STATION 5 SAMPLE 1 - SOIL
Grouping	Analyte						
SOIL							
Physical Tests	pH (1:2 soil:water) (pH)		7.01	6.43	6.19	5.81	5.77
Metals	Aluminum (Al) (mg/kg)		11700	10100	13300	11400	14700
	Antimony (Sb) (mg/kg)		0.20	0.13	0.23	0.16	0.24
	Arsenic (As) (mg/kg)		34.9	17.0	20.9	27.2	55.7
	Barium (Ba) (mg/kg)		31.2	19.9	33.3	21.9	33.8
	Beryllium (Be) (mg/kg)		0.43	0.30	0.35	0.35	0.42
	Bismuth (Bi) (mg/kg)		0.51	0.33	0.43	0.38	0.59
	Cadmium (Cd) (mg/kg)		0.157	0.101	0.133	0.177	0.279
	Calcium (Ca) (mg/kg)		1970	1680	2110	1840	1390
	Chromium (Cr) (mg/kg)		44.3	34.8	58.3	33.5	58.7
	Cobalt (Co) (mg/kg)		13.1	10.1	13.5	8.59	11.5
	Copper (Cu) (mg/kg)		19.4	13.2	19.0	13.5	19.5
	Iron (Fe) (mg/kg)		29400	26900	34400	34200	38900
	Lead (Pb) (mg/kg)		20.1	13.3	13.5	15.6	23.4
	Lithium (Li) (mg/kg)		17.9	16.4	18.5	20.0	21.9
	Magnesium (Mg) (mg/kg)		6860	5880	7800	6430	7860
	Manganese (Mn) (mg/kg)		328	272	366	263	340
	Mercury (Hg) (mg/kg)		<0.0050	<0.0050	0.0060	0.0122	0.0133
	Molybdenum (Mo) (mg/kg)		0.83	0.61	0.78	0.72	1.08
	Nickel (Ni) (mg/kg)		30.8	23.2	35.9	23.3	34.4
	Phosphorus (P) (mg/kg)		446	412	553	480	311
	Potassium (K) (mg/kg)		1400	990	1400	940	1340
	Selenium (Se) (mg/kg)		<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)		0.10	<0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)		<100	<100	<100	<100	<100
	Strontium (Sr) (mg/kg)		12.9	11.6	15.4	11.8	12.1
	Thallium (Tl) (mg/kg)		0.124	0.085	0.124	0.102	0.136
	Tin (Sn) (mg/kg)		<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)		485	412	503	469	558
	Uranium (U) (mg/kg)		2.38	1.74	2.14	1.74	2.33
	Vanadium (V) (mg/kg)		21.5	17.8	24.6	20.3	25.8
	Zinc (Zn) (mg/kg)		43.5	35.0	45.0	43.8	66.7

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1510356-141	L1510356-145	L1510356-149	L1510356-153	L1510356-157
		Description	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled Date	14-AUG-14	14-AUG-14	14-AUG-14	14-AUG-14	14-AUG-14
		Sampled Time	14:50	15:15	15:40	16:00	16:30
		Client ID	T8-AWAR STATION 1 SAMPLE 1 - SOIL	T8-AWAR STATION 2 SAMPLE 1 - SOIL	T8-AWAR STATION 3 SAMPLE 1 - SOIL	T8-AWAR STATION 4 SAMPLE 1 - SOIL	T8-AWAR STATION 5 SAMPLE 1 - SOIL
Grouping	Analyte						
SOIL							
Physical Tests	pH (1:2 soil:water) (pH)		6.53	6.87	6.64	6.25	7.22
Metals	Aluminum (Al) (mg/kg)		6660	7460	6890	5670	5300
	Antimony (Sb) (mg/kg)		<0.10	<0.10	<0.10	<0.10	<0.10
	Arsenic (As) (mg/kg)		2.09	2.80	1.86	1.46	1.56
	Barium (Ba) (mg/kg)		29.2	38.4	31.6	21.0	25.8
	Beryllium (Be) (mg/kg)		0.25	0.24	0.24	0.31	0.27
	Bismuth (Bi) (mg/kg)		0.28	0.33	0.28	0.40	0.31
	Cadmium (Cd) (mg/kg)		<0.050	<0.050	<0.050	<0.050	<0.050
	Calcium (Ca) (mg/kg)		2360	2340	2260	2120	2290
	Chromium (Cr) (mg/kg)		35.8	43.3	31.7	18.3	22.7
	Cobalt (Co) (mg/kg)		5.96	6.23	5.56	3.88	4.57
	Copper (Cu) (mg/kg)		6.19	9.54	11.1	6.74	5.03
	Iron (Fe) (mg/kg)		14400	15300	15100	11200	11500
	Lead (Pb) (mg/kg)		4.65	5.20	5.44	4.60	4.48
	Lithium (Li) (mg/kg)		11.5	11.8	11.1	10.5	8.7
	Magnesium (Mg) (mg/kg)		4320	5040	4460	3290	3280
	Manganese (Mn) (mg/kg)		257	187	189	177	194
	Mercury (Hg) (mg/kg)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Molybdenum (Mo) (mg/kg)		0.57	0.70	0.53	0.70	0.52
	Nickel (Ni) (mg/kg)		17.1	19.7	15.0	9.63	11.9
	Phosphorus (P) (mg/kg)		338	535	462	338	405
	Potassium (K) (mg/kg)		1250	1730	1640	930	1130
	Selenium (Se) (mg/kg)		<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)		<0.10	<0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)		<100	<100	<100	<100	<100
	Strontium (Sr) (mg/kg)		22.9	17.6	18.3	20.2	21.9
	Thallium (Tl) (mg/kg)		0.078	0.108	0.104	0.063	0.060
	Tin (Sn) (mg/kg)		<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)		604	581	572	532	543
	Uranium (U) (mg/kg)		1.96	1.71	1.28	2.56	1.92
	Vanadium (V) (mg/kg)		17.1	20.3	18.1	13.3	14.0
	Zinc (Zn) (mg/kg)		23.8	25.3	25.2	22.9	19.2

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1510356-161	L1510356-165	L1510356-169	L1510356-173	L1510356-177
		Description	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled Date	19-AUG-14	19-AUG-14	19-AUG-14	19-AUG-14	19-AUG-14
		Sampled Time	13:00	13:20	13:43	14:00	12:25
		Client ID	C1-EXT REF STATION 1 SAMPLE 1 - SOIL	C1-EXT REF STATION 2 SAMPLE 1 - SOIL	C1-EXT REF STATION 3 SAMPLE 1 - SOIL	C1-EXT REF STATION 4 SAMPLE 1 - SOIL	C1-EXT REF STATION 5 SAMPLE 1 - SOIL
Grouping	Analyte						
SOIL							
Physical Tests	pH (1:2 soil:water) (pH)		6.57	5.93	6.30	6.00	6.22
Metals	Aluminum (Al) (mg/kg)		7110	4850	4790	7960	4670
	Antimony (Sb) (mg/kg)		<0.10	<0.10	<0.10	<0.10	<0.10
	Arsenic (As) (mg/kg)		3.21	1.88	1.80	3.03	2.59
	Barium (Ba) (mg/kg)		29.5	17.3	18.6	33.5	18.8
	Beryllium (Be) (mg/kg)		0.34	0.22	0.27	0.40	0.24
	Bismuth (Bi) (mg/kg)		0.36	0.25	0.29	0.46	0.28
	Cadmium (Cd) (mg/kg)		<0.050	<0.050	<0.050	<0.050	<0.050
	Calcium (Ca) (mg/kg)		1990	1510	1980	1950	2000
	Chromium (Cr) (mg/kg)		35.6	23.8	20.8	39.5	23.6
	Cobalt (Co) (mg/kg)		5.72	4.38	4.42	5.55	3.75
	Copper (Cu) (mg/kg)		5.50	3.12	3.55	5.64	3.70
	Iron (Fe) (mg/kg)		15400	11400	11700	15500	11900
	Lead (Pb) (mg/kg)		6.19	4.65	5.03	6.66	4.55
	Lithium (Li) (mg/kg)		12.2	8.5	9.5	13.5	8.3
	Magnesium (Mg) (mg/kg)		4270	2960	2920	4540	2720
	Manganese (Mn) (mg/kg)		226	179	187	218	137
	Mercury (Hg) (mg/kg)		<0.0050	<0.0050	<0.0050	0.0059	<0.0050
	Molybdenum (Mo) (mg/kg)		0.55	<0.50	<0.50	0.79	<0.50
	Nickel (Ni) (mg/kg)		18.6	11.7	11.1	19.9	11.6
	Phosphorus (P) (mg/kg)		356	348	405	328	401
	Potassium (K) (mg/kg)		1150	800	790	1270	810
	Selenium (Se) (mg/kg)		<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)		<0.10	<0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)		<100	<100	110	120	<100
	Strontium (Sr) (mg/kg)		17.5	12.8	16.0	18.1	17.1
	Thallium (Tl) (mg/kg)		0.082	0.054	0.070	0.091	0.067
	Tin (Sn) (mg/kg)		<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)		533	366	452	591	487
	Uranium (U) (mg/kg)		2.33	1.66	2.20	3.20	2.53
	Vanadium (V) (mg/kg)		15.5	11.1	11.6	16.8	11.5
	Zinc (Zn) (mg/kg)		23.1	16.6	16.6	24.7	16.2

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1510356-181	L1510356-185	L1510356-189	L1510356-193	L1510356-197
		Description	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled Date	19-AUG-14	19-AUG-14	19-AUG-14	19-AUG-14	19-AUG-14
		Sampled Time	10:30	10:10	09:35	10:55	11:20
		Client ID	C2-EXT REF STATION 1 SAMPLE 1 - SOIL	C2-EXT REF STATION 2 SAMPLE 1 - SOIL	C2-EXT REF STATION 3 SAMPLE 1 - SOIL	C2-EXT REF STATION 4 SAMPLE 1 - SOIL	C2-EXT REF STATION 5 SAMPLE 1 - SOIL
Grouping	Analyte						
SOIL							
Physical Tests	pH (1:2 soil:water) (pH)		5.95	5.41	5.45	5.88	5.64
Metals	Aluminum (Al) (mg/kg)		11700	16900	15700	13000	12400
	Antimony (Sb) (mg/kg)		<0.10	0.17	0.11	0.11	<0.10
	Arsenic (As) (mg/kg)		5.18	9.95	9.58	7.69	7.33
	Barium (Ba) (mg/kg)		32.0	46.8	30.5	35.6	30.0
	Beryllium (Be) (mg/kg)		0.28	0.54	0.42	0.40	0.40
	Bismuth (Bi) (mg/kg)		0.39	0.77	2.49	0.46	0.47
	Cadmium (Cd) (mg/kg)		<0.050	0.101	0.185	0.052	0.057
	Calcium (Ca) (mg/kg)		2930	2430	2410	2620	2300
	Chromium (Cr) (mg/kg)		117	152	164	116	113
	Cobalt (Co) (mg/kg)		11.3	13.6	13.8	10.9	11.4
	Copper (Cu) (mg/kg)		9.77	12.8	15.8	13.1	14.5
	Iron (Fe) (mg/kg)		26300	32900	30800	29600	28100
	Lead (Pb) (mg/kg)		6.33	11.5	9.27	8.39	7.62
	Lithium (Li) (mg/kg)		13.4	17.9	15.9	15.0	15.6
	Magnesium (Mg) (mg/kg)		9180	11000	10900	9160	9180
	Manganese (Mn) (mg/kg)		307	317	340	286	262
	Mercury (Hg) (mg/kg)		<0.0050	0.0181	0.0238	0.0088	<0.0050
	Molybdenum (Mo) (mg/kg)		0.55	1.18	0.78	0.67	0.57
	Nickel (Ni) (mg/kg)		57.1	75.1	79.7	59.1	64.9
	Phosphorus (P) (mg/kg)		419	293	314	391	369
	Potassium (K) (mg/kg)		1200	1560	1160	1340	1050
	Selenium (Se) (mg/kg)		<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)		<0.10	<0.10	0.13	<0.10	<0.10
	Sodium (Na) (mg/kg)		120	110	<100	<100	<100
	Strontium (Sr) (mg/kg)		32.3	31.6	29.3	32.0	25.3
	Thallium (Tl) (mg/kg)		0.096	0.164	0.136	0.131	0.098
	Tin (Sn) (mg/kg)		<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)		731	940	798	749	748
	Uranium (U) (mg/kg)		1.33	1.37	1.45	1.88	1.26
	Vanadium (V) (mg/kg)		26.1	36.5	33.2	28.5	26.5
	Zinc (Zn) (mg/kg)		36.7	48.2	89.5	36.9	40.8

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1510356-201	L1510356-205	L1510356-209	L1510356-213	L1510356-217
		Description	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled Date	19-AUG-14	19-AUG-14	19-AUG-14	19-AUG-14	19-AUG-14
		Sampled Time	05:45	06:15	06:40	07:05	07:30
		Client ID	C3-EXT REF STATION 1 SAMPLE 1 - SOIL	C3-EXT REF STATION 2 SAMPLE 1 - SOIL	C3-EXT REF STATION 3 SAMPLE 1 - SOIL	C3-EXT REF STATION 4 SAMPLE 1 - SOIL	C3-EXT REF STATION 5 SAMPLE 1 - SOIL
Grouping	Analyte						
SOIL							
Physical Tests	pH (1:2 soil:water) (pH)		6.48	5.95	5.71	5.92	5.86
Metals	Aluminum (Al) (mg/kg)		11200	13600	12500	10300	15400
	Antimony (Sb) (mg/kg)		0.12	0.13	<0.10	<0.10	0.11
	Arsenic (As) (mg/kg)		7.26	25.6	7.88	6.26	9.28
	Barium (Ba) (mg/kg)		32.1	33.2	27.6	31.5	33.9
	Beryllium (Be) (mg/kg)		0.30	0.37	0.30	0.29	0.42
	Bismuth (Bi) (mg/kg)		0.36	0.57	0.43	0.52	0.59
	Cadmium (Cd) (mg/kg)		<0.050	0.109	0.079	0.061	0.079
	Calcium (Ca) (mg/kg)		2510	2520	2340	2530	2110
	Chromium (Cr) (mg/kg)		107	117	126	112	174
	Cobalt (Co) (mg/kg)		12.4	13.3	12.1	12.2	13.2
	Copper (Cu) (mg/kg)		12.2	20.5	13.4	15.5	9.04
	Iron (Fe) (mg/kg)		26200	28700	28000	23500	32500
	Lead (Pb) (mg/kg)		6.34	14.2	7.35	6.62	8.85
	Lithium (Li) (mg/kg)		12.8	15.5	14.4	11.9	16.7
	Magnesium (Mg) (mg/kg)		8370	9350	8710	8420	12000
	Manganese (Mn) (mg/kg)		309	349	353	325	318
	Mercury (Hg) (mg/kg)		0.0058	0.0123	0.0145	<0.0050	0.0130
	Molybdenum (Mo) (mg/kg)		0.72	0.73	0.63	0.59	0.90
	Nickel (Ni) (mg/kg)		86.1	61.6	57.3	62.6	79.9
	Phosphorus (P) (mg/kg)		301	299	265	511	300
	Potassium (K) (mg/kg)		1160	1370	1120	1230	1570
	Selenium (Se) (mg/kg)		<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)		<0.10	<0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)		<100	<100	<100	<100	110
	Strontium (Sr) (mg/kg)		26.6	28.9	28.4	23.9	26.3
	Thallium (Tl) (mg/kg)		0.107	0.135	0.102	0.108	0.120
	Tin (Sn) (mg/kg)		<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)		652	839	756	545	798
	Uranium (U) (mg/kg)		1.59	1.82	1.29	1.55	1.05
	Vanadium (V) (mg/kg)		25.4	29.2	27.8	22.8	34.8
	Zinc (Zn) (mg/kg)		34.0	49.5	44.2	35.0	42.0

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-2 TISSUE 14-AUG-14 16:00 T1-NEAR FIELD STATION 1 SAMPLE 2 - SEDGE	L1510356-3 TISSUE 14-AUG-14 16:00 T1-NEAR FIELD STATION 1 SAMPLE 3 - LICHEN	L1510356-4 TISSUE 14-AUG-14 16:00 T1-NEAR FIELD STATION 1 SAMPLE 4 - BERRIES	L1510356-6 TISSUE 14-AUG-14 17:20 T1-NEAR FIELD STATION 2 SAMPLE 2 - SEDGE	L1510356-7 TISSUE 14-AUG-14 17:20 T1-NEAR FIELD STATION 2 SAMPLE 3 - LICHEN
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	45.6	52.4	84.8	44.0	41.9
Metals	Aluminum (Al)-Total (mg/kg ww)	696	1010	12.2	666	4800
	Antimony (Sb)-Total (mg/kg ww)	0.0067	0.0066	<0.0020	0.0046	0.0144
	Arsenic (As)-Total (mg/kg ww)	0.705	1.12	0.0086	0.793	3.56
	Barium (Ba)-Total (mg/kg ww)	16.7	17.8	0.998	16.9	31.7
	Beryllium (Be)-Total (mg/kg ww)	0.0227	0.0338	<0.0020	0.0158	0.180
	Bismuth (Bi)-Total (mg/kg ww)	0.0131	0.0246	<0.0020	0.0137	0.196
	Boron (B)-Total (mg/kg ww)	1.45	0.82	0.75	1.73	2.16
	Cadmium (Cd)-Total (mg/kg ww)	0.0147	0.0500	<0.0010	0.0266	0.173
	Calcium (Ca)-Total (mg/kg ww)	1510	2770	193	2770	5790
	Cesium (Cs)-Total (mg/kg ww)	0.108	0.131	0.0034	0.0904	0.739
	Chromium (Cr)-Total (mg/kg ww)	14.1	20.6	0.144	13.6	59.4
	Cobalt (Co)-Total (mg/kg ww)	0.627	0.911	0.0113	0.587	3.01
	Copper (Cu)-Total (mg/kg ww)	1.77	1.62	0.719	2.52	5.40
	Iron (Fe)-Total (mg/kg ww)	1530	2440	22.5	1630	9010
	Lead (Pb)-Total (mg/kg ww)	0.338	0.874	0.0060	0.298	3.98
	Lithium (Li)-Total (mg/kg ww)	0.51	0.68	<0.10	0.49	4.51
	Magnesium (Mg)-Total (mg/kg ww)	1040	981	71.6	939	3300
	Manganese (Mn)-Total (mg/kg ww)	193	155	8.20	66.0	156
	Mercury (Hg)-Total (mg/kg ww)	0.0190	0.0533	<0.0010	0.0089	0.0738
	Molybdenum (Mo)-Total (mg/kg ww)	0.370	0.191	0.0176	0.462	0.754
	Nickel (Ni)-Total (mg/kg ww)	5.71	6.47	0.187	5.03	19.5
	Phosphorus (P)-Total (mg/kg ww)	472	282	118	366	352
	Potassium (K)-Total (mg/kg ww)	2900	694	1140	3250	1250
	Rubidium (Rb)-Total (mg/kg ww)	7.24	3.35	2.74	3.27	9.00
	Selenium (Se)-Total (mg/kg ww)	0.019	0.034	<0.010	0.011	0.088
	Sodium (Na)-Total (mg/kg ww)	17.9	32.0	5.5	6.3	101
	Strontium (Sr)-Total (mg/kg ww)	7.13	6.54	0.387	9.71	17.8
	Tellurium (Te)-Total (mg/kg ww)	<0.0040	<0.0040	<0.0040	<0.0040	0.0091
	Thallium (Tl)-Total (mg/kg ww)	0.0123	0.0227	<0.00040	0.00439	0.0476
	Tin (Sn)-Total (mg/kg ww)	<0.020	<0.020	0.045	<0.020	0.103
	Uranium (U)-Total (mg/kg ww)	0.0787	0.113	0.00135	0.0623	0.898
	Vanadium (V)-Total (mg/kg ww)	1.50	2.15	0.021	1.45	9.55
	Zinc (Zn)-Total (mg/kg ww)	12.3	12.4	0.88	9.58	23.6
	Zirconium (Zr)-Total (mg/kg ww)	0.667	1.09	<0.040	0.706	4.37

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-8 TISSUE 14-AUG-14 17:20 T1-NEAR FIELD STATION 2 SAMPLE 4 - BERRIES	L1510356-10 TISSUE 14-AUG-14 15:20 T1-NEAR FIELD STATION 3 SAMPLE 2 - SEDGE	L1510356-11 TISSUE 14-AUG-14 15:20 T1-NEAR FIELD STATION 3 SAMPLE 3 - LICHEN	L1510356-12 TISSUE 14-AUG-14 15:20 T1-NEAR FIELD STATION 3 SAMPLE 4 - BERRIES	L1510356-14 TISSUE 14-AUG-14 16:55 T1-NEAR FIELD STATION 4 SAMPLE 2 - SEDGE
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	83.8	50.3	45.8	83.6	45.7
Metals	Aluminum (Al)-Total (mg/kg wwt)	29.0	215	2060	6.38	331
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	0.0021	0.0110	<0.0020	0.0027
	Arsenic (As)-Total (mg/kg wwt)	0.0242	0.196	2.07	0.0054	0.352
	Barium (Ba)-Total (mg/kg wwt)	2.30	11.6	16.3	1.34	18.7
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0079	0.0573	<0.0020	0.0122
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	0.0037	0.0447	<0.0020	0.0060
	Boron (B)-Total (mg/kg wwt)	0.77	1.03	0.93	0.99	2.40
	Cadmium (Cd)-Total (mg/kg wwt)	0.0195	0.0144	0.0504	0.0079	0.0141
	Calcium (Ca)-Total (mg/kg wwt)	321	1010	2480	170	2730
	Cesium (Cs)-Total (mg/kg wwt)	0.0080	0.0305	0.223	0.0029	0.0647
	Chromium (Cr)-Total (mg/kg wwt)	0.353	4.46	35.2	0.082	6.29
	Cobalt (Co)-Total (mg/kg wwt)	0.0228	0.238	1.46	0.0187	0.322
	Copper (Cu)-Total (mg/kg wwt)	0.756	1.07	2.87	0.495	1.94
	Iron (Fe)-Total (mg/kg wwt)	56.0	463	4760	12.0	733
	Lead (Pb)-Total (mg/kg wwt)	0.0167	0.131	1.86	<0.0040	0.258
	Lithium (Li)-Total (mg/kg wwt)	<0.10	0.16	1.49	<0.10	0.22
	Magnesium (Mg)-Total (mg/kg wwt)	117	500	1790	76.9	744
	Manganese (Mn)-Total (mg/kg wwt)	19.8	160	158	5.74	128
	Mercury (Hg)-Total (mg/kg wwt)	<0.0010	0.0090	0.0994	<0.0010	0.0121
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0540	0.210	0.272	0.0061	0.591
	Nickel (Ni)-Total (mg/kg wwt)	0.359	3.05	11.2	0.275	2.79
	Phosphorus (P)-Total (mg/kg wwt)	213	492	295	171	446
	Potassium (K)-Total (mg/kg wwt)	1040	2380	787	1040	2520
	Rubidium (Rb)-Total (mg/kg wwt)	2.56	3.66	3.88	1.90	3.67
	Selenium (Se)-Total (mg/kg wwt)	<0.010	0.014	0.065	<0.010	0.014
	Sodium (Na)-Total (mg/kg wwt)	6.1	12.9	47.7	<4.0	5.0
	Strontium (Sr)-Total (mg/kg wwt)	0.618	4.87	7.41	0.305	9.44
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	<0.00040	0.00221	0.0256	<0.00040	0.00363
	Tin (Sn)-Total (mg/kg wwt)	0.044	<0.020	0.042	0.036	<0.020
	Uranium (U)-Total (mg/kg wwt)	0.00467	0.0173	0.260	0.00082	0.0400
	Vanadium (V)-Total (mg/kg wwt)	0.051	0.465	4.27	<0.020	0.690
	Zinc (Zn)-Total (mg/kg wwt)	1.95	9.47	13.1	1.55	14.2
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	0.220	2.11	<0.040	0.462

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-15 TISSUE 14-AUG-14 16:55 T1-NEAR FIELD STATION 4 SAMPLE 3 - LICHEN	L1510356-16 TISSUE 14-AUG-14 16:55 T1-NEAR FIELD STATION 4 SAMPLE 4 - BERRIES	L1510356-18 TISSUE 14-AUG-14 16:30 T1-NEAR FIELD STATION 5 SAMPLE 2 - SEDGE	L1510356-19 TISSUE 14-AUG-14 16:30 T1-NEAR FIELD STATION 4 SAMPLE 3 - LICHEN	L1510356-20 TISSUE 14-AUG-14 16:30 T1-NEAR FIELD STATION 4 SAMPLE 1 - BERRIES
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	45.7	84.4	54.9	49.1	85.5
Metals	Aluminum (Al)-Total (mg/kg wwt)	1830	14.2	448	903	17.8
	Antimony (Sb)-Total (mg/kg wwt)	0.0053	<0.0020	0.0027 ^{RRU}	0.0079	<0.0020
	Arsenic (As)-Total (mg/kg wwt)	2.16	0.0141	0.521	1.04	0.0135
	Barium (Ba)-Total (mg/kg wwt)	15.8	1.33	13.3	10.4	2.11
	Beryllium (Be)-Total (mg/kg wwt)	0.0423	<0.0020	0.0107	0.0236	<0.0020
	Bismuth (Bi)-Total (mg/kg wwt)	0.0330	<0.0020	0.0080	0.0290	<0.0020
	Boron (B)-Total (mg/kg wwt)	0.63	0.79	1.77	0.66	0.69
	Cadmium (Cd)-Total (mg/kg wwt)	0.0513	0.0142	0.0279	0.0306	0.0130
	Calcium (Ca)-Total (mg/kg wwt)	2820	272	1310	2470	254
	Cesium (Cs)-Total (mg/kg wwt)	0.228	0.0042	0.0531	0.136	0.0070
	Chromium (Cr)-Total (mg/kg wwt)	34.9	0.171	9.72	20.6	0.188
	Cobalt (Co)-Total (mg/kg wwt)	1.40	0.0151	0.420	0.773	0.0160
	Copper (Cu)-Total (mg/kg wwt)	2.38	0.640	2.91	1.48	0.657
	Iron (Fe)-Total (mg/kg wwt)	4550	25.9	1140	2100	33.8
	Lead (Pb)-Total (mg/kg wwt)	0.971	0.0127	0.260	0.732	0.0115
	Lithium (Li)-Total (mg/kg wwt)	1.17	<0.10	0.33	0.56	<0.10
	Magnesium (Mg)-Total (mg/kg wwt)	1760	75.5	659	964	77.6
	Manganese (Mn)-Total (mg/kg wwt)	138	16.9	183	101	11.5
	Mercury (Hg)-Total (mg/kg wwt)	0.0441	0.0010	0.0093	0.0492	<0.0010
	Molybdenum (Mo)-Total (mg/kg wwt)	0.327	0.0194	0.509	0.193	0.0117
	Nickel (Ni)-Total (mg/kg wwt)	10.7	0.259	4.21	6.51	0.197
	Phosphorus (P)-Total (mg/kg wwt)	269	161	349	246	143
	Potassium (K)-Total (mg/kg wwt)	802	1060	2370	836	895
	Rubidium (Rb)-Total (mg/kg wwt)	3.93	2.53	2.82	3.41	3.19
	Selenium (Se)-Total (mg/kg wwt)	0.044	<0.010	0.012	0.038	<0.010
	Sodium (Na)-Total (mg/kg wwt)	60.7	4.8	8.1	36.6	5.1
	Strontium (Sr)-Total (mg/kg wwt)	8.78	0.429	5.07	5.35	0.532
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.0167	<0.00040	0.00314	0.0200	<0.00040
	Tin (Sn)-Total (mg/kg wwt)	<0.020	0.096	<0.020	<0.020	0.028
	Uranium (U)-Total (mg/kg wwt)	0.169	0.00265	0.0518	0.108	0.00302
	Vanadium (V)-Total (mg/kg wwt)	3.91	0.024	1.00	2.03	0.030
	Zinc (Zn)-Total (mg/kg wwt)	15.1	1.37	10.5	9.73	1.23
	Zirconium (Zr)-Total (mg/kg wwt)	2.13	<0.040	0.445	0.902	<0.040

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-22 TISSUE 19-AUG-14 11:42 T2-FAR FIELD STATION 1 SAMPLE 2 - SEDGE	L1510356-23 TISSUE 19-AUG-14 11:42 T2-FAR FIELD STATION 1 SAMPLE 3 - LICHEN	L1510356-24 TISSUE 19-AUG-14 11:42 T2-FAR FIELD STATION 1 SAMPLE 4 - BERRIES	L1510356-26 TISSUE 19-AUG-14 11:14 T2-FAR FIELD STATION 2 SAMPLE 2 - SEDGE	L1510356-27 TISSUE 19-AUG-14 11:14 T2-FAR FIELD STATION 2 SAMPLE 3 - LICHEN
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	41.5	19.3	84.7	41.9	29.9
Metals	Aluminum (Al)-Total (mg/kg wwt)	308	624	5.90	666	793
	Antimony (Sb)-Total (mg/kg wwt)	0.0033	0.0062 ^{RRU}	<0.0020	0.0042	0.0081
	Arsenic (As)-Total (mg/kg wwt)	0.254	0.484	<0.0040	0.592	1.02
	Barium (Ba)-Total (mg/kg wwt)	17.2	10.1	3.87	20.7	12.6
	Beryllium (Be)-Total (mg/kg wwt)	0.0125	0.0269	<0.0020	0.0300	0.0323
	Bismuth (Bi)-Total (mg/kg wwt)	0.0067	0.0239	<0.0020	0.0226	0.0292
	Boron (B)-Total (mg/kg wwt)	0.90	0.56	0.78	1.16	0.52
	Cadmium (Cd)-Total (mg/kg wwt)	0.0134	0.0545	0.0021	0.0214	0.0643
	Calcium (Ca)-Total (mg/kg wwt)	1010	1860	351	982	2050
	Cesium (Cs)-Total (mg/kg wwt)	0.111	0.114	0.0015	0.130	0.139
	Chromium (Cr)-Total (mg/kg wwt)	6.44	9.06	0.029	9.86	15.5
	Cobalt (Co)-Total (mg/kg wwt)	0.284	0.399	0.0067	0.501	0.636
	Copper (Cu)-Total (mg/kg wwt)	1.36	1.24	0.629	1.39	1.54
	Iron (Fe)-Total (mg/kg wwt)	679	1070	4.74	1330	1760
	Lead (Pb)-Total (mg/kg wwt)	0.222	0.978	<0.0040	0.508	1.57
	Lithium (Li)-Total (mg/kg wwt)	0.21	0.46	<0.10	0.58	0.53
	Magnesium (Mg)-Total (mg/kg wwt)	465	597	111	633	832
	Manganese (Mn)-Total (mg/kg wwt)	141	97.2	52.6	112	87.4
	Mercury (Hg)-Total (mg/kg wwt)	0.0185	0.0913	0.0022	0.0168	0.102
	Molybdenum (Mo)-Total (mg/kg wwt)	0.345	0.115	0.0195	0.359	0.156
	Nickel (Ni)-Total (mg/kg wwt)	3.53	3.09	0.216	4.07	5.12
	Phosphorus (P)-Total (mg/kg wwt)	365	359	172	282	248
	Potassium (K)-Total (mg/kg wwt)	2400	1070	994	2160	976
	Rubidium (Rb)-Total (mg/kg wwt)	7.24	3.23	1.49	7.63	4.50
	Selenium (Se)-Total (mg/kg wwt)	0.015	0.065	<0.010	0.016	0.066
	Sodium (Na)-Total (mg/kg wwt)	7.7	18.8	5.3	12.9	34.1
	Strontium (Sr)-Total (mg/kg wwt)	4.82	5.71	0.872	5.60	5.95
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.00347	0.0119	<0.00040	0.0106	0.0151
	Tin (Sn)-Total (mg/kg wwt)	<0.020	0.032	0.098	0.020	0.022
	Uranium (U)-Total (mg/kg wwt)	0.0394	0.170	0.00090	0.133	0.112
	Vanadium (V)-Total (mg/kg wwt)	0.675	1.21	<0.020	1.27	1.71
	Zinc (Zn)-Total (mg/kg wwt)	14.0	13.8	1.19	13.0	12.6
	Zirconium (Zr)-Total (mg/kg wwt)	0.383	0.834	<0.040	0.866	1.10

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-28 TISSUE 19-AUG-14 11:14 T2-FAR FIELD STATION 2 SAMPLE 4 - BERRIES	L1510356-30 TISSUE 19-AUG-14 12:07 T2-FAR FIELD STATION 3 SAMPLE 2 - SEDGE	L1510356-31 TISSUE 19-AUG-14 12:07 T2-FAR FIELD STATION 3 SAMPLE 3 - LICHEN	L1510356-32 TISSUE 19-AUG-14 12:07 T2-FAR FIELD STATION 3 SAMPLE 4 - BERRIES	L1510356-34 TISSUE 19-AUG-14 12:31 T2-FAR FIELD STATION 4 SAMPLE 2 - SEDGE
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	82.4	53.0	29.7	83.2	50.7
Metals	Aluminum (Al)-Total (mg/kg wwt)	1.34	71.1	949	4.63	154
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0083	<0.0020	0.0092
	Arsenic (As)-Total (mg/kg wwt)	<0.0040	0.0615	1.34	<0.0040	0.168
	Barium (Ba)-Total (mg/kg wwt)	0.523	14.6	21.1	1.48	17.5
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0096	0.0380	<0.0020	0.0126
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0308	<0.0020	0.0034
	Boron (B)-Total (mg/kg wwt)	0.62	1.25	0.58	0.66	0.83
	Cadmium (Cd)-Total (mg/kg wwt)	<0.0010	0.0104	0.0905	0.0031	0.0173
	Calcium (Ca)-Total (mg/kg wwt)	88.4	984	2240	304	865
	Cesium (Cs)-Total (mg/kg wwt)	0.0062	0.0269	0.173	0.0084	0.0959
	Chromium (Cr)-Total (mg/kg wwt)	0.016	1.14	17.0	0.059	2.40
	Cobalt (Co)-Total (mg/kg wwt)	<0.0040	0.0911	0.773	0.0045	0.178
	Copper (Cu)-Total (mg/kg wwt)	0.467	1.30	1.77	0.846	1.14
	Iron (Fe)-Total (mg/kg wwt)	1.75	149	2260	8.26	295
	Lead (Pb)-Total (mg/kg wwt)	<0.0040	0.0906	1.95	<0.0040	0.164
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	0.58	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg wwt)	46.2	329	1030	81.5	348
	Manganese (Mn)-Total (mg/kg wwt)	4.69	103	102	17.9	121
	Mercury (Hg)-Total (mg/kg wwt)	<0.0010	0.0065	0.0797	<0.0010	0.0098
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0077	1.15	0.174	0.0224	0.209
	Nickel (Ni)-Total (mg/kg wwt)	0.059	0.908	5.88	0.121	1.80
	Phosphorus (P)-Total (mg/kg wwt)	75.4	437	230	158	344
	Potassium (K)-Total (mg/kg wwt)	856	3330	845	1040	2660
	Rubidium (Rb)-Total (mg/kg wwt)	3.91	4.91	4.83	4.03	8.94
	Selenium (Se)-Total (mg/kg wwt)	<0.010	<0.010	0.062	<0.010	<0.010
	Sodium (Na)-Total (mg/kg wwt)	5.0	5.5	50.0	5.7	9.3
	Strontium (Sr)-Total (mg/kg wwt)	0.201	5.66	9.43	0.441	4.85
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	<0.00040	0.00111	0.0203	<0.00040	0.00410
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	0.037	0.026	<0.020
	Uranium (U)-Total (mg/kg wwt)	<0.00040	0.0168	0.193	0.00084	0.0319
	Vanadium (V)-Total (mg/kg wwt)	<0.020	0.129	1.97	<0.020	0.282
	Zinc (Zn)-Total (mg/kg wwt)	0.63	8.26	17.9	1.19	12.9
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	0.084	1.16	<0.040	0.196

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-35 TISSUE 19-AUG-14 12:31 T2-FAR FIELD STATION 4 SAMPLE 3 - LICHEN	L1510356-36 TISSUE 19-AUG-14 12:31 T2-FAR FIELD STATION 4 SAMPLE 4 - BERRIES	L1510356-38 TISSUE 19-AUG-14 12:58 T2-FAR FIELD STATION 5 SAMPLE 2 - SEDGE	L1510356-39 TISSUE 19-AUG-14 12:58 T2-FAR FIELD STATION 5 SAMPLE 3 - LICHEN	L1510356-40 TISSUE 19-AUG-14 12:58 T2-FAR FIELD STATION 5 SAMPLE 4 - BERRIES
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	17.1	85.2	49.7	28.4	84.2
Metals	Aluminum (Al)-Total (mg/kg wwt)	279	2.61	134	501	3.16
	Antimony (Sb)-Total (mg/kg wwt)	0.0035 ^{RRU}	<0.0020	<0.0020	0.0051 ^{RRU}	<0.0020
	Arsenic (As)-Total (mg/kg wwt)	0.475	<0.0040	0.134	0.869	<0.0040
	Barium (Ba)-Total (mg/kg wwt)	7.89	1.24	23.9	12.7	1.31
	Beryllium (Be)-Total (mg/kg wwt)	0.0144	<0.0020	0.0147	0.0162	<0.0020
	Bismuth (Bi)-Total (mg/kg wwt)	0.0114	<0.0020	0.0026	0.0169	<0.0020
	Boron (B)-Total (mg/kg wwt)	0.28	0.68	1.21	0.48	0.70
	Cadmium (Cd)-Total (mg/kg wwt)	0.0649	0.0072	0.0147	0.0468	0.0054
	Calcium (Ca)-Total (mg/kg wwt)	2290	261	1180	2660	224
	Cesium (Cs)-Total (mg/kg wwt)	0.0951	0.0095	0.0554	0.160	0.0090
	Chromium (Cr)-Total (mg/kg wwt)	5.72	0.026	2.93	10.9	0.034
	Cobalt (Co)-Total (mg/kg wwt)	0.251	0.0048	0.220	0.424	<0.0040
	Copper (Cu)-Total (mg/kg wwt)	0.967	0.619	1.95	1.24	0.679
	Iron (Fe)-Total (mg/kg wwt)	635	3.96	301	1190	5.20
	Lead (Pb)-Total (mg/kg wwt)	0.611	0.0040	0.131	0.690	<0.0040
	Lithium (Li)-Total (mg/kg wwt)	0.15	<0.10	<0.10	0.26	<0.10
	Magnesium (Mg)-Total (mg/kg wwt)	439	60.5	656	610	64.9
	Manganese (Mn)-Total (mg/kg wwt)	70.0	8.86	143	119	10.6
	Mercury (Hg)-Total (mg/kg wwt)	0.0766	<0.0010	0.0077	0.0751	<0.0010
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0787	0.0158	0.142	0.103	0.0063
	Nickel (Ni)-Total (mg/kg wwt)	2.15	0.189	2.20	3.61	0.109
	Phosphorus (P)-Total (mg/kg wwt)	528	105	374	406	127
	Potassium (K)-Total (mg/kg wwt)	1350	1030	2460	1120	1040
	Rubidium (Rb)-Total (mg/kg wwt)	4.72	3.93	6.77	6.44	5.46
	Selenium (Se)-Total (mg/kg wwt)	0.048	<0.010	<0.010	0.046	<0.010
	Sodium (Na)-Total (mg/kg wwt)	35.1	6.3	11.3	25.3	4.9
	Strontium (Sr)-Total (mg/kg wwt)	5.65	0.348	7.95	6.31	0.500
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.0134	0.00101	0.00201	0.0186	<0.00040
	Tin (Sn)-Total (mg/kg wwt)	<0.020	0.036	<0.020	<0.020	0.049
	Uranium (U)-Total (mg/kg wwt)	0.0628	0.00158	0.0424	0.0914	0.00063
	Vanadium (V)-Total (mg/kg wwt)	0.610	<0.020	0.277	1.11	<0.020
	Zinc (Zn)-Total (mg/kg wwt)	16.3	1.19	15.3	13.2	0.95
	Zirconium (Zr)-Total (mg/kg wwt)	0.465	<0.040	0.155	0.702	<0.040

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-42 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 1 SAMPLE 2 - SEDGE	L1510356-43 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 1 SAMPLE 3 - LICHEN	L1510356-44 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 1 SAMPLE 4 - BERRIES	L1510356-46 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 2 SAMPLE 2 - SEDGE	L1510356-47 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 2 SAMPLE 3 - LICHEN
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	43.5	18.5	82.4	52.4	32.0
Metals	Aluminum (Al)-Total (mg/kg ww)	379	965	7.67	285	663
	Antimony (Sb)-Total (mg/kg ww)	0.0031	0.0099	<0.0020	<0.0020	0.0064
	Arsenic (As)-Total (mg/kg ww)	0.521	1.92	0.0077	0.421	1.50
	Barium (Ba)-Total (mg/kg ww)	13.7	8.36	1.05	12.6	7.67
	Beryllium (Be)-Total (mg/kg ww)	0.0144	0.0331	<0.0020	0.0118	0.0233
	Bismuth (Bi)-Total (mg/kg ww)	0.0074	0.0318	<0.0020	0.0073	0.0401
	Boron (B)-Total (mg/kg ww)	1.15	0.44	1.02	0.87	0.57
	Cadmium (Cd)-Total (mg/kg ww)	0.0099	0.0756	<0.0010	0.0157	0.0578
	Calcium (Ca)-Total (mg/kg ww)	1300	2840	156	966	3250
	Cesium (Cs)-Total (mg/kg ww)	0.0486	0.194	0.0013	0.0385	0.133
	Chromium (Cr)-Total (mg/kg ww)	8.87	22.1	0.141	5.72	14.3
	Cobalt (Co)-Total (mg/kg ww)	0.348	0.834	0.0085	0.326	0.608
	Copper (Cu)-Total (mg/kg ww)	1.41	1.86	0.964	1.21	1.69
	Iron (Fe)-Total (mg/kg ww)	1020	2370	18.3	783	1860
	Lead (Pb)-Total (mg/kg ww)	0.250	1.36	0.0060	0.222	1.21
	Lithium (Li)-Total (mg/kg ww)	0.29	0.57	<0.10	0.20	0.38
	Magnesium (Mg)-Total (mg/kg ww)	751	1050	87.4	553	755
	Manganese (Mn)-Total (mg/kg ww)	88.8	63.8	8.33	139	67.0
	Mercury (Hg)-Total (mg/kg ww)	0.0144	0.114	<0.0010	0.0139	0.0795
	Molybdenum (Mo)-Total (mg/kg ww)	0.584	0.209	0.0209	0.340	0.145
	Nickel (Ni)-Total (mg/kg ww)	3.41	7.20	0.191	3.30	5.05
	Phosphorus (P)-Total (mg/kg ww)	394	310	142	387	352
	Potassium (K)-Total (mg/kg ww)	2860	1070	1190	2770	1040
	Rubidium (Rb)-Total (mg/kg ww)	2.77	2.89	1.69	3.97	2.51
	Selenium (Se)-Total (mg/kg ww)	<0.010	0.062	<0.010	<0.010	0.042
	Sodium (Na)-Total (mg/kg ww)	14.2	40.0	5.3	13.1	25.4
	Strontium (Sr)-Total (mg/kg ww)	5.86	6.76	0.301	4.27	7.07
	Tellurium (Te)-Total (mg/kg ww)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg ww)	0.00348	0.00978	<0.00040	0.00405	0.0105
	Tin (Sn)-Total (mg/kg ww)	<0.020	0.020	0.028	<0.020	<0.020
	Uranium (U)-Total (mg/kg ww)	0.0359	0.125	0.00103	0.0306	0.0900
	Vanadium (V)-Total (mg/kg ww)	0.862	2.17	<0.020	0.618	1.44
	Zinc (Zn)-Total (mg/kg ww)	10.3	12.6	1.31	12.0	11.1
	Zirconium (Zr)-Total (mg/kg ww)	0.426	1.43	<0.040	0.339	1.14

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-48 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 2 SAMPLE 4 - BERRIES	L1510356-50 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 3 SAMPLE 2 - SEDGE	L1510356-51 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 3 SAMPLE 3 - LICHEN	L1510356-52 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 3 SAMPLE 4 - BERRIES	L1510356-54 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 4 SAMPLE 2 - SEDGE
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	84.8	55.8	21.8	82.8	44.4
Metals	Aluminum (Al)-Total (mg/kg wwt)	8.98	72.9	1160	119	645
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0101	<0.0020	0.0047
	Arsenic (As)-Total (mg/kg wwt)	0.0103	0.190	2.00	0.0212	1.25
	Barium (Ba)-Total (mg/kg wwt)	1.08	12.2	10.0	1.55	51.6
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0040	0.0435	0.0110	0.0198
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0415	0.0089	0.0151
	Boron (B)-Total (mg/kg wwt)	1.19	1.44	0.68	0.98	2.80
	Cadmium (Cd)-Total (mg/kg wwt)	0.0036	0.0096	0.0618	0.0021	0.0337
	Calcium (Ca)-Total (mg/kg wwt)	241	1040	3260	389	2260
	Cesium (Cs)-Total (mg/kg wwt)	0.0022	0.0336	0.264	0.0407	0.0781
	Chromium (Cr)-Total (mg/kg wwt)	0.116	1.68	26.4	0.232	15.4
	Cobalt (Co)-Total (mg/kg wwt)	0.0095	0.0955	0.995	0.0537	0.645
	Copper (Cu)-Total (mg/kg wwt)	0.936	1.50	2.19	0.717	2.71
	Iron (Fe)-Total (mg/kg wwt)	16.8	184	2990	149	1860
	Lead (Pb)-Total (mg/kg wwt)	0.0059	0.123	1.78	0.0720	0.491
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	0.72	0.44	0.39
	Magnesium (Mg)-Total (mg/kg wwt)	75.4	304	1220	122	1280
	Manganese (Mn)-Total (mg/kg wwt)	9.65	100	81.3	10.3	293
	Mercury (Hg)-Total (mg/kg wwt)	<0.0010	0.0051	0.0874	<0.0010	0.0169
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0133	4.75	0.260	0.0125	1.66
	Nickel (Ni)-Total (mg/kg wwt)	0.159	0.992	8.51	0.238	5.66
	Phosphorus (P)-Total (mg/kg wwt)	126	516	347	134	370
	Potassium (K)-Total (mg/kg wwt)	1200	2860	1180	1200	2900
	Rubidium (Rb)-Total (mg/kg wwt)	2.24	3.78	2.72	4.09	1.33
	Selenium (Se)-Total (mg/kg wwt)	<0.010	<0.010	0.065	<0.010	0.016
	Sodium (Na)-Total (mg/kg wwt)	7.1	7.0	27.8	7.4	10.6
	Strontium (Sr)-Total (mg/kg wwt)	0.322	4.28	8.60	0.700	11.1
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	<0.00040	0.00089	0.0103	0.00225	0.00396
	Tin (Sn)-Total (mg/kg wwt)	0.043	<0.020	0.020	0.024	<0.020
	Uranium (U)-Total (mg/kg wwt)	0.00160	0.0116	0.146	0.0162	0.0683
	Vanadium (V)-Total (mg/kg wwt)	<0.020	0.161	2.60	0.178	1.47
	Zinc (Zn)-Total (mg/kg wwt)	1.31	15.8	14.3	1.45	32.2
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	0.066	1.71	0.052	0.652

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-55 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 4 SAMPLE 3 - LICHEN	L1510356-56 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 4 SAMPLE 4 - BERRIES	L1510356-58 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 5 SAMPLE 2 - SEDGE	L1510356-59 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 5 SAMPLE 3 - LICHEN	L1510356-60 TISSUE 20-AUG-14 08:00 T3-NEAR FIELD STATION 5 SAMPLE 4 - BERRIES
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	26.4	82.6	31.1	25.2	84.5
Metals	Aluminum (Al)-Total (mg/kg ww)	1030	37.7	1230	1240	8.82
	Antimony (Sb)-Total (mg/kg ww)	0.0089	<0.0020	0.0082	0.0081	<0.0020
	Arsenic (As)-Total (mg/kg ww)	2.70	0.0639	1.45	2.38	0.0079
	Barium (Ba)-Total (mg/kg ww)	12.3	1.19	24.8	9.03	0.660
	Beryllium (Be)-Total (mg/kg ww)	0.0364	<0.0020	0.0491	0.0375	<0.0020
	Bismuth (Bi)-Total (mg/kg ww)	0.0381	<0.0020	0.0344	0.0351	<0.0020
	Boron (B)-Total (mg/kg ww)	0.76	0.65	1.60	0.69	0.91
	Cadmium (Cd)-Total (mg/kg ww)	0.0953	0.0036	0.0340	0.0484	0.0021
	Calcium (Ca)-Total (mg/kg ww)	4600	200	2290	1920	157
	Cesium (Cs)-Total (mg/kg ww)	0.212	0.0054	0.156	0.199	0.0027
	Chromium (Cr)-Total (mg/kg ww)	23.6	0.762	23.7	29.0	0.131
	Cobalt (Co)-Total (mg/kg ww)	0.886	0.0346	0.975	1.13	0.0096
	Copper (Cu)-Total (mg/kg ww)	2.51	0.746	2.50	2.44	0.758
	Iron (Fe)-Total (mg/kg ww)	2940	100	2910	3270	18.7
	Lead (Pb)-Total (mg/kg ww)	1.74	0.0378	0.889	1.36	0.0054
	Lithium (Li)-Total (mg/kg ww)	0.59	<0.10	0.97	0.72	<0.10
	Magnesium (Mg)-Total (mg/kg ww)	1110	104	1350	1310	68.6
	Manganese (Mn)-Total (mg/kg ww)	117	12.9	145	87.8	4.65
	Mercury (Hg)-Total (mg/kg ww)	0.129	0.0015	0.0398	0.146	<0.0010
	Molybdenum (Mo)-Total (mg/kg ww)	0.245	0.0160	0.435	0.248	0.0054
	Nickel (Ni)-Total (mg/kg ww)	8.07	0.407	8.72	9.51	0.170
	Phosphorus (P)-Total (mg/kg ww)	450	151	420	272	121
	Potassium (K)-Total (mg/kg ww)	1210	1120	2590	857	1160
	Rubidium (Rb)-Total (mg/kg ww)	3.51	2.36	4.07	4.25	2.57
	Selenium (Se)-Total (mg/kg ww)	0.052	<0.010	0.030	0.047	<0.010
	Sodium (Na)-Total (mg/kg ww)	24.2	5.7	40.8	21.2	6.0
	Strontium (Sr)-Total (mg/kg ww)	9.50	0.431	10.5	5.46	0.216
	Tellurium (Te)-Total (mg/kg ww)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg ww)	0.0165	<0.00040	0.0129	0.0182	<0.00040
	Tin (Sn)-Total (mg/kg ww)	0.020	<0.020	0.029	<0.020	0.037
	Uranium (U)-Total (mg/kg ww)	0.149	0.00534	0.135	0.148	0.00088
	Vanadium (V)-Total (mg/kg ww)	2.29	0.078	2.61	2.77	<0.020
	Zinc (Zn)-Total (mg/kg ww)	15.8	1.38	18.0	9.92	1.22
	Zirconium (Zr)-Total (mg/kg ww)	1.63	<0.040	1.25	1.67	<0.040

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-62 TISSUE 16-AUG-14 13:30 T4-FAR FIELD STATION 1 SAMPLE 2 - SEDGE	L1510356-63 TISSUE 16-AUG-14 13:30 T4-FAR FIELD STATION 1 SAMPLE 3 - LICHEN	L1510356-64 TISSUE 16-AUG-14 13:30 T4-FAR FIELD STATION 1 SAMPLE 4 - BERRIES	L1510356-66 TISSUE 16-AUG-14 13:13 T4-FAR FIELD STATION 2 SAMPLE 2 - SEDGE	L1510356-67 TISSUE 16-AUG-14 13:13 T4-FAR FIELD STATION 2 SAMPLE 3 - LICHEN
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	46.7	13.7	87.3	42.5	20.1
Metals	Aluminum (Al)-Total (mg/kg wwt)	52.9	393	7.79	632	360
	Antimony (Sb)-Total (mg/kg wwt)	0.0027 ^{RRU}	0.0043	<0.0020	0.0031 ^{RRU}	0.0055
	Arsenic (As)-Total (mg/kg wwt)	0.104	0.769	0.0051	0.915	0.858
	Barium (Ba)-Total (mg/kg wwt)	13.0	11.3	0.909	45.6	7.31
	Beryllium (Be)-Total (mg/kg wwt)	0.0036	0.0156	<0.0020	0.0491	0.0161
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	0.0159	<0.0020	0.0139	0.0172
	Boron (B)-Total (mg/kg wwt)	2.87	1.07	1.25	2.66	0.54
	Cadmium (Cd)-Total (mg/kg wwt)	0.0125	0.0449	0.0062	0.0333	0.0344
	Calcium (Ca)-Total (mg/kg wwt)	1080	1820	266	2180	1520
	Cesium (Cs)-Total (mg/kg wwt)	0.0115	0.0851	0.0024	0.0645	0.109
	Chromium (Cr)-Total (mg/kg wwt)	1.14	9.28	0.054	11.2	8.74
	Cobalt (Co)-Total (mg/kg wwt)	0.0522	0.360	0.0050	0.668	0.376
	Copper (Cu)-Total (mg/kg wwt)	1.62	1.38	0.676	2.32	1.16
	Iron (Fe)-Total (mg/kg wwt)	124	892	10.3	1360	874
	Lead (Pb)-Total (mg/kg wwt)	0.0846	0.823	<0.0040	0.430	0.756
	Lithium (Li)-Total (mg/kg wwt)	<0.10	0.22	<0.10	0.39	0.22
	Magnesium (Mg)-Total (mg/kg wwt)	476	633	69.8	1150	524
	Manganese (Mn)-Total (mg/kg wwt)	381	254	19.5	195	90.2
	Mercury (Hg)-Total (mg/kg wwt)	0.0075	0.183	<0.0010	0.0166	0.106
	Molybdenum (Mo)-Total (mg/kg wwt)	3.22	0.111	0.0313	2.04	0.0937
	Nickel (Ni)-Total (mg/kg wwt)	0.898	3.60	0.204	5.17	3.19
	Phosphorus (P)-Total (mg/kg wwt)	615	243	128	528	234
	Potassium (K)-Total (mg/kg wwt)	4230	1020	1070	4150	881
	Rubidium (Rb)-Total (mg/kg wwt)	2.28	1.89	1.58	3.41	3.27
	Selenium (Se)-Total (mg/kg wwt)	0.010	0.079	<0.010	0.019	0.041
	Sodium (Na)-Total (mg/kg wwt)	21.2	16.0	7.3	8.9	13.3
	Strontium (Sr)-Total (mg/kg wwt)	5.15	3.91	0.296	12.4	3.78
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.00060	0.00470	<0.00040	0.00383	0.0100
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	0.133	<0.020	<0.020
	Uranium (U)-Total (mg/kg wwt)	0.00804	0.0529	0.00170	0.138	0.0525
	Vanadium (V)-Total (mg/kg wwt)	0.110	0.891	<0.020	1.05	0.832
	Zinc (Zn)-Total (mg/kg wwt)	26.0	16.1	1.75	18.4	9.32
	Zirconium (Zr)-Total (mg/kg wwt)	0.087	0.584	<0.040	0.491	0.548

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-68 TISSUE 16-AUG-14 13:13 T4-FAR FIELD STATION 2 SAMPLE 4 - BERRIES	L1510356-70 TISSUE 16-AUG-14 12:54 T4-FAR FIELD STATION 3 SAMPLE 2 - SEDGE	L1510356-71 TISSUE 16-AUG-14 12:54 T4-FAR FIELD STATION 3 SAMPLE 3 - LICHEN	L1510356-72 TISSUE 16-AUG-14 12:54 T4-FAR FIELD STATION 3 SAMPLE 4 - BERRIES	L1510356-74 TISSUE 16-AUG-14 14:10 T4-FAR FIELD STATION 4 SAMPLE 2 - SEDGE
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	80.9	28.4	13.0	88.3	48.0
Metals	Aluminum (Al)-Total (mg/kg ww)	7.56	1660	458	5.08	281
	Antimony (Sb)-Total (mg/kg ww)	<0.0020	0.0098	0.0046	<0.0020	<0.0020
	Arsenic (As)-Total (mg/kg ww)	0.0094	5.33	0.686	0.0065	0.379
	Barium (Ba)-Total (mg/kg ww)	1.42	21.2	5.91	0.909	16.9
	Beryllium (Be)-Total (mg/kg ww)	<0.0020	0.0502	0.0285	<0.0020	0.0119
	Bismuth (Bi)-Total (mg/kg ww)	<0.0020	0.0395	0.0288	<0.0020	0.0056
	Boron (B)-Total (mg/kg ww)	0.77	1.35	0.47	0.57	1.03
	Cadmium (Cd)-Total (mg/kg ww)	0.0017	0.0719	0.0558	0.0038	0.0182
	Calcium (Ca)-Total (mg/kg ww)	267	1790	1940	219	1080
	Cesium (Cs)-Total (mg/kg ww)	0.0055	0.203	0.139	0.0055	0.0768
	Chromium (Cr)-Total (mg/kg ww)	0.122	44.1	5.71	0.089	6.17
	Cobalt (Co)-Total (mg/kg ww)	0.0087	1.72	0.345	0.0052	0.270
	Copper (Cu)-Total (mg/kg ww)	0.750	5.36	1.02	0.691	1.23
	Iron (Fe)-Total (mg/kg ww)	14.6	6110	912	11.4	683
	Lead (Pb)-Total (mg/kg ww)	0.0060	1.79	1.48	<0.0040	0.209
	Lithium (Li)-Total (mg/kg ww)	<0.10	1.10	0.49	<0.10	0.20
	Magnesium (Mg)-Total (mg/kg ww)	84.7	1960	432	64.1	536
	Manganese (Mn)-Total (mg/kg ww)	8.99	851	52.1	11.2	204
	Mercury (Hg)-Total (mg/kg ww)	<0.0010	0.0308	0.210	<0.0010	0.0132
	Molybdenum (Mo)-Total (mg/kg ww)	0.0124	0.626	0.104	0.0073	0.815
	Nickel (Ni)-Total (mg/kg ww)	0.255	15.8	2.35	0.120	3.37
	Phosphorus (P)-Total (mg/kg ww)	171	406	226	112	437
	Potassium (K)-Total (mg/kg ww)	1190	1750	973	1040	3300
	Rubidium (Rb)-Total (mg/kg ww)	3.56	3.01	3.60	4.80	7.59
	Selenium (Se)-Total (mg/kg ww)	<0.010	0.036	0.078	<0.010	0.010
	Sodium (Na)-Total (mg/kg ww)	6.0	11.5	27.9	5.3	11.5
	Strontium (Sr)-Total (mg/kg ww)	0.488	7.91	5.15	0.300	4.54
	Tellurium (Te)-Total (mg/kg ww)	<0.0040	0.0053	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg ww)	<0.00040	0.0119	0.00987	<0.00040	0.00505
	Tin (Sn)-Total (mg/kg ww)	<0.020	<0.020	0.029	0.029	<0.020
	Uranium (U)-Total (mg/kg ww)	0.00124	0.157	0.112	0.00074	0.0252
	Vanadium (V)-Total (mg/kg ww)	<0.020	3.72	0.965	<0.020	0.602
	Zinc (Zn)-Total (mg/kg ww)	1.61	28.3	10.3	0.89	14.5
	Zirconium (Zr)-Total (mg/kg ww)	<0.040	1.63	0.908	<0.040	0.360

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-75 TISSUE 16-AUG-14 14:10 T4-FAR FIELD STATION 4 SAMPLE 3 - LICHEN	L1510356-76 TISSUE 16-AUG-14 14:10 T4-FAR FIELD STATION 4 SAMPLE 4 - BERRIES	L1510356-78 TISSUE 16-AUG-14 13:45 T4-FAR FIELD STATION 5 SAMPLE 2 - SEDGE	L1510356-79 TISSUE 16-AUG-14 13:45 T4-FAR FIELD STATION 5 SAMPLE 3 - LICHEN	L1510356-80 TISSUE 16-AUG-14 13:45 T4-FAR FIELD STATION 5 SAMPLE 4 - BERRIES
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	14.7	84.4	41.9	12.5	81.1
Metals	Aluminum (Al)-Total (mg/kg wwt)	562	14.2	352	691	8.51
	Antimony (Sb)-Total (mg/kg wwt)	0.0046	<0.0020	0.0166	0.0050 ^{RRU}	<0.0020
	Arsenic (As)-Total (mg/kg wwt)	1.16	0.0103	0.748	1.34	0.0126
	Barium (Ba)-Total (mg/kg wwt)	11.8	0.898	22.2	9.17	0.866
	Beryllium (Be)-Total (mg/kg wwt)	0.0178	<0.0020	0.0178	0.0243	<0.0020
	Bismuth (Bi)-Total (mg/kg wwt)	0.0167	<0.0020	0.0069	0.0288	<0.0020
	Boron (B)-Total (mg/kg wwt)	0.68	0.88	2.21	0.53	0.74
	Cadmium (Cd)-Total (mg/kg wwt)	0.0391	<0.0010	0.0345	0.0368	<0.0010
	Calcium (Ca)-Total (mg/kg wwt)	1980	164	1330	2140	211
	Cesium (Cs)-Total (mg/kg wwt)	0.130	0.0028	0.0604	0.207	0.0043
	Chromium (Cr)-Total (mg/kg wwt)	13.5	0.239	8.66	17.2	0.173
	Cobalt (Co)-Total (mg/kg wwt)	0.547	0.0106	0.383	0.667	0.0073
	Copper (Cu)-Total (mg/kg wwt)	1.61	0.783	2.09	1.59	0.787
	Iron (Fe)-Total (mg/kg wwt)	1460	30.7	932	1820	19.7
	Lead (Pb)-Total (mg/kg wwt)	0.753	0.0096	0.356	1.02	0.0054
	Lithium (Li)-Total (mg/kg wwt)	0.32	<0.10	0.21	0.42	<0.10
	Magnesium (Mg)-Total (mg/kg wwt)	718	76.4	762	844	72.0
	Manganese (Mn)-Total (mg/kg wwt)	138	7.31	213	103	7.04
	Mercury (Hg)-Total (mg/kg wwt)	0.129	0.0011	0.0121	0.0752	<0.0010
	Molybdenum (Mo)-Total (mg/kg wwt)	0.112	0.0115	2.17	0.181	0.0108
	Nickel (Ni)-Total (mg/kg wwt)	4.76	0.161	3.65	5.86	0.282
	Phosphorus (P)-Total (mg/kg wwt)	313	120	297	275	115
	Potassium (K)-Total (mg/kg wwt)	1090	1140	3510	1050	1090
	Rubidium (Rb)-Total (mg/kg wwt)	5.55	3.05	3.73	5.81	4.42
	Selenium (Se)-Total (mg/kg wwt)	0.054	<0.010	0.018	0.057	<0.010
	Sodium (Na)-Total (mg/kg wwt)	16.5	6.5	7.0	27.1	6.4
	Strontium (Sr)-Total (mg/kg wwt)	4.98	0.273	8.64	5.60	0.341
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.0200	<0.00040	0.00463	0.0248	<0.00040
	Tin (Sn)-Total (mg/kg wwt)	<0.020	0.069	<0.020	<0.020	0.029
	Uranium (U)-Total (mg/kg wwt)	0.0610	0.00168	0.0345	0.0741	0.00094
	Vanadium (V)-Total (mg/kg wwt)	1.27	0.028	0.788	1.56	<0.020
	Zinc (Zn)-Total (mg/kg wwt)	11.4	1.00	88.7	12.6	0.90
	Zirconium (Zr)-Total (mg/kg wwt)	0.729	<0.040	0.364	0.951	<0.040

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-82 TISSUE 16-AUG-14 09:10 T5-FAR FIELD STATION 1 SAMPLE 2 - SEDGE	L1510356-83 TISSUE 16-AUG-14 09:10 T5-FAR FIELD STATION 1 SAMPLE 3 - LICHEN	L1510356-84 TISSUE 16-AUG-14 09:10 T5-FAR FIELD STATION 1 SAMPLE 4 - BERRIES	L1510356-86 TISSUE 16-AUG-14 10:35 T5-FAR FIELD STATION 2 SAMPLE 2 - SEDGE	L1510356-87 TISSUE 16-AUG-14 10:35 T5-FAR FIELD STATION 2 SAMPLE 3 - LICHEN
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	50.6	34.6	84.7	43.6	29.1
Metals	Aluminum (Al)-Total (mg/kg wwt)	197	1520	5.81	487	516
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	0.0135	<0.0020	0.0052	0.0058 ^{RRU}
	Arsenic (As)-Total (mg/kg wwt)	0.210	2.15	0.0077	0.658	0.998
	Barium (Ba)-Total (mg/kg wwt)	22.0	25.2	1.03	23.9	9.17
	Beryllium (Be)-Total (mg/kg wwt)	0.0099	0.0449	<0.0020	0.0277	0.0174
	Bismuth (Bi)-Total (mg/kg wwt)	0.0033	0.0350	<0.0020	0.0126	0.0166
	Boron (B)-Total (mg/kg wwt)	1.68	0.74	0.67	2.04	0.52
	Cadmium (Cd)-Total (mg/kg wwt)	0.0236	0.116	0.0021	0.0299	0.0805
	Calcium (Ca)-Total (mg/kg wwt)	1150	3270	243	1260	2750
	Cesium (Cs)-Total (mg/kg wwt)	0.0835	0.231	0.0086	0.0692	0.128
	Chromium (Cr)-Total (mg/kg wwt)	4.69	31.9	0.087	10.5	12.1
	Cobalt (Co)-Total (mg/kg wwt)	0.269	1.73	0.0065	1.13	0.609
	Copper (Cu)-Total (mg/kg wwt)	1.63	3.18	0.725	2.14	1.26
	Iron (Fe)-Total (mg/kg wwt)	481	4300	11.3	1160	1380
	Lead (Pb)-Total (mg/kg wwt)	0.137	1.58	<0.0040	0.695	0.796
	Lithium (Li)-Total (mg/kg wwt)	0.14	0.93	<0.10	0.40	0.30
	Magnesium (Mg)-Total (mg/kg wwt)	637	1730	69.2	852	704
	Manganese (Mn)-Total (mg/kg wwt)	155	206	5.18	201	81.0
	Mercury (Hg)-Total (mg/kg wwt)	0.0099	0.0971	<0.0010	0.0240	0.0642
	Molybdenum (Mo)-Total (mg/kg wwt)	0.584	0.293	0.0055	1.33	0.112
	Nickel (Ni)-Total (mg/kg wwt)	3.83	12.1	0.183	8.81	4.43
	Phosphorus (P)-Total (mg/kg wwt)	467	405	134	552	333
	Potassium (K)-Total (mg/kg wwt)	3880	1160	1030	3740	1120
	Rubidium (Rb)-Total (mg/kg wwt)	7.78	4.41	4.41	3.49	5.32
	Selenium (Se)-Total (mg/kg wwt)	0.012	0.067	<0.010	0.020	0.035
	Sodium (Na)-Total (mg/kg wwt)	14.9	110	6.7	13.6	26.4
	Strontium (Sr)-Total (mg/kg wwt)	6.53	9.74	0.503	6.35	6.71
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.00322	0.0222	<0.00040	0.00724	0.0215
	Tin (Sn)-Total (mg/kg wwt)	<0.020	0.029	0.035	<0.020	<0.020
	Uranium (U)-Total (mg/kg wwt)	0.0156	0.158	0.00117	0.0608	0.0553
	Vanadium (V)-Total (mg/kg wwt)	0.443	3.39	<0.020	1.05	1.17
	Zinc (Zn)-Total (mg/kg wwt)	27.7	22.9	0.96	43.9	18.0
	Zirconium (Zr)-Total (mg/kg wwt)	0.198	1.67	<0.040	0.469	0.655

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-88 TISSUE 16-AUG-14 10:35 T5-FAR FIELD STATION 2 SAMPLE 4 - BERRIES	L1510356-90 TISSUE 16-AUG-14 09:45 T5-FAR FIELD STATION 3 SAMPLE 2 - SEDGE	L1510356-91 TISSUE 16-AUG-14 09:45 T5-FAR FIELD STATION 3 SAMPLE 3 - LICEHN	L1510356-92 TISSUE 16-AUG-14 09:45 T5-FAR FIELD STATION 3 SAMPLE 4 - BERRIES	L1510356-94 TISSUE 16-AUG-14 11:00 T5-FAR FIELD STATION 4 SAMPLE 2 - SEDGE
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	86.8	55.7	32.1	81.0	36.0
Metals	Aluminum (Al)-Total (mg/kg wwt)	13.2	136	812	3.95	158
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0054	<0.0020	<0.0020
	Arsenic (As)-Total (mg/kg wwt)	0.0094	0.218	0.950	<0.0040	0.144
	Barium (Ba)-Total (mg/kg wwt)	1.14	16.0	16.9	0.742	12.4
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0077	0.0433	<0.0020	0.0038
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	0.0060	0.0237	<0.0020	0.0030
	Boron (B)-Total (mg/kg wwt)	0.85	1.56	0.91	0.70	1.18
	Cadmium (Cd)-Total (mg/kg wwt)	0.0056	0.0142	0.0616	<0.0010	0.0099
	Calcium (Ca)-Total (mg/kg wwt)	231	1050	1880	267	909
	Cesium (Cs)-Total (mg/kg wwt)	0.0143	0.0580	0.113	0.0025	0.0535
	Chromium (Cr)-Total (mg/kg wwt)	0.122	2.23	15.9	0.050	3.95
	Cobalt (Co)-Total (mg/kg wwt)	0.0124	0.224	0.807	0.0058	0.158
	Copper (Cu)-Total (mg/kg wwt)	0.515	1.72	1.84	0.647	0.953
	Iron (Fe)-Total (mg/kg wwt)	20.5	269	1850	6.92	354
	Lead (Pb)-Total (mg/kg wwt)	0.0069	0.172	0.978	<0.0040	0.128
	Lithium (Li)-Total (mg/kg wwt)	<0.10	0.13	0.47	<0.10	0.11
	Magnesium (Mg)-Total (mg/kg wwt)	64.2	520	938	71.4	500
	Manganese (Mn)-Total (mg/kg wwt)	6.33	173	230	9.11	39.0
	Mercury (Hg)-Total (mg/kg wwt)	<0.0010	0.0080	0.0860	<0.0010	0.0105
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0126	0.227	0.116	0.0116	0.314
	Nickel (Ni)-Total (mg/kg wwt)	0.270	2.85	5.89	0.152	3.78
	Phosphorus (P)-Total (mg/kg wwt)	105	486	280	149	356
	Potassium (K)-Total (mg/kg wwt)	1080	3050	855	1230	3730
	Rubidium (Rb)-Total (mg/kg wwt)	4.67	6.87	2.92	3.07	5.36
	Selenium (Se)-Total (mg/kg wwt)	<0.010	<0.010	0.059	<0.010	<0.010
	Sodium (Na)-Total (mg/kg wwt)	6.3	13.1	48.8	7.8	6.8
	Strontium (Sr)-Total (mg/kg wwt)	0.357	5.14	4.78	0.339	3.28
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	<0.00040	0.00382	0.0278	<0.00040	0.00215
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	0.075	<0.020
	Uranium (U)-Total (mg/kg wwt)	0.00197	0.0202	0.113	0.00085	0.0130
	Vanadium (V)-Total (mg/kg wwt)	0.021	0.285	1.71	<0.020	0.367
	Zinc (Zn)-Total (mg/kg wwt)	1.07	15.4	15.3	0.95	17.5
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	0.178	0.852	<0.040	0.177

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-95 TISSUE 16-AUG-14 11:00 T5-FAR FIELD STATION 4 SAMPLE 3 - LICHEN	L1510356-96 TISSUE 16-AUG-14 11:00 T5-FAR FIELD STATION 4 SAMPLE 4 - BERRIES	L1510356-98 TISSUE 16-AUG-14 10:10 T5-FAR FIELD STATION 5 SAMPLE 2 - SEDGE	L1510356-99 TISSUE 16-AUG-14 10:10 T5-FAR FIELD STATION 5 SAMPLE 3 - LICHEN	L1510356-100 TISSUE 16-AUG-14 10:10 T5-FAR FIELD STATION 5 SAMPLE 4 - BERRIES
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	24.4	85.5	60.2	32.3	79.8
Metals	Aluminum (Al)-Total (mg/kg ww)	1520	3.93	95.5	1570	12.5
	Antimony (Sb)-Total (mg/kg ww)	0.0164	<0.0020	<0.0020	0.0147	<0.0020
	Arsenic (As)-Total (mg/kg ww)	1.93	<0.0040	0.0949	2.35	0.0196
	Barium (Ba)-Total (mg/kg ww)	36.0	0.965	8.78	20.8	1.54
	Beryllium (Be)-Total (mg/kg ww)	0.0386	<0.0020	0.0056	0.0458	<0.0020
	Bismuth (Bi)-Total (mg/kg ww)	0.0471	<0.0020	0.0022	0.0387	<0.0020
	Boron (B)-Total (mg/kg ww)	1.36	1.13	0.94	0.74	0.95
	Cadmium (Cd)-Total (mg/kg ww)	0.172	0.0133	0.0050	0.118	0.0026
	Calcium (Ca)-Total (mg/kg ww)	2920	236	955	2860	187
	Cesium (Cs)-Total (mg/kg ww)	0.233	0.0030	0.0179	0.232	0.0028
	Chromium (Cr)-Total (mg/kg ww)	31.3	0.051	2.04	31.5	0.141
	Cobalt (Co)-Total (mg/kg ww)	1.22	0.0070	0.125	1.42	0.0166
	Copper (Cu)-Total (mg/kg ww)	3.55	0.578	1.26	2.62	0.789
	Iron (Fe)-Total (mg/kg ww)	3710	7.15	204	4020	21.3
	Lead (Pb)-Total (mg/kg ww)	1.60	<0.0040	0.0559	2.35	0.0138
	Lithium (Li)-Total (mg/kg ww)	0.93	<0.10	0.14	1.00	<0.10
	Magnesium (Mg)-Total (mg/kg ww)	1550	70.7	806	1540	87.3
	Manganese (Mn)-Total (mg/kg ww)	167	13.4	37.2	163	4.43
	Mercury (Hg)-Total (mg/kg ww)	0.133	<0.0010	0.0070	0.126	<0.0010
	Molybdenum (Mo)-Total (mg/kg ww)	0.257	0.0152	0.160	0.218	0.0217
	Nickel (Ni)-Total (mg/kg ww)	10.7	0.315	2.18	10.7	0.294
	Phosphorus (P)-Total (mg/kg ww)	524	138	445	355	174
	Potassium (K)-Total (mg/kg ww)	1100	995	4260	1020	1320
	Rubidium (Rb)-Total (mg/kg ww)	4.08	2.38	3.00	4.87	2.02
	Selenium (Se)-Total (mg/kg ww)	0.083	<0.010	<0.010	0.077	<0.010
	Sodium (Na)-Total (mg/kg ww)	51.7	4.1	7.3	73.4	5.9
	Strontium (Sr)-Total (mg/kg ww)	8.31	0.310	4.93	7.85	0.347
	Tellurium (Te)-Total (mg/kg ww)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg ww)	0.0208	<0.00040	0.00126	0.0354	<0.00040
	Tin (Sn)-Total (mg/kg ww)	0.033	0.073	<0.020	0.038	0.041
	Uranium (U)-Total (mg/kg ww)	0.244	0.00058	0.00876	0.198	0.00190
	Vanadium (V)-Total (mg/kg ww)	3.38	<0.020	0.215	3.47	0.024
	Zinc (Zn)-Total (mg/kg ww)	27.1	1.87	6.08	20.3	1.43
	Zirconium (Zr)-Total (mg/kg ww)	1.57	<0.040	0.102	1.83	<0.040

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-102 TISSUE 14-AUG-14 09:30 T6-SOUTH ISLAND STATION 1 SAMPLE 2 - SEDGE	L1510356-103 TISSUE 14-AUG-14 09:30 T6-SOUTH ISLAND STATION 1 SAMPLE 3 - LICHEN	L1510356-104 TISSUE 14-AUG-14 09:30 T6-SOUTH ISLAND STATION 1 SAMPLE 4 - BERRIES	L1510356-106 TISSUE 14-AUG-14 10:00 T6-SOUTH ISLAND STATION 2 SAMPLE 2 - SEDGE	L1510356-107 TISSUE 14-AUG-14 10:00 T6-SOUTH ISLAND STATION 2 SAMPLE 3 - LICHEN
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	70.9	69.8	86.5	67.7	63.7
Metals	Aluminum (Al)-Total (mg/kg wwt)	255	1170	40.7	246	1660
	Antimony (Sb)-Total (mg/kg wwt)	0.0026 ^{RRU}	0.0068	<0.0020	0.0030	0.0036 ^{RRU}
	Arsenic (As)-Total (mg/kg wwt)	0.397	1.71	0.0582	0.340	2.67
	Barium (Ba)-Total (mg/kg wwt)	16.7	6.58	1.64	16.3	11.9
	Beryllium (Be)-Total (mg/kg wwt)	0.0054	0.0255	<0.0020	0.0055	0.0325
	Bismuth (Bi)-Total (mg/kg wwt)	0.0115	0.0324	<0.0020	0.0094	0.0409
	Boron (B)-Total (mg/kg wwt)	1.68	0.59	2.00	1.64	0.91
	Cadmium (Cd)-Total (mg/kg wwt)	0.0184	0.0468	0.0229	0.0312	0.0600
	Calcium (Ca)-Total (mg/kg wwt)	918	1370	403	1440	1730
	Cesium (Cs)-Total (mg/kg wwt)	0.0379	0.160	0.0061	0.0366	0.243
	Chromium (Cr)-Total (mg/kg wwt)	7.70	31.3	0.869	7.64	48.3
	Cobalt (Co)-Total (mg/kg wwt)	0.282	1.05	0.0362	0.294	1.64
	Copper (Cu)-Total (mg/kg wwt)	1.79	1.94	0.811	1.63	2.94
	Iron (Fe)-Total (mg/kg wwt)	628	2870	92.8	582	4250
	Lead (Pb)-Total (mg/kg wwt)	0.160	0.603	0.0348	0.199	0.743
	Lithium (Li)-Total (mg/kg wwt)	0.15	0.81	<0.10	0.19	1.09
	Magnesium (Mg)-Total (mg/kg wwt)	743	1290	125	684	1920
	Manganese (Mn)-Total (mg/kg wwt)	162	55.0	26.0	56.9	84.3
	Mercury (Hg)-Total (mg/kg wwt)	0.0062	0.0312	0.0029	0.0082	0.0372
	Molybdenum (Mo)-Total (mg/kg wwt)	0.949	0.200	0.0304	0.392	0.226
	Nickel (Ni)-Total (mg/kg wwt)	3.15	10.1	0.432	4.01	15.5
	Phosphorus (P)-Total (mg/kg wwt)	284	165	155	316	261
	Potassium (K)-Total (mg/kg wwt)	2520	493	1180	2140	662
	Rubidium (Rb)-Total (mg/kg wwt)	1.57	1.41	1.14	1.08	1.91
	Selenium (Se)-Total (mg/kg wwt)	<0.010	0.026	<0.010	<0.010	0.031
	Sodium (Na)-Total (mg/kg wwt)	18.9	31.9	7.5	25.3	27.7
	Strontium (Sr)-Total (mg/kg wwt)	4.44	4.66	0.565	6.30	5.73
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.00177	0.00731	<0.00040	0.00168	0.0110
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	0.072	<0.020	<0.020
	Uranium (U)-Total (mg/kg wwt)	0.0205	0.111	0.00666	0.0233	0.144
	Vanadium (V)-Total (mg/kg wwt)	0.627	2.76	0.085	0.610	3.96
	Zinc (Zn)-Total (mg/kg wwt)	11.3	8.36	2.76	9.46	12.2
	Zirconium (Zr)-Total (mg/kg wwt)	0.209	0.985	<0.040	0.201	1.32

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-108 TISSUE 14-AUG-14 10:00 T6-SOUTH ISLAND STATION 2 SAMPLE 4 - BERRIES	L1510356-110 TISSUE 14-AUG-14 11:00 T6-SOUTH ISLAND STATION 3 SAMPLE 2 - SEDGE	L1510356-111 TISSUE 14-AUG-14 11:00 T6-SOUTH ISLAND STATION 3 SAMPLE 3 - LICHEN	L1510356-112 TISSUE 14-AUG-14 11:00 T6-SOUTH ISLAND STATION 3 SAMPLE 4 - BERRIES	L1510356-114 TISSUE 14-AUG-14 11:30 T6-SOUTH ISLAND STATION 4 SAMPLE 2 - SEDGE
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	84.1	61.3	58.6	84.2	63.2
Metals	Aluminum (Al)-Total (mg/kg wwt)	13.7	106	1520	17.3	275
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0094	<0.0020	0.0029 ^{RRU}
	Arsenic (As)-Total (mg/kg wwt)	0.0261	0.141	2.28	0.0217	0.367
	Barium (Ba)-Total (mg/kg wwt)	1.09	10.7	17.8	1.02	8.13
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0035	0.0321	<0.0020	0.0071
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	0.0025	0.0381	<0.0020	0.0066
	Boron (B)-Total (mg/kg wwt)	1.45	1.67	0.72	1.03	1.18
	Cadmium (Cd)-Total (mg/kg wwt)	0.0078	0.0127	0.0368	0.0119	0.0087
	Calcium (Ca)-Total (mg/kg wwt)	197	1050	2520	292	1020
	Cesium (Cs)-Total (mg/kg wwt)	0.0026	0.0142	0.287	0.0030	0.0585
	Chromium (Cr)-Total (mg/kg wwt)	0.325	2.85	41.5	0.322	7.13
	Cobalt (Co)-Total (mg/kg wwt)	0.0182	0.128	1.55	0.0166	0.272
	Copper (Cu)-Total (mg/kg wwt)	0.879	1.81	2.57	0.850	1.43
	Iron (Fe)-Total (mg/kg wwt)	32.0	258	3870	39.4	619
	Lead (Pb)-Total (mg/kg wwt)	0.0090	0.129	1.16	0.0122	0.257
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	0.93	<0.10	0.18
	Magnesium (Mg)-Total (mg/kg wwt)	86.6	371	1740	88.2	517
	Manganese (Mn)-Total (mg/kg wwt)	13.5	125	103	8.57	40.0
	Mercury (Hg)-Total (mg/kg wwt)	0.0012	0.0063	0.0391	<0.0010	0.0092
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0301	0.888	0.259	0.0269	0.183
	Nickel (Ni)-Total (mg/kg wwt)	0.320	1.44	13.9	0.295	3.15
	Phosphorus (P)-Total (mg/kg wwt)	149	394	207	153	453
	Potassium (K)-Total (mg/kg wwt)	1150	2630	688	1190	2600
	Rubidium (Rb)-Total (mg/kg wwt)	1.09	0.776	2.64	1.41	2.63
	Selenium (Se)-Total (mg/kg wwt)	<0.010	<0.010	0.037	<0.010	<0.010
	Sodium (Na)-Total (mg/kg wwt)	<4.0	17.5	65.3	6.2	4.6
	Strontium (Sr)-Total (mg/kg wwt)	0.304	3.36	6.67	0.372	4.12
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	<0.00040	0.00069	0.0199	<0.00040	0.00227
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	0.023	0.024	<0.020
	Uranium (U)-Total (mg/kg wwt)	0.00179	0.0125	0.126	0.00370	0.0239
	Vanadium (V)-Total (mg/kg wwt)	0.028	0.255	3.70	0.038	0.653
	Zinc (Zn)-Total (mg/kg wwt)	1.66	13.7	11.6	1.53	5.64
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	0.089	1.57	<0.040	0.179

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-115 TISSUE 14-AUG-14 11:30 T6-SOUTH ISLAND STATION 4 SAMPLE 3 - LICHEN	L1510356-116 TISSUE 14-AUG-14 11:30 T6-SOUTH ISLAND STATION 4 SAMPLE 4 - BERRIES	L1510356-118 TISSUE 14-AUG-14 12:00 T6-SOUTH ISLAND STATION 5 SAMPLE 2 - SEDGE	L1510356-119 TISSUE 14-AUG-14 12:00 T6-SOUTH ISLAND STATION 5 SAMPLE 3 - LICHEN	L1510356-120 TISSUE 14-AUG-14 12:00 T6-SOUTH ISLAND STATION 5 SAMPLE 4 - BERRIES
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	58.9	85.0	56.1	57.3	82.6
Metals	Aluminum (Al)-Total (mg/kg ww)	1800	20.2	471	1720	14.6
	Antimony (Sb)-Total (mg/kg ww)	0.0047	<0.0020	0.0032	0.0084	<0.0020
	Arsenic (As)-Total (mg/kg ww)	3.03	0.0210	0.665	2.74	0.0241
	Barium (Ba)-Total (mg/kg ww)	14.5	1.21	16.3	9.99	0.760
	Beryllium (Be)-Total (mg/kg ww)	0.0442	<0.0020	0.0100	0.0377	<0.0020
	Bismuth (Bi)-Total (mg/kg ww)	0.0832	<0.0020	0.0128	0.0437	<0.0020
	Boron (B)-Total (mg/kg ww)	0.72	0.86	1.81	0.64	0.81
	Cadmium (Cd)-Total (mg/kg ww)	0.0449	0.0035	0.0190	0.0585	0.0053
	Calcium (Ca)-Total (mg/kg ww)	2910	263	1620	2340	223
	Cesium (Cs)-Total (mg/kg ww)	0.382	0.0052	0.0856	0.298	0.0046
	Chromium (Cr)-Total (mg/kg ww)	48.1	0.329	13.3	49.4	0.295
	Cobalt (Co)-Total (mg/kg ww)	1.63	0.0204	0.584	1.68	0.0157
	Copper (Cu)-Total (mg/kg ww)	3.04	0.690	2.68	3.14	0.686
	Iron (Fe)-Total (mg/kg ww)	4990	42.1	1130	4680	33.1
	Lead (Pb)-Total (mg/kg ww)	1.38	0.0129	0.253	1.04	0.0118
	Lithium (Li)-Total (mg/kg ww)	1.17	<0.10	0.32	1.11	<0.10
	Magnesium (Mg)-Total (mg/kg ww)	1920	88.2	1030	1980	79.7
	Manganese (Mn)-Total (mg/kg ww)	83.6	5.99	168	104	9.10
	Mercury (Hg)-Total (mg/kg ww)	0.0347	<0.0010	0.0110	0.0418	<0.0010
	Molybdenum (Mo)-Total (mg/kg ww)	0.290	0.0092	1.96	0.313	0.0175
	Nickel (Ni)-Total (mg/kg ww)	15.2	0.278	6.02	15.9	0.241
	Phosphorus (P)-Total (mg/kg ww)	277	143	353	240	134
	Potassium (K)-Total (mg/kg ww)	753	1120	2890	743	1230
	Rubidium (Rb)-Total (mg/kg ww)	4.25	3.09	4.67	2.72	1.93
	Selenium (Se)-Total (mg/kg ww)	0.039	<0.010	<0.010	0.043	<0.010
	Sodium (Na)-Total (mg/kg ww)	75.7	5.8	6.4	55.1	8.9
	Strontium (Sr)-Total (mg/kg ww)	8.06	0.430	7.01	7.32	0.287
	Tellurium (Te)-Total (mg/kg ww)	<0.0040	<0.0040	<0.0040	0.0044	<0.0040
	Thallium (Tl)-Total (mg/kg ww)	0.0172	<0.00040	0.00404	0.0124	<0.00040
	Tin (Sn)-Total (mg/kg ww)	0.021	0.025	<0.020	<0.020	0.048
	Uranium (U)-Total (mg/kg ww)	0.164	0.00243	0.0505	0.167	0.00341
	Vanadium (V)-Total (mg/kg ww)	4.18	0.040	1.10	4.14	0.033
	Zinc (Zn)-Total (mg/kg ww)	12.2	1.33	13.3	11.2	1.25
	Zirconium (Zr)-Total (mg/kg ww)	1.73	<0.040	0.462	1.38	<0.040

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-122 TISSUE 14-AUG-14 10:45 T7-NEAR FIELD STATION 1 SAMPLE 2 - SEDGE	L1510356-123 TISSUE 14-AUG-14 10:45 T7-NEAR FIELD STATION 1 SAMPLE 3 - LICHEN	L1510356-124 TISSUE 14-AUG-14 10:45 T7-NEAR FIELD STATION 1 SAMPLE 4 - BERRIES	L1510356-126 TISSUE 14-AUG-14 10:30 T7-NEAR FIELD STATION 2 SAMPLE 2 - SEDGE	L1510356-127 TISSUE 14-AUG-14 10:30 T7-NEAR FIELD STATION 2 SAMPLE 3 - LICHEN
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	44.9	30.2	80.4	52.1	19.3
Metals	Aluminum (Al)-Total (mg/kg wwt)	239	1410	104	249	552
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	0.0088	<0.0020	<0.0020	0.0050 ^{RRU}
	Arsenic (As)-Total (mg/kg wwt)	0.158	1.53	0.193	0.219	0.664
	Barium (Ba)-Total (mg/kg wwt)	13.6	24.6	1.49	11.7	7.22
	Beryllium (Be)-Total (mg/kg wwt)	0.0078	0.0399	0.0028	0.0070	0.0215
	Bismuth (Bi)-Total (mg/kg wwt)	0.0059	0.0302	0.0025	0.0049	0.0170
	Boron (B)-Total (mg/kg wwt)	1.09	1.34	0.88	1.14	0.42
	Cadmium (Cd)-Total (mg/kg wwt)	0.0301	0.301	0.0025	0.0135	0.0595
	Calcium (Ca)-Total (mg/kg wwt)	960	3300	187	954	1260
	Cesium (Cs)-Total (mg/kg wwt)	0.0426	0.184	0.0125	0.0611	0.0956
	Chromium (Cr)-Total (mg/kg wwt)	2.47	18.5	0.459	2.70	6.44
	Cobalt (Co)-Total (mg/kg wwt)	0.247	1.40	0.0995	0.303	0.435
	Copper (Cu)-Total (mg/kg wwt)	1.09	2.89	0.987	0.960	1.32
	Iron (Fe)-Total (mg/kg wwt)	401	2720	191	424	947
	Lead (Pb)-Total (mg/kg wwt)	0.218	2.30	0.103	0.197	1.22
	Lithium (Li)-Total (mg/kg wwt)	0.19	1.02	0.13	0.20	0.40
	Magnesium (Mg)-Total (mg/kg wwt)	431	1520	115	457	572
	Manganese (Mn)-Total (mg/kg wwt)	137	240	8.62	104	41.1
	Mercury (Hg)-Total (mg/kg wwt)	0.0120	0.115	0.0011	0.0092	0.144
	Molybdenum (Mo)-Total (mg/kg wwt)	0.297	0.271	0.0128	0.352	0.153
	Nickel (Ni)-Total (mg/kg wwt)	2.46	7.16	0.426	2.17	2.47
	Phosphorus (P)-Total (mg/kg wwt)	352	352	128	350	260
	Potassium (K)-Total (mg/kg wwt)	2830	1070	1160	2730	874
	Rubidium (Rb)-Total (mg/kg wwt)	4.24	4.08	2.71	4.87	2.19
	Selenium (Se)-Total (mg/kg wwt)	<0.010	0.061	<0.010	<0.010	0.060
	Sodium (Na)-Total (mg/kg wwt)	4.7	60.6	6.6	7.4	13.0
	Strontium (Sr)-Total (mg/kg wwt)	6.12	10.9	0.601	5.26	5.10
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.00329	0.0320	0.00084	0.00408	0.00598
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg wwt)	0.0232	0.178	0.0122	0.0241	0.0861
	Vanadium (V)-Total (mg/kg wwt)	0.447	2.79	0.219	0.469	1.06
	Zinc (Zn)-Total (mg/kg wwt)	13.9	38.4	1.44	17.3	9.63
	Zirconium (Zr)-Total (mg/kg wwt)	0.390	1.57	<0.040	0.381	0.911

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-128 TISSUE 14-AUG-14 10:30 T7-NEAR FIELD STATION 2 SAMPLE 4 - BERRIES	L1510356-130 TISSUE 14-AUG-14 10:05 T7-NEAR FIELD STATION 3 SAMPLE 2 - SEDGE	L1510356-131 TISSUE 14-AUG-14 10:05 T7-NEAR FIELD STATION 3 SAMPLE 3 - LICHEN	L1510356-132 TISSUE 14-AUG-14 10:05 T7-NEAR FIELD STATION 3 SAMPLE 4 - BERRIES	L1510356-134 TISSUE 14-AUG-14 09:35 T7-NEAR FIELD STATION 4 SAMPLE 2 - SEDGE
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	77.8	41.8	30.6	79.9	47.4
Metals	Aluminum (Al)-Total (mg/kg ww)	27.2	384	449	14.9	391
	Antimony (Sb)-Total (mg/kg ww)	<0.0020	0.0027 ^{RRU}	0.0042 ^{RRU}	<0.0020	0.0030 ^{RRU}
	Arsenic (As)-Total (mg/kg ww)	0.0307	0.322	0.473	0.0140	0.353
	Barium (Ba)-Total (mg/kg ww)	0.975	14.8	6.87	1.25	11.2
	Beryllium (Be)-Total (mg/kg ww)	<0.0020	0.0106	0.0132	<0.0020	0.0114
	Bismuth (Bi)-Total (mg/kg ww)	<0.0020	0.0075	0.0122	<0.0020	0.0071
	Boron (B)-Total (mg/kg ww)	1.01	1.48	0.40	1.08	1.12
	Cadmium (Cd)-Total (mg/kg ww)	0.0020	0.0395	0.0563	0.0012	0.0322
	Calcium (Ca)-Total (mg/kg ww)	227	1650	1610	301	850
	Cesium (Cs)-Total (mg/kg ww)	0.0059	0.0421	0.0956	0.0030	0.0518
	Chromium (Cr)-Total (mg/kg ww)	0.186	5.41	6.85	0.103	4.84
	Cobalt (Co)-Total (mg/kg ww)	0.0242	0.408	0.393	0.0281	0.350
	Copper (Cu)-Total (mg/kg ww)	0.991	1.41	1.09	0.737	1.01
	Iron (Fe)-Total (mg/kg ww)	45.9	714	807	26.1	706
	Lead (Pb)-Total (mg/kg ww)	0.0253	0.321	0.561	0.0101	0.478
	Lithium (Li)-Total (mg/kg ww)	<0.10	0.29	0.28	<0.10	0.29
	Magnesium (Mg)-Total (mg/kg ww)	84.2	687	518	86.8	483
	Manganese (Mn)-Total (mg/kg ww)	9.33	405	67.0	4.29	79.0
	Mercury (Hg)-Total (mg/kg ww)	<0.0010	0.0157	0.0520	<0.0010	0.0150
	Molybdenum (Mo)-Total (mg/kg ww)	0.0098	0.762	0.151	0.0082	0.449
	Nickel (Ni)-Total (mg/kg ww)	0.260	3.56	2.37	0.428	2.92
	Phosphorus (P)-Total (mg/kg ww)	142	463	249	174	234
	Potassium (K)-Total (mg/kg ww)	1140	3190	791	1370	2810
	Rubidium (Rb)-Total (mg/kg ww)	3.58	2.47	3.22	2.23	3.63
	Selenium (Se)-Total (mg/kg ww)	<0.010	0.014	0.033	<0.010	<0.010
	Sodium (Na)-Total (mg/kg ww)	8.3	8.4	20.7	8.1	9.9
	Strontium (Sr)-Total (mg/kg ww)	0.444	7.75	4.79	0.550	4.21
	Tellurium (Te)-Total (mg/kg ww)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg ww)	<0.00040	0.00389	0.00919	<0.00040	0.00407
	Tin (Sn)-Total (mg/kg ww)	0.069	<0.020	<0.020	0.034	<0.020
	Uranium (U)-Total (mg/kg ww)	0.00287	0.0420	0.0535	0.00187	0.0352
	Vanadium (V)-Total (mg/kg ww)	0.045	0.765	0.950	0.026	0.750
	Zinc (Zn)-Total (mg/kg ww)	1.14	15.4	10.1	1.35	12.8
	Zirconium (Zr)-Total (mg/kg ww)	<0.040	0.433	0.677	<0.040	0.535

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-135 TISSUE 14-AUG-14 09:35 T7-NEAR FIELD STATION 4 SAMPLE 3 - LICHEN	L1510356-136 TISSUE 14-AUG-14 09:35 T7-NEAR FIELD STATION 4 SAMPLE 4 - BERRIES	L1510356-138 TISSUE 14-AUG-14 11:15 T7-NEAR FIELD STATION 5 SAMPLE 2 - SEDGE	L1510356-139 TISSUE 14-AUG-14 11:15 T7-NEAR FIELD STATION 5 SAMPLE 3 - LICHEN	L1510356-140 TISSUE 14-AUG-14 11:15 T7-NEAR FIELD STATION 5 SAMPLE 4 - BERRIES
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	26.8	84.4	59.5	25.0	82.6
Metals	Aluminum (Al)-Total (mg/kg wwt)	1040	14.4	293	589	14.1
	Antimony (Sb)-Total (mg/kg wwt)	0.0089	<0.0020	<0.0020	0.0032 ^{RRU}	<0.0020
	Arsenic (As)-Total (mg/kg wwt)	0.908	0.0084	0.157	0.444	0.0263
	Barium (Ba)-Total (mg/kg wwt)	17.4	1.35	8.77	13.5	1.46
	Beryllium (Be)-Total (mg/kg wwt)	0.0327	<0.0020	0.0076	0.0150	<0.0020
	Bismuth (Bi)-Total (mg/kg wwt)	0.0220	<0.0020	0.0061	0.0150	<0.0020
	Boron (B)-Total (mg/kg wwt)	0.78	0.98	1.01	0.85	1.08
	Cadmium (Cd)-Total (mg/kg wwt)	0.193	0.0011	0.0186	0.0691	0.0128
	Calcium (Ca)-Total (mg/kg wwt)	4200	290	929	2580	289
	Cesium (Cs)-Total (mg/kg wwt)	0.145	0.0071	0.0336	0.0781	0.0059
	Chromium (Cr)-Total (mg/kg wwt)	14.2	0.108	4.20	10.2	0.071
	Cobalt (Co)-Total (mg/kg wwt)	0.866	0.0135	0.274	0.478	0.0328
	Copper (Cu)-Total (mg/kg wwt)	1.79	0.808	1.06	1.21	0.556
	Iron (Fe)-Total (mg/kg wwt)	1780	21.9	504	1010	21.3
	Lead (Pb)-Total (mg/kg wwt)	2.01	0.0120	0.167	0.558	0.0118
	Lithium (Li)-Total (mg/kg wwt)	0.63	<0.10	0.21	0.39	<0.10
	Magnesium (Mg)-Total (mg/kg wwt)	994	77.2	553	729	85.8
	Manganese (Mn)-Total (mg/kg wwt)	130	14.6	127	130	6.44
	Mercury (Hg)-Total (mg/kg wwt)	0.0986	<0.0010	0.0098	0.113	<0.0010
	Molybdenum (Mo)-Total (mg/kg wwt)	0.345	0.0066	0.262	0.123	0.0074
	Nickel (Ni)-Total (mg/kg wwt)	4.93	0.191	2.84	3.49	0.359
	Phosphorus (P)-Total (mg/kg wwt)	379	137	542	432	178
	Potassium (K)-Total (mg/kg wwt)	1180	1160	2560	1060	1220
	Rubidium (Rb)-Total (mg/kg wwt)	4.23	3.86	2.85	2.66	2.97
	Selenium (Se)-Total (mg/kg wwt)	0.058	<0.010	0.010	0.045	<0.010
	Sodium (Na)-Total (mg/kg wwt)	36.7	7.0	7.7	15.7	5.6
	Strontium (Sr)-Total (mg/kg wwt)	11.6	0.468	5.17	6.93	0.606
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.0161	<0.00040	0.00258	0.0130	<0.00040
	Tin (Sn)-Total (mg/kg wwt)	<0.020	0.066	<0.020	<0.020	0.057
	Uranium (U)-Total (mg/kg wwt)	0.178	0.00159	0.0239	0.0667	0.00190
	Vanadium (V)-Total (mg/kg wwt)	2.10	0.024	0.583	1.24	0.021
	Zinc (Zn)-Total (mg/kg wwt)	16.9	1.09	8.30	14.7	1.56
	Zirconium (Zr)-Total (mg/kg wwt)	1.44	<0.040	0.306	0.875	<0.040

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-142 TISSUE 14-AUG-14 14:50 T8-AWAR STATION 1 SAMPLE 2 - SEDGE	L1510356-143 TISSUE 14-AUG-14 14:50 T8-AWAR STATION 1 SAMPLE 3 - LICHEN	L1510356-144 TISSUE 14-AUG-14 14:50 T8-AWAR STATION 1 SAMPLE 4 - BERRIES	L1510356-146 TISSUE 14-AUG-14 15:15 T8-AWAR STATION 2 SAMPLE 2 - SEDGE	L1510356-147 TISSUE 14-AUG-14 15:15 T8-AWAR STATION 2 SAMPLE 3 - LICHEN
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	49.9	26.0	83.7	40.2	20.0
Metals	Aluminum (Al)-Total (mg/kg wwt)	655	3570	61.5	1020	3070
	Antimony (Sb)-Total (mg/kg wwt)	0.0054	0.0156	<0.0020	<0.0020	0.0136
	Arsenic (As)-Total (mg/kg wwt)	0.227	1.34	0.0187	0.352	1.09
	Barium (Ba)-Total (mg/kg wwt)	26.1	43.6	1.55	22.9	39.7
	Beryllium (Be)-Total (mg/kg wwt)	0.0163	0.0669	<0.0020	0.0202	0.0975
	Bismuth (Bi)-Total (mg/kg wwt)	0.0096	0.0340	<0.0020	0.0122	0.0899
	Boron (B)-Total (mg/kg wwt)	1.84	1.80	0.66	1.82	1.57
	Cadmium (Cd)-Total (mg/kg wwt)	0.0177	0.139	0.0108	0.0383	0.171
	Calcium (Ca)-Total (mg/kg wwt)	1860	7190	369	2250	9410
	Cesium (Cs)-Total (mg/kg wwt)	0.0495	0.263	0.0057	0.0958	0.346
	Chromium (Cr)-Total (mg/kg wwt)	6.29	28.9	0.506	10.3	20.9
	Cobalt (Co)-Total (mg/kg wwt)	0.503	2.41	0.0427	0.781	1.91
	Copper (Cu)-Total (mg/kg wwt)	2.39	4.07	0.795	1.80	4.23
	Iron (Fe)-Total (mg/kg wwt)	994	5280	88.9	1470	4090
	Lead (Pb)-Total (mg/kg wwt)	0.162	1.12	0.0187	0.195	2.05
	Lithium (Li)-Total (mg/kg wwt)	0.60	2.98	<0.10	0.87	2.75
	Magnesium (Mg)-Total (mg/kg wwt)	1060	3530	125	1430	2630
	Manganese (Mn)-Total (mg/kg wwt)	131	202	21.0	183	147
	Mercury (Hg)-Total (mg/kg wwt)	0.0076	0.0381	0.0011	0.0125	0.0491
	Molybdenum (Mo)-Total (mg/kg wwt)	0.543	0.287	0.0292	0.351	0.274
	Nickel (Ni)-Total (mg/kg wwt)	3.37	11.0	0.443	4.55	8.25
	Phosphorus (P)-Total (mg/kg wwt)	419	633	138	487	743
	Potassium (K)-Total (mg/kg wwt)	3120	1450	1100	3770	1790
	Rubidium (Rb)-Total (mg/kg wwt)	2.48	5.17	1.84	5.96	6.47
	Selenium (Se)-Total (mg/kg wwt)	0.013	0.051	<0.010	0.023	0.069
	Sodium (Na)-Total (mg/kg wwt)	19.1	94.0	10.8	31.6	130
	Strontium (Sr)-Total (mg/kg wwt)	12.3	35.8	0.822	13.4	39.0
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0080 ^{DLA}	<0.0040	<0.0040	0.0047
	Thallium (Tl)-Total (mg/kg wwt)	0.00323	0.0208	<0.00040	0.00842	0.0254
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.040 ^{DLA}	0.128	<0.020	0.048
	Uranium (U)-Total (mg/kg wwt)	0.0797	0.332	0.00738	0.106	0.506
	Vanadium (V)-Total (mg/kg wwt)	1.30	7.31	0.118	2.07	5.86
	Zinc (Zn)-Total (mg/kg wwt)	12.0	37.2	1.99	33.4	30.2
	Zirconium (Zr)-Total (mg/kg wwt)	0.761	3.66	0.043	1.28	3.25

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-148 TISSUE 14-AUG-14 15:15 T8-AWAR STATION 2 SAMPLE 4 - BERRIES	L1510356-150 TISSUE 14-AUG-14 15:40 T8-AWAR STATION 3 SAMPLE 2 - SEDGE	L1510356-151 TISSUE 14-AUG-14 15:40 T8-AWAR STATION 3 SAMPLE 3 - LICHEN	L1510356-152 TISSUE 14-AUG-14 15:40 T8-AWAR STATION 3 SAMPLE 4 - BERRIES	L1510356-154 TISSUE 14-AUG-14 16:00 T8-AWAR STATION 4 SAMPLE 2 - SEDGE
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	86.0	53.8	23.0	81.6	48.2
Metals	Aluminum (Al)-Total (mg/kg wwt)	37.1	562	3800	43.1	286
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	0.0031 ^{RRU}	0.0093	<0.0020	<0.0020
	Arsenic (As)-Total (mg/kg wwt)	0.0092	0.209	1.83	0.0129	0.0945
	Barium (Ba)-Total (mg/kg wwt)	1.88	26.0	32.3	1.07	21.6
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0111	0.0733	<0.0020	0.0133
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	0.0058	0.0481	<0.0020	0.0048
	Boron (B)-Total (mg/kg wwt)	0.67	1.97	1.37	0.42	1.78
	Cadmium (Cd)-Total (mg/kg wwt)	0.0284	0.0156	0.0663	0.0012	0.0239
	Calcium (Ca)-Total (mg/kg wwt)	429	1360	4740	156	1470
	Cesium (Cs)-Total (mg/kg wwt)	0.0052	0.0713	0.293	0.0115	0.0296
	Chromium (Cr)-Total (mg/kg wwt)	0.276	5.41	32.9	0.412	2.40
	Cobalt (Co)-Total (mg/kg wwt)	0.0251	0.502	3.18	0.0350	0.369
	Copper (Cu)-Total (mg/kg wwt)	0.580	3.71	4.05	0.748	2.50
	Iron (Fe)-Total (mg/kg wwt)	52.9	844	5890	62.1	445
	Lead (Pb)-Total (mg/kg wwt)	0.0122	0.186	2.19	0.0086	0.0977
	Lithium (Li)-Total (mg/kg wwt)	<0.10	0.47	3.16	<0.10	0.21
	Magnesium (Mg)-Total (mg/kg wwt)	132	926	3310	102	703
	Manganese (Mn)-Total (mg/kg wwt)	22.1	123	175	6.53	228
	Mercury (Hg)-Total (mg/kg wwt)	0.0010	0.0069	0.0619	<0.0010	0.0075
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0244	0.149	0.261	0.0080	0.745
	Nickel (Ni)-Total (mg/kg wwt)	0.340	3.92	10.8	0.271	2.00
	Phosphorus (P)-Total (mg/kg wwt)	215	602	473	132	390
	Potassium (K)-Total (mg/kg wwt)	970	3050	1180	1080	2470
	Rubidium (Rb)-Total (mg/kg wwt)	1.86	6.62	5.84	4.45	1.62
	Selenium (Se)-Total (mg/kg wwt)	<0.010	<0.010	0.070	<0.010	<0.010
	Sodium (Na)-Total (mg/kg wwt)	13.0	6.1	62.8	4.7	12.5
	Strontium (Sr)-Total (mg/kg wwt)	1.10	9.85	22.6	0.619	9.18
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0080 ^{DLA}	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	<0.00040	0.00552	0.0357 ^{DLA}	<0.00040	0.00230
	Tin (Sn)-Total (mg/kg wwt)	0.125	<0.020	<0.040	0.049	<0.020
	Uranium (U)-Total (mg/kg wwt)	0.00514	0.0392	0.326	0.00294	0.0677
	Vanadium (V)-Total (mg/kg wwt)	0.073	1.18	7.70	0.087	0.542
	Zinc (Zn)-Total (mg/kg wwt)	2.91	19.6	21.5	1.10	19.7
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	0.324	3.94	<0.040	0.409

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-155 TISSUE 14-AUG-14 16:00 T8-AWAR STATION 4 SAMPLE 3 - LICHEN	L1510356-156 TISSUE 14-AUG-14 16:00 T8-AWAR STATION 4 SAMPLE 4 - BERRIES	L1510356-158 TISSUE 14-AUG-14 16:30 T8-AWAR STATION 5 SAMPLE 2 - SEDGE	L1510356-159 TISSUE 14-AUG-14 16:30 T8-AWAR STATION 5 SAMPLE 3 - LICHEN	L1510356-160 TISSUE 14-AUG-14 16:30 T8-AWAR STATION 5 SAMPLE 4 - BERRIES
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	22.1	85.2	53.9	30.7	83.5
Metals	Aluminum (Al)-Total (mg/kg ww)	2710	15.8	228	2930	34.4
	Antimony (Sb)-Total (mg/kg ww)	0.0177	<0.0020	<0.0020	0.0110	<0.0020
	Arsenic (As)-Total (mg/kg ww)	1.19	0.0064	0.0844	1.35	0.0087
	Barium (Ba)-Total (mg/kg ww)	26.0	1.12	17.8	23.7	1.41
	Beryllium (Be)-Total (mg/kg ww)	0.0583	<0.0020	0.0061	0.0587	<0.0020
	Bismuth (Bi)-Total (mg/kg ww)	0.0442	<0.0020	0.0036	0.0451	<0.0020
	Boron (B)-Total (mg/kg ww)	1.49	0.75	1.96	1.39	0.83
	Cadmium (Cd)-Total (mg/kg ww)	0.0767	0.0147	0.0151	0.0997	0.0124
	Calcium (Ca)-Total (mg/kg ww)	4380	302	1130	4610	322
	Cesium (Cs)-Total (mg/kg ww)	0.278	0.0026	0.0220	0.240	0.0032
	Chromium (Cr)-Total (mg/kg ww)	21.1	0.112	1.96	23.7	0.250
	Cobalt (Co)-Total (mg/kg ww)	1.79	0.0152	0.166	1.95	0.0221
	Copper (Cu)-Total (mg/kg ww)	3.93	0.679	2.67	3.87	0.937
	Iron (Fe)-Total (mg/kg ww)	3770	21.6	302	4200	48.9
	Lead (Pb)-Total (mg/kg ww)	0.956	0.0042	0.0657	1.12	0.0114
	Lithium (Li)-Total (mg/kg ww)	2.19	<0.10	0.18	2.43	<0.10
	Magnesium (Mg)-Total (mg/kg ww)	2560	91.9	696	2890	107
	Manganese (Mn)-Total (mg/kg ww)	223	31.1	206	225	22.6
	Mercury (Hg)-Total (mg/kg ww)	0.0603	0.0011	0.0072	0.0533	0.0011
	Molybdenum (Mo)-Total (mg/kg ww)	0.257	0.0345	0.472	0.234	0.0764
	Nickel (Ni)-Total (mg/kg ww)	7.97	0.284	1.69	8.59	0.339
	Phosphorus (P)-Total (mg/kg ww)	627	138	416	553	152
	Potassium (K)-Total (mg/kg ww)	1680	1050	3090	1360	1210
	Rubidium (Rb)-Total (mg/kg ww)	5.41	1.62	1.21	4.00	1.23
	Selenium (Se)-Total (mg/kg ww)	0.056	<0.010	<0.010	0.052	<0.010
	Sodium (Na)-Total (mg/kg ww)	141	7.5	9.7	107	7.8
	Strontium (Sr)-Total (mg/kg ww)	22.9	0.480	6.88	20.6	0.595
	Tellurium (Te)-Total (mg/kg ww)	<0.0040	<0.0040	<0.0040	<0.0080 ^{DLA}	<0.0040
	Thallium (Tl)-Total (mg/kg ww)	0.0183	<0.00040	0.00149	0.0184 ^{DLA}	<0.00040
	Tin (Sn)-Total (mg/kg ww)	0.025	0.111	<0.020	<0.040	0.167
	Uranium (U)-Total (mg/kg ww)	0.379	0.00268	0.0408	0.302	0.00508
	Vanadium (V)-Total (mg/kg ww)	5.27	0.028	0.459	5.83	0.061
	Zinc (Zn)-Total (mg/kg ww)	29.9	2.20	23.1	30.5	2.07
	Zirconium (Zr)-Total (mg/kg ww)	3.41	<0.040	0.317	2.64	<0.040

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-162 TISSUE 19-AUG-14 13:00 C1-EXT REF STATION 1 SAMPLE 2 - SEDGE	L1510356-163 TISSUE 19-AUG-14 13:00 C1-EXT REF STATION 1 SAMPLE 3 - LICHEN	L1510356-164 TISSUE 19-AUG-14 13:00 C1-EXT REF STATION 1 SAMPLE 4 - BERRIES	L1510356-166 TISSUE 19-AUG-14 13:20 C1-EXT REF STATION 2 SAMPLE 2 - SEDGE	L1510356-167 TISSUE 19-AUG-14 13:20 C1-EXT REF STATION 2 SAMPLE 3 - LICHEN
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	42.3	39.7	78.5	45.2	26.7
Metals	Aluminum (Al)-Total (mg/kg wwt)	742	696	15.9	159 ^{RRU}	808
	Antimony (Sb)-Total (mg/kg wwt)	0.0065	0.0157	<0.0020	0.0032	0.0125
	Arsenic (As)-Total (mg/kg wwt)	0.202	0.289	<0.0040	0.0453	0.308
	Barium (Ba)-Total (mg/kg wwt)	26.9	10.4	2.04	16.4	12.0
	Beryllium (Be)-Total (mg/kg wwt)	0.0450	0.0451	<0.0020	0.0165	0.0428
	Bismuth (Bi)-Total (mg/kg wwt)	0.0358	0.0291	<0.0020	0.0113	0.0368
	Boron (B)-Total (mg/kg wwt)	1.62	0.51	0.77	0.96	0.62
	Cadmium (Cd)-Total (mg/kg wwt)	0.0481	0.0544	0.0022	0.0236	0.0847
	Calcium (Ca)-Total (mg/kg wwt)	1240	720	247	827	982
	Cesium (Cs)-Total (mg/kg wwt)	0.151	0.0989	0.0063	0.0359	0.147
	Chromium (Cr)-Total (mg/kg wwt)	2.60	2.15	0.061	0.836	2.51
	Cobalt (Co)-Total (mg/kg wwt)	0.691	0.366	0.0104	0.182	0.351
	Copper (Cu)-Total (mg/kg wwt)	1.55	0.773	0.618	0.890	1.18
	Iron (Fe)-Total (mg/kg wwt)	950	1060	19.2	216	1130
	Lead (Pb)-Total (mg/kg wwt)	0.854	2.30	0.0142	0.284	3.37
	Lithium (Li)-Total (mg/kg wwt)	0.49	0.37	<0.10	<0.10	0.43
	Magnesium (Mg)-Total (mg/kg wwt)	548	383	81.5	361	428
	Manganese (Mn)-Total (mg/kg wwt)	195	29.8	14.9	126	62.8
	Mercury (Hg)-Total (mg/kg wwt)	0.0487	0.140	<0.0010	0.0097	0.185
	Molybdenum (Mo)-Total (mg/kg wwt)	0.296	0.0501	0.0091	0.141	0.0722
	Nickel (Ni)-Total (mg/kg wwt)	3.23	1.31	0.174	2.14	1.41
	Phosphorus (P)-Total (mg/kg wwt)	440	132	131	308	211
	Potassium (K)-Total (mg/kg wwt)	2320	390	984	1810	615
	Rubidium (Rb)-Total (mg/kg wwt)	5.55	2.17	3.96	3.76	3.05
	Selenium (Se)-Total (mg/kg wwt)	0.033	0.060	<0.010	0.012	0.092
	Sodium (Na)-Total (mg/kg wwt)	14.9	71.9	7.8	15.1	31.7
	Strontium (Sr)-Total (mg/kg wwt)	7.93	4.56	0.926	4.88	5.58
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.0135	0.0126	<0.00040	0.00263	0.0142
	Tin (Sn)-Total (mg/kg wwt)	<0.020	0.057	0.036	<0.020	0.060
	Uranium (U)-Total (mg/kg wwt)	0.231	0.175	0.00264	0.0321	0.254
	Vanadium (V)-Total (mg/kg wwt)	1.19	1.23	<0.020	0.268	1.38
	Zinc (Zn)-Total (mg/kg wwt)	15.1	7.99	1.18	12.8	12.1
	Zirconium (Zr)-Total (mg/kg wwt)	1.00	1.12	<0.040	0.166	1.32

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-168 TISSUE 19-AUG-14 13:20 C1-EXT REF STATION 2 SAMPLE 4 - BERRIES	L1510356-170 TISSUE 19-AUG-14 13:43 C1-EXT REF STATION 3 SAMPLE 2 - SEDGE	L1510356-171 TISSUE 19-AUG-14 13:43 C1-EXT REF STATION 3 SAMPLE 3 - LICHEN	L1510356-172 TISSUE 19-AUG-14 13:43 C1-EXT REF STATION 3 SAMPLE 4 - BERRIES	L1510356-174 TISSUE 19-AUG-14 14:00 C1-EXT REF STATION 4 SAMPLE 2 - SEDGE
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	86.1	41.6	33.4	80.2	56.1
Metals	Aluminum (Al)-Total (mg/kg wwt)	4.51	1550	598	5.93	125
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	0.0041	0.0111	<0.0020	0.0025 ^{RRU}
	Arsenic (As)-Total (mg/kg wwt)	<0.0040	0.388	0.307	<0.0040	0.0372
	Barium (Ba)-Total (mg/kg wwt)	0.803	26.9	24.0	1.63	17.7
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0781	0.0341	<0.0020	0.0116
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	0.0828	0.0300	<0.0020	0.0116
	Boron (B)-Total (mg/kg wwt)	0.35	1.64	0.78	0.71	1.18
	Cadmium (Cd)-Total (mg/kg wwt)	0.0012	0.0387	0.112	<0.0010	0.0166
	Calcium (Ca)-Total (mg/kg wwt)	121	992	2050	157	885
	Cesium (Cs)-Total (mg/kg wwt)	0.0043	0.272	0.136	0.0086	0.0873
	Chromium (Cr)-Total (mg/kg wwt)	0.016	5.65	2.61	0.027	0.417
	Cobalt (Co)-Total (mg/kg wwt)	0.0040	0.908	0.397	0.0074	0.104
	Copper (Cu)-Total (mg/kg wwt)	0.494	1.59	1.33	0.626	1.46
	Iron (Fe)-Total (mg/kg wwt)	5.98	2180	861	6.80	172
	Lead (Pb)-Total (mg/kg wwt)	0.0060	1.19	2.56	0.0096	0.186
	Lithium (Li)-Total (mg/kg wwt)	<0.10	1.32	0.40	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg wwt)	57.6	737	597	74.7	383
	Manganese (Mn)-Total (mg/kg wwt)	5.18	281	117	9.81	156
	Mercury (Hg)-Total (mg/kg wwt)	<0.0010	0.0552	0.147	0.0012	0.0134
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0128	0.199	0.0921	0.0069	0.345
	Nickel (Ni)-Total (mg/kg wwt)	0.179	4.36	1.63	0.168	1.96
	Phosphorus (P)-Total (mg/kg wwt)	91.5	331	262	125	412
	Potassium (K)-Total (mg/kg wwt)	1040	1790	877	1050	3230
	Rubidium (Rb)-Total (mg/kg wwt)	3.87	7.54	4.12	5.38	5.61
	Selenium (Se)-Total (mg/kg wwt)	<0.010	0.036	0.077	<0.010	0.014
	Sodium (Na)-Total (mg/kg wwt)	<4.0	31.0	77.1	<4.0	7.2
	Strontium (Sr)-Total (mg/kg wwt)	0.398	7.24	7.99	0.846	6.88
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	<0.00040	0.0262	0.0266	<0.00040	0.00371
	Tin (Sn)-Total (mg/kg wwt)	0.065	0.029	0.040	0.068	<0.020
	Uranium (U)-Total (mg/kg wwt)	0.00069	0.320	0.194	0.00078	0.0672
	Vanadium (V)-Total (mg/kg wwt)	<0.020	2.94	1.08	<0.020	0.174
	Zinc (Zn)-Total (mg/kg wwt)	0.75	11.9	17.2	1.04	11.6
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	1.85	0.872	<0.040	0.113

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-175 TISSUE 19-AUG-14 14:00 C1-EXT REF STATION 4 SAMPLE 3 - LICHEN	L1510356-176 TISSUE 19-AUG-14 14:00 C1-EXT REF STATION 4 SAMPLE 4 - BERRIES	L1510356-178 TISSUE 19-AUG-14 12:25 C1-EXT REF STATION 5 SAMPLE 2 - SEDGE	L1510356-179 TISSUE 19-AUG-14 12:25 C1-EXT REF STATION 5 SAMPLE 3 - LICHEN	L1510356-180 TISSUE 19-AUG-14 12:25 C1-EXT REF STATION 5 SAMPLE 4 - BERRIES
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	40.0	84.9	62.3	27.4	82.8
Metals	Aluminum (Al)-Total (mg/kg wwt)	1020	14.4	25.4	821	4.04
	Antimony (Sb)-Total (mg/kg wwt)	0.0118	<0.0020	0.0020 ^{RRU}	0.0113	<0.0020
	Arsenic (As)-Total (mg/kg wwt)	0.337	<0.0040	0.0293	0.384	0.0056
	Barium (Ba)-Total (mg/kg wwt)	12.0	1.36	10.9	20.7	1.87
	Beryllium (Be)-Total (mg/kg wwt)	0.0430	<0.0020	0.0050	0.0523	<0.0020
	Bismuth (Bi)-Total (mg/kg wwt)	0.0427	<0.0020	0.0059	0.0300	<0.0020
	Boron (B)-Total (mg/kg wwt)	0.43	0.74	1.30	0.59	0.82
	Cadmium (Cd)-Total (mg/kg wwt)	0.0769	<0.0010	0.0147	0.121	0.0016
	Calcium (Ca)-Total (mg/kg wwt)	893	174	530	1150	285
	Cesium (Cs)-Total (mg/kg wwt)	0.230	0.0050	0.0101	0.124	0.0055
	Chromium (Cr)-Total (mg/kg wwt)	3.70	0.055	0.280	2.39	0.021
	Cobalt (Co)-Total (mg/kg wwt)	0.398	0.0080	0.0826	0.548	0.0056
	Copper (Cu)-Total (mg/kg wwt)	1.17	0.878	1.56	1.06	0.884
	Iron (Fe)-Total (mg/kg wwt)	1400	17.0	75.7	955	5.62
	Lead (Pb)-Total (mg/kg wwt)	3.18	0.0140	0.0626	3.57	0.0063
	Lithium (Li)-Total (mg/kg wwt)	0.48	<0.10	<0.10	0.44	<0.10
	Magnesium (Mg)-Total (mg/kg wwt)	440	70.5	312	470	82.0
	Manganese (Mn)-Total (mg/kg wwt)	45.3	8.52	132	37.7	17.8
	Mercury (Hg)-Total (mg/kg wwt)	0.0911	0.0011	0.0059	0.186	<0.0010
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0768	0.0154	1.94	0.0596	0.0171
	Nickel (Ni)-Total (mg/kg wwt)	1.64	0.262	0.678	1.77	0.208
	Phosphorus (P)-Total (mg/kg wwt)	153	156	225	236	167
	Potassium (K)-Total (mg/kg wwt)	459	1010	1340	563	1050
	Rubidium (Rb)-Total (mg/kg wwt)	3.93	3.49	1.84	2.73	3.04
	Selenium (Se)-Total (mg/kg wwt)	0.077	<0.010	<0.010	0.091	<0.010
	Sodium (Na)-Total (mg/kg wwt)	48.2	7.8	8.0	47.2	5.0
	Strontium (Sr)-Total (mg/kg wwt)	5.27	0.692	3.16	8.47	0.705
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.0242	<0.00040	0.00082	0.0133	<0.00040
	Tin (Sn)-Total (mg/kg wwt)	0.044	0.110	<0.020	0.050	0.053
	Uranium (U)-Total (mg/kg wwt)	0.297	0.00386	0.00936	0.152	0.00174
	Vanadium (V)-Total (mg/kg wwt)	1.65	0.022	0.046	1.29	<0.020
	Zinc (Zn)-Total (mg/kg wwt)	9.19	1.00	17.7	12.1	1.31
	Zirconium (Zr)-Total (mg/kg wwt)	1.17	<0.040	0.042	1.26	<0.040

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-182 TISSUE 19-AUG-14 10:30 C2-EXT REF STATION 1 SAMPLE 2 - SEDGE	L1510356-183 TISSUE 19-AUG-14 10:30 C2-EXT REF STATION 1 SAMPLE 3 - LICHEN	L1510356-184 TISSUE 19-AUG-14 10:30 C2-EXT REF STATION 1 SAMPLE 4 - BERRIES	L1510356-186 TISSUE 19-AUG-14 10:10 C2-EXT REF STATION 2 SAMPLE 2 - SEDGE	L1510356-187 TISSUE 19-AUG-14 10:10 C2-EXT REF STATION 2 SAMPLE 3 - LICHEN
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	47.0	50.3	82.3	48.2	59.8
Metals	Aluminum (Al)-Total (mg/kg wwt)	144	461	6.40	3360	417
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	0.0068	<0.0020	0.0062	0.0130
	Arsenic (As)-Total (mg/kg wwt)	0.114	0.317	<0.0040	1.33	0.234
	Barium (Ba)-Total (mg/kg wwt)	14.2	3.49	1.68	19.0	3.53
	Beryllium (Be)-Total (mg/kg wwt)	0.0055	0.0127	<0.0020	0.0748	0.0121
	Bismuth (Bi)-Total (mg/kg wwt)	0.0406	0.0230	<0.0020	0.287	0.0258
	Boron (B)-Total (mg/kg wwt)	0.78	0.22	0.85	1.63	0.20
	Cadmium (Cd)-Total (mg/kg wwt)	0.0281	0.0460	0.0050	0.0792	0.0545
	Calcium (Ca)-Total (mg/kg wwt)	1250	307	273	1320	442
	Cesium (Cs)-Total (mg/kg wwt)	0.0566	0.0645	0.0040	0.518	0.0817
	Chromium (Cr)-Total (mg/kg wwt)	1.86	3.89	0.061	21.8	3.50
	Cobalt (Co)-Total (mg/kg wwt)	0.190	0.252	0.0172	1.42	0.211
	Copper (Cu)-Total (mg/kg wwt)	1.08	0.688	1.06	1.77	0.624
	Iron (Fe)-Total (mg/kg wwt)	278	757	10.3	5040	704
	Lead (Pb)-Total (mg/kg wwt)	0.204	1.47	0.0049	1.74	1.91
	Lithium (Li)-Total (mg/kg wwt)	<0.10	0.21	<0.10	1.76	0.16
	Magnesium (Mg)-Total (mg/kg wwt)	419	289	82.3	1420	270
	Manganese (Mn)-Total (mg/kg wwt)	114	10.4	9.78	246	10.1
	Mercury (Hg)-Total (mg/kg wwt)	0.0216	0.0465	<0.0010	0.0712	0.0497
	Molybdenum (Mo)-Total (mg/kg wwt)	0.202	0.0432	0.0098	0.427	0.0356
	Nickel (Ni)-Total (mg/kg wwt)	2.36	2.07	0.430	9.21	1.47
	Phosphorus (P)-Total (mg/kg wwt)	376	124	180	329	87.0
	Potassium (K)-Total (mg/kg wwt)	1750	335	1140	1530	252
	Rubidium (Rb)-Total (mg/kg wwt)	3.62	1.35	3.27	11.1	1.31
	Selenium (Se)-Total (mg/kg wwt)	0.022	0.038	<0.010	0.050	0.042
	Sodium (Na)-Total (mg/kg wwt)	12.7	33.4	5.1	25.8	30.9
	Strontium (Sr)-Total (mg/kg wwt)	5.37	1.98	0.420	13.1	2.24
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	0.0279	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.00396	0.00821	<0.00040	0.0356	0.00738
	Tin (Sn)-Total (mg/kg wwt)	<0.020	0.024	0.185	<0.040 ^{DLA}	0.026
	Uranium (U)-Total (mg/kg wwt)	0.0135	0.0394	0.00093	0.229	0.0355
	Vanadium (V)-Total (mg/kg wwt)	0.290	0.852	<0.020	7.99	0.772
	Zinc (Zn)-Total (mg/kg wwt)	13.5	5.52	1.31	18.6	4.78
	Zirconium (Zr)-Total (mg/kg wwt)	0.168	0.468	<0.040	1.55	0.372

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-188 TISSUE 19-AUG-14 10:10 C2-EXT REF STATION 2 SAMPLE 4 - BERRIES	L1510356-190 TISSUE 19-AUG-14 09:35 C2-EXT REF STATION 3 SAMPLE 2 - SEDGE	L1510356-191 TISSUE 19-AUG-14 09:35 C2-EXT REF STATION 3 SAMPLE 3 - LICHEN	L1510356-192 TISSUE 19-AUG-14 09:35 C2-EXT REF STATION 3 SAMPLE 4 - BERRIES	L1510356-194 TISSUE 19-AUG-14 10:55 C2-EXT REF STATION 4 SAMPLE 2 - SEDGE
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	83.3	52.1	37.9	82.6	49.1
Metals	Aluminum (Al)-Total (mg/kg ww)	18.0	208	492	7.35	2860
	Antimony (Sb)-Total (mg/kg ww)	<0.0020	0.0050	0.0135	<0.0020	0.0045
	Arsenic (As)-Total (mg/kg ww)	0.0099	0.126	0.419	<0.0040	1.18
	Barium (Ba)-Total (mg/kg ww)	1.21	11.5	10.5	1.98	16.5
	Beryllium (Be)-Total (mg/kg ww)	<0.0020	0.0067	0.0172	<0.0020	0.0777
	Bismuth (Bi)-Total (mg/kg ww)	<0.0020	0.0467	0.0542	<0.0020	0.0851
	Boron (B)-Total (mg/kg ww)	0.75	3.01	0.63	1.24	1.72
	Cadmium (Cd)-Total (mg/kg ww)	0.0019	0.0848	0.213	0.0042	0.0518
	Calcium (Ca)-Total (mg/kg ww)	252	5570	2020	347	1280
	Cesium (Cs)-Total (mg/kg ww)	0.0050	0.180	0.0942	0.0168	0.312
	Chromium (Cr)-Total (mg/kg ww)	0.132	2.20	3.63	0.053	37.6
	Cobalt (Co)-Total (mg/kg ww)	0.0152	0.138	0.338	0.0137	2.10
	Copper (Cu)-Total (mg/kg ww)	0.814	1.61	1.81	0.940	2.28
	Iron (Fe)-Total (mg/kg ww)	27.2	357	814	8.95	4970
	Lead (Pb)-Total (mg/kg ww)	0.0139	0.495	2.91	0.0044	1.75
	Lithium (Li)-Total (mg/kg ww)	<0.10	0.10	0.21	<0.10	1.86
	Magnesium (Mg)-Total (mg/kg ww)	72.9	328	483	111	3140
	Manganese (Mn)-Total (mg/kg ww)	6.12	100	53.4	16.4	127
	Mercury (Hg)-Total (mg/kg ww)	<0.0010	0.0421	0.238	<0.0010	0.0341
	Molybdenum (Mo)-Total (mg/kg ww)	0.0110	0.110	0.0749	0.0124	0.163
	Nickel (Ni)-Total (mg/kg ww)	0.235	1.12	2.22	0.313	22.5
	Phosphorus (P)-Total (mg/kg ww)	138	313	330	183	268
	Potassium (K)-Total (mg/kg ww)	970	2050	760	1080	1230
	Rubidium (Rb)-Total (mg/kg ww)	2.84	4.82	2.62	2.81	4.67
	Selenium (Se)-Total (mg/kg ww)	<0.010	0.030	0.119	<0.010	0.035
	Sodium (Na)-Total (mg/kg ww)	5.7	8.7	127	5.6	30.1
	Strontium (Sr)-Total (mg/kg ww)	0.436	14.9	7.01	0.397	11.6
	Tellurium (Te)-Total (mg/kg ww)	<0.0040	<0.0040	<0.0040	<0.0040	0.0041
	Thallium (Tl)-Total (mg/kg ww)	<0.00040	0.00653	0.0116	<0.00040	0.0247
	Tin (Sn)-Total (mg/kg ww)	0.075	<0.020	0.031	<0.020	0.038
	Uranium (U)-Total (mg/kg ww)	0.00176	0.0219	0.0509	0.00099	0.269
	Vanadium (V)-Total (mg/kg ww)	0.033	0.443	0.977	<0.020	6.43
	Zinc (Zn)-Total (mg/kg ww)	1.01	16.4	18.5	1.74	14.0
	Zirconium (Zr)-Total (mg/kg ww)	<0.040	0.167	0.400	<0.040	2.02

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-195 TISSUE 19-AUG-14 10:55 C2-EXT REF STATION 4 SAMPLE 3 - LICHEN	L1510356-196 TISSUE 19-AUG-14 10:55 C2-EXT REF STATION 4 SAMPLE 4 - BERRIES	L1510356-198 TISSUE 19-AUG-14 11:20 C2-EXT REF STATION 5 SAMPLE 2 - SEDGE	L1510356-199 TISSUE 19-AUG-14 11:20 C2-EXT REF STATION 5 SAMPLE 3 - LICHEN	L1510356-200 TISSUE 19-AUG-14 11:20 C2-EXT REF STATION 5 SAMPLE 4 - BERRIES
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	42.9	85.3	59.0	54.0	86.1
Metals	Aluminum (Al)-Total (mg/kg wwt)	1170	6.09	1550	1810	7.13
	Antimony (Sb)-Total (mg/kg wwt)	0.0161	<0.0020	0.0032 ^{RRU}	0.0214	<0.0020
	Arsenic (As)-Total (mg/kg wwt)	0.574	<0.0040	0.674	0.737	0.0046
	Barium (Ba)-Total (mg/kg wwt)	25.2	1.25	21.9	18.4	1.25
	Beryllium (Be)-Total (mg/kg wwt)	0.0544	<0.0020	0.0513	0.0841	<0.0020
	Bismuth (Bi)-Total (mg/kg wwt)	0.0494	<0.0020	0.0481	0.0615	<0.0020
	Boron (B)-Total (mg/kg wwt)	0.73	1.08	1.57	0.84	0.79
	Cadmium (Cd)-Total (mg/kg wwt)	0.135	0.0046	0.0486	0.0733	0.0055
	Calcium (Ca)-Total (mg/kg wwt)	1670	153	1230	1480	267
	Cesium (Cs)-Total (mg/kg wwt)	0.170	0.0030	0.414	0.421	0.0070
	Chromium (Cr)-Total (mg/kg wwt)	60.9	0.043	9.94	9.70	0.049
	Cobalt (Co)-Total (mg/kg wwt)	1.46	0.0101	1.10	1.06	0.0092
	Copper (Cu)-Total (mg/kg wwt)	2.72	0.853	2.37	2.03	0.964
	Iron (Fe)-Total (mg/kg wwt)	1890	9.32	2700	2530	10.2
	Lead (Pb)-Total (mg/kg wwt)	4.11	0.0050	1.11	2.92	0.0177
	Lithium (Li)-Total (mg/kg wwt)	0.47	<0.10	1.37	1.10	<0.10
	Magnesium (Mg)-Total (mg/kg wwt)	682	73.6	1370	1010	69.5
	Manganese (Mn)-Total (mg/kg wwt)	111	6.99	111	48.7	10.3
	Mercury (Hg)-Total (mg/kg wwt)	0.147	<0.0010	0.0181	0.117	0.0010
	Molybdenum (Mo)-Total (mg/kg wwt)	0.303	0.0137	0.328	0.123	0.0084
	Nickel (Ni)-Total (mg/kg wwt)	33.4	0.280	6.33	6.09	0.224
	Phosphorus (P)-Total (mg/kg wwt)	321	160	453	219	141
	Potassium (K)-Total (mg/kg wwt)	677	1130	2780	523	1100
	Rubidium (Rb)-Total (mg/kg wwt)	4.11	2.71	9.45	4.74	4.43
	Selenium (Se)-Total (mg/kg wwt)	0.090	<0.010	0.017	0.086	<0.010
	Sodium (Na)-Total (mg/kg wwt)	49.9	4.3	17.8	29.5	6.2
	Strontium (Sr)-Total (mg/kg wwt)	8.27	0.299	8.85	8.83	0.355
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.0219	<0.00040	0.0237	0.0272	<0.00040
	Tin (Sn)-Total (mg/kg wwt)	0.048	0.322	<0.020	0.072	0.165
	Uranium (U)-Total (mg/kg wwt)	0.155	0.00079	0.123	0.196	0.00135
	Vanadium (V)-Total (mg/kg wwt)	2.44	<0.020	3.15	3.30	<0.020
	Zinc (Zn)-Total (mg/kg wwt)	17.9	1.14	12.6	11.2	1.13
	Zirconium (Zr)-Total (mg/kg wwt)	0.915	<0.040	1.03	0.956	<0.040

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-202 TISSUE 19-AUG-14 05:45 C3-EXT REF STATION 1 SAMPLE 2 - SEDGE	L1510356-203 TISSUE 19-AUG-14 05:45 C3-EXT REF STATION 1 SAMPLE 3 - LICHEN	L1510356-204 TISSUE 19-AUG-14 05:45 C3-EXT REF STATION 1 SAMPLE 4 - BERRIES	L1510356-206 TISSUE 19-AUG-14 06:15 C3-EXT REF STATION 2 SAMPLE 2 - SEDGE	L1510356-207 TISSUE 19-AUG-14 06:15 C3-EXT REF STATION 2 SAMPLE 3 - LICHEN
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	54.7	48.3	85.6	49.9	53.2
Metals	Aluminum (Al)-Total (mg/kg wwt)	653	476	8.23	639 ^{RRU}	859
	Antimony (Sb)-Total (mg/kg wwt)	0.0124	0.0094	<0.0020	0.0067	0.0123
	Arsenic (As)-Total (mg/kg wwt)	0.444	0.311	0.0052	0.327	0.538
	Barium (Ba)-Total (mg/kg wwt)	17.0	13.7	0.968	29.4	16.7
	Beryllium (Be)-Total (mg/kg wwt)	0.0203	0.0134	<0.0020	0.0173	0.0382
	Bismuth (Bi)-Total (mg/kg wwt)	0.0298	0.0183	<0.0020	0.0642	0.0333
	Boron (B)-Total (mg/kg wwt)	0.91	2.96	0.90	3.34	0.90
	Cadmium (Cd)-Total (mg/kg wwt)	0.0699	0.0234	0.0019	0.0527	0.164
	Calcium (Ca)-Total (mg/kg wwt)	1830	4110	216	2000	2370
	Cesium (Cs)-Total (mg/kg wwt)	0.0778	0.0558	0.0015	0.0706	0.105
	Chromium (Cr)-Total (mg/kg wwt)	6.61	4.29	0.062	6.07	5.47
	Cobalt (Co)-Total (mg/kg wwt)	0.956	0.553	0.0092	0.624	0.685
	Copper (Cu)-Total (mg/kg wwt)	1.76	2.19	0.978	2.46	2.16
	Iron (Fe)-Total (mg/kg wwt)	1060	840	12.2	1030	1260
	Lead (Pb)-Total (mg/kg wwt)	1.28	0.416	0.0080	0.458	2.10
	Lithium (Li)-Total (mg/kg wwt)	0.41	0.37	<0.10	0.50	0.47
	Magnesium (Mg)-Total (mg/kg wwt)	733	1210	72.7	1010	644
	Manganese (Mn)-Total (mg/kg wwt)	91.7	51.3	4.63	44.8	77.1
	Mercury (Hg)-Total (mg/kg wwt)	0.0684	0.0335	<0.0010	0.0198	0.0727
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0855	0.504	0.0189	0.0939	0.0814
	Nickel (Ni)-Total (mg/kg wwt)	13.9	10.0	0.356	5.59	4.69
	Phosphorus (P)-Total (mg/kg wwt)	297	283	142	364	273
	Potassium (K)-Total (mg/kg wwt)	611	1420	1080	1770	624
	Rubidium (Rb)-Total (mg/kg wwt)	1.73	0.937	1.47	1.39	2.26
	Selenium (Se)-Total (mg/kg wwt)	0.051	0.026	<0.010	0.017	0.062
	Sodium (Na)-Total (mg/kg wwt)	44.7	15.4	4.3	13.3	46.5
	Strontium (Sr)-Total (mg/kg wwt)	5.69	11.3	0.319	9.05	6.35
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.00875	0.00534	<0.00040	0.00609	0.00957
	Tin (Sn)-Total (mg/kg wwt)	0.026	<0.020	0.135	<0.020	0.029
	Uranium (U)-Total (mg/kg wwt)	0.0740	0.0611	0.00176	0.0711	0.0812
	Vanadium (V)-Total (mg/kg wwt)	1.32	0.993	<0.020	1.31	1.50
	Zinc (Zn)-Total (mg/kg wwt)	10.6	9.19	0.81	15.0	17.6
	Zirconium (Zr)-Total (mg/kg wwt)	0.597	0.571	<0.040	0.459	0.696

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-208 TISSUE 19-AUG-14 06:15 C3-EXT REF STATION 2 SAMPLE 4 - BERRIES	L1510356-210 TISSUE 19-AUG-14 06:40 C3-EXT REF STATION 3 SAMPLE 2 - SEDGE	L1510356-211 TISSUE 19-AUG-14 06:40 C3-EXT REF STATION 3 SAMPLE 3 - LICHEN	L1510356-212 TISSUE 19-AUG-14 06:40 C3-EXT REF STATION 3 SAMPLE 4 - BERRIES	L1510356-214 TISSUE 19-AUG-14 07:05 C3-EXT REF STATION 4 SAMPLE 2 - SEDGE
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	84.7	54.5	51.2	87.3	52.1
Metals	Aluminum (Al)-Total (mg/kg wwt)	20.0	420	1110	4.60	980
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	0.0060	0.0080	<0.0020	0.0093
	Arsenic (As)-Total (mg/kg wwt)	0.0409	0.197	0.510	<0.0040	0.566
	Barium (Ba)-Total (mg/kg wwt)	1.95	42.9	19.8	0.591	51.7
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0147	0.0281	<0.0020	0.0327
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	0.0189	0.0449	<0.0020	0.0302
	Boron (B)-Total (mg/kg wwt)	1.56	3.47	0.71	0.65	2.52
	Cadmium (Cd)-Total (mg/kg wwt)	0.0155	0.0640	0.0750	<0.0010	0.116
	Calcium (Ca)-Total (mg/kg wwt)	269	4850	1630	174	1940
	Cesium (Cs)-Total (mg/kg wwt)	0.0060	0.0658	0.153	0.0030	0.0958
	Chromium (Cr)-Total (mg/kg wwt)	0.139	3.16	6.50	0.030	15.1
	Cobalt (Co)-Total (mg/kg wwt)	0.0200	0.398	0.645	0.0075	1.24
	Copper (Cu)-Total (mg/kg wwt)	0.957	1.70	2.04	0.757	2.69
	Iron (Fe)-Total (mg/kg wwt)	31.8	633	1730	6.13	1650
	Lead (Pb)-Total (mg/kg wwt)	0.0267	0.539	2.22	<0.0040	0.890
	Lithium (Li)-Total (mg/kg wwt)	<0.10	0.25	0.52	<0.10	0.62
	Magnesium (Mg)-Total (mg/kg wwt)	95.2	856	612	54.8	1520
	Manganese (Mn)-Total (mg/kg wwt)	12.6	60.8	54.9	3.55	121
	Mercury (Hg)-Total (mg/kg wwt)	0.0012	0.0488	0.134	<0.0010	0.0342
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0345	0.0531	0.0720	0.0055	1.32
	Nickel (Ni)-Total (mg/kg wwt)	0.365	3.02	3.88	0.251	14.4
	Phosphorus (P)-Total (mg/kg wwt)	188	309	226	86.9	384
	Potassium (K)-Total (mg/kg wwt)	1170	1020	576	1160	1590
	Rubidium (Rb)-Total (mg/kg wwt)	2.16	1.90	3.03	2.96	1.80
	Selenium (Se)-Total (mg/kg wwt)	<0.010	0.028	0.075	<0.010	0.029
	Sodium (Na)-Total (mg/kg wwt)	<4.0	9.7	30.0	4.0	9.6
	Strontium (Sr)-Total (mg/kg wwt)	0.362	24.7	7.20	0.198	8.34
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	<0.00040	0.00690	0.0218	<0.00040	0.0122
	Tin (Sn)-Total (mg/kg wwt)	0.044	<0.020	0.030	0.037	<0.020
	Uranium (U)-Total (mg/kg wwt)	0.00247	0.0336	0.0769	0.00083	0.103
	Vanadium (V)-Total (mg/kg wwt)	0.038	0.891	2.25	<0.020	2.08
	Zinc (Zn)-Total (mg/kg wwt)	1.99	17.5	12.6	0.82	35.0
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	0.419	0.816	<0.040	0.508

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1510356-215 TISSUE 19-AUG-14 07:05 C3-EXT REF STATION 4 SAMPLE 3 - LICHEN	L1510356-216 TISSUE 19-AUG-14 07:05 C3-EXT REF STATION 4 SAMPLE 4 - BERRIES	L1510356-218 TISSUE 19-AUG-14 07:30 C3-EXT REF STATION 5 SAMPLE 2 - SEDGE	L1510356-219 TISSUE 19-AUG-14 07:30 C3-EXT REF STATION 5 SAMPLE 3 - LICHEN	L1510356-220 TISSUE 19-AUG-14 07:30 C3-EXT REF STATION 5 SAMPLE 4 - BERRIES
Grouping	Analyte					
TISSUE						
Physical Tests	% Moisture (%)	51.6	86.2	54.1	44.9	85.0
Metals	Aluminum (Al)-Total (mg/kg wwt)	446	11.8	178	575	128
	Antimony (Sb)-Total (mg/kg wwt)	0.0139	<0.0020	0.0035 ^{RRU}	0.0103	<0.0020
	Arsenic (As)-Total (mg/kg wwt)	0.315	0.0073	0.0912	0.451	0.0195
	Barium (Ba)-Total (mg/kg wwt)	23.1	1.65	15.3	15.1	1.74
	Beryllium (Be)-Total (mg/kg wwt)	0.0148	<0.0020	0.0070	0.0152	<0.0020
	Bismuth (Bi)-Total (mg/kg wwt)	0.0164	<0.0020	0.0365	0.0203	<0.0020
	Boron (B)-Total (mg/kg wwt)	1.27	0.79	1.90	0.44	1.08
	Cadmium (Cd)-Total (mg/kg wwt)	0.0820	0.0082	0.0515	0.0737	0.0029
	Calcium (Ca)-Total (mg/kg wwt)	1740	199	4750	1660	200
	Cesium (Cs)-Total (mg/kg wwt)	0.0575	0.0032	0.0412	0.113	0.0356
	Chromium (Cr)-Total (mg/kg wwt)	4.56	0.095	2.59	4.58	0.441
	Cobalt (Co)-Total (mg/kg wwt)	0.435	0.0142	0.176	1.20	0.0703
	Copper (Cu)-Total (mg/kg wwt)	1.51	0.779	1.84	4.63	0.900
	Iron (Fe)-Total (mg/kg wwt)	767	16.0	284	1050	161
	Lead (Pb)-Total (mg/kg wwt)	1.37	0.0096	0.399	1.71	0.0706
	Lithium (Li)-Total (mg/kg wwt)	0.22	<0.10	0.16	0.27	<0.10
	Magnesium (Mg)-Total (mg/kg wwt)	530	72.8	331	531	123
	Manganese (Mn)-Total (mg/kg wwt)	194	10.9	45.1	111	8.48
	Mercury (Hg)-Total (mg/kg wwt)	0.0737	<0.0010	0.0259	0.0920	0.0029
	Molybdenum (Mo)-Total (mg/kg wwt)	0.118	0.0199	0.431	0.0622	0.0137
	Nickel (Ni)-Total (mg/kg wwt)	4.95	0.413	2.02	4.32	0.426
	Phosphorus (P)-Total (mg/kg wwt)	249	153	277	193	105
	Potassium (K)-Total (mg/kg wwt)	632	1070	1630	597	1140
	Rubidium (Rb)-Total (mg/kg wwt)	1.19	2.05	2.00	3.25	2.80
	Selenium (Se)-Total (mg/kg wwt)	0.047	<0.010	0.019	0.070	<0.010
	Sodium (Na)-Total (mg/kg wwt)	55.7	<4.0	8.4	65.1	5.0
	Strontium (Sr)-Total (mg/kg wwt)	4.61	0.282	9.00	4.10	0.776
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg wwt)	0.0118	<0.00040	0.00381	0.0306	0.00197
	Tin (Sn)-Total (mg/kg wwt)	0.022	0.097	<0.020	0.020	0.061
	Uranium (U)-Total (mg/kg wwt)	0.0394	0.00169	0.0153	0.0473	0.00476
	Vanadium (V)-Total (mg/kg wwt)	0.891	<0.020	0.374	1.18	0.360
	Zinc (Zn)-Total (mg/kg wwt)	11.8	0.95	12.9	10.7	1.31
	Zirconium (Zr)-Total (mg/kg wwt)	0.311	<0.040	0.150	0.397	<0.040

* 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)
Duplicate	Thallium (Tl)-Total	DUP-H	L1510356-100, -112, -12, -120, -124, -128, -132, -136, -140, -180, -192, -20, -32, -36, -44, -56, -60, -68, -72, -80, -84, -88, -92
Duplicate	Zinc (Zn)-Total	DUP-H	L1510356-100, -112, -12, -120, -124, -128, -132, -136, -140, -180, -192, -20, -32, -36, -44, -56, -60, -68, -72, -80, -84, -88, -92
Duplicate	Cesium (Cs)-Total	DUP-H	L1510356-107, -115, -119, -131, -135, -175, -179, -183, -187, -19, -195, -198, -199, -202, -207, -210, -211, -214, -215, -219, -23, -35, -39, -50, -51, -62, -7, -78, -91
Duplicate	Lithium (Li)-Total	DUP-H	L1510356-107, -115, -119, -131, -135, -175, -179, -183, -187, -19, -195, -198, -199, -202, -207, -210, -211, -214, -215, -219, -23, -35, -39, -50, -51, -62, -7, -78, -91
Duplicate	Aluminum (Al)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Duplicate	Antimony (Sb)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Duplicate	Arsenic (As)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Duplicate	Bismuth (Bi)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Duplicate	Cesium (Cs)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Duplicate	Chromium (Cr)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Duplicate	Cobalt (Co)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Duplicate	Iron (Fe)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Duplicate	Lithium (Li)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Duplicate	Magnesium (Mg)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Duplicate	Nickel (Ni)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Duplicate	Thallium (Tl)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Duplicate	Uranium (U)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Duplicate	Vanadium (V)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Duplicate	Zirconium (Zr)-Total	DUP-H	L1510356-142, -143, -147, -150, -151, -154, -163, -166, -167, -170, -174, -178, -182, -186, -190, -194, -203
Method Blank	Chromium (Cr)-Total	MB-LOR	L1510356-10, -102, -111, -114, -118, -122, -126, -14, -22, -27, -30, -31, -34, -38, -42, -43, -46, -47, -54, -58, -6, -63, -67, -71, -75, -82, -83, -86, -90, -94
Duplicate	Antimony (Sb)-Total	RRU	L1510356-10, -102, -111, -114, -118, -122, -126, -14, -22, -27, -30, -31, -34, -38, -42, -43, -46, -47, -54, -58, -6, -63, -67, -71, -75, -82, -83, -86, -90, -94
Duplicate	Antimony (Sb)-Total	RRU	L1510356-104, -108, -116, -138, -144, -148, -152, -156, -16, -160, -164, -168, -172, -191, -206, -218, -24, -28, -4, -40, -48, -52, -64, -76, -8, -96

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
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.
RRU	Reported Result is Uncertain due to proximity to the estimated Method Detection Limit.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAFS	EPA 200.2/245.7

Reference Information

This analysis is carried out using procedures from CSR Analytical Method: "Strong Acid Leachable Metals (SALM) in Soil", BC Ministry of Environment, 26 June 2009, and procedures adapted from EPA Method 200.2. 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. The sample is then digested at 95 degrees Celsius for 2 hours by block digester using concentrated nitric and hydrochloric acids. Instrumental analysis is by atomic fluorescence spectrophotometry or atomic absorption spectrophotometry (EPA Method 245.7).

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. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

HG-WET-CVAFS-VA Tissue Mercury in Tissue by CVAFS (WET) EPA 200.3, EPA 245.7

This method is adapted from US EPA Method 200.3 "Sample Procedures for Spectrochemical Determination of Total Recoverable Elements in Biological Tissues" (1996). Tissue samples are homogenized and sub-sampled prior to hotblock digestion with nitric and hydrochloric acids, in combination with repeated additions of hydrogen peroxide. Analysis is by atomic fluorescence spectrophotometry or atomic absorption spectrophotometry, adapted from US EPA Method 245.7. This digestion procedure was implemented on October 5, 2009.

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

This analysis is carried out using procedures from CSR Analytical Method: "Strong Acid Leachable Metals (SALM) in Soil", BC Ministry of Environment, 26 June 2009, and procedures adapted from EPA Method 200.2. 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. The sample is then digested at 95 degrees Celsius for 2 hours by block digester using concentrated nitric and hydrochloric acids. Instrumental analysis of the digested extract is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

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. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

MET-WET-CCMS-VA Tissue Metals in Tissue by CRC ICPMS (WET) EPA 200.3/6020A

This method is adapted from US EPA Method 200.3 "Sample Procedures for Spectrochemical Determination of Total Recoverable Elements in Biological Tissues" (1996). Tissue samples are homogenized and sub-sampled prior to hotblock digestion with nitric and hydrochloric acids, in combination with repeated additions of hydrogen peroxide. Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Method Limitation: This method employs a strong acid/peroxide digestion, and is intended to provide a conservative estimate of bio-available metals. Near complete recoveries are achieved for most toxicologically important metals, but elements associated with recalcitrant minerals may be only partially recovered.

MOISTURE-TISS-VA Tissue % Moisture in Tissues ASTM D2974-00 Method A

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.

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.

** 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
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VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA
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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 ww - 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.

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Client: AGNICO-EAGLE MINES LTD.
Western Canada Exploration # 400 - 543 Granville Street
Vancouver BC V6C 1X8

Contact: Ryan Vanengen

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-200.2-CVAF-VA		Soil						
Batch	R2936714							
WG1941841-4	CRM	VA-NRC-STSD1						
Mercury (Hg)			106.8		%		70-130	03-SEP-14
WG1941841-5	CRM	VA-CANMET-TILL1						
Mercury (Hg)			102.1		%		70-130	03-SEP-14
WG1941841-3	LCS							
Mercury (Hg)			90.4		%		70-130	03-SEP-14
WG1941841-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	03-SEP-14
Batch	R2937363							
WG1941836-4	CRM	VA-NRC-STSD1						
Mercury (Hg)			97.0		%		70-130	03-SEP-14
WG1941836-5	CRM	VA-CANMET-TILL1						
Mercury (Hg)			98.3		%		70-130	03-SEP-14
WG1941836-2	DUP	L1510356-101						
Mercury (Hg)		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	03-SEP-14
WG1941841-2	DUP	L1510356-185						
Mercury (Hg)		0.0181	0.0174		mg/kg	4.3	40	03-SEP-14
WG1941836-3	LCS							
Mercury (Hg)			84.9		%		70-130	03-SEP-14
WG1941836-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	03-SEP-14
MET-200.2-CCMS-VA		Soil						
Batch	R2936170							
WG1941836-4	CRM	VA-NRC-STSD1						
Aluminum (Al)			99.2		%		70-130	02-SEP-14
Antimony (Sb)			97.6		%		70-130	02-SEP-14
Arsenic (As)			96.9		%		70-130	02-SEP-14
Barium (Ba)			97.2		%		70-130	02-SEP-14
Beryllium (Be)			110.8		%		70-130	02-SEP-14
Bismuth (Bi)			96.5		%		70-130	02-SEP-14
Cadmium (Cd)			95.0		%		70-130	02-SEP-14
Calcium (Ca)			100.6		%		70-130	02-SEP-14
Chromium (Cr)			99.7		%		70-130	02-SEP-14
Cobalt (Co)			97.8		%		70-130	02-SEP-14
Copper (Cu)			97.5		%		70-130	02-SEP-14
Iron (Fe)			100.6		%		70-130	02-SEP-14
Lead (Pb)			97.7		%		70-130	02-SEP-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R2936170							
WG1941836-4	CRM	VA-NRC-STSD1						
Lithium (Li)			104.2		%		70-130	02-SEP-14
Magnesium (Mg)			99.8		%		70-130	02-SEP-14
Manganese (Mn)			98.3		%		70-130	02-SEP-14
Molybdenum (Mo)			107.5		%		70-130	02-SEP-14
Nickel (Ni)			98.9		%		70-130	02-SEP-14
Phosphorus (P)			94.8		%		70-130	02-SEP-14
Potassium (K)			105.2		%		70-130	02-SEP-14
Selenium (Se)			100.7		%		70-130	02-SEP-14
Silver (Ag)			101.1		%		70-130	02-SEP-14
Sodium (Na)			105.0		%		70-130	02-SEP-14
Strontium (Sr)			103.9		%		70-130	02-SEP-14
Thallium (Tl)			104.4		%		70-130	02-SEP-14
Tin (Sn)			90.1		%		70-130	02-SEP-14
Titanium (Ti)			115.0		%		70-130	02-SEP-14
Vanadium (V)			100.5		%		70-130	02-SEP-14
Zinc (Zn)			95.4		%		70-130	02-SEP-14
WG1941836-5	CRM	VA-CANMET-TILL1						
Aluminum (Al)			99.4		%		70-130	02-SEP-14
Antimony (Sb)			96.3		%		70-130	02-SEP-14
Arsenic (As)			103.0		%		70-130	02-SEP-14
Barium (Ba)			101.8		%		70-130	02-SEP-14
Beryllium (Be)			0.52		mg/kg		0.34-0.74	02-SEP-14
Bismuth (Bi)			92.3		%		70-130	02-SEP-14
Cadmium (Cd)			101.0		%		70-130	02-SEP-14
Calcium (Ca)			110.5		%		70-130	02-SEP-14
Chromium (Cr)			108.6		%		70-130	02-SEP-14
Cobalt (Co)			102.4		%		70-130	02-SEP-14
Copper (Cu)			97.3		%		70-130	02-SEP-14
Iron (Fe)			100.4		%		70-130	02-SEP-14
Lead (Pb)			88.5		%		70-130	02-SEP-14
Lithium (Li)			106.6		%		70-130	02-SEP-14
Magnesium (Mg)			104.2		%		70-130	02-SEP-14
Manganese (Mn)			98.1		%		70-130	02-SEP-14
Molybdenum (Mo)			0.66		mg/kg		0.24-1.24	02-SEP-14

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MET-200.2-CCMS-VA		Soil						
Batch	R2936170							
WG1941836-5	CRM	VA-CANMET-TILL1						
Nickel (Ni)			101.1		%		70-130	02-SEP-14
Phosphorus (P)			107.4		%		70-130	02-SEP-14
Potassium (K)			119.3		%		70-130	02-SEP-14
Selenium (Se)			0.32		mg/kg		0.12-0.52	02-SEP-14
Silver (Ag)			0.21		mg/kg		0.12-0.32	02-SEP-14
Sodium (Na)			116.4		%		70-130	02-SEP-14
Strontium (Sr)			108.1		%		70-130	02-SEP-14
Thallium (Tl)			0.117		mg/kg		0.075-0.175	02-SEP-14
Tin (Sn)			1.0		mg/kg		0-3	02-SEP-14
Titanium (Ti)			125.2		%		70-130	02-SEP-14
Uranium (U)			103.4		%		70-130	02-SEP-14
Vanadium (V)			108.7		%		70-130	02-SEP-14
Zinc (Zn)			98.1		%		70-130	02-SEP-14
WG1941841-4	CRM	VA-NRC-STSD1						
Aluminum (Al)			99.8		%		70-130	02-SEP-14
Antimony (Sb)			98.4		%		70-130	02-SEP-14
Arsenic (As)			99.5		%		70-130	02-SEP-14
Barium (Ba)			96.2		%		70-130	02-SEP-14
Beryllium (Be)			102.7		%		70-130	02-SEP-14
Bismuth (Bi)			99.2		%		70-130	02-SEP-14
Cadmium (Cd)			96.7		%		70-130	02-SEP-14
Calcium (Ca)			100.5		%		70-130	02-SEP-14
Chromium (Cr)			100.9		%		70-130	02-SEP-14
Cobalt (Co)			102.3		%		70-130	02-SEP-14
Copper (Cu)			96.6		%		70-130	02-SEP-14
Iron (Fe)			102.8		%		70-130	02-SEP-14
Lead (Pb)			99.4		%		70-130	02-SEP-14
Lithium (Li)			104.1		%		70-130	02-SEP-14
Magnesium (Mg)			104.0		%		70-130	02-SEP-14
Manganese (Mn)			100.3		%		70-130	02-SEP-14
Molybdenum (Mo)			101.1		%		70-130	02-SEP-14
Nickel (Ni)			99.4		%		70-130	02-SEP-14
Phosphorus (P)			106.1		%		70-130	02-SEP-14
Potassium (K)			110.4		%		70-130	02-SEP-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R2936170							
WG1941841-4	CRM	VA-NRC-STSD1						
Selenium (Se)			103.4		%		70-130	02-SEP-14
Silver (Ag)			102.8		%		70-130	02-SEP-14
Sodium (Na)			110.4		%		70-130	02-SEP-14
Strontium (Sr)			104.3		%		70-130	02-SEP-14
Thallium (Tl)			106.9		%		70-130	02-SEP-14
Tin (Sn)			98.2		%		70-130	02-SEP-14
Titanium (Ti)			122.2		%		70-130	02-SEP-14
Vanadium (V)			104.5		%		70-130	02-SEP-14
Zinc (Zn)			97.3		%		70-130	02-SEP-14
WG1941841-5	CRM	VA-CANMET-TILL1						
Aluminum (Al)			94.9		%		70-130	02-SEP-14
Antimony (Sb)			96.5		%		70-130	02-SEP-14
Arsenic (As)			103.5		%		70-130	02-SEP-14
Barium (Ba)			99.3		%		70-130	02-SEP-14
Beryllium (Be)			0.49		mg/kg		0.34-0.74	02-SEP-14
Bismuth (Bi)			93.2		%		70-130	02-SEP-14
Cadmium (Cd)			95.9		%		70-130	02-SEP-14
Calcium (Ca)			109.0		%		70-130	02-SEP-14
Chromium (Cr)			108.2		%		70-130	02-SEP-14
Cobalt (Co)			100.2		%		70-130	02-SEP-14
Copper (Cu)			94.0		%		70-130	02-SEP-14
Iron (Fe)			99.1		%		70-130	02-SEP-14
Lead (Pb)			89.4		%		70-130	02-SEP-14
Lithium (Li)			104.1		%		70-130	02-SEP-14
Magnesium (Mg)			103.9		%		70-130	02-SEP-14
Manganese (Mn)			97.8		%		70-130	02-SEP-14
Molybdenum (Mo)			0.67		mg/kg		0.24-1.24	02-SEP-14
Nickel (Ni)			100.2		%		70-130	02-SEP-14
Phosphorus (P)			104.4		%		70-130	02-SEP-14
Potassium (K)			117.3		%		70-130	02-SEP-14
Selenium (Se)			0.33		mg/kg		0.12-0.52	02-SEP-14
Silver (Ag)			0.21		mg/kg		0.12-0.32	02-SEP-14
Sodium (Na)			115.5		%		70-130	02-SEP-14
Strontium (Sr)			109.8		%		70-130	02-SEP-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R2936170							
WG1941841-5	CRM	VA-CANMET-TILL1						
Thallium (Tl)			0.123		mg/kg		0.075-0.175	02-SEP-14
Tin (Sn)			1.0		mg/kg		0-3	02-SEP-14
Titanium (Ti)			119.7		%		70-130	02-SEP-14
Uranium (U)			102.3		%		70-130	02-SEP-14
Vanadium (V)			108.0		%		70-130	02-SEP-14
Zinc (Zn)			97.0		%		70-130	02-SEP-14
WG1941836-2	DUP	L1510356-101						
Aluminum (Al)		8020	8010		mg/kg	0.1	40	02-SEP-14
Antimony (Sb)		<0.10	<0.10	RPD-NA	mg/kg	N/A	30	02-SEP-14
Arsenic (As)		4.25	4.05		mg/kg	4.8	30	02-SEP-14
Barium (Ba)		38.7	37.8		mg/kg	2.4	40	02-SEP-14
Beryllium (Be)		0.36	0.35		mg/kg	0.3	30	02-SEP-14
Bismuth (Bi)		0.46	0.42		mg/kg	7.7	30	02-SEP-14
Cadmium (Cd)		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	02-SEP-14
Calcium (Ca)		1790	1950		mg/kg	8.1	30	02-SEP-14
Chromium (Cr)		42.1	42.1		mg/kg	0.1	30	02-SEP-14
Cobalt (Co)		6.88	6.44		mg/kg	6.6	30	02-SEP-14
Copper (Cu)		8.49	8.16		mg/kg	4.0	30	02-SEP-14
Iron (Fe)		17700	17700		mg/kg	0.1	30	02-SEP-14
Lead (Pb)		6.94	6.68		mg/kg	3.7	40	02-SEP-14
Lithium (Li)		17.9	17.6		mg/kg	1.6	30	02-SEP-14
Magnesium (Mg)		5110	4940		mg/kg	3.3	30	02-SEP-14
Manganese (Mn)		274	252		mg/kg	8.1	30	02-SEP-14
Molybdenum (Mo)		0.83	0.69		mg/kg	18	40	02-SEP-14
Nickel (Ni)		22.0	21.3		mg/kg	3.1	30	02-SEP-14
Phosphorus (P)		359	393		mg/kg	8.9	30	02-SEP-14
Potassium (K)		1660	1640		mg/kg	0.9	40	02-SEP-14
Selenium (Se)		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	02-SEP-14
Silver (Ag)		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	02-SEP-14
Sodium (Na)		<100	<100	RPD-NA	mg/kg	N/A	40	02-SEP-14
Strontium (Sr)		11.3	12.5		mg/kg	9.6	40	02-SEP-14
Thallium (Tl)		0.145	0.129		mg/kg	12	30	02-SEP-14
Tin (Sn)		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	02-SEP-14
Titanium (Ti)		579	555		mg/kg	4.2	40	02-SEP-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R2936170							
WG1941836-3	LCS							
Aluminum (Al)			98.0		%		70-130	02-SEP-14
Antimony (Sb)			99.7		%		70-130	02-SEP-14
Arsenic (As)			98.7		%		70-130	02-SEP-14
Barium (Ba)			101.1		%		70-130	02-SEP-14
Beryllium (Be)			101.1		%		70-130	02-SEP-14
Bismuth (Bi)			99.1		%		70-130	02-SEP-14
Cadmium (Cd)			97.7		%		70-130	02-SEP-14
Calcium (Ca)			100.2		%		70-130	02-SEP-14
Chromium (Cr)			98.3		%		70-130	02-SEP-14
Cobalt (Co)			98.6		%		70-130	02-SEP-14
Copper (Cu)			98.6		%		70-130	02-SEP-14
Iron (Fe)			101.5		%		70-130	02-SEP-14
Lead (Pb)			109.5		%		70-130	02-SEP-14
Lithium (Li)			99.2		%		70-130	02-SEP-14
Magnesium (Mg)			99.6		%		70-130	02-SEP-14
Manganese (Mn)			98.1		%		70-130	02-SEP-14
Molybdenum (Mo)			99.8		%		70-130	02-SEP-14
Nickel (Ni)			99.3		%		70-130	02-SEP-14
Phosphorus (P)			93.0		%		70-130	02-SEP-14
Potassium (K)			103.3		%		70-130	02-SEP-14
Selenium (Se)			100.2		%		70-130	02-SEP-14
Silver (Ag)			95.9		%		70-130	02-SEP-14
Sodium (Na)			99.3		%		70-130	02-SEP-14
Strontium (Sr)			101.4		%		70-130	02-SEP-14
Thallium (Tl)			100.7		%		70-130	02-SEP-14
Tin (Sn)			124.9		%		70-130	02-SEP-14
Titanium (Ti)			96.2		%		70-130	02-SEP-14
Uranium (U)			100.3		%		70-130	02-SEP-14
Vanadium (V)			100.5		%		70-130	02-SEP-14
Zinc (Zn)			94.3		%		70-130	02-SEP-14
WG1941841-3	LCS							
Aluminum (Al)			100.2		%		70-130	02-SEP-14
Antimony (Sb)			98.1		%		70-130	02-SEP-14
Arsenic (As)			99.8		%		70-130	02-SEP-14

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MET-200.2-CCMS-VA		Soil						
Batch	R2936170							
WG1941841-3	LCS							
Barium (Ba)			99.9		%		70-130	02-SEP-14
Beryllium (Be)			96.9		%		70-130	02-SEP-14
Bismuth (Bi)			94.9		%		70-130	02-SEP-14
Cadmium (Cd)			97.8		%		70-130	02-SEP-14
Calcium (Ca)			96.5		%		70-130	02-SEP-14
Chromium (Cr)			98.2		%		70-130	02-SEP-14
Cobalt (Co)			97.9		%		70-130	02-SEP-14
Copper (Cu)			95.7		%		70-130	02-SEP-14
Iron (Fe)			99.5		%		70-130	02-SEP-14
Lead (Pb)			96.9		%		70-130	02-SEP-14
Lithium (Li)			96.3		%		70-130	02-SEP-14
Magnesium (Mg)			100.6		%		70-130	02-SEP-14
Manganese (Mn)			97.5		%		70-130	02-SEP-14
Molybdenum (Mo)			97.5		%		70-130	02-SEP-14
Nickel (Ni)			97.2		%		70-130	02-SEP-14
Phosphorus (P)			101.0		%		70-130	02-SEP-14
Potassium (K)			101.8		%		70-130	02-SEP-14
Selenium (Se)			100.1		%		70-130	02-SEP-14
Silver (Ag)			91.9		%		70-130	02-SEP-14
Sodium (Na)			99.4		%		70-130	02-SEP-14
Strontium (Sr)			98.7		%		70-130	02-SEP-14
Thallium (Tl)			97.3		%		70-130	02-SEP-14
Tin (Sn)			98.9		%		70-130	02-SEP-14
Titanium (Ti)			101.8		%		70-130	02-SEP-14
Uranium (U)			94.5		%		70-130	02-SEP-14
Vanadium (V)			100.0		%		70-130	02-SEP-14
Zinc (Zn)			93.3		%		70-130	02-SEP-14
WG1941836-1	MB							
Aluminum (Al)			<50		mg/kg		50	02-SEP-14
Antimony (Sb)			<0.10		mg/kg		0.1	02-SEP-14
Arsenic (As)			<0.050		mg/kg		0.05	02-SEP-14
Barium (Ba)			<0.50		mg/kg		0.5	02-SEP-14
Beryllium (Be)			<0.20		mg/kg		0.2	02-SEP-14
Bismuth (Bi)			<0.20		mg/kg		0.2	02-SEP-14



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HG-WET-CVAFS-VA Tissue

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-WET-CVAFS-VA		Tissue						
Batch	R2979415							
WG1968815-5 CRM		VA-NIST-1515						
Mercury (Hg)-Total			113.3		%		70-130	09-OCT-14
WG1968815-6 CRM		VA-NIST-1547						
Mercury (Hg)-Total			97.1		%		70-130	09-OCT-14
WG1968815-3 DUP		L1510356-134						
Mercury (Hg)-Total		0.0150	0.0135		mg/kg ww	11	40	09-OCT-14
WG1968815-4 DUP		L1510356-11						
Mercury (Hg)-Total		0.0994	0.109		mg/kg ww	9.0	40	09-OCT-14
WG1968815-1 MB								
Mercury (Hg)-Total			<0.0010		mg/kg ww		0.001	09-OCT-14
WG1968815-2 MB								
Mercury (Hg)-Total			<0.0010		mg/kg ww		0.001	09-OCT-14
Batch	R2982390							
WG1969801-4 CRM		VA-NIST-1515						
Mercury (Hg)-Total			97.9		%		70-130	11-OCT-14
WG1969801-5 CRM		VA-NIST-1547						
Mercury (Hg)-Total			98.3		%		70-130	11-OCT-14
WG1969801-3 DUP		L1510356-194						
Mercury (Hg)-Total		0.0341	0.0229		mg/kg ww	39	40	11-OCT-14
WG1969801-1 MB								
Mercury (Hg)-Total			<0.0010		mg/kg ww		0.001	11-OCT-14
WG1969801-2 MB								
Mercury (Hg)-Total			<0.0010		mg/kg ww		0.001	11-OCT-14
Batch	R2991591							
WG1970791-5 CRM		VA-NIST-1515						
Mercury (Hg)-Total			124.0		%		70-130	15-OCT-14
WG1970791-6 CRM		VA-NIST-1547						
Mercury (Hg)-Total			113.7		%		70-130	15-OCT-14
WG1970791-3 DUP		L1510356-140						
Mercury (Hg)-Total		<0.0010	<0.0010	RPD-NA	mg/kg ww	N/A	40	15-OCT-14
WG1970791-4 DUP		L1510356-36						
Mercury (Hg)-Total		<0.0010	<0.0010	RPD-NA	mg/kg ww	N/A	40	15-OCT-14
WG1970791-1 MB								
Mercury (Hg)-Total			<0.0010		mg/kg ww		0.001	15-OCT-14
WG1970791-2 MB								
Mercury (Hg)-Total			<0.0010		mg/kg ww		0.001	15-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-WET-CVAFS-VA		Tissue						
Batch	R2994751							
WG1971869-5 CRM		VA-NIST-1515						
Mercury (Hg)-Total			90.5		%		70-130	16-OCT-14
WG1971869-6 CRM		VA-NIST-1547						
Mercury (Hg)-Total			96.7		%		70-130	16-OCT-14
WG1971869-4 DUP		L1510356-175						
Mercury (Hg)-Total		0.0911	0.0998		mg/kg ww	9.1	40	16-OCT-14
WG1971869-7 DUP		L1510356-198						
Mercury (Hg)-Total		0.0181	0.0169		mg/kg ww	6.7	40	16-OCT-14
WG1971869-1 MB								
Mercury (Hg)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
WG1971869-2 MB								
Mercury (Hg)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Batch	R2999610							
WG1972313-5 CRM		VA-NIST-1515						
Mercury (Hg)-Total			100.6		%		70-130	17-OCT-14
WG1972313-6 CRM		VA-NIST-1547						
Mercury (Hg)-Total			105.7		%		70-130	17-OCT-14
WG1972393-5 CRM		VA-NIST-1515						
Mercury (Hg)-Total			105.4		%		70-130	17-OCT-14
WG1972393-6 CRM		VA-NIST-1547						
Mercury (Hg)-Total			94.1		%		70-130	17-OCT-14
WG1973390-4 CRM		VA-NIST-1515						
Mercury (Hg)-Total			92.5		%		70-130	17-OCT-14
WG1973390-5 CRM		VA-NIST-1547						
Mercury (Hg)-Total			101.0		%		70-130	17-OCT-14
WG1973390-7 CRM		VA-NIST-1566B						
Mercury (Hg)-Total			75.6		%		70-130	17-OCT-14
WG1972313-3 DUP		L1510356-114						
Mercury (Hg)-Total		0.0092	0.0112		mg/kg ww	20	40	17-OCT-14
WG1972313-4 DUP		L1510356-6						
Mercury (Hg)-Total		0.0089	0.0086		mg/kg ww	3.7	40	17-OCT-14
WG1972393-3 DUP		L1510356-206						
Mercury (Hg)-Total		0.0198	0.0223		mg/kg ww	12	40	17-OCT-14
WG1972393-7 DUP		L1510356-40						
Mercury (Hg)-Total		<0.0010	<0.0010	RPD-NA	mg/kg ww	N/A	40	17-OCT-14
WG1973390-3 DUP		L1510356-208						
Mercury (Hg)-Total		0.0012	0.0012		mg/kg ww	1.1	40	17-OCT-14
WG1972313-1 MB								
Mercury (Hg)-Total			<0.0010		mg/kg ww		0.001	17-OCT-14

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HG-WET-CVAFS-VA								
Tissue								
Batch R2999610								
WG1972313-2 MB								
Mercury (Hg)-Total			<0.0010		mg/kg wwt		0.001	17-OCT-14
WG1972393-1 MB								
Mercury (Hg)-Total			<0.0010		mg/kg wwt		0.001	17-OCT-14
WG1972393-2 MB								
Mercury (Hg)-Total			<0.0010		mg/kg wwt		0.001	17-OCT-14
WG1973390-1 MB								
Mercury (Hg)-Total			<0.0010		mg/kg wwt		0.001	17-OCT-14
WG1973390-2 MB								
Mercury (Hg)-Total			<0.0010		mg/kg wwt		0.001	17-OCT-14
MET-WET-CCMS-VA								
Tissue								
Batch R2997608								
WG1970791-5 CRM								
Aluminum (Al)-Total		VA-NIST-1515	117.0		%		70-130	16-OCT-14
Antimony (Sb)-Total			0.0175		mg/kg wwt		0.003-0.023	16-OCT-14
Arsenic (As)-Total			0.0307		mg/kg wwt		0.018-0.058	16-OCT-14
Barium (Ba)-Total			110.1		%		70-130	16-OCT-14
Boron (B)-Total			105.8		%		70-130	16-OCT-14
Cadmium (Cd)-Total			0.0144		mg/kg wwt		0.008-0.018	16-OCT-14
Calcium (Ca)-Total			108.5		%		70-130	16-OCT-14
Chromium (Cr)-Total			77.5		%		70-130	16-OCT-14
Cobalt (Co)-Total			0.0978		mg/kg wwt		0.07-0.11	16-OCT-14
Copper (Cu)-Total			102.2		%		70-130	16-OCT-14
Iron (Fe)-Total			92.9		%		70-130	16-OCT-14
Lead (Pb)-Total			97.0		%		70-130	16-OCT-14
Magnesium (Mg)-Total			105.4		%		70-130	16-OCT-14
Manganese (Mn)-Total			104.7		%		70-130	16-OCT-14
Molybdenum (Mo)-Total			97.5		%		70-130	16-OCT-14
Nickel (Ni)-Total			99.3		%		70-130	16-OCT-14
Phosphorus (P)-Total			115.6		%		70-130	16-OCT-14
Potassium (K)-Total			106.8		%		70-130	16-OCT-14
Rubidium (Rb)-Total			102.3		%		70-130	16-OCT-14
Selenium (Se)-Total			0.065		mg/kg wwt		0-0.1	16-OCT-14
Sodium (Na)-Total			31.6		mg/kg wwt		4.4-44.4	16-OCT-14
Strontium (Sr)-Total			108.8		%		70-130	16-OCT-14
Uranium (U)-Total			0.00559		mg/kg wwt		0.004-0.008	16-OCT-14

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MET-WET-CCMS-VA		Tissue						
Batch	R2997608							
WG1970791-5 CRM		VA-NIST-1515						
Vanadium (V)-Total			0.188		mg/kg wwt		0.16-0.36	16-OCT-14
Zinc (Zn)-Total			100.9		%		70-130	16-OCT-14
WG1970791-6 CRM		VA-NIST-1547						
Aluminum (Al)-Total			116.0		%		70-130	16-OCT-14
Antimony (Sb)-Total			0.0281		mg/kg wwt		0.01-0.03	16-OCT-14
Arsenic (As)-Total			0.0650		mg/kg wwt		0.04-0.08	16-OCT-14
Barium (Ba)-Total			106.6		%		70-130	16-OCT-14
Boron (B)-Total			94.2		%		70-130	16-OCT-14
Cadmium (Cd)-Total			107.5		%		70-130	16-OCT-14
Calcium (Ca)-Total			103.3		%		70-130	16-OCT-14
Chromium (Cr)-Total			76.2		%		70-130	16-OCT-14
Cobalt (Co)-Total			0.0614		mg/kg wwt		0.04-0.08	16-OCT-14
Copper (Cu)-Total			100.3		%		70-130	16-OCT-14
Iron (Fe)-Total			95.2		%		70-130	16-OCT-14
Lead (Pb)-Total			94.8		%		70-130	16-OCT-14
Magnesium (Mg)-Total			101.8		%		70-130	16-OCT-14
Manganese (Mn)-Total			100.6		%		70-130	16-OCT-14
Molybdenum (Mo)-Total			0.0494		mg/kg wwt		0.04-0.08	16-OCT-14
Nickel (Ni)-Total			73.5		%		70-130	16-OCT-14
Phosphorus (P)-Total			113.6		%		70-130	16-OCT-14
Potassium (K)-Total			103.3		%		70-130	16-OCT-14
Rubidium (Rb)-Total			98.9		%		70-130	16-OCT-14
Selenium (Se)-Total			0.125		mg/kg wwt		0.07-0.17	16-OCT-14
Sodium (Na)-Total			33.5		mg/kg wwt		4-44	16-OCT-14
Strontium (Sr)-Total			106.4		%		70-130	16-OCT-14
Vanadium (V)-Total			87.6		%		70-130	16-OCT-14
Zinc (Zn)-Total			101.2		%		70-130	16-OCT-14
WG1971869-5 CRM		VA-NIST-1515						
Aluminum (Al)-Total			106.4		%		70-130	16-OCT-14
Antimony (Sb)-Total			0.0115		mg/kg wwt		0.003-0.023	16-OCT-14
Arsenic (As)-Total			0.0301		mg/kg wwt		0.018-0.058	16-OCT-14
Barium (Ba)-Total			99.3		%		70-130	16-OCT-14
Boron (B)-Total			100.6		%		70-130	16-OCT-14
Cadmium (Cd)-Total			0.0128		mg/kg wwt		0.008-0.018	16-OCT-14
Calcium (Ca)-Total			96.6		%		70-130	16-OCT-14

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MET-WET-CCMS-VA		Tissue						
Batch	R2997608							
WG1971869-5 CRM		VA-NIST-1515						
Chromium (Cr)-Total			71.7		%		70-130	16-OCT-14
Cobalt (Co)-Total			0.0820		mg/kg ww		0.07-0.11	16-OCT-14
Copper (Cu)-Total			92.2		%		70-130	16-OCT-14
Iron (Fe)-Total			83.5		%		70-130	16-OCT-14
Lead (Pb)-Total			90.3		%		70-130	16-OCT-14
Magnesium (Mg)-Total			92.9		%		70-130	16-OCT-14
Manganese (Mn)-Total			92.9		%		70-130	16-OCT-14
Molybdenum (Mo)-Total			82.6		%		70-130	16-OCT-14
Nickel (Ni)-Total			87.0		%		70-130	16-OCT-14
Phosphorus (P)-Total			100.5		%		70-130	16-OCT-14
Potassium (K)-Total			95.0		%		70-130	16-OCT-14
Rubidium (Rb)-Total			89.6		%		70-130	16-OCT-14
Selenium (Se)-Total			0.057		mg/kg ww		0-0.1	16-OCT-14
Sodium (Na)-Total			30.4		mg/kg ww		4.4-44.4	16-OCT-14
Strontium (Sr)-Total			96.4		%		70-130	16-OCT-14
Uranium (U)-Total			0.00463		mg/kg ww		0.004-0.008	16-OCT-14
Vanadium (V)-Total			0.168		mg/kg ww		0.16-0.36	16-OCT-14
Zinc (Zn)-Total			89.3		%		70-130	16-OCT-14
WG1971869-6 CRM		VA-NIST-1547						
Aluminum (Al)-Total			107.4		%		70-130	16-OCT-14
Antimony (Sb)-Total			0.0210		mg/kg ww		0.01-0.03	16-OCT-14
Arsenic (As)-Total			0.0646		mg/kg ww		0.04-0.08	16-OCT-14
Barium (Ba)-Total			99.8		%		70-130	16-OCT-14
Boron (B)-Total			94.4		%		70-130	16-OCT-14
Cadmium (Cd)-Total			97.2		%		70-130	16-OCT-14
Calcium (Ca)-Total			95.8		%		70-130	16-OCT-14
Chromium (Cr)-Total			72.5		%		70-130	16-OCT-14
Cobalt (Co)-Total			0.0559		mg/kg ww		0.04-0.08	16-OCT-14
Copper (Cu)-Total			90.6		%		70-130	16-OCT-14
Iron (Fe)-Total			87.2		%		70-130	16-OCT-14
Lead (Pb)-Total			89.2		%		70-130	16-OCT-14
Magnesium (Mg)-Total			93.6		%		70-130	16-OCT-14
Manganese (Mn)-Total			91.6		%		70-130	16-OCT-14
Molybdenum (Mo)-Total			0.0476		mg/kg ww		0.04-0.08	16-OCT-14

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MET-WET-CCMS-VA		Tissue						
Batch	R2997608							
WG1971869-6 CRM		VA-NIST-1547						
Phosphorus (P)-Total			105.1		%		70-130	16-OCT-14
Potassium (K)-Total			95.0		%		70-130	16-OCT-14
Rubidium (Rb)-Total			92.4		%		70-130	16-OCT-14
Selenium (Se)-Total			0.120		mg/kg ww		0.07-0.17	16-OCT-14
Sodium (Na)-Total			30.0		mg/kg ww		4-44	16-OCT-14
Strontium (Sr)-Total			98.7		%		70-130	16-OCT-14
Vanadium (V)-Total			79.6		%		70-130	16-OCT-14
Zinc (Zn)-Total			90.4		%		70-130	16-OCT-14
WG1973390-4 CRM		VA-NIST-1515						
Aluminum (Al)-Total			104.2		%		70-130	16-OCT-14
Antimony (Sb)-Total			0.0090		mg/kg ww		0.003-0.023	16-OCT-14
Arsenic (As)-Total			0.0346		mg/kg ww		0.018-0.058	16-OCT-14
Barium (Ba)-Total			99.4		%		70-130	16-OCT-14
Boron (B)-Total			96.5		%		70-130	16-OCT-14
Cadmium (Cd)-Total			0.0127		mg/kg ww		0.008-0.018	16-OCT-14
Calcium (Ca)-Total			94.1		%		70-130	16-OCT-14
Chromium (Cr)-Total			70.6		%		70-130	16-OCT-14
Cobalt (Co)-Total			0.0864		mg/kg ww		0.07-0.11	16-OCT-14
Copper (Cu)-Total			90.5		%		70-130	16-OCT-14
Iron (Fe)-Total			81.8		%		70-130	16-OCT-14
Lead (Pb)-Total			85.6		%		70-130	16-OCT-14
Magnesium (Mg)-Total			92.9		%		70-130	16-OCT-14
Manganese (Mn)-Total			92.0		%		70-130	16-OCT-14
Molybdenum (Mo)-Total			83.8		%		70-130	16-OCT-14
Nickel (Ni)-Total			86.1		%		70-130	16-OCT-14
Phosphorus (P)-Total			101.8		%		70-130	16-OCT-14
Potassium (K)-Total			95.7		%		70-130	16-OCT-14
Rubidium (Rb)-Total			88.7		%		70-130	16-OCT-14
Selenium (Se)-Total			0.058		mg/kg ww		0-0.1	16-OCT-14
Sodium (Na)-Total			29.2		mg/kg ww		4.4-44.4	16-OCT-14
Strontium (Sr)-Total			94.2		%		70-130	16-OCT-14
Uranium (U)-Total			0.00489		mg/kg ww		0.004-0.008	16-OCT-14
Vanadium (V)-Total			0.168		mg/kg ww		0.16-0.36	16-OCT-14
Zinc (Zn)-Total			88.4		%		70-130	16-OCT-14
WG1973390-5 CRM		VA-NIST-1547						

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MET-WET-CCMS-VA		Tissue						
Batch	R2997608							
WG1973390-5 CRM		VA-NIST-1547						
Aluminum (Al)-Total			110.6		%		70-130	16-OCT-14
Antimony (Sb)-Total			0.0198		mg/kg wwt		0.01-0.03	16-OCT-14
Arsenic (As)-Total			0.0590		mg/kg wwt		0.04-0.08	16-OCT-14
Barium (Ba)-Total			102.1		%		70-130	16-OCT-14
Boron (B)-Total			94.4		%		70-130	16-OCT-14
Cadmium (Cd)-Total			92.3		%		70-130	16-OCT-14
Calcium (Ca)-Total			98.0		%		70-130	16-OCT-14
Chromium (Cr)-Total			73.2		%		70-130	16-OCT-14
Cobalt (Co)-Total			0.0585		mg/kg wwt		0.04-0.08	16-OCT-14
Copper (Cu)-Total			92.6		%		70-130	16-OCT-14
Iron (Fe)-Total			88.8		%		70-130	16-OCT-14
Lead (Pb)-Total			91.8		%		70-130	16-OCT-14
Magnesium (Mg)-Total			95.6		%		70-130	16-OCT-14
Manganese (Mn)-Total			94.1		%		70-130	16-OCT-14
Molybdenum (Mo)-Total			0.0435		mg/kg wwt		0.04-0.08	16-OCT-14
Phosphorus (P)-Total			109.5		%		70-130	16-OCT-14
Potassium (K)-Total			97.9		%		70-130	16-OCT-14
Rubidium (Rb)-Total			91.9		%		70-130	16-OCT-14
Selenium (Se)-Total			0.120		mg/kg wwt		0.07-0.17	16-OCT-14
Sodium (Na)-Total			30.7		mg/kg wwt		4-44	16-OCT-14
Strontium (Sr)-Total			100.4		%		70-130	16-OCT-14
Vanadium (V)-Total			79.8		%		70-130	16-OCT-14
Zinc (Zn)-Total			92.6		%		70-130	16-OCT-14
WG1973390-7 CRM		VA-NIST-1566B						
Antimony (Sb)-Total			0.0072		mg/kg wwt		0.001-0.021	16-OCT-14
Arsenic (As)-Total			80.1		%		70-130	16-OCT-14
Barium (Ba)-Total			70.2		%		70-130	16-OCT-14
Boron (B)-Total			3.86		mg/kg wwt		3.5-5.5	16-OCT-14
Cadmium (Cd)-Total			82.9		%		70-130	16-OCT-14
Calcium (Ca)-Total			75.6		%		70-130	16-OCT-14
Cobalt (Co)-Total			79.0		%		70-130	16-OCT-14
Copper (Cu)-Total			77.9		%		70-130	16-OCT-14
Iron (Fe)-Total			74.4		%		70-130	16-OCT-14
Lead (Pb)-Total			75.6		%		70-130	16-OCT-14

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MET-WET-CCMS-VA		Tissue						
Batch	R2997608							
WG1973390-7 CRM		VA-NIST-1566B						
Magnesium (Mg)-Total			78.0		%		70-130	16-OCT-14
Manganese (Mn)-Total			78.7		%		70-130	16-OCT-14
Nickel (Ni)-Total			78.5		%		70-130	16-OCT-14
Potassium (K)-Total			79.8		%		70-130	16-OCT-14
Rubidium (Rb)-Total			76.4		%		70-130	16-OCT-14
Selenium (Se)-Total			78.5		%		70-130	16-OCT-14
Sodium (Na)-Total			76.2		%		70-130	16-OCT-14
Strontium (Sr)-Total			74.0		%		70-130	16-OCT-14
Uranium (U)-Total			77.9		%		70-130	16-OCT-14
Vanadium (V)-Total			72.4		%		70-130	16-OCT-14
Zinc (Zn)-Total			72.9		%		70-130	16-OCT-14
WG1970791-3 DUP		L1510356-140						
Aluminum (Al)-Total		14.1	13.4		mg/kg ww	5.1	40	16-OCT-14
Antimony (Sb)-Total		<0.0020	<0.0020	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Arsenic (As)-Total		0.0263	0.0259		mg/kg ww	1.7	40	16-OCT-14
Barium (Ba)-Total		1.46	1.29		mg/kg ww	12	40	16-OCT-14
Beryllium (Be)-Total		<0.0020	<0.0020	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Bismuth (Bi)-Total		<0.0020	<0.0020	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Boron (B)-Total		1.08	1.07		mg/kg ww	1.1	40	16-OCT-14
Cadmium (Cd)-Total		0.0128	0.0116		mg/kg ww	9.9	40	16-OCT-14
Calcium (Ca)-Total		289	273		mg/kg ww	5.7	60	16-OCT-14
Cesium (Cs)-Total		0.0059	0.0053		mg/kg ww	9.7	40	16-OCT-14
Chromium (Cr)-Total		0.071	0.073		mg/kg ww	2.7	40	16-OCT-14
Cobalt (Co)-Total		0.0328	0.0311		mg/kg ww	5.3	40	16-OCT-14
Copper (Cu)-Total		0.556	0.536		mg/kg ww	3.8	40	16-OCT-14
Iron (Fe)-Total		21.3	19.9		mg/kg ww	7.1	40	16-OCT-14
Lead (Pb)-Total		0.0118	0.0111		mg/kg ww	6.5	40	16-OCT-14
Lithium (Li)-Total		<0.10	<0.10	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Magnesium (Mg)-Total		85.8	83.2		mg/kg ww	3.2	40	16-OCT-14
Manganese (Mn)-Total		6.44	6.21		mg/kg ww	3.7	40	16-OCT-14
Molybdenum (Mo)-Total		0.0074	0.0076		mg/kg ww	3.1	40	16-OCT-14
Nickel (Ni)-Total		0.359	0.342		mg/kg ww	4.9	40	16-OCT-14
Phosphorus (P)-Total		178	185		mg/kg ww	4.1	40	16-OCT-14
Potassium (K)-Total		1220	1190		mg/kg ww	2.3	40	16-OCT-14

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MET-WET-CCMS-VA Tissue								
Batch	R2997608							
WG1970791-3 DUP		L1510356-140						
Rubidium (Rb)-Total		2.97	2.90		mg/kg wwt	2.5	40	16-OCT-14
Selenium (Se)-Total		<0.010	<0.010	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
Sodium (Na)-Total		5.6	5.9		mg/kg wwt	5.3	40	16-OCT-14
Strontium (Sr)-Total		0.606	0.558		mg/kg wwt	8.1	60	16-OCT-14
Tellurium (Te)-Total		<0.0040	<0.0040	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
Thallium (Tl)-Total		<0.00040	<0.00040	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
Tin (Sn)-Total		0.057	0.050		mg/kg wwt	14	40	16-OCT-14
Uranium (U)-Total		0.00190	0.00159		mg/kg wwt	18	40	16-OCT-14
Vanadium (V)-Total		0.021	<0.020	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
Zinc (Zn)-Total		1.56	1.49		mg/kg wwt	4.1	40	16-OCT-14
Zirconium (Zr)-Total		<0.040	<0.040	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
WG1970791-4 DUP		L1510356-36						
Aluminum (Al)-Total		2.61	3.13		mg/kg wwt	18	40	16-OCT-14
Antimony (Sb)-Total		<0.0020	<0.0020	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
Arsenic (As)-Total		<0.0040	<0.0040	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
Barium (Ba)-Total		1.24	1.40		mg/kg wwt	12	40	16-OCT-14
Beryllium (Be)-Total		<0.0020	<0.0020	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
Bismuth (Bi)-Total		<0.0020	<0.0020	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
Boron (B)-Total		0.68	0.79		mg/kg wwt	15	40	16-OCT-14
Cadmium (Cd)-Total		0.0072	0.0078		mg/kg wwt	7.5	40	16-OCT-14
Calcium (Ca)-Total		261	316		mg/kg wwt	19	60	16-OCT-14
Cesium (Cs)-Total		0.0095	0.0091		mg/kg wwt	3.9	40	16-OCT-14
Chromium (Cr)-Total		0.026	0.031		mg/kg wwt	17	40	16-OCT-14
Cobalt (Co)-Total		0.0048	0.0045		mg/kg wwt	7.7	40	16-OCT-14
Copper (Cu)-Total		0.619	0.773		mg/kg wwt	22	40	16-OCT-14
Iron (Fe)-Total		3.96	4.71		mg/kg wwt	17	40	16-OCT-14
Lead (Pb)-Total		0.0040	<0.0040	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
Lithium (Li)-Total		<0.10	<0.10	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
Magnesium (Mg)-Total		60.5	74.5		mg/kg wwt	21	40	16-OCT-14
Manganese (Mn)-Total		8.86	10.1		mg/kg wwt	13	40	16-OCT-14
Molybdenum (Mo)-Total		0.0158	0.0201		mg/kg wwt	24	40	16-OCT-14
Nickel (Ni)-Total		0.189	0.223		mg/kg wwt	17	40	16-OCT-14
Phosphorus (P)-Total		105	137		mg/kg wwt	27	40	16-OCT-14
Potassium (K)-Total		1030	1110		mg/kg wwt	7.1	40	16-OCT-14

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MET-WET-CCMS-VA Tissue								
Batch	R2997608							
WG1970791-4 DUP		L1510356-36						
Rubidium (Rb)-Total		3.93	4.23		mg/kg ww	7.4	40	16-OCT-14
Selenium (Se)-Total		<0.010	<0.010	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Sodium (Na)-Total		6.3	6.8		mg/kg ww	8.0	40	16-OCT-14
Strontium (Sr)-Total		0.348	0.383		mg/kg ww	9.5	60	16-OCT-14
Tellurium (Te)-Total		<0.0040	<0.0040	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Thallium (Tl)-Total		0.00101	<0.00040	DUP-H	mg/kg ww	N/A	40	16-OCT-14
Tin (Sn)-Total		0.036	0.061	J	mg/kg ww	0.025	0.04	16-OCT-14
Uranium (U)-Total		0.00158	0.00098	J	mg/kg ww	0.00060	0.0008	16-OCT-14
Vanadium (V)-Total		<0.020	<0.020	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Zinc (Zn)-Total		1.19	1.83	DUP-H	mg/kg ww	42	40	16-OCT-14
Zirconium (Zr)-Total		<0.040	<0.040	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
WG1971869-7 DUP		L1510356-198						
Aluminum (Al)-Total		1550	2150		mg/kg ww	32	40	16-OCT-14
Antimony (Sb)-Total		0.0032	0.0050	J	mg/kg ww	0.0018	0.004	16-OCT-14
Arsenic (As)-Total		0.674	0.719		mg/kg ww	6.4	40	16-OCT-14
Barium (Ba)-Total		21.9	20.2		mg/kg ww	7.9	40	16-OCT-14
Beryllium (Be)-Total		0.0513	0.0732		mg/kg ww	35	40	16-OCT-14
Bismuth (Bi)-Total		0.0481	0.0514		mg/kg ww	6.7	40	16-OCT-14
Boron (B)-Total		1.57	1.41		mg/kg ww	10	40	16-OCT-14
Cadmium (Cd)-Total		0.0486	0.0376		mg/kg ww	25	40	16-OCT-14
Calcium (Ca)-Total		1230	1120		mg/kg ww	9.2	60	16-OCT-14
Cesium (Cs)-Total		0.414	0.764	DUP-H	mg/kg ww	59	40	16-OCT-14
Chromium (Cr)-Total		9.94	9.10		mg/kg ww	8.8	40	16-OCT-14
Cobalt (Co)-Total		1.10	1.11		mg/kg ww	0.9	40	16-OCT-14
Copper (Cu)-Total		2.37	2.00		mg/kg ww	17	40	16-OCT-14
Iron (Fe)-Total		2700	3100		mg/kg ww	14	40	16-OCT-14
Lead (Pb)-Total		1.11	1.10		mg/kg ww	1.1	40	16-OCT-14
Lithium (Li)-Total		1.37	2.42	DUP-H	mg/kg ww	56	40	16-OCT-14
Magnesium (Mg)-Total		1370	1900		mg/kg ww	33	40	16-OCT-14
Manganese (Mn)-Total		111	97.0		mg/kg ww	13	40	16-OCT-14
Molybdenum (Mo)-Total		0.328	0.269		mg/kg ww	20	40	16-OCT-14
Nickel (Ni)-Total		6.33	5.41		mg/kg ww	16	40	16-OCT-14
Phosphorus (P)-Total		453	363		mg/kg ww	22	40	16-OCT-14
Potassium (K)-Total		2780	2390		mg/kg ww	15	40	16-OCT-14

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MET-WET-CCMS-VA Tissue								
Batch	R2997608							
WG1971869-7 DUP		L1510356-198						
Rubidium (Rb)-Total		9.45	9.75		mg/kg ww	3.1	40	16-OCT-14
Selenium (Se)-Total		0.017	0.015		mg/kg ww	16	40	16-OCT-14
Sodium (Na)-Total		17.8	17.7		mg/kg ww	0.8	40	16-OCT-14
Strontium (Sr)-Total		8.85	8.58		mg/kg ww	3.1	60	16-OCT-14
Tellurium (Te)-Total		<0.0040	<0.0040	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Thallium (Tl)-Total		0.0237	0.0326		mg/kg ww	31	40	16-OCT-14
Tin (Sn)-Total		<0.020	<0.020	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Uranium (U)-Total		0.123	0.151		mg/kg ww	20	40	16-OCT-14
Vanadium (V)-Total		3.15	4.38		mg/kg ww	33	40	16-OCT-14
Zinc (Zn)-Total		12.6	13.1		mg/kg ww	3.5	40	16-OCT-14
Zirconium (Zr)-Total		1.03	1.12		mg/kg ww	8.4	40	16-OCT-14
WG1973390-3 DUP		L1510356-208						
Aluminum (Al)-Total		20.0	23.1		mg/kg ww	15	40	16-OCT-14
Antimony (Sb)-Total		<0.0020	<0.0020	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Arsenic (As)-Total		0.0409	0.0280		mg/kg ww	38	40	16-OCT-14
Barium (Ba)-Total		1.95	1.85		mg/kg ww	5.1	40	16-OCT-14
Beryllium (Be)-Total		<0.0020	<0.0020	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Bismuth (Bi)-Total		<0.0020	<0.0020	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Boron (B)-Total		1.56	1.48		mg/kg ww	5.2	40	16-OCT-14
Cadmium (Cd)-Total		0.0155	0.0137		mg/kg ww	12	40	16-OCT-14
Calcium (Ca)-Total		269	264		mg/kg ww	1.7	60	16-OCT-14
Cesium (Cs)-Total		0.0060	0.0060		mg/kg ww	0.3	40	16-OCT-14
Chromium (Cr)-Total		0.139	0.146		mg/kg ww	4.7	40	16-OCT-14
Cobalt (Co)-Total		0.0200	0.0204		mg/kg ww	2.2	40	16-OCT-14
Copper (Cu)-Total		0.957	0.875		mg/kg ww	9.0	40	16-OCT-14
Iron (Fe)-Total		31.8	32.5		mg/kg ww	2.1	40	16-OCT-14
Lead (Pb)-Total		0.0267	0.0237		mg/kg ww	12	40	16-OCT-14
Lithium (Li)-Total		<0.10	<0.10	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Magnesium (Mg)-Total		95.2	95.8		mg/kg ww	0.6	40	16-OCT-14
Manganese (Mn)-Total		12.6	13.1		mg/kg ww	4.3	40	16-OCT-14
Molybdenum (Mo)-Total		0.0345	0.0305		mg/kg ww	12	40	16-OCT-14
Nickel (Ni)-Total		0.365	0.356		mg/kg ww	2.5	40	16-OCT-14
Phosphorus (P)-Total		188	175		mg/kg ww	7.0	40	16-OCT-14
Potassium (K)-Total		1170	1190		mg/kg ww	1.8	40	16-OCT-14

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MET-WET-CCMS-VA Tissue								
Batch	R2997608							
WG1973390-3 DUP		L1510356-208						
Rubidium (Rb)-Total		2.16	2.18		mg/kg wwt	1.0	40	16-OCT-14
Selenium (Se)-Total		<0.010	<0.010	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
Sodium (Na)-Total		<4.0	<4.0	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
Strontium (Sr)-Total		0.362	0.355		mg/kg wwt	2.0	60	16-OCT-14
Tellurium (Te)-Total		<0.0040	<0.0040	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
Thallium (Tl)-Total		<0.00040	<0.00040	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
Tin (Sn)-Total		0.044	0.062		mg/kg wwt	34	40	16-OCT-14
Uranium (U)-Total		0.00247	0.00245		mg/kg wwt	1.0	40	16-OCT-14
Vanadium (V)-Total		0.038	0.041		mg/kg wwt	5.7	40	16-OCT-14
Zinc (Zn)-Total		1.99	1.88		mg/kg wwt	5.8	40	16-OCT-14
Zirconium (Zr)-Total		<0.040	<0.040	RPD-NA	mg/kg wwt	N/A	40	16-OCT-14
WG1970791-1 MB								
Aluminum (Al)-Total			<0.40		mg/kg wwt		0.4	16-OCT-14
Antimony (Sb)-Total			<0.0020		mg/kg wwt		0.002	16-OCT-14
Arsenic (As)-Total			<0.0040		mg/kg wwt		0.004	16-OCT-14
Barium (Ba)-Total			<0.010		mg/kg wwt		0.01	16-OCT-14
Beryllium (Be)-Total			<0.0020		mg/kg wwt		0.002	16-OCT-14
Bismuth (Bi)-Total			<0.0020		mg/kg wwt		0.002	16-OCT-14
Boron (B)-Total			<0.20		mg/kg wwt		0.2	16-OCT-14
Cadmium (Cd)-Total			<0.0010		mg/kg wwt		0.001	16-OCT-14
Calcium (Ca)-Total			<4.0		mg/kg wwt		4	16-OCT-14
Cesium (Cs)-Total			<0.0010		mg/kg wwt		0.001	16-OCT-14
Chromium (Cr)-Total			<0.010		mg/kg wwt		0.01	16-OCT-14
Cobalt (Co)-Total			<0.0040		mg/kg wwt		0.004	16-OCT-14
Copper (Cu)-Total			<0.020		mg/kg wwt		0.02	16-OCT-14
Iron (Fe)-Total			<0.60		mg/kg wwt		0.6	16-OCT-14
Lead (Pb)-Total			<0.0040		mg/kg wwt		0.004	16-OCT-14
Lithium (Li)-Total			<0.10		mg/kg wwt		0.1	16-OCT-14
Magnesium (Mg)-Total			<0.40		mg/kg wwt		0.4	16-OCT-14
Manganese (Mn)-Total			<0.010		mg/kg wwt		0.01	16-OCT-14
Molybdenum (Mo)-Total			<0.0040		mg/kg wwt		0.004	16-OCT-14
Nickel (Ni)-Total			<0.040		mg/kg wwt		0.04	16-OCT-14
Phosphorus (P)-Total			<2.0		mg/kg wwt		2	16-OCT-14
Potassium (K)-Total			<4.0		mg/kg wwt		4	16-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA		Tissue						
Batch	R2997608							
WG1970791-1 MB								
Rubidium (Rb)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Selenium (Se)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Sodium (Na)-Total			<4.0		mg/kg ww		4	16-OCT-14
Strontium (Sr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Tellurium (Te)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Thallium (Tl)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Tin (Sn)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Uranium (U)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Vanadium (V)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Zinc (Zn)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Zirconium (Zr)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
WG1970791-2 MB								
Aluminum (Al)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Antimony (Sb)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Arsenic (As)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Barium (Ba)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Beryllium (Be)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Bismuth (Bi)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Boron (B)-Total			<0.20		mg/kg ww		0.2	16-OCT-14
Cadmium (Cd)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Calcium (Ca)-Total			<4.0		mg/kg ww		4	16-OCT-14
Cesium (Cs)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Chromium (Cr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Cobalt (Co)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Copper (Cu)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Iron (Fe)-Total			<0.60		mg/kg ww		0.6	16-OCT-14
Lead (Pb)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Lithium (Li)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Magnesium (Mg)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Manganese (Mn)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Molybdenum (Mo)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Nickel (Ni)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
Phosphorus (P)-Total			<2.0		mg/kg ww		2	16-OCT-14
Potassium (K)-Total			<4.0		mg/kg ww		4	16-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA		Tissue						
Batch	R2997608							
WG1970791-2 MB								
Rubidium (Rb)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Selenium (Se)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Sodium (Na)-Total			<4.0		mg/kg ww		4	16-OCT-14
Strontium (Sr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Tellurium (Te)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Thallium (Tl)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Tin (Sn)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Uranium (U)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Vanadium (V)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Zinc (Zn)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Zirconium (Zr)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
WG1971869-1 MB								
Aluminum (Al)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Antimony (Sb)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Arsenic (As)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Barium (Ba)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Beryllium (Be)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Bismuth (Bi)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Boron (B)-Total			<0.20		mg/kg ww		0.2	16-OCT-14
Cadmium (Cd)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Calcium (Ca)-Total			<4.0		mg/kg ww		4	16-OCT-14
Cesium (Cs)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Chromium (Cr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Cobalt (Co)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Copper (Cu)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Iron (Fe)-Total			<0.60		mg/kg ww		0.6	16-OCT-14
Lead (Pb)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Lithium (Li)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Magnesium (Mg)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Manganese (Mn)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Molybdenum (Mo)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Nickel (Ni)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
Phosphorus (P)-Total			<2.0		mg/kg ww		2	16-OCT-14
Potassium (K)-Total			<4.0		mg/kg ww		4	16-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA		Tissue						
Batch	R2997608							
WG1971869-1 MB								
Rubidium (Rb)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Selenium (Se)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Sodium (Na)-Total			<4.0		mg/kg ww		4	16-OCT-14
Strontium (Sr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Tellurium (Te)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Thallium (Tl)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Tin (Sn)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Uranium (U)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Vanadium (V)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Zinc (Zn)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Zirconium (Zr)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
WG1971869-2 MB								
Aluminum (Al)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Antimony (Sb)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Arsenic (As)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Barium (Ba)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Beryllium (Be)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Bismuth (Bi)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Boron (B)-Total			<0.20		mg/kg ww		0.2	16-OCT-14
Cadmium (Cd)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Calcium (Ca)-Total			<4.0		mg/kg ww		4	16-OCT-14
Cesium (Cs)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Chromium (Cr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Cobalt (Co)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Copper (Cu)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Iron (Fe)-Total			<0.60		mg/kg ww		0.6	16-OCT-14
Lead (Pb)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Lithium (Li)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Magnesium (Mg)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Manganese (Mn)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Molybdenum (Mo)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Nickel (Ni)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
Phosphorus (P)-Total			<2.0		mg/kg ww		2	16-OCT-14
Potassium (K)-Total			<4.0		mg/kg ww		4	16-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA		Tissue						
Batch	R2997608							
WG1971869-2 MB								
Rubidium (Rb)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Selenium (Se)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Sodium (Na)-Total			<4.0		mg/kg ww		4	16-OCT-14
Strontium (Sr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Tellurium (Te)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Thallium (Tl)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Tin (Sn)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Uranium (U)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Vanadium (V)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Zinc (Zn)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Zirconium (Zr)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
WG1973390-1 MB								
Aluminum (Al)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Antimony (Sb)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Arsenic (As)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Barium (Ba)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Beryllium (Be)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Bismuth (Bi)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Boron (B)-Total			<0.20		mg/kg ww		0.2	16-OCT-14
Cadmium (Cd)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Calcium (Ca)-Total			<4.0		mg/kg ww		4	16-OCT-14
Cesium (Cs)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Chromium (Cr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Cobalt (Co)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Copper (Cu)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Iron (Fe)-Total			<0.60		mg/kg ww		0.6	16-OCT-14
Lead (Pb)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Lithium (Li)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Magnesium (Mg)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Manganese (Mn)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Molybdenum (Mo)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Nickel (Ni)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
Phosphorus (P)-Total			<2.0		mg/kg ww		2	16-OCT-14
Potassium (K)-Total			<4.0		mg/kg ww		4	16-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA		Tissue						
Batch	R2997608							
WG1973390-1 MB								
Rubidium (Rb)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Selenium (Se)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Sodium (Na)-Total			<4.0		mg/kg ww		4	16-OCT-14
Strontium (Sr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Tellurium (Te)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Thallium (Tl)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Tin (Sn)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Uranium (U)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Vanadium (V)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Zinc (Zn)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Zirconium (Zr)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
WG1973390-2 MB								
Aluminum (Al)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Antimony (Sb)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Arsenic (As)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Barium (Ba)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Beryllium (Be)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Bismuth (Bi)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Boron (B)-Total			<0.20		mg/kg ww		0.2	16-OCT-14
Cadmium (Cd)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Calcium (Ca)-Total			<4.0		mg/kg ww		4	16-OCT-14
Cesium (Cs)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Chromium (Cr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Cobalt (Co)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Copper (Cu)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Iron (Fe)-Total			<0.60		mg/kg ww		0.6	16-OCT-14
Lead (Pb)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Lithium (Li)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Magnesium (Mg)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Manganese (Mn)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Molybdenum (Mo)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Nickel (Ni)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
Phosphorus (P)-Total			<2.0		mg/kg ww		2	16-OCT-14
Potassium (K)-Total			<4.0		mg/kg ww		4	16-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA		Tissue						
Batch	R2997608							
WG1973390-2 MB								
Rubidium (Rb)-Total			<0.010		mg/kg wwt		0.01	16-OCT-14
Selenium (Se)-Total			<0.010		mg/kg wwt		0.01	16-OCT-14
Sodium (Na)-Total			<4.0		mg/kg wwt		4	16-OCT-14
Strontium (Sr)-Total			<0.010		mg/kg wwt		0.01	16-OCT-14
Tellurium (Te)-Total			<0.0040		mg/kg wwt		0.004	16-OCT-14
Thallium (Tl)-Total			<0.00040		mg/kg wwt		0.0004	16-OCT-14
Tin (Sn)-Total			<0.020		mg/kg wwt		0.02	16-OCT-14
Uranium (U)-Total			<0.00040		mg/kg wwt		0.0004	16-OCT-14
Vanadium (V)-Total			<0.020		mg/kg wwt		0.02	16-OCT-14
Zinc (Zn)-Total			<0.10		mg/kg wwt		0.1	16-OCT-14
Zirconium (Zr)-Total			<0.040		mg/kg wwt		0.04	16-OCT-14
Batch	R2997730							
WG1968815-5 CRM		VA-NIST-1515						
Aluminum (Al)-Total			116.1		%		70-130	14-OCT-14
Antimony (Sb)-Total			0.0110		mg/kg wwt		0.003-0.023	14-OCT-14
Barium (Ba)-Total			102.5		%		70-130	14-OCT-14
Boron (B)-Total			109.0		%		70-130	14-OCT-14
Cadmium (Cd)-Total			0.0132		mg/kg wwt		0.008-0.018	14-OCT-14
Calcium (Ca)-Total			108.1		%		70-130	14-OCT-14
Chromium (Cr)-Total			74.4		%		70-130	14-OCT-14
Cobalt (Co)-Total			0.0927		mg/kg wwt		0.07-0.11	14-OCT-14
Copper (Cu)-Total			97.9		%		70-130	14-OCT-14
Iron (Fe)-Total			87.9		%		70-130	14-OCT-14
Lead (Pb)-Total			95.4		%		70-130	14-OCT-14
Magnesium (Mg)-Total			101.4		%		70-130	14-OCT-14
Manganese (Mn)-Total			99.0		%		70-130	14-OCT-14
Molybdenum (Mo)-Total			96.1		%		70-130	14-OCT-14
Nickel (Ni)-Total			95.3		%		70-130	14-OCT-14
Phosphorus (P)-Total			111.2		%		70-130	14-OCT-14
Potassium (K)-Total			105.1		%		70-130	14-OCT-14
Rubidium (Rb)-Total			95.0		%		70-130	14-OCT-14
Selenium (Se)-Total			0.059		mg/kg wwt		0-0.1	14-OCT-14
Sodium (Na)-Total			29.3		mg/kg wwt		4.4-44.4	14-OCT-14
Strontium (Sr)-Total			105.2		%		70-130	14-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA		Tissue						
Batch	R2997730							
WG1968815-5 CRM		VA-NIST-1515						
Uranium (U)-Total			0.00558		mg/kg ww		0.004-0.008	14-OCT-14
Vanadium (V)-Total			0.179		mg/kg ww		0.16-0.36	14-OCT-14
Zinc (Zn)-Total			98.0		%		70-130	14-OCT-14
WG1968815-6 CRM		VA-NIST-1547						
Aluminum (Al)-Total			107.7		%		70-130	14-OCT-14
Antimony (Sb)-Total			0.0208		mg/kg ww		0.01-0.03	14-OCT-14
Barium (Ba)-Total			95.9		%		70-130	14-OCT-14
Boron (B)-Total			91.1		%		70-130	14-OCT-14
Cadmium (Cd)-Total			93.4		%		70-130	14-OCT-14
Calcium (Ca)-Total			97.7		%		70-130	14-OCT-14
Chromium (Cr)-Total			72.8		%		70-130	14-OCT-14
Cobalt (Co)-Total			0.0607		mg/kg ww		0.04-0.08	14-OCT-14
Copper (Cu)-Total			89.4		%		70-130	14-OCT-14
Iron (Fe)-Total			86.8		%		70-130	14-OCT-14
Lead (Pb)-Total			87.8		%		70-130	14-OCT-14
Magnesium (Mg)-Total			91.9		%		70-130	14-OCT-14
Manganese (Mn)-Total			90.5		%		70-130	14-OCT-14
Molybdenum (Mo)-Total			0.0447		mg/kg ww		0.04-0.08	14-OCT-14
Phosphorus (P)-Total			104.2		%		70-130	14-OCT-14
Potassium (K)-Total			94.9		%		70-130	14-OCT-14
Rubidium (Rb)-Total			89.6		%		70-130	14-OCT-14
Selenium (Se)-Total			0.116		mg/kg ww		0.07-0.17	14-OCT-14
Sodium (Na)-Total			28.0		mg/kg ww		4-44	14-OCT-14
Strontium (Sr)-Total			98.4		%		70-130	14-OCT-14
Vanadium (V)-Total			82.8		%		70-130	14-OCT-14
Zinc (Zn)-Total			93.1		%		70-130	14-OCT-14
WG1969801-4 CRM		VA-NIST-1515						
Aluminum (Al)-Total			109.5		%		70-130	14-OCT-14
Antimony (Sb)-Total			0.0199		mg/kg ww		0.003-0.023	14-OCT-14
Barium (Ba)-Total			97.0		%		70-130	14-OCT-14
Boron (B)-Total			98.5		%		70-130	14-OCT-14
Cadmium (Cd)-Total			0.0130		mg/kg ww		0.008-0.018	14-OCT-14
Calcium (Ca)-Total			101.2		%		70-130	14-OCT-14
Chromium (Cr)-Total			72.7		%		70-130	14-OCT-14
Cobalt (Co)-Total			0.0871		mg/kg ww		0.07-0.11	14-OCT-14

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MET-WET-CCMS-VA		Tissue						
Batch	R2997730							
WG1969801-4 CRM		VA-NIST-1515						
Copper (Cu)-Total			93.6		%		70-130	14-OCT-14
Iron (Fe)-Total			84.8		%		70-130	14-OCT-14
Lead (Pb)-Total			89.2		%		70-130	14-OCT-14
Magnesium (Mg)-Total			95.8		%		70-130	14-OCT-14
Manganese (Mn)-Total			95.3		%		70-130	14-OCT-14
Molybdenum (Mo)-Total			88.0		%		70-130	14-OCT-14
Nickel (Ni)-Total			90.3		%		70-130	14-OCT-14
Phosphorus (P)-Total			106.4		%		70-130	14-OCT-14
Potassium (K)-Total			99.1		%		70-130	14-OCT-14
Rubidium (Rb)-Total			93.6		%		70-130	14-OCT-14
Selenium (Se)-Total			0.056		mg/kg wwt		0-0.1	14-OCT-14
Sodium (Na)-Total			30.4		mg/kg wwt		4.4-44.4	14-OCT-14
Strontium (Sr)-Total			100.3		%		70-130	14-OCT-14
Uranium (U)-Total			0.00520		mg/kg wwt		0.004-0.008	14-OCT-14
Vanadium (V)-Total			0.169		mg/kg wwt		0.16-0.36	14-OCT-14
Zinc (Zn)-Total			94.3		%		70-130	14-OCT-14
WG1969801-5 CRM		VA-NIST-1547						
Aluminum (Al)-Total			107.2		%		70-130	14-OCT-14
Antimony (Sb)-Total			0.0258		mg/kg wwt		0.01-0.03	14-OCT-14
Barium (Ba)-Total			95.0		%		70-130	14-OCT-14
Boron (B)-Total			87.9		%		70-130	14-OCT-14
Cadmium (Cd)-Total			90.5		%		70-130	14-OCT-14
Calcium (Ca)-Total			96.6		%		70-130	14-OCT-14
Chromium (Cr)-Total			74.2		%		70-130	14-OCT-14
Cobalt (Co)-Total			0.0544		mg/kg wwt		0.04-0.08	14-OCT-14
Copper (Cu)-Total			90.6		%		70-130	14-OCT-14
Iron (Fe)-Total			89.1		%		70-130	14-OCT-14
Lead (Pb)-Total			88.1		%		70-130	14-OCT-14
Magnesium (Mg)-Total			92.4		%		70-130	14-OCT-14
Manganese (Mn)-Total			92.5		%		70-130	14-OCT-14
Molybdenum (Mo)-Total			0.0469		mg/kg wwt		0.04-0.08	14-OCT-14
Phosphorus (P)-Total			105.3		%		70-130	14-OCT-14
Potassium (K)-Total			95.5		%		70-130	14-OCT-14
Rubidium (Rb)-Total			91.8		%		70-130	14-OCT-14

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MET-WET-CCMS-VA		Tissue						
Batch	R2997730							
WG1969801-5 CRM		VA-NIST-1547						
Selenium (Se)-Total			0.121		mg/kg wwt		0.07-0.17	14-OCT-14
Sodium (Na)-Total			31.2		mg/kg wwt		4-44	14-OCT-14
Strontium (Sr)-Total			100.3		%		70-130	14-OCT-14
Vanadium (V)-Total			82.7		%		70-130	14-OCT-14
Zinc (Zn)-Total			94.4		%		70-130	14-OCT-14
WG1968815-3 DUP		L1510356-134						
Aluminum (Al)-Total		391	366		mg/kg wwt	6.6	40	14-OCT-14
Antimony (Sb)-Total		0.0030	<0.0020	RPD-NA	mg/kg wwt	N/A	40	14-OCT-14
Arsenic (As)-Total		0.353	0.347		mg/kg wwt	1.8	40	14-OCT-14
Barium (Ba)-Total		11.2	11.6		mg/kg wwt	3.9	40	14-OCT-14
Beryllium (Be)-Total		0.0114	0.0120		mg/kg wwt	4.5	40	14-OCT-14
Bismuth (Bi)-Total		0.0071	0.0054		mg/kg wwt	27	40	14-OCT-14
Boron (B)-Total		1.12	1.10		mg/kg wwt	2.0	40	14-OCT-14
Cadmium (Cd)-Total		0.0322	0.0326		mg/kg wwt	1.2	40	14-OCT-14
Calcium (Ca)-Total		850	832		mg/kg wwt	2.2	60	14-OCT-14
Cesium (Cs)-Total		0.0518	0.0461		mg/kg wwt	12	40	14-OCT-14
Chromium (Cr)-Total		4.84	4.36		mg/kg wwt	10	40	14-OCT-14
Cobalt (Co)-Total		0.350	0.311		mg/kg wwt	12	40	14-OCT-14
Copper (Cu)-Total		1.01	1.06		mg/kg wwt	5.3	40	14-OCT-14
Iron (Fe)-Total		706	592		mg/kg wwt	18	40	14-OCT-14
Lead (Pb)-Total		0.478	0.479		mg/kg wwt	0.3	40	14-OCT-14
Lithium (Li)-Total		0.29	0.26		mg/kg wwt	12	40	14-OCT-14
Magnesium (Mg)-Total		483	461		mg/kg wwt	4.6	40	14-OCT-14
Manganese (Mn)-Total		79.0	79.5		mg/kg wwt	0.7	40	14-OCT-14
Molybdenum (Mo)-Total		0.449	0.421		mg/kg wwt	6.2	40	14-OCT-14
Nickel (Ni)-Total		2.92	2.83		mg/kg wwt	3.1	40	14-OCT-14
Phosphorus (P)-Total		234	234		mg/kg wwt	0.3	40	14-OCT-14
Potassium (K)-Total		2810	2720		mg/kg wwt	3.1	40	14-OCT-14
Rubidium (Rb)-Total		3.63	3.60		mg/kg wwt	0.9	40	14-OCT-14
Selenium (Se)-Total		<0.010	<0.010	RPD-NA	mg/kg wwt	N/A	40	14-OCT-14
Sodium (Na)-Total		9.9	9.9		mg/kg wwt	0.0	40	14-OCT-14
Strontium (Sr)-Total		4.21	4.09		mg/kg wwt	2.8	60	14-OCT-14
Tellurium (Te)-Total		<0.0040	<0.0040	RPD-NA	mg/kg wwt	N/A	40	14-OCT-14
Thallium (Tl)-Total		0.00407	0.00380		mg/kg wwt	6.9	40	14-OCT-14

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MET-WET-CCMS-VA Tissue								
Batch	R2997730							
WG1968815-3 DUP		L1510356-134						
Tin (Sn)-Total		<0.020	<0.020	RPD-NA	mg/kg wwt	N/A	40	14-OCT-14
Uranium (U)-Total		0.0352	0.0337		mg/kg wwt	4.5	40	14-OCT-14
Vanadium (V)-Total		0.750	0.685		mg/kg wwt	9.0	40	14-OCT-14
Zinc (Zn)-Total		12.8	13.0		mg/kg wwt	1.0	40	14-OCT-14
Zirconium (Zr)-Total		0.535	0.468		mg/kg wwt	13	40	14-OCT-14
WG1969801-3 DUP		L1510356-194						
Aluminum (Al)-Total		2860	1840	DUP-H	mg/kg wwt	43	40	14-OCT-14
Antimony (Sb)-Total		0.0045	0.0103	DUP-H	mg/kg wwt	0.0058	0.004	14-OCT-14
Arsenic (As)-Total		1.18	0.781	DUP-H	mg/kg wwt	41	40	14-OCT-14
Barium (Ba)-Total		16.5	14.3		mg/kg wwt	14	40	14-OCT-14
Beryllium (Be)-Total		0.0777	0.0534		mg/kg wwt	37	40	14-OCT-14
Bismuth (Bi)-Total		0.0851	0.0563	DUP-H	mg/kg wwt	41	40	14-OCT-14
Boron (B)-Total		1.72	1.31		mg/kg wwt	27	40	14-OCT-14
Cadmium (Cd)-Total		0.0518	0.0488		mg/kg wwt	6.0	40	14-OCT-14
Calcium (Ca)-Total		1280	1200		mg/kg wwt	6.3	60	14-OCT-14
Cesium (Cs)-Total		0.312	0.191	DUP-H	mg/kg wwt	48	40	14-OCT-14
Chromium (Cr)-Total		37.6	16.8	DUP-H	mg/kg wwt	76	40	14-OCT-14
Cobalt (Co)-Total		2.10	1.23	DUP-H	mg/kg wwt	52	40	14-OCT-14
Copper (Cu)-Total		2.28	1.69		mg/kg wwt	30	40	14-OCT-14
Iron (Fe)-Total		4970	3000	DUP-H	mg/kg wwt	49	40	14-OCT-14
Lead (Pb)-Total		1.75	1.23		mg/kg wwt	35	40	14-OCT-14
Lithium (Li)-Total		1.86	1.17	DUP-H	mg/kg wwt	45	40	14-OCT-14
Magnesium (Mg)-Total		3140	1460	DUP-H	mg/kg wwt	73	40	14-OCT-14
Manganese (Mn)-Total		127	111		mg/kg wwt	13	40	14-OCT-14
Molybdenum (Mo)-Total		0.163	0.112		mg/kg wwt	38	40	14-OCT-14
Nickel (Ni)-Total		22.5	9.93	DUP-H	mg/kg wwt	78	40	14-OCT-14
Phosphorus (P)-Total		268	231		mg/kg wwt	15	40	14-OCT-14
Potassium (K)-Total		1230	1160		mg/kg wwt	5.4	40	14-OCT-14
Rubidium (Rb)-Total		4.67	3.28		mg/kg wwt	35	40	14-OCT-14
Selenium (Se)-Total		0.035	0.025		mg/kg wwt	34	40	14-OCT-14
Sodium (Na)-Total		30.1	23.2		mg/kg wwt	26	40	14-OCT-14
Strontium (Sr)-Total		11.6	11.3		mg/kg wwt	2.9	60	14-OCT-14
Tellurium (Te)-Total		0.0041	<0.0040	RPD-NA	mg/kg wwt	N/A	40	14-OCT-14
Thallium (Tl)-Total		0.0247	0.0159	DUP-H	mg/kg wwt	44	40	14-OCT-14

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MET-WET-CCMS-VA		Tissue						
Batch	R2997730							
WG1969801-3	DUP	L1510356-194						
Tin (Sn)-Total		0.038	0.058	J	mg/kg wwt	0.020	0.04	14-OCT-14
Uranium (U)-Total		0.269	0.171	DUP-H	mg/kg wwt	44	40	14-OCT-14
Vanadium (V)-Total		6.43	3.96	DUP-H	mg/kg wwt	48	40	14-OCT-14
Zinc (Zn)-Total		14.0	12.4		mg/kg wwt	12	40	14-OCT-14
Zirconium (Zr)-Total		2.02	1.22	DUP-H	mg/kg wwt	49	40	14-OCT-14
WG1968815-1	MB							
Aluminum (Al)-Total			<0.40		mg/kg wwt		0.4	14-OCT-14
Antimony (Sb)-Total			<0.0020		mg/kg wwt		0.002	14-OCT-14
Arsenic (As)-Total			<0.0040		mg/kg wwt		0.004	14-OCT-14
Barium (Ba)-Total			<0.010		mg/kg wwt		0.01	14-OCT-14
Beryllium (Be)-Total			<0.0020		mg/kg wwt		0.002	14-OCT-14
Bismuth (Bi)-Total			<0.0020		mg/kg wwt		0.002	14-OCT-14
Boron (B)-Total			<0.20		mg/kg wwt		0.2	14-OCT-14
Cadmium (Cd)-Total			<0.0010		mg/kg wwt		0.001	14-OCT-14
Calcium (Ca)-Total			<4.0		mg/kg wwt		4	14-OCT-14
Cesium (Cs)-Total			<0.0010		mg/kg wwt		0.001	14-OCT-14
Chromium (Cr)-Total			<0.010		mg/kg wwt		0.01	14-OCT-14
Cobalt (Co)-Total			<0.0040		mg/kg wwt		0.004	14-OCT-14
Copper (Cu)-Total			<0.020		mg/kg wwt		0.02	14-OCT-14
Iron (Fe)-Total			<0.60		mg/kg wwt		0.6	14-OCT-14
Lead (Pb)-Total			<0.0040		mg/kg wwt		0.004	14-OCT-14
Lithium (Li)-Total			<0.10		mg/kg wwt		0.1	14-OCT-14
Magnesium (Mg)-Total			<0.40		mg/kg wwt		0.4	14-OCT-14
Manganese (Mn)-Total			<0.010		mg/kg wwt		0.01	14-OCT-14
Molybdenum (Mo)-Total			<0.0040		mg/kg wwt		0.004	14-OCT-14
Nickel (Ni)-Total			<0.040		mg/kg wwt		0.04	14-OCT-14
Phosphorus (P)-Total			<2.0		mg/kg wwt		2	14-OCT-14
Potassium (K)-Total			<4.0		mg/kg wwt		4	14-OCT-14
Rubidium (Rb)-Total			<0.010		mg/kg wwt		0.01	14-OCT-14
Selenium (Se)-Total			<0.010		mg/kg wwt		0.01	14-OCT-14
Sodium (Na)-Total			<4.0		mg/kg wwt		4	14-OCT-14
Strontium (Sr)-Total			<0.010		mg/kg wwt		0.01	14-OCT-14
Tellurium (Te)-Total			<0.0040		mg/kg wwt		0.004	14-OCT-14
Thallium (Tl)-Total			<0.00040		mg/kg wwt		0.0004	14-OCT-14

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MET-WET-CCMS-VA		Tissue						
Batch	R2997730							
WG1968815-1 MB								
Tin (Sn)-Total			<0.020		mg/kg ww		0.02	14-OCT-14
Uranium (U)-Total			<0.00040		mg/kg ww		0.0004	14-OCT-14
Vanadium (V)-Total			<0.020		mg/kg ww		0.02	14-OCT-14
Zinc (Zn)-Total			<0.10		mg/kg ww		0.1	14-OCT-14
Zirconium (Zr)-Total			<0.040		mg/kg ww		0.04	14-OCT-14
WG1968815-2 MB								
Aluminum (Al)-Total			<0.40		mg/kg ww		0.4	14-OCT-14
Antimony (Sb)-Total			<0.0020		mg/kg ww		0.002	14-OCT-14
Arsenic (As)-Total			<0.0040		mg/kg ww		0.004	14-OCT-14
Barium (Ba)-Total			<0.010		mg/kg ww		0.01	14-OCT-14
Beryllium (Be)-Total			<0.0020		mg/kg ww		0.002	14-OCT-14
Bismuth (Bi)-Total			<0.0020		mg/kg ww		0.002	14-OCT-14
Boron (B)-Total			<0.20		mg/kg ww		0.2	14-OCT-14
Cadmium (Cd)-Total			<0.0010		mg/kg ww		0.001	14-OCT-14
Calcium (Ca)-Total			<4.0		mg/kg ww		4	14-OCT-14
Cesium (Cs)-Total			<0.0010		mg/kg ww		0.001	14-OCT-14
Chromium (Cr)-Total			<0.010		mg/kg ww		0.01	14-OCT-14
Cobalt (Co)-Total			<0.0040		mg/kg ww		0.004	14-OCT-14
Copper (Cu)-Total			<0.020		mg/kg ww		0.02	14-OCT-14
Iron (Fe)-Total			<0.60		mg/kg ww		0.6	14-OCT-14
Lead (Pb)-Total			<0.0040		mg/kg ww		0.004	14-OCT-14
Lithium (Li)-Total			<0.10		mg/kg ww		0.1	14-OCT-14
Magnesium (Mg)-Total			<0.40		mg/kg ww		0.4	14-OCT-14
Manganese (Mn)-Total			<0.010		mg/kg ww		0.01	14-OCT-14
Molybdenum (Mo)-Total			<0.0040		mg/kg ww		0.004	14-OCT-14
Nickel (Ni)-Total			<0.040		mg/kg ww		0.04	14-OCT-14
Phosphorus (P)-Total			<2.0		mg/kg ww		2	14-OCT-14
Potassium (K)-Total			<4.0		mg/kg ww		4	14-OCT-14
Rubidium (Rb)-Total			<0.010		mg/kg ww		0.01	14-OCT-14
Selenium (Se)-Total			<0.010		mg/kg ww		0.01	14-OCT-14
Sodium (Na)-Total			<4.0		mg/kg ww		4	14-OCT-14
Strontium (Sr)-Total			<0.010		mg/kg ww		0.01	14-OCT-14
Tellurium (Te)-Total			<0.0040		mg/kg ww		0.004	14-OCT-14
Thallium (Tl)-Total			<0.00040		mg/kg ww		0.0004	14-OCT-14

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MET-WET-CCMS-VA		Tissue						
Batch	R2997730							
WG1968815-2	MB							
Tin (Sn)-Total			<0.020		mg/kg ww		0.02	14-OCT-14
Uranium (U)-Total			<0.00040		mg/kg ww		0.0004	14-OCT-14
Vanadium (V)-Total			<0.020		mg/kg ww		0.02	14-OCT-14
Zinc (Zn)-Total			<0.10		mg/kg ww		0.1	14-OCT-14
Zirconium (Zr)-Total			<0.040		mg/kg ww		0.04	14-OCT-14
WG1969801-1	MB							
Aluminum (Al)-Total			<0.40		mg/kg ww		0.4	14-OCT-14
Arsenic (As)-Total			<0.0040		mg/kg ww		0.004	14-OCT-14
Barium (Ba)-Total			<0.010		mg/kg ww		0.01	14-OCT-14
Beryllium (Be)-Total			<0.0020		mg/kg ww		0.002	14-OCT-14
Bismuth (Bi)-Total			<0.0020		mg/kg ww		0.002	14-OCT-14
Boron (B)-Total			<0.20		mg/kg ww		0.2	14-OCT-14
Cadmium (Cd)-Total			<0.0010		mg/kg ww		0.001	14-OCT-14
Calcium (Ca)-Total			<4.0		mg/kg ww		4	14-OCT-14
Cesium (Cs)-Total			<0.0010		mg/kg ww		0.001	14-OCT-14
Chromium (Cr)-Total			<0.010		mg/kg ww		0.01	14-OCT-14
Cobalt (Co)-Total			<0.0040		mg/kg ww		0.004	14-OCT-14
Copper (Cu)-Total			<0.020		mg/kg ww		0.02	14-OCT-14
Iron (Fe)-Total			<0.60		mg/kg ww		0.6	14-OCT-14
Lead (Pb)-Total			<0.0040		mg/kg ww		0.004	14-OCT-14
Lithium (Li)-Total			<0.10		mg/kg ww		0.1	14-OCT-14
Magnesium (Mg)-Total			<0.40		mg/kg ww		0.4	14-OCT-14
Manganese (Mn)-Total			<0.010		mg/kg ww		0.01	14-OCT-14
Molybdenum (Mo)-Total			<0.0040		mg/kg ww		0.004	14-OCT-14
Nickel (Ni)-Total			<0.040		mg/kg ww		0.04	14-OCT-14
Phosphorus (P)-Total			<2.0		mg/kg ww		2	14-OCT-14
Potassium (K)-Total			<4.0		mg/kg ww		4	14-OCT-14
Rubidium (Rb)-Total			<0.010		mg/kg ww		0.01	14-OCT-14
Selenium (Se)-Total			<0.010		mg/kg ww		0.01	14-OCT-14
Sodium (Na)-Total			<4.0		mg/kg ww		4	14-OCT-14
Strontium (Sr)-Total			<0.010		mg/kg ww		0.01	14-OCT-14
Tellurium (Te)-Total			<0.0040		mg/kg ww		0.004	14-OCT-14
Thallium (Tl)-Total			<0.00040		mg/kg ww		0.0004	14-OCT-14
Tin (Sn)-Total			<0.020		mg/kg ww		0.02	14-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA		Tissue						
Batch	R2997730							
WG1969801-1 MB								
Uranium (U)-Total			<0.00040		mg/kg wwt		0.0004	14-OCT-14
Vanadium (V)-Total			<0.020		mg/kg wwt		0.02	14-OCT-14
Zinc (Zn)-Total			<0.10		mg/kg wwt		0.1	14-OCT-14
Zirconium (Zr)-Total			<0.040		mg/kg wwt		0.04	14-OCT-14
WG1969801-2 MB								
Aluminum (Al)-Total			<0.40		mg/kg wwt		0.4	14-OCT-14
Antimony (Sb)-Total			<0.0020		mg/kg wwt		0.002	14-OCT-14
Arsenic (As)-Total			<0.0040		mg/kg wwt		0.004	14-OCT-14
Barium (Ba)-Total			<0.010		mg/kg wwt		0.01	14-OCT-14
Beryllium (Be)-Total			<0.0020		mg/kg wwt		0.002	14-OCT-14
Bismuth (Bi)-Total			<0.0020		mg/kg wwt		0.002	14-OCT-14
Boron (B)-Total			<0.20		mg/kg wwt		0.2	14-OCT-14
Cadmium (Cd)-Total			<0.0010		mg/kg wwt		0.001	14-OCT-14
Calcium (Ca)-Total			<4.0		mg/kg wwt		4	14-OCT-14
Cesium (Cs)-Total			<0.0010		mg/kg wwt		0.001	14-OCT-14
Chromium (Cr)-Total			<0.010		mg/kg wwt		0.01	14-OCT-14
Cobalt (Co)-Total			<0.0040		mg/kg wwt		0.004	14-OCT-14
Copper (Cu)-Total			<0.020		mg/kg wwt		0.02	14-OCT-14
Iron (Fe)-Total			<0.60		mg/kg wwt		0.6	14-OCT-14
Lead (Pb)-Total			<0.0040		mg/kg wwt		0.004	14-OCT-14
Lithium (Li)-Total			<0.10		mg/kg wwt		0.1	14-OCT-14
Magnesium (Mg)-Total			<0.40		mg/kg wwt		0.4	14-OCT-14
Manganese (Mn)-Total			<0.010		mg/kg wwt		0.01	14-OCT-14
Molybdenum (Mo)-Total			<0.0040		mg/kg wwt		0.004	14-OCT-14
Nickel (Ni)-Total			<0.040		mg/kg wwt		0.04	14-OCT-14
Phosphorus (P)-Total			<2.0		mg/kg wwt		2	14-OCT-14
Potassium (K)-Total			<4.0		mg/kg wwt		4	14-OCT-14
Rubidium (Rb)-Total			<0.010		mg/kg wwt		0.01	14-OCT-14
Selenium (Se)-Total			<0.010		mg/kg wwt		0.01	14-OCT-14
Sodium (Na)-Total			<4.0		mg/kg wwt		4	14-OCT-14
Strontium (Sr)-Total			<0.010		mg/kg wwt		0.01	14-OCT-14
Tellurium (Te)-Total			<0.0040		mg/kg wwt		0.004	14-OCT-14
Thallium (Tl)-Total			<0.00040		mg/kg wwt		0.0004	14-OCT-14
Tin (Sn)-Total			<0.020		mg/kg wwt		0.02	14-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA Tissue								
Batch	R2997730							
WG1969801-2 MB								
Uranium (U)-Total			<0.00040		mg/kg ww		0.0004	14-OCT-14
Vanadium (V)-Total			<0.020		mg/kg ww		0.02	14-OCT-14
Zinc (Zn)-Total			<0.10		mg/kg ww		0.1	14-OCT-14
Zirconium (Zr)-Total			<0.040		mg/kg ww		0.04	14-OCT-14
Batch	R2998022							
WG1972313-5 CRM		VA-NIST-1515						
Aluminum (Al)-Total			111.2		%		70-130	16-OCT-14
Antimony (Sb)-Total			0.0116		mg/kg ww		0.003-0.023	16-OCT-14
Arsenic (As)-Total			0.0401		mg/kg ww		0.018-0.058	16-OCT-14
Barium (Ba)-Total			100.3		%		70-130	16-OCT-14
Boron (B)-Total			99.0		%		70-130	16-OCT-14
Cadmium (Cd)-Total			0.0148		mg/kg ww		0.008-0.018	16-OCT-14
Calcium (Ca)-Total			97.6		%		70-130	16-OCT-14
Chromium (Cr)-Total			70.4		%		70-130	16-OCT-14
Cobalt (Co)-Total			0.0871		mg/kg ww		0.07-0.11	16-OCT-14
Copper (Cu)-Total			94.2		%		70-130	16-OCT-14
Iron (Fe)-Total			85.1		%		70-130	16-OCT-14
Lead (Pb)-Total			88.6		%		70-130	16-OCT-14
Magnesium (Mg)-Total			98.0		%		70-130	16-OCT-14
Manganese (Mn)-Total			95.9		%		70-130	16-OCT-14
Molybdenum (Mo)-Total			86.4		%		70-130	16-OCT-14
Nickel (Ni)-Total			89.8		%		70-130	16-OCT-14
Phosphorus (P)-Total			103.7		%		70-130	16-OCT-14
Potassium (K)-Total			98.0		%		70-130	16-OCT-14
Rubidium (Rb)-Total			93.5		%		70-130	16-OCT-14
Selenium (Se)-Total			0.058		mg/kg ww		0-0.1	16-OCT-14
Sodium (Na)-Total			29.2		mg/kg ww		4.4-44.4	16-OCT-14
Strontium (Sr)-Total			98.0		%		70-130	16-OCT-14
Uranium (U)-Total			0.00523		mg/kg ww		0.004-0.008	16-OCT-14
Vanadium (V)-Total			0.177		mg/kg ww		0.16-0.36	16-OCT-14
Zinc (Zn)-Total			92.9		%		70-130	16-OCT-14
WG1972313-6 CRM		VA-NIST-1547						
Aluminum (Al)-Total			116.2		%		70-130	16-OCT-14
Antimony (Sb)-Total			0.0237		mg/kg ww		0.01-0.03	16-OCT-14
Arsenic (As)-Total			0.0673		mg/kg ww		0.04-0.08	16-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA		Tissue						
Batch	R2998022							
WG1972313-6 CRM		VA-NIST-1547						
Barium (Ba)-Total			100.7		%		70-130	16-OCT-14
Boron (B)-Total			95.8		%		70-130	16-OCT-14
Cadmium (Cd)-Total			100.9		%		70-130	16-OCT-14
Calcium (Ca)-Total			100.8		%		70-130	16-OCT-14
Chromium (Cr)-Total			76.9		%		70-130	16-OCT-14
Cobalt (Co)-Total			0.0609		mg/kg ww		0.04-0.08	16-OCT-14
Copper (Cu)-Total			97.1		%		70-130	16-OCT-14
Iron (Fe)-Total			93.3		%		70-130	16-OCT-14
Lead (Pb)-Total			91.8		%		70-130	16-OCT-14
Magnesium (Mg)-Total			99.7		%		70-130	16-OCT-14
Manganese (Mn)-Total			97.8		%		70-130	16-OCT-14
Molybdenum (Mo)-Total			0.0454		mg/kg ww		0.04-0.08	16-OCT-14
Nickel (Ni)-Total			70.9		%		70-130	16-OCT-14
Phosphorus (P)-Total			111.2		%		70-130	16-OCT-14
Potassium (K)-Total			100.4		%		70-130	16-OCT-14
Rubidium (Rb)-Total			97.1		%		70-130	16-OCT-14
Selenium (Se)-Total			0.127		mg/kg ww		0.07-0.17	16-OCT-14
Sodium (Na)-Total			31.6		mg/kg ww		4-44	16-OCT-14
Strontium (Sr)-Total			102.2		%		70-130	16-OCT-14
Vanadium (V)-Total			82.9		%		70-130	16-OCT-14
Zinc (Zn)-Total			97.3		%		70-130	16-OCT-14
WG1972393-5 CRM		VA-NIST-1515						
Aluminum (Al)-Total			110.9		%		70-130	16-OCT-14
Antimony (Sb)-Total			0.0112		mg/kg ww		0.003-0.023	16-OCT-14
Arsenic (As)-Total			0.0297		mg/kg ww		0.018-0.058	16-OCT-14
Barium (Ba)-Total			98.2		%		70-130	16-OCT-14
Boron (B)-Total			99.6		%		70-130	16-OCT-14
Cadmium (Cd)-Total			0.0127		mg/kg ww		0.008-0.018	16-OCT-14
Calcium (Ca)-Total			98.9		%		70-130	16-OCT-14
Chromium (Cr)-Total			75.6		%		70-130	16-OCT-14
Cobalt (Co)-Total			0.0884		mg/kg ww		0.07-0.11	16-OCT-14
Copper (Cu)-Total			95.3		%		70-130	16-OCT-14
Iron (Fe)-Total			86.3		%		70-130	16-OCT-14
Lead (Pb)-Total			88.5		%		70-130	16-OCT-14

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MET-WET-CCMS-VA		Tissue						
Batch	R2998022							
WG1972393-5 CRM		VA-NIST-1515						
Magnesium (Mg)-Total			97.6		%		70-130	16-OCT-14
Manganese (Mn)-Total			96.4		%		70-130	16-OCT-14
Molybdenum (Mo)-Total			95.2		%		70-130	16-OCT-14
Nickel (Ni)-Total			89.2		%		70-130	16-OCT-14
Phosphorus (P)-Total			104.2		%		70-130	16-OCT-14
Potassium (K)-Total			98.7		%		70-130	16-OCT-14
Rubidium (Rb)-Total			94.2		%		70-130	16-OCT-14
Selenium (Se)-Total			0.058		mg/kg ww		0-0.1	16-OCT-14
Sodium (Na)-Total			29.9		mg/kg ww		4.4-44.4	16-OCT-14
Strontium (Sr)-Total			100.2		%		70-130	16-OCT-14
Uranium (U)-Total			0.00540		mg/kg ww		0.004-0.008	16-OCT-14
Vanadium (V)-Total			0.177		mg/kg ww		0.16-0.36	16-OCT-14
Zinc (Zn)-Total			93.5		%		70-130	16-OCT-14
WG1972393-6 CRM		VA-NIST-1547						
Aluminum (Al)-Total			105.6		%		70-130	16-OCT-14
Antimony (Sb)-Total			0.0207		mg/kg ww		0.01-0.03	16-OCT-14
Arsenic (As)-Total			0.0617		mg/kg ww		0.04-0.08	16-OCT-14
Barium (Ba)-Total			92.8		%		70-130	16-OCT-14
Boron (B)-Total			89.5		%		70-130	16-OCT-14
Cadmium (Cd)-Total			92.2		%		70-130	16-OCT-14
Calcium (Ca)-Total			94.2		%		70-130	16-OCT-14
Chromium (Cr)-Total			72.2		%		70-130	16-OCT-14
Cobalt (Co)-Total			0.0526		mg/kg ww		0.04-0.08	16-OCT-14
Copper (Cu)-Total			89.0		%		70-130	16-OCT-14
Iron (Fe)-Total			85.9		%		70-130	16-OCT-14
Lead (Pb)-Total			87.2		%		70-130	16-OCT-14
Magnesium (Mg)-Total			90.2		%		70-130	16-OCT-14
Manganese (Mn)-Total			90.3		%		70-130	16-OCT-14
Phosphorus (P)-Total			100.2		%		70-130	16-OCT-14
Potassium (K)-Total			91.9		%		70-130	16-OCT-14
Rubidium (Rb)-Total			90.4		%		70-130	16-OCT-14
Selenium (Se)-Total			0.111		mg/kg ww		0.07-0.17	16-OCT-14
Sodium (Na)-Total			28.2		mg/kg ww		4-44	16-OCT-14
Strontium (Sr)-Total			98.4		%		70-130	16-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA		Tissue						
Batch	R2998022							
WG1972393-6 CRM		VA-NIST-1547						
Vanadium (V)-Total			76.0		%		70-130	16-OCT-14
Zinc (Zn)-Total			89.2		%		70-130	16-OCT-14
WG1972313-3 DUP		L1510356-114						
Aluminum (Al)-Total		275	302		mg/kg ww	9.3	40	16-OCT-14
Antimony (Sb)-Total		0.0029	0.0030		mg/kg ww	2.6	40	16-OCT-14
Arsenic (As)-Total		0.367	0.419		mg/kg ww	13	40	16-OCT-14
Barium (Ba)-Total		8.13	8.30		mg/kg ww	2.1	40	16-OCT-14
Beryllium (Be)-Total		0.0071	0.0073		mg/kg ww	2.8	40	16-OCT-14
Bismuth (Bi)-Total		0.0066	0.0070		mg/kg ww	7.2	40	16-OCT-14
Boron (B)-Total		1.18	1.22		mg/kg ww	3.6	40	16-OCT-14
Cadmium (Cd)-Total		0.0087	0.0092		mg/kg ww	5.9	40	16-OCT-14
Calcium (Ca)-Total		1020	1060		mg/kg ww	3.5	60	16-OCT-14
Cesium (Cs)-Total		0.0585	0.0614		mg/kg ww	4.8	40	16-OCT-14
Chromium (Cr)-Total		7.13	7.90		mg/kg ww	10	40	16-OCT-14
Cobalt (Co)-Total		0.272	0.294		mg/kg ww	7.7	40	16-OCT-14
Copper (Cu)-Total		1.43	1.59		mg/kg ww	10	40	16-OCT-14
Iron (Fe)-Total		619	672		mg/kg ww	8.2	40	16-OCT-14
Lead (Pb)-Total		0.257	0.285		mg/kg ww	10	40	16-OCT-14
Lithium (Li)-Total		0.18	0.19		mg/kg ww	6.4	40	16-OCT-14
Magnesium (Mg)-Total		517	545		mg/kg ww	5.4	40	16-OCT-14
Manganese (Mn)-Total		40.0	42.9		mg/kg ww	7.0	40	16-OCT-14
Molybdenum (Mo)-Total		0.183	0.192		mg/kg ww	4.7	40	16-OCT-14
Nickel (Ni)-Total		3.15	3.28		mg/kg ww	4.1	40	16-OCT-14
Phosphorus (P)-Total		453	466		mg/kg ww	2.9	40	16-OCT-14
Potassium (K)-Total		2600	2690		mg/kg ww	3.7	40	16-OCT-14
Rubidium (Rb)-Total		2.63	2.72		mg/kg ww	3.5	40	16-OCT-14
Selenium (Se)-Total		<0.010	<0.010	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Sodium (Na)-Total		4.6	4.8		mg/kg ww	2.6	40	16-OCT-14
Strontium (Sr)-Total		4.12	4.26		mg/kg ww	3.4	60	16-OCT-14
Tellurium (Te)-Total		<0.0040	<0.0040	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Thallium (Tl)-Total		0.00227	0.00243		mg/kg ww	6.7	40	16-OCT-14
Tin (Sn)-Total		<0.020	<0.020	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Uranium (U)-Total		0.0239	0.0255		mg/kg ww	6.3	40	16-OCT-14
Vanadium (V)-Total		0.653	0.710		mg/kg ww	8.4	40	16-OCT-14

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MET-WET-CCMS-VA Tissue								
Batch	R2998022							
WG1972313-3 DUP		L1510356-114						
Zinc (Zn)-Total		5.64	5.78		mg/kg ww	2.5	40	16-OCT-14
Zirconium (Zr)-Total		0.179	0.243		mg/kg ww	30	40	16-OCT-14
WG1972393-7 DUP		L1510356-40						
Aluminum (Al)-Total		3.16	2.98		mg/kg ww	5.8	40	16-OCT-14
Antimony (Sb)-Total		<0.0020	<0.0020	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Arsenic (As)-Total		<0.0040	<0.0040	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Barium (Ba)-Total		1.31	1.23		mg/kg ww	6.9	40	16-OCT-14
Beryllium (Be)-Total		<0.0020	<0.0020	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Bismuth (Bi)-Total		<0.0020	<0.0020	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Boron (B)-Total		0.70	0.66		mg/kg ww	5.9	40	16-OCT-14
Cadmium (Cd)-Total		0.0054	0.0054		mg/kg ww	0.3	40	16-OCT-14
Calcium (Ca)-Total		224	222		mg/kg ww	0.5	60	16-OCT-14
Cesium (Cs)-Total		0.0090	0.0090		mg/kg ww	0.3	40	16-OCT-14
Chromium (Cr)-Total		0.034	0.041		mg/kg ww	18	40	16-OCT-14
Cobalt (Co)-Total		<0.0040	<0.0040	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Copper (Cu)-Total		0.679	0.664		mg/kg ww	2.3	40	16-OCT-14
Iron (Fe)-Total		5.20	5.35		mg/kg ww	2.9	40	16-OCT-14
Lead (Pb)-Total		<0.0040	<0.0040	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Lithium (Li)-Total		<0.10	<0.10	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Magnesium (Mg)-Total		64.9	63.8		mg/kg ww	1.7	40	16-OCT-14
Manganese (Mn)-Total		10.6	10.3		mg/kg ww	2.8	40	16-OCT-14
Molybdenum (Mo)-Total		0.0063	0.0060		mg/kg ww	4.9	40	16-OCT-14
Nickel (Ni)-Total		0.109	0.104		mg/kg ww	4.2	40	16-OCT-14
Phosphorus (P)-Total		127	120		mg/kg ww	5.6	40	16-OCT-14
Potassium (K)-Total		1040	1030		mg/kg ww	0.6	40	16-OCT-14
Rubidium (Rb)-Total		5.46	5.38		mg/kg ww	1.4	40	16-OCT-14
Selenium (Se)-Total		<0.010	<0.010	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Sodium (Na)-Total		4.9	4.9		mg/kg ww	0.7	40	16-OCT-14
Strontium (Sr)-Total		0.500	0.467		mg/kg ww	6.8	60	16-OCT-14
Tellurium (Te)-Total		<0.0040	<0.0040	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Thallium (Tl)-Total		<0.00040	<0.00040	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
Tin (Sn)-Total		0.049	0.060		mg/kg ww	19	40	16-OCT-14
Uranium (U)-Total		0.00063	0.00055		mg/kg ww	13	40	16-OCT-14
Vanadium (V)-Total		<0.020	<0.020	RPD-NA	mg/kg ww	N/A	40	16-OCT-14

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MET-WET-CCMS-VA		Tissue						
Batch	R2998022							
WG1972393-7	DUP	L1510356-40						
Zinc (Zn)-Total		0.95	0.93		mg/kg ww	1.7	40	16-OCT-14
Zirconium (Zr)-Total		<0.040	<0.040	RPD-NA	mg/kg ww	N/A	40	16-OCT-14
WG1972313-1	MB							
Aluminum (Al)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Antimony (Sb)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Arsenic (As)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Barium (Ba)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Beryllium (Be)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Bismuth (Bi)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Boron (B)-Total			<0.20		mg/kg ww		0.2	16-OCT-14
Cadmium (Cd)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Calcium (Ca)-Total			<4.0		mg/kg ww		4	16-OCT-14
Cesium (Cs)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Chromium (Cr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Cobalt (Co)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Copper (Cu)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Iron (Fe)-Total			<0.60		mg/kg ww		0.6	16-OCT-14
Lead (Pb)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Lithium (Li)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Magnesium (Mg)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Manganese (Mn)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Molybdenum (Mo)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Nickel (Ni)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
Phosphorus (P)-Total			<2.0		mg/kg ww		2	16-OCT-14
Potassium (K)-Total			<4.0		mg/kg ww		4	16-OCT-14
Rubidium (Rb)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Selenium (Se)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Sodium (Na)-Total			<4.0		mg/kg ww		4	16-OCT-14
Strontium (Sr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Tellurium (Te)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Thallium (Tl)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Tin (Sn)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Uranium (U)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Vanadium (V)-Total			<0.020		mg/kg ww		0.02	16-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA		Tissue						
Batch	R2998022							
WG1972313-1 MB								
Zinc (Zn)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Zirconium (Zr)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
WG1972313-2 MB								
Aluminum (Al)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Antimony (Sb)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Arsenic (As)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Barium (Ba)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Beryllium (Be)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Bismuth (Bi)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Boron (B)-Total			<0.20		mg/kg ww		0.2	16-OCT-14
Cadmium (Cd)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Calcium (Ca)-Total			<4.0		mg/kg ww		4	16-OCT-14
Cesium (Cs)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Chromium (Cr)-Total			0.034	MB-LOR	mg/kg ww		0.01	16-OCT-14
Cobalt (Co)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Copper (Cu)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Iron (Fe)-Total			<0.60		mg/kg ww		0.6	16-OCT-14
Lead (Pb)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Lithium (Li)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Magnesium (Mg)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Manganese (Mn)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Molybdenum (Mo)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Nickel (Ni)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
Phosphorus (P)-Total			<2.0		mg/kg ww		2	16-OCT-14
Potassium (K)-Total			<4.0		mg/kg ww		4	16-OCT-14
Rubidium (Rb)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Selenium (Se)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Sodium (Na)-Total			<4.0		mg/kg ww		4	16-OCT-14
Strontium (Sr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Tellurium (Te)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Thallium (Tl)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Tin (Sn)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Uranium (U)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Vanadium (V)-Total			<0.020		mg/kg ww		0.02	16-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA		Tissue						
Batch	R2998022							
WG1972313-2 MB								
Zinc (Zn)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Zirconium (Zr)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
WG1972393-1 MB								
Aluminum (Al)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Antimony (Sb)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Arsenic (As)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Barium (Ba)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Beryllium (Be)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Bismuth (Bi)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Boron (B)-Total			<0.20		mg/kg ww		0.2	16-OCT-14
Cadmium (Cd)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Calcium (Ca)-Total			<4.0		mg/kg ww		4	16-OCT-14
Cesium (Cs)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Chromium (Cr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Cobalt (Co)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Copper (Cu)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Iron (Fe)-Total			<0.60		mg/kg ww		0.6	16-OCT-14
Lead (Pb)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Lithium (Li)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Magnesium (Mg)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Manganese (Mn)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Molybdenum (Mo)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Nickel (Ni)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
Phosphorus (P)-Total			<2.0		mg/kg ww		2	16-OCT-14
Potassium (K)-Total			<4.0		mg/kg ww		4	16-OCT-14
Rubidium (Rb)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Selenium (Se)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Sodium (Na)-Total			<4.0		mg/kg ww		4	16-OCT-14
Strontium (Sr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Tellurium (Te)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Thallium (Tl)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Tin (Sn)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Uranium (U)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Vanadium (V)-Total			<0.020		mg/kg ww		0.02	16-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA		Tissue						
Batch	R2998022							
WG1972393-1 MB								
Zinc (Zn)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Zirconium (Zr)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
WG1972393-2 MB								
Aluminum (Al)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Antimony (Sb)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Arsenic (As)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Barium (Ba)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Beryllium (Be)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Bismuth (Bi)-Total			<0.0020		mg/kg ww		0.002	16-OCT-14
Boron (B)-Total			<0.20		mg/kg ww		0.2	16-OCT-14
Cadmium (Cd)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Calcium (Ca)-Total			<4.0		mg/kg ww		4	16-OCT-14
Cesium (Cs)-Total			<0.0010		mg/kg ww		0.001	16-OCT-14
Chromium (Cr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Cobalt (Co)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Copper (Cu)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Iron (Fe)-Total			<0.60		mg/kg ww		0.6	16-OCT-14
Lead (Pb)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Lithium (Li)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Magnesium (Mg)-Total			<0.40		mg/kg ww		0.4	16-OCT-14
Manganese (Mn)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Molybdenum (Mo)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Nickel (Ni)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
Phosphorus (P)-Total			<2.0		mg/kg ww		2	16-OCT-14
Potassium (K)-Total			<4.0		mg/kg ww		4	16-OCT-14
Rubidium (Rb)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Selenium (Se)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Sodium (Na)-Total			<4.0		mg/kg ww		4	16-OCT-14
Strontium (Sr)-Total			<0.010		mg/kg ww		0.01	16-OCT-14
Tellurium (Te)-Total			<0.0040		mg/kg ww		0.004	16-OCT-14
Thallium (Tl)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Tin (Sn)-Total			<0.020		mg/kg ww		0.02	16-OCT-14
Uranium (U)-Total			<0.00040		mg/kg ww		0.0004	16-OCT-14
Vanadium (V)-Total			<0.020		mg/kg ww		0.02	16-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA		Tissue						
Batch	R2998022							
WG1972393-2 MB								
Zinc (Zn)-Total			<0.10		mg/kg ww		0.1	16-OCT-14
Zirconium (Zr)-Total			<0.040		mg/kg ww		0.04	16-OCT-14
Batch	R3002648							
WG1968815-5 CRM		VA-NIST-1515						
Arsenic (As)-Total			0.0217		mg/kg ww		0.018-0.058	17-OCT-14
WG1968815-6 CRM		VA-NIST-1547						
Arsenic (As)-Total			0.0495		mg/kg ww		0.04-0.08	17-OCT-14
WG1969801-4 CRM		VA-NIST-1515						
Arsenic (As)-Total			0.0203		mg/kg ww		0.018-0.058	17-OCT-14
WG1969801-5 CRM		VA-NIST-1547						
Arsenic (As)-Total			0.0596		mg/kg ww		0.04-0.08	17-OCT-14
WG1972393-6 CRM		VA-NIST-1547						
Molybdenum (Mo)-Total			0.0493		mg/kg ww		0.04-0.08	17-OCT-14
WG1969801-1 MB								
Antimony (Sb)-Total			<0.0020		mg/kg ww		0.002	17-OCT-14
Batch	R3012388							
WG1971869-4 DUP		L1510356-175						
Aluminum (Al)-Total		1020	1160		mg/kg ww	13	40	21-OCT-14
Antimony (Sb)-Total		0.0118	0.0130		mg/kg ww	9.7	40	21-OCT-14
Arsenic (As)-Total		0.337	0.460		mg/kg ww	31	40	21-OCT-14
Barium (Ba)-Total		12.0	12.3		mg/kg ww	3.1	40	21-OCT-14
Beryllium (Be)-Total		0.0430	0.0501		mg/kg ww	15	40	21-OCT-14
Bismuth (Bi)-Total		0.0427	0.0502		mg/kg ww	16	40	21-OCT-14
Boron (B)-Total		0.43	0.50		mg/kg ww	14	40	21-OCT-14
Cadmium (Cd)-Total		0.0769	0.0803		mg/kg ww	4.2	40	21-OCT-14
Calcium (Ca)-Total		893	964		mg/kg ww	7.6	60	21-OCT-14
Cesium (Cs)-Total		0.230	0.252		mg/kg ww	9.0	40	21-OCT-14
Chromium (Cr)-Total		3.70	4.14		mg/kg ww	11	40	21-OCT-14
Cobalt (Co)-Total		0.398	0.451		mg/kg ww	13	40	21-OCT-14
Copper (Cu)-Total		1.17	1.30		mg/kg ww	11	40	21-OCT-14
Iron (Fe)-Total		1400	1690		mg/kg ww	19	40	21-OCT-14
Lead (Pb)-Total		3.18	3.58		mg/kg ww	12	40	21-OCT-14
Lithium (Li)-Total		0.48	0.57		mg/kg ww	18	40	21-OCT-14
Magnesium (Mg)-Total		440	474		mg/kg ww	7.6	40	21-OCT-14
Manganese (Mn)-Total		45.3	48.5		mg/kg ww	6.9	40	21-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA Tissue								
Batch	R3012388							
WG1971869-4 DUP		L1510356-175						
Molybdenum (Mo)-Total		0.0768	0.0856		mg/kg ww	11	40	21-OCT-14
Nickel (Ni)-Total		1.64	1.84		mg/kg ww	12	40	21-OCT-14
Phosphorus (P)-Total		153	160		mg/kg ww	4.5	40	21-OCT-14
Potassium (K)-Total		459	440		mg/kg ww	4.3	40	21-OCT-14
Rubidium (Rb)-Total		3.93	4.06		mg/kg ww	3.4	40	21-OCT-14
Selenium (Se)-Total		0.077	0.089		mg/kg ww	15	40	21-OCT-14
Sodium (Na)-Total		48.2	43.1		mg/kg ww	11	40	21-OCT-14
Strontium (Sr)-Total		5.27	5.90		mg/kg ww	11	60	21-OCT-14
Tellurium (Te)-Total		<0.0040	<0.0040	RPD-NA	mg/kg ww	N/A	40	21-OCT-14
Thallium (Tl)-Total		0.0242	0.0265		mg/kg ww	9.2	40	21-OCT-14
Tin (Sn)-Total		0.044	0.046		mg/kg ww	4.6	40	21-OCT-14
Uranium (U)-Total		0.297	0.357		mg/kg ww	18	40	21-OCT-14
Vanadium (V)-Total		1.65	1.95		mg/kg ww	17	40	21-OCT-14
Zinc (Zn)-Total		9.19	9.57		mg/kg ww	4.1	40	21-OCT-14
Zirconium (Zr)-Total		1.17	1.45		mg/kg ww	21	40	21-OCT-14
WG1972393-3 DUP		L1510356-206						
Aluminum (Al)-Total		639	521		mg/kg ww	20	40	21-OCT-14
Antimony (Sb)-Total		0.0067	0.0062		mg/kg ww	8.3	40	21-OCT-14
Arsenic (As)-Total		0.327	0.281		mg/kg ww	15	40	21-OCT-14
Barium (Ba)-Total		29.4	31.7		mg/kg ww	7.7	40	21-OCT-14
Beryllium (Be)-Total		0.0173	0.0139		mg/kg ww	22	40	21-OCT-14
Bismuth (Bi)-Total		0.0642	0.0685		mg/kg ww	6.5	40	21-OCT-14
Boron (B)-Total		3.34	3.28		mg/kg ww	1.6	40	21-OCT-14
Cadmium (Cd)-Total		0.0527	0.0489		mg/kg ww	7.6	40	21-OCT-14
Calcium (Ca)-Total		2000	1980		mg/kg ww	0.9	60	21-OCT-14
Cesium (Cs)-Total		0.0706	0.0585		mg/kg ww	19	40	21-OCT-14
Chromium (Cr)-Total		6.07	4.15		mg/kg ww	38	40	21-OCT-14
Cobalt (Co)-Total		0.624	0.512		mg/kg ww	20	40	21-OCT-14
Copper (Cu)-Total		2.46	2.24		mg/kg ww	9.3	40	21-OCT-14
Iron (Fe)-Total		1030	763		mg/kg ww	30	40	21-OCT-14
Lead (Pb)-Total		0.458	0.368		mg/kg ww	22	40	21-OCT-14
Lithium (Li)-Total		0.50	0.41		mg/kg ww	21	40	21-OCT-14
Magnesium (Mg)-Total		1010	828		mg/kg ww	20	40	21-OCT-14
Manganese (Mn)-Total		44.8	41.4		mg/kg ww	7.9	40	21-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA Tissue								
Batch	R3012388							
WG1972393-3 DUP		L1510356-206						
Molybdenum (Mo)-Total		0.0939	0.0968		mg/kg ww	3.1	40	21-OCT-14
Nickel (Ni)-Total		5.59	4.24		mg/kg ww	28	40	21-OCT-14
Phosphorus (P)-Total		364	334		mg/kg ww	8.7	40	21-OCT-14
Potassium (K)-Total		1770	1670		mg/kg ww	5.6	40	21-OCT-14
Rubidium (Rb)-Total		1.39	1.24		mg/kg ww	12	40	21-OCT-14
Selenium (Se)-Total		0.017	0.015		mg/kg ww	10	40	21-OCT-14
Sodium (Na)-Total		13.3	12.8		mg/kg ww	3.8	40	21-OCT-14
Strontium (Sr)-Total		9.05	9.16		mg/kg ww	1.2	60	21-OCT-14
Tellurium (Te)-Total		<0.0040	<0.0040	RPD-NA	mg/kg ww	N/A	40	21-OCT-14
Thallium (Tl)-Total		0.00609	0.00521		mg/kg ww	16	40	21-OCT-14
Tin (Sn)-Total		<0.020	<0.020	RPD-NA	mg/kg ww	N/A	40	21-OCT-14
Uranium (U)-Total		0.0711	0.0577		mg/kg ww	21	40	21-OCT-14
Vanadium (V)-Total		1.31	1.09		mg/kg ww	18	40	21-OCT-14
Zinc (Zn)-Total		15.0	14.1		mg/kg ww	5.9	40	21-OCT-14
Zirconium (Zr)-Total		0.459	0.394		mg/kg ww	15	40	21-OCT-14
Batch	R3013448							
WG1968815-4 DUP		L1510356-11						
Aluminum (Al)-Total		2060	2040		mg/kg ww	1.1	40	21-OCT-14
Antimony (Sb)-Total		0.0110	0.0089		mg/kg ww	21	40	21-OCT-14
Arsenic (As)-Total		2.07	2.19		mg/kg ww	5.4	40	21-OCT-14
Barium (Ba)-Total		16.3	15.5		mg/kg ww	4.9	40	21-OCT-14
Beryllium (Be)-Total		0.0573	0.0586		mg/kg ww	2.3	40	21-OCT-14
Bismuth (Bi)-Total		0.0447	0.0468		mg/kg ww	4.6	40	21-OCT-14
Boron (B)-Total		0.93	0.86		mg/kg ww	8.7	40	21-OCT-14
Cadmium (Cd)-Total		0.0504	0.0479		mg/kg ww	5.1	40	21-OCT-14
Calcium (Ca)-Total		2480	2440		mg/kg ww	1.7	60	21-OCT-14
Cesium (Cs)-Total		0.223	0.228		mg/kg ww	2.3	40	21-OCT-14
Chromium (Cr)-Total		35.2	35.7		mg/kg ww	1.3	40	21-OCT-14
Cobalt (Co)-Total		1.46	1.48		mg/kg ww	1.9	40	21-OCT-14
Copper (Cu)-Total		2.87	2.70		mg/kg ww	6.2	40	21-OCT-14
Iron (Fe)-Total		4760	4850		mg/kg ww	1.9	40	21-OCT-14
Lead (Pb)-Total		1.86	1.67		mg/kg ww	11	40	21-OCT-14
Lithium (Li)-Total		1.49	1.44		mg/kg ww	3.3	40	21-OCT-14
Magnesium (Mg)-Total		1790	1820		mg/kg ww	1.8	40	21-OCT-14

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MET-WET-CCMS-VA Tissue								
Batch	R3013448							
WG1968815-4 DUP		L1510356-11						
Manganese (Mn)-Total		158	155		mg/kg ww	1.8	40	21-OCT-14
Molybdenum (Mo)-Total		0.272	0.310		mg/kg ww	13	40	21-OCT-14
Nickel (Ni)-Total		11.2	11.3		mg/kg ww	0.9	40	21-OCT-14
Phosphorus (P)-Total		295	278		mg/kg ww	5.9	40	21-OCT-14
Potassium (K)-Total		787	793		mg/kg ww	0.8	40	21-OCT-14
Rubidium (Rb)-Total		3.88	4.08		mg/kg ww	4.9	40	21-OCT-14
Selenium (Se)-Total		0.065	0.064		mg/kg ww	1.5	40	21-OCT-14
Sodium (Na)-Total		47.7	48.1		mg/kg ww	0.8	40	21-OCT-14
Strontium (Sr)-Total		7.41	7.39		mg/kg ww	0.2	60	21-OCT-14
Tellurium (Te)-Total		<0.0040	<0.0040	RPD-NA	mg/kg ww	N/A	40	21-OCT-14
Thallium (Tl)-Total		0.0256	0.0250		mg/kg ww	2.4	40	21-OCT-14
Tin (Sn)-Total		0.042	0.041		mg/kg ww	2.5	40	21-OCT-14
Uranium (U)-Total		0.260	0.247		mg/kg ww	5.3	40	21-OCT-14
Vanadium (V)-Total		4.27	4.29		mg/kg ww	0.5	40	21-OCT-14
Zinc (Zn)-Total		13.1	13.1		mg/kg ww	0.2	40	21-OCT-14
Zirconium (Zr)-Total		2.11	2.31		mg/kg ww	8.7	40	21-OCT-14
WG1972313-4 DUP		L1510356-6						
Aluminum (Al)-Total		666	654		mg/kg ww	1.8	40	21-OCT-14
Antimony (Sb)-Total		0.0046	0.0040		mg/kg ww	14	40	21-OCT-14
Arsenic (As)-Total		0.793	0.779		mg/kg ww	1.8	40	21-OCT-14
Barium (Ba)-Total		16.9	17.0		mg/kg ww	0.7	40	21-OCT-14
Beryllium (Be)-Total		0.0158	0.0152		mg/kg ww	4.2	40	21-OCT-14
Bismuth (Bi)-Total		0.0137	0.0114		mg/kg ww	18	40	21-OCT-14
Boron (B)-Total		1.73	1.79		mg/kg ww	3.4	40	21-OCT-14
Cadmium (Cd)-Total		0.0266	0.0283		mg/kg ww	6.2	40	21-OCT-14
Calcium (Ca)-Total		2770	2730		mg/kg ww	1.4	60	21-OCT-14
Cesium (Cs)-Total		0.0904	0.0857		mg/kg ww	5.4	40	21-OCT-14
Chromium (Cr)-Total		13.6	13.7		mg/kg ww	1.3	40	21-OCT-14
Cobalt (Co)-Total		0.587	0.544		mg/kg ww	7.5	40	21-OCT-14
Copper (Cu)-Total		2.52	2.62		mg/kg ww	3.9	40	21-OCT-14
Iron (Fe)-Total		1630	1530		mg/kg ww	6.5	40	21-OCT-14
Lead (Pb)-Total		0.298	0.262		mg/kg ww	13	40	21-OCT-14
Lithium (Li)-Total		0.49	0.46		mg/kg ww	8.2	40	21-OCT-14
Magnesium (Mg)-Total		939	945		mg/kg ww	0.7	40	21-OCT-14

Quality Control Report

Workorder: L1510356

Report Date: 23-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-WET-CCMS-VA Tissue								
Batch R3013448								
WG1972313-4 DUP		L1510356-6						
Manganese (Mn)-Total		66.0	65.8		mg/kg wwt	0.2	40	21-OCT-14
Molybdenum (Mo)-Total		0.462	0.438		mg/kg wwt	5.3	40	21-OCT-14
Nickel (Ni)-Total		5.03	5.21		mg/kg wwt	3.4	40	21-OCT-14
Phosphorus (P)-Total		366	400		mg/kg wwt	8.9	40	21-OCT-14
Potassium (K)-Total		3250	3530		mg/kg wwt	8.2	40	21-OCT-14
Rubidium (Rb)-Total		3.27	3.54		mg/kg wwt	7.9	40	21-OCT-14
Selenium (Se)-Total		0.011	0.011		mg/kg wwt	2.5	40	21-OCT-14
Sodium (Na)-Total		6.3	6.3		mg/kg wwt	0.4	40	21-OCT-14
Strontium (Sr)-Total		9.71	9.49		mg/kg wwt	2.3	60	21-OCT-14
Tellurium (Te)-Total		<0.0040	<0.0040	RPD-NA	mg/kg wwt	N/A	40	21-OCT-14
Thallium (Tl)-Total		0.00439	0.00437		mg/kg wwt	0.6	40	21-OCT-14
Tin (Sn)-Total		<0.020	<0.020	RPD-NA	mg/kg wwt	N/A	40	21-OCT-14
Uranium (U)-Total		0.0623	0.0585		mg/kg wwt	6.3	40	21-OCT-14
Vanadium (V)-Total		1.45	1.42		mg/kg wwt	2.1	40	21-OCT-14
Zinc (Zn)-Total		9.58	9.98		mg/kg wwt	4.2	40	21-OCT-14
Zirconium (Zr)-Total		0.706	0.592		mg/kg wwt	18	40	21-OCT-14
MOISTURE-TISS-VA Tissue								
Batch R2958310								
WG1959146-1 DUP		L1510356-151						
% Moisture		23.0	23.5		%	1.9	20	23-SEP-14
Batch R2959673								
WG1959152-1 DUP		L1510356-156						
% Moisture		85.2	85.4		%	0.2	20	24-SEP-14
Batch R2961280								
WG1960172-1 DUP		L1510356-212						
% Moisture		87.3	87.3		%	0.0	20	25-SEP-14
Batch R2962748								
WG1960167-1 DUP		L1510356-194						
% Moisture		49.1	44.4		%	10	20	25-SEP-14
WG1960167-2 DUP		L1510356-195						
% Moisture		42.9	42.9		%	0.0	20	25-SEP-14

Quality Control Report

Workorder: L1510356

Report Date: 23-OCT-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-TISS-VA		Tissue						
Batch	R2962750							
WG1961914-1	DUP	L1510356-47						
% Moisture		32.0	33.5		%	4.5	20	26-SEP-14
WG1961914-2	DUP	L1510356-59						
% Moisture		25.2	26.4		%	4.5	20	26-SEP-14
WG1961914-3	DUP	L1510356-78						
% Moisture		41.9	44.1		%	5.2	20	26-SEP-14
WG1961914-4	DUP	L1510356-106						
% Moisture		67.7	66.3		%	2.0	20	26-SEP-14
Batch	R2965394							
WG1962416-1	DUP	L1510356-16						
% Moisture		84.4	84.4		%	0.0	20	29-SEP-14
Batch	R2967136							
WG1963439-1	DUP	L1510356-20						
% Moisture		85.5	86.5		%	1.2	20	30-SEP-14
WG1963439-2	DUP	L1510356-92						
% Moisture		81.0	84.0		%	3.7	20	30-SEP-14

Quality Control Report

Workorder: L1510356

Report Date: 23-OCT-14

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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
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
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.
RRU	Reported Result is Uncertain due to proximity to the estimated Method 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.

GENF 20.00 Front

Report To		Report Format / Distribution		Service Requested (Rush for routine analysis subject to availability)														
Company: Agnico Eagle Mines Ltd.-Meadowbank Division		☐ Standard ☒ Other		☒ Regular (Standard Turnaround Times - Business Days)														
Contact: Ryan VanEngen		☒ PDF ☒ Excel ☐ Digital ☐ Fax		☐ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT														
Address: Baker Lake NU X0C 0A0		Email 1: ryan.vanengen@agnicoeagle.com		☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT														
		Email 2: marie-pler.marcel@agnicoeagle.com		☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT														
Phone: 819 759 3555 Fax:		Email 3: lellan.baxter@agnicoeagle.com		Analysis Request														
Invoice To Same as Report? ☒ Yes ☐ No		Client / Project Information		Please indicate below Filtered, Preserved or both (F, P, F/P)														
Hardcopy of Invoice with Report? ☐ Yes ☒ No		Job #: Meadowbank SLRA																
Company:		PO / AFE: OP 391251																
Contact:		LSD:																
Address:																		
Phone:		Quote #: Q44945																
Lab V (lab)  L1510356-COFC		ALS Contact: Ariel Tang Sampler: LB+DP		Met+Hg+ph (MET-CCME-FULL) Metals (MET-WET-CCMS-VA) Moisture (MOISTURE-TISS-VA) Mercury (HG-WET-CVAFS-VA)														
Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type														
	T6-South Island Station 3 Sample 1 - Soil	14-Aug-14	11:00	Soil	X													
	T6-South Island Station 3 Sample 2 - Sedge	14-Aug-14	11:00	Tissue		X	X	X										
	T6-South Island Station 3 Sample 3 - Lichen	14-Aug-14	11:00	Tissue		X	X	X										
	T6-South Island Station 3 Sample 4 - Berries	14-Aug-14	11:00	Tissue		X	X	X										
	T6-South Island Station 4 Sample 1 - Soil	14-Aug-14	11:30	Soil	X													
	T6-South Island Station 4 Sample 2 - Sedge	14-Aug-14	11:30	Tissue		X	X	X										
	T6-South Island Station 4 Sample 3 - Lichen	14-Aug-14	11:30	Tissue		X	X	X										
	T6-South Island Station 4 Sample 4 - Berries	14-Aug-14	11:30	Tissue		X	X	X										
	T6-South Island Station 5 Sample 1 - Soil	14-Aug-14	12:00	Soil	X													
	T6-South Island Station 5 Sample 2 - Sedge	14-Aug-14	12:00	Tissue		X	X	X										
	T6-South Island Station 5 Sample 3 - Lichen	14-Aug-14	12:00	Tissue		X	X	X										
	T6-South Island Station 5 Sample 4 - Berries	14-Aug-14	12:00	Tissue		X	X	X										

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

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

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Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.

SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations Yes / No ? If Yes add
			JK	Aug 29	11:45	19/19°C				

20/2/19.5

GENF 20.00 Front

Report To			Report Format / Distribution				Service Requested (Rush for routine analysis subject to availability)														
Company: Agnico Eagle Mines Ltd.-Meadowbank Division			☐ Standard ☒ Other				☒ Regular (Standard Turnaround Times - Business Days)														
Contact: Ryan VanEngen			☒ PDF ☒ Excel ☐ Digital ☐ Fax				☐ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT														
Address: Baker Lake NU X0C 0A0			Email 1: ryan.vanengen@agnicoeagle.com				☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT														
			Email 2: marie-pier.marcel@agnicoeagle.com				☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT														
Phone: 819 759 3555 Fax:			Email 3: leilan.baxter@agnicoeagle.com				Analysis Request														
Invoice To Same as Report? ☒ Yes ☐ No			Client / Project Information				Please indicate below Filtered, Preserved or both (F, P, F/P)														
Hardcopy of Invoice with Report? ☐ Yes ☒ No			Job #: Meadowbank SLRA																		
Company:			PO / AFE: OP 391251																		
Contact:			LSD:																		
Address:																					
Phone:			Quote #: Q44945																		
Lab W/ (lab)			ALS Contact: Ariel Tang		Sampler: LB+DP																
Sample #			Date (dd-mmm-yy)		Time (hh:mm)		Sample Type														
(This description will appear on the report)																					
T7-Near Field Station 4 Sample 1 - Soil			14-Aug-14		9:35		Soil														
T7-Near Field Station 4 Sample 2 - Sedge			14-Aug-14		9:35		Tissue														
T7-Near Field Station 4 Sample 3 - Lichen			14-Aug-14		9:35		Tissue														
T7-Near Field Station 4 Sample 4 - Berries			14-Aug-14		9:35		Tissue														
T7-Near Field Station 5 Sample 1 - Soil			14-Aug-14		11:15		Soil														
T7-Near Field Station 5 Sample 2 - Sedge			14-Aug-14		11:15		Tissue														
T7-Near Field Station 5 Sample 3 - Lichen			14-Aug-14		11:15		Tissue														
T7-Near Field Station 5 Sample 4 - Berries			14-Aug-14		11:15		Tissue														
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details																					
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Released by:		Date (dd-mmm-yy)		Time (hh-mm)		Received by:		Date:		Time:		Temperature:		Verified by:		Date:		Time:		Observations	
						[Signature]		Aug 29		11:45		19/19 PC								Yes / No ? If Yes add	



Canada Toll Free: 1 800 668 9878

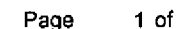
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Page 1 of 1

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GENF 20.00 Front

GENF 20.00 Front



GENF 20,00 Front

GENF 20.00 Front

Report To			Report Format / Distribution			Service Requested (Rush for routine analysis subject to availability)																	
Company: Agnico Eagle Mines Ltd.-Meadowbank Division			☐ Standard ☒ Other			☒ Regular (Standard Turnaround Times - Business Days)																	
Contact: Ryan VanEngen			☒ PDF ☒ Excel ☐ Digital ☐ Fax			☐ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT																	
Address: Baker Lake NU X0C 0A0			Email 1: ryan.vanengen@agnicoeagle.com			☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT																	
			Email 2: marie-pier.marcel@agnicoeagle.com			☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT																	
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Contact:			LSD:																				
Address:			Quote #: Q44945																				
Phone:			ALS Contact: Ariel Tang			Sampler: LB+DP			Met+Hg+pH (MET-CCME+FULL)						Metals (MET-WET-CCMS-VA)			Moisture (MOISTURE-TISS-VA)			Mercury (HG-WET-CVAFS-VA)		
 L1510356-COFC																							
Sample			Date			Time			Sample Type														
#			(dd-mm-yy)			(hh:mm)																	
(This description will appear on the report)																							
C2-Ext Ref Station 3 Sample 1 - Soil			19-Aug-14			9:35			Soil			X											
C2-Ext Ref Station 3 Sample 2 - Sedge			19-Aug-14			9:35			Tissue						X			X			X		
C2-Ext Ref Station 3 Sample 3 - Lichen			19-Aug-14			9:35			Tissue						X			X			X		
C2-Ext Ref Station 3 Sample 4 - Berries			19-Aug-14			9:35			Tissue						X			X			X		
C2-Ext Ref Station 4 Sample 1 - Soil			19-Aug-14			10:55			Soil			X											
C2-Ext Ref Station 4 Sample 2 - Sedge			19-Aug-14			10:55			Tissue						X			X			X		
C2-Ext Ref Station 4 Sample 3 - Lichen			19-Aug-14			10:55			Tissue						X			X			X		
C2-Ext Ref Station 4 Sample 4 - Berries			19-Aug-14			10:55			Tissue						X			X			X		
C2-Ext Ref Station 5 Sample 1 - Soil			19-Aug-14			11:20			Soil			X											
C2-Ext Ref Station 5 Sample 2 - Sedge			19-Aug-14			11:20			Tissue						X			X			X		
C2-Ext Ref Station 5 Sample 3 - Lichen			19-Aug-14			11:20			Tissue						X			X			X		
C2-Ext Ref Station 5 Sample 4 - Berries			19-Aug-14			11:20			Tissue						X			X			X		

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

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SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observation Yes / No?
			<i>JW</i>	<i>Aug 29</i>	<i>11:45</i>	<i>19/19 °C</i>				

21/20/19.5

GENF 20.00 Front

GENF 20.00 Front

GENF 20.00 Front

GENF 20.00 Front

Report To				Report Format / Distribution				Service Requested (Rush for routine analysis subject to availability)													
Company: Agnico Eagle Mines Ltd.-Meadowbank Division				☐ Standard ☒ Other				☒ Regular (Standard Turnaround Times - Business Days)													
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				Email 2: marie-pier.marcil@agnicoeagle.com				☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT													
Phone: 819 759 3555 Fax:				Email 3: leilan.baxter@agnicoeagle.com				Analysis Request													
Invoice To Same as Report? ☒ Yes ☐ No				Client / Project Information				Please indicate below Filtered, Preserved or both (F, P, F/P)													
Hardcopy of Invoice with Report? ☐ Yes ☒ No				Job #: Meadowbank SLRA																	
Company:				PO / AFE: OP 391251																	
Contact:				LSD:																	
Address:																					
Phone:				Quote #: Q44945																	
Lab W  L1510356-COFC				ALS Contact: Ariel Tang		Sampler: LB+DP															
Sample				Date		Time		Sample Type													
#				(dd-mm-yy)		(hh:mm)															
(This description will appear on the report)																					
T3-Near Field Station 3 Sample 1 - Soil				20-Aug-14		8:00		Soil		☒ Met+Hg+pH (MET-CCME+FULL)											
T3-Near Field Station 3 Sample 2 - Sedge				20-Aug-14		8:00		Tissue		☐ Metals (MET-WET-CCMS-VA)											
T3-Near Field Station 3 Sample 3 - Lichen				20-Aug-14		8:00		Tissue		☐ Moisture (MOISTURE-TISS-VA)											
T3-Near Field Station 3 Sample 4 - Berries				20-Aug-14		8:00		Tissue		☐ Mercury (HG-WET-CVAFS-VA)											
T3-Near Field Station 4 Sample 1 - Soil				20-Aug-14		8:00		Soil													
T3-Near Field Station 4 Sample 2 - Sedge				20-Aug-14		8:00		Tissue													
T3-Near Field Station 4 Sample 3 - Lichen				20-Aug-14		8:00		Tissue													
T3-Near Field Station 4 Sample 4 - Berries				20-Aug-14		8:00		Tissue													
T3-Near Field Station 5 Sample 1 - Soil				20-Aug-14		8:00		Soil													
T3-Near Field Station 5 Sample 2 - Sedge				20-Aug-14		8:00		Tissue													
T3-Near Field Station 5 Sample 3 - Lichen				20-Aug-14		8:00		Tissue													
T3-Near Field Station 5 Sample 4 - Berries				20-Aug-14		8:00		Tissue													
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details																					
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Released by:		Date (dd-mm-yy)		Time (hh-mm)		Received by:		Date:		Time:		Temperature:		Verified by:		Date:		Time:		Observations Yes / No ? If Yes add	
						JL		Aug 29		11:45		19/19 °C									
21/20/19.5																					

GENF 20.00 Front

Report To		Report Format / Distribution		Service Requested (Rush for routine analysis subject to availability)																	
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Address: Baker Lake NU X0C 0A0		Email 1: ryan.vanengem@agnicoeagle.com		☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT																	
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Invoice To Same as Report? ☒ Yes ☐ No		Client / Project Information		Please indicate below Filtered, Preserved or both (F, P, F/P)																	
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Contact: _____		LSD: _____																			
Address: _____		Quote #: Q44945																			
Phone: _____		ALS Contact: Ariel Tang		Sampler: LB+DP																	
Lab Work (lab use)		 L1510356-COFC																			
Sample		Date (dd-mmm-yy)		Time (hh:mm)		Sample Type															
#		(This description will appear on the report)																			
T4-Far Field Station 4 Sample 1 - Soil		16-Aug-14		14:10		Soil		X													
T4-Far Field Station 4 Sample 2 - Sedge		16-Aug-14		14:10		Tissue		X X X													
T4-Far Field Station 4 Sample 3 - Lichen		16-Aug-14		14:10		Tissue		X X X													
T4-Far Field Station 4 Sample 4 - Berries		16-Aug-14		14:10		Tissue		X X X													
T4-Far Field Station 5 Sample 1 - Soil		16-Aug-14		13:45		Soil		X													
T4-Far Field Station 5 Sample 2 - Sedge		16-Aug-14		13:45		Tissue		X X X													
T4-Far Field Station 5 Sample 3 - Lichen		16-Aug-14		13:45		Tissue		X X X													
T4-Far Field Station 5 Sample 4 - Berries		16-Aug-14		13:45		Tissue		X X X													
T5-Far Field Station 1 Sample 1 - Soil		16-Aug-14		9:10		Soil		X													
T5-Far Field Station 1 Sample 2 - Sedge		16-Aug-14		9:10		Tissue		X X X													
T5-Far Field Station 1 Sample 3 - Lichen		16-Aug-14		9:10		Tissue		X X X													
T5-Far Field Station 1 Sample 4 - Berries		16-Aug-14		9:10		Tissue		X X X													
Special Instructions / Regulations with water or land use (CCME-Freshwater Aquatic Life/BC CSR - Commercial/AB Tier 1 - Natural, etc) / Hazardous Details																					
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 provided on a separate Excel tab. Also provided on another Excel tab are the ALS location addresses, phone numbers and sample container / preservation / holding time table for common analyses.																					
SHIPMENT RELEASE (client use)				SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)													
Released by: _____		Date (dd-mmm-yy): _____		Time (hh-mm): _____		Received by: <i>JH</i>		Date: <i>Aug 29</i>		Time: <i>11:45</i>		Temperature: <i>19/19 °C</i>		Verified by: _____		Date: _____		Time: _____		Observations: Yes / No ? If Yes add _____	



GENF 20,00 Front

Report To		Report Format / Distribution		Service Requested (Rush for routine analysis subject to availability)																					
Company: Agnico Eagle Mines Ltd.-Meadowbank Division		☐ Standard ☒ Other		☒ Regular (Standard Turnaround Times - Business Days)																					
Contact: Ryan VanEngen		☒ PDF ☒ Excel ☐ Digital ☐ Fax		☐ Priority (2-4 Business Days) - 50% Surcharge - Contact ALS to Confirm TAT																					
Address: Baker Lake NU X0C 0A0		Email 1: ryan.vanengen@agnicoeagle.com		☐ Emergency (1-2 Bus. Days) - 100% Surcharge - Contact ALS to Confirm TAT																					
		Email 2: marie-pier.marcil@agnicoeagle.com		☐ Same Day or Weekend Emergency - Contact ALS to Confirm TAT																					
Phone: 819 759 3555 Fax:		Email 3: leilan.baxter@agnicoeagle.com		Analysis Request																					
Invoice To Same as Report? ☒ Yes ☐ No		Client / Project Information		Please indicate below Filtered, Preserved or both (F, P, F/P)																					
Hardcopy of Invoice with Report? ☐ Yes ☒ No		Job #: Meadowbank SLRA		Met+Hg+PH (MET-CCME+FULL)	Metals (MET-WET-CCMS-VA)	Moisture (MOISTURE-TISS-VA)	Mercury (HG-WET-CVAFS-VA)																		
Company:		PO / AFE: OP 391251																							
Contact:		LSD:																							
Address:		Quote #: Q44945																							
Phone:		ALS Contact: Ariel Tang		Sampler: LB+DP																					
Lab: (L1510356-COFC)																									
Sample #	Sample Identification (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type	Met+Hg+PH (MET-CCME+FULL)	Metals (MET-WET-CCMS-VA)	Moisture (MOISTURE-TISS-VA)	Mercury (HG-WET-CVAFS-VA)																	
	T5-Far Field Station 5 Sample 1 - Soil	16-Aug-14	10:10	Soil	X																				
	T5-Far Field Station 5 Sample 2 - Sedge	16-Aug-14	10:10	Tissue		X	X	X																	
	T5-Far Field Station 5 Sample 3 - Lichen	16-Aug-14	10:10	Tissue		X	X	X																	
	T5-Far Field Station 5 Sample 4 - Berries	16-Aug-14	10:10	Tissue		X	X	X																	
	T6-South Island Station 1 Sample 1 - Soil	14-Aug-14	9:30	Soil	X																				
	T6-South Island Station 1 Sample 2 - Sedge	14-Aug-14	9:30	Tissue		X	X	X																	
	T6-South Island Station 1 Sample 3 - Lichen	14-Aug-14	9:30	Tissue		X	X	X																	
	T6-South Island Station 1 Sample 4 - Berries	14-Aug-14	9:30	Tissue		X	X	X																	
	T6-South Island Station 2 Sample 1 - Soil	14-Aug-14	10:00	Soil	X																				
	T6-South Island Station 2 Sample 2 - Sedge	14-Aug-14	10:00	Tissue		X	X	X																	
	T6-South Island Station 2 Sample 3 - Lichen	14-Aug-14	10:00	Tissue		X	X	X																	
	T6-South Island Station 2 Sample 4 - Berries	14-Aug-14	10:00	Tissue		X	X	X																	

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

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SHIPMENT RELEASE (client use)			SHIPMENT RECEPTION (lab use only)				SHIPMENT VERIFICATION (lab use only)			
Released by:	Date (dd-mm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations Yes / No ? If Yes add
			JN	Aug 29	11:45	18/19 °C				