



BC Geological Survey  
Assessment Report  
34274

**Report on the 2013 Soil Geochemistry Program**  
for the  
**Cirque Property**

Claims

237952-237959, 237964, 238006, 238039, 238040, 238192-238194, 238284-238286, 238427,  
238428, 241330

Omineca Mining Division  
Northeastern British Columbia

NTS Map Sheets  
094F06, 094F11

371000E, 6373500N  
(NAD83, Zone 10)

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## SUMMARY

The Cirque property is located in the Muskwa Ranges at the northern end of the Rocky Mountains, northeastern BC, approximately 275 km north of the town of Mackenzie. The Cirque property comprises 21 contiguous claims covering an area of 7,075 hectares. The property is owned 100% by Cirque Operating Corp., a joint venture partnership between Teck Resources Ltd. (50%) and Korea Zinc Company Ltd. (50%).

The Cirque deposit occurs in the Gataga–Akie district of the Kechika Trough, which is the southeast extension of the deep-water, clastic Selwyn Basin, host to many other sedimentary exhalative (SEDEX) deposits. Kechika Trough rocks in the immediate area and surrounding the Cirque property consist of the Cambrian Kechika Group, the Ordovician to Devonian Road River Group, and the Devonian–Mississippian Earn Group. The informally named Gunsteel ‘formation’ of the Earn Group is host to the SEDEX mineralization at the Cirque property as well as throughout this region. Basement rocks thought to underlie the Paleozoic strata within the Kechika Trough consist of the <1.8 Ga Muskwa Assemblage, possibly the 1.2(0.88?)–0.78 Ga Mackenzie Mountain Supergroup, and the 0.78–0.54 Ga Windermere Supergroup. These rocks may be the primary source of metals for the SEDEX-forming fluids, although they are not exposed in the vicinity of the Cirque property.

The historic Cirque deposit consists of a bedding parallel tabular body of pyrite ± sphalerite ± galena ± barite within the Gunsteel ‘formation’ of the Earn Group. At surface, only a few small occurrences of barite-bearing Gunsteel ore-facies rocks outcrop, and sphalerite and galena are not observed. Historic drilling has delineated a non-compliant indicated resource of the North Cirque orebody of over 38.5 Mt averaging 8% Zn, 2.2% Pb, and 47.2 g/t Ag, and an inferred resource of the South Cirque orebody of 15.5 Mt averaging 6.9% Zn, 1.4% Pb, and 32 g/t Ag. A geochemical soil sampling program was conducted during the 2013 field season in order to classify known Cirque-style mineralization for the purpose of continuing property-scale exploration of untested areas.

Results of the 2013 soil sampling program indicate that targeting using the B horizon is more advantageous than the A horizon on the Cirque property, primarily due to the more common occurrence of a developed B horizon, and ease of sample collection when compared to the A horizon. Due to the promising results, future programs are recommended to perform B horizon soil sampling for detection of massive sulfide bodies through cover.

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## **1. INTRODUCTION**

### **1.1 LOCATION, ACCESS, AND PHYSIOGRAPHY**

The Cirque Project is located in the Muskwa Ranges at the northern end of the Rocky Mountains, northeastern BC, within the traditional territories of the Kwadacha First Nation. The property is roughly centered at 371000E and 6373500N (NAD83 Zone 10). The main supply centres include the town of Mackenzie and the city of Prince George, located approximately 275 km and 425 km to the south-southeast, respectively (Fig. 1). The two closest communities are Kwadacha (also known as Fort Ware, ~30 km to the west) and Tsay Keh Dene (~70 km to the south, Fig. 2).

The Cirque property is accessible by logging roads north of Mackenzie along an ~43 km long, forestry-permitted road (locally called the ‘mine road’ and maintained by the Cirque Operating Corp.) which branches eastward off the Del Main Line north of Tsay Keh Dene (Figs. 1 and 2). Nearby airstrips include the Finbow and Tsay Keh Dene airstrips (Fig. 2), and scheduled air service consists of 3 weekly charters out of Prince George booked by the local First Nations. There is an unmaintained road on the Cirque claims that accesses the historic camp site, adit, and the surface expression of the North Cirque orebody from the current camp location (Fig. 3). This road has a few local wash-outs and is ATV access only.

Physiographic regions on the Cirque property include boreal forest and wetland at elevations as low as 1050 m (as in the vicinity of the 2013 camp, Fig. 3), forested to sub-alpine slopes and ridges reaching elevations of ~1750 m (up to 1800 m on southwest-facing slopes), and alpine tundra and peaks between 1750–2100 m. Relief in this area is typically moderate to steep, with many slopes exceeding 30°. Outcrop exposure is typically good along ridge-tops in the alpine, and varies from good to poor along sub-alpine ridges where subcrop and/or felsenmeer dominate and are also commonly covered by moss, grass, and wildflowers. Extensive fir, with lesser aspen and pine (and local concentrations of spruce at lower elevations), severely limits rock exposures below the tree line. The property is subject to moderate precipitation, but is generally free from snow cover from mid-June to late September. Summer temperatures range from 5–30°C (MacIntyre, 1998) and heavy morning fog is common in the valleys. Iron oxide springs were noted in several localities on the Cirque property, in proximity to baritic black shale of Devonian-Mississippian age. The property drains primarily into the Paul River, within the larger Finlay River drainage basin.

### **1.2 TENURE**

The Cirque property comprises 21 contiguous claims covering an area of 7,075 hectares (Fig. 3) and is owned 100% by Cirque Operating Corp., a joint venture partnership between Teck Resources Ltd. (50%) and Korea Zinc Company Ltd. (50%). The tenure number, claim name, issue date, size, dollar amount of work claimed for 2013, and the due date for the next assessment are shown in Table 1.

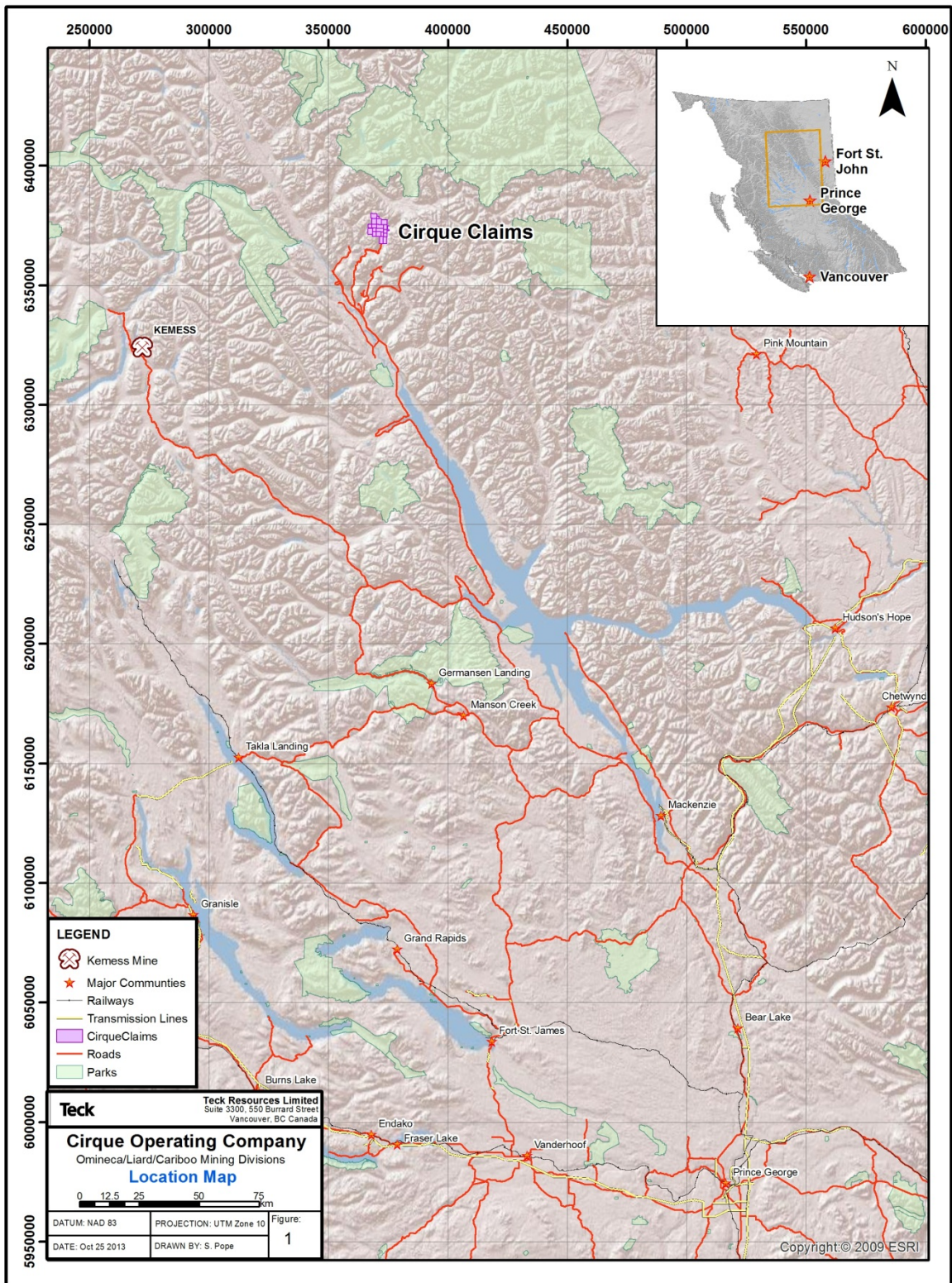


Figure 1. Location of the Cirque Property.



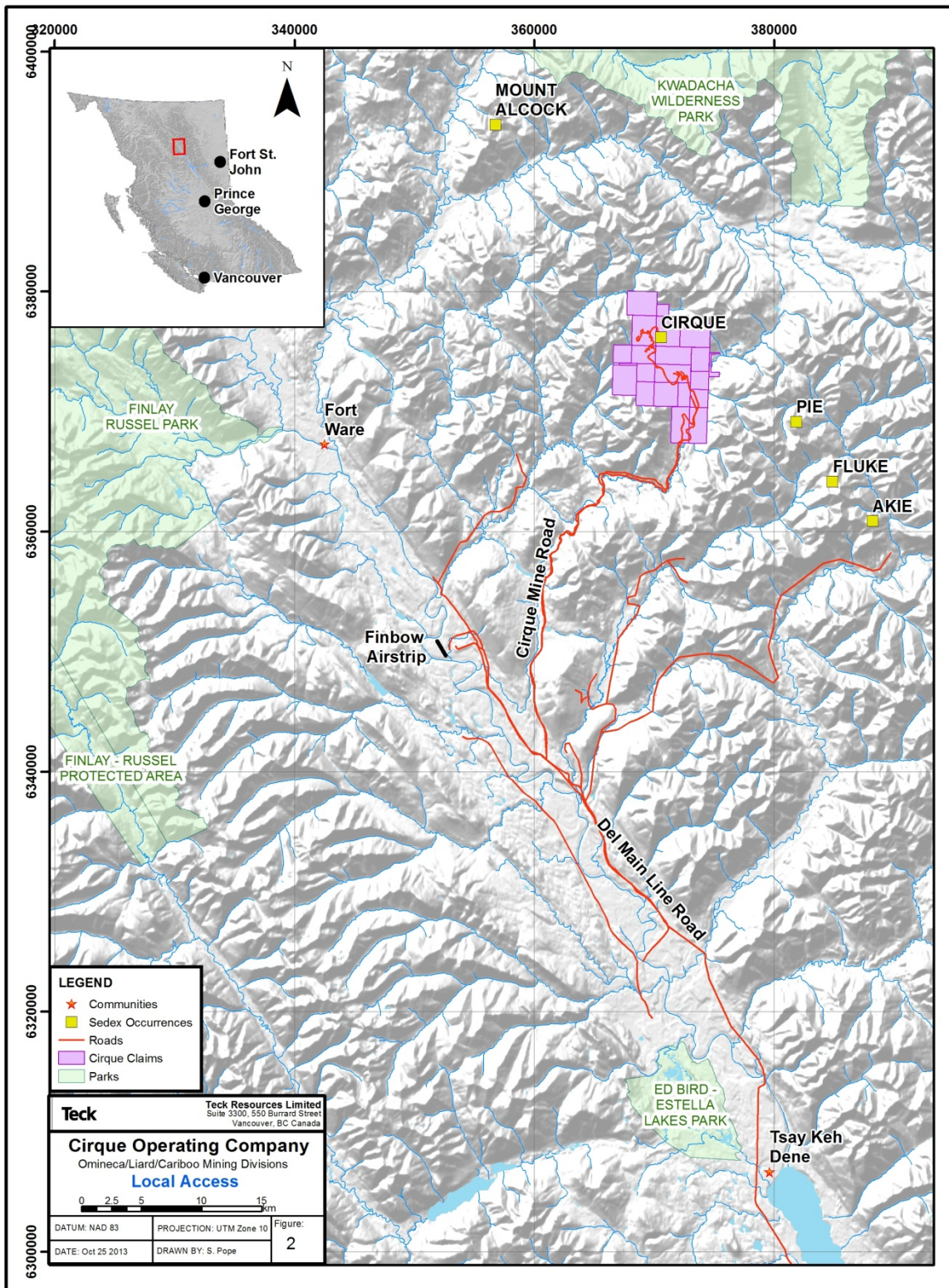


Figure 2. Local access to the Cirque property.



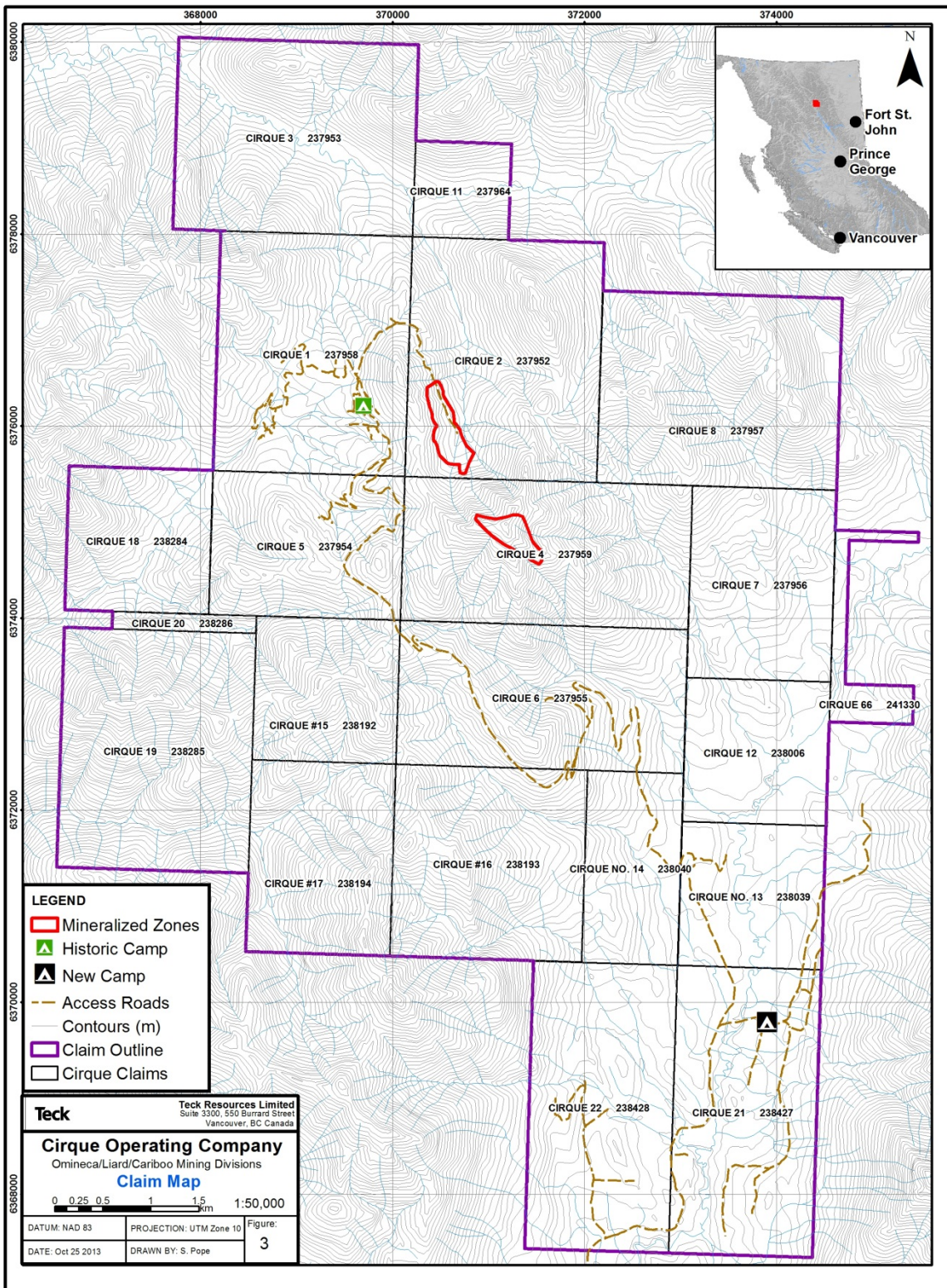


Figure 3. Cirque tenure map with access roads, camp locations, and orebodies projected to surface.



**Table 1. Mineral tenure summary for the Cirque property.**

Tenure No.	Claim	Owner	Issue Date	Area (ha)	2013 Claimed	Good to Date
237958	CIRQUE 1	134801	7/20/1977	500	\$1,000.00	8/16/2015
237952	CIRQUE 2	134801	7/25/1977	500	\$5,000.00	8/16/2015
237953	CIRQUE 3	134801	7/25/1977	500	\$5,000.00	8/16/2015
237959	CIRQUE 4	134801	7/20/1977	450	\$4,500.00	8/16/2015
237954	CIRQUE 5	134801	7/25/1977	300	\$3,000.00	8/16/2015
237955	CIRQUE 6	134801	7/25/1977	450	\$4,500.00	8/16/2015
237956	CIRQUE 7	134801	7/25/1977	300	\$3,000.00	8/16/2015
237957	CIRQUE 8	134801	7/25/1977	500	\$5,000.00	8/16/2015
237964	CIRQUE 11	134801	9/19/1977	100	\$1000.00	8/16/2015
238006	CIRQUE 12	134801	7/18/1978	225	\$2,250.00	8/16/2015
238039	CIRQUE NO. 13	134801	8/10/1978	225	\$2,250.00	8/16/2015
238040	CIRQUE NO. 14	134801	8/10/1978	200	\$2,000.00	8/16/2015
238192	CIRQUE #15	134801	10/24/1979	225	\$2,250.00	8/16/2015
238193	CIRQUE #16	134801	10/24/1979	400	\$4,000.00	8/16/2015
238194	CIRQUE #17	134801	10/24/1979	300	\$3,000.00	8/16/2015
238284	CIRQUE 18	134801	7/11/1980	225	\$2,250.00	8/16/2015
238285	CIRQUE 19	134801	7/11/1980	500	\$5,000.00	8/16/2015
238286	CIRQUE 20	134801	7/11/1980	75	\$750.00	8/16/2015
238427	CIRQUE 21	134801	6/17/1981	450	\$4,500.00	8/16/2015
238428	CIRQUE 22	134801	6/17/1981	450	\$4,500.00	8/16/2015
241330	CIRQUE 66	134801	10/13/1989	200	\$2,000.00	8/16/2015
Total				7075	\$70,750.00	

### 1.3 HISTORY AND PREVIOUS WORK

Exploration for SEDEX style mineralization was initiated in the Kechika Trough in 1970, but it wasn't until 1977 that the Cirque showing was found by Cyprus Anvil Mining Corp. in joint venture with Hudson's Bay Oil and Gas Ltd. (Table 2). Subsequent drilling through 1978–1983 led to the delineation of a large lead-zinc-silver deposit (referred to herein as the North Cirque orebody) and the discovery of deeper blind mineralization to the south (referred to herein as the South Cirque orebody).

The property was acquired by Curragh Resources in 1985, along with the non-contiguous Fluke and Elf properties further to the southeast. However, work on the Cirque property did not resume until 1989–1991, when additional diamond drilling and a 1,277 m long underground decline were completed by Curragh Resources to better define the extent of North Cirque mineralization and to generate a 200 tonne bulk-sample for metallurgical testing. This work resulted in a non-compliant indicated resource of over 38.5 Mt for North Cirque averaging 8% Zn, 2.2% Pb, and 47.2 g/t Ag. The South Cirque orebody consists of about 15.5 Mt averaging 6.9% Zn, 1.4% Pb, and 32 g/t Ag (MacIntyre, 1992). A preliminary feasibility study was completed in 1991, an application for a Mine Development Certificate was granted stage 1 approval in 1992, and a Reclamation Permit and several Ministry of Environment permits required to put the property into production followed.

In 1994, Curragh Resources went into receivership and the Cirque property was acquired by Cirque Operating Corporation (25% Teck Corp., 25% Cominco Ltd., and 50% Korea Zinc Company Ltd.). A feasibility study in 1995 indicated that better market conditions would be required to mine the orebodies. Prior to 1995, 360 diamond drill holes (74,262 m; Table 3) had been completed on the property, including

327 holes targeting the North Cirque orebody, 32 holes targeting the South Cirque orebody, and 11 exploratory holes north of the main orebodies.

In 2001, when Teck Corp. and Cominco Ltd. merged, a 50% share in the property was obtained on behalf of Teck Cominco Ltd. (later Teck Resources Ltd.). Interest in the property was renewed in 2009, during which a community consultation and site visit (and reclamation) took place, and extensive compilation and digitization of the historic data commenced and continued into early 2013. In 2013, Teck Resources Ltd. and Korea Zinc Company Ltd. undertook an exploration program on several of their joint venture properties in the Gataga District, including the Cirque property. This report outlines work required for assessment purposes that was completed in 2013 on the Cirque property by Teck Resources Ltd. on behalf of Cirque Operating Corp.

**Table 2. Summary of the ownership history of the Cirque property.**

Year	Company	Ownership History
1977-1978	Cyprus Anvil/Hudson's Bay Oil and Gas	Hudson's Bay Oil and Gas Ltd. and Cyprus Anvil Mining Corp. jointly stake the Cirque property.
1980	Hudson's Bay Oil and Gas	Hudson's Bay Oil and Gas purchases Cyprus Anvil.
1981	Dome Petroleum	Dome Petroleum Ltd. purchases Hudson's Bay Oil and Gas.
1985	Curragh Resources	Curragh Resources Inc. purchases rights to the claims with other assets.
1989-1991	Austuriani de Zinc	Austuriani de Zinc earns a 30% interest in the property by participating in exploration work.
1992	Curragh Resources	Curragh Resources re-acquires 100% ownership of the Cirque property.
1994	Curragh Resources	Curragh Resources goes into receivership.
1994	Cirque Operating Corp.	Teck Corp. (25%), Cominco Ltd. (25%), Korea Zinc Company Ltd. (50%) buy Curragh Resources and together form Cirque Operating Corp.
2001	Cirque Operating Corp.	Teck and Cominco merge to form Teck Cominco Ltd., acquiring a 50% interest in the Cirque property.

**Table 3. Summary of diamond drilling completed on the Cirque property.**

Year	Comments	Diamond Drilling	
		No. Holes	Meters
1978		6	882
1979		29	9,018
1980		43	16,408
1981		53	21,816
1982		14	13,088
1989	Access decline (1,277m) into North Cirque orebody	4	99
1990	Surface and underground drilling at North Cirque	125	7,978
1991	Bulk sampling (200 tonnes) at North Cirque	86	4,973
	Total	360	74,262

## **1.4 2013 WORK SUMMARY**

During the 2013 field season from July 24<sup>th</sup> to August 7<sup>th</sup>, 227 total soil samples were collected on Cirque claims 1, 2, 4, and 8. Samples comprised 178 B horizon and talus fine samples (including 10 field duplicates), and 49 A horizon samples (including 1 field duplicate). In addition to these 227 soil samples, 10 soil standards were inserted for QAQC purposes.

## **2. GEOLOGY**

### **2.1 REGIONAL GEOLOGY**

The following synthesis of the regional geology is summarized primarily from MacIntyre (1998), Ferri et al. (1999), and Nelson and Colpron (2007).

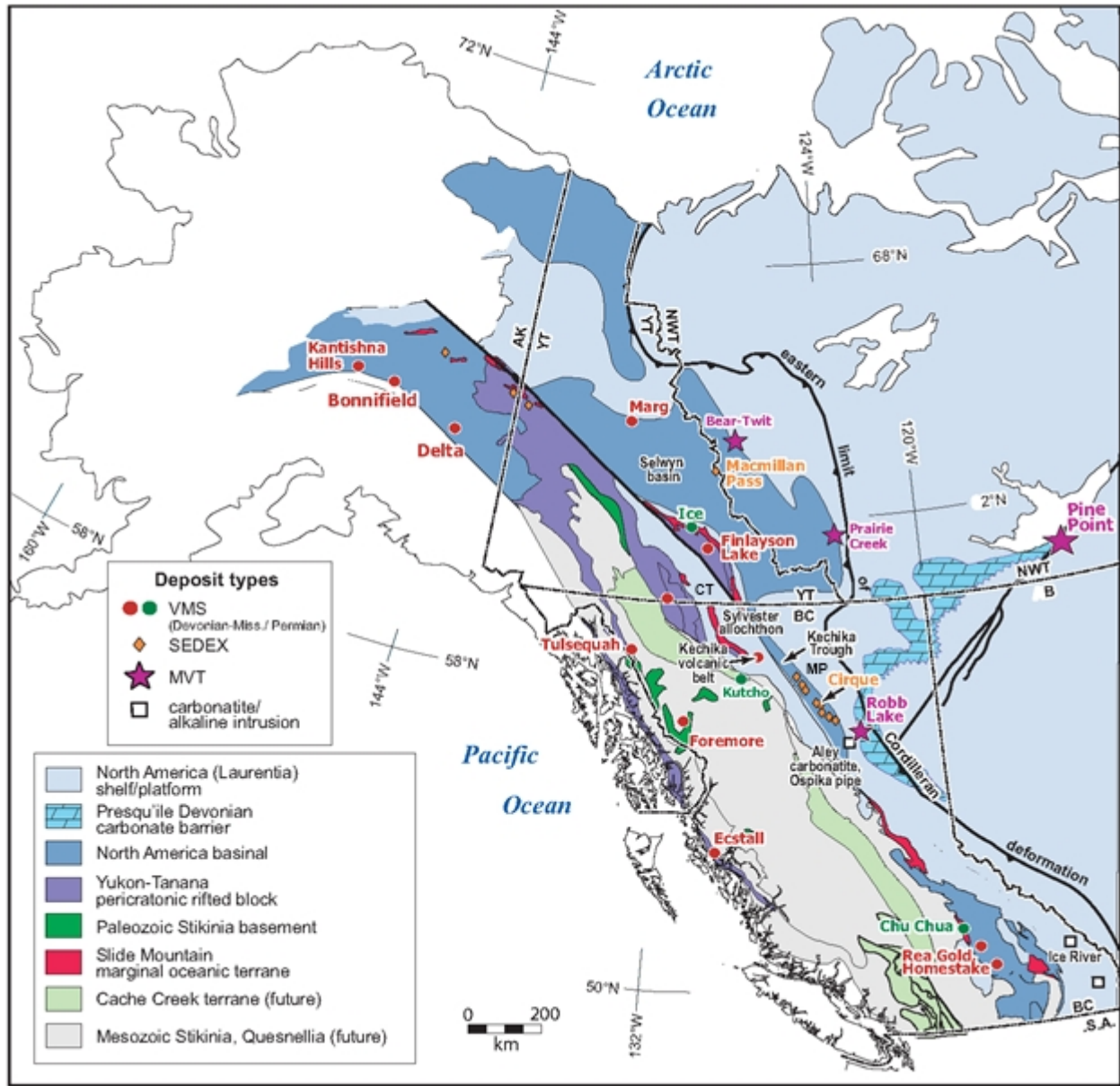
The Cirque property is located within the Gataga–Akie District of the Kechika Trough in northeastern British Columbia (Figs. 1 and 4). The Kechika Trough is a narrow, north-northwest trending, autochthonous tectonostratigraphic extension of the Selwyn Basin (Fig. 4), comprising mainly fine-grained clastic Paleozoic rocks deposited in a subsiding basin along the western margin of ancestral North America. The Kechika Trough is bound on the west by the northern Rocky Mountain Trench—a major structural boundary marking the eastern edge of parautochthonous North American rocks from a tectonically displaced off-shelf carbonate platform (i.e., the Cassiar Platform or Cassiar Terrane)—and on the east by the shallow-water carbonate shelf rocks of the Macdonald Platform (Fig. 4). Even after dextral displacement on major faults in northeastern British Columbia is restored, the Cassiar Platform would still have been located west of the Kechika Trough in Devonian–Mississippian time, restricting the western boundary of the basin (e.g., Nelson and Colpron, 2007). Regional metamorphic grades for Paleozoic strata in the Kechika Trough are restricted to sub-greenschist facies (e.g., Greenwood et al., 1991).

The basement to the Kechika Trough is thought to be composed of thick Proterozoic siliciclastic sequences (or more basin-ward equivalents) overlying tectonically thinned, late Paleoproterozoic, felsic to intermediate crystalline lower crust (e.g., Clowes et al., 2005; Evenchick et al., 2005). Proterozoic metasedimentary rocks of the <1.8 Ga Muskwa Assemblage, and possibly the 1.2(0.88?)–0.78 Ga Mackenzie Mountain Supergroup, are only exposed near the northern and eastern boundaries of the northern Cordillera. They are inferred, however, to underlie the 0.78–0.54 Ga Windermere Supergroup, which is widely exposed in northeastern British Columbia (Gordey and Makepeace, 1999; Clowes et al., 2005; Evenchick et al., 2005). Proterozoic rocks were deposited during major intracratonic extensional to continental rifting events and may be the primary source of metals for the SEDEX-forming fluids (Goodfellow and Lydon, 2007).

Following the youngest continental rifting event in the Late Neoproterozoic, a relatively quiescent or passive tectonic setting existed along the Early Paleozoic western continental margin of North America. During this period, mainly siliciclastic sedimentary rocks deposited as westward-thickening sequences during sporadic subsidence and basin development in the Kechika Trough. This ‘passive margin’ sedimentation and intermittent basin subsidence ± rifting led to the deposition of two regionally extensive, long-lived sedimentary facies (e.g., Gordey and Anderson, 1993). A platformal or “shelf”



facies consisting of shallow water carbonate and clastic rocks was deposited on the Macdonald Platform in the east. A basal facies consisting of deeper-water shale, chert, limestone, and turbiditic sediments deposited on the rapidly subsiding rifted margin in the Kechika Trough, west of the Macdonald Platform (Figs. 4 and 5; Gordey and Anderson, 1993). The extensive off-shelf Cassiar Platform marks the western limit to the Kechika Trough (Fig. 4 and “Cassiar Terrane” in Fig. 5), although laterally discontinuous mid-Devonian carbonate reefs were also formed locally in central portions of the Kechika Trough (Ferri

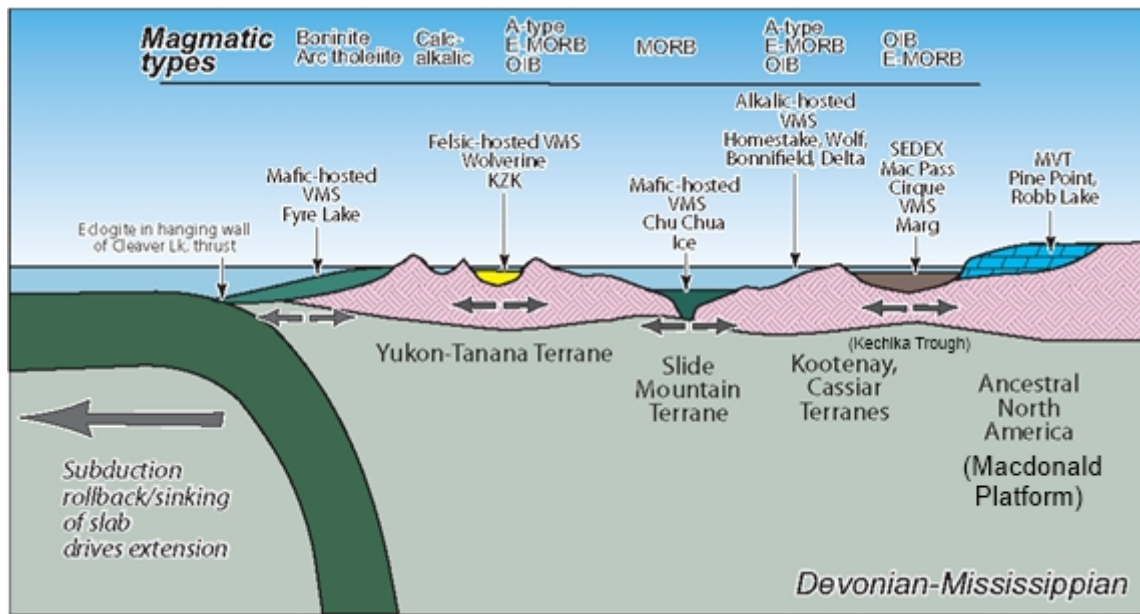


**Figure 4. Devonian-Mississippian mineralization relative to terranes of the northern Cordillera (modified from Nelson and Colpron, 2007). Abbreviations are CT: Cassiar Terrane and MP: Macdonald Platform.**

et al., 1999). Intermittent basinal extension and subsidence was also associated with the intrusion and eruption of basaltic magmas (and, less commonly, intermediate to felsic equivalents) at basin–platform boundaries throughout the northern Cordillera, in the Cambrian and the mid- to Upper Ordovician (e.g., Goodfellow et al., 1995).

In the Late Devonian to Early Mississippian, a major shift in depositional patterns occurred when a northern Cordilleran-wide influx of turbiditic and cherty clastic sediments interrupted Lower Paleozoic ‘passive margin’ sedimentation. A widespread marine transgression at this time has typically been attributed to uplift and rifting at the western margin of North America, producing a back-arc region to an east-subducting oceanic slab (Fig. 5; Nelson and Colpron, 2007). This back-arc rifting led to the separation of several pericratonic terranes separated from the western margin of Laurentian by the opening of the Slide Mountain ocean basin west of the Cassiar Platform (or the “Cassiar Terrane” in Fig. 5; Nelson and Colpron, 2007). Block faulting, mafic back-arc magmatism, and exhalative barite and base metal mineralization occurred throughout the Kechika Trough during the Devonian–Mississippian (Fig. 5; Nelson and Colpron, 2007).

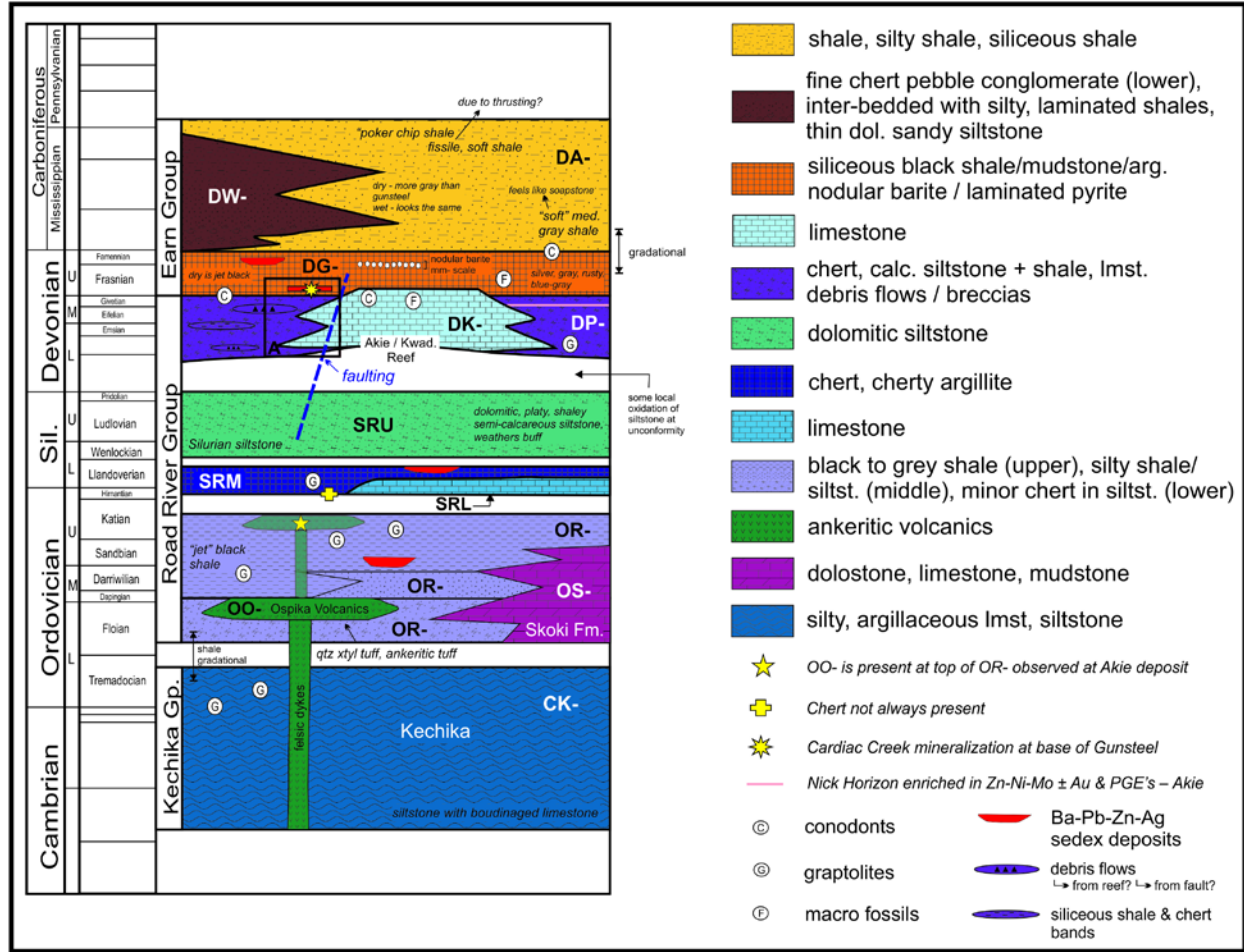
Periodic extensional tectonism and restricted sedimentation within the Kechika Trough led to the formation of stratiform Zn–Pb–Ag–Ba, or SEDEX, deposits in the Cambrian, Middle Ordovician, Lower Silurian, and Upper Devonian (Ferri et al., 1999). The Upper Devonian deposits are the most economically significant, and include mineralization at Cirque, Driftpile Creek, and Cardiac Creek (Akie) in the Kechika Trough, as well as the Tom and Jason deposits farther north in the Macmillan Pass area of the Selwyn Basin (Fig. 4; Ferri et al., 1999). Despite the influx of clastic sediments in the Devonian–Mississippian, SEDEX mineralization occurred in sediment-starved, anoxic, third-order sub-basins (grabens or half-grabens) actively subsiding along their bounding faults (e.g., MacIntyre, 1998; Ferri et al., 1999).



**Figure 5. Schematic tectono-metallogenic model for the Devonian-Mississippian western margin of North America (modified from Nelson and Colpron, 2007). Individual exhalative barite and base metal mineralized centres are named above each corresponding terrane.**

## 2.2 PROPERTY GEOLOGY

The Cirque claims are underlain by supracrustal rocks of Ordovician to Mississippian age, which occur in three thrust-bound panels in the Gataga–Akie SEDEX District. Two main groups are exposed in the western and central panels in the vicinity of the Cirque claims: the Ordovician to Devonian Road River Group and the Devonian–Mississippian Earn Group (Fig. 6).



**Figure 6. Schematic stratigraphic column for the lower to middle Paleozoic units deposited near the Cirque property in the Kechika Trough (the Cirque mineralization is located within the Gunsteel ‘formation’). Modified from MacIntyre, 1998.**

The Road River Group is a deep-water package of mainly fine-grained siliciclastic rocks deposited along the ancestral western margin of most of the northern Cordillera, including within the Kechika Trough. Regionally variably calcareous shale and siltstone dominate this unit, but lesser sandstone and deep-water limestone are also present (Gordey and Anderson, 1993). Syn-depositional, intermittent extensional or basin-deepening events are indicated by the occurrences of local mafic volcanic rocks and intermediate to felsic intrusive rocks. The Road River Group has regionally been sub-divided into Ordovician to Early Silurian units (OR-; Fig. 6) and Silurian to Devonian units (SRL, SRM, SRU; Fig. 6), that respectively correspond to the Duo Lake and Steel formations mapped farther north in the Selwyn Basin (Gordey and Anderson, 1993; Ferri et al., 1999). Unlike the Selwyn Basin, however, at least two Devonian units are



also included in the Road River Group within the Kechika Trough (the Kwadacha Reef, or DK-, and the Paul River Formation, or DP-; Fig. 6).

The Earn Group on the Cirque property is a package of predominantly clastic rocks deposited during the influx of easterly derived detritus during uplift and rifting of the western margin of ancestral North America that led to the formation of pericratonic terrane(s) and the opening of the Slide Mountain ocean basin. These rocks consist mainly of fine-grained clastic sedimentary rocks, with rare deep-water limestone, and are associated with mafic to felsic igneous rocks. In the Kechika Trough, the Earn Group is subdivided into three units by Jefferson et al. (1983), Pigage (1986), and MacIntyre (1992), informally known as the Gunsteel (DG-), Akie (DA-), and Warneford (DW-) ‘formations’ (Fig. 6). These three ‘formations’ are stratigraphically and/or structurally interfingering, making differentiation of these units difficult at any scale of mapping (e.g., Ferri et al., 1999). Siliceous or cherty shales of the Earn Group are the primary host to syn-sedimentary mineralization on the Cirque property, and variably contain baritic ± pyritic ± galena ± sphalerite mineralized horizons.

Several sub-units within the Road River and Earn groups have been distinguished (historically and during the 2013 field program) in the Cirque property area. These are summarized in Table 4.

**Table 4. Detailed lithological break-down of units on the Cirque property.**

	<b>EARN GROUP</b>	<b>ROCK TYPES</b>
Devonian	Warneford Formation (DW-)	Silty shale, Siltstone, sandstone, chert pebble conglomerate
	Akie Formation (DA-)	Soft black shale
	DAC	DA- with <10% pyrite and <5 % barite
	Gunsteel Formation (DG-)	Black siliceous shale to porcellanite
	DGA	DG- with <60% barite
	DGC	DG- with <10% pyrite and <60% barite
	DGL - <i>laminated pyritic ore facies</i>	DG- with 10-50% centimetric banded pyrite
	DGB - <i>baritic ore facies</i>	DG- with >60% barite
	DGS - <i>pyritic ore facies</i>	DG- with 50-100% laminated pyrite with variable sphalerite and galena
		<b>ROAD RIVER GROUP</b>
Silurian	Paul River Formation (DP-)	Bryozoan to crinoid floatstone with a lime mudstone matrix
	Kwadacha Reef (DK-)	
	Upper Road River Group (SRU)	Medium to dark grey mottle-bedded siltstone with abundant feeding burrows
	Middle Road River Group (SRM)	Black chert to porcellanite with interbedded silty shale
	Lower Road River Group (SRL)	Medium grey lime mudstone
Ordovician	Road River Group Shale facies (OR-)	Black variably calcareous shale
	Road River Group Siltstone facies (OR-)	

### 2.2.1 Structural Geology

Regional structural and lithostratigraphic correlations are well described by Pigage (1986), McClay and Insley (1986), McClay et al. (1988), Insley (1990), McClay (1991), MacIntyre (1992), and Paradis et al. (1998), and they are summarized below.

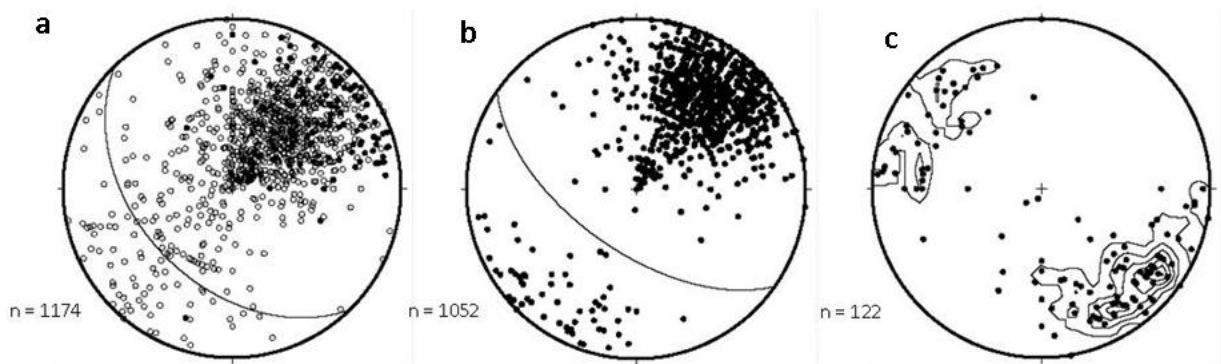
During the Cambrian to Mississippian, basin subsidence and extension, and related normal faulting ( $D_1$ ), produced northwest trending, parallel, asymmetric graben systems with steeply dipping bounding faults and containing internal arrays of domino-like rotated fault blocks responsible for more localized sub-basins. The Road River and Earn Group sedimentary rocks were deposited with distinctive wedge-shaped geometries due to sedimentation within the faulted sub-basins.

Insley (1990) has noted that some very local (metre-scale) northeast-trending folds (associated with  $D_2$ ) developed prior to the main Cordilleran compressional event ( $D_3$ ). These folds are minor and thought to only occur in lower Earn Group strata and are, thus, not discussed further. Northeast-trending compression ( $D_3$ ) from the Late Jurassic to 'mid'-Cretaceous deformed the Paleozoic strata into the prominent northwest-trending Cordilleran fold and thrust belt that is still present today. The majority of observable structures developed in the Cirque area were formed during this compressional event. In general, deformation resulted in open to tight, northeast-verging anticline-syncline pairs and fault-propagation folds that form imbricate blocks or duplex structures within three main thrust panels. Thrust-bounded packages contain chevron to tight folds and well-cleaved strata. Pigage (1986) has identified two separate compressional coaxial phases of deformation that exhibit similar trending and verging folds ( $D_3$  and  $D_4$ ) at Cirque. Folds associated with  $D_3$  at Cirque are dominantly macroscopic, northwest-trending, tight, and asymmetric. These folds have long gentle southwest-dipping, upright limbs and short, steep overturned forelimbs (northeastern limb of a northeasterly verging anticline). These folds are associated with a pervasive, southwest-dipping, axial planar cleavage ( $S_3$ ) which is best developed in shale units. Localized areas of more intense deformation resulted in tight to chevron-style folding within the shaley units. Folding of more competent lithologies (i.e., siltstone, limestone, and chert) resulted in a tightly spaced fracture cleavage. Where rheologically differing lithologies are interbedded (chert and siltstone), tight folding was accommodated by flexural slip; cleavage planes may also refract between adjacent competent and incompetent beds. There is also northeast-verging fault propagation folding associated with the  $D_3$  event. Northwest-trending folding, related to the  $D_4$  event, is responsible for the development of a crenulation cleavage ( $S_4$ ).  $S_4$  is axial planar to northwest-trending, upright folds; these folds have an amplitude of up to 30 m and have only been mapped southeast of the Cirque deposit.

Late Mesozoic to Tertiary extension and dextral transpression ( $D_5$ ) is the latest and current stress regime affecting these rocks. This extension has led to the formation of steeply dipping north- and northwest-trending normal faults, some with dextral movement, which crosscut all pre-existing structures. These brittle faults have displacements of up to 50 m locally, and may contain fault gouge and quartz-calcite veining.

Historical structural data from Cyprus Anvil Mining and Teck Resources for the Cirque property has been reviewed and compared with the literature and technical reports using stereonet software from Allmendinger et al. (in press). Historic bedding measurements at Cirque show an overall northeast-verging fold structure with gentle to moderately southwest-dipping limbs and moderate to steeply southwest-dipping overturned forelimbs (Fig. 7a). This observation is consistent with the reported literature for the area (see above). The calculated axial plane from bedding measurements is also consistent with the average measured cleavage indicating the measured cleavage is related to the dominant  $D_3$  folding event in the area (Fig. 7b). Additionally, lineation measurements show a flat to

gently dipping northwest–southeast trend, which is also consistent with the regional northwest-trending folded and faulted structural package (Fig. 7c). Note that historical reports do not differentiate between fold hinge lineations or bedding–cleavage intersection lineations.



**Figure 7. Historic structural data for the Cirque deposit including a) poles to bedding planes (open circles are overturned bedding planes), axial plane is represented by the great circle, b) poles to cleavage planes with the average measured cleavage represented by the great circle, and c) fold hinge lines and intersection lineations.**

### 2.2.2 Alteration and Mineralization

Mineralization on the Cirque property manifests as concordant and tabular bodies of sulfide  $\pm$  barite within the Gunsteel ‘formation’ of the Earn Group. Only a few small occurrences of Gunsteel ore-facies rocks outcrop at surface, none of which show sphalerite or galena, although abundant Zn-Pb mineralization is well documented underground. Within the Gunsteel and the Akie units, barite in the form of sub-mm-scale nodules is a fairly common occurrence, often forming discontinuous lenses. There is no clear relationship between disseminated barite and the exact location of sulfide mineralization within the Earn Group. The eastern panel of Earn Group rocks on the Cirque property, for example, contains a sizeable horizon of disseminated barite within Gunsteel rocks, but no sulfide mineralization has thus far been linked to these baritic rocks (although several nearby iron-oxide seeps are present). Many drilled intercepts of sulfide mineralization exhibit very fine-grained sub-mm-scale parallel laminations of pyrite locally intensely folded and sheared. The pyrite bands are variably interlaminated with shale of the Gunsteel ‘formation’ suggesting a possible sedimentary or exhalative origin for the sulfides however, no clear sedimentary structures have yet been identified within the sulfide mineralization.

## 3. 2013 FIELD PROGRAM

Work conducted during the 2013 field season consisted of a geochemical soil sampling program. Between July 24<sup>th</sup> and August 7<sup>th</sup> 2013, 237 soil samples were collected on the Cirque property to assess known mineral occurrences and develop new targets. Soil traverses were set up to cross occurrences of surface mineralization and prospective lithologies in order to look for similar anomalies in untested areas of prospective Earn Group stratigraphy on the property.



## 3.1 SOIL GEOCHEMISTRY

### 3.1.1 Surficial Environment

The Cirque property is dominated by boreal forest and wetland as low as 1050 m, forested to sub-alpine slopes and ridges reaching elevations of ~1750 m (up to 1800 m on southwest-facing slopes) and alpine tundra and peaks between 1750–2100 m. Extensive fir, with lesser aspen, pine and local concentrations of spruce at lower elevations constitute the dominant tree populations. At and above the tree-line, mosses, grasses, and wildflowers cover all but the steepest slopes. Below the tree-line, areas of deadfall and avalanche slide paths are dominated by willows and alders. Mountain ridges typically trend to the northwest and northeast with corresponding steep drainages orthogonal to the ridges. Mountain runoffs typically drain into regional drainages that trend northeast and consist of meandering rivers and streams in wide flat valley bottoms. Glacial and glacial-fluvial deposits are minor in the mountainous terrain, but become more prevalent in the low, wide valleys. Relief in the area is typically moderate to steep, with many slopes exceeding 30° where most soil sampling took place. As such, soil development was variable and soil profiles changed markedly from site to site in any aspect. Most mineral soils on the steep Cirque property likely developed on colluvial, rather than glacial, deposits.

Soil profiles were very heterogeneous between aspect, elevation, terrain angle, drainage, and even between adjacent sites on the same sample line. Organic LFH horizons were always present, varying from 1–2 cm thick in the alpine to ~50 cm thick in low-lying bogs, and consisted of partially decomposed needles, twigs, and mosses. The Ah horizon of fully decomposed organic material occurred in thin mm- to cm-thick veneers below the LFH horizon. Rarely did the Ah horizon reach 10 cm thickness, and in poorly drained areas the organic layers instead consisted of an Om horizon up to ~50 cm thick. Where available, charcoal fragments within the Ah horizon were collected and placed in the sample bags with the Ah soils. In alpine environments and commonly at the tree-line, the Ah horizon was not developed and could not be sampled. Eluviated Ae horizons rarely occurred as 1–10 cm grey to white units beneath the Ah (where present) or the LFH horizon (where Ah horizons were not developed), but these horizons were not sampled in this program. B horizon soils were usually present, although their level of maturity was variable. Where observed, well-developed B horizon soils often graded down-hole into a grey BC, or commonly directly into the C horizon (typically composed of colluvium). BC horizons of dark brown to tan-coloured soil with abundant sand and gravel fragments were the most commonly observed. Less frequent Bm horizons of dark to light brown and relatively homogenous soils (with a small fraction of rock fragments) and rare Bf horizons of red-brown and homogenous fine-grained soils (with a silty-clay texture) were also observed and sampled at some sites. Where no B horizon soils were developed, especially in steep talus, the C horizon (or talus fines) was sieved and collected.

### 3.1.2 Sample Methodology and Analytical Techniques

Sample lines on the Cirque property were spaced 150 m apart, with sample sites located every 50 m along the line. Sample pits were dug at each site, ranging from 30–50 cm across and varying from 10–100 cm in depth, depending on the thickness of the soil horizons present. Soil profiles were photographed and described at every station, and the data were entered digitally into a hand-held device. Soils for geochemical analysis were collected from both the Ah and B horizons at each sample site, where present.

When sample material was sparse, multiple pits were dug within a 5 m radius for sufficient sample collection. Ah horizons were often thin, laterally discontinuous, and/or variably developed, resulting in laborious efforts to collect sufficient material. If the B horizon was not developed, then a sample of the BC or C (including talus fines) horizon was collected instead. All samples were sieved in the field using a 4 or 2 mm sieve, depending on dryness, before being collected into Kraft paper bags. The Kraft bags were placed in individual plastic bags in the field to eliminate sample contamination during transportation. Back at camp samples were hung with chicken-wire or laid on racks to dry, before packaging and shipping, to reduce inter-sample contamination by water-soluble elements. Samples were then shipped to the Acme Analytical Laboratory in Vancouver for sample preparation by the method SS80 which involves drying up to 0.5 kg sample at 60°C followed by a 100 g portion sieved at -80 mesh. Samples were analyzed by the 1F04 method, which utilized a 0.5 g fraction (after Aqua Regia digestion) for analysis by inductively coupled plasma mass spectrometry. Samples were also analyzed by the 2A05 method to determine the loss on ignition at 1000°C.

### 3.1.3 Quality Control

To reduce contamination between sample sites, shovels, sieves, and trowels were cleaned after each sample collection, and samples were placed in individual clean plastic bags. For every 20 samples, one standard and two duplicate samples (one Ah and one B) were included in the sample suite. To avoid soil heterogeneities for duplicate samples, large samples were field-sieved and mixed, then placed in separate Kraft bags (rather than sampling from two separate pits at the same site).

## 3.2 SOIL GEOCHEMISTRY RESULTS

The 2013 soil sampling program was successful in determining the most effective soil horizon to sample, as well as the most useful elemental signatures for detecting buried sulfides. Figures 8–17 illustrate sample sites and the results of selected trace elements for the A and B horizon soils.

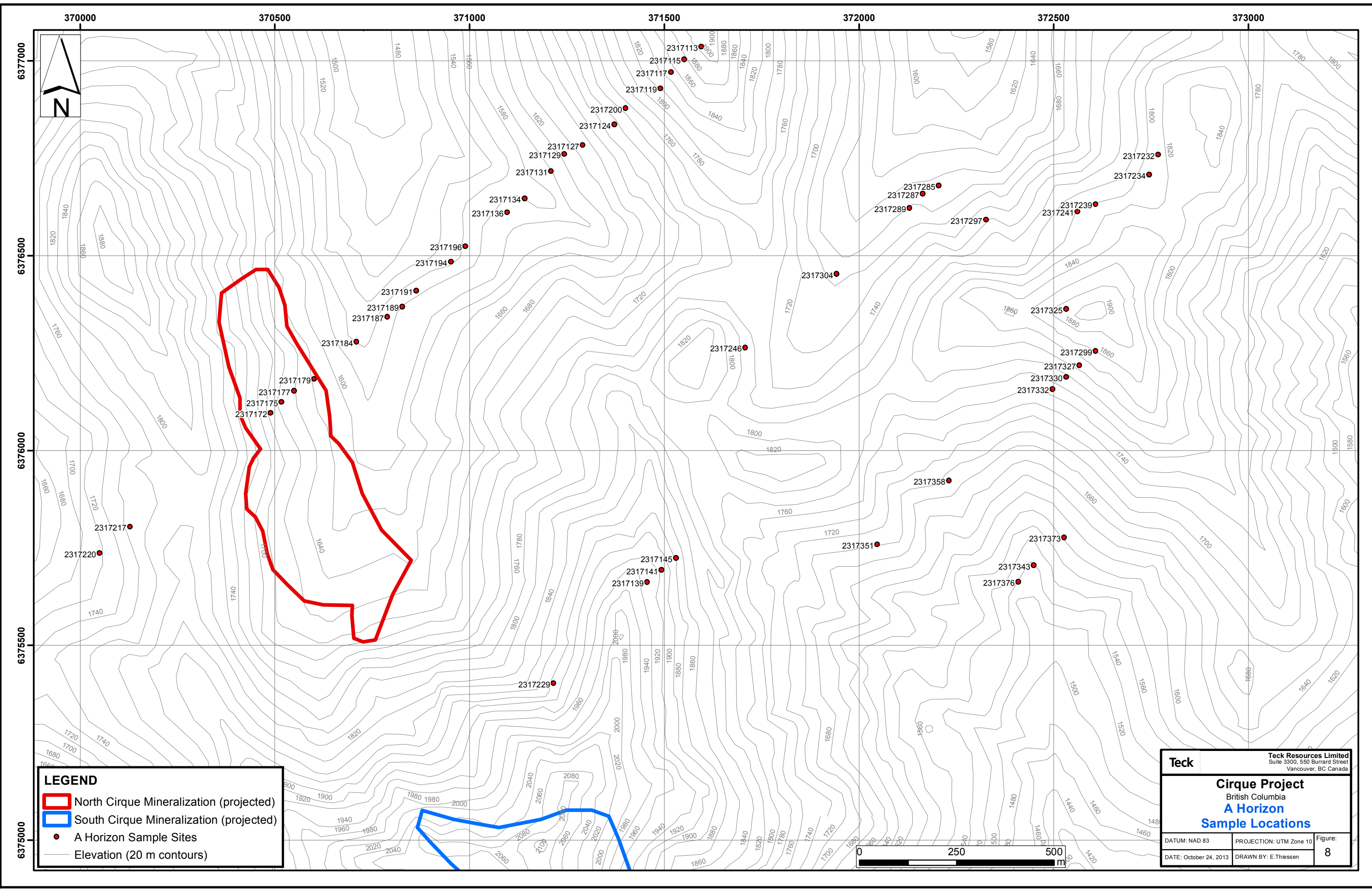
### 3.2.1 A Horizon

The A horizon is poorly developed on the Cirque property due to the predominance of steep terrain above the tree-line, where typically minor mineral or organic soils are developed. Figure 8 demonstrates the paucity of Ah horizon sample sites and the subsequent poor distribution of data points for this soil horizon. Geochemical interpretations of the Ah horizon data at the up-dip surface projection for the South Cirque deposit are not possible due to this poor soil coverage (Fig. 8). Despite the significant lack of Ah horizon material, however, a traverse across the North Cirque deposit yielded sufficient data for a general geochemical interpretation. Lead (Fig. 9) displays a substantial anomaly of up to 1 wt.% directly below the mineralized horizon (the North Cirque orebody daylights along its northeastern edge). Data for zinc (Fig. 10) show a substantial anomaly of 3,184 ppm down in the valley, ~200 m northeast, and downhill, of the lead anomaly and known mineralization. Zinc is more mobile than lead, which explains the slightly larger anomaly downslope of mineralization. Silver (Fig. 11) also has a large anomaly of 100 ppm directly below the North Cirque deposit at the same sample site as the high lead anomaly. As with lead, values for silver drop quickly both above and below the deposit. Thallium data (Fig. 12) also display a

prominent anomaly of 21.63 ppm where the lead and silver anomalies occur, and sharp decreases away from the mineralized horizon. Other geochemical data are available in Appendix IV, yet only lead, silver, and thallium produce sharply-defined anomalies near known mineralization. Zinc in the A horizon may be a general indicator of mineralization in the area, but should not be relied on for detailed target generation.

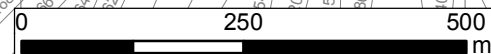
### 3.2.2 B Horizon

The B horizon in the sample area was typically developed as a transitional BC soil. Where B horizon soils were not developed, C horizon (colluvium) or talus fines were collected instead. Almost every sample site had a developed B or a C horizon, which made for a reliable sample medium and good sample coverage across the area (Fig. 13). In addition to adequate sample coverage across the North Cirque deposit, the B horizon sampling extensively covered the up-dip projection of the South Cirque deposit. Lead data displays prominent anomalies of 400–10,000 ppm both directly downslope of the North Cirque surface expression, and in the projected up-dip surface expression of the South Cirque deposit (Fig. 14). Figure 15 displays zinc anomalies of >3000 ppm, which occur in similar locations to the lead anomalies. Slightly lower anomalous zinc (~300-2400 ppm) is widely distributed throughout the sampled area, which covers Earn Group lithologies to the east of the known deposits. Silver (Fig. 16) also produces very prominent anomalies downslope of the North Cirque surface expression, and decrease in value quickly away from mineralization. There are no significant silver anomalies associated with South Cirque. Anomalous thallium (16–40 ppm) occurs in the same locations as anomalous lead. Lower thallium anomalies (<8 ppm) occur elsewhere in the sample area, but the strongest anomalies are clearly localized to known mineralized areas. Overall lead, silver, and thallium in the B soil horizon are very effective at delineating the known mineralized horizons of the North and South Cirque deposits. Away from mineralization these elements decrease rapidly and do not appear to give false positive results. Zinc anomalies also occur in proximity to known mineralization but, as zinc is a more mobile element, delineation of the known mineralization is not as accurate as for lead, silver, and thallium. Complete geochemical soil analysis results are available for reference in Appendix IV.



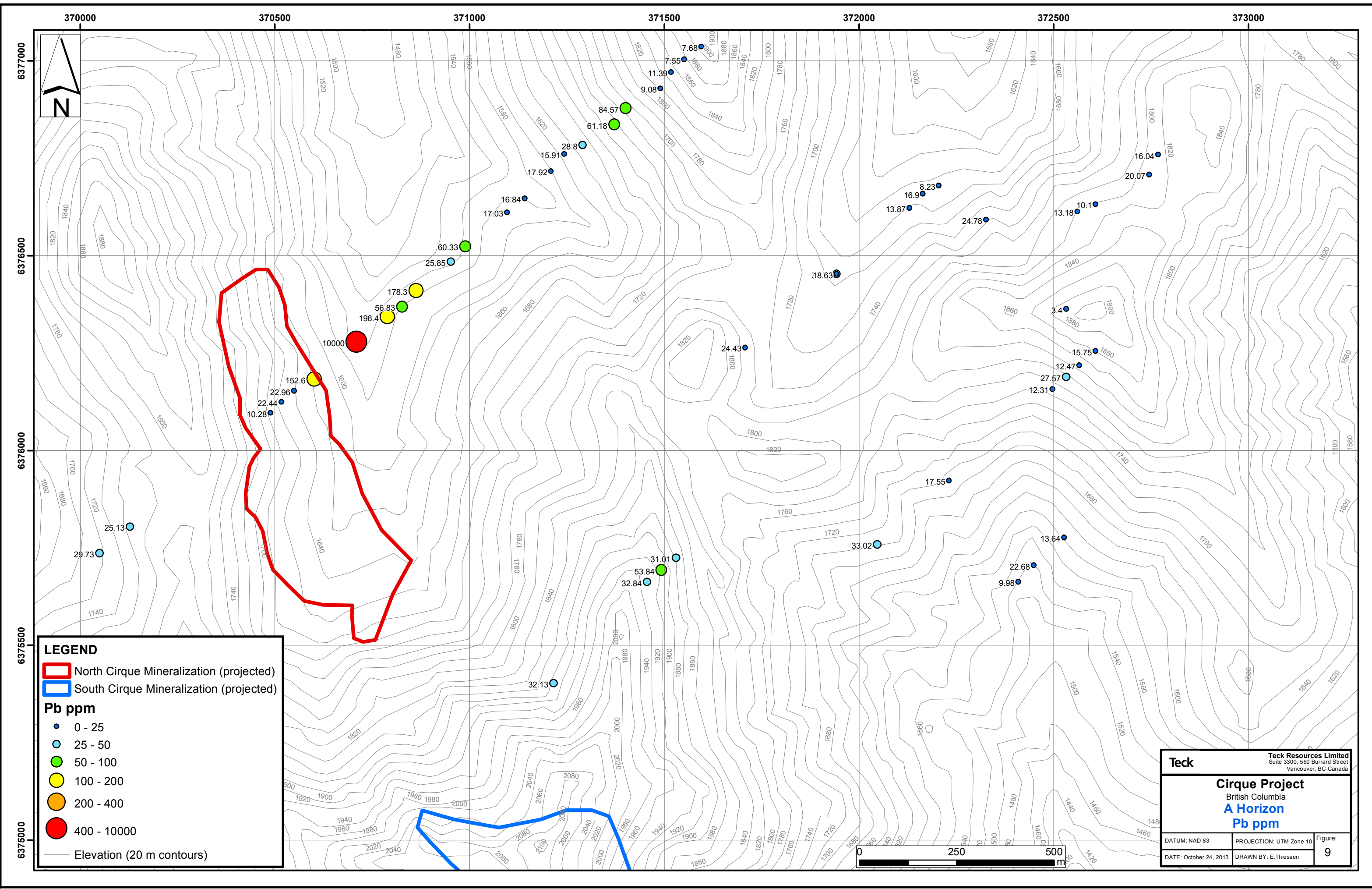
**LEGEND**

- ▭ North Cirque Mineralization (projected)
- ▭ South Cirque Mineralization (projected)
- A Horizon Sample Sites
- Elevation (20 m contours)



<b>Teck</b>		Teck Resources Limited Suite 3300, 550 Burrard Street Vancouver, BC Canada
<b>Cirque Project</b> British Columbia		
<b>A Horizon</b> Sample Locations		
DATUM: NAD 83	PROJECTION: UTM Zone 10	Figure:
DATE: October 24, 2013	DRAWN BY: E.Thiessen	<b>8</b>





**LEGEND**

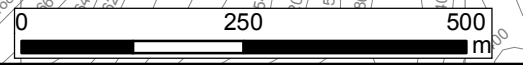
North Cirque Mineralization (projected)  
 South Cirque Mineralization (projected)

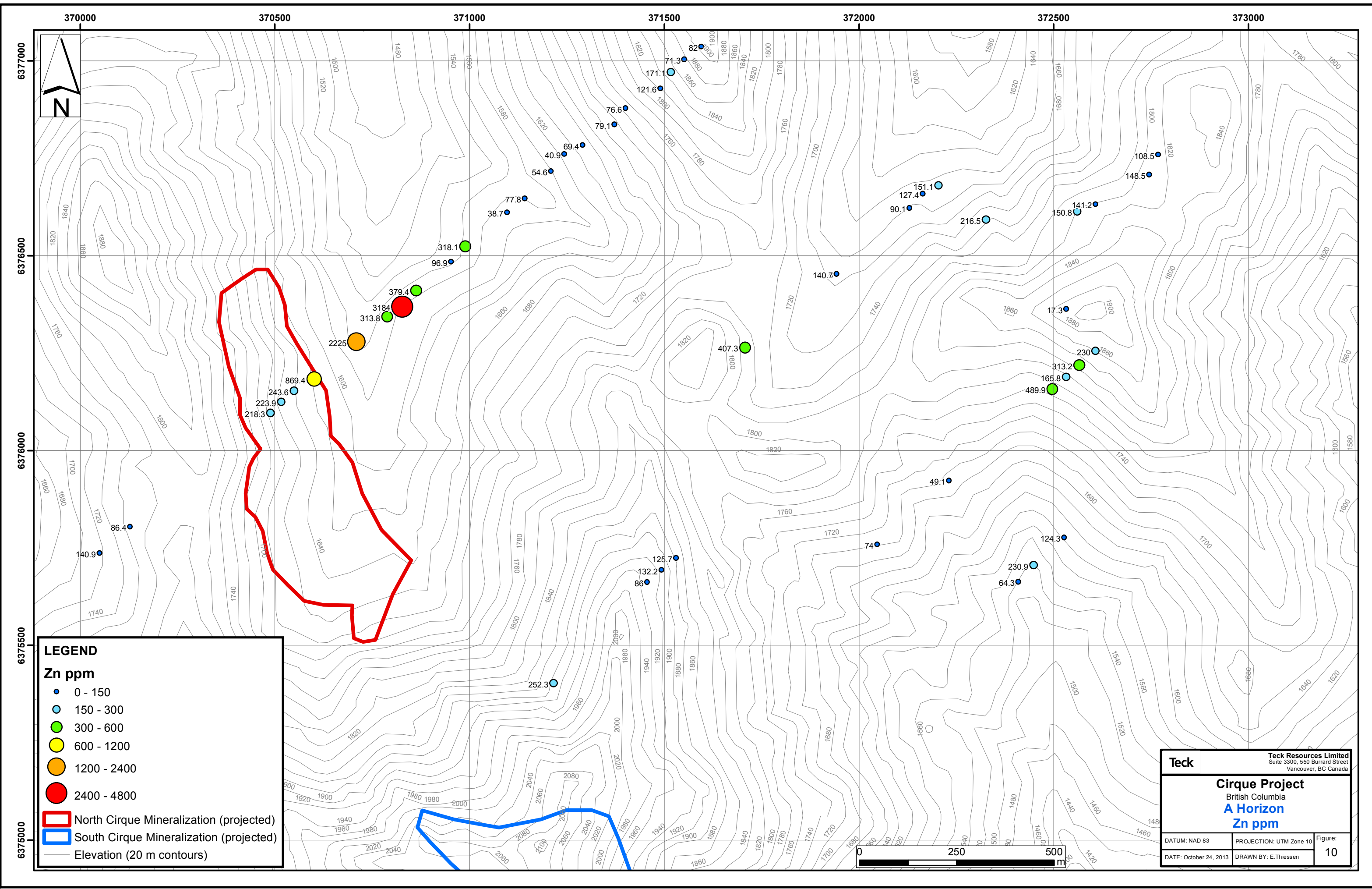
**Pb ppm**

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 200
- 200 - 400
- 400 - 10000

— Elevation (20 m contours)

<b>Teck</b>		Teck Resources Limited Suite 3300, 550 Burrard Street Vancouver, BC Canada
<b>Cirque Project</b> British Columbia <span style="color: blue; font-weight: bold;">A Horizon</span> <span style="color: blue; font-weight: bold;">Pb ppm</span>		
DATUM: NAD 83	PROJECTION: UTM Zone 10	Figure:
DATE: October 24, 2013	DRAWN BY: E.Thiessen	9





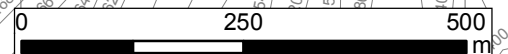
**LEGEND**

**Zn ppm**

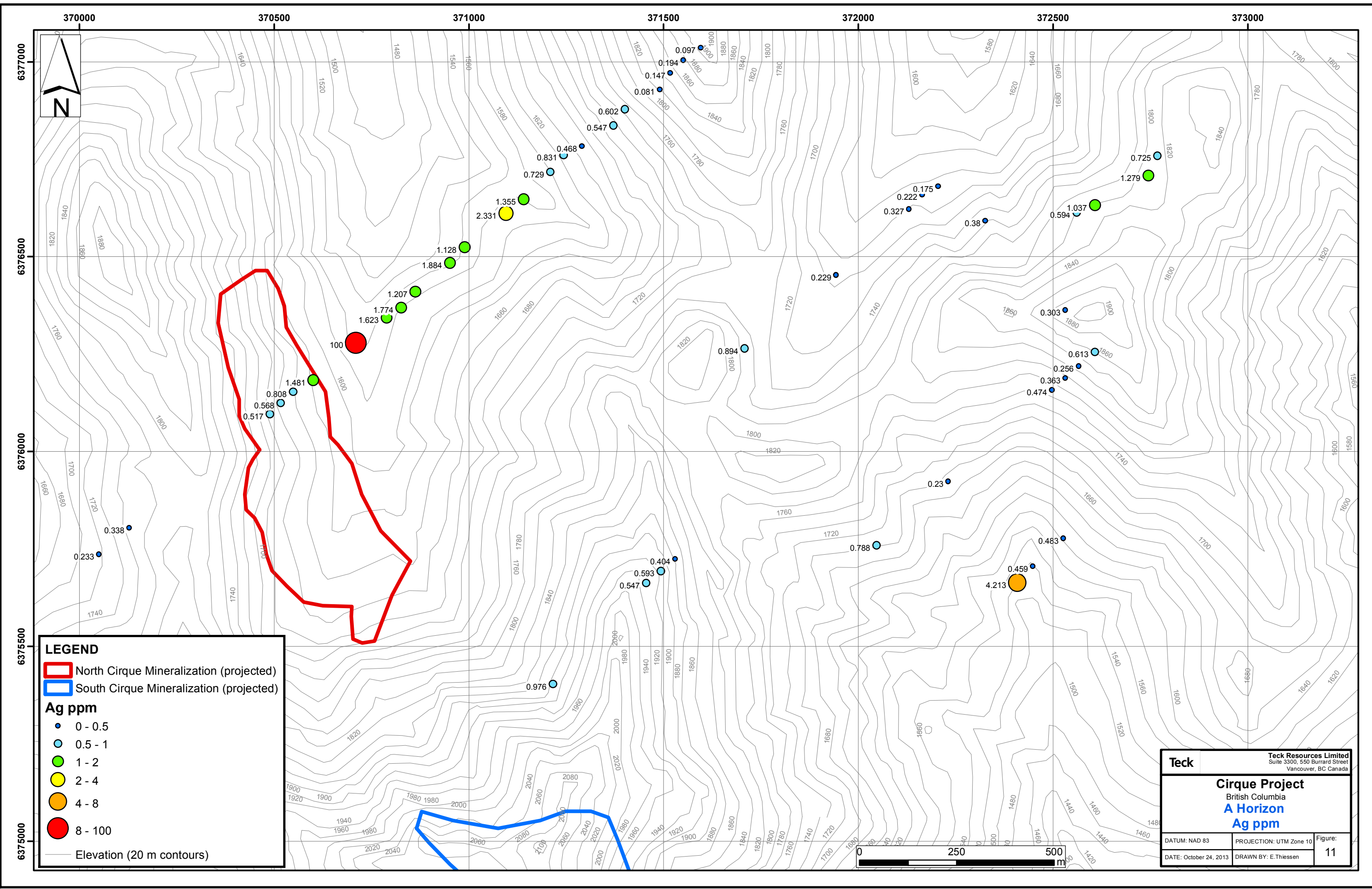
- 0 - 150
- 150 - 300
- 300 - 600
- 600 - 1200
- 1200 - 2400
- 2400 - 4800

North Cirque Mineralization (projected)  
 South Cirque Mineralization (projected)  
 — Elevation (20 m contours)

<b>Teck</b>		Teck Resources Limited Suite 3300, 550 Burrard Street Vancouver, BC Canada	
<b>Cirque Project</b>			
British Columbia			
<b>A Horizon</b>			
<b>Zn ppm</b>			
DATUM: NAD 83	PROJECTION: UTM Zone 10	Figure:	
DATE: October 24, 2013	DRAWN BY: E.Thiessen	10	







**LEGEND**

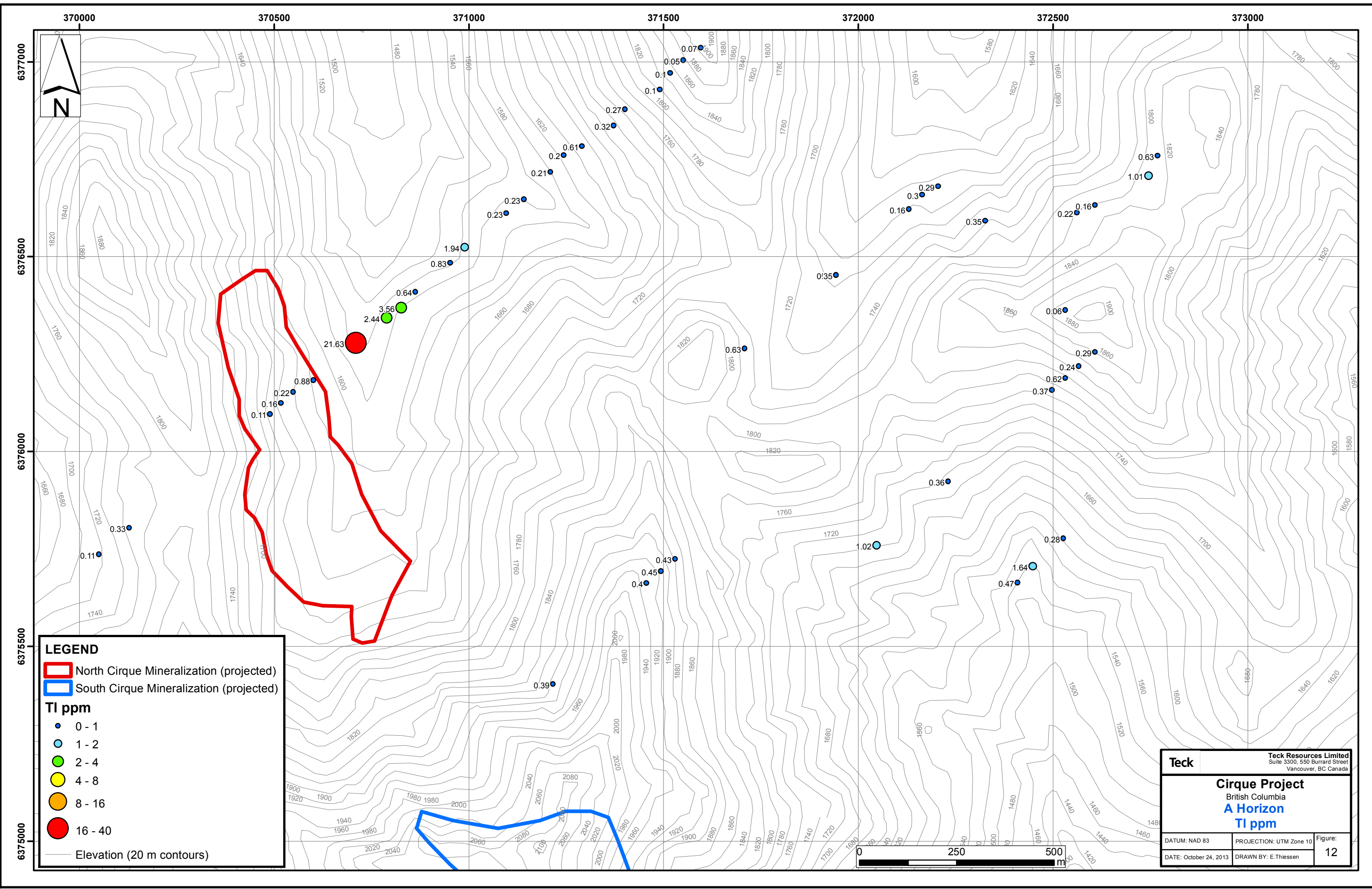
- North Cirque Mineralization (projected)
- South Cirque Mineralization (projected)

**Ag ppm**

- 0 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 4
- 4 - 8
- 8 - 100

— Elevation (20 m contours)

<b>Teck</b>		Teck Resources Limited Suite 3300, 550 Burrard Street Vancouver, BC Canada
<b>Cirque Project</b>		
British Columbia		
<b>A Horizon</b>		
<b>Ag ppm</b>		
DATUM: NAD 83	PROJECTION: UTM Zone 10	Figure:
DATE: October 24, 2013	DRAWN BY: E.Thiessen	<b>11</b>



**LEGEND**

- North Cirque Mineralization (projected)
- South Cirque Mineralization (projected)

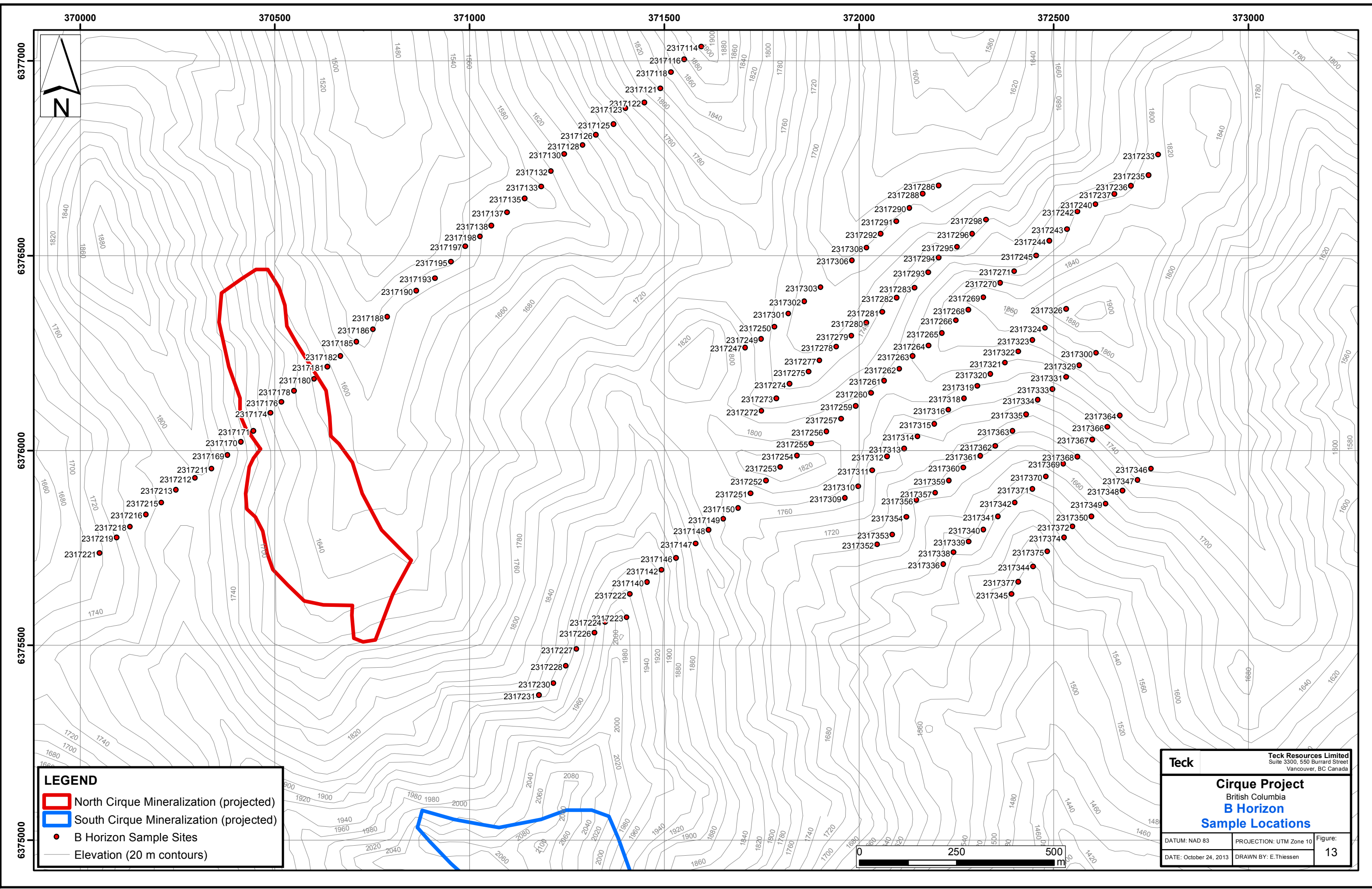
**TI ppm**

- 0 - 1
- 1 - 2
- 2 - 4
- 4 - 8
- 8 - 16
- 16 - 40

— Elevation (20 m contours)

<b>Teck</b>		Teck Resources Limited Suite 3300, 550 Burrard Street Vancouver, BC Canada
<b>Cirque Project</b>		
British Columbia		
<b>A Horizon</b>		
<b>TI ppm</b>		
DATUM: NAD 83	PROJECTION: UTM Zone 10	Figure:
DATE: October 24, 2013	DRAWN BY: E.Thiessen	<b>12</b>

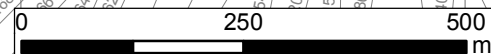


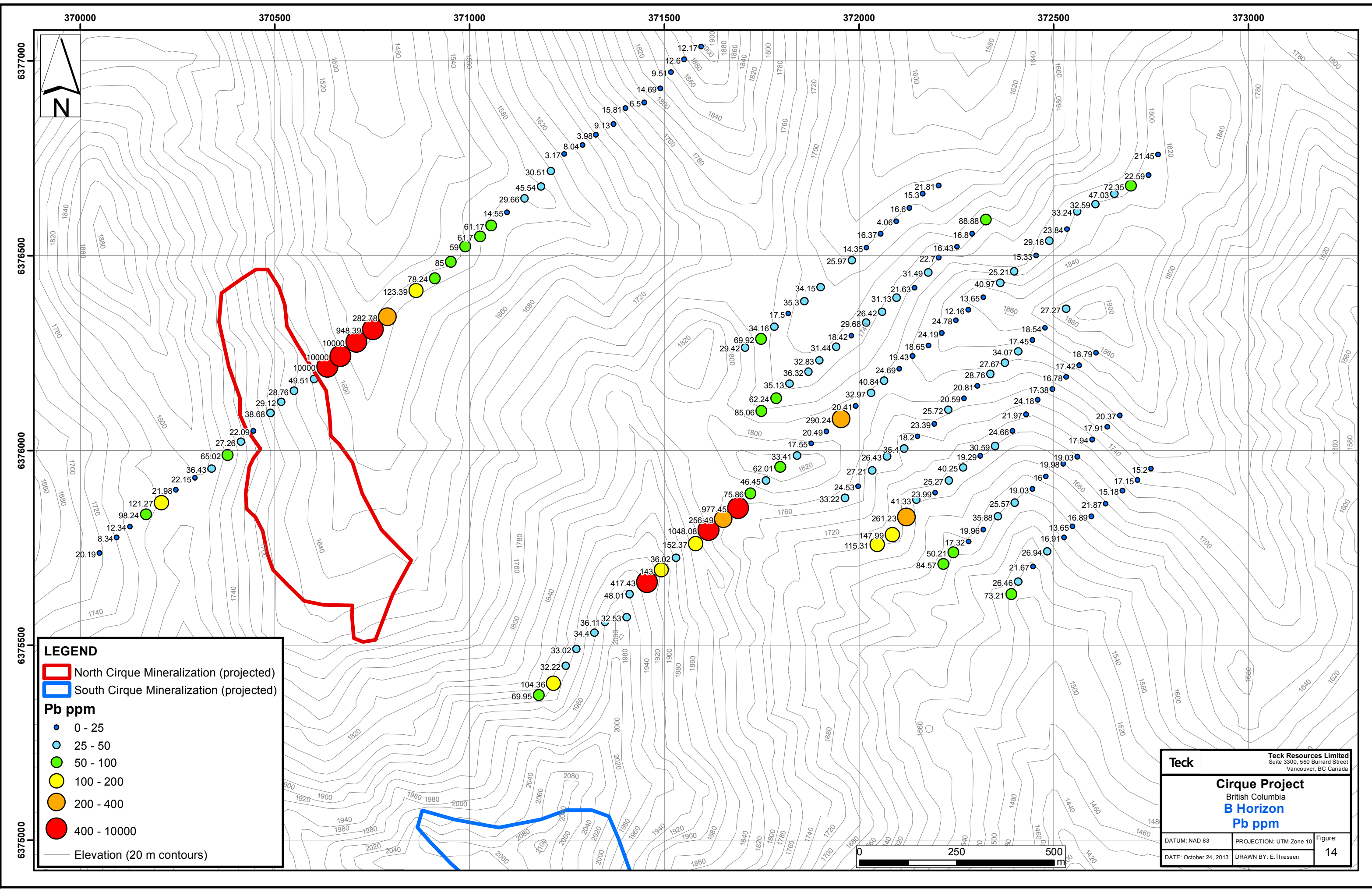


**LEGEND**

- ▭ North Cirque Mineralization (projected)
- ▭ South Cirque Mineralization (projected)
- B Horizon Sample Sites
- Elevation (20 m contours)

<b>Teck</b>		Teck Resources Limited Suite 3300, 550 Burrard Street Vancouver, BC Canada	
<b>Cirque Project</b> British Columbia <b>B Horizon</b> <b>Sample Locations</b>			
DATUM: NAD 83	PROJECTION: UTM Zone 10	Figure:	
DATE: October 24, 2013	DRAWN BY: E.Thiessen	13	





**LEGEND**

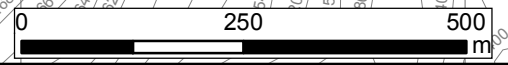
North Cirque Mineralization (projected)  
 South Cirque Mineralization (projected)

**Pb ppm**

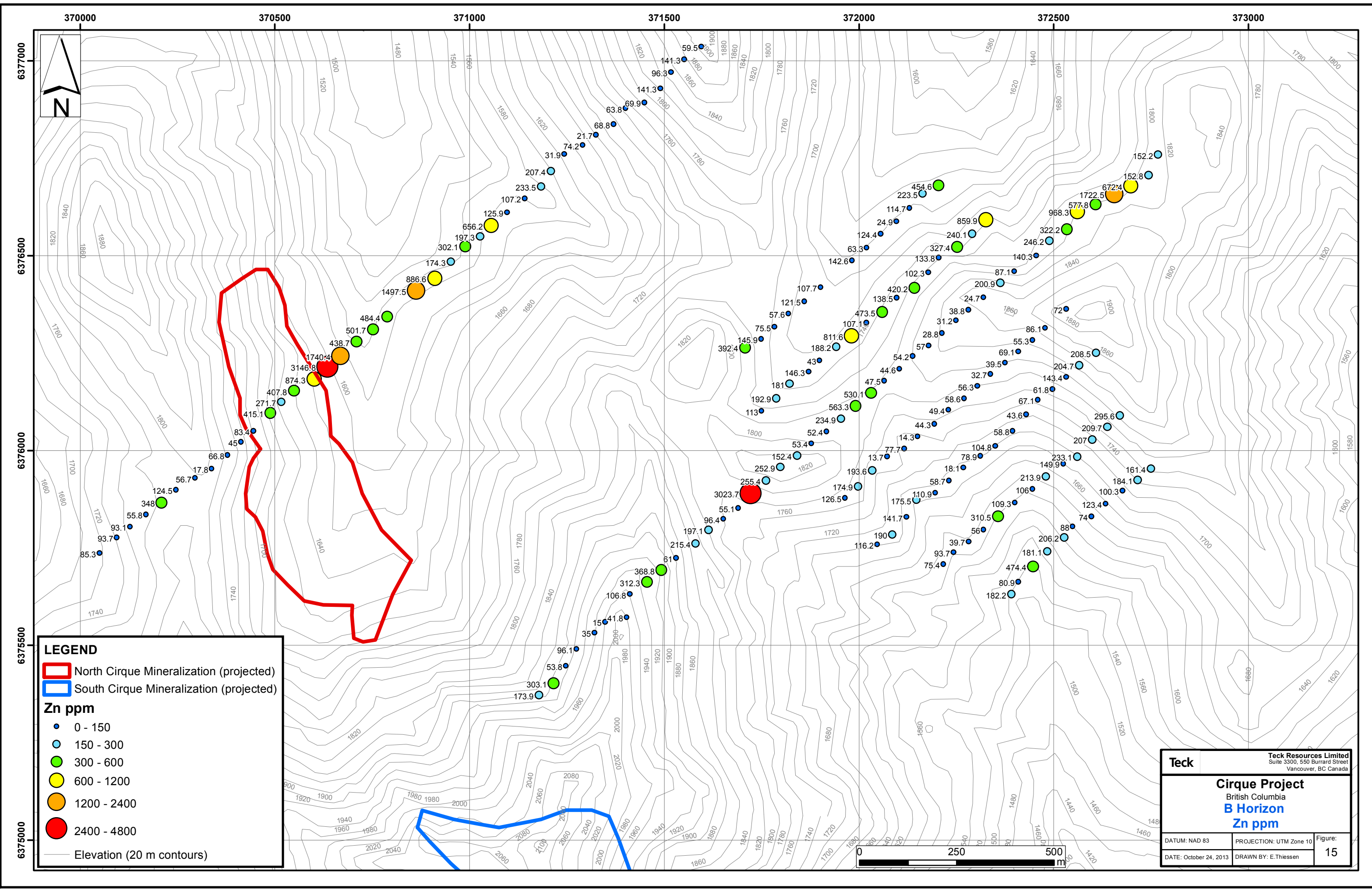
- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 200
- 200 - 400
- 400 - 10000

— Elevation (20 m contours)

<b>Teck</b>		Teck Resources Limited Suite 3300, 550 Burrard Street Vancouver, BC Canada
<b>Cirque Project</b>		
British Columbia		
<b>B Horizon</b>		
<b>Pb ppm</b>		
DATUM: NAD 83	PROJECTION: UTM Zone 10	Figure:
DATE: October 24, 2013	DRAWN BY: E.Thiessen	<b>14</b>







**LEGEND**

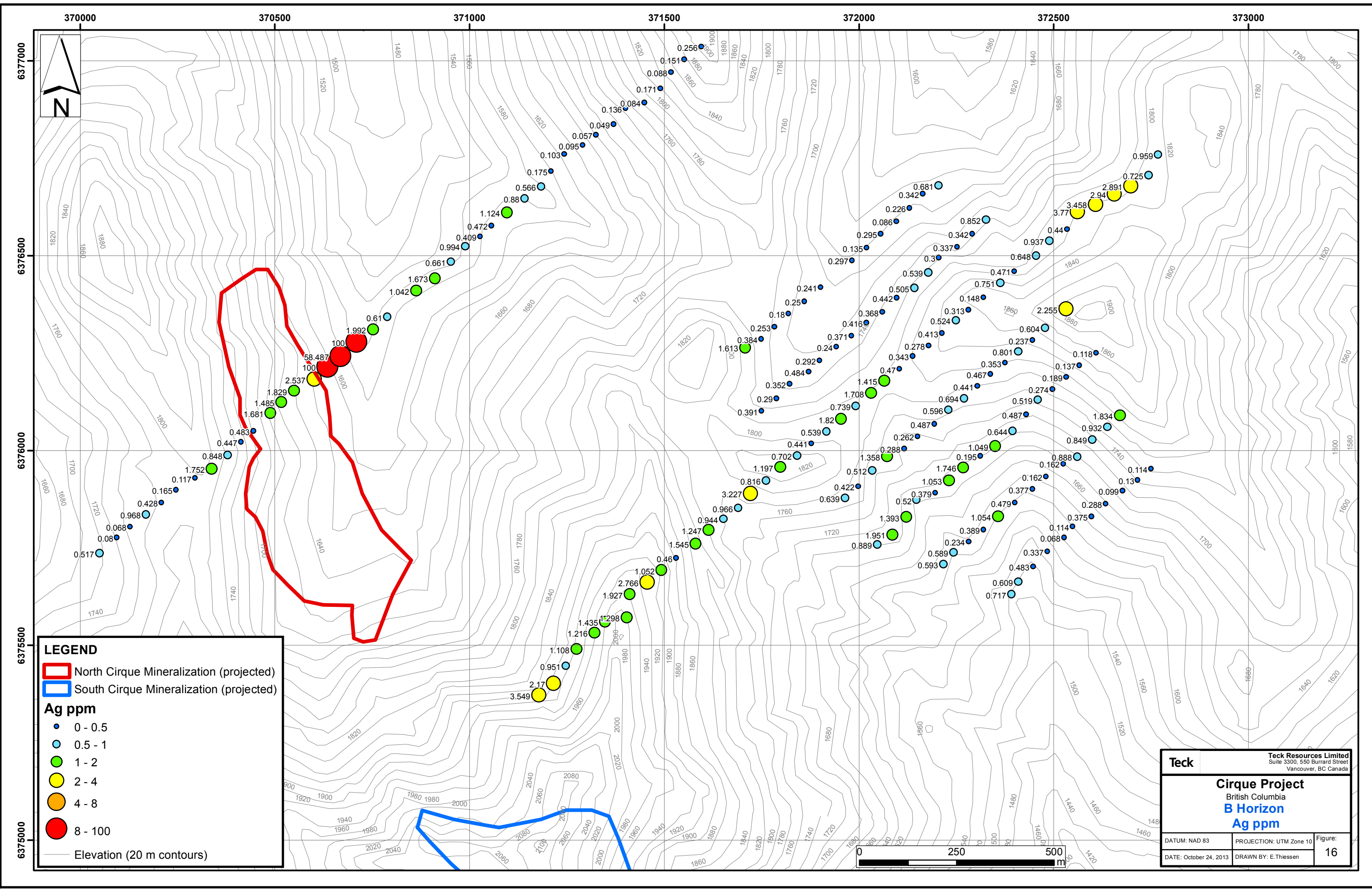
- North Cirque Mineralization (projected)
- South Cirque Mineralization (projected)

**Zn ppm**

- 0 - 150
- 150 - 300
- 300 - 600
- 600 - 1200
- 1200 - 2400
- 2400 - 4800

— Elevation (20 m contours)

<b>Teck</b>		Teck Resources Limited Suite 3300, 550 Burrard Street Vancouver, BC Canada	
<b>Cirque Project</b>			
British Columbia			
<b>B Horizon</b>			
<b>Zn ppm</b>			
DATUM: NAD 83	PROJECTION: UTM Zone 10	Figure:	
DATE: October 24, 2013	DRAWN BY: E.Thiessen	15	



**LEGEND**

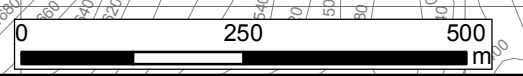
- North Cirque Mineralization (projected)
- South Cirque Mineralization (projected)

**Ag ppm**

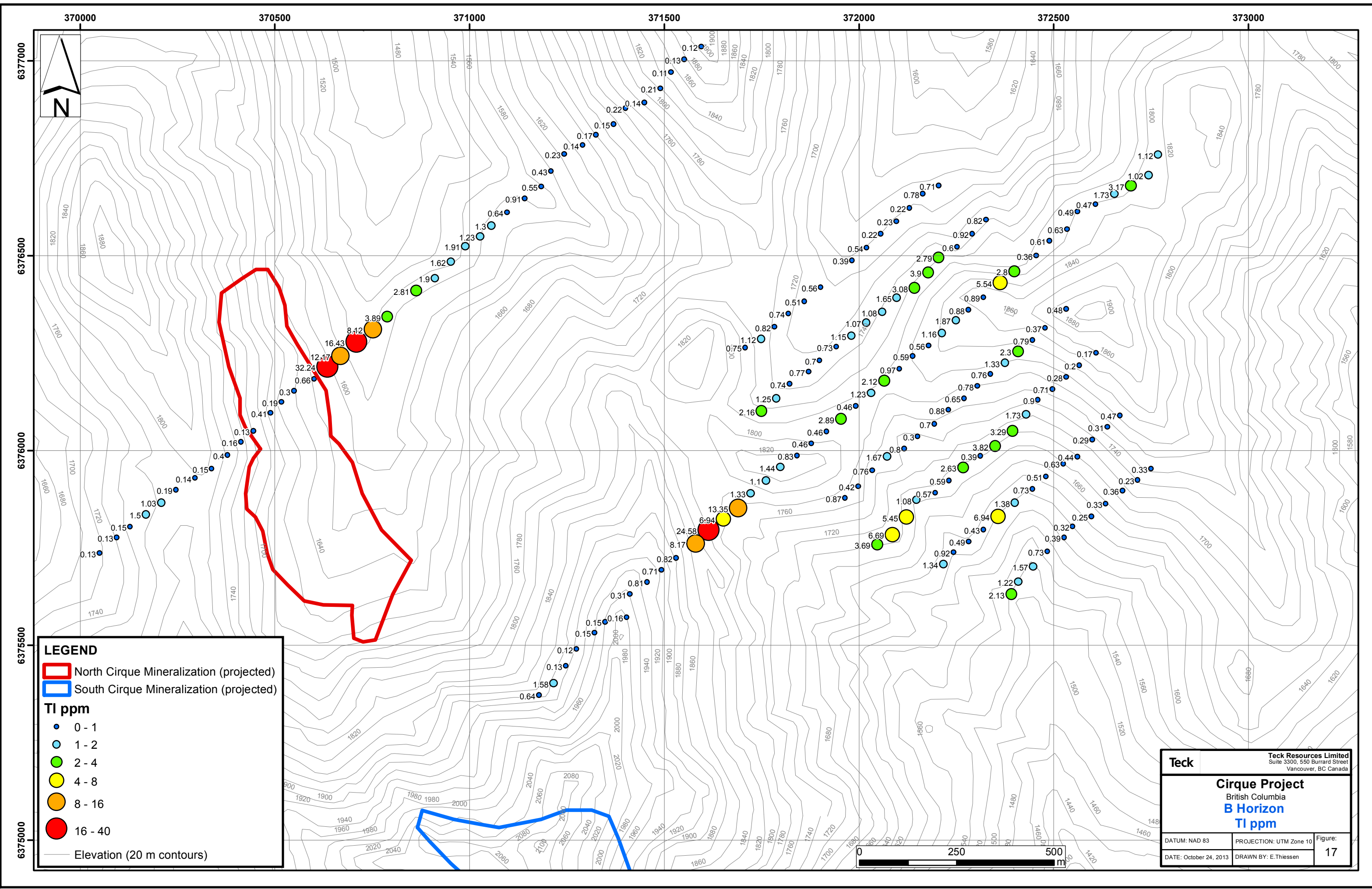
- 0 - 0.5
- 0.5 - 1
- 1 - 2
- 2 - 4
- 4 - 8
- 8 - 100

— Elevation (20 m contours)

<b>Teck</b>		Teck Resources Limited Suite 3300, 550 Burrard Street Vancouver, BC Canada
<b>Cirque Project</b>		
British Columbia		
<b>B Horizon</b>		
<b>Ag ppm</b>		
DATUM: NAD 83	PROJECTION: UTM Zone 10	Figure:
DATE: October 24, 2013	DRAWN BY: E.Thiessen	<b>16</b>







**LEGEND**

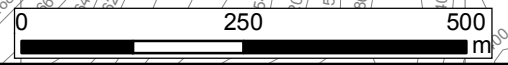
- North Cirque Mineralization (projected)
- South Cirque Mineralization (projected)

**Ti ppm**

- 0 - 1
- 1 - 2
- 2 - 4
- 4 - 8
- 8 - 16
- 16 - 40

— Elevation (20 m contours)

<b>Teck</b>		Teck Resources Limited Suite 3300, 550 Burrard Street Vancouver, BC Canada
<b>Cirque Project</b>		
British Columbia		
<b>B Horizon</b>		
<b>Ti ppm</b>		
DATUM: NAD 83	PROJECTION: UTM Zone 10	Figure:
DATE: October 24, 2013	DRAWN BY: E.Thiessen	<b>17</b>





#### **4. CONCLUSIONS AND RECOMMENDATIONS**

Collecting samples from both the A and B horizons has demonstrated that B horizon sampling is more efficient, and is a better sample medium than the A horizon for target generation in the Cirque deposit area. This is primarily due to the more extensive development of the B (or BC) horizon allowing for complete coverage of the desired sample area. Additionally, lead, silver, and thallium anomalies in the B horizon were very effective at delineating both the North and South Cirque mineralized horizons at surface. These elements do not appear to produce false negative anomalies away from mineralization. Although it is unclear how well similar anomalies will present themselves in areas of thicker soil development or lower elevation glacial sediment cover, future soil geochemistry programs in the Cirque area are encouraged to collect material from the B horizon. The quality of B horizon data obtained here also suggests that future programs be equally diligent with QAQC protocol (e.g., clean shovels between sites, place samples in individual plastic bags, perform field sieving, and completely dry samples before shipping).

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## APPENDIX I – STATEMENT OF QUALIFICATIONS

### **Kirsten Louise Rasmussen, Ph.D., B.Sc.**

I, Kirsten Rasmussen, Ph.D., B.Sc., do hereby certify that:

I was a geologist employed by Teck Resources Ltd. (3300-550 Burrard Street, Vancouver, BC, V6C 0B3) at the Cirque property for the 2013 field season, and at the time of the writing of this report.

I graduated from the University of British Columbia, Canada, in May 2013 with a research-based Doctorate of Philosophy in Geology.

I graduated from the University of Calgary, Canada, in May 2004 with a Bachelor of Science in Geology.

I have been practicing my profession since graduation in 2004 as a geological scientist in Canada.

The data contained in this report and the interpretations drawn from it are true and accurate to the best of my knowledge.



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Kirsten Louise Rasmussen, Ph.D., B.Sc.

Signed at Kitimat, British Columbia, Canada this 25<sup>th</sup> day of October, 2013.

**Eric James Thiessen, M.Sc., B.Sc., GIT (APEGBC)**

I, Eric Thiessen, do hereby certify that:

I am a geologist employed by Teck Resources Ltd. (3300-550 Burrard Street, Vancouver, BC, V6C 0B3) at the Cirque property for the 2013 field season, and at the time of the writing of this report.

I graduated from the University of Alberta, Canada, in January 2013 with a research-based Masters of Science in Geology.

I graduated from Queen's University, Canada, in May 2010 with a Bachelor of Science in Geology.

I have been practicing my profession since graduation in 2010 as a geologist in Canada.

The data contained in this report and the interpretations drawn from it are true and accurate to the best of my knowledge.



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Eric James Thiessen, M.Sc., B.Sc., GIT (APEGBC)

Signed at Vancouver, British Columbia, Canada this 31<sup>th</sup> day of October, 2013.



**Amber Henry, M.Sc., B.Sc. Honours**

I, Amber Henry, M.Sc., B.Sc. Honours, do hereby certify that:

- I am a Project Geologist currently employed by Teck Resources Ltd., 3300-550 Burrard Street, Vancouver, B.C., V6C 0B3 (business phone 604-699-4448)
- I am a graduate of the University of British Columbia, Canada, with a research based Masters of Science, completed in 2008.
- I am a graduate of the University of Alberta, Canada, with a Bachelor of Science with Honours in Geology, completed in 2002.
- I have been practicing my profession since graduation in 2002 as a geologist in Canada, the U.S., and Mexico.
- I was the project geologist at the Cirque property in 2013; I am responsible for the preparation of this report; and the data contained in this report, and interpretations drawn from it, are true and accurate to the best of my knowledge.



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Amber Henry, M.Sc., B.Sc. (Hon)

Signed at Vancouver, British Columbia, Canada this 31 day of October, 2013

## APPENDIX II – STATEMENT OF EXPENSES

Exploration Work type	Comment	Days	Rate	Subtotal*	Totals
<b>Personnel/ Position</b>	<b>Field Days (list actual days)</b>	<b>Days</b>	<b>Rate</b>	<b>Subtotal*</b>	
Project Geologist	July 27-Aug 3	8	\$500.00	\$4,000.00	
Geologist 1	Aug 5-7	3	\$450.00	\$1,350.00	
Geologist 2	July 27-Aug 3	8	\$450.00	\$3,600.00	
Geologist 3	July 27-Aug 3	8	\$450.00	\$3,600.00	
Geologist 4	Aug 5-7	3	\$450.00	\$1,350.00	
Field Assistant 1	July 24-25, 28-31, Aug 1-3	9	\$350.00	\$3,150.00	
Field Assistant 2	July 24-25, 27-31, Aug 1-3	10	\$350.00	\$3,500.00	
Field Assistant 3	July 24-25, Aug 5-7	5	\$350.00	\$1,750.00	
Field Assistant 4	July 24-25, Aug 5-7	5	\$350.00	\$1,750.00	
Medic	July 24 - Aug 7	15	\$420.00	\$6,300.00	
				\$30,350.00	<b>\$30,350.00</b>
<b>Office Studies</b>	<b>List Personnel (note - Office only, do not include field days)</b>				
Literature search			\$0.00	\$0.00	
Database compilation	GIS Support and Geochem compilation	13.0	\$350.00	\$4,550.00	
Other (specify)			\$0.00	\$0.00	
				\$4,550.00	<b>\$4,550.00</b>
<b>Remote Sensing</b>	<b>Area in Hectares / Enter total invoiced amount or list personnel</b>				
Aerial photography			\$0.00	\$0.00	
LANDSAT	6893.70Ha		\$0.00	\$5,055.00	
DEM	6893.70Ha		\$0.00	\$320.00	
Other (specify)			\$0.00	\$0.00	
				\$5,375.00	<b>\$5,375.00</b>
<b>Ground Exploration Surveys</b>	<b>Area in Hectares/List Personnel</b>				
Geological mapping				\$0.00	
Regional				\$0.00	
Reconnaissance				\$0.00	
Prospect				\$0.00	
				\$0.00	<b>\$0.00</b>
<b>Geochemical Surveying</b>	<b>Number of Samples</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Stream sediment			\$0.00	\$0.00	
Soil		237	\$35.00	\$8,295.00	
Rock			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
				\$8,295.00	<b>\$8,295.00</b>
<b>Transportation</b>		<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Helicopter (hours)	15.1 total hours		\$0.00	\$21,504.50	
Fuel (litres/hour)	3100 litres of fuel, cost is only an estimate		\$0.00	\$4,650.00	
Fixed Wing	NT Air, mobilization, pro-rated		\$0.00	\$2,500.00	
Other			\$0.00	\$0.00	
				\$28,654.50	<b>\$28,654.50</b>
<b>Accommodation &amp; Food</b>	<b>Rates per day</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Hotel			\$0.00	\$0.00	
Camp		89	\$150.00	\$13,350.00	
Meals	included in camp rate		\$0.00	\$0.00	
				\$13,350.00	<b>\$13,350.00</b>
<b>Miscellaneous</b>					
Telephone			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
				\$0.00	<b>\$0.00</b>
<b>Equipment Rentals</b>					
Field Gear			\$0.00	\$500.00	
4 x 4 MTC	medical transportation vehicle for 15 days	15.00	\$240.00	\$3,600.00	
				\$4,100.00	<b>\$4,100.00</b>
<b>Freight</b>					
Soil samples			\$0.00	\$200.00	
Other (specify)			\$0.00	\$0.00	
				\$200.00	<b>\$200.00</b>
<b>TOTAL Expenditures</b> (no tax)					<b>\$94,874.50</b>

## **APPENDIX III – SOIL SAMPLE DESCRIPTIONS**

SAMPLE ID	Soil horizon	UTM E	UTM N	Slope (deg)	Drainage	Vegetation	Contamination	Depth from-to (m)		Sieve mesh	Soil moisture	Colour	Parent material	Clay %	Silt %	Sand %	Gravel %	Organic %
2317184	Ah	370710	6376279	(15-25)	Moist	Fir	Possible	0.05	0.15	None	Moist	Black	Organic	0	0	0	0	100
2317376	Ah	372409	6375663	(15-25)	Moist	Fir	None	0.04	0.08	2mm	Moist	Black	Organic	0	2	2	0	96
2317136	Ah	371096	6376611	(15-25)	Moist	Fir	None	0.02	0.03	2mm	Moist	Black	Organic	0	0	0	0	100
2317194	Ah	370952	6376484	(15-25)	Moist	Fir	None	0.03	0.04	2mm	Moist	Black	Organic	0	0	0	10	90
2317189	Ah	370827	6376369	(15-25)	Moist	Fir	None	0.1	0.15	None	Moist	Black	Organic	0	0	0	0	100
2317187	Ah	370789	6376343	(15-25)	Moist	Fir	None	0.05	0.09	None	Moist	Black	Organic	0	6	0	0	94
2317179	Ah	370601	6376183	(25-35)	Moist	Other	Possible	0.03	0.05	2mm	Moist	Black	Organic	0	6	5	0	89
2317134	Ah	371141	6376647	(15-25)	Moist	Fir	None	0.02	0.03	2mm	Moist	Brown	Organic	0	0	0	0	100
2317234	Ah	372745	6376708	(15-25)	Moist	Other	None	0.02	0.05	2mm	Moist	Brown	Organic	0	0	0	0	100
2317191	Ah	370863	6376410	(5-15)	Moist	Fir	Possible	0.05	0.1	2mm	Moist	Black	Organic	0	0	0	0	100
2317196	Ah	370989	6376524	(15-25)	Moist	Fir	None	0.02	0.05	None	Moist	Black	Organic	0	0	0	0	100
2317239	Ah	372608	6376632	(25-35)	Moist	None	None	0.02	0.06	2mm	Moist	Black	Organic	0	0	0	0	100
2317229	Ah	371216	6375403	(25-35)	Moist	None	None	0.02	0.05	2mm	Moist	Black	Organic	0	0	0	0	100
2317246	Ah	371708	6376264	(5-15)	Moist	Other	None	0.05	0.08	6mm	Dry	Brown	Organic	0	25	0	0	75
2317129	Ah	371243	6376760	(25-35)	Moist	Fir	None	0.02	0.03	2mm	Moist	Black	Organic	0	0	0	0	100
2317177	Ah	370549	6376153	(25-35)	Moist	Other	Possible	0.03	0.05	None	Moist	Black	Organic	0	3	2	0	95
2317351	Ah	372047	6375759	(25-35)	Dry	Fir	None	0.04	0.05	2mm	Dry	Black	Organic	0	5	5	0	90
2317131	Ah	371209	6376717	(25-35)	Moist	Fir	None	0.02	0.03	2mm	Moist	Black	Organic	0	0	0	0	100
2317232	Ah	372769	6376759	(15-25)	Moist	Other	None	0.05	0.08	2mm		Brown	Organic	0	0	0	0	100
2317299	Ah	372608	6376255	(25-35)	Dry	Spruce	None	0.03	0.04	2mm	Dry	Brown	Organic	0	5	10	0	85
2317200	LFH	371401	6376878	(>35)	Moist	Fir	None	0.03	0.04	2mm	Moist	Brown	Organic	0	0	0	0	100
2317241	Ah	372561	6376613	(15-25)	Moist	Other	None	0.03	0.07	None	Moist	Black	Organic	0	0	0	0	100
2317141	Ah	371493	6375693	(>35)	Moist	None	None	0.05	0.15	2mm	Moist	Black	Organic	0	5	0	0	95
2317175	Ah	370517	6376124	(25-35)	Moist	Other	None	0.03	0.06	None	Moist	Black	Organic	0	5	5	3	87
2317139	Ah	371456	6375662	(>35)	Moist	Other	None	0.08	0.18	2mm	Moist	Black	Organic	0	0	0	0	100
2317124	Ah	371372	6376837	(>35)	Moist	Fir	None	0.02	0.04	2mm	Moist	Black	Organic	0	0	0	0	100
2317172	Ah	370489	6376096	(15-25)	Moist	Fir	None	0.05	0.1	None	Moist	Black	Organic	0	0	0	0	100
2317373	Ah	372527	6375777	(25-35)	Moist	Fir	None	0.01	0.02	2mm	Dry	Black	Organic	0	2	2	0	96
2317332	Ah	372497	6376158	(25-35)	Dry	N/A		0.03	0.04	2mm	Dry	Black	Organic	0	0	10	0	90
2317127	Ah	371290	6376783	(>35)	Moist	Fir	None	0.02	0.03	2mm	Moist	Brown	Organic	0	0	0	0	100
2317343	Ah	372449	6375705	(15-25)	Wet	None	None	0.02	0.05	2mm	Moist	Black	Organic	0	25	25	0	50
2317145	Ah	371530	6375724	(>35)	Moist	Other	None	0.05	0.08	2mm	Moist	Black	Organic	0	5	0	0	95
2317297	Ah	372326	6376592	(15-25)	Dry	Spruce	None	0.05	0.06	2mm	Moist	Black	Organic	0	5	0	0	95
2317330	Ah	372532	6376188	(25-35)	Dry	Spruce	None	0.04	0.05	2mm	Dry	Brown	Organic	0	0	10	0	90
2317217	Ah	370128	6375804	(25-35)	Moist	Fir	None	0.02	0.03	2mm	Moist	Black	Organic	0	5	0	0	95
2317289	Ah	372130	6376622	(25-35)	Dry	Fir	None	0.005	0.01	6mm	Moist	Brown	Organic	0	5	0	5	90
2317325	Ah	372532	6376363	(>35)	Dry	None	None	0.15	0.2	2mm	Dry	Brown	Organic	0	5	0	0	95
2317327	Ah	372566	6376219	(25-35)	Dry	Spruce	None	0.03	0.04	2mm	Dry	Brown	Organic	0	5	10	0	85
2317220	Ah	370050	6375736	(5-15)	Moist	Fir	Forestry	0.02	0.04	2mm	Moist	Black	Organic	0	5	0	0	95
2317358	Ah	372231	6375923	(15-25)	Dry	Fir	None	0.01	0.02	2mm	Dry	Black	Organic	0	2	2	0	96
2317304	Ah	371943	6376453	(15-25)	Moist	Other	None	0	0	None	Moist	Brown	Organic	0	10	0	0	90
2317287	Ah	372164	6376659	(5-15)	Dry	Other	None	0.02	0.03	6mm	Moist	Brown	Organic	0	2	0	0	98
2317115	Ah	371551	6377004	(25-35)	Dry	Other	None	0.02	0.05	2mm	Moist	Black	Organic	0	2	5	0	93

SAMPLE ID	Soil horizon	UTM E	UTM N	Slope (deg)	Drainage	Vegetation	Contamination	Depth from-to (m)		Sieve mesh	Soil moisture	Colour	Parent material	Clay %	Silt %	Sand %	Gravel %	Organic %
2317285	Ah	372205	6376680	(5-15)	Dry	Other	None	0.05	0.06	6mm	Moist	Brown	Organic	0	2	0	98	0
2317117	Ah	371517	6376971	(>35)	Moist	Fir	None	0.2	0.5	2mm	Moist	Black	Organic	0	0	0	0	98
2317113	Ah	371595	6377036	(25-35)	Dry	Other	None	0.01	0.02	2mm	Moist	Black	Organic	0	2	2	0	96
2317305	Ah	371943	6376453	(15-25)	Moist	Other	None	0.1	0.2	None	Moist	Brown	Organic	0	10	40	30	0
2317119	Ah	371490	6376929	(25-35)	Moist	Fir	None	0.01	0.02	2mm	Moist	Black	Organic	0	2	2	0	96
2317181	BC	370635	6376215	(25-35)	Moist	None	Possible	0.05	0.1	6mm	Moist	Grey-Blue	Colluvium	0	20	60	20	0
2317185	BC	370710	6376279	(15-25)	Moist	Fir	Possible	0.05	0.1	None	Moist	Grey-Blue	Colluvium	0	15	30	55	0
2317182	BC	370669	6376242	(25-35)	Moist	None	Possible	0.1	0.3	6mm	Moist	Brown	Colluvium	0	10	40	50	0
2317242	C	372561	6376613	(15-25)	Moist	Other	None	0.07	0.2	6mm	Moist	Grey-Blue	Colluvium	0	30	15	55	0
2317231	C	371178	6375372	(25-35)	Moist	None	None	0.02	0.2	6mm	Moist	Grey-Blue	Colluvium	0	10	20	70	0
2317240	C	372608	6376632	(25-35)	Moist	None	None	0.1	0.25	6mm	Moist	Grey-Blue	Colluvium	0	20	0	80	0
2317251	Rubble	371722	6375890	(25-35)	Moist	None	None	0.2	0.3	6mm	Moist	Black	Colluvium	25	25	0	50	0
2317237	C	372656	6376658	(25-35)	Moist	None	None	0.15	0.25	6mm	Saturated	Brown	Colluvium	0	10	20	30	0
2317236	C	372699	6376679	(25-35)	Moist	None	None	0.15	0.25	6mm	Moist	Grey-Blue	Colluvium	0	10	20	70	0
2317140	C	371456	6375662	(>35)	Moist	Other	None	0.18	0.3	6mm	Moist	Brown	Colluvium	25	25	0	50	0
2317180	BC	370601	6376183	(25-35)	Moist	Other	Possible	0.05	0.2	6mm	Moist	Grey-Blue	Colluvium	0	25	35	40	0
2317326	C	372532	6376363	(>35)	Dry	None	None	0.2	0.3	2mm	Dry	Grey-Blue	Colluvium	0	10	30	60	0
2317230	C	371216	6375403	(25-35)	Moist	None	None	0.05	0.05	6mm	Moist	Grey-Blue	Colluvium	15	20	20	45	0
2317186	Bm	370752	6376311	(5-15)	Moist	Fir	None	0.15	0.2	6mm	Moist	Brown	Colluvium	0	30	60	10	0
2317353	C	372086	6375784	(25-35)	Dry	Fir	None	0.01	0.05	4mm	Dry	Brown	Colluvium	0	30	30	40	0
2317222	C	371412	6375631	(15-25)	Moist	Other	None	0.2	0.25	2mm	Moist	Black	Colluvium	0	10	20	70	0
2317364	C	372670	6376090	(25-35)	Moist	Other	None	0.02	0.07	2mm	Dry	Brown	Colluvium	0	30	40	30	0
2317178	BC	370549	6376153	(25-35)	Moist	Other	Possible	0.25	0.05	None	Moist	Grey-Blue	Colluvium	0	75	15	10	0
2317257	Bm	371954	6376081	(5-15)	Moist	Other	None	0.2	0.3	2mm	Moist	Brown	Colluvium	0	10	60	30	0
2317211	C	370338	6375953	(>35)	Moist	Other	None	0.2	0.3	2mm	Moist	Grey-Blue	Colluvium	0	0	75	25	0
2317360	C	372268	6375956	(>35)	Dry	Fir	None	0.01	0.05	2mm	Dry	Brown	Colluvium	0	15	60	25	0
2317260	BC	372031	6376147	(25-35)	Moist	Other	None	0.2	0.3	2mm	Moist	Grey-Blue	Colluvium	0	40	20	40	0
2317174	BC	370489	6376096	(15-25)	Moist	Fir	None	0.1	0.5	6mm	Moist	Brown	Colluvium	20	20	10	50	0
2317193	BC	370911	6376442	(25-35)	Moist	Fir	None	0.07	0.15	6mm	Moist	Grey-Blue	Colluvium	0	20	20	60	0
2317247	BC	371708	6376264	(15-25)	Moist	Other	None	0.2	0.3	6mm	Dry	Grey-Blue	Colluvium	10	60	10	10	10
2317147	C	371581	6375761	(>35)	Moist	None	None	0.2	0.3	6mm	Moist	Grey-Blue	Colluvium	20	0	0	80	0
2317176	BC	370517	6376124	(25-35)	Moist	Other	None	0.25	0.35	6mm	Moist	Grey-Blue	Colluvium	30	15	15	40	0
2317224	C	371348	6375560	(>35)	Moist	None	None	0.2	0.25	6mm	Moist	Grey-Blue	Colluvium	0	10	30	60	0
2317261	C	372065	6376179	(15-25)	Wet	None	None	0.2	0.3	6mm	Wet	Grey-Blue	Colluvium	0	30	30	40	0
2317354	C	372122	6375829	(25-35)	Dry	None	None	0.01	0.05	2mm	Dry	Brown	Colluvium	0	20	30	50	0
2317312	C	372072	6375985	(15-25)	Moist	Spruce	None	0.2	0.3	2mm	Dry	Grey-Blue	Colluvium	10	0	20	70	0
2317223	C	371403	6375572	Flat (0-5)	Moist	None	None	0.2	0.25	6mm	Moist	Black	Colluvium	0	5	20	70	5
2317148	C	371614	6375796	(>35)	Moist	None	None	0.2	0.4	6mm	Moist	N/A	Colluvium	20	20	0	60	0
2317226	C	371321	6375532	(>35)	Moist	None	None	0.2	0.25	6mm	Moist	Grey-Blue	Colluvium	0	20	20	60	0
2317253	Rubble	371798	6375957	(>35)	Moist	None	None	0.2	0.3	6mm	Moist	Grey-Blue	Colluvium	0	25	15	60	0
2317137	BC	371096	6376611	(15-25)	Moist	Fir	None	0.03	0.2	6mm	Moist	Grey-Blue	Colluvium	10	20	30	40	0
2317227	C	371274	6375490	(>35)	Moist	None	None	0.2	0.25	6mm	Moist	Grey-Blue	Colluvium	0	20	20	60	0
2317341	C	372357	6375831	(15-25)	Saturated	Fir	None	0.01	0.1	2mm	Saturated	Brown	Colluvium	0	15	30	55	0



SAMPLE ID	Soil horizon	UTM E	UTM N	Slope (deg)	Drainage	Vegetation	Contamination	Depth from-to (m)		Sieve mesh	Soil moisture	Colour	Parent material	Clay %	Silt %	Sand %	Gravel %	Organic %
2317359	Bm	372231	6375923	(15-25)	Dry	Fir	None	0.05	0.1	2mm	Dry	Brown	Colluvium	0	40	40	20	0
2317142	C	371493	6375693	(>35)	Moist	None	None	0.15	0.3	6mm	Moist	Brown	Colluvium	25	25	0	50	0
2317362	C	372350	6376011	(25-35)	Dry	Fir	None	0.01	0.05	6mm	Dry	Brown	Colluvium	0	20	40	40	0
2317190	BC	370863	6376410	(5-15)	Moist	Fir	Possible	0.1	0.15	6mm	Moist	Brown	Colluvium	15	0	5	80	0
2317197	BC	370989	6376524	(15-25)	Moist	Fir	None	0.05	0.2	6mm	Moist	Grey-Blue	Colluvium	0	20	20	60	0
2317216	BC	370169	6375836	(15-25)	Moist	Other	None	0.2	0.3	2mm	Moist	Other	Colluvium	10	0	60	30	0
2317150	Rubble	371690	6375852	(5-15)	Moist	None	None	0.2	0.4	6mm	Moist	Red	Colluvium	0	15	25	60	0
2317233	BC	372769	6376759	(15-25)	Moist	Other	None	0.15	0.25	6mm		Brown	Colluvium	0	10	20	70	0
2317228	C	371248	6375447	(>35)	Moist	None	None	0.2	0.25	6mm	Moist	Grey-Blue	Colluvium	0	10	10	80	0
2317149	C	371652	6375824	(25-35)	Moist	None	None	0.3	0.4	6mm	Moist	Grey-Blue	Colluvium	20	5	0	75	0
2317244	BC	372489	6376538	(15-25)	Moist	Other	None	0.15	0.2	6mm	Moist	Grey-Blue	Colluvium	0	55	25	20	0
2317366	C	372638	6376060	(25-35)	Moist	Fir	None	0.02	0.07	2mm	Moist	Brown	Colluvium	0	30	40	30	0
2317352	BC	372047	6375759	(25-35)	Dry	Fir	None	0.05	0.1	4mm	Dry	Brown	Colluvium	0	20	30	45	5
2317368	BC	372561	6375984	(25-35)	Moist	Fir	None	0.05	0.1	2mm	Moist	Brown	Colluvium	0	20	20	40	20
2317135	BC	371141	6376647	(15-25)	Moist	Fir	None	0.05	0.15	6mm	Moist	Grey-Blue	Colluvium	0	20	20	60	0
2317298	BC	372326	6376592	(15-25)	Dry	Spruce	None	0.06	0.2	2mm	Moist	Grey-Blue	Colluvium	0	10	10	80	0
2317367	C	372599	6376028	(25-35)	Dry	Fir	None	0.02	0.1	2mm	Moist	Brown	Colluvium	0	30	30	30	10
2317169	Bm	370379	6375988	(25-35)	Moist	Fir	None	0.02	0.3	6mm	Dry	Brown	Colluvium	0	60	30	10	0
2317252	Rubble	371761	6375923	(>35)	Moist	None	None	0.05	0.1	6mm	Moist	Grey-Blue	Colluvium	15	0	25	75	0
2317322	C	372409	6376254	(>35)	Moist	None	None	0.2	0.3	2mm	Moist	Grey-Blue	Colluvium	0	0	75	25	0
2317270	C	372363	6376430	(>35)	Moist	Other	None	0.2	0.3	6mm	Moist	Grey-Blue	Colluvium	0	0	0	30	0
2317259	C	371992	6376114	(25-35)	Moist	None	None	0.2	0.3	6mm	Moist	Brown	Colluvium	0	5	10	85	0
2317235	BC	372744	6376706	(15-25)	Moist	Other	None	0.15	0.25	6mm	Moist	Grey-Blue	Colluvium	0	10	20	70	0
2317345	BC	372391	6375631	(15-25)	Wet	Fir	None	0.1	0.25	6mm	Moist	Brown	Colluvium	0	20	55	25	0
2317254	C	371841	6375987	(25-35)	Moist	None	None	0.2	0.3	6mm	Moist	Grey-Blue	Colluvium	0	10	20	70	0
2317318	BC	372270	6376134	(15-25)	Moist	Spruce	None	0.15	0.2	2mm	Moist	Brown	Colluvium	0	20	40	30	10
2317286	BC	372205	6376680	(15-25)	Dry	Other	None	0.07	0.2	6mm	Moist	Black	Colluvium	0	50	20	20	10
2317195	BC	370952	6376484	(15-25)	Moist	Fir	None	0.04	0.15	6mm	Moist	Grey-Blue	Colluvium	5	15	10	60	10
2317245	C	372455	6376500	(25-35)	Moist	Other	None	0.15	0.2	6mm	Moist	Grey-Blue	Colluvium	0	20	10	70	0
2317363	C	372395	6376050	(25-35)	Dry	Fir	None	0	0	6mm	Dry	Brown	Colluvium	0	20	40	40	0
2317309	C	371964	6375878	(25-35)	Dry	Other	None	0.2	0.3	2mm	Dry	Grey-Blue	Colluvium	0	5	20	70	5
2317188	BC	370789	6376343	(15-25)	Moist	Fir	None	0.09	0.25	6mm	Moist	Grey-Blue	Colluvium	0	25	35	40	0
2317377	BC	372409	6375663	(15-25)	Moist	Fir	None	0.1	0.2	6mm	Moist	Brown	Colluvium	0	20	50	30	96
2317324	BC	372478	6376314	(>35)	Dry	Other	None	0.2	0.3	2mm	Dry	Brown	Colluvium	0	10	30	60	0
2317316	Bm	372230	6376104	(25-35)	Moist	Fir	None	0.15	0.25	2mm	Moist	Brown	Colluvium	0	20	30	40	10
2317336	BC	372217	6375709	(25-35)	Dry	Fir	None	0.06	0.35	6mm	Moist	Grey-Blue	Colluvium	0	5	60	35	0
2317338	BC	372243	6375738	(25-35)	Moist	Fir	None	0.05	0.25	6mm	Moist	Grey-Blue	Colluvium	0	10	75	15	0
2317133	BC	371184	6376677	(25-35)	Moist	Fir	None	0.2	0.3	6mm	Moist	Brown	Colluvium	0	20	30	40	0
2317256	C	371917	6376049	(15-25)	Moist	None	None	0.2	0.3	6mm	Moist	Grey-Blue	Colluvium	0	10	30	60	0
2317293	Rubble	372178	6376457	(25-35)	Dry	None	None	0.1	0.2	6mm	Moist	Grey-Blue	Rubble	0	2	3	95	0
2317266	BC	372249	6376334	(15-25)	Moist	Other	None	0.05	0.15	6mm	Moist	Brown	Colluvium	0	25	25	40	10
2317356	C	372148	6375873	(25-35)	Dry	Fir	None	0.01	0.05	2mm	Dry	Brown	Colluvium	0	20	30	50	0
2317334	BC	372460	6376130	(25-35)	Dry	Spruce	None	0.05	0.15	6mm	Dry	Brown	Colluvium	0	30	10	30	30

SAMPLE ID	Soil horizon	UTM E	UTM N	Slope (deg)	Drainage	Vegetation	Contamination	Depth from-to (m)		Sieve mesh	Soil moisture	Colour	Parent material	Clay %	Silt %	Sand %	Gravel %	Organic %
2317221	BC	370050	6375736	(5-15)	Moist	Fir	Forestry	0.15	0.3	6mm	Moist	Tan	Colluvium	30	30	0	40	0
2317311	Bm	372034	6375949	(25-35)	Moist	Other	None	0.2	0.3	2mm	Moist	Brown	Colluvium	0	15	35	40	0
2317283	Rubble	372143	6376417	(25-35)	Dry	Other	None	0.05	0.1	6mm	Moist	Grey-Blue	Rubble	0	5	5	90	0
2317315	Bm	372194	6376068	(15-25)	Moist	Spruce	None	0.15	0.25	2mm	Moist	Brown	Colluvium	0	10	50	30	10
2317335	C	372429	6376093	(25-35)	Dry	None	None	0.01	0.1	2mm	Dry	Grey-Blue	Colluvium	0	25	30	40	5
2317275	BC	371871	6376202	(15-25)	Moist	Other	None	0.1	0.2	2mm	Moist	Black	Colluvium	0	30	40	30	0
2317171	Bm	370445	6376050	(25-35)	Moist	Fir	None	0.05	0.15	6mm	Moist	Brown	Colluvium	0	40	30	30	0
2317344	BC	372447	6375702	(15-25)	Wet	Other	None	0.05	0.2	6mm	Moist	Black	Colluvium	20	0	55	25	0
2317342	C	372401	6375866	(25-35)	Moist	Fir	None	0.01	0.1	2mm	Dry	Grey-Blue	Colluvium	5	30	0	65	0
2317138	BC	371056	6376577	(15-25)	Moist	Fir	None	0.12	0.25	6mm	Moist	Grey-Blue	Colluvium	10	20	20	50	0
2317271	C	372399	6376460	(25-35)	Moist	Other	None	0.2	0.3	6mm	Moist	Grey-Blue	Colluvium	0	30	30	40	0
2317262	BC	372104	6376209	(15-25)	Moist	Other	None	0.15	0.2	2mm	Moist	Brown	Colluvium	0	20	60	20	0
2317320	BC	372338	6376196	(25-35)	Moist	Spruce	None	0.15	0.2	2mm	Dry	Grey-Blue	Colluvium	0	20	20	60	0
2317146	C	371530	6375724	(>35)	Moist	Other	None	0.08	0.25	6mm	Moist	Grey-Blue	Colluvium	25	25	0	50	0
2317170	Bm	370413	6376022	(25-35)	Dry	Fir	None	0.07	0.2	6mm	Dry	Brown	Colluvium	0	60	20	20	0
2317282	C	372097	6376392	(25-35)	Moist	Other	None	0.15	0.25	6mm	Moist	Grey-Blue	Colluvium	0	40	20	40	0
2317255	C	371878	6376018	(25-35)	Moist	None	None	0.2	0.3	6mm	Wet	Grey-Blue	Colluvium	0	35	35	30	0
2317319	Bm	372304	6376165	(15-25)	Moist	Spruce	None	0.15	0.2	2mm	Moist	Brown	Colluvium	10	10	30	40	0
2317243	C	372534	6376568	(25-35)	Moist	Other	None	0.1	0.15	6mm	Moist	Grey-Blue	Colluvium	0	35	20	40	5
2317215	BC	370209	6375866	(5-15)	Moist	Other	None	0.2	0.3	2mm	Moist	Brown	Colluvium	0	25	40	35	0
2317310	C	371998	6375908	(15-25)	Moist	Other	None	0.2	0.3	2mm	Moist	Grey-Blue	Colluvium	0	35	40	20	5
2317280	Bm	372019	6376328	(15-25)	Dry	Other	None	0.15	0.25	2mm	Dry	Brown	Colluvium	0	35	35	30	0
2317265	BC	372213	6376301	(15-25)	Moist	Other	None	0.5	0.2	6mm	Moist	Brown	Colluvium	0	25	25	40	10
2317198	BC	371027	6376549	(25-35)	Moist	Fir	None	0.05	0.2	6mm	Moist	Grey-Blue	Colluvium	0	20	40	40	0
2317272	BC	371750	6376101	(5-15)	Dry	Other	None	0.05	0.15	6mm	Dry	Grey-Blue	Colluvium	0	40	20	40	0
2317340	BC	372320	6375797	(25-35)	Dry	Fir	None	0.05	0.2	6mm	Dry	Grey-Blue	Colluvium	0	20	45	30	5
2317249	BC	371749	6376286	(25-35)	Dry	Other	None	0.1	0.25	6mm	Moist	Brown	Colluvium	0	40	40	20	0
2317357	Bm	372196	6375891	(25-35)	Dry	Fir	None	0.05	0.1	2mm	Dry	Brown	Colluvium	0	30	50	20	0
2317371	BC	372446	6375901	(25-35)	Moist	Fir	None	0.05	0.15	2mm	Dry	Brown	Colluvium	0	30	30	40	0
2317350	BC	372597	6375831	(25-35)	Dry	Fir	None	0.05	0.2	2mm	Dry	Tan	Colluvium	0	25	25	50	0
2317279	Bm	371981	6376294	(5-15)	Dry	Other	None	0.3	0.4	2mm	Dry	Brown	Colluvium	0	50	30	20	0
2317281	BC	372060	6376355	(15-25)	Dry	Other	None	0.3	0.4	2mm	Moist	Brown	Colluvium	0	40	30	30	0
2317321	BC	372375	6376225	(15-25)	Moist	None	None	0.15	0.2	2mm	Moist	Brown	Colluvium	0	5	20	60	5
2317274	BC	371822	6376171	(15-25)	Dry	N/A	None	0.25	0.35	2mm	Moist	Brown	Colluvium	0	40	40	20	0
2317263	BC	372138	6376242	(25-35)	Moist	Other	None	0.2	0.3	6mm	Moist	Brown	Colluvium	0	40	40	20	0
2317296	Rubble	372291	6376556	(>35)	Dry	Other	None	0.1	0.2	2mm	Moist	Grey-Blue	Rubble	0	5	5	90	0
2317288	BC	372164	6376659	(5-15)	Dry	Other	None	0.03	0.2	2mm	Moist	Black	Colluvium	0	25	30	40	5
2317295	Rubble	372252	6376522	(>35)	Dry	None	None	0.5	0.1	2mm	Dry	Grey-Blue	Rubble	0	0	40	60	0
2317375	BC	372484	6375741	(25-35)	Moist	Fir	None	0.02	0.1	2mm	Moist	Brown	Colluvium	0	20	50	30	0
2317268	BC	372281	6376361	(15-25)	Dry	Other	None	0.05	0.15	2mm	Dry	Black	Colluvium	0	30	30	30	10
2317294	BC	372205	6376495	(25-35)	Moist	Spruce	None	0.15	0.3	6mm	Moist	Grey-Blue	Colluvium	0	40	0	60	0
2317306	Bm	371982	6376488	(>35)	Moist	Other	None	0.05	0.12	6mm	Moist	Brown	Colluvium	0	20	30	40	10
2317292	BC	372056	6376556	(25-35)	Dry	Other	None	0.05	0.1	2mm	Moist	Brown	Colluvium	0	30	40	30	0

SAMPLE ID	Soil horizon	UTM E	UTM N	Slope (deg)	Drainage	Vegetation	Contamination	Depth from-to (m)		Sieve mesh	Soil moisture	Colour	Parent material	Clay %	Silt %	Sand %	Gravel %	Organic %
2317277	BC	371899	6376231	(15-25)	Dry	Other	None	0.15	0.25	2mm	Dry	Black	Colluvium	0	40	45	15	0
2317273	BC	371788	6376134	(25-35)	Moist	Other	None	0.15	0.25	2mm	Moist	Brown	Colluvium	0	40	20	40	0
2317313	C	372116	6376005	(15-25)	Moist	Other	None	0.2	0.3	6mm	Moist	Grey-Blue	Colluvium	25	0	20	55	0
2317349	BC	372634	6375863	(>35)	Dry	Fir	None	0.05	0.2	2mm	Dry	Tan	Colluvium	0	30	30	40	0
2317264	BC	372179	6376269	(15-25)	Moist	Other	None	0.5	0.1	2mm	Moist	Brown	Colluvium	0	40	40	15	5
2317333	BC	372497	6376158	(25-35)	Dry	N/A	None	0.04	0.25	6mm	Dry	Brown	Colluvium	0	5	65	25	5
2317314	Bm	372151	6376036	(15-25)	Moist	Spruce	None	0.15	0.25	2mm	Moist	Brown	Colluvium	0	25	45	10	20
2317114	C	371595	6377036	(25-35)	Dry	Other	None	0.1	0.2	6mm	Moist	Black	Colluvium	0	15	35	50	0
2317250	BC	371783	6376317	(15-25)	Dry	Other	None	0.15	0.2	6mm	Moist	Brown	Colluvium	5	30	30	35	0
2317302	Bm	371860	6376383	(15-25)	Moist	Other	None	0.2	0.25	6mm	Moist	Brown	Colluvium	5	40	30	25	0
2317303	Bm	371902	6376419	(5-15)	Dry	Other	None	0.2	0.3	6mm	Moist	Brown	Colluvium	0	40	40	20	0
2317278	C	371942	6376266	(15-25)	Moist	Other	None	0.2	0.3	6mm	Moist	Grey-Blue	Colluvium	0	35	35	30	0
2317323	BC	372446	6376283	(>35)	Moist	Other	None	0.2	0.25	2mm	Dry	Brown	Colluvium	0	10	30	60	0
2317339	BC	372282	6375766	(25-35)	Dry	Fir	None	0.06	0.2	6mm	Dry	Grey-Blue	Colluvium	0	10	60	30	0
2317290	BC	372130	6376622	(25-35)	Dry	Fir	None	0.01	0.1	6mm	Moist	Brown	Colluvium	0	40	20	40	0
2317361	Bm	372312	6375986	(25-35)	Dry	Fir	None	0.01	0.05	2mm	Dry	Brown	Colluvium	0	25	50	25	0
2317331	BC	372532	6376188	(25-35)	Dry	Spruce	None	0.05	0.25	6mm	Dry	Brown	Colluvium	0	0	75	20	5
2317301	Bm	371819	6376351	(15-25)	Moist	Other	None	0.15	0.2	6mm	Moist	Brown	Colluvium	10	35	35	20	0
2317132	BC	371209	6376717	(25-35)	Moist	Fir	None	0.05	0.15	6mm	Moist	Brown	Colluvium	0	20	20	60	0
2317121	BC	371490	6376929	(25-35)	Moist	Fir	None	0.05	0.1	6mm	Moist	Brown	Colluvium	0	10	35	55	0
2317213	BC	370246	6375899	(15-25)	Moist	Other	None	0.2	0.3	2mm	Moist	Brown	Colluvium	0	0	75	25	0
2317370	BC	372480	6375933	(25-35)	Moist	Fir	None	0.05	0.15	2mm	Moist	Brown	Colluvium	0	20	40	30	10
2317369	BC	372525	6375966	(25-35)	Moist	Fir	None	0.05	0.15	2mm	Moist	Brown	Colluvium	0	20	30	30	20
2317116	BC	371551	6377004	(25-35)	Dry	Other	None	0.1	0.2	6mm	Moist	Brown	Colluvium	0	10	30	60	0
2317269	BC	372320	6376393	(15-25)	Dry	Other	None	0.05	0.15	2mm	Dry	Black	Colluvium	0	30	30	30	10
2317329	BC	372566	6376219	(25-35)	Dry	Spruce	None	0.04	0.35	6mm	Dry	Brown	Colluvium	0	5	75	20	0
2317123	BC	371401	6376878	(>35)	Moist	Fir	None	0.04	0.1	6mm	Moist	Brown	Colluvium	0	10	20	70	0
2317308	BC	372020	6376520	(25-35)	Dry	Other	None	0.15	0.2	6mm	Moist	Tan	Colluvium	15	15	10	60	0
2317347	BC	372716	6375924	(25-35)	Dry	Fir	None	0.05	0.2	2mm	Dry	Tan	Colluvium	0	30	30	40	0
2317300	BC	372609	6376250	(25-35)	Dry	Spruce	None	0.04	0.3	6mm	Dry	Brown	Colluvium	0	5	65	30	0
2317212	C	370295	6375929	(5-15)	Moist	Other	None	0.15	0.3	2mm	Moist	Brown	Colluvium	0	0	75	25	0
2317372	BC	372549	6375805	(15-25)	Dry	Spruce	None	0.05	0.15	2mm	Dry	Brown	Colluvium	0	10	60	30	0
2317346	BC	372750	6375953	(15-25)	Dry	Fir	None	0.05	0.15	2mm	Dry	Tan	Colluvium	0	35	25	40	0
2317130	BC	371243	6376760	(25-35)	Moist	Fir	None	0.05	0.15	6mm	Moist	Grey-Blue	Colluvium	0	10	20	70	100
2317348	BC	372677	6375897	(25-35)	Dry	Fir	None	0.05	0.2	2mm	Dry	Tan	Colluvium	0	30	30	40	0
2317128	BC	371290	6376783	(>35)	Moist	Fir	None	0.05	0.15	6mm	Moist	Grey-Blue	Colluvium	0	10	20	70	0
2317118	BC	371517	6376971	(>35)	Moist	Fir	None	0.05	0.22	2mm	Moist	Brown	Colluvium	30	30	0	40	0
2317291	BC	372096	6376588	(25-35)	Dry	Other	None	0.05	0.1	6mm	Moist	Brown	Colluvium	0	40	15	45	0
2317122	BC	371449	6376893	(>35)	Moist	Fir	None	0.05	0.1	6mm	Moist	Brown	Colluvium	0	10	30	60	0
2317219	BC	370094	6375777	(15-25)	Moist	Fir	None	0.4	0.6	6mm	Moist	Tan	Colluvium	40	30	0	30	0
2317218	BC	370128	6375804	(25-35)	Moist	Fir	None	0.05	0.15	6mm	Moist	Brown	Colluvium	0	40	30	30	0
2317374	BC	372527	6375777	(25-35)	Moist	Fir	None	0.02	0.1	6mm	Dry	Brown	Colluvium	0	20	50	30	0
2317126	BC	371325	6376810	(>35)	Moist	Fir	None	0.02	0.09	6mm	Moist	Grey-Blue	Colluvium	5	15	20	50	0
2317125	BC	371369	6376837	(>35)	Moist	Fir	None	0.05	0.15	6mm	Moist	Brown	Colluvium	0	0	30	70	0

**APPENDIX IV – SOIL GEOCHEMICAL ANALYTICAL CERTIFICATES**



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Submitted By: Michael Buchanan and Rupa Mukherjee
Receiving Lab: Canada-Vancouver
Received: August 20, 2013
Report Date: September 09, 2013
Page: 1 of 6

CERTIFICATE OF ANALYSIS

VAN13003265.1

CLIENT JOB INFORMATION

Project: 204700
Shipment ID: CRQ\_2013\_002
P.O. Number
Number of Samples: 148

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
STOR-RJT-SOIL Store Soil Reject - RJSV Charges Apply

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Teck Resources Limited
Suite 3300, 550 Burrard St.
Vancouver BC V6C 0B3
CANADA

CC:

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Table with 6 columns: Procedure Code, Number of Samples, Code Description, Test Wgt (g), Report Status, Lab. Rows include procedures like 'Dry at 60C', 'SS80', 'RJSV', '1F04', and '2A05'.

ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted. \*\*\* asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.





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 9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA  
 PHONE (604) 253-3158

**Client:** Teck Resources Limited  
 Suite 3300, 550 Burrard St.  
 Vancouver BC V6C 0B3 CANADA

**Project:** 204700  
**Report Date:** September 09, 2013

**Page:** 5 of 6 **Part:** 1 of 3

**CERTIFICATE OF ANALYSIS**

**VAN13003265.1**

	Method Analyte Unit MDL	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F		
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
2317113	Soil	1.36	7.81	7.68	82.0	97	8.6	1.9	428	0.35	1.1	0.2	<0.2	0.2	35.9	0.71	0.31	0.13	5	2.73	0.126	
2317114	Soil	2.04	16.48	12.17	59.5	256	24.6	7.0	796	1.56	1.9	0.9	0.2	0.5	22.4	0.60	0.77	0.15	16	1.35	0.170	
2317115	Soil	1.77	13.43	7.55	71.3	194	13.2	3.3	493	0.49	1.4	0.3	<0.2	0.3	29.9	1.10	0.38	0.18	5	2.37	0.150	
2317116	Soil	6.17	31.50	12.60	141.3	151	32.2	5.9	174	1.86	4.8	1.0	0.8	1.0	8.3	0.42	1.03	0.12	29	0.34	0.061	
2317117	Soil	2.64	10.34	11.39	171.1	147	11.4	3.8	590	0.72	1.0	0.4	<0.2	0.4	17.7	2.20	0.43	0.10	11	1.17	0.188	
2317118	Soil	3.06	11.16	9.51	96.3	88	19.7	4.7	204	1.37	2.4	0.5	2.3	<0.1	6.3	0.33	0.66	0.09	19	0.26	0.145	
2317119	Soil	2.73	13.32	9.08	121.6	81	16.1	4.6	523	0.59	1.4	0.3	0.9	0.4	20.4	1.64	0.59	0.07	7	2.08	0.130	
2317120 BAL-1	Rock Pulp	1.09	16.68	22.42	72.3	142	33.5	6.0	227	1.75	4.4	1.2	0.3	1.4	23.9	1.67	0.28	0.07	44	0.66	0.057	
2317121	Soil	5.01	15.01	14.69	141.3	171	31.0	7.5	333	1.43	3.6	0.7	0.9	1.0	9.9	1.63	1.06	0.08	24	0.59	0.094	
2317122	Soil	5.02	10.32	6.50	69.9	84	16.5	2.9	167	0.91	2.2	0.4	<0.2	<0.1	3.2	0.23	0.48	0.03	23	0.02	0.059	

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Project: 204700

Report Date: September 09, 2013

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# CERTIFICATE OF ANALYSIS

VAN13003265.1

Method	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	
Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf	
Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	
MDL	0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02	
2317113	Soil	2.6	5.9	0.20	158.6	0.002	<20	0.10	0.001	0.07	<0.1	0.5	0.07	0.20	173	0.2	<0.02	0.3	0.32	<0.1	0.03
2317114	Soil	17.0	8.5	0.22	266.9	0.003	<20	0.51	<0.001	0.07	<0.1	2.1	0.12	0.13	62	0.5	<0.02	1.2	1.25	<0.1	0.06
2317115	Soil	3.5	4.9	0.18	794.3	0.003	<20	0.15	0.002	0.07	<0.1	0.8	0.05	0.21	222	0.4	<0.02	0.5	0.24	<0.1	0.05
2317116	Soil	16.3	10.2	0.15	899.7	0.005	<20	0.56	<0.001	0.06	<0.1	2.5	0.13	0.03	39	0.7	0.04	1.6	0.66	<0.1	0.03
2317117	Soil	5.1	7.1	0.18	222.9	0.004	<20	0.25	<0.001	0.10	<0.1	1.0	0.10	0.19	180	0.6	<0.02	0.8	0.58	<0.1	0.05
2317118	Soil	9.3	8.6	0.08	156.6	0.002	<20	0.43	<0.001	0.06	<0.1	0.4	0.11	0.07	29	0.4	<0.02	1.4	0.89	<0.1	<0.02
2317119	Soil	4.8	6.1	0.16	484.3	0.003	<20	0.19	0.002	0.09	<0.1	1.0	0.10	0.17	117	0.4	<0.02	0.5	0.32	<0.1	0.07
2317120 BAL-1	Rock Pulp	16.7	27.8	0.14	57.3	0.002	<20	1.19	0.007	0.07	<0.1	4.1	0.31	0.06	102	1.2	<0.02	3.4	0.54	<0.1	0.08
2317121	Soil	14.8	8.5	0.10	449.4	0.003	<20	0.47	<0.001	0.09	<0.1	3.1	0.21	0.05	46	0.8	<0.02	1.3	0.48	<0.1	0.09
2317122	Soil	14.4	8.6	0.03	117.2	0.002	<20	0.36	<0.001	0.08	<0.1	0.4	0.14	0.02	23	0.4	0.03	1.6	1.21	<0.1	<0.02

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# CERTIFICATE OF ANALYSIS

## VAN13003265.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	LOI	
		Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	LOI
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb	%
MDL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	0.1	
2317113	Soil	0.07	1.7	<0.1	<0.05	1.3	3.78	4.5	<0.02	<1	<0.1	0.8	<10	2	80.3
2317114	Soil	0.12	5.9	0.2	<0.05	1.5	23.27	26.1	<0.02	<1	0.9	3.7	<10	<2	27.7
2317115	Soil	0.09	1.7	<0.1	<0.05	1.9	5.37	6.7	<0.02	<1	0.2	0.8	<10	<2	77.8
2317116	Soil	0.28	4.6	0.2	<0.05	1.2	13.20	27.0	0.02	<1	0.6	4.6	<10	3	9.3
2317117	Soil	0.16	5.2	0.1	<0.05	1.6	3.60	8.9	<0.02	<1	0.1	1.4	<10	<2	60.1
2317118	Soil	0.05	6.0	0.3	<0.05	0.1	7.09	18.1	<0.02	<1	0.7	2.9	<10	<2	16.2
2317119	Soil	0.11	3.2	<0.1	<0.05	2.1	6.75	9.1	<0.02	<1	0.4	0.8	<10	<2	67.0
2317120 BAL-1	Rock Pulp	0.27	6.0	0.4	<0.05	2.2	18.46	26.5	0.02	1	0.9	9.5	<10	2	13.0
2317121	Soil	0.18	5.0	0.3	<0.05	2.3	16.28	24.5	0.03	<1	0.5	3.0	<10	<2	17.2
2317122	Soil	<0.02	8.0	0.2	<0.05	<0.1	1.88	24.2	<0.02	<1	0.2	0.7	<10	2	10.0

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Project: 204700  
 Report Date: September 09, 2013

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# CERTIFICATE OF ANALYSIS

VAN13003265.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
Unit		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
MDL		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
2317123	Soil	10.60	9.44	15.81	63.8	136	17.3	3.8	262	1.07	2.7	0.4	<0.2	<0.1	2.2	0.10	0.40	0.05	40	0.01	0.065
2317124	Soil	3.05	8.36	61.18	79.1	547	10.9	1.8	>10000	0.21	0.4	0.1	<0.2	0.1	5.4	0.34	0.22	<0.02	<2	0.65	0.251
2317125	Soil	8.80	10.04	9.13	68.8	49	18.7	3.7	111	1.11	2.4	0.4	0.6	<0.1	1.8	0.10	0.55	0.03	29	0.02	0.043
2317126	Soil	2.31	3.56	3.98	21.7	57	4.2	0.6	26	0.32	0.5	0.3	<0.2	0.2	2.3	0.05	0.09	<0.02	24	0.01	0.047
2317127	Soil	6.18	7.21	28.80	69.4	468	9.9	5.7	>10000	0.38	1.3	0.2	0.5	<0.1	5.6	0.56	0.33	0.04	9	0.41	0.176
2317128	Soil	7.76	10.06	8.04	74.2	95	19.2	3.7	299	1.07	2.7	0.4	<0.2	0.2	2.2	0.11	0.58	0.03	29	0.03	0.031
2317129	Soil	3.65	6.11	15.91	40.9	831	7.1	0.9	2487	0.18	0.4	0.1	0.5	<0.1	4.9	0.30	0.21	<0.02	4	0.37	0.151
2317130	Soil	7.80	4.23	3.17	31.9	103	8.9	1.1	19	0.33	1.4	0.4	0.2	0.6	1.5	0.08	0.27	<0.02	23	<0.01	0.026
2317131	Soil	2.67	6.40	17.92	54.6	729	9.3	0.8	1262	0.17	0.7	<0.1	0.4	<0.1	6.2	0.24	0.30	<0.02	4	0.38	0.154
2317132	Soil	13.88	30.66	30.51	207.4	175	45.9	5.5	62	3.36	34.9	1.2	0.5	1.1	8.9	0.35	3.20	0.13	70	<0.01	0.136
2317133	Soil	15.59	24.39	45.54	233.5	566	46.9	5.1	60	2.05	13.5	1.3	0.8	0.5	12.1	0.25	1.82	0.14	84	0.02	0.149
2317134	Soil	3.44	6.30	16.84	77.8	1355	18.2	0.8	165	0.27	1.5	0.2	1.3	0.3	19.3	0.34	0.47	0.03	11	0.39	0.106
2317135	Soil	15.82	21.51	29.66	107.2	880	16.8	1.3	20	1.55	12.6	2.2	1.0	0.9	102.6	0.50	1.83	0.16	74	0.01	0.084
2317136	Soil	2.38	5.24	17.03	38.7	2331	9.1	0.6	59	0.19	0.9	<0.1	0.4	0.2	15.6	0.19	0.26	<0.02	5	0.35	0.077
2317137	Soil	7.26	11.90	14.55	125.9	1124	17.3	3.5	18	0.89	14.2	0.4	5.3	1.7	12.4	0.07	1.08	0.06	70	<0.01	0.040
2317138	Soil	24.16	23.20	61.17	656.2	472	41.6	4.8	72	2.55	28.7	1.2	0.5	0.2	14.7	0.47	3.05	0.12	228	<0.01	0.060
2317139	Soil	8.91	24.48	32.84	86.0	547	31.2	3.7	253	0.98	5.9	2.8	1.1	0.4	25.8	1.34	3.03	0.05	26	2.48	0.121
2317140	Soil	35.80	57.77	417.4	312.3	2766	125.7	12.2	744	3.83	26.4	3.3	1.1	1.7	23.6	2.80	9.03	0.13	94	1.64	0.093
2317141	Soil	11.95	23.02	53.84	132.2	593	48.3	5.4	307	1.56	7.2	1.6	0.5	0.5	31.0	0.91	2.63	0.10	36	1.85	0.155
2317142	Soil	22.82	52.95	143.0	368.8	1052	113.1	9.3	248	3.11	15.0	3.4	0.6	2.8	61.7	3.12	3.30	0.20	84	1.00	0.214
2317143	Soil	10.51	21.14	50.66	136.7	490	46.4	4.9	322	1.39	6.5	1.4	0.9	0.5	29.5	1.28	2.45	0.09	32	1.87	0.139
2317144	Soil	21.42	48.98	81.78	240.3	893	85.6	6.9	234	2.48	14.0	3.1	1.6	2.1	58.1	1.92	3.56	0.17	93	0.85	0.149
2317145	Soil	13.22	23.18	31.01	125.7	404	39.7	4.1	208	1.22	6.8	2.0	0.9	0.5	32.4	1.09	2.18	0.10	44	1.05	0.116
2317146	Soil	22.44	31.10	36.02	61.0	460	24.7	1.5	59	1.06	10.0	1.8	0.8	2.1	53.8	0.35	3.34	0.12	68	0.26	0.044
2317147	Soil	72.97	33.66	152.4	215.4	1545	55.8	4.6	182	3.67	35.5	5.9	1.1	4.2	73.0	1.13	12.65	0.34	85	0.16	0.107
2317148	Soil	38.80	8.19	1048	197.1	1247	10.5	0.9	7	4.77	23.6	1.3	0.4	3.9	15.7	0.44	6.38	0.17	176	<0.01	0.054
2317149	Soil	60.98	17.20	256.5	96.4	944	14.6	1.4	65	2.52	25.0	4.1	1.1	4.1	27.4	0.33	12.33	0.20	86	<0.01	0.066
2317150	Soil	41.70	6.50	977.4	55.1	966	8.5	0.6	15	4.32	14.8	1.2	0.2	3.0	11.7	0.15	9.72	0.17	138	<0.01	0.035

# CERTIFICATE OF ANALYSIS

VAN13003265.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	
MDL		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.02	
2317123	Soil	16.0	11.0	0.06	154.0	0.003	<20	0.69	<0.001	0.07	<0.1	0.5	0.22	<0.02	32	0.3	<0.02	3.3	1.45	<0.1	<0.02
2317124	Soil	1.8	4.5	0.06	587.4	0.004	<20	0.14	0.003	0.22	<0.1	0.5	0.32	0.16	411	0.2	<0.02	2.2	0.42	<0.1	<0.02
2317125	Soil	16.0	8.7	0.03	76.8	0.003	<20	0.37	<0.001	0.07	<0.1	0.5	0.15	<0.02	28	0.3	0.03	2.3	1.12	<0.1	<0.02
2317126	Soil	16.1	8.8	0.05	84.1	0.003	<20	0.59	<0.001	0.06	<0.1	0.5	0.17	<0.02	14	<0.1	<0.02	3.4	1.10	<0.1	<0.02
2317127	Soil	4.4	9.0	0.07	762.5	0.004	<20	0.20	0.002	0.18	<0.1	0.6	0.61	0.11	182	0.2	0.03	2.5	0.59	<0.1	<0.02
2317128	Soil	15.9	8.8	0.04	83.4	0.005	<20	0.39	<0.001	0.05	<0.1	0.7	0.14	<0.02	16	0.4	0.03	2.9	0.95	<0.1	<0.02
2317129	Soil	1.6	4.9	0.05	256.8	0.003	<20	0.12	0.001	0.12	<0.1	0.7	0.20	0.12	170	0.2	<0.02	0.8	0.30	<0.1	<0.02
2317130	Soil	17.9	4.6	0.03	54.3	0.002	<20	0.31	<0.001	0.05	<0.1	0.5	0.23	<0.02	8	<0.1	0.04	2.2	0.86	<0.1	<0.02
2317131	Soil	1.1	6.7	0.04	225.0	0.002	<20	0.07	0.002	0.14	<0.1	0.5	0.21	0.12	199	0.3	<0.02	0.4	0.35	<0.1	<0.02
2317132	Soil	15.9	9.7	0.03	166.3	0.002	<20	0.71	<0.001	0.07	<0.1	1.6	0.43	0.03	26	1.4	0.04	2.0	1.20	<0.1	<0.02
2317133	Soil	17.1	13.5	0.07	192.6	0.004	<20	0.75	<0.001	0.09	<0.1	1.1	0.55	0.04	36	1.2	0.05	2.9	0.97	<0.1	0.03
2317134	Soil	2.1	4.4	0.03	328.9	0.002	<20	0.14	0.002	0.07	<0.1	0.7	0.23	0.12	235	0.5	<0.02	0.6	0.55	<0.1	0.03
2317135	Soil	16.7	6.7	0.02	858.0	0.002	<20	0.37	<0.001	0.11	<0.1	1.0	0.91	0.19	66	2.0	0.12	1.6	1.02	<0.1	<0.02
2317136	Soil	1.2	3.4	0.03	347.1	0.002	<20	0.12	0.002	0.06	<0.1	0.7	0.23	0.11	194	0.5	<0.02	0.4	0.78	<0.1	0.02
2317137	Soil	35.3	10.5	0.04	331.5	0.002	<20	0.93	<0.001	0.07	<0.1	1.3	0.64	<0.02	19	0.8	0.07	5.5	1.70	<0.1	<0.02
2317138	Soil	18.5	9.5	0.05	335.9	0.006	<20	1.14	<0.001	0.06	<0.1	1.0	1.30	0.06	26	2.0	0.10	5.0	1.70	<0.1	<0.02
2317139	Soil	4.2	5.1	0.16	1663	0.002	<20	0.15	0.002	0.07	0.1	0.7	0.40	0.26	128	3.4	0.05	0.5	0.34	<0.1	0.08
2317140	Soil	15.3	6.7	0.37	1385	0.002	<20	0.31	<0.001	0.15	<0.1	3.9	0.81	0.27	413	3.2	0.16	0.6	1.03	<0.1	0.05
2317141	Soil	7.8	9.5	0.16	591.9	0.002	<20	0.24	0.001	0.09	0.1	1.1	0.45	0.23	145	3.4	0.06	0.7	0.47	<0.1	0.07
2317142	Soil	16.8	9.9	0.11	851.4	0.003	<20	0.41	<0.001	0.19	0.1	3.4	0.71	0.32	246	8.5	0.08	1.0	1.34	0.1	0.08
2317143	Soil	7.3	8.5	0.16	558.4	0.002	<20	0.21	0.002	0.08	<0.1	1.2	0.41	0.23	152	3.2	0.04	0.5	0.46	<0.1	0.07
2317144	Soil	13.6	7.9	0.10	747.5	0.003	<20	0.29	<0.001	0.17	0.2	2.7	0.71	0.32	238	7.4	0.08	1.1	1.13	<0.1	0.08
2317145	Soil	7.3	9.5	0.08	533.4	0.002	<20	0.23	<0.001	0.08	0.2	1.1	0.43	0.18	147	3.2	0.09	0.6	0.32	<0.1	0.06
2317146	Soil	14.8	5.0	0.02	446.1	0.002	<20	0.14	<0.001	0.10	0.4	1.6	0.82	0.22	157	4.0	0.08	0.8	0.57	<0.1	0.03
2317147	Soil	16.4	4.7	0.03	215.7	0.001	<20	0.52	0.006	0.26	0.2	2.2	8.17	0.74	463	10.7	0.22	1.0	3.45	<0.1	0.03
2317148	Soil	4.6	9.4	<0.01	261.6	0.015	<20	0.17	0.004	0.35	0.1	1.1	24.58	0.84	454	5.2	0.16	1.7	3.66	0.1	0.22
2317149	Soil	19.2	4.4	0.01	485.0	0.002	<20	0.34	0.003	0.18	0.3	1.4	6.94	0.47	149	10.0	0.18	0.8	2.24	<0.1	0.09
2317150	Soil	9.9	5.7	<0.01	1521	0.007	<20	0.16	0.002	0.13	<0.1	0.8	13.35	0.28	338	7.0	0.08	1.3	4.90	<0.1	0.19





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Project: 204700  
 Report Date: September 09, 2013

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# CERTIFICATE OF ANALYSIS

VAN13003265.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	LOI	
		Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	LOI
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb	
MDL		0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	
2317123	Soil	0.04	9.0	0.5	<0.05	0.1	2.22	27.1	<0.02	<1	0.2	1.5	<10	3	8.7
2317124	Soil	0.04	7.0	<0.1	<0.05	0.3	0.64	3.6	<0.02	<1	<0.1	0.5	<10	<2	83.5
2317125	Soil	0.07	7.2	0.4	<0.05	0.2	2.38	27.4	<0.02	1	<0.1	1.0	<10	<2	7.5
2317126	Soil	0.05	6.6	0.4	<0.05	0.1	1.22	27.5	<0.02	<1	0.2	1.2	<10	<2	8.1
2317127	Soil	0.08	6.6	0.2	<0.05	0.1	1.18	9.1	<0.02	<1	<0.1	0.7	<10	<2	67.0
2317128	Soil	0.08	4.7	0.4	<0.05	<0.1	2.37	26.5	<0.02	1	<0.1	1.0	<10	<2	6.4
2317129	Soil	0.06	3.2	<0.1	<0.05	0.4	0.33	2.8	<0.02	<1	<0.1	0.3	<10	<2	86.0
2317130	Soil	0.04	6.0	0.3	<0.05	0.1	1.50	28.2	<0.02	<1	0.1	0.8	<10	<2	4.9
2317131	Soil	0.04	4.1	<0.1	<0.05	0.5	0.38	2.0	<0.02	<1	<0.1	0.3	<10	<2	93.1
2317132	Soil	0.13	10.9	0.2	<0.05	0.3	4.29	27.7	0.03	<1	0.5	1.5	<10	<2	10.2
2317133	Soil	0.27	12.8	0.4	<0.05	0.6	3.77	26.0	0.03	<1	0.2	3.4	<10	2	11.2
2317134	Soil	0.06	4.0	0.1	<0.05	0.8	0.49	3.7	<0.02	<1	<0.1	0.5	<10	<2	84.0
2317135	Soil	0.13	10.1	0.3	<0.05	0.1	3.92	28.3	0.03	11	0.2	1.7	<10	2	10.0
2317136	Soil	0.04	4.5	<0.1	<0.05	0.8	0.35	2.2	<0.02	2	<0.1	0.3	<10	<2	90.6
2317137	Soil	0.13	8.5	0.9	<0.05	0.5	2.89	60.1	<0.02	<1	<0.1	1.9	<10	<2	13.7
2317138	Soil	0.27	9.0	0.8	<0.05	0.2	5.06	30.4	<0.02	<1	<0.1	1.7	<10	<2	11.8
2317139	Soil	0.04	2.5	<0.1	<0.05	2.3	4.66	6.5	<0.02	7	0.1	0.8	<10	<2	59.4
2317140	Soil	0.02	4.9	0.1	<0.05	1.7	19.53	23.5	0.05	4	0.4	2.3	<10	3	11.3
2317141	Soil	0.06	3.7	0.2	<0.05	2.3	9.52	11.4	<0.02	3	0.2	1.5	<10	<2	46.4
2317142	Soil	<0.02	8.0	0.3	<0.05	3.5	18.89	23.2	0.04	5	0.6	2.4	<10	3	13.7
2317143	Soil	0.04	3.7	0.2	<0.05	2.4	8.77	10.5	0.03	2	0.2	1.3	<10	<2	50.8
2317144	Soil	0.05	8.3	0.4	<0.05	3.1	14.09	19.0	0.04	5	0.5	1.9	<10	4	12.9
2317145	Soil	0.03	3.8	0.3	<0.05	1.9	7.68	11.6	0.02	3	0.3	1.0	<10	3	36.3
2317146	Soil	0.03	5.9	0.6	<0.05	1.7	5.19	22.4	0.03	9	0.3	1.0	<10	<2	7.0
2317147	Soil	0.04	12.6	0.9	<0.05	2.9	7.38	31.6	0.07	18	0.1	1.2	16	5	10.0
2317148	Soil	0.04	17.1	0.4	<0.05	9.7	1.17	9.2	<0.02	19	<0.1	0.3	31	<2	5.9
2317149	Soil	0.05	10.1	0.7	<0.05	4.7	4.86	34.9	0.04	24	0.1	0.6	<10	4	8.3
2317150	Soil	0.02	9.4	0.3	<0.05	7.4	1.30	17.9	<0.02	9	0.1	0.2	19	<2	4.3



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Project: 204700  
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# QUALITY CONTROL REPORT

VAN13003265.1

Method	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	
Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001	
Pulp Duplicates																					
2317010	Soil	9.46	14.48	31.80	136.5	171	38.9	6.5	393	1.63	5.6	1.3	0.3	2.8	19.8	0.99	0.69	0.12	12	1.90	0.075
REP 2317010	QC																				
2317030	Soil	30.06	22.48	19.98	324.5	325	77.1	4.4	146	1.60	9.9	2.9	1.8	1.5	19.3	2.41	1.50	0.12	55	0.20	0.039
REP 2317030	QC	31.07	22.97	21.04	338.9	317	80.4	4.2	154	1.60	10.1	3.0	0.8	1.5	19.4	2.61	1.75	0.13	54	0.21	0.040
2317046	Soil	18.59	15.67	57.36	124.9	1988	15.9	1.9	28	1.51	34.5	0.8	1.3	3.0	7.6	1.84	3.40	0.09	86	0.01	0.038
REP 2317046	QC																				
2317066	Soil	11.71	44.97	19.32	656.4	303	85.8	10.2	221	2.65	18.7	1.1	<0.2	0.4	5.7	1.21	3.71	0.18	65	0.11	0.141
REP 2317066	QC	11.51	44.12	18.84	607.4	322	86.3	9.8	213	2.71	18.9	1.1	1.8	0.6	6.0	1.29	3.78	0.18	65	0.12	0.136
2317082	Soil	6.27	18.35	47.77	285.1	565	42.8	6.9	313	2.44	7.3	0.6	0.4	2.3	34.1	1.49	1.63	0.08	11	5.11	0.049
REP 2317082	QC																				
2317102	Soil	8.09	30.54	13.93	153.8	463	39.6	4.0	30	1.53	5.8	6.3	0.2	1.6	13.7	2.18	1.23	0.13	39	0.12	0.061
REP 2317102	QC	7.77	30.07	13.52	157.7	491	40.8	4.0	30	1.48	5.8	6.3	0.8	1.6	12.3	1.95	1.20	0.12	38	0.11	0.058
2317118	Soil	3.06	11.16	9.51	96.3	88	19.7	4.7	204	1.37	2.4	0.5	2.3	<0.1	6.3	0.33	0.66	0.09	19	0.26	0.145
REP 2317118	QC																				
2317138	Soil	24.16	23.20	61.17	656.2	472	41.6	4.8	72	2.55	28.7	1.2	0.5	0.2	14.7	0.47	3.05	0.12	228	<0.01	0.060
REP 2317138	QC	24.94	24.93	62.75	677.6	503	45.5	5.3	75	2.55	29.0	1.2	0.7	0.2	14.7	0.47	3.21	0.12	227	<0.01	0.059
Reference Materials																					
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DS9	Standard	13.83	113.5	134.4	341.5	1795	42.9	8.2	607	2.38	25.0	2.8	103.9	6.2	65.2	2.44	4.99	6.07	40	0.72	0.084
STD DS9	Standard	13.46	108.6	143.5	322.7	1890	40.0	7.5	549	2.32	25.1	2.7	123.1	6.1	69.5	2.56	5.15	6.21	39	0.69	0.086
STD DS9	Standard	14.46	120.3	123.2	344.4	1922	46.3	8.8	605	2.43	26.7	2.6	112.0	6.0	62.2	2.65	3.93	5.72	42	0.74	0.088
STD DS9	Standard	13.94	112.4	131.8	310.1	1768	43.0	7.6	558	2.30	24.7	2.7	110.9	5.6	55.6	2.35	3.86	4.88	40	0.69	0.081
STD DS9	Standard	12.98	114.1	130.9	346.3	1861	42.3	7.8	625	2.42	26.6	2.7	108.8	6.2	68.3	2.49	4.64	6.82	41	0.73	0.084
STD OREAS45EA	Standard	1.29	651.5	15.35	27.7	239	375.2	50.2	380	23.14	8.0	1.8	58.9	10.6	3.5	0.03	0.11	0.22	286	0.04	0.026

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Project: 204700  
 Report Date: September 09, 2013

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# QUALITY CONTROL REPORT

VAN13003265.1

Method	Analyte	Unit	MDL	1F La	1F Cr	1F Mg	1F Ba	1F Ti	1F B	1F Al	1F Na	1F K	1F W	1F Sc	1F Ti	1F S	1F Hg	1F Se	1F Te	1F Ga	1F Cs	1F Ge	1F Hf
				ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm
Pulp Duplicates																							
2317010	Soil			14.7	6.7	0.97	110.9	0.002	<20	0.37	0.002	0.04	<0.1	3.5	0.21	0.02	68	0.6	<0.02	0.8	0.20	<0.1	0.05
REP 2317010	QC																						
2317030	Soil			17.2	8.5	0.18	1819	0.005	<20	0.70	<0.001	0.08	0.1	1.0	1.11	0.03	72	0.7	<0.02	3.0	0.66	<0.1	<0.02
REP 2317030	QC			18.0	8.3	0.19	1818	0.005	<20	0.70	<0.001	0.08	0.1	1.1	1.18	0.03	69	0.7	0.08	2.9	0.81	<0.1	<0.02
2317046	Soil			18.8	10.1	0.06	450.9	0.005	<20	0.58	<0.001	0.04	0.3	1.0	1.31	0.03	165	2.1	0.09	4.3	0.48	<0.1	<0.02
REP 2317046	QC																						
2317066	Soil			14.0	22.4	0.20	368.8	0.002	<20	0.68	<0.001	0.12	<0.1	0.8	0.26	<0.02	54	4.4	<0.02	2.4	0.86	<0.1	<0.02
REP 2317066	QC			13.7	18.8	0.20	348.7	0.002	<20	0.68	<0.001	0.12	<0.1	1.1	0.24	<0.02	63	4.6	0.04	2.4	0.78	<0.1	<0.02
2317082	Soil			7.5	4.5	2.60	126.4	<0.001	<20	0.06	0.003	0.03	<0.1	2.8	0.08	0.05	86	1.2	<0.02	0.1	0.16	<0.1	0.07
REP 2317082	QC																						
2317102	Soil			11.4	10.8	0.13	182.3	0.002	<20	0.81	<0.001	0.04	<0.1	1.0	0.33	0.04	52	1.4	0.03	3.1	0.96	<0.1	<0.02
REP 2317102	QC			11.6	11.0	0.13	182.9	0.002	<20	0.79	<0.001	0.04	<0.1	1.0	0.34	0.03	55	1.4	0.06	3.0	1.06	<0.1	<0.02
2317118	Soil			9.3	8.6	0.08	156.6	0.002	<20	0.43	<0.001	0.06	<0.1	0.4	0.11	0.07	29	0.4	<0.02	1.4	0.89	<0.1	<0.02
REP 2317118	QC																						
2317138	Soil			18.5	9.5	0.05	335.9	0.006	<20	1.14	<0.001	0.06	<0.1	1.0	1.30	0.06	26	2.0	0.10	5.0	1.70	<0.1	<0.02
REP 2317138	QC			19.3	10.1	0.05	340.1	0.006	<20	1.14	<0.001	0.06	<0.1	1.2	1.30	0.06	21	2.2	0.10	5.7	1.77	<0.1	<0.02
Reference Materials																							
STD DOLOMITE-2	Standard																						
STD DOLOMITE-2	Standard																						
STD DOLOMITE-2	Standard																						
STD DOLOMITE-2	Standard																						
STD DOLOMITE-2	Standard																						
STD DS9	Standard			12.6	120.6	0.63	318.4	0.109	<20	0.95	0.083	0.41	2.5	2.4	5.18	0.17	266	5.5	5.27	4.7	2.41	<0.1	0.07
STD DS9	Standard			11.7	116.3	0.61	319.8	0.097	<20	0.93	0.081	0.40	2.4	2.2	5.61	0.17	244	5.9	5.28	4.7	2.44	0.1	0.07
STD DS9	Standard			12.5	128.7	0.64	355.6	0.119	<20	1.00	0.081	0.41	3.5	2.6	5.72	0.17	218	5.9	5.70	4.7	2.47	<0.1	0.08
STD DS9	Standard			11.3	120.3	0.61	311.9	0.109	<20	0.91	0.077	0.38	3.1	2.3	5.03	0.16	199	5.0	4.53	4.2	2.28	0.2	0.06
STD DS9	Standard			12.6	120.0	0.64	326.8	0.112	<20	0.95	0.082	0.40	2.6	2.4	5.49	0.18	240	5.7	4.92	4.5	2.41	0.1	0.05
STD OREAS45EA	Standard			6.7	774.9	0.09	135.3	0.086	<20	3.19	0.019	0.05	<0.1	64.6	<0.02	0.04	13	0.7	0.10	11.2	0.67	0.2	0.46

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## QUALITY CONTROL REPORT

VAN13003265.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	LOI	
		Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	LOI
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb	%
MDL		0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	0.1
Pulp Duplicates															
2317010	Soil	0.17	2.8	<0.1	<0.05	2.9	16.02	27.7	<0.02	<1	0.3	2.9	<10	<2	11.3
REP 2317010	QC														11.5
2317030	Soil	0.37	10.5	0.5	<0.05	0.2	5.03	32.3	<0.02	<1	0.2	6.1	<10	3	9.1
REP 2317030	QC	0.32	11.4	0.4	<0.05	0.1	5.00	31.3	<0.02	<1	0.1	6.4	<10	2	
2317046	Soil	0.40	3.9	0.8	<0.05	0.4	1.31	34.9	<0.02	<1	<0.1	1.5	<10	2	12.0
REP 2317046	QC														12.0
2317066	Soil	0.03	13.7	0.2	<0.05	0.2	5.12	27.0	<0.02	<1	0.5	7.2	<10	7	10.4
REP 2317066	QC	0.03	13.6	0.2	<0.05	0.3	5.17	26.8	0.03	<1	0.4	6.9	<10	<2	
2317082	Soil	0.02	1.2	<0.1	<0.05	3.8	8.80	11.7	<0.02	<1	<0.1	0.8	<10	<2	18.7
REP 2317082	QC														18.9
2317102	Soil	0.37	8.6	0.2	<0.05	0.7	3.18	19.5	0.02	3	0.2	10.6	<10	2	17.5
REP 2317102	QC	0.34	8.9	0.3	<0.05	0.8	3.14	19.4	0.02	4	0.3	11.6	<10	4	
2317118	Soil	0.05	6.0	0.3	<0.05	0.1	7.09	18.1	<0.02	<1	0.7	2.9	<10	<2	16.2
REP 2317118	QC														16.5
2317138	Soil	0.27	9.0	0.8	<0.05	0.2	5.06	30.4	<0.02	<1	<0.1	1.7	<10	<2	11.8
REP 2317138	QC	0.28	8.9	0.9	<0.05	0.1	4.93	30.7	<0.02	2	<0.1	1.7	<10	<2	
Reference Materials															
STD DOLOMITE-2	Standard														45.7
STD DOLOMITE-2	Standard														46.0
STD DOLOMITE-2	Standard														45.9
STD DOLOMITE-2	Standard														45.9
STD DOLOMITE-2	Standard														45.9
STD DS9	Standard	0.84	34.0	6.8	<0.05	1.6	5.31	22.5	2.38	68	6.1	24.6	111	344	
STD DS9	Standard	0.87	32.0	6.8	<0.05	1.7	5.76	22.8	2.44	82	5.0	25.9	141	391	
STD DS9	Standard	1.01	33.6	7.5	<0.05	2.0	5.83	21.0	2.47	69	5.8	26.9	131	374	
STD DS9	Standard	0.95	32.2	5.9	<0.05	1.5	4.96	20.0	2.14	51	5.1	25.3	90	364	
STD DS9	Standard	0.98	36.4	6.5	<0.05	1.8	5.62	25.7	2.17	50	6.3	28.3	132	380	
STD OREAS45EA	Standard	0.05	7.3	0.8	<0.05	15.0	4.56	17.2	0.07	<1	0.5	2.6	58	103	

## QUALITY CONTROL REPORT

VAN13003265.1

		1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
STD OREAS45EA	Standard	1.45	630.6	15.41	28.8	292	357.5	46.8	364	22.15	8.9	1.9	69.0	11.2	3.7	0.03	0.19	0.24	277	0.04	0.028
STD OREAS45EA	Standard	1.37	687.2	13.89	25.9	232	393.5	49.0	406	23.77	7.6	1.4	55.5	7.8	2.7	0.03	0.13	0.14	324	0.03	0.024
STD OREAS45EA	Standard	1.25	668.9	13.43	25.5	231	371.5	48.9	322	23.21	7.5	1.4	53.3	8.6	2.6	0.04	0.14	0.16	311	0.03	0.026
STD OREAS45EA	Standard	1.36	684.5	14.90	28.7	257	371.3	52.7	387	23.59	7.7	1.8	55.9	10.7	3.6	0.03	0.24	0.29	297	0.03	0.027
STD DOLOMITE-2 Expected																					
STD DS9 Expected		12.84	108	126	317	1830	40.3	7.6	575	2.33	25.5	2.69	118	6.38	69.6	2.4	4.94	6.32	40	0.7201	0.0819
STD OREAS45EA Expected		1.78	709	14.3	30.6	311	357	52	400	22.65	11.4	1.73	53	10.7	4.05	0.03	0.64	0.26	295	0.032	0.029
BLK	Blank	<0.01	0.16	0.11	<0.1	3	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	0.15	0.02	<0.1	6	0.3	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	0.09	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	<0.01	0.01	<0.1	3	0.3	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	0.07	<0.01	<0.1	4	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001





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Project: 204700  
 Report Date: September 09, 2013

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Part: 2 of 3

# QUALITY CONTROL REPORT

VAN13003265.1

		1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm
		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
STD OREAS45EA	Standard	7.0	797.2	0.10	146.1	0.077	<20	3.03	0.018	0.05	<0.1	73.1	<0.02	0.04	15	0.5	0.05	12.3	0.74	0.2	0.51
STD OREAS45EA	Standard	5.7	905.7	0.07	129.0	0.084	<20	3.30	0.017	0.06	<0.1	67.1	<0.02	0.03	9	0.8	0.06	10.4	0.58	0.2	0.51
STD OREAS45EA	Standard	5.9	750.0	0.07	122.1	0.086	<20	3.20	0.018	0.06	<0.1	67.3	<0.02	0.03	6	0.5	<0.02	10.4	0.55	0.2	0.56
STD OREAS45EA	Standard	6.9	813.8	0.09	149.8	0.093	<20	2.98	0.023	0.05	<0.1	77.8	0.05	0.04	23	0.4	0.07	12.6	0.65	0.3	0.68
STD DOLOMITE-2 Expected																					
STD DS9 Expected		13.3	121	0.6165	330	0.1108		0.9577	0.0853	0.395	2.89	2.5	5.3	0.1615	200	5.2	5.02	4.59	2.37	0.1	0.08
STD OREAS45EA Expected		8.19	849	0.095	148	0.106		3.32	0.027	0.053		78	0.072	0.044	340	2.09	0.11	11.7	0.77	0.26	0.82
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02

## QUALITY CONTROL REPORT

VAN13003265.1

		1F Nb ppm 0.02	1F Rb ppm 0.1	1F Sn ppm 0.1	1F Ta ppm 0.05	1F Zr ppm 0.1	1F Y ppm 0.01	1F Ce ppm 0.1	1F In ppm 0.02	1F Re ppb 1	1F Be ppm 0.1	1F Li ppm 0.1	1F Pd ppb 10	1F Pt ppb 2	LOI %
STD OREAS45EA	Standard	0.05	7.3	0.8	<0.05	16.3	4.95	18.1	0.09	<1	0.5	2.8	82	107	
STD OREAS45EA	Standard	0.04	5.8	0.9	<0.05	17.7	4.65	13.3	0.09	<1	0.4	1.9	49	88	
STD OREAS45EA	Standard	0.07	6.2	0.7	<0.05	17.7	4.79	14.1	0.07	<1	0.3	2.7	52	93	
STD OREAS45EA	Standard	0.06	7.8	0.9	<0.05	23.1	5.32	18.9	0.09	<1	0.4	2.3	91	108	
STD DOLOMITE-2 Expected															45.9
STD DS9 Expected		0.96	33.8	6.4	0.004	2	5.97	25.4	2.2	61	5.4	25.2	120	350	
STD OREAS45EA Expected		0.43	7.93	0.97		26.6	5.74	17.7	0.1		0.47	7.63	66	108	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	0.2	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	0.2	<0.01	0.2	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	0.1	<0.01	0.3	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	0.1	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	0.2	<0.01	0.3	<0.02	<1	<0.1	<0.1	<10	2	



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Submitted By: Michael Buchanan and Rupa Mukherjee
Receiving Lab: Canada-Vancouver
Received: August 20, 2013
Report Date: September 12, 2013
Page: 1 of 6

CERTIFICATE OF ANALYSIS

VAN13003266.1

CLIENT JOB INFORMATION

Project: 204700
Shipment ID: CRQ\_2013\_003
P.O. Number
Number of Samples: 150

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
STOR-RJT-SOIL Store Soil Reject - RJSV Charges Apply

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

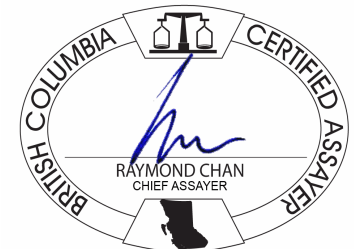
Invoice To: Teck Resources Limited
Suite 3300, 550 Burrard St.
Vancouver BC V6C 0B3
CANADA

CC:

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Table with 6 columns: Procedure Code, Number of Samples, Code Description, Test Wgt (g), Report Status, Lab. Rows include procedures like 'Dry at 60C', 'SS80', 'RJSV', '1F04', and '2A05'.

ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted. \*\*\* asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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Project: 204700  
 Report Date: September 12, 2013

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# CERTIFICATE OF ANALYSIS

VAN13003266.1

Method Analyte	Unit	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
MDL		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
2317151	Soil	1.51	5.32	3.50	71.7	4991	14.9	0.9	119	0.22	0.9	0.2	0.3	0.3	43.3	0.93	0.37	0.77	4	0.60	0.078
2317152	Soil	21.33	29.80	24.39	174.6	892	34.8	3.9	77	2.68	16.3	2.4	0.7	3.5	81.5	0.49	2.64	0.19	47	0.04	0.062
2317153	Soil	49.60	33.88	42.51	265.2	844	56.5	7.5	212	4.22	40.2	4.3	0.8	2.8	87.6	1.23	6.59	0.19	67	0.04	0.141
2317154	Soil	4.78	6.29	6.11	92.6	1061	19.2	1.4	109	0.33	1.9	0.3	<0.2	0.3	36.3	0.66	0.76	0.20	6	0.50	0.110
2317155	Soil	7.03	7.62	7.15	177.6	683	20.1	1.5	38	0.42	3.4	0.4	0.3	0.4	38.5	1.74	0.85	0.16	8	0.44	0.114
2317156	Soil	36.51	56.14	56.74	1614	1025	117.2	24.1	769	4.28	43.6	9.3	3.0	5.2	105.3	13.17	6.04	0.23	28	0.08	0.110
2317157	Soil	2.37	5.16	13.08	62.1	3697	12.3	1.1	24	0.24	1.2	0.2	<0.2	0.2	39.7	0.81	0.34	0.10	3	0.45	0.091
2317158	Soil	20.78	10.99	171.4	88.1	1710	9.8	1.0	14	1.21	24.1	1.1	1.3	1.4	63.5	0.20	2.99	0.19	35	0.03	0.071
2317159	Soil	1.80	8.04	11.63	115.5	830	6.7	0.8	22	0.21	0.8	0.1	<0.2	0.3	19.3	1.00	0.32	0.08	3	0.48	0.073
2317160	Soil	32.47	23.39	540.5	790.8	450	37.4	4.9	117	2.92	30.1	2.1	1.2	3.1	96.4	1.58	4.04	0.17	71	0.07	0.099
2317161 BAL-1	Rock Pulp	1.14	17.54	23.34	77.4	151	32.0	6.8	272	1.84	4.9	1.3	0.6	1.7	29.9	1.75	0.16	0.09	47	0.68	0.057
2317162	Soil	5.66	49.14	26.89	692.9	492	73.7	8.0	156	1.84	7.6	2.9	0.6	2.1	59.6	7.63	2.25	0.13	33	2.08	0.110
2317163	Soil	6.50	53.83	31.63	730.7	639	87.6	10.9	244	2.11	8.6	2.4	0.7	3.3	53.1	6.45	2.19	0.35	36	2.08	0.104
2317164	Soil	8.28	30.99	32.59	367.5	221	54.6	9.7	175	1.96	7.8	2.1	0.6	3.2	25.5	4.86	1.37	0.17	26	0.74	0.081
2317165	Soil	2.94	5.99	4.03	37.9	5138	5.6	0.8	55	0.16	0.6	<0.1	<0.2	0.3	10.1	1.55	0.19	0.16	3	0.42	0.089
2317166	Soil	8.48	9.14	24.06	115.2	275	16.5	2.8	59	1.69	10.3	0.7	<0.2	2.0	5.5	1.07	0.79	0.10	43	0.03	0.036
2317167	Soil	13.04	11.86	27.97	126.6	255	25.4	3.8	102	1.93	16.1	1.3	0.3	1.5	11.4	0.44	1.31	0.14	45	0.03	0.060
2317168	Soil	2.73	8.27	9.13	54.0	5040	8.5	1.3	56	0.25	0.8	0.4	<0.2	0.3	13.0	1.83	0.31	0.10	4	0.21	0.094
2317169	Soil	19.57	45.14	65.02	66.8	848	86.1	11.3	1246	3.58	19.5	3.0	1.1	1.2	14.7	0.36	4.77	0.20	94	0.20	0.322
2317170	Soil	7.04	24.96	27.26	45.0	447	40.0	9.4	835	3.01	10.2	1.3	0.7	1.9	10.2	0.18	1.86	0.11	48	0.19	0.279
2317171	Soil	4.46	18.41	22.09	83.4	483	35.7	5.7	802	1.93	7.1	1.1	<0.2	1.6	11.6	0.61	1.23	0.09	40	0.37	0.178
2317172	Soil	2.58	14.09	10.28	218.3	517	22.1	3.3	249	0.55	1.2	8.7	0.7	0.3	40.3	9.02	0.98	0.11	10	3.17	0.155
2317173 BAL-1	Rock Pulp	1.17	16.99	22.31	74.1	130	30.9	6.3	264	1.74	4.4	1.3	0.4	1.6	30.1	1.75	0.17	0.07	45	0.66	0.054
2317174	Soil	15.55	52.67	38.68	415.1	1681	95.4	11.8	662	2.59	20.9	2.5	0.3	3.4	50.1	3.60	4.07	0.21	80	2.05	0.228
2317175	Soil	8.52	23.75	22.44	223.9	568	36.9	7.3	467	1.39	7.4	1.0	0.7	1.1	12.0	2.11	2.31	0.15	35	0.85	0.187
2317176	Soil	9.44	36.05	29.12	271.7	1485	64.9	8.2	414	1.90	10.8	1.2	1.1	1.3	12.8	2.18	2.58	0.15	44	1.08	0.141
2317177	Soil	6.38	20.29	22.96	243.6	808	34.2	5.2	287	1.30	6.0	1.6	0.5	0.9	14.7	3.55	2.00	0.13	31	0.86	0.184
2317178	Soil	11.31	36.83	28.76	407.8	1829	62.0	6.8	211	1.94	12.0	2.1	1.1	1.5	14.3	3.56	3.04	0.17	49	0.67	0.165
2317179	Soil	13.35	31.97	152.6	869.4	1481	45.3	5.4	389	1.85	11.2	2.2	0.3	2.1	38.2	7.66	3.16	0.29	28	1.37	0.169
2317180	Soil	18.80	58.75	49.51	874.3	2537	88.2	8.3	373	2.14	22.1	2.3	<0.2	2.1	18.9	8.91	4.94	0.26	53	0.66	0.132

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.



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Project: 204700  
 Report Date: September 12, 2013

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Part: 2 of 3

# CERTIFICATE OF ANALYSIS

VAN13003266.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga	Cs	Ge	Hf
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	
MDL		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.02	
2317151	Soil	1.4	5.2	0.07	293.3	0.002	<20	0.15	0.002	0.06	<0.1	0.8	0.14	0.08	309	0.8	<0.02	0.3	0.31	<0.1	0.03
2317152	Soil	21.8	7.3	0.14	489.3	0.003	<20	0.61	0.003	0.14	<0.1	1.2	1.05	0.16	75	4.9	0.09	1.6	1.30	<0.1	0.04
2317153	Soil	28.8	9.9	0.15	470.3	0.004	<20	0.48	0.009	0.13	<0.1	1.1	1.50	0.24	76	6.5	0.18	1.5	0.94	<0.1	<0.02
2317154	Soil	2.2	7.3	0.06	302.8	0.002	<20	0.13	0.004	0.09	<0.1	1.1	0.29	0.14	319	1.0	0.03	0.5	0.53	<0.1	0.03
2317155	Soil	2.3	8.9	0.03	626.8	0.002	<20	0.21	0.003	0.07	<0.1	0.7	0.38	0.17	244	1.5	<0.02	0.6	0.39	<0.1	0.03
2317156	Soil	20.3	5.5	0.03	4154	0.001	<20	0.60	0.004	0.07	<0.1	3.7	2.90	0.19	257	4.8	0.15	0.8	1.21	<0.1	0.07
2317157	Soil	1.3	7.2	0.05	611.0	0.002	<20	0.18	0.003	0.04	<0.1	0.9	0.89	0.15	186	0.7	<0.02	0.4	0.30	<0.1	0.03
2317158	Soil	20.1	9.0	0.02	937.7	0.002	<20	0.32	0.002	0.06	<0.1	0.7	4.85	0.09	175	3.7	0.08	2.0	1.18	<0.1	<0.02
2317159	Soil	1.3	6.8	0.04	613.6	0.002	<20	0.11	0.003	0.07	<0.1	0.7	0.40	0.14	417	0.5	<0.02	0.4	0.46	<0.1	0.02
2317160	Soil	17.9	8.8	0.11	2413	0.004	<20	0.55	0.002	0.09	0.2	1.6	4.07	0.14	220	3.2	0.07	1.7	0.74	<0.1	<0.02
2317161 BAL-1	Rock Pulp	18.3	29.3	0.17	59.7	0.002	<20	1.22	0.008	0.07	<0.1	4.0	0.31	0.07	134	1.4	<0.02	3.6	0.64	<0.1	0.06
2317162	Soil	9.0	12.0	0.33	910.6	0.002	<20	0.69	0.002	0.07	<0.1	1.7	0.41	0.10	115	2.8	<0.02	1.5	0.60	<0.1	0.12
2317163	Soil	11.2	13.0	0.49	722.5	0.002	<20	0.77	0.003	0.08	<0.1	2.3	0.48	0.07	135	2.6	<0.02	1.8	0.72	<0.1	0.11
2317164	Soil	14.5	11.8	0.26	466.3	0.002	<20	0.66	<0.001	0.08	<0.1	2.1	0.28	0.03	64	2.5	0.08	1.7	0.36	<0.1	0.06
2317165	Soil	1.4	4.9	0.06	304.8	0.002	<20	0.13	0.004	0.07	<0.1	0.7	0.18	0.10	243	0.2	<0.02	0.5	0.39	<0.1	0.03
2317166	Soil	15.9	10.7	0.19	341.3	0.003	<20	0.77	0.001	0.08	<0.1	1.0	0.48	<0.02	20	0.8	<0.02	3.1	0.35	<0.1	0.02
2317167	Soil	18.4	10.4	0.23	882.4	0.005	<20	0.79	0.002	0.07	0.1	1.0	0.83	0.03	39	1.2	<0.02	3.3	0.54	<0.1	<0.02
2317168	Soil	2.5	5.4	0.06	589.2	0.002	<20	0.17	0.003	0.08	<0.1	1.2	0.30	0.10	355	0.2	<0.02	0.5	0.88	<0.1	<0.02
2317169	Soil	23.4	15.3	0.07	2598	0.003	<20	0.69	<0.001	0.06	<0.1	2.7	0.40	0.05	49	1.6	0.08	1.9	0.58	<0.1	<0.02
2317170	Soil	17.5	10.1	0.06	409.6	0.004	<20	0.45	<0.001	0.06	<0.1	1.9	0.16	<0.02	37	1.0	0.02	1.4	0.46	<0.1	<0.02
2317171	Soil	22.4	8.5	0.07	362.1	0.003	<20	0.38	<0.001	0.06	<0.1	2.8	0.13	<0.02	83	1.1	<0.02	1.1	0.34	<0.1	<0.02
2317172	Soil	4.1	4.6	0.28	254.1	0.001	<20	0.10	0.004	0.07	<0.1	0.8	0.11	0.35	144	4.0	<0.02	0.3	0.40	<0.1	0.06
2317173 BAL-1	Rock Pulp	17.5	27.3	0.16	61.3	0.002	<20	1.14	0.007	0.07	<0.1	4.2	0.30	0.06	86	1.5	<0.02	3.2	0.59	<0.1	0.04
2317174	Soil	19.5	14.2	0.79	1968	0.002	<20	0.33	0.002	0.10	<0.1	4.1	0.41	0.06	146	3.6	0.07	1.0	1.38	<0.1	0.07
2317175	Soil	9.4	6.4	0.11	318.6	0.002	<20	0.19	0.001	0.08	<0.1	2.4	0.16	0.12	64	2.2	0.10	0.5	0.79	<0.1	0.10
2317176	Soil	12.6	8.1	0.23	365.4	0.001	<20	0.21	0.002	0.07	<0.1	3.3	0.19	0.06	160	2.3	0.06	0.5	0.75	<0.1	0.07
2317177	Soil	10.2	6.6	0.09	360.4	0.002	<20	0.24	0.001	0.08	<0.1	1.9	0.22	0.12	61	1.7	<0.02	0.7	0.77	<0.1	0.08
2317178	Soil	16.5	10.9	0.07	491.3	0.002	<20	0.26	0.001	0.08	<0.1	4.1	0.30	0.05	132	2.6	0.05	0.7	1.04	<0.1	0.07
2317179	Soil	9.6	6.7	0.10	1913	0.002	<20	0.19	0.003	0.11	1.9	1.3	0.88	0.18	219	1.9	0.03	0.5	0.23	<0.1	0.07
2317180	Soil	18.2	8.2	0.05	483.8	0.002	<20	0.24	0.002	0.08	<0.1	2.6	0.66	0.05	199	2.6	0.12	0.6	0.62	<0.1	0.08

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Project: 204700  
 Report Date: September 12, 2013

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Part: 3 of 3

# CERTIFICATE OF ANALYSIS

VAN13003266.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	LOI	
		Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	LOI
Unit	MDL	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppb	ppb	%	
		0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	0.1
2317151	Soil	0.05	1.4	0.5	<0.05	1.1	0.56	2.5	<0.02	<1	0.1	0.6	<10	<2	90.0
2317152	Soil	0.22	9.3	0.2	<0.05	1.3	4.51	33.7	0.03	4	0.5	6.7	<10	<2	11.8
2317153	Soil	0.24	7.8	0.2	<0.05	0.6	5.52	36.4	0.03	8	0.2	5.6	<10	<2	12.6
2317154	Soil	0.08	2.1	0.2	<0.05	1.4	0.63	3.8	<0.02	<1	<0.1	0.7	<10	<2	87.7
2317155	Soil	0.05	1.9	0.2	<0.05	1.9	0.75	4.5	<0.02	1	<0.1	0.5	<10	<2	85.2
2317156	Soil	0.06	6.0	0.1	<0.05	3.3	15.17	37.9	0.05	2	0.3	1.5	<10	<2	12.6
2317157	Soil	0.05	2.0	0.2	<0.05	1.2	0.55	2.7	<0.02	<1	<0.1	0.3	<10	<2	90.3
2317158	Soil	0.22	6.9	0.3	<0.05	0.4	1.40	33.4	<0.02	<1	0.2	1.4	<10	<2	20.5
2317159	Soil	0.04	1.7	0.1	<0.05	1.1	0.47	2.9	<0.02	<1	<0.1	0.4	<10	3	89.7
2317160	Soil	0.24	7.8	0.3	<0.05	0.9	6.77	31.2	0.05	4	0.4	4.1	<10	3	10.5
2317161 BAL-1	Rock Pulp	0.29	7.1	0.6	<0.05	2.1	20.00	31.3	0.02	2	0.4	9.4	<10	3	13.0
2317162	Soil	0.11	5.8	<0.1	<0.05	5.5	8.99	16.7	0.05	9	0.6	9.5	<10	<2	33.8
2317163	Soil	0.11	6.3	<0.1	<0.05	5.7	10.94	20.1	0.04	6	0.3	10.8	<10	<2	25.3
2317164	Soil	0.22	5.2	0.2	<0.05	2.8	9.83	28.2	0.03	4	0.2	8.9	<10	<2	14.3
2317165	Soil	0.04	2.2	0.2	<0.05	1.1	0.33	2.9	<0.02	2	<0.1	0.4	<10	<2	88.0
2317166	Soil	0.52	9.5	0.4	<0.05	0.4	2.47	30.5	<0.02	<1	0.2	10.3	<10	<2	9.0
2317167	Soil	0.40	8.6	0.4	<0.05	0.3	3.13	34.5	<0.02	<1	0.3	8.3	<10	<2	7.7
2317168	Soil	0.05	6.4	0.1	<0.05	1.0	0.77	5.0	<0.02	<1	<0.1	0.9	<10	<2	83.9
2317169	Soil	0.07	6.7	0.3	<0.05	0.5	18.66	50.2	0.05	<1	0.6	3.1	<10	<2	10.8
2317170	Soil	0.12	7.8	0.1	<0.05	0.5	8.66	42.4	0.06	<1	0.5	2.6	<10	4	8.0
2317171	Soil	0.07	5.7	<0.1	<0.05	0.5	20.91	40.7	0.05	2	0.7	2.4	<10	3	5.7
2317172	Soil	0.05	5.3	<0.1	<0.05	2.5	5.66	7.1	<0.02	<1	0.3	0.7	<10	2	72.7
2317173 BAL-1	Rock Pulp	0.27	7.2	0.5	<0.05	2.1	19.25	30.3	<0.02	2	0.7	8.3	<10	2	12.6
2317174	Soil	0.03	6.9	0.2	<0.05	3.7	19.92	32.0	0.05	2	0.5	1.4	<10	6	10.9
2317175	Soil	0.04	6.8	<0.1	<0.05	3.7	9.07	16.0	0.03	<1	0.4	1.3	<10	<2	26.6
2317176	Soil	0.04	4.8	<0.1	<0.05	2.7	15.22	20.1	0.05	<1	0.7	1.2	<10	4	15.7
2317177	Soil	0.10	8.2	0.1	<0.05	2.8	10.75	17.6	0.03	1	0.3	1.8	<10	2	27.8
2317178	Soil	0.07	6.8	0.2	<0.05	2.3	18.99	26.0	0.03	2	0.6	2.1	<10	3	12.8
2317179	Soil	0.40	3.6	0.4	<0.05	3.0	10.78	17.4	<0.02	6	0.3	1.1	<10	2	41.6
2317180	Soil	0.08	5.2	<0.1	<0.05	3.1	20.24	29.4	0.04	<1	0.5	1.3	<10	5	11.0

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Project: 204700  
 Report Date: September 12, 2013

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Part: 1 of 3

# CERTIFICATE OF ANALYSIS

VAN13003266.1

Method Analyte	Unit MDL	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001	
2317181	Soil	5.77	7.15	>10000	3147	>100000	2.2	0.3	17	0.83	4.9	0.8	1.4	0.8	33.7	18.58	6.46	0.06	13	0.02	0.048
2317182	Soil	14.32	35.42	>10000	1740	58487	22.2	3.4	185	5.33	16.5	3.2	<0.2	4.4	15.5	3.61	3.53	0.13	37	0.03	0.109
2317183	Soil	14.32	35.50	>10000	1637	60255	21.4	3.2	175	5.10	16.1	3.0	<0.2	4.0	15.3	3.55	3.62	0.13	36	0.03	0.111
2317184	Soil	11.22	18.92	>10000	2225	>100000	50.0	3.0	629	1.20	5.6	10.5	1.3	0.3	41.1	34.15	5.61	0.13	20	1.20	0.154
2317185	Soil	9.84	15.57	>10000	438.7	>100000	10.9	1.3	50	1.51	8.1	1.7	0.9	1.0	17.2	1.59	4.65	0.10	25	0.05	0.115
2317186	Soil	41.97	30.89	948.4	501.7	1992	24.7	2.2	74	9.03	40.8	1.7	<0.2	2.0	12.7	0.28	5.26	0.30	86	0.02	0.240
2317187	Soil	16.45	20.24	196.4	313.8	1623	69.5	2.8	65	1.56	12.0	9.6	1.6	0.2	65.4	4.95	2.77	0.14	37	0.71	0.177
2317188	Soil	37.73	25.40	282.8	484.4	610	45.1	6.9	255	5.06	62.9	5.4	0.7	1.0	29.6	2.24	7.05	0.22	66	0.17	0.185
2317189	Soil	11.35	117.9	56.83	3184	1774	340.4	62.1	1739	1.44	5.6	68.7	1.4	0.4	263.6	32.40	3.67	0.06	38	1.70	0.171
2317190	Soil	31.00	40.22	123.4	1498	1042	95.8	6.2	207	3.09	28.4	20.9	1.9	1.0	84.1	8.13	10.32	0.17	66	0.28	0.128
2317191	Soil	8.87	18.21	178.3	379.4	1207	36.0	2.3	52	0.98	6.9	3.6	1.3	0.6	42.0	3.38	2.90	0.10	23	0.28	0.122
2317192 BAL-1	Rock Pulp	1.13	15.07	21.29	63.9	126	28.2	5.9	245	1.63	3.9	1.3	1.1	1.5	24.7	1.61	0.20	0.10	40	0.62	0.049
2317193	Soil	55.67	102.5	78.24	886.6	1673	141.2	26.6	561	6.52	75.9	15.0	1.6	3.0	66.1	9.56	21.67	0.13	62	0.07	0.251
2317194	Soil	12.49	13.48	25.85	96.9	1884	12.1	1.2	56	1.02	11.6	1.5	4.2	0.3	20.3	0.33	4.54	0.06	21	0.24	0.122
2317195	Soil	21.78	19.31	85.00	174.3	661	20.7	2.4	53	1.65	23.5	3.0	1.8	1.4	46.5	0.39	3.29	0.19	82	0.02	0.106
2317196	Soil	26.88	28.92	60.33	318.1	1128	57.5	2.6	41	1.49	21.4	6.0	1.6	0.9	96.5	2.76	5.05	0.17	64	0.16	0.096
2317197	Soil	28.31	28.21	59.00	302.1	994	51.7	3.6	72	1.56	22.0	5.7	1.7	1.0	98.3	2.62	5.46	0.16	64	0.17	0.095
2317198	Soil	27.68	13.91	61.70	197.3	409	24.3	2.3	15	1.22	17.5	1.5	0.7	1.6	42.9	0.18	3.20	0.17	140	0.01	0.045
2317199	Soil	28.97	13.31	64.69	206.5	533	24.7	2.2	13	1.20	17.9	1.5	0.7	1.7	46.4	0.16	3.81	0.16	136	0.01	0.047
2317200	Soil	5.00	7.99	84.57	76.6	602	9.1	2.3	5749	0.37	1.2	0.3	1.0	0.1	7.1	0.28	0.46	0.05	10	0.42	0.162
2317201	Soil	2.60	5.81	19.73	58.7	732	5.0	1.3	21	0.20	0.7	0.2	<0.2	0.3	30.1	3.40	0.20	0.09	3	0.20	0.056
2317202	Soil	2.38	3.81	20.05	108.3	214	9.8	2.3	59	1.02	5.9	0.4	0.6	3.0	7.4	0.77	0.18	0.21	18	0.06	0.028
2317203	Soil	2.37	7.50	9.13	31.5	1526	5.3	0.8	35	0.20	0.6	0.3	0.2	0.5	15.0	1.64	0.14	0.07	3	0.17	0.062
2317204 BAL-1	Rock Pulp	1.18	15.98	22.30	72.2	141	29.7	6.3	258	1.70	4.3	1.3	1.3	1.5	26.8	1.62	0.20	0.10	43	0.64	0.051
2317205	Soil	2.39	5.62	41.33	57.5	425	4.2	0.8	18	0.24	0.7	0.6	0.5	0.9	13.6	1.55	0.13	0.10	5	0.10	0.065
2317206	Soil	2.22	8.49	84.73	136.3	527	6.9	1.4	25	0.35	1.8	1.1	<0.2	0.4	19.1	1.22	0.20	0.15	4	0.12	0.091
2317207	Soil	7.90	23.15	8.04	440.3	363	24.9	2.3	299	0.29	0.2	10.2	0.4	0.1	364.2	16.45	1.67	0.04	3	4.83	0.063
2317208	Soil	4.40	9.91	12.40	154.0	1772	9.1	1.5	31	0.34	1.3	0.9	0.2	0.5	54.7	5.29	0.77	0.05	7	0.66	0.057
2317209	Soil	11.80	22.41	21.01	584.2	1335	59.3	6.5	222	2.26	22.5	4.4	1.2	2.8	63.8	3.44	5.29	0.17	222	0.36	0.108
2317210	Soil	1.20	5.29	64.39	195.9	245	7.6	2.5	22	0.41	5.2	0.7	0.5	0.8	26.5	2.84	0.38	0.11	2	0.33	0.067

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# CERTIFICATE OF ANALYSIS

VAN13003266.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga	Cs	Ge	Hf
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	
MDL		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
2317181	Soil	3.3	1.7	0.01	102.8	0.002	<20	0.10	0.004	0.04	0.3	0.3	32.24	1.51	39349	1.8	0.02	0.4	0.34	0.2	<0.02
2317182	Soil	14.3	5.2	0.03	3418	0.003	<20	0.41	0.003	0.07	0.1	2.8	12.17	0.19	4006	2.9	<0.02	1.2	0.98	<0.1	0.04
2317183	Soil	14.7	5.3	0.03	3688	0.003	<20	0.37	0.002	0.06	0.1	2.5	12.02	0.19	6357	2.8	0.03	1.2	0.94	<0.1	<0.02
2317184	Soil	5.2	4.7	0.10	2178	0.002	<20	0.30	0.004	0.05	0.2	0.7	21.63	0.28	15247	4.3	<0.02	0.7	0.73	<0.1	<0.02
2317185	Soil	6.7	3.2	0.03	2534	0.002	<20	0.22	0.003	0.05	0.1	0.8	16.43	0.23	9152	1.9	<0.02	0.6	0.64	<0.1	<0.02
2317186	Soil	11.8	11.2	0.04	740.0	0.008	<20	0.54	0.003	0.12	0.2	1.1	8.12	0.19	<5	10.6	0.13	4.1	1.25	0.1	<0.02
2317187	Soil	5.7	6.3	0.05	1313	0.003	<20	0.49	0.002	0.04	0.1	0.9	2.44	0.14	263	2.1	0.03	1.5	1.59	<0.1	0.02
2317188	Soil	10.1	10.2	0.08	942.8	0.007	<20	0.57	0.003	0.07	0.1	1.1	3.89	0.14	145	4.5	0.09	2.5	2.48	<0.1	<0.02
2317189	Soil	9.0	6.7	0.06	1747	0.002	<20	2.32	<0.001	0.03	<0.1	2.8	3.56	0.18	364	7.1	<0.02	0.8	2.97	<0.1	0.07
2317190	Soil	9.9	6.7	0.03	3254	0.004	<20	0.71	0.002	0.05	0.2	1.6	2.81	0.12	305	5.2	0.10	1.8	1.99	<0.1	0.02
2317191	Soil	4.2	5.6	0.03	1894	0.002	<20	0.33	0.003	0.06	0.3	1.1	0.64	0.16	328	1.5	0.04	0.8	0.43	<0.1	0.03
2317192 BAL-1	Rock Pulp	16.2	25.6	0.15	52.6	0.002	<20	1.01	0.005	0.06	<0.1	4.1	0.28	0.06	87	1.2	<0.02	3.0	0.50	<0.1	0.06
2317193	Soil	8.5	7.0	0.02	2523	0.003	<20	3.06	<0.001	0.06	0.1	3.6	1.90	0.25	381	11.4	0.13	1.2	2.11	<0.1	0.11
2317194	Soil	2.8	6.4	0.04	1052	0.002	<20	0.27	0.001	0.08	<0.1	1.0	0.83	0.13	153	3.2	<0.02	0.7	0.48	<0.1	<0.02
2317195	Soil	14.7	8.8	0.04	1711	0.002	<20	0.70	0.001	0.08	<0.1	1.6	1.62	0.13	92	2.6	0.09	2.1	1.66	<0.1	0.06
2317196	Soil	15.4	6.7	0.03	3390	0.001	<20	0.71	0.002	0.09	<0.1	1.1	1.94	0.18	135	4.1	0.06	1.7	1.20	<0.1	<0.02
2317197	Soil	15.5	7.0	0.03	3410	0.001	<20	0.63	<0.001	0.10	<0.1	1.2	1.91	0.18	136	4.3	0.07	1.7	1.12	<0.1	0.02
2317198	Soil	19.7	7.1	0.02	2313	0.002	<20	0.50	<0.001	0.05	<0.1	1.2	1.23	0.09	21	2.1	0.11	3.2	1.08	<0.1	<0.02
2317199	Soil	21.0	7.4	0.02	2409	0.002	<20	0.47	<0.001	0.06	<0.1	1.2	1.23	0.09	31	2.2	0.09	3.0	1.15	<0.1	<0.02
2317200	Soil	3.5	5.9	0.05	553.3	0.002	<20	0.18	0.002	0.17	<0.1	0.7	0.27	0.13	234	0.3	<0.02	1.1	0.61	<0.1	<0.02
2317201	Soil	2.1	4.5	0.04	227.9	0.001	<20	0.30	0.003	0.06	<0.1	0.6	0.10	0.07	144	0.4	<0.02	0.7	0.14	<0.1	<0.02
2317202	Soil	13.6	9.1	0.22	117.0	0.004	<20	0.92	<0.001	0.08	<0.1	0.8	0.39	<0.02	8	0.2	<0.02	3.1	0.61	<0.1	<0.02
2317203	Soil	2.3	6.6	0.02	197.9	0.002	<20	0.24	0.002	0.10	<0.1	0.6	0.11	0.06	117	0.3	<0.02	0.8	0.26	<0.1	<0.02
2317204 BAL-1	Rock Pulp	17.0	27.5	0.16	60.6	0.002	<20	1.09	0.006	0.07	<0.1	4.1	0.30	0.06	90	1.3	0.02	3.3	0.57	<0.1	0.06
2317205	Soil	5.7	6.0	0.04	285.3	0.002	<20	0.48	0.001	0.06	<0.1	0.9	0.16	0.05	90	0.2	<0.02	2.0	0.44	<0.1	<0.02
2317206	Soil	5.5	6.3	0.04	241.7	0.002	<20	0.38	0.001	0.07	<0.1	0.6	0.13	0.06	124	0.2	<0.02	1.4	0.45	<0.1	<0.02
2317207	Soil	2.0	3.4	0.06	1051	0.001	<20	0.19	0.002	0.03	<0.1	0.5	0.33	0.16	93	3.0	<0.02	0.4	0.22	<0.1	<0.02
2317208	Soil	2.8	7.2	0.04	3619	0.003	<20	0.29	0.002	0.04	<0.1	1.1	0.12	0.09	164	0.9	<0.02	0.9	0.23	<0.1	0.03
2317209	Soil	12.8	32.3	0.11	>10000	0.038	<20	2.12	<0.001	0.07	0.1	3.1	0.76	0.04	125	2.4	0.07	6.5	0.62	<0.1	0.05
2317210	Soil	9.2	4.4	0.04	750.6	0.001	<20	0.25	0.002	0.05	<0.1	0.5	0.07	0.11	146	0.3	<0.02	0.5	0.21	<0.1	<0.02



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**Project:** 204700  
**Report Date:** September 12, 2013

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# CERTIFICATE OF ANALYSIS

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Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	LOI	
		Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	LOI
Unit	MDL	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppb	ppb	%	
		0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	0.1
2317181	Soil	0.06	2.2	0.3	<0.05	1.0	1.10	5.9	<0.02	<1	<0.1	0.5	<10	<2	9.1
2317182	Soil	0.15	5.1	0.2	<0.05	2.3	10.04	27.0	0.03	<1	0.4	1.4	<10	<2	8.0
2317183	Soil	0.12	5.0	0.2	<0.05	2.2	9.37	25.8	0.03	1	0.6	1.3	<10	<2	7.9
2317184	Soil	0.16	4.7	0.2	<0.05	0.7	3.58	9.0	<0.02	2	0.1	1.8	<10	<2	41.8
2317185	Soil	0.09	4.6	0.2	<0.05	0.4	2.79	11.4	<0.02	<1	0.2	1.3	<10	<2	10.4
2317186	Soil	0.61	11.3	0.6	<0.05	0.7	2.07	20.8	0.03	<1	0.2	1.5	<10	<2	12.0
2317187	Soil	0.65	6.1	0.3	<0.05	0.5	7.08	10.8	0.02	4	0.3	2.3	<10	3	58.2
2317188	Soil	0.44	10.0	0.4	<0.05	0.4	3.81	18.4	0.05	6	0.3	4.7	<10	5	17.8
2317189	Soil	0.25	3.8	0.1	<0.05	1.5	81.46	22.8	0.02	24	0.5	2.8	<10	<2	66.8
2317190	Soil	0.41	7.8	0.3	<0.05	0.8	7.37	18.3	0.05	1	0.3	2.9	<10	<2	26.9
2317191	Soil	0.17	2.3	0.2	<0.05	1.3	3.83	8.0	<0.02	<1	0.1	0.7	<10	2	71.7
2317192 BAL-1	Rock Pulp	0.23	5.6	0.5	<0.05	2.0	17.36	29.4	<0.02	<1	0.7	7.2	<10	2	12.9
2317193	Soil	0.35	4.7	0.2	<0.05	3.4	23.40	18.1	0.09	14	0.4	2.8	<10	<2	40.4
2317194	Soil	0.10	2.8	0.2	<0.05	0.6	1.08	5.3	<0.02	<1	<0.1	0.6	<10	<2	75.4
2317195	Soil	0.17	10.3	0.3	<0.05	1.2	4.22	27.1	0.03	2	0.2	3.1	<10	2	20.1
2317196	Soil	0.11	11.5	0.3	<0.05	0.5	5.73	28.5	0.03	8	0.3	1.8	<10	<2	21.2
2317197	Soil	0.10	11.3	0.3	<0.05	0.5	5.51	28.6	0.02	9	0.3	1.8	<10	<2	19.6
2317198	Soil	0.08	6.7	0.5	<0.05	0.3	3.01	35.8	<0.02	5	0.1	1.4	<10	<2	8.1
2317199	Soil	0.08	7.0	0.4	<0.05	0.3	3.11	37.6	<0.02	3	0.2	1.3	<10	<2	8.1
2317200	Soil	0.11	11.0	0.2	<0.05	0.1	0.83	7.3	<0.02	<1	<0.1	0.6	<10	<2	68.2
2317201	Soil	0.07	2.3	0.1	<0.05	0.7	1.44	4.9	<0.02	<1	0.2	0.7	<10	<2	83.5
2317202	Soil	0.77	22.5	0.4	<0.05	1.0	2.21	28.3	<0.02	<1	0.5	12.3	<10	<2	7.7
2317203	Soil	0.10	3.4	0.2	<0.05	0.4	1.42	5.1	<0.02	<1	0.1	0.5	<10	<2	78.7
2317204 BAL-1	Rock Pulp	0.25	6.6	0.5	<0.05	2.1	18.77	30.2	0.02	2	0.7	8.3	<10	<2	12.5
2317205	Soil	0.22	4.2	0.4	<0.05	0.5	2.59	12.0	<0.02	<1	0.3	1.2	<10	<2	62.9
2317206	Soil	0.20	3.7	0.3	<0.05	0.3	4.77	12.3	<0.02	<1	0.2	1.0	<10	<2	68.7
2317207	Soil	0.16	2.4	<0.1	<0.05	1.1	4.06	4.4	<0.02	1	0.2	0.9	10	2	82.9
2317208	Soil	0.13	2.9	0.1	<0.05	1.1	2.33	5.6	<0.02	<1	0.1	0.7	<10	<2	82.5
2317209	Soil	1.34	13.9	0.2	<0.05	1.3	10.78	25.3	0.03	<1	1.0	6.5	<10	<2	11.1
2317210	Soil	0.25	1.8	<0.1	<0.05	0.7	8.26	23.6	<0.02	<1	0.2	1.1	<10	<2	84.1

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.

# CERTIFICATE OF ANALYSIS

VAN13003266.1

Method Analyte	Unit	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
MDL		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
2317211	Soil	9.06	79.43	36.43	17.8	1752	103.6	15.5	598	2.99	13.6	2.4	2.9	2.4	11.9	0.21	4.26	0.23	69	0.98	0.388
2317212	Soil	7.88	14.29	22.15	56.7	117	24.4	4.6	181	1.63	7.3	0.6	0.3	<0.1	2.8	0.11	1.12	0.15	30	0.08	0.078
2317213	Soil	3.83	10.31	21.98	124.5	165	19.5	3.4	126	1.47	4.0	1.1	0.4	0.2	6.7	0.33	0.77	0.16	25	0.22	0.109
2317214	Soil	4.02	10.77	23.20	126.1	170	21.3	3.6	141	1.54	4.2	1.2	<0.2	0.2	7.1	0.37	0.80	0.17	27	0.23	0.115
2317215	Soil	7.55	19.80	121.3	348.0	428	33.9	7.7	665	2.25	8.1	1.1	1.1	0.7	3.6	0.40	1.22	0.18	33	0.04	0.076
2317216	Soil	56.73	35.41	98.24	55.8	968	34.5	4.6	172	2.42	29.2	8.9	0.9	0.4	47.4	0.32	5.76	0.28	141	0.03	0.101
2317217	Soil	11.49	13.05	25.13	86.4	338	16.6	4.4	1204	1.10	6.3	1.5	0.5	0.3	13.3	0.88	1.70	0.14	36	0.62	0.178
2317218	Soil	4.46	9.42	12.34	93.1	68	15.1	4.5	136	1.39	6.8	0.5	0.8	0.3	2.8	0.18	0.74	0.20	18	0.15	0.043
2317219	Soil	3.50	10.93	8.34	93.7	80	15.9	3.7	60	1.02	3.7	0.4	<0.2	0.5	1.9	0.06	0.53	0.13	22	0.02	0.029
2317220	Soil	3.61	13.56	29.73	140.9	233	7.9	1.9	1140	0.33	1.3	0.4	0.3	0.3	18.2	3.64	0.47	0.06	8	1.48	0.194
2317221	Soil	1.53	5.44	20.19	85.3	517	12.2	2.4	46	0.89	2.0	1.3	0.5	0.4	3.6	0.26	0.36	0.19	12	0.17	0.086
2317222	Soil	16.67	58.37	48.01	106.8	1927	129.2	16.8	835	2.88	15.4	2.7	3.4	5.8	90.8	0.26	4.25	0.33	73	1.77	0.392
2317223	Soil	3.94	29.44	32.53	41.8	1298	32.1	10.5	407	2.12	5.7	0.8	2.8	3.6	4.6	0.13	1.37	0.24	7	0.20	0.058
2317224	Soil	3.83	38.95	36.11	15.0	1435	43.6	17.6	530	2.52	8.6	0.9	2.2	6.3	14.9	0.08	2.18	0.27	4	2.27	0.038
2317225 BAL-1	Rock Pulp	1.26	16.98	25.62	77.5	147	32.9	7.1	272	1.82	4.5	1.5	1.4	1.8	30.0	1.76	0.23	0.12	47	0.68	0.056
2317226	Soil	3.36	58.81	34.40	35.0	1216	38.6	16.3	494	2.79	9.2	0.8	2.3	5.8	5.8	0.13	1.70	0.25	5	0.45	0.042
2317227	Soil	3.48	38.10	33.02	96.1	1108	39.2	13.8	398	2.46	4.4	0.8	2.9	4.1	7.9	0.34	1.12	0.24	5	0.75	0.044
2317228	Soil	8.06	30.94	32.22	53.8	951	43.9	10.0	351	2.19	8.4	0.8	1.6	2.5	5.2	0.38	1.61	0.23	14	0.38	0.058
2317229	Soil	13.14	29.61	32.13	252.3	976	48.3	8.2	399	1.51	10.1	2.0	1.7	1.4	15.4	5.27	2.89	0.21	25	0.88	0.129
2317230	Soil	51.63	71.01	104.4	303.1	2170	181.5	22.7	514	3.85	38.6	11.0	1.9	9.1	22.9	1.63	10.34	0.43	48	0.35	0.146
2317231	Soil	20.06	100.4	69.95	173.9	3549	121.8	14.1	397	4.10	54.7	5.0	1.6	6.0	37.8	1.22	8.37	0.29	66	2.43	0.137
2317232	Soil	17.70	23.43	16.04	108.5	725	37.2	3.5	114	1.59	12.1	1.1	0.7	<0.1	12.0	0.94	1.88	0.18	89	0.10	0.127
2317233	Soil	19.72	28.50	21.45	152.2	959	45.0	3.7	30	2.25	19.0	1.1	0.7	0.3	25.6	0.73	2.60	0.31	106	0.03	0.077
2317234	Soil	11.68	22.26	20.07	148.5	1279	33.1	3.0	37	1.70	10.5	1.5	0.6	<0.1	21.9	0.88	1.62	0.21	60	0.05	0.152
2317235	Soil	14.49	29.13	22.59	152.8	725	45.2	5.0	168	2.70	17.1	1.1	0.5	0.2	26.0	0.76	1.91	0.29	104	0.02	0.092
2317236	Soil	41.28	96.99	72.35	672.4	2891	112.5	21.3	1039	5.41	63.7	4.3	0.8	5.5	64.7	11.20	5.82	0.46	141	0.14	0.249
2317237	Soil	33.98	79.29	47.03	1722	2940	352.4	41.8	2400	7.13	30.1	3.8	1.0	4.3	87.6	27.47	5.95	0.40	198	0.65	0.199
2317238	Soil	37.69	82.40	51.00	1774	3032	365.5	43.1	2576	7.45	30.7	4.1	0.7	5.2	98.6	27.51	6.14	0.40	204	0.52	0.207
2317239	Soil	4.66	36.34	10.10	141.2	1037	36.6	3.3	339	0.74	5.3	6.1	0.6	0.4	68.3	11.76	2.19	0.09	29	4.05	0.123
2317240	Soil	21.73	67.27	32.59	577.8	3458	115.5	9.6	164	2.48	26.3	2.9	1.1	1.4	28.6	8.21	5.77	0.34	100	0.76	0.134





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**Project:** 204700  
**Report Date:** September 12, 2013

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# CERTIFICATE OF ANALYSIS

VAN13003266.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga	Cs	Ge	Hf
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	
MDL		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	
2317211	Soil	25.7	15.9	0.10	328.4	0.003	<20	0.42	<0.001	0.12	<0.1	5.9	0.15	0.03	104	3.3	0.19	1.0	1.59	<0.1	0.04
2317212	Soil	11.4	9.8	0.04	174.8	0.001	<20	0.31	<0.001	0.05	<0.1	0.4	0.14	0.03	15	0.7	0.04	1.4	0.41	<0.1	<0.02
2317213	Soil	13.7	12.1	0.16	379.2	0.003	<20	0.68	<0.001	0.07	<0.1	0.8	0.19	0.05	15	0.6	<0.02	2.2	1.01	<0.1	<0.02
2317214	Soil	14.6	14.1	0.17	391.7	0.003	<20	0.72	<0.001	0.08	<0.1	0.9	0.20	0.05	24	0.5	0.04	2.3	1.05	<0.1	<0.02
2317215	Soil	19.7	15.3	0.08	258.7	0.003	<20	0.69	<0.001	0.07	<0.1	1.6	1.03	<0.02	44	0.9	0.03	2.1	0.58	<0.1	<0.02
2317216	Soil	19.3	16.2	0.03	548.7	0.002	<20	0.51	0.001	0.20	0.2	0.8	1.50	0.35	36	2.4	0.12	2.0	0.52	<0.1	<0.02
2317217	Soil	8.0	10.8	0.11	333.5	0.003	<20	0.33	0.002	0.13	<0.1	0.8	0.33	0.19	51	0.7	0.03	1.4	0.38	<0.1	0.03
2317218	Soil	17.4	5.7	0.05	186.8	0.003	<20	0.33	<0.001	0.07	<0.1	0.8	0.15	0.02	14	0.3	0.04	2.0	0.54	<0.1	<0.02
2317219	Soil	22.1	8.5	0.03	114.4	0.003	<20	0.30	<0.001	0.07	<0.1	0.8	0.13	<0.02	8	0.3	0.05	2.2	0.65	<0.1	<0.02
2317220	Soil	2.9	6.0	0.18	409.8	0.003	<20	0.14	0.001	0.17	<0.1	0.6	0.11	0.27	104	0.5	<0.02	0.6	0.30	<0.1	0.04
2317221	Soil	16.1	8.4	0.06	193.5	0.002	<20	0.46	<0.001	0.08	<0.1	1.3	0.13	0.03	24	0.5	<0.02	1.4	0.51	<0.1	<0.02
2317222	Soil	22.1	19.3	0.61	2389	0.004	<20	0.56	<0.001	0.21	<0.1	4.0	0.31	0.03	244	4.2	0.13	1.6	3.13	<0.1	0.14
2317223	Soil	23.3	3.9	0.07	325.3	0.001	<20	0.25	<0.001	0.08	<0.1	3.3	0.16	<0.02	71	1.3	0.08	0.8	0.63	<0.1	0.07
2317224	Soil	16.1	2.3	1.05	329.8	<0.001	<20	0.13	0.002	0.09	<0.1	3.9	0.15	0.07	87	1.4	0.06	0.4	1.74	<0.1	0.24
2317225 BAL-1	Rock Pulp	19.0	28.8	0.17	67.6	0.002	<20	1.21	0.007	0.07	<0.1	4.4	0.36	0.07	121	1.4	0.02	3.6	0.66	<0.1	0.09
2317226	Soil	21.8	3.1	0.20	307.2	<0.001	<20	0.20	0.001	0.09	<0.1	3.7	0.15	0.04	50	1.7	0.05	0.6	1.84	<0.1	0.03
2317227	Soil	22.0	2.9	0.38	1118	0.001	<20	0.19	0.001	0.09	<0.1	3.9	0.12	0.05	52	1.0	0.03	0.7	1.54	<0.1	0.05
2317228	Soil	21.5	3.7	0.14	436.0	<0.001	<20	0.20	<0.001	0.07	<0.1	4.3	0.13	0.04	62	1.0	0.06	0.6	0.79	<0.1	0.09
2317229	Soil	7.7	6.4	0.10	390.0	0.001	<20	0.16	0.002	0.12	<0.1	1.5	0.39	0.13	117	1.3	0.06	0.5	0.42	<0.1	0.12
2317230	Soil	21.9	4.6	0.04	637.0	0.001	<20	0.24	0.001	0.11	0.1	3.5	1.58	0.09	207	2.2	0.11	0.7	0.87	<0.1	0.17
2317231	Soil	20.3	9.7	0.45	484.8	0.001	<20	0.23	0.002	0.11	<0.1	3.5	0.64	0.13	241	4.5	0.10	0.8	1.55	<0.1	0.28
2317232	Soil	9.4	11.5	0.04	167.8	0.001	<20	0.31	0.002	0.12	<0.1	0.4	0.63	0.17	63	1.8	0.03	1.4	2.16	<0.1	<0.02
2317233	Soil	15.4	9.0	0.03	200.0	0.002	<20	0.31	0.001	0.17	<0.1	0.7	1.12	0.25	30	4.0	0.05	1.5	1.75	<0.1	<0.02
2317234	Soil	9.4	10.4	0.07	181.7	<0.001	<20	0.49	0.002	0.11	<0.1	0.4	1.01	0.22	100	1.9	0.04	1.8	2.26	<0.1	<0.02
2317235	Soil	15.2	13.6	0.08	192.0	0.006	<20	0.59	0.001	0.14	<0.1	0.7	1.02	0.20	38	2.9	0.04	2.8	2.01	<0.1	<0.02
2317236	Soil	19.0	16.1	0.08	289.3	0.004	<20	0.66	0.003	0.23	0.2	4.2	3.17	0.46	93	5.8	0.13	1.7	3.15	<0.1	0.02
2317237	Soil	21.2	23.9	0.36	384.0	0.003	<20	0.71	0.003	0.19	<0.1	5.5	1.73	0.25	224	7.8	0.11	1.4	2.46	<0.1	<0.02
2317238	Soil	20.1	24.3	0.27	412.4	0.003	<20	0.73	0.003	0.20	0.1	5.8	1.82	0.27	247	8.7	0.09	1.5	2.44	0.1	0.02
2317239	Soil	10.0	5.4	0.07	285.5	0.002	<20	0.24	0.003	0.04	<0.1	0.8	0.16	0.15	129	1.5	0.03	0.6	0.24	<0.1	0.08
2317240	Soil	24.0	14.4	0.11	253.7	0.002	<20	0.47	0.002	0.08	<0.1	3.2	0.47	0.04	174	3.8	0.09	1.2	0.95	<0.1	<0.02

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Project: 204700  
 Report Date: September 12, 2013

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Part: 3 of 3

# CERTIFICATE OF ANALYSIS

VAN13003266.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	LOI	
		Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	LOI
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppb	ppb	%	
MDL		0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	0.1
2317211	Soil	0.03	6.6	0.2	<0.05	0.9	30.24	45.9	0.04	1	1.4	2.3	13	6	8.1
2317212	Soil	<0.02	6.3	0.2	<0.05	<0.1	3.40	22.2	<0.02	1	0.3	1.2	<10	2	9.1
2317213	Soil	0.17	10.8	0.3	<0.05	0.1	9.85	27.3	0.02	1	0.5	5.5	<10	<2	11.0
2317214	Soil	0.17	11.3	0.3	<0.05	0.2	10.57	29.5	0.03	<1	0.6	5.9	<10	<2	10.7
2317215	Soil	0.12	8.0	0.3	<0.05	0.5	6.53	38.1	0.03	<1	0.5	3.5	<10	<2	6.3
2317216	Soil	0.06	7.2	0.3	<0.05	0.3	10.26	34.5	0.02	1	0.4	1.0	<10	3	12.3
2317217	Soil	0.22	8.2	0.4	<0.05	0.8	3.14	15.7	<0.02	<1	0.2	1.3	<10	<2	37.1
2317218	Soil	0.17	10.3	0.3	<0.05	<0.1	2.11	32.5	0.02	<1	0.3	1.1	<10	<2	8.0
2317219	Soil	0.06	8.6	0.2	<0.05	<0.1	2.04	43.1	<0.02	<1	0.1	0.7	<10	<2	4.7
2317220	Soil	0.16	4.7	0.3	<0.05	1.1	1.03	6.0	<0.02	<1	<0.1	0.9	<10	<2	71.0
2317221	Soil	0.07	9.2	0.2	<0.05	0.2	8.61	34.2	0.07	<1	0.4	3.1	<10	<2	8.3
2317222	Soil	0.04	10.3	0.3	<0.05	10.5	16.27	39.1	0.03	<1	0.8	4.6	15	3	8.1
2317223	Soil	0.05	5.4	0.1	<0.05	1.8	17.77	45.3	<0.02	<1	0.5	1.4	<10	3	8.6
2317224	Soil	<0.02	4.6	<0.1	<0.05	14.8	9.56	34.0	<0.02	1	0.5	0.9	20	5	7.7
2317225 BAL-1	Rock Pulp	0.26	7.3	0.6	<0.05	2.4	19.95	34.9	0.02	2	0.8	9.1	<10	<2	13.0
2317226	Soil	0.03	5.6	0.1	<0.05	2.3	14.54	45.4	0.03	2	0.4	1.3	11	2	5.9
2317227	Soil	0.03	5.7	<0.1	<0.05	1.9	15.47	44.1	0.03	<1	0.3	1.2	<10	2	6.2
2317228	Soil	0.03	4.1	0.1	<0.05	2.8	17.32	43.1	0.03	1	0.6	1.4	<10	<2	7.7
2317229	Soil	0.05	4.0	0.1	<0.05	4.2	8.77	14.9	0.02	3	0.4	1.2	14	2	39.2
2317230	Soil	0.03	4.3	0.1	<0.05	11.6	26.21	40.3	0.03	4	0.9	0.8	22	3	7.6
2317231	Soil	0.02	5.3	0.2	<0.05	17.4	29.75	34.3	0.03	13	0.7	1.4	37	3	10.1
2317232	Soil	0.04	7.6	0.4	<0.05	<0.1	4.48	15.5	<0.02	<1	0.2	1.3	<10	2	25.3
2317233	Soil	0.04	8.4	0.3	<0.05	0.1	5.35	25.8	0.04	5	0.3	2.0	<10	<2	10.5
2317234	Soil	0.08	9.6	0.3	<0.05	0.1	5.59	17.3	0.04	2	0.4	2.8	<10	3	29.6
2317235	Soil	0.25	9.9	0.5	<0.05	0.1	6.32	26.7	0.04	2	0.3	3.4	<10	2	11.6
2317236	Soil	0.13	11.1	0.4	<0.05	0.6	22.59	37.6	0.15	5	1.3	4.0	<10	6	9.6
2317237	Soil	0.04	9.0	0.2	<0.05	0.9	40.70	39.5	0.11	2	1.4	7.7	<10	5	9.6
2317238	Soil	0.04	8.7	0.2	<0.05	1.3	42.94	38.6	0.12	2	1.5	7.6	<10	3	9.6
2317239	Soil	0.09	1.8	<0.1	<0.05	3.6	16.36	16.5	<0.02	2	0.4	1.5	<10	3	70.5
2317240	Soil	0.08	5.2	0.2	<0.05	0.6	26.25	38.2	0.06	3	0.9	3.9	<10	4	9.0

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**Client: Teck Resources Limited**  
 Suite 3300, 550 Burrard St.  
 Vancouver BC V6C 0B3 CANADA

Project: 204700  
 Report Date: September 12, 2013

Page: 5 of 6 Part: 1 of 3

# CERTIFICATE OF ANALYSIS

VAN13003266.1

Method Analyte	Unit MDL	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	%
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001		
2317241	Soil	6.38	17.66	13.18	150.8	594	28.1	3.7	263	1.38	6.8	0.9	0.6	0.5	39.8	2.51	2.15	0.14	80	1.88	0.120	
2317242	Soil	20.90	69.18	33.24	968.3	3770	128.9	11.8	320	3.99	35.4	3.5	1.1	1.5	24.2	25.42	5.69	0.33	139	0.88	0.160	
2317243	Soil	15.51	26.57	23.84	322.2	440	58.1	4.8	113	1.89	12.7	2.1	1.0	0.9	21.2	1.84	2.63	0.21	95	0.31	0.081	
2317244	Soil	8.45	23.50	29.16	246.2	937	43.6	2.7	63	1.32	6.8	2.9	1.0	1.3	32.7	3.39	2.19	0.19	126	0.73	0.133	
2317245	Soil	12.93	29.57	15.33	140.3	648	61.2	7.3	168	1.73	7.4	1.3	1.1	3.7	38.6	0.96	2.10	0.16	53	2.21	0.147	
2317246	Soil	13.96	37.52	24.43	407.3	894	66.8	5.3	195	1.42	8.9	3.4	1.2	1.5	48.1	7.99	4.87	0.16	99	0.90	0.168	
2317247	Soil	14.21	52.84	29.42	392.4	1613	88.3	3.7	314	1.37	9.8	4.6	1.9	0.8	55.8	8.04	3.15	0.20	75	0.86	0.116	
2317248 BAL-1	Rock Pulp	1.27	17.02	24.70	73.0	136	30.6	6.4	279	1.77	4.4	1.5	1.4	1.7	28.6	1.74	0.27	0.10	44	0.67	0.053	
2317249	Soil	18.86	23.47	69.92	145.9	384	26.9	4.1	113	2.54	27.3	1.9	1.1	0.6	26.3	0.19	2.94	0.25	93	0.02	0.082	
2317250	Soil	8.84	11.47	34.16	75.5	253	13.3	2.8	26	1.04	8.4	0.6	0.5	0.4	13.6	0.08	0.78	0.16	57	<0.01	0.041	
2317251	Soil	55.35	239.4	75.86	3024	3227	519.2	21.1	683	3.85	79.4	26.2	0.8	9.2	73.1	90.25	19.68	0.26	461	0.88	0.378	
2317252	Soil	13.31	23.28	46.45	255.4	816	26.1	3.6	60	2.74	22.6	1.6	0.8	5.8	56.9	0.16	2.77	0.28	39	0.01	0.100	
2317253	Soil	21.54	28.49	62.01	252.9	1197	24.5	3.5	54	2.59	24.0	1.7	0.8	5.5	56.1	0.30	5.35	0.32	68	<0.01	0.094	
2317254	Soil	11.36	17.24	33.41	152.4	702	12.3	1.8	40	1.58	14.3	1.3	0.7	3.6	34.8	0.14	2.51	0.27	30	0.01	0.052	
2317255	Soil	15.07	17.96	17.55	53.4	441	14.5	0.9	9	0.70	8.4	2.0	3.1	4.6	21.4	0.13	4.95	0.16	31	0.02	0.022	
2317256	Soil	15.08	31.21	20.49	52.4	539	10.7	1.1	15	0.96	12.1	2.8	1.7	3.2	27.3	0.11	5.54	0.17	47	<0.01	0.031	
2317257	Soil	37.01	58.29	290.2	234.9	1820	38.0	2.4	18	2.19	52.5	5.9	2.5	1.7	108.3	0.60	20.49	0.23	68	0.02	0.123	
2317258 BAL-1	Rock Pulp	1.23	16.61	23.06	66.2	132	29.9	6.5	271	1.72	4.7	1.3	1.1	1.6	27.8	1.70	0.26	0.10	41	0.67	0.053	
2317259	Soil	9.19	235.7	20.41	563.3	739	179.4	16.2	142	6.23	19.6	24.7	0.6	6.6	71.0	0.48	1.17	0.18	154	0.02	0.413	
2317260	Soil	36.55	60.24	32.97	530.1	1708	97.1	6.2	46	2.85	30.4	3.7	2.2	4.8	158.4	6.16	6.25	0.28	106	0.26	0.123	
2317261	Soil	31.79	26.81	40.84	47.5	1415	9.7	1.2	43	3.69	32.1	1.9	0.6	16.4	231.4	0.36	3.59	0.42	67	0.02	0.108	
2317262	Soil	12.71	18.07	24.69	44.6	470	11.3	1.5	25	2.08	23.0	1.3	1.1	1.4	51.7	0.20	1.58	0.25	59	0.02	0.072	
2317263	Soil	8.36	16.58	19.43	54.2	343	11.6	2.2	18	1.55	17.7	1.0	1.4	0.5	36.6	0.09	1.09	0.20	54	0.02	0.088	
2317264	Soil	9.27	13.77	18.65	57.0	278	12.6	2.2	27	1.17	10.9	1.1	0.7	0.3	19.2	0.13	1.37	0.17	52	0.02	0.077	
2317265	Soil	20.11	26.91	24.19	28.8	413	7.2	1.0	22	2.56	34.7	1.7	1.3	4.1	61.8	0.10	3.46	0.22	69	0.01	0.069	
2317266	Soil	33.30	18.25	24.78	31.2	524	7.8	1.1	19	1.93	28.2	3.2	1.4	0.1	34.8	0.13	2.48	0.22	94	0.02	0.083	
2317267	Soil	33.91	18.17	25.53	31.4	517	7.7	1.1	19	1.98	28.2	3.2	1.1	0.1	34.9	0.12	2.55	0.23	96	0.02	0.086	
2317268	Soil	34.73	34.05	12.16	38.8	313	10.9	1.4	33	1.09	21.1	7.1	1.7	1.5	43.0	0.21	4.75	0.13	81	0.03	0.044	
2317269	Soil	24.52	24.25	13.65	24.7	148	5.1	0.9	18	1.02	11.4	3.2	0.6	<0.1	42.5	0.09	1.44	0.16	81	0.01	0.050	
2317270	Soil	218.8	101.8	40.97	200.9	751	34.7	2.9	36	5.65	120.9	10.8	1.7	5.7	224.8	0.60	14.47	0.36	450	0.02	0.190	

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Part: 2 of 3

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Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga	Cs	Ge	Hf
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	
MDL		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.02	
2317241	Soil	5.4	9.5	0.14	152.1	0.003	<20	0.32	0.002	0.05	<0.1	0.9	0.22	0.18	122	1.5	0.02	1.0	0.31	<0.1	0.06
2317242	Soil	22.4	18.6	0.08	171.1	0.003	<20	0.43	0.002	0.08	<0.1	4.4	0.49	0.05	155	7.8	0.08	1.5	1.14	<0.1	<0.02
2317243	Soil	18.2	12.0	0.11	288.0	0.002	<20	0.43	0.002	0.09	0.1	1.7	0.63	0.05	86	1.8	0.08	1.4	0.79	<0.1	0.02
2317244	Soil	16.2	12.6	0.15	455.1	0.002	<20	0.51	0.002	0.08	0.1	2.8	0.61	0.08	208	1.5	0.06	1.5	0.58	<0.1	0.11
2317245	Soil	16.0	8.3	1.08	573.3	0.002	<20	0.27	0.002	0.10	<0.1	4.6	0.36	0.02	134	1.9	0.06	0.9	0.86	<0.1	0.08
2317246	Soil	7.8	11.1	0.16	713.5	0.002	<20	0.29	0.004	0.14	<0.1	2.0	0.63	0.23	159	3.8	0.07	0.8	0.68	<0.1	0.15
2317247	Soil	10.9	9.6	0.27	876.9	0.001	<20	0.39	0.003	0.14	<0.1	1.5	0.75	0.25	267	3.9	0.05	1.1	1.07	<0.1	0.04
2317248 BAL-1	Rock Pulp	18.2	27.4	0.16	64.2	0.002	<20	1.10	0.007	0.07	<0.1	4.3	0.32	0.07	109	1.4	<0.02	3.3	0.59	<0.1	0.06
2317249	Soil	13.8	10.8	0.07	722.7	0.002	<20	0.68	0.005	0.09	<0.1	0.9	1.12	0.17	94	1.9	0.09	2.8	1.34	<0.1	<0.02
2317250	Soil	20.8	7.9	0.02	391.1	0.003	<20	0.51	0.002	0.07	<0.1	0.7	0.82	0.06	18	0.7	0.04	3.7	1.75	<0.1	<0.02
2317251	Soil	23.3	31.9	0.03	3841	0.003	<20	0.64	0.005	0.09	<0.1	10.9	1.33	0.05	608	16.0	0.18	1.1	1.31	<0.1	0.18
2317252	Soil	11.9	6.0	0.02	864.2	0.001	<20	0.33	0.004	0.18	<0.1	2.5	1.10	0.31	38	3.2	0.07	1.3	3.27	<0.1	<0.02
2317253	Soil	13.3	7.1	0.02	683.8	0.001	<20	0.27	0.004	0.14	<0.1	2.0	1.44	0.30	81	3.8	0.13	1.1	2.68	<0.1	0.02
2317254	Soil	15.5	4.8	0.02	689.6	<0.001	<20	0.25	0.002	0.14	<0.1	1.6	0.83	0.23	46	2.2	0.04	1.1	2.46	<0.1	<0.02
2317255	Soil	15.8	5.9	<0.01	495.2	<0.001	<20	0.13	0.002	0.08	<0.1	2.1	0.46	0.09	76	2.1	0.05	0.8	0.90	<0.1	0.10
2317256	Soil	17.6	5.1	0.02	372.4	0.001	<20	0.19	0.001	0.09	<0.1	1.8	0.46	0.12	47	3.5	0.04	0.9	0.95	<0.1	0.02
2317257	Soil	16.3	8.1	0.01	1662	0.003	<20	0.97	0.003	0.11	0.3	1.8	2.89	0.30	731	15.7	0.11	2.5	1.05	0.1	0.06
2317258 BAL-1	Rock Pulp	17.1	25.9	0.15	59.1	0.002	<20	1.01	0.006	0.06	<0.1	4.1	0.29	0.06	113	1.3	<0.02	3.2	0.50	<0.1	0.06
2317259	Soil	5.3	21.3	0.17	1509	0.002	<20	4.82	0.016	0.08	<0.1	12.2	0.46	0.43	114	3.8	0.06	1.9	2.67	<0.1	0.11
2317260	Soil	19.1	13.5	0.04	1426	0.002	<20	0.40	0.010	0.24	<0.1	3.4	1.23	0.50	180	11.1	0.10	1.5	1.66	<0.1	<0.02
2317261	Soil	9.6	10.3	0.03	130.2	0.002	<20	0.39	0.069	0.42	<0.1	2.6	2.12	1.13	127	5.0	0.14	1.9	2.98	<0.1	0.09
2317262	Soil	16.2	10.0	0.06	594.8	0.002	<20	0.62	0.018	0.13	<0.1	1.1	0.97	0.30	42	2.4	0.09	2.5	1.47	<0.1	<0.02
2317263	Soil	14.5	8.7	0.04	487.3	0.002	<20	0.68	0.007	0.09	<0.1	0.7	0.59	0.17	39	1.5	0.02	2.8	1.34	<0.1	<0.02
2317264	Soil	14.2	8.8	0.03	615.0	0.002	<20	0.51	0.004	0.10	<0.1	0.8	0.56	0.17	35	1.4	0.04	2.5	1.13	<0.1	<0.02
2317265	Soil	17.8	9.4	0.06	827.3	0.002	<20	0.51	0.022	0.18	<0.1	1.5	1.16	0.43	71	5.5	0.07	2.2	1.70	<0.1	<0.02
2317266	Soil	8.9	8.8	0.03	884.2	0.002	<20	0.48	0.014	0.18	0.1	0.6	1.87	0.46	102	4.0	0.09	2.8	1.59	<0.1	<0.02
2317267	Soil	8.7	8.5	0.03	899.7	0.002	<20	0.48	0.015	0.19	0.1	0.6	1.90	0.47	91	4.3	0.08	2.7	1.59	<0.1	<0.02
2317268	Soil	11.8	5.7	0.07	2529	0.003	<20	0.50	0.002	0.09	0.2	1.6	0.88	0.22	130	4.8	0.07	1.3	0.91	<0.1	0.03
2317269	Soil	10.8	6.8	0.05	687.3	0.003	<20	0.47	<0.001	0.10	0.1	0.5	0.89	0.18	34	4.1	0.07	2.4	0.93	<0.1	<0.02
2317270	Soil	15.3	10.1	0.05	122.8	0.003	<20	0.66	0.005	0.61	0.6	4.9	5.54	1.54	193	21.7	0.35	2.3	3.94	0.1	0.03

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 Suite 3300, 550 Burrard St.  
 Vancouver BC V6C 0B3 CANADA

Project: 204700  
 Report Date: September 12, 2013

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Part: 3 of 3

# CERTIFICATE OF ANALYSIS

VAN13003266.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	LOI	
		Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	LOI
Unit	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppb	ppb	%	
MDL	MDL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	
2317241	Soil	0.31	2.9	0.2	<0.05	2.4	5.50	9.8	0.02	1	0.3	2.9	<10	<2	58.2
2317242	Soil	0.08	5.6	0.2	<0.05	0.4	29.06	38.6	0.03	3	0.8	4.2	<10	2	8.9
2317243	Soil	0.16	7.2	0.3	<0.05	0.3	14.33	32.8	0.04	6	0.6	5.8	<10	3	7.0
2317244	Soil	0.12	6.5	0.3	<0.05	2.9	17.07	28.8	0.03	3	0.7	7.2	<10	<2	15.6
2317245	Soil	0.05	5.4	0.2	<0.05	4.3	13.25	28.9	0.03	<1	0.9	3.8	<10	<2	9.7
2317246	Soil	0.14	8.1	0.2	<0.05	4.9	10.82	14.4	<0.02	3	0.4	2.1	<10	3	43.1
2317247	Soil	0.06	9.1	0.4	<0.05	1.4	10.66	20.0	0.02	9	0.4	2.2	<10	3	18.4
2317248 BAL-1	Rock Pulp	0.26	6.4	0.5	<0.05	2.5	19.63	32.8	0.03	1	0.7	8.4	<10	<2	13.2
2317249	Soil	0.13	11.0	0.4	<0.05	0.3	2.98	26.7	0.03	<1	0.2	2.9	<10	3	12.4
2317250	Soil	0.15	9.5	0.7	<0.05	<0.1	2.08	40.3	0.02	1	0.1	0.8	<10	<2	10.0
2317251	Soil	0.12	5.6	0.3	<0.05	14.0	63.95	36.7	0.06	15	1.3	1.5	<10	8	10.8
2317252	Soil	0.03	14.0	0.3	<0.05	1.5	5.22	30.7	0.02	6	0.2	1.1	<10	<2	8.2
2317253	Soil	0.08	10.6	0.2	<0.05	1.5	8.90	33.2	0.03	5	0.2	1.0	<10	3	6.7
2317254	Soil	<0.02	10.7	0.3	<0.05	0.3	4.75	37.3	0.02	5	0.2	0.9	<10	2	6.8
2317255	Soil	<0.02	5.7	0.1	<0.05	6.2	6.01	31.1	<0.02	10	0.2	0.6	<10	3	3.5
2317256	Soil	0.03	5.9	0.2	<0.05	0.9	4.35	33.9	<0.02	11	0.2	0.8	<10	<2	6.0
2317257	Soil	0.34	8.6	0.4	<0.05	1.3	4.36	31.4	0.05	5	0.3	1.5	<10	<2	14.7
2317258 BAL-1	Rock Pulp	0.23	5.7	0.5	<0.05	2.2	18.88	31.5	0.02	<1	0.8	7.2	<10	<2	13.6
2317259	Soil	0.02	6.3	0.1	<0.05	5.6	13.13	13.7	0.10	10	0.8	21.5	<10	4	16.0
2317260	Soil	0.08	13.8	0.4	<0.05	0.9	12.74	34.5	0.04	7	0.4	3.3	<10	3	8.9
2317261	Soil	0.03	20.7	0.4	<0.05	6.9	5.55	19.1	0.11	8	0.2	2.3	<10	3	9.6
2317262	Soil	0.13	13.4	0.3	<0.05	0.7	2.49	30.4	0.04	1	0.2	3.3	<10	<2	8.7
2317263	Soil	0.12	11.7	0.4	<0.05	0.4	2.34	28.4	0.02	<1	0.2	1.6	<10	<2	14.7
2317264	Soil	0.10	11.4	0.4	<0.05	0.3	2.11	26.4	<0.02	2	0.2	1.3	<10	<2	16.1
2317265	Soil	0.21	13.3	0.3	<0.05	0.4	2.68	33.6	0.04	3	0.2	3.2	<10	3	8.2
2317266	Soil	0.07	16.0	0.6	<0.05	0.1	2.68	17.0	0.05	<1	0.1	1.4	<10	<2	15.1
2317267	Soil	0.08	15.6	0.5	<0.05	<0.1	2.59	16.9	0.04	1	0.1	1.4	<10	2	15.1
2317268	Soil	0.11	6.6	0.3	<0.05	0.6	6.13	21.8	0.03	3	0.2	3.5	<10	<2	6.1
2317269	Soil	0.07	8.1	0.4	<0.05	<0.1	3.08	20.4	0.03	<1	0.1	1.5	<10	2	9.2
2317270	Soil	0.08	27.1	0.5	<0.05	2.7	10.20	28.4	0.09	7	0.3	1.7	<10	2	13.6

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 Vancouver BC V6C 0B3 CANADA

Project: 204700  
 Report Date: September 12, 2013

Page: 6 of 6 Part: 1 of 3

# CERTIFICATE OF ANALYSIS

VAN13003266.1

Method Analyte	Unit	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	P
MDL		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001	0.001
2317271	Soil	117.1	68.83	25.21	87.1	471	19.3	1.9	44	3.05	61.0	10.3	1.5	5.6	160.4	0.28	6.22	0.28	183	0.02	0.111	
2317272	Soil	16.58	16.41	85.06	113.0	391	16.9	2.3	38	1.46	11.5	1.5	0.2	0.2	22.6	0.21	1.21	0.21	65	0.02	0.063	
2317273	Soil	19.17	29.93	62.24	192.9	290	39.4	6.9	218	3.03	30.1	2.9	0.7	0.7	31.0	0.33	3.20	0.23	65	0.03	0.126	
2317274	Soil	14.58	25.87	35.13	181.0	352	38.8	5.3	93	3.16	27.9	1.8	1.1	2.1	29.9	0.26	2.43	0.24	56	0.02	0.082	
2317275	Soil	12.96	33.19	36.32	146.3	484	29.0	4.0	55	1.82	24.7	3.0	1.4	1.9	93.0	0.29	4.10	0.20	45	0.02	0.074	
2317276 BAL-1	Rock Pulp	1.26	16.30	23.17	71.5	128	31.1	6.8	267	1.72	4.5	1.4	0.7	1.6	27.6	1.71	0.22	0.10	42	0.65	0.052	
2317277	Soil	9.03	8.51	32.83	43.0	292	8.6	0.8	17	1.02	9.8	0.8	0.2	1.3	61.6	0.08	0.67	0.26	39	0.02	0.072	
2317278	Soil	22.16	17.45	31.44	188.2	240	32.1	4.2	27	2.04	24.9	1.4	0.5	0.9	59.5	0.22	2.25	0.22	68	0.02	0.067	
2317279	Soil	38.59	218.6	18.42	811.6	371	267.0	26.7	347	2.83	29.3	14.3	1.4	3.1	29.6	9.27	4.05	0.16	76	0.34	0.160	
2317280	Soil	20.92	21.11	29.68	107.1	416	24.0	3.3	52	2.23	27.1	2.2	0.7	0.5	30.5	0.21	1.97	0.22	79	0.02	0.099	
2317281	Soil	36.09	35.37	26.42	473.5	368	123.3	9.4	143	3.06	33.2	4.2	0.6	1.1	33.4	0.38	2.23	0.24	87	0.01	0.089	
2317282	Soil	31.69	24.40	31.13	138.5	442	32.5	3.6	40	1.92	25.5	2.6	0.6	0.3	34.5	0.20	2.54	0.23	113	0.02	0.078	
2317283	Soil	71.66	73.73	21.63	420.2	505	195.5	10.2	276	2.84	74.0	10.1	1.7	4.5	39.4	3.07	8.25	0.22	109	0.15	0.102	
2317284	Soil	73.39	78.51	21.45	425.5	505	205.5	10.0	270	2.86	77.5	10.7	2.1	4.7	40.4	3.15	8.26	0.22	112	0.15	0.101	
2317285	Soil	9.60	11.64	8.23	151.1	175	22.0	3.0	133	0.54	3.6	1.0	0.4	0.7	24.0	4.43	1.07	0.07	14	1.32	0.117	
2317286	Soil	27.96	40.13	21.81	454.6	681	92.8	7.5	139	1.99	16.9	5.6	1.6	2.6	27.8	5.17	4.44	0.18	59	0.58	0.125	
2317287	Soil	7.12	18.82	16.90	127.4	222	36.5	5.6	186	1.05	4.9	4.2	1.0	1.1	21.7	3.23	1.31	0.12	17	1.30	0.126	
2317288	Soil	27.87	32.26	15.30	223.5	342	85.4	9.4	230	1.86	15.7	3.5	0.8	4.4	36.5	2.11	2.46	0.13	34	2.16	0.070	
2317289	Soil	2.90	12.91	13.87	90.1	327	19.9	5.4	348	0.75	2.0	0.5	<0.2	0.7	22.6	1.82	0.73	0.09	9	1.06	0.119	
2317290	Soil	4.14	19.24	16.60	114.7	226	40.0	8.2	235	2.18	5.8	0.9	0.3	1.8	7.6	0.42	0.95	0.16	17	0.15	0.059	
2317291	Soil	1.30	2.99	4.06	24.9	86	3.5	0.8	36	0.23	0.8	0.4	<0.2	0.7	4.0	0.09	0.12	0.04	11	0.06	0.031	
2317292	Soil	4.77	29.65	16.37	124.4	295	35.2	8.8	270	2.47	6.8	0.8	0.8	1.8	4.4	0.27	0.86	0.15	27	0.06	0.062	
2317293	Soil	139.6	39.29	31.49	102.3	539	30.4	3.0	135	3.84	87.2	10.3	2.3	0.7	75.3	0.38	8.17	0.33	164	0.02	0.169	
2317294	Soil	71.68	34.37	22.70	133.8	300	43.8	3.5	116	2.12	42.7	5.8	2.3	0.4	52.5	0.84	3.52	0.28	93	0.29	0.098	
2317295	Soil	21.94	34.64	16.43	327.4	337	95.8	11.9	367	2.25	11.0	1.6	3.3	4.3	18.9	2.41	2.97	0.13	24	1.04	0.067	
2317296	Soil	36.43	35.61	16.80	240.1	342	104.6	10.2	313	2.03	17.8	3.2	2.8	4.3	34.1	1.96	2.77	0.15	43	2.28	0.093	
2317297	Soil	12.57	15.67	24.78	216.5	380	30.6	3.2	190	1.00	6.9	1.6	1.7	0.8	23.0	3.49	2.36	0.17	61	1.42	0.134	
2317298	Soil	23.94	25.34	88.88	859.9	852	92.5	8.8	416	3.02	13.9	1.7	1.7	2.7	21.1	4.43	3.67	0.18	187	2.10	0.058	
2317299	Soil	13.49	14.60	15.75	230.0	613	14.1	4.8	3679	0.70	1.8	0.7	1.9	0.6	27.6	1.03	0.72	0.11	13	1.28	0.248	
2317300	Soil	5.80	32.30	18.79	208.5	118	50.9	6.5	69	2.03	5.1	1.0	2.3	0.1	13.2	0.22	1.36	0.18	34	0.16	0.092	

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**Project:** 204700  
**Report Date:** September 12, 2013

**Page:** 6 of 6

**Part:** 2 of 3

# CERTIFICATE OF ANALYSIS

VAN13003266.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga	Cs	Ge	Hf
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	
MDL		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.02	
2317271	Soil	17.0	8.8	0.04	1244	0.002	<20	0.44	0.002	0.29	0.4	3.8	2.80	0.66	110	10.8	0.24	2.1	1.81	0.1	0.07
2317272	Soil	16.5	8.1	0.03	1078	0.004	<20	0.46	0.001	0.09	<0.1	0.8	2.16	0.14	23	1.5	0.03	3.2	2.24	<0.1	<0.02
2317273	Soil	15.6	13.3	0.06	590.1	0.006	<20	0.66	0.003	0.09	<0.1	1.4	1.25	0.15	53	2.3	0.05	2.9	1.84	<0.1	<0.02
2317274	Soil	17.4	13.6	0.07	339.2	0.002	<20	0.74	0.005	0.09	<0.1	1.8	0.74	0.12	43	2.2	0.06	2.3	1.43	<0.1	0.05
2317275	Soil	18.0	7.0	0.02	616.0	0.001	<20	0.44	0.003	0.10	<0.1	1.8	0.77	0.13	63	3.9	0.07	1.2	1.69	<0.1	<0.02
2317276 BAL-1	Rock Pulp	17.2	27.5	0.15	61.0	0.002	<20	1.10	0.005	0.06	<0.1	4.2	0.31	0.06	109	1.3	<0.02	3.3	0.57	<0.1	0.07
2317277	Soil	14.3	8.7	0.02	496.6	0.001	<20	0.50	0.009	0.11	<0.1	0.9	0.70	0.17	18	0.9	0.04	2.4	2.32	<0.1	<0.02
2317278	Soil	18.6	6.5	0.02	441.1	0.002	<20	0.38	0.002	0.08	<0.1	1.0	0.73	0.11	14	2.7	0.11	2.1	1.06	<0.1	<0.02
2317279	Soil	17.6	12.0	0.09	884.4	0.002	<20	2.30	<0.001	0.06	0.1	6.3	1.15	0.12	196	3.1	0.06	1.3	1.06	<0.1	0.14
2317280	Soil	14.5	9.7	0.04	618.2	0.003	<20	0.57	0.006	0.10	<0.1	0.9	1.07	0.19	32	2.3	0.10	3.0	0.90	<0.1	<0.02
2317281	Soil	17.0	12.8	0.03	679.8	0.002	<20	0.60	0.007	0.09	<0.1	1.4	1.08	0.15	46	2.8	0.10	2.2	1.02	<0.1	<0.02
2317282	Soil	16.4	10.0	0.04	1475	0.003	<20	0.45	0.002	0.10	0.1	0.8	1.65	0.18	48	3.3	0.08	3.2	0.98	<0.1	<0.02
2317283	Soil	19.2	10.8	0.08	1858	0.004	<20	0.74	0.002	0.12	0.2	4.3	3.08	0.24	218	7.6	0.21	1.7	1.16	<0.1	0.03
2317284	Soil	19.4	11.6	0.08	1922	0.005	<20	0.77	0.002	0.12	0.2	4.4	3.15	0.25	254	7.8	0.21	1.8	1.14	<0.1	0.03
2317285	Soil	3.1	4.3	0.23	381.4	0.002	<20	0.14	0.001	0.07	<0.1	0.9	0.29	0.21	117	1.6	0.03	0.4	0.19	<0.1	0.09
2317286	Soil	16.3	8.0	0.07	416.6	0.001	<20	0.25	<0.001	0.07	0.2	3.3	0.71	0.06	198	2.3	0.13	0.7	0.55	<0.1	0.11
2317287	Soil	6.9	5.6	0.23	438.9	0.002	<20	0.20	<0.001	0.11	<0.1	1.9	0.30	0.18	142	1.5	0.02	0.5	0.34	<0.1	0.12
2317288	Soil	14.7	4.9	1.15	462.5	0.001	<20	0.24	0.002	0.07	<0.1	4.1	0.78	0.09	135	2.2	0.05	0.6	0.62	<0.1	0.09
2317289	Soil	5.2	5.4	0.18	299.0	0.003	<20	0.19	0.002	0.12	<0.1	1.3	0.16	0.19	111	0.6	<0.02	0.6	0.46	<0.1	0.08
2317290	Soil	16.7	6.8	0.09	190.9	0.003	<20	0.35	<0.001	0.07	<0.1	2.8	0.22	0.03	34	0.8	0.05	1.1	1.05	<0.1	<0.02
2317291	Soil	19.3	5.1	0.04	153.8	0.002	<20	0.29	<0.001	0.07	<0.1	0.6	0.23	<0.02	12	<0.1	<0.02	2.4	1.54	<0.1	<0.02
2317292	Soil	16.7	17.5	0.36	120.2	0.003	<20	0.80	<0.001	0.10	<0.1	1.8	0.22	0.02	28	0.7	0.03	2.7	1.35	<0.1	0.03
2317293	Soil	14.0	13.3	0.09	1312	0.002	<20	0.73	0.004	0.23	0.4	1.6	3.90	0.57	133	13.7	0.29	2.9	2.29	<0.1	0.03
2317294	Soil	12.3	12.3	0.08	2907	0.002	<20	0.52	<0.001	0.16	0.3	1.7	2.79	0.34	311	6.2	0.20	2.4	1.82	<0.1	<0.02
2317295	Soil	15.5	4.6	0.51	244.4	0.001	<20	0.22	0.002	0.06	<0.1	4.4	0.60	0.05	95	2.2	<0.02	0.5	0.92	<0.1	0.05
2317296	Soil	13.8	5.4	1.22	283.1	0.001	<20	0.24	0.003	0.07	0.1	4.5	0.92	0.09	102	3.2	0.02	0.5	0.62	<0.1	0.11
2317297	Soil	6.1	9.0	0.18	260.0	0.003	<20	0.26	0.003	0.07	0.1	1.0	0.35	0.16	253	1.0	0.02	0.7	0.33	<0.1	0.10
2317298	Soil	21.1	19.2	1.05	170.3	0.001	<20	0.27	0.002	0.08	0.2	6.7	0.82	0.05	427	1.6	0.04	0.6	0.97	<0.1	0.04
2317299	Soil	4.4	4.4	0.17	569.8	0.004	<20	0.23	0.003	0.09	0.3	1.2	0.29	0.26	256	0.9	<0.02	0.9	0.29	<0.1	0.05
2317300	Soil	9.5	5.8	0.06	218.3	0.001	<20	0.22	<0.001	0.06	<0.1	0.8	0.17	0.05	17	1.9	0.14	1.3	0.74	<0.1	<0.02

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Project: 204700  
 Report Date: September 12, 2013

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Part: 3 of 3

# CERTIFICATE OF ANALYSIS

VAN13003266.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	LOI	
		Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	LOI
Unit	MDL	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppb	ppb	%	
		0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	0.1
2317271	Soil	0.06	13.6	0.4	<0.05	4.1	7.24	31.5	0.06	3	0.2	1.4	<10	3	9.4
2317272	Soil	0.17	9.7	0.5	<0.05	<0.1	3.14	33.1	0.02	<1	0.2	1.2	<10	<2	13.0
2317273	Soil	0.31	11.3	0.5	<0.05	0.3	5.64	30.3	0.04	4	0.3	2.2	<10	3	13.1
2317274	Soil	0.29	12.0	0.3	<0.05	0.8	4.59	33.3	0.04	3	0.3	3.1	<10	<2	10.4
2317275	Soil	0.10	8.9	0.2	<0.05	0.9	4.39	34.9	0.03	4	0.3	1.2	<10	2	8.7
2317276 BAL-1	Rock Pulp	0.25	6.9	0.5	<0.05	2.3	19.41	31.0	<0.02	1	0.7	7.7	<10	<2	12.7
2317277	Soil	0.07	11.8	0.4	<0.05	0.4	2.47	27.9	0.02	<1	0.2	1.1	<10	<2	12.5
2317278	Soil	0.07	7.6	0.4	<0.05	<0.1	4.77	35.2	0.02	1	0.2	0.9	<10	<2	6.8
2317279	Soil	0.15	6.7	0.5	<0.05	5.1	84.88	36.0	0.04	3	1.4	3.2	<10	<2	12.4
2317280	Soil	0.17	10.6	0.4	<0.05	0.2	3.38	27.4	0.02	4	0.2	1.8	<10	2	10.8
2317281	Soil	0.08	10.1	0.6	<0.05	0.3	7.62	31.3	0.04	1	0.3	1.4	<10	<2	9.3
2317282	Soil	0.06	10.8	0.6	<0.05	<0.1	3.98	29.8	0.02	1	0.2	1.6	<10	2	9.3
2317283	Soil	0.29	8.1	0.6	<0.05	2.1	20.43	35.5	0.05	3	0.6	3.1	<10	3	7.6
2317284	Soil	0.32	8.2	0.6	<0.05	2.6	21.06	36.1	0.06	5	0.7	3.3	<10	<2	7.4
2317285	Soil	0.10	2.6	<0.1	<0.05	3.2	3.80	6.0	<0.02	<1	0.1	0.7	<10	<2	72.9
2317286	Soil	0.06	3.8	0.2	<0.05	3.0	22.57	29.2	0.03	4	0.7	1.3	<10	3	11.7
2317287	Soil	0.09	3.9	0.2	<0.05	4.5	10.24	13.9	0.02	2	0.3	1.5	16	3	51.8
2317288	Soil	0.02	3.5	0.2	<0.05	4.9	17.38	28.7	<0.02	3	0.5	1.0	11	3	9.2
2317289	Soil	0.15	3.9	0.2	<0.05	2.5	5.78	10.6	<0.02	<1	0.2	1.4	<10	<2	66.7
2317290	Soil	0.10	5.8	0.2	<0.05	0.5	10.50	34.3	<0.02	<1	0.6	2.6	<10	<2	7.7
2317291	Soil	0.06	7.6	0.3	<0.05	<0.1	1.69	38.6	<0.02	<1	<0.1	0.9	<10	<2	7.3
2317292	Soil	0.08	8.8	0.2	<0.05	0.7	5.86	35.6	<0.02	2	0.5	9.2	<10	<2	7.7
2317293	Soil	0.07	15.0	1.0	<0.05	0.6	6.86	27.0	0.08	2	0.2	3.1	<10	2	19.8
2317294	Soil	0.06	12.0	0.9	<0.05	0.5	9.71	22.7	0.06	5	0.3	1.9	<10	3	17.1
2317295	Soil	0.02	3.6	0.1	<0.05	4.4	18.17	28.6	<0.02	3	0.4	1.0	<10	2	6.1
2317296	Soil	0.03	3.2	<0.1	<0.05	6.1	22.25	25.7	0.02	3	0.6	1.2	<10	3	9.3
2317297	Soil	0.12	3.2	0.4	<0.05	3.2	6.97	11.7	<0.02	1	0.3	2.5	<10	3	55.7
2317298	Soil	0.03	5.8	0.2	<0.05	2.1	18.93	37.3	0.03	<1	0.9	8.4	<10	3	12.0
2317299	Soil	0.11	4.0	<0.1	<0.05	1.6	4.40	12.8	<0.02	1	<0.1	1.0	<10	3	70.8
2317300	Soil	<0.02	6.2	0.3	<0.05	<0.1	4.94	15.9	0.03	2	0.6	2.5	<10	3	8.1

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Project: 204700  
 Report Date: September 12, 2013

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Part: 1 of 3

# QUALITY CONTROL REPORT

VAN13003266.1

Method	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	
Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001	
Pulp Duplicates																					
2317151	Soil	1.51	5.32	3.50	71.7	4991	14.9	0.9	119	0.22	0.9	0.2	0.3	0.3	43.3	0.93	0.37	0.77	4	0.60	0.078
REP 2317151	QC	1.57	5.08	3.67	75.0	5175	15.3	1.1	118	0.23	1.0	0.2	<0.2	0.2	43.3	0.91	0.39	0.27	4	0.62	0.077
2317185	Soil	9.84	15.57	>10000	438.7	>100000	10.9	1.3	50	1.51	8.1	1.7	0.9	1.0	17.2	1.59	4.65	0.10	25	0.05	0.115
REP 2317185	QC																				
2317187	Soil	16.45	20.24	196.4	313.8	1623	69.5	2.8	65	1.56	12.0	9.6	1.6	0.2	65.4	4.95	2.77	0.14	37	0.71	0.177
REP 2317187	QC	16.58	19.97	218.0	324.9	1573	70.4	2.9	63	1.58	11.9	9.4	1.4	0.1	65.8	4.86	2.73	0.13	38	0.70	0.171
2317221	Soil	1.53	5.44	20.19	85.3	517	12.2	2.4	46	0.89	2.0	1.3	0.5	0.4	3.6	0.26	0.36	0.19	12	0.17	0.086
REP 2317221	QC																				
2317223	Soil	3.94	29.44	32.53	41.8	1298	32.1	10.5	407	2.12	5.7	0.8	2.8	3.6	4.6	0.13	1.37	0.24	7	0.20	0.058
REP 2317223	QC	4.10	29.92	32.33	43.1	1330	33.5	11.1	426	2.20	6.1	0.8	2.8	3.6	4.6	0.12	1.38	0.24	8	0.21	0.060
2317257	Soil	37.01	58.29	290.2	234.9	1820	38.0	2.4	18	2.19	52.5	5.9	2.5	1.7	108.3	0.60	20.49	0.23	68	0.02	0.123
REP 2317257	QC																				
2317259	Soil	9.19	235.7	20.41	563.3	739	179.4	16.2	142	6.23	19.6	24.7	0.6	6.6	71.0	0.48	1.17	0.18	154	0.02	0.413
REP 2317259	QC	9.14	231.2	19.68	564.1	718	180.8	16.6	143	6.21	19.7	23.9	0.7	6.3	73.6	0.49	1.13	0.16	157	0.02	0.401
2317293	Soil	139.6	39.29	31.49	102.3	539	30.4	3.0	135	3.84	87.2	10.3	2.3	0.7	75.3	0.38	8.17	0.33	164	0.02	0.169
REP 2317293	QC																				
Reference Materials																					
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DS9	Standard	13.10	104.9	122.3	310.9	1854	40.1	7.6	550	2.21	23.3	2.6	105.2	6.2	60.9	2.26	4.04	6.42	38	0.67	0.078
STD DS9	Standard	13.21	105.8	125.9	296.0	1724	39.3	7.7	565	2.24	23.9	2.7	105.7	6.5	60.0	2.18	4.31	6.71	38	0.67	0.072
STD DS9	Standard	13.98	105.9	125.3	299.0	1771	41.6	8.2	577	2.30	25.0	2.8	111.2	6.1	60.7	2.22	3.99	6.44	38	0.69	0.075
STD DS9	Standard	12.23	109.8	129.9	311.6	1738	38.2	7.4	536	2.28	27.1	2.7	110.4	6.4	62.8	2.48	4.01	5.80	39	0.66	0.081
STD DS9	Standard	13.45	112.4	117.7	293.6	1736	41.4	7.6	575	2.38	26.4	2.5	105.5	6.0	68.0	2.46	3.67	5.32	41	0.71	0.080
STD OREAS45EA	Standard	1.12	607.5	13.53	24.2	239	331.6	48.3	368	20.90	5.2	1.7	55.3	10.0	3.2	0.02	0.09	0.22	269	0.04	0.023

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## QUALITY CONTROL REPORT

VAN13003266.1

Method	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	
Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf	
Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	
MDL	0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02	
Pulp Duplicates																					
2317151	Soil	1.4	5.2	0.07	293.3	0.002	<20	0.15	0.002	0.06	<0.1	0.8	0.14	0.08	309	0.8	<0.02	0.3	0.31	<0.1	0.03
REP 2317151	QC	1.5	4.8	0.07	303.9	0.001	<20	0.16	0.002	0.06	<0.1	0.9	0.14	0.12	320	0.6	<0.02	0.3	0.31	<0.1	0.04
2317185	Soil	6.7	3.2	0.03	2534	0.002	<20	0.22	0.003	0.05	0.1	0.8	16.43	0.23	9152	1.9	<0.02	0.6	0.64	<0.1	<0.02
REP 2317185	QC																				
2317187	Soil	5.7	6.3	0.05	1313	0.003	<20	0.49	0.002	0.04	0.1	0.9	2.44	0.14	263	2.1	0.03	1.5	1.59	<0.1	0.02
REP 2317187	QC	5.8	6.5	0.05	1357	0.003	<20	0.49	0.002	0.04	<0.1	0.9	2.52	0.18	272	2.0	0.04	1.6	1.62	<0.1	<0.02
2317221	Soil	16.1	8.4	0.06	193.5	0.002	<20	0.46	<0.001	0.08	<0.1	1.3	0.13	0.03	24	0.5	<0.02	1.4	0.51	<0.1	<0.02
REP 2317221	QC																				
2317223	Soil	23.3	3.9	0.07	325.3	0.001	<20	0.25	<0.001	0.08	<0.1	3.3	0.16	<0.02	71	1.3	0.08	0.8	0.63	<0.1	0.07
REP 2317223	QC	24.2	4.2	0.07	329.3	0.001	<20	0.26	0.001	0.08	<0.1	3.4	0.17	0.04	75	1.2	0.06	0.7	0.63	<0.1	0.06
2317257	Soil	16.3	8.1	0.01	1662	0.003	<20	0.97	0.003	0.11	0.3	1.8	2.89	0.30	731	15.7	0.11	2.5	1.05	0.1	0.06
REP 2317257	QC																				
2317259	Soil	5.3	21.3	0.17	1509	0.002	<20	4.82	0.016	0.08	<0.1	12.2	0.46	0.43	114	3.8	0.06	1.9	2.67	<0.1	0.11
REP 2317259	QC	5.4	21.1	0.17	1632	0.002	<20	4.90	0.016	0.08	<0.1	12.2	0.45	0.44	125	3.9	0.03	1.9	2.66	<0.1	0.11
2317293	Soil	14.0	13.3	0.09	1312	0.002	<20	0.73	0.004	0.23	0.4	1.6	3.90	0.57	133	13.7	0.29	2.9	2.29	<0.1	0.03
REP 2317293	QC																				
Reference Materials																					
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DS9	Standard	11.0	108.8	0.58	313.9	0.096	<20	0.89	0.076	0.38	2.6	2.5	5.30	0.16	181	5.3	4.82	4.5	2.42	0.1	0.07
STD DS9	Standard	11.1	108.5	0.59	329.0	0.095	<20	0.88	0.075	0.38	2.5	2.3	5.36	0.17	207	5.2	5.07	4.4	2.50	<0.1	0.08
STD DS9	Standard	11.2	112.0	0.60	316.6	0.097	<20	0.91	0.078	0.40	2.6	2.6	5.36	0.16	206	5.4	5.10	4.6	2.39	0.1	0.09
STD DS9	Standard	10.7	113.0	0.60	346.8	0.097	<20	0.90	0.076	0.39	2.3	2.1	5.36	0.17	214	5.5	5.16	4.5	2.47	<0.1	0.08
STD DS9	Standard	12.8	109.0	0.63	307.0	0.102	<20	0.96	0.084	0.40	2.5	2.5	5.05	0.18	176	5.6	4.97	5.0	2.40	<0.1	0.07
STD OREAS45EA	Standard	6.2	811.3	0.09	137.7	0.075	<20	2.73	0.017	0.05	<0.1	67.2	0.06	0.03	<5	0.3	0.06	11.2	0.65	0.2	0.72





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Project: 204700  
 Report Date: September 12, 2013

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# QUALITY CONTROL REPORT

VAN13003266.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	LOI	
		Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	LOI
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb	%
MDL		0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	0.1
Pulp Duplicates															
2317151	Soil	0.05	1.4	0.5	<0.05	1.1	0.56	2.5	<0.02	<1	0.1	0.6	<10	<2	90.0
REP 2317151	QC	0.04	1.5	0.3	<0.05	1.2	0.59	2.8	<0.02	4	0.1	0.7	<10	<2	
2317185	Soil	0.09	4.6	0.2	<0.05	0.4	2.79	11.4	<0.02	<1	0.2	1.3	<10	<2	10.4
REP 2317185	QC														10.0
2317187	Soil	0.65	6.1	0.3	<0.05	0.5	7.08	10.8	0.02	4	0.3	2.3	<10	3	58.2
REP 2317187	QC	0.61	6.1	0.3	<0.05	0.5	7.07	11.1	0.02	3	0.3	2.2	<10	<2	
2317221	Soil	0.07	9.2	0.2	<0.05	0.2	8.61	34.2	0.07	<1	0.4	3.1	<10	<2	8.3
REP 2317221	QC														8.3
2317223	Soil	0.05	5.4	0.1	<0.05	1.8	17.77	45.3	<0.02	<1	0.5	1.4	<10	3	8.6
REP 2317223	QC	0.05	5.6	0.1	<0.05	1.8	18.50	46.7	0.03	1	0.5	1.4	<10	3	
2317257	Soil	0.34	8.6	0.4	<0.05	1.3	4.36	31.4	0.05	5	0.3	1.5	<10	<2	14.7
REP 2317257	QC														14.7
2317259	Soil	0.02	6.3	0.1	<0.05	5.6	13.13	13.7	0.10	10	0.8	21.5	<10	4	16.0
REP 2317259	QC	<0.02	6.3	0.1	<0.05	5.8	12.63	13.6	0.10	12	0.9	21.1	<10	3	
2317293	Soil	0.07	15.0	1.0	<0.05	0.6	6.86	27.0	0.08	2	0.2	3.1	<10	2	19.8
REP 2317293	QC														19.5
Reference Materials															
STD DOLOMITE-2	Standard														45.6
STD DOLOMITE-2	Standard														46.1
STD DOLOMITE-2	Standard														46.0
STD DOLOMITE-2	Standard														45.9
STD DOLOMITE-2	Standard														45.8
STD DS9	Standard	0.88	33.0	5.7	<0.05	1.8	5.34	22.1	1.98	56	5.3	22.6	124	344	
STD DS9	Standard	0.85	32.6	5.7	<0.05	1.7	4.87	22.0	2.04	53	5.5	24.0	130	341	
STD DS9	Standard	0.86	33.8	5.7	<0.05	1.7	5.23	22.4	1.95	65	5.2	23.8	126	353	
STD DS9	Standard	0.78	34.3	6.5	<0.05	1.7	4.94	19.7	2.36	64	5.8	25.1	111	376	
STD DS9	Standard	0.95	34.0	6.2	<0.05	1.9	5.48	24.4	2.17	59	4.9	23.6	97	332	
STD OREAS45EA	Standard	0.07	6.5	0.7	<0.05	21.7	4.82	16.9	0.07	<1	0.4	2.1	69	96	

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Project: 204700  
 Report Date: September 12, 2013

Page: 2 of 2 Part: 1 of 3

# QUALITY CONTROL REPORT

VAN13003266.1

		1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
STD OREAS45EA	Standard	1.28	640.4	14.85	25.5	252	347.4	52.1	392	21.99	6.0	1.8	59.0	10.8	3.5	0.03	0.12	0.25	283	0.04	0.024
STD OREAS45EA	Standard	1.22	629.2	14.79	27.1	248	356.1	55.5	391	22.59	7.0	1.8	54.0	10.6	3.4	0.04	0.10	0.24	278	0.04	0.026
STD OREAS45EA	Standard	1.15	608.1	14.93	25.9	240	337.8	46.7	373	20.94	5.6	1.7	63.9	10.5	3.3	0.04	0.14	0.27	275	0.03	0.026
STD OREAS45EA	Standard	1.28	694.5	14.66	31.0	293	380.9	50.4	408	24.68	5.9	1.7	64.0	10.5	3.6	0.04	0.16	0.21	306	0.04	0.029
STD DOLOMITE-2	Expected																				
STD DS9	Expected	12.84	108	126	317	1830	40.3	7.6	575	2.33	25.5	2.69	118	6.38	69.6	2.4	4.94	6.32	40	0.7201	0.0819
STD OREAS45EA	Expected	1.78	709	14.3	30.6	311	357	52	400	22.65	11.4	1.73	53	10.7	4.05	0.03	0.64	0.26	295	0.032	0.029
BLK	Blank	<0.01	0.03	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	<0.01	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	0.2	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	0.02	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	0.2	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	<0.01	<0.01	<0.1	4	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	<0.01	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001



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Project: 204700  
 Report Date: September 12, 2013

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# QUALITY CONTROL REPORT

VAN13003266.1

		1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm
		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
STD OREAS45EA	Standard	6.6	823.0	0.09	154.2	0.078	<20	2.94	0.020	0.05	<0.1	70.9	0.06	0.04	16	0.2	0.10	12.3	0.70	0.2	0.82
STD OREAS45EA	Standard	6.3	831.3	0.09	141.3	0.080	<20	2.95	0.015	0.05	<0.1	71.4	0.06	0.04	17	0.4	0.09	12.1	0.67	0.3	0.65
STD OREAS45EA	Standard	5.9	770.6	0.09	149.4	0.078	<20	2.75	0.019	0.05	<0.1	68.6	<0.02	<0.02	7	0.3	0.09	11.1	0.63	0.2	0.63
STD OREAS45EA	Standard	6.8	867.3	0.10	144.6	0.084	<20	3.22	0.021	0.06	<0.1	80.8	<0.02	0.04	<5	0.3	0.03	12.8	0.76	0.2	0.80
STD DOLOMITE-2 Expected																					
STD DS9 Expected		13.3	121	0.6165	330	0.1108		0.9577	0.0853	0.395	2.89	2.5	5.3	0.1615	200	5.2	5.02	4.59	2.37	0.1	0.08
STD OREAS45EA Expected		8.19	849	0.095	148	0.106		3.32	0.027	0.053		78	0.072	0.044	340	2.09	0.11	11.7	0.77	0.26	0.82
BLK	Blank	<0.5	<0.5	<0.01	1.2	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02



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Project: 204700  
 Report Date: September 12, 2013

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# QUALITY CONTROL REPORT

VAN13003266.1

		1F Nb ppm 0.02	1F Rb ppm 0.1	1F Sn ppm 0.1	1F Ta ppm 0.05	1F Zr ppm 0.1	1F Y ppm 0.01	1F Ce ppm 0.1	1F In ppm 0.02	1F Re ppb 1	1F Be ppm 0.1	1F Li ppm 0.1	1F Pd ppb 10	1F Pt ppb 2	LOI %
STD OREAS45EA	Standard	0.06	7.3	0.8	<0.05	23.8	5.18	18.4	0.08	<1	0.4	2.2	70	114	
STD OREAS45EA	Standard	0.07	7.7	0.7	<0.05	22.0	5.06	17.5	0.08	<1	0.4	2.4	45	101	
STD OREAS45EA	Standard	0.05	7.1	0.9	<0.05	20.6	4.80	15.7	0.06	<1	0.4	2.1	50	112	
STD OREAS45EA	Standard	0.10	8.0	1.0	<0.05	25.5	5.34	17.6	0.11	2	0.3	2.3	74	110	
STD DOLOMITE-2 Expected															45.9
STD DS9 Expected		0.96	33.8	6.4	0.004	2	5.97	25.4	2.2	61	5.4	25.2	120	350	
STD OREAS45EA Expected		0.43	7.93	0.97		26.6	5.74	17.7	0.1		0.47	7.63	66	108	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	0.2	<0.01	0.4	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	0.1	<0.01	0.2	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	0.2	<0.01	0.3	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	0.1	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	0.5	<0.01	0.3	<0.02	<1	<0.1	<0.1	<10	<2	



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Submitted By: Michael Buchanan and Rupa Mukherjee  
Receiving Lab: Canada-Vancouver  
Received: August 20, 2013  
Report Date: September 17, 2013  
Page: 1 of 6

## CERTIFICATE OF ANALYSIS

VAN13003267.1

### CLIENT JOB INFORMATION

Project: 204700  
Shipment ID: CRQ\_2013\_004  
P.O. Number  
Number of Samples: 150

### SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage  
STOR-RJT-SOIL Store Soil Reject - RJSV Charges Apply

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

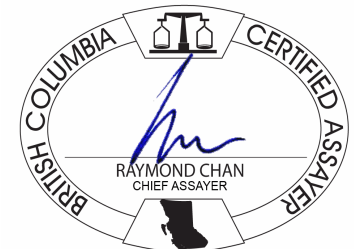
Invoice To: Teck Resources Limited  
Suite 3300, 550 Burrard St.  
Vancouver BC V6C 0B3  
CANADA

CC:

### SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
Dry at 60C	143	Dry at 60C			VAN
SS80	143	Dry at 60C sieve 100g to -80 mesh			VAN
RJSV	143	Saving all or part of Soil Reject			VAN
1F04	150	1:1:1 Aqua Regia digestion Ultratrace ICP-MS analysis	0.5	Completed	VAN
2A05	150	Loss on Ignition at 1000 C		Completed	VAN

### ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted. \*\*\* asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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Project: 204700

Report Date: September 17, 2013

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CERTIFICATE OF ANALYSIS

VAN13003267.1

Table with 21 columns: Method, Analyte, Unit, MDL, Mo, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, U, Au, Th, Sr, Cd, Sb, Bi, V, Ca, P. Rows include samples 2317301 through 2317310.

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Report Date: September 17, 2013

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# CERTIFICATE OF ANALYSIS

## VAN13003267.1

Method		1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
Analyte		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm
MDL		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
2317301	Soil	19.6	7.3	0.06	246.3	0.002	<20	0.61	<0.001	0.07	<0.1	0.8	0.74	0.04	28	0.2	<0.02	1.5	0.64	0.1	0.03
2317302	Soil	17.8	11.2	0.08	214.9	0.007	<20	0.62	0.002	0.09	<0.1	0.7	0.51	0.05	10	0.6	0.04	3.6	0.70	<0.1	<0.02
2317303	Soil	16.8	17.0	0.15	173.3	0.006	<20	1.10	<0.001	0.07	<0.1	1.0	0.56	0.03	14	0.9	<0.02	4.1	1.00	<0.1	0.02
2317304	Soil	7.4	8.7	0.20	462.9	0.005	<20	0.43	0.001	0.09	<0.1	1.5	0.35	0.20	123	0.5	<0.02	1.4	0.48	<0.1	0.05
2317305	Soil	16.8	9.9	0.08	194.1	0.005	<20	0.67	<0.001	0.07	<0.1	0.8	0.50	0.06	28	0.8	0.09	3.0	0.93	0.1	<0.02
2317306	Soil	13.0	11.6	0.11	137.6	0.004	<20	0.69	<0.001	0.08	<0.1	0.8	0.39	0.05	19	1.0	0.05	3.7	1.48	<0.1	<0.02
2317307 BAL-1	Rock Pulp	18.3	29.9	0.17	59.8	0.003	<20	1.27	0.007	0.07	<0.1	4.2	0.33	0.06	72	1.0	0.05	3.8	0.61	<0.1	0.05
2317308	Soil	22.2	10.5	0.06	567.2	0.007	<20	0.72	<0.001	0.07	<0.1	0.7	0.54	0.02	13	0.3	<0.02	4.8	1.15	<0.1	<0.02
2317309	Soil	14.2	7.9	0.02	909.6	0.002	<20	0.23	0.002	0.11	<0.1	0.7	0.87	0.17	9	4.0	0.05	0.9	1.09	<0.1	<0.02
2317310	Soil	24.7	8.8	0.02	822.6	0.001	<20	0.39	0.003	0.12	<0.1	3.1	0.42	0.11	132	4.7	0.06	0.8	2.97	0.3	<0.02

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Project: 204700  
 Report Date: September 17, 2013

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# CERTIFICATE OF ANALYSIS

VAN13003267.1

Method	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	LOI	
Analyte	Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	LOI	
Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb	%	
MDL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	0.1	
2317301	Soil	0.07	8.5	0.3	<0.05	0.7	11.99	37.4	0.03	<1	0.5	3.3	14	<2	8.8
2317302	Soil	0.43	9.4	0.6	<0.05	<0.1	3.02	36.4	0.02	<1	0.2	3.1	<10	<2	9.0
2317303	Soil	0.37	9.5	0.3	<0.05	0.2	2.70	33.4	0.02	<1	0.3	7.1	<10	<2	9.7
2317304	Soil	0.19	6.4	0.1	<0.05	1.4	7.48	15.7	<0.02	<1	0.4	2.8	<10	5	55.5
2317305	Soil	0.18	9.8	0.4	<0.05	0.4	2.83	31.9	0.03	<1	0.3	2.8	<10	<2	10.3
2317306	Soil	0.14	9.5	0.3	<0.05	0.6	2.80	26.5	0.02	<1	0.3	3.0	<10	<2	13.1
2317307 BAL-1	Rock Pulp	0.32	7.6	0.6	<0.05	2.3	19.66	34.0	0.02	<1	0.8	8.7	<10	2	13.0
2317308	Soil	0.25	7.2	0.9	<0.05	0.1	2.42	41.2	<0.02	<1	0.2	1.9	<10	<2	7.3
2317309	Soil	0.03	7.1	0.2	<0.05	0.4	3.75	28.1	0.02	7	0.1	0.8	22	<2	9.8
2317310	Soil	<0.02	7.3	0.2	<0.05	0.4	3.62	46.1	0.05	3	0.1	0.7	<10	<2	8.2

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VAN13003267.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
Unit		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
MDL		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
2317311	Soil	13.03	34.99	27.21	193.6	512	39.1	6.4	94	2.77	29.2	1.6	2.9	1.1	93.4	0.40	5.10	0.27	58	<0.01	0.081
2317312	Soil	39.95	119.1	26.43	13.7	1358	6.4	0.2	5	1.38	10.6	12.5	5.1	1.5	220.0	0.11	2.97	0.42	82	<0.01	0.070
2317313	Soil	12.87	13.95	35.40	77.7	288	16.5	2.1	48	1.07	9.4	1.0	<0.2	<0.1	38.0	0.19	1.18	0.26	73	0.01	0.047
2317314	Soil	5.97	8.69	18.20	14.3	262	3.1	0.3	21	1.73	11.5	0.7	0.8	1.2	26.1	0.06	0.94	0.28	44	<0.01	0.057
2317315	Soil	9.33	14.42	23.39	44.3	487	9.4	1.6	43	2.17	15.4	0.8	1.3	0.2	40.7	0.18	1.38	0.29	61	0.01	0.074
2317316	Soil	13.88	20.48	25.72	49.4	596	10.6	2.0	26	3.41	34.6	1.2	<0.2	1.5	80.6	0.12	2.48	0.29	104	0.01	0.117
2317317	Soil	14.13	20.22	25.11	44.3	565	9.9	1.9	26	3.52	35.5	1.2	1.3	1.4	79.8	0.12	2.48	0.27	106	0.02	0.123
2317318	Soil	11.00	15.31	20.59	58.6	694	11.6	2.4	26	2.91	22.6	1.3	0.5	0.4	63.3	0.16	3.20	0.26	72	0.01	0.087
2317319	Soil	13.63	18.85	20.81	56.3	441	12.5	2.1	34	2.91	32.7	1.7	0.8	0.6	87.4	0.12	4.44	0.21	69	0.01	0.107
2317320	Soil	43.44	13.22	28.76	32.7	467	6.5	0.7	21	1.10	9.8	1.4	0.3	<0.1	24.4	0.13	5.29	0.18	145	0.01	0.044
2317321	Soil	63.76	17.02	27.67	39.5	353	10.3	1.0	26	1.65	16.5	3.9	<0.2	<0.1	32.7	0.21	4.72	0.25	141	0.03	0.082
2317322	Soil	124.2	42.14	34.07	69.1	801	14.7	1.9	69	3.24	61.0	10.3	1.0	3.3	104.8	0.60	20.53	0.22	207	0.02	0.123
2317323	Soil	35.22	13.64	17.45	55.3	237	17.1	2.2	153	0.99	8.7	2.0	1.8	<0.1	35.9	0.25	2.31	0.18	102	0.05	0.070
2317324	Soil	10.86	23.49	18.54	86.1	604	64.2	10.3	234	2.04	7.1	1.1	0.9	3.6	24.1	0.54	2.75	0.20	24	0.32	0.034
2317325	Soil	1.89	6.63	3.40	17.3	303	7.7	1.4	17	0.38	<0.1	0.2	1.0	0.2	29.2	0.15	0.39	0.12	4	2.37	0.065
2317326	Soil	4.22	47.55	27.27	72.0	2255	64.0	23.5	596	3.40	4.6	1.0	1.8	1.5	11.4	0.29	2.08	0.31	12	0.75	0.079
2317327	Soil	6.42	13.83	12.47	313.2	256	7.6	4.7	4174	0.44	0.7	0.4	<0.2	0.4	50.1	2.48	0.71	0.28	10	2.08	0.188
2317328 BAL-1	Rock Pulp	1.22	16.29	24.71	74.6	147	29.8	6.3	247	1.72	3.9	1.4	0.8	1.3	29.2	1.79	0.36	0.13	42	0.64	0.054
2317329	Soil	7.12	34.62	17.42	204.7	137	53.4	6.5	94	2.08	4.7	1.3	2.2	<0.1	17.7	0.58	1.95	0.22	38	0.12	0.118
2317330	Soil	11.55	14.95	27.57	165.8	363	18.0	11.4	6090	0.92	2.4	0.8	<0.2	0.2	22.2	3.11	1.04	0.14	30	0.42	0.169
2317331	Soil	8.70	21.19	16.78	143.4	189	29.9	5.1	206	1.46	3.4	1.2	0.6	<0.1	17.2	0.55	1.41	0.17	36	0.14	0.117
2317332	Soil	21.32	21.33	12.31	489.9	474	7.6	3.1	5881	0.38	1.2	0.5	<0.2	0.4	57.4	24.84	0.73	0.05	13	1.59	0.223
2317333	Soil	18.81	12.91	17.38	61.8	274	13.1	2.4	157	1.01	5.4	1.1	<0.2	<0.1	28.5	0.70	2.27	0.14	65	0.05	0.074
2317334	Soil	30.03	18.97	24.18	67.1	519	17.5	3.6	1248	1.03	6.6	3.7	<0.2	0.2	25.4	0.44	2.38	0.13	75	0.12	0.104
2317335	Soil	50.14	23.73	21.97	43.6	487	8.6	0.9	43	1.56	16.7	4.9	1.2	1.3	46.2	0.22	4.43	0.16	129	0.01	0.075
2317336	Soil	14.44	13.57	84.57	75.4	593	9.8	1.5	18	1.09	12.9	0.8	0.7	0.2	28.5	0.15	2.01	0.21	84	<0.01	0.058
2317337	Soil	14.79	12.87	84.14	70.7	409	11.1	1.6	19	1.08	12.9	0.8	<0.2	0.3	29.9	0.09	1.86	0.19	82	<0.01	0.059
2317338	Soil	13.93	18.87	50.21	93.7	589	14.6	2.1	22	1.87	21.6	0.9	1.4	0.4	53.3	0.15	2.54	0.25	85	0.02	0.083
2317339	Soil	7.26	9.07	17.32	39.7	234	6.9	1.0	10	0.77	7.9	0.8	<0.2	1.3	18.1	0.07	0.84	0.18	61	0.01	0.076
2317340	Soil	6.87	10.06	19.96	56.0	389	8.5	1.3	17	0.69	5.3	0.4	<0.2	0.4	13.9	0.10	0.84	0.15	62	0.01	0.049



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Project: 204700  
 Report Date: September 17, 2013

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# CERTIFICATE OF ANALYSIS

VAN13003267.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	
MDL		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.02	
2317311	Soil	17.6	10.2	0.02	661.3	0.002	<20	0.49	0.012	0.15	<0.1	1.8	0.76	0.29	55	2.7	0.07	1.7	1.44	<0.1	<0.02
2317312	Soil	19.4	7.5	<0.01	739.3	0.001	<20	0.30	0.005	0.16	0.2	2.0	1.67	0.33	327	4.9	0.19	0.7	0.84	<0.1	0.04
2317313	Soil	17.1	9.6	0.03	297.8	0.004	<20	0.54	0.002	0.08	<0.1	0.6	0.80	0.08	21	1.4	0.07	3.9	1.29	<0.1	<0.02
2317314	Soil	17.3	7.7	0.03	369.1	0.002	<20	0.42	0.012	0.08	<0.1	0.8	0.30	0.12	23	1.0	0.07	2.2	0.99	<0.1	0.03
2317315	Soil	16.9	12.3	0.04	391.4	0.004	<20	0.69	0.013	0.10	<0.1	0.6	0.70	0.19	12	1.4	0.05	4.1	1.12	<0.1	<0.02
2317316	Soil	11.7	12.1	0.04	651.7	0.003	<20	0.73	0.036	0.17	<0.1	0.9	0.88	0.46	32	2.4	0.10	3.3	1.16	<0.1	0.05
2317317	Soil	12.3	12.7	0.04	652.4	0.003	<20	0.75	0.035	0.17	<0.1	0.9	0.90	0.46	43	2.4	<0.02	2.9	1.14	<0.1	0.03
2317318	Soil	9.4	11.2	0.03	439.1	0.003	<20	0.60	0.027	0.20	<0.1	0.6	0.65	0.50	39	2.1	0.05	2.1	1.02	<0.1	<0.02
2317319	Soil	12.6	11.5	0.04	628.6	0.003	<20	0.65	0.034	0.16	<0.1	1.3	0.78	0.43	19	2.5	0.06	2.4	0.94	0.1	<0.02
2317320	Soil	20.0	10.5	0.02	492.5	0.003	<20	0.30	0.003	0.12	0.1	0.5	0.76	0.16	18	4.2	0.16	2.6	1.03	<0.1	<0.02
2317321	Soil	19.7	12.3	0.03	874.0	0.004	<20	0.46	0.006	0.17	0.2	0.6	1.33	0.35	91	4.9	0.18	2.3	1.02	0.2	<0.02
2317322	Soil	14.6	8.1	0.09	208.4	0.009	<20	0.59	0.008	0.33	0.3	3.6	2.30	0.71	105	19.3	0.22	2.4	2.04	<0.1	0.02
2317323	Soil	12.3	10.0	0.03	411.7	0.002	<20	0.24	<0.001	0.10	0.2	0.4	0.79	0.11	32	3.8	0.12	1.6	1.33	<0.1	<0.02
2317324	Soil	28.3	9.4	0.13	335.0	0.001	<20	0.17	<0.001	0.05	<0.1	4.6	0.37	0.02	154	1.8	<0.02	0.7	0.29	<0.1	0.03
2317325	Soil	1.5	3.2	0.36	183.9	0.002	<20	0.08	<0.001	0.02	<0.1	0.8	0.06	0.20	73	0.4	0.03	0.2	0.23	<0.1	0.03
2317326	Soil	16.2	6.9	0.16	256.7	0.002	<20	0.27	<0.001	0.09	<0.1	6.2	0.48	0.09	256	1.8	0.06	0.8	1.35	<0.1	0.12
2317327	Soil	2.2	3.6	0.18	950.5	0.005	<20	0.12	0.002	0.10	<0.1	0.9	0.24	0.26	173	0.9	<0.02	0.7	0.32	<0.1	0.05
2317328 BAL-1	Rock Pulp	18.1	27.5	0.15	58.7	0.002	<20	1.09	0.005	0.06	<0.1	3.9	0.29	0.06	106	0.8	<0.02	2.8	0.54	<0.1	0.03
2317329	Soil	9.2	8.0	0.04	240.5	0.002	<20	0.24	<0.001	0.08	<0.1	0.6	0.20	0.07	26	1.4	0.13	1.4	0.92	<0.1	<0.02
2317330	Soil	6.8	6.4	0.06	846.2	0.004	<20	0.23	0.002	0.11	<0.1	0.7	0.62	0.18	44	1.3	0.03	1.5	0.78	<0.1	0.03
2317331	Soil	9.5	7.7	0.04	249.5	0.002	<20	0.24	<0.001	0.09	<0.1	0.5	0.28	0.09	45	1.6	0.09	1.4	0.84	<0.1	<0.02
2317332	Soil	2.1	3.9	0.17	2689	0.004	<20	0.13	0.002	0.12	<0.1	0.9	0.37	0.30	151	0.7	0.03	0.9	0.39	<0.1	0.06
2317333	Soil	12.6	6.3	0.03	531.9	0.002	<20	0.24	0.002	0.12	<0.1	0.6	0.71	0.15	<5	2.9	0.09	1.3	0.96	<0.1	<0.02
2317334	Soil	13.8	12.1	0.05	1040	0.003	<20	0.33	0.002	0.12	0.2	0.8	0.90	0.16	41	3.0	0.03	1.6	1.60	<0.1	<0.02
2317335	Soil	13.0	8.3	0.05	1094	0.004	<20	0.45	0.005	0.17	0.3	1.7	1.73	0.34	86	5.9	0.20	1.7	0.80	<0.1	<0.02
2317336	Soil	18.5	8.8	0.02	552.3	0.003	<20	0.49	0.001	0.08	0.1	0.6	1.34	0.11	6	1.4	0.06	3.6	1.36	<0.1	<0.02
2317337	Soil	18.7	9.5	0.02	538.8	0.003	<20	0.49	0.002	0.08	0.1	0.6	1.26	0.11	32	1.4	0.03	3.1	1.31	<0.1	<0.02
2317338	Soil	14.3	10.7	0.03	577.1	0.003	<20	0.52	0.009	0.11	<0.1	0.7	0.92	0.19	10	1.7	0.06	2.8	1.18	<0.1	<0.02
2317339	Soil	18.2	10.0	0.04	466.7	0.002	<20	0.68	<0.001	0.08	<0.1	1.1	0.49	0.06	<5	0.5	<0.02	3.1	1.27	<0.1	0.04
2317340	Soil	20.6	10.7	0.03	329.3	0.004	<20	0.55	<0.001	0.06	<0.1	0.9	0.43	0.03	<5	0.4	0.06	3.8	1.28	<0.1	<0.02

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VAN13003267.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	LOI	
		Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	LOI
Unit	MDL	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppb	ppb	ppb	%	
		0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	0.1
2317311	Soil	0.14	9.5	0.3	<0.05	0.6	4.98	32.2	0.02	<1	0.2	1.1	<10	<2	10.4
2317312	Soil	0.03	7.1	0.1	<0.05	0.2	10.44	37.2	0.05	8	0.3	1.6	33	<2	7.7
2317313	Soil	0.12	9.5	0.8	<0.05	<0.1	2.31	31.8	<0.02	<1	0.2	1.1	<10	<2	7.1
2317314	Soil	0.27	8.7	0.2	<0.05	0.9	1.40	33.2	0.02	1	0.1	1.3	<10	<2	9.7
2317315	Soil	0.40	10.9	0.5	<0.05	0.2	2.04	31.5	0.03	<1	0.2	1.6	<10	<2	13.9
2317316	Soil	0.23	12.9	0.5	<0.05	1.1	2.01	21.3	0.04	<1	0.2	1.6	<10	<2	16.0
2317317	Soil	0.24	12.1	0.4	<0.05	1.1	2.04	22.2	0.05	<1	0.1	1.7	14	<2	16.4
2317318	Soil	0.10	11.7	0.4	<0.05	0.4	2.14	17.6	0.06	<1	0.2	1.3	<10	<2	18.1
2317319	Soil	0.19	10.8	0.3	<0.05	0.5	2.90	24.5	0.06	<1	0.2	1.9	12	<2	11.0
2317320	Soil	0.03	9.3	0.6	<0.05	<0.1	2.32	33.9	0.03	1	<0.1	0.8	20	<2	6.8
2317321	Soil	0.10	11.4	0.9	<0.05	0.2	3.47	34.8	0.02	3	0.1	1.0	13	<2	15.9
2317322	Soil	0.58	14.8	0.7	<0.05	2.3	7.08	26.7	0.09	3	0.1	2.6	67	<2	8.3
2317323	Soil	0.05	8.9	0.4	<0.05	<0.1	2.78	21.8	0.05	4	0.2	0.8	<10	<2	9.3
2317324	Soil	0.04	2.4	0.3	<0.05	1.6	16.78	52.3	0.03	<1	0.6	0.9	<10	3	6.9
2317325	Soil	0.06	0.8	<0.1	<0.05	1.0	2.42	3.3	<0.02	4	0.2	0.2	23	<2	83.2
2317326	Soil	0.08	5.9	0.5	<0.05	3.5	17.85	36.8	0.03	4	1.1	2.1	<10	<2	15.8
2317327	Soil	0.13	3.4	0.2	<0.05	1.3	1.62	5.3	<0.02	13	<0.1	0.5	<10	<2	77.6
2317328 BAL-1	Rock Pulp	0.31	5.6	0.5	<0.05	2.4	19.19	33.4	0.04	<1	0.7	8.5	<10	<2	12.7
2317329	Soil	<0.02	5.9	0.3	<0.05	0.2	4.40	16.7	0.03	<1	0.6	2.4	<10	<2	11.5
2317330	Soil	0.05	8.5	0.3	<0.05	0.4	1.75	14.0	<0.02	4	0.2	1.2	<10	<2	31.2
2317331	Soil	0.14	7.8	0.4	<0.05	<0.1	3.27	17.9	0.03	<1	0.2	1.8	<10	<2	13.2
2317332	Soil	0.08	4.5	0.1	<0.05	1.2	0.92	4.0	<0.02	4	0.1	0.6	<10	3	74.6
2317333	Soil	0.06	9.3	0.2	<0.05	<0.1	2.57	22.3	<0.02	4	0.2	0.9	19	<2	8.6
2317334	Soil	0.22	11.2	0.5	<0.05	0.3	3.08	26.2	<0.02	<1	0.2	1.1	<10	6	18.6
2317335	Soil	0.14	10.6	0.6	<0.05	0.5	4.29	22.8	0.04	4	<0.1	2.1	<10	<2	9.3
2317336	Soil	0.19	10.5	0.5	<0.05	0.1	1.81	34.0	<0.02	4	<0.1	1.1	<10	<2	10.6
2317337	Soil	0.17	10.6	0.6	<0.05	<0.1	1.87	35.2	<0.02	4	0.2	1.0	<10	<2	9.6
2317338	Soil	0.12	11.1	0.4	<0.05	0.6	2.20	24.9	0.04	<1	0.3	1.4	<10	<2	11.1
2317339	Soil	0.10	9.5	0.7	<0.05	1.0	1.44	33.1	0.03	<1	0.1	1.3	<10	<2	12.2
2317340	Soil	0.15	7.4	0.7	<0.05	0.2	1.57	39.6	<0.02	<1	0.1	1.2	<10	<2	9.7

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Vancouver BC V6C 0B3 CANADA

Project: 204700

Report Date: September 17, 2013

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Part: 1 of 3

## CERTIFICATE OF ANALYSIS

## VAN13003267.1

	Method Analyte Unit MDL	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001	
2317341	Soil	149.5	82.35	35.88	310.5	1054	193.6	62.8	3172	5.30	437.8	26.7	21.0	2.8	57.1	2.15	44.17	0.45	91	0.05	0.177	
2317342	Soil	27.01	31.73	25.57	109.3	479	20.5	3.3	48	2.43	32.3	3.1	0.9	1.9	72.3	0.26	5.96	0.22	75	0.01	0.086	
2317343	Soil	26.49	33.14	22.68	230.9	459	70.1	9.7	243	2.39	31.3	4.5	1.4	1.6	72.3	1.48	5.40	0.20	62	0.30	0.101	
2317344	Soil	22.26	44.53	21.67	474.4	483	165.2	21.7	666	2.35	20.2	4.7	0.8	1.6	44.8	3.57	3.97	0.19	49	0.28	0.092	
2317345	Soil	24.45	47.75	73.21	182.2	717	30.0	3.0	31	2.54	31.4	5.0	1.7	1.9	68.5	0.60	6.93	0.19	70	0.02	0.092	
2317346	Soil	7.78	16.28	15.20	161.4	114	50.9	4.1	130	1.75	4.7	0.9	1.8	<0.1	17.5	0.26	1.18	0.23	53	0.08	0.112	
2317347	Soil	5.40	17.14	17.15	184.1	130	51.7	7.3	125	2.37	3.3	0.7	<0.2	<0.1	9.2	0.19	1.17	0.19	27	0.04	0.096	
2317348	Soil	6.74	15.18	15.18	100.3	99	25.6	4.3	57	1.54	4.6	0.5	1.0	0.1	7.5	0.08	0.87	0.16	41	<0.01	0.067	
2317349	Soil	7.72	18.37	21.87	123.4	288	33.7	5.1	60	1.80	5.6	0.6	0.3	0.1	11.0	0.13	1.30	0.17	32	0.02	0.050	
2317350	Soil	10.77	26.58	16.89	74.0	375	52.2	10.7	174	2.55	6.3	0.7	<0.2	0.1	4.2	0.14	1.94	0.19	37	0.01	0.073	

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# CERTIFICATE OF ANALYSIS

**VAN13003267.1**

	Method	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
2317341	Soil	15.9	10.2	0.01	2186	0.003	<20	1.35	<0.001	0.09	0.3	5.0	6.94	0.14	2383	20.2	0.48	2.1	2.41	0.1	0.09
2317342	Soil	16.2	9.6	0.04	1134	0.003	<20	0.60	0.016	0.14	0.1	1.7	1.38	0.34	144	3.6	0.03	1.9	1.66	0.3	<0.02
2317343	Soil	14.0	11.7	0.08	1417	0.003	<20	0.61	0.011	0.14	0.2	2.1	1.64	0.28	186	4.7	<0.02	1.6	1.43	<0.1	0.03
2317344	Soil	16.8	9.0	0.09	1571	0.003	<20	0.69	0.006	0.10	<0.1	3.5	1.57	0.17	150	3.0	0.06	1.3	1.20	<0.1	<0.02
2317345	Soil	17.4	8.4	0.03	1446	0.002	<20	0.65	0.007	0.13	<0.1	2.1	2.13	0.27	167	4.9	0.10	1.7	1.42	<0.1	0.05
2317346	Soil	9.5	12.8	0.04	441.8	0.002	<20	0.36	0.001	0.07	<0.1	0.6	0.33	0.05	7	2.0	0.07	1.8	0.46	<0.1	<0.02
2317347	Soil	15.2	9.5	0.03	207.1	0.002	<20	0.33	<0.001	0.07	<0.1	0.6	0.23	0.03	13	1.1	0.07	1.1	0.43	0.1	<0.02
2317348	Soil	16.9	7.7	0.03	188.5	0.003	<20	0.35	<0.001	0.07	0.1	0.8	0.36	0.03	10	0.5	0.11	2.1	0.79	<0.1	0.03
2317349	Soil	17.7	6.9	0.03	165.9	0.003	<20	0.27	0.002	0.07	<0.1	0.6	0.33	0.06	13	1.0	0.06	1.7	0.39	<0.1	<0.02
2317350	Soil	18.1	9.2	0.05	208.8	0.002	<20	0.49	<0.001	0.07	<0.1	0.6	0.25	<0.02	45	1.6	0.03	2.2	0.65	<0.1	0.03



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**Project:** 204700  
**Report Date:** September 17, 2013

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**Part:** 3 of 3

## CERTIFICATE OF ANALYSIS

VAN13003267.1

	Method	1F														LOI		
		Analyte	Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt		LOI	
			Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb		ppb	%
			MDL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10		2	0.1
2317341	Soil	0.05	6.4	1.2	<0.05	2.9	14.16	28.8	0.07	36	0.5	2.2	<10	12	12.6			
2317342	Soil	0.06	8.6	0.4	<0.05	0.8	5.05	28.5	0.05	<1	0.1	2.4	<10	<2	9.5			
2317343	Soil	0.11	8.8	0.3	<0.05	1.8	8.05	26.1	0.04	4	0.4	2.9	14	3	15.5			
2317344	Soil	0.12	7.6	0.3	<0.05	1.5	20.47	31.8	0.06	<1	0.7	4.3	<10	3	9.4			
2317345	Soil	0.12	8.4	0.3	<0.05	0.8	7.82	33.3	0.04	15	0.2	2.4	<10	3	11.4			
2317346	Soil	0.03	7.3	0.3	<0.05	0.1	3.97	15.9	<0.02	<1	0.4	1.7	<10	<2	10.0			
2317347	Soil	<0.02	6.2	0.4	<0.05	<0.1	6.64	33.0	0.03	<1	0.3	1.8	<10	<2	7.7			
2317348	Soil	0.03	8.7	0.3	<0.05	<0.1	2.62	33.3	<0.02	<1	0.2	1.3	<10	<2	6.7			
2317349	Soil	0.05	7.2	0.4	<0.05	<0.1	3.32	34.2	0.03	<1	0.2	1.3	<10	<2	5.5			
2317350	Soil	0.02	7.8	0.4	<0.05	<0.1	3.95	34.5	<0.02	<1	0.4	1.0	<10	<2	9.5			

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Project: 204700  
 Report Date: September 17, 2013

Page: 1 of 2 Part: 1 of 3

# QUALITY CONTROL REPORT

VAN13003267.1

Method	Analyte	1F Mo	1F Cu	1F Pb	1F Zn	1F Ag	1F Ni	1F Co	1F Mn	1F Fe	1F As	1F U	1F Au	1F Th	1F Sr	1F Cd	1F Sb	1F Bi	1F V	1F Ca	1F P
Unit	MDL	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
Pulp Duplicates																					
2316023	Soil	25.43	23.81	13.65	164.5	310	57.2	6.1	279	1.52	8.9	2.8	0.3	1.2	21.3	0.96	1.54	0.12	50	0.88	0.137
REP 2316023	QC																				
2316026	Soil	59.41	177.2	157.2	770.1	661	152.4	23.8	1484	12.76	27.4	5.1	1.1	4.1	35.5	4.31	5.08	0.30	164	0.08	0.143
REP 2316026	QC	60.14	174.9	165.9	772.3	683	156.4	23.0	1506	12.98	28.2	5.0	1.3	4.2	36.4	4.44	5.20	0.31	164	0.08	0.141
2317309	Soil	22.26	18.11	33.22	126.5	639	26.0	2.5	316	1.44	16.1	1.8	1.4	0.5	56.1	0.28	7.66	0.23	63	0.05	0.067
REP 2317309	QC																				
2317312	Soil	39.95	119.1	26.43	13.7	1358	6.4	0.2	5	1.38	10.6	12.5	5.1	1.5	220.0	0.11	2.97	0.42	82	<0.01	0.070
REP 2317312	QC	39.28	116.5	26.61	13.7	1418	5.8	0.2	5	1.39	9.6	12.3	6.6	1.6	227.1	0.15	2.97	0.41	80	<0.01	0.068
2317345	Soil	24.45	47.75	73.21	182.2	717	30.0	3.0	31	2.54	31.4	5.0	1.7	1.9	68.5	0.60	6.93	0.19	70	0.02	0.092
REP 2317345	QC																				
2317348	Soil	6.74	15.18	15.18	100.3	99	25.6	4.3	57	1.54	4.6	0.5	1.0	0.1	7.5	0.08	0.87	0.16	41	<0.01	0.067
REP 2317348	QC	6.72	15.62	14.06	98.7	83	26.6	4.7	59	1.53	3.8	0.5	<0.2	<0.1	6.6	0.11	0.82	0.15	40	<0.01	0.066
2317481	Soil	6.96	7.30	32.93	184.1	251	18.6	2.9	76	1.29	10.5	1.2	1.1	2.7	25.8	1.14	2.50	0.11	31	0.11	0.055
REP 2317481	QC																				
2317484	Soil	8.56	21.31	46.52	546.3	603	47.6	7.5	188	2.21	14.8	1.7	0.7	3.7	40.5	1.37	3.17	0.26	39	0.16	0.075
REP 2317484	QC	8.43	21.00	48.57	545.1	618	48.1	7.0	185	2.24	15.1	1.8	0.8	3.9	39.9	1.44	2.98	0.17	40	0.18	0.082
2317497	Soil	18.24	14.91	64.66	208.6	1143	22.8	4.0	168	1.94	18.9	1.8	1.1	0.8	29.1	0.74	3.40	0.16	71	0.03	0.056
REP 2317497	QC	18.46	14.82	62.85	196.0	1127	22.9	4.2	164	1.95	19.0	1.7	0.6	0.8	29.6	0.74	3.26	0.17	71	0.03	0.053
2317500	Soil	13.69	18.49	61.89	193.4	746	33.5	2.6	47	3.15	20.3	1.3	1.8	4.3	20.7	0.65	4.47	0.16	72	0.01	0.078
REP 2317500	QC																				
Reference Materials																					
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DOLOMITE-2	Standard																				
STD DS9	Standard	12.23	109.5	132.0	338.7	1890	41.9	8.1	518	2.37	27.6	2.9	121.0	5.7	67.7	2.66	5.15	6.34	40	0.70	0.081
STD DS9	Standard	13.81	109.6	142.9	332.6	1948	38.7	7.8	517	2.38	26.0	2.7	116.3	6.2	71.5	2.43	4.91	6.50	41	0.73	0.086

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# QUALITY CONTROL REPORT

VAN13003267.1

Method	Analyte	Unit	MDL	1F La	1F Cr	1F Mg	1F Ba	1F Ti	1F B	1F Al	1F Na	1F K	1F W	1F Sc	1F Ti	1F S	1F Hg	1F Se	1F Te	1F Ga	1F Cs	1F Ge	1F Hf
				ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm
				0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
Pulp Duplicates																							
2316023	Soil			13.6	13.6	0.13	205.4	0.002	<20	0.29	<0.001	0.05	<0.1	2.7	0.60	0.11	138	1.6	0.07	0.8	0.39	<0.1	0.11
REP 2316023	QC																						
2316026	Soil			14.1	24.9	0.10	761.4	0.004	<20	1.08	<0.001	0.10	0.2	6.5	0.97	0.17	64	6.9	0.20	2.6	1.29	<0.1	0.03
REP 2316026	QC			14.5	27.4	0.10	769.3	0.004	<20	1.09	0.001	0.10	0.3	6.6	1.02	0.17	71	6.9	0.11	2.4	1.31	0.1	<0.02
2317309	Soil			14.2	7.9	0.02	909.6	0.002	<20	0.23	0.002	0.11	<0.1	0.7	0.87	0.17	9	4.0	0.05	0.9	1.09	<0.1	<0.02
REP 2317309	QC																						
2317312	Soil			19.4	7.5	<0.01	739.3	0.001	<20	0.30	0.005	0.16	0.2	2.0	1.67	0.33	327	4.9	0.19	0.7	0.84	<0.1	0.04
REP 2317312	QC			18.5	7.7	<0.01	734.2	0.001	<20	0.30	0.005	0.16	0.2	1.9	1.64	0.34	351	4.4	0.16	0.8	0.78	0.2	<0.02
2317345	Soil			17.4	8.4	0.03	1446	0.002	<20	0.65	0.007	0.13	<0.1	2.1	2.13	0.27	167	4.9	0.10	1.7	1.42	<0.1	0.05
REP 2317345	QC																						
2317348	Soil			16.9	7.7	0.03	188.5	0.003	<20	0.35	<0.001	0.07	0.1	0.8	0.36	0.03	10	0.5	0.11	2.1	0.79	<0.1	0.03
REP 2317348	QC			16.8	7.6	0.03	183.1	0.002	<20	0.35	<0.001	0.07	<0.1	0.6	0.29	0.03	<5	0.9	0.07	2.3	0.72	0.1	<0.02
2317481	Soil			21.0	7.0	0.17	1331	0.004	<20	0.52	<0.001	0.08	<0.1	0.9	0.66	0.04	18	0.9	<0.02	1.9	0.57	0.1	<0.02
REP 2317481	QC																						
2317484	Soil			18.0	15.6	0.39	1695	0.005	<20	0.92	0.002	0.11	<0.1	1.8	1.07	0.07	162	1.0	0.08	2.5	0.73	<0.1	<0.02
REP 2317484	QC			18.5	15.0	0.39	1776	0.005	<20	0.91	0.001	0.11	0.1	1.9	1.12	0.06	143	0.9	<0.02	2.9	0.74	<0.1	<0.02
2317497	Soil			15.0	13.2	0.23	2115	0.005	<20	0.98	<0.001	0.12	0.2	0.9	1.96	0.07	76	1.3	0.04	4.2	1.10	<0.1	<0.02
REP 2317497	QC			15.3	13.2	0.23	2092	0.005	<20	0.98	0.002	0.12	0.2	0.9	1.95	0.07	73	1.3	0.09	4.0	1.07	<0.1	<0.02
2317500	Soil			16.0	18.1	0.20	1524	0.002	<20	1.19	0.002	0.11	<0.1	1.5	1.11	0.07	114	2.0	0.07	2.9	0.81	<0.1	0.04
REP 2317500	QC																						
Reference Materials																							
STD DOLOMITE-2	Standard																						
STD DOLOMITE-2	Standard																						
STD DOLOMITE-2	Standard																						
STD DOLOMITE-2	Standard																						
STD DOLOMITE-2	Standard																						
STD DS9	Standard			12.0	118.1	0.62	312.6	0.106	<20	0.92	0.077	0.40	3.2	2.5	5.42	0.17	237	5.8	4.76	4.6	2.40	0.2	0.07
STD DS9	Standard			13.4	118.3	0.62	310.3	0.112	<20	0.97	0.092	0.41	2.8	2.7	5.70	0.17	279	5.9	4.06	5.2	2.40	0.2	0.04

## QUALITY CONTROL REPORT

VAN13003267.1

Method	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	LOI	
Analyte	Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	LOI	
Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb	%	
MDL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	0.1	
Pulp Duplicates															
2316023	Soil	0.12	3.5	0.1	<0.05	3.8	18.60	22.3	0.03	1	0.8	2.5	<10	<2	28.2
REP 2316023	QC														27.8
2316026	Soil	0.29	10.2	0.4	<0.05	1.4	28.35	28.6	0.09	6	1.6	2.3	<10	<2	14.2
REP 2316026	QC	0.32	10.5	0.4	<0.05	1.3	30.40	32.7	0.08	3	1.8	2.4	12	<2	
2317309	Soil	0.03	7.1	0.2	<0.05	0.4	3.75	28.1	0.02	7	0.1	0.8	22	<2	9.8
REP 2317309	QC														9.2
2317312	Soil	0.03	7.1	0.1	<0.05	0.2	10.44	37.2	0.05	8	0.3	1.6	33	<2	7.7
REP 2317312	QC	<0.02	7.1	<0.1	<0.05	0.2	10.35	34.2	0.06	9	0.3	1.7	22	<2	
2317345	Soil	0.12	8.4	0.3	<0.05	0.8	7.82	33.3	0.04	15	0.2	2.4	<10	3	11.4
REP 2317345	QC														11.5
2317348	Soil	0.03	8.7	0.3	<0.05	<0.1	2.62	33.3	<0.02	<1	0.2	1.3	<10	<2	6.7
REP 2317348	QC	<0.02	8.5	0.4	<0.05	<0.1	2.71	32.1	0.03	4	0.2	1.2	<10	<2	
2317481	Soil	0.23	7.8	0.1	<0.05	0.2	3.84	38.6	<0.02	<1	0.3	5.5	<10	<2	5.7
REP 2317481	QC														5.9
2317484	Soil	0.29	8.2	0.3	<0.05	0.9	7.26	39.0	0.02	<1	0.4	13.2	<10	<2	8.7
REP 2317484	QC	0.30	8.2	0.4	<0.05	0.9	7.07	38.2	<0.02	<1	0.4	13.3	<10	5	
2317497	Soil	0.52	12.7	0.6	<0.05	0.6	2.69	26.6	0.02	2	0.3	8.1	<10	<2	9.8
REP 2317497	QC	0.50	11.7	0.5	<0.05	0.3	2.73	28.3	<0.02	<1	0.2	7.5	<10	<2	
2317500	Soil	0.55	9.6	0.3	<0.05	2.2	2.54	29.1	0.03	<1	0.2	11.0	<10	<2	11.2
REP 2317500	QC														11.6
Reference Materials															
STD DOLOMITE-2	Standard														45.9
STD DOLOMITE-2	Standard														45.7
STD DOLOMITE-2	Standard														45.3
STD DOLOMITE-2	Standard														45.9
STD DOLOMITE-2	Standard														45.9
STD DS9	Standard	1.07	35.0	6.0	<0.05	1.5	5.54	22.4	2.34	41	6.1	27.4	157	382	
STD DS9	Standard	1.06	35.0	6.5	<0.05	1.4	6.06	24.7	2.13	55	6.2	27.8	148	400	



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Project: 204700  
 Report Date: September 17, 2013

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# QUALITY CONTROL REPORT

VAN13003267.1

		1F Mo ppm 0.01	1F Cu ppm 0.01	1F Pb ppm 0.01	1F Zn ppm 0.1	1F Ag ppb 2	1F Ni ppm 0.1	1F Co ppm 0.1	1F Mn ppm 1	1F Fe % 0.01	1F As ppm 0.1	1F U ppm 0.1	1F Au ppb 0.2	1F Th ppm 0.1	1F Sr ppm 0.5	1F Cd ppm 0.01	1F Sb ppm 0.02	1F Bi ppm 0.02	1F V ppm 2	1F Ca % 0.01	1F P % 0.001
STD DS9	Standard	13.51	108.0	137.5	317.2	1980	41.4	7.7	588	2.39	24.2	2.6	120.4	6.0	70.8	2.41	5.10	7.34	41	0.71	0.080
STD DS9	Standard	13.06	110.7	137.8	313.3	1952	42.2	7.8	611	2.35	29.0	2.7	137.1	6.6	71.9	2.56	5.23	6.54	40	0.70	0.087
STD DS9	Standard	12.86	112.5	130.8	323.4	2042	41.0	7.9	595	2.40	26.6	2.7	153.8	6.6	76.5	2.49	5.53	6.27	41	0.76	0.090
STD OREAS45EA	Standard	1.55	714.8	14.99	28.7	250	392.8	49.4	352	24.06	8.8	1.9	61.6	11.0	3.5	0.04	0.23	0.21	304	0.04	0.030
STD OREAS45EA	Standard	1.51	750.5	15.64	31.7	304	408.9	52.7	364	24.76	10.1	2.0	57.7	11.3	3.4	0.03	0.19	0.24	324	0.04	0.029
STD OREAS45EA	Standard	1.66	722.7	15.42	29.2	256	395.2	50.8	349	24.16	8.8	1.9	69.6	11.3	3.7	0.02	0.28	0.26	307	0.04	0.029
STD OREAS45EA	Standard	1.49	703.9	15.68	29.5	301	385.9	53.0	411	23.68	10.0	1.9	58.8	11.9	4.0	0.03	0.25	0.23	303	0.04	0.028
STD OREAS45EA	Standard	1.58	749.7	14.98	32.2	323	400.9	53.7	444	24.26	11.5	1.9	67.4	11.7	4.2	0.03	0.28	0.45	317	0.04	0.029
STD DS9 Expected		12.84	108	126	317	1830	40.3	7.6	575	2.33	25.5	2.69	118	6.38	69.6	2.4	4.94	6.32	40	0.7201	0.0819
STD OREAS45EA Expected		1.78	709	14.3	30.6	311	357	52	400	22.65	11.4	1.73	53	10.7	4.05	0.03	0.64	0.26	295	0.032	0.029
STD DOLOMITE-2 Expected																					
BLK	Blank	<0.01	0.03	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	0.001
BLK	Blank	<0.01	<0.01	<0.01	0.1	6	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	<0.01	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	<0.01	0.04	<0.1	9	0.1	<0.1	<1	<0.01	0.3	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	<0.01	0.12	<0.1	21	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001





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Project: 204700  
 Report Date: September 17, 2013

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Part: 2 of 3

# QUALITY CONTROL REPORT

VAN13003267.1

		1F La ppm	1F Cr ppm	1F Mg %	1F Ba ppm	1F Ti %	1F B ppm	1F Al %	1F Na %	1F K %	1F W ppm	1F Sc ppm	1F Ti ppm	1F S %	1F Hg ppb	1F Se ppm	1F Te ppm	1F Ga ppm	1F Cs ppm	1F Ge ppm	1F Hf ppm
		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
STD DS9	Standard	13.2	118.9	0.63	315.1	0.112	<20	0.95	0.082	0.41	2.6	2.8	5.38	0.17	188	5.2	4.45	4.6	2.36	0.1	0.05
STD DS9	Standard	13.2	119.0	0.62	369.6	0.108	<20	0.93	0.080	0.40	2.7	2.4	5.50	0.17	219	5.6	5.50	4.8	2.53	0.1	0.06
STD DS9	Standard	13.3	121.5	0.62	340.8	0.112	<20	0.99	0.095	0.41	3.0	2.5	5.72	0.17	228	5.3	5.63	4.8	2.56	<0.1	0.05
STD OREAS45EA	Standard	6.6	829.2	0.09	146.7	0.091	<20	3.18	0.017	0.05	<0.1	77.0	0.06	0.04	21	1.1	0.16	11.7	0.68	0.1	0.59
STD OREAS45EA	Standard	7.1	871.9	0.10	143.4	0.091	<20	3.40	0.023	0.06	<0.1	77.5	0.06	0.04	<5	1.1	0.07	12.3	0.73	0.3	0.37
STD OREAS45EA	Standard	6.9	840.0	0.09	145.6	0.092	<20	3.22	0.018	0.05	<0.1	79.1	0.06	0.04	13	1.0	0.05	12.7	0.71	0.4	0.58
STD OREAS45EA	Standard	6.9	791.1	0.10	149.2	0.090	<20	3.17	0.018	0.05	<0.1	78.3	<0.02	0.04	11	0.7	0.05	13.1	0.67	0.4	0.60
STD OREAS45EA	Standard	7.1	881.1	0.10	155.4	0.091	<20	3.38	0.023	0.05	<0.1	83.6	<0.02	0.04	17	1.1	0.07	13.5	0.70	0.3	0.56
STD DS9 Expected		13.3	121	0.6165	330	0.1108		0.9577	0.0853	0.395	2.89	2.5	5.3	0.1615	200	5.2	5.02	4.59	2.37	0.1	0.08
STD OREAS45EA Expected		8.19	849	0.095	148	0.106		3.32	0.027	0.053		78	0.072	0.044	340	2.09	0.11	11.7	0.77	0.26	0.82
STD DOLOMITE-2 Expected																					
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	10	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02

## QUALITY CONTROL REPORT

VAN13003267.1

		1F Nb ppm 0.02	1F Rb ppm 0.1	1F Sn ppm 0.1	1F Ta ppm 0.05	1F Zr ppm 0.1	1F Y ppm 0.01	1F Ce ppm 0.1	1F In ppm 0.02	1F Re ppb 1	1F Be ppm 0.1	1F Li ppm 0.1	1F Pd ppb 10	1F Pt ppb 2	LOI %
STD DS9	Standard	1.12	34.1	6.8	<0.05	1.5	5.89	25.5	2.12	61	5.7	23.9	156	406	
STD DS9	Standard	0.98	36.3	6.8	<0.05	1.8	5.73	25.6	2.44	64	5.7	26.8	116	366	
STD DS9	Standard	0.95	37.0	6.7	<0.05	1.9	6.00	25.0	2.28	60	5.5	26.6	143	381	
STD OREAS45EA	Standard	0.07	7.1	0.8	<0.05	19.6	4.85	17.7	0.13	4	0.4	2.7	111	127	
STD OREAS45EA	Standard	0.12	7.2	0.9	<0.05	15.7	5.45	19.3	0.08	<1	0.4	2.8	117	100	
STD OREAS45EA	Standard	0.09	7.7	0.5	<0.05	20.9	5.35	19.5	0.04	<1	0.4	2.2	87	102	
STD OREAS45EA	Standard	0.06	7.6	0.8	<0.05	20.7	5.48	18.2	0.07	<1	0.3	2.5	84	108	
STD OREAS45EA	Standard	0.06	8.0	0.9	<0.05	20.5	5.88	17.8	0.09	1	0.4	2.6	80	122	
STD DS9 Expected		0.96	33.8	6.4	0.004	2	5.97	25.4	2.2	61	5.4	25.2	120	350	
STD OREAS45EA Expected		0.43	7.93	0.97		26.6	5.74	17.7	0.1		0.47	7.63	66	108	
STD DOLOMITE-2 Expected															45.9
BLK	Blank	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	<0.1	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	<0.1	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	<0.1	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	0.1	<0.01	<0.1	<0.02	1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	<0.1	<0.02	<1	<0.1	<0.1	<10	<2	



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Submitted By: Michael Buchanan and Rupa Mukherjee
Receiving Lab: Canada-Vancouver
Received: August 28, 2013
Report Date: September 12, 2013
Page: 1 of 6

CERTIFICATE OF ANALYSIS

VAN13003389.1

CLIENT JOB INFORMATION

Project: 204700
Shipment ID: CRQ\_2013\_005
P.O. Number
Number of Samples: 150

SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage
STOR-RJT-SOIL Store Soil Reject - RJSV Charges Apply

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Teck Resources Limited
Suite 3300, 550 Burrard St.
Vancouver BC V6C 0B3
CANADA

CC:

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Table with 6 columns: Procedure Code, Number of Samples, Code Description, Test Wgt (g), Report Status, Lab. Rows include procedures like 'Dry at 60C', 'SS80', 'RJSV', '1F04', and '2A05'.

ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted. \*\*\* asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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Project: 204700  
Report Date: September 12, 2013

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Part: 1 of 3

# CERTIFICATE OF ANALYSIS

VAN13003389.1

Method	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001	
2317351	Soil	12.77	12.41	33.02	74.0	788	12.3	1.3	108	0.77	7.0	0.9	6.3	0.2	35.6	0.26	3.06	0.09	33	0.24	0.131
2317352	Soil	45.95	38.22	115.3	116.2	889	21.1	1.7	61	2.43	52.2	7.3	2.6	1.3	53.1	0.42	11.46	0.15	112	<0.01	0.125
2317353	Soil	121.2	71.04	148.0	190.0	1951	27.2	2.4	263	6.55	164.3	14.5	3.0	4.2	87.8	0.85	30.46	0.22	173	0.01	0.233
2317354	Soil	58.05	40.42	261.2	141.7	1393	23.9	3.3	101	4.52	112.4	6.9	3.6	5.0	82.7	0.39	14.94	0.23	153	0.01	0.127
2317355	Soil	59.15	38.74	269.6	139.2	1403	22.4	3.2	100	4.74	111.4	6.5	2.9	5.2	86.7	0.44	14.01	0.26	158	0.02	0.124
2317356	Soil	16.93	35.07	41.33	175.5	520	33.8	5.3	76	2.53	32.8	2.5	<0.2	3.0	90.3	0.42	3.39	0.19	61	<0.01	0.079
2317357	Soil	8.98	30.84	23.99	110.9	379	25.3	3.5	32	3.67	54.7	2.6	2.1	1.9	56.2	0.19	3.65	0.25	77	<0.01	0.085
2317358	Soil	6.31	12.06	17.55	49.1	230	9.3	1.3	13	0.73	10.3	0.6	3.5	0.9	10.5	0.12	0.72	0.15	60	<0.01	0.060
2317359	Soil	5.71	13.70	25.27	58.7	1053	10.8	1.1	10	2.94	67.9	1.2	3.3	3.1	23.0	0.12	6.94	0.29	49	<0.01	0.063
2317360	Soil	31.40	19.67	40.25	18.1	1746	4.6	0.6	31	3.73	35.6	1.0	2.0	8.4	62.0	0.34	8.89	0.42	102	<0.01	0.070
2317361	Soil	6.65	15.61	19.29	78.9	195	14.6	3.4	79	1.21	11.4	0.5	0.7	0.2	21.3	0.14	0.99	0.23	61	0.02	0.067
2317362	Soil	67.33	54.44	30.59	104.8	1049	52.0	2.5	125	5.04	80.0	7.6	1.2	3.8	79.6	0.63	12.53	0.21	143	0.02	0.201
2317363	Soil	67.44	40.66	24.66	58.8	644	17.7	1.8	138	2.60	33.8	8.8	1.4	3.1	44.2	0.25	4.06	0.29	135	0.03	0.123
2317364	Soil	13.03	43.62	20.37	295.6	1834	99.6	9.8	229	2.29	9.8	1.2	2.0	2.6	79.3	2.57	2.73	0.21	78	1.33	0.169
2317365 BAL-1	Rock Pulp	1.21	16.24	23.38	69.1	149	30.1	6.3	267	1.72	4.8	1.4	0.9	1.5	29.4	1.85	0.22	0.12	40	0.67	0.055
2317366	Soil	13.73	34.47	17.91	209.7	932	79.4	8.6	248	1.89	8.4	1.1	1.4	1.6	57.3	1.49	2.37	0.17	63	1.41	0.134
2317367	Soil	13.65	34.03	17.94	207.0	849	76.4	8.0	298	1.83	7.4	1.1	1.4	1.4	57.5	1.56	2.40	0.16	61	1.27	0.158
2317368	Soil	15.76	32.90	19.03	233.1	888	78.4	8.7	798	1.87	8.3	1.2	1.6	1.3	54.7	1.62	2.45	0.18	67	1.32	0.152
2317369	Soil	17.56	14.15	19.98	149.9	162	33.4	7.7	2033	1.45	6.0	0.8	0.8	<0.1	15.8	0.97	0.94	0.16	41	0.06	0.094
2317370	Soil	16.43	16.00	16.00	213.9	162	56.4	6.9	107	1.66	9.6	0.9	0.3	<0.1	13.2	0.31	0.92	0.14	40	0.13	0.071

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Project: 204700  
 Report Date: September 12, 2013

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# CERTIFICATE OF ANALYSIS

VAN13003389.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga	Cs	Ge	Hf
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	
MDL		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
2317351	Soil	6.2	5.7	0.05	2288	0.002	<20	0.24	0.003	0.11	<0.1	0.9	1.02	0.16	201	2.1	0.04	0.7	0.96	<0.1	<0.02
2317352	Soil	16.3	6.3	0.04	1442	0.003	<20	0.71	0.003	0.15	0.2	1.3	3.69	0.33	127	8.6	0.09	1.9	1.40	<0.1	0.05
2317353	Soil	9.1	4.9	0.05	55.9	0.003	<20	1.19	0.017	0.50	0.3	2.8	6.69	1.37	232	29.4	0.28	2.2	3.06	<0.1	0.06
2317354	Soil	17.6	10.3	0.10	267.2	0.007	<20	0.97	0.018	0.27	0.2	2.3	5.45	0.79	181	17.0	0.14	2.9	1.91	<0.1	0.03
2317355	Soil	17.5	10.4	0.10	205.7	0.006	<20	0.95	0.022	0.30	0.1	2.2	5.54	0.85	187	15.5	0.18	3.0	1.88	<0.1	<0.02
2317356	Soil	20.2	7.4	0.03	750.6	0.001	<20	0.49	0.011	0.15	<0.1	2.2	1.08	0.30	32	4.1	0.05	1.4	1.64	<0.1	<0.02
2317357	Soil	13.9	15.3	0.03	646.8	0.001	<20	0.75	0.013	0.15	<0.1	1.9	0.57	0.26	51	3.1	0.09	2.1	1.91	<0.1	0.03
2317358	Soil	20.8	9.5	0.03	363.2	0.002	<20	0.58	<0.001	0.07	<0.1	0.8	0.36	0.03	26	0.8	0.07	3.2	1.52	<0.1	<0.02
2317359	Soil	14.1	12.3	0.02	423.1	<0.001	<20	1.03	0.015	0.08	<0.1	1.8	0.59	0.14	96	4.2	0.08	2.0	2.39	<0.1	0.04
2317360	Soil	14.1	11.4	0.03	262.1	0.002	<20	0.38	0.062	0.40	<0.1	1.9	2.63	1.15	82	10.0	0.15	2.7	3.11	0.1	0.03
2317361	Soil	14.7	12.1	0.03	478.1	0.002	<20	0.55	0.005	0.09	<0.1	0.5	0.39	0.08	22	0.5	0.04	3.7	1.61	<0.1	<0.02
2317362	Soil	7.3	13.8	0.03	115.1	0.003	<20	2.31	0.048	0.20	0.4	3.5	3.82	0.89	271	10.0	0.17	3.7	1.07	<0.1	0.12
2317363	Soil	16.9	10.8	0.06	1109	0.003	<20	0.70	0.008	0.22	0.5	2.8	3.29	0.58	95	5.5	0.15	2.7	1.13	<0.1	<0.02
2317364	Soil	12.7	12.9	0.63	1522	0.004	<20	0.39	0.003	0.09	<0.1	6.3	0.47	0.02	234	3.8	0.14	1.2	1.14	<0.1	0.06
2317365 BAL-1	Rock Pulp	17.6	27.7	0.16	63.2	0.002	<20	1.05	0.008	0.06	<0.1	4.3	0.31	0.06	112	1.3	<0.02	3.1	0.55	<0.1	0.07
2317366	Soil	10.8	9.1	0.64	1094	0.002	<20	0.26	0.002	0.08	<0.1	4.8	0.31	0.02	162	3.1	0.11	0.8	0.71	<0.1	0.06
2317367	Soil	10.6	8.8	0.51	1152	0.002	<20	0.27	0.003	0.08	<0.1	4.3	0.29	0.04	117	3.1	0.06	0.8	0.68	<0.1	0.07
2317368	Soil	11.1	9.2	0.53	1078	0.003	<20	0.28	0.003	0.09	<0.1	3.8	0.44	0.06	140	2.7	0.09	1.0	0.86	<0.1	0.04
2317369	Soil	9.4	9.1	0.03	549.1	<0.001	<20	0.31	0.004	0.08	<0.1	0.4	0.63	0.11	22	1.2	0.03	1.7	0.88	<0.1	<0.02
2317370	Soil	10.4	6.3	0.06	219.2	0.001	<20	0.30	0.004	0.06	<0.1	0.4	0.51	0.07	24	0.9	0.04	1.8	0.70	<0.1	<0.02

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Project: 204700  
 Report Date: September 12, 2013

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# CERTIFICATE OF ANALYSIS

# VAN13003389.1

Method	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	LOI	
Analyte	Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	LOI	
Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb	%	
MDL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	0.1	
2317351	Soil	0.07	5.7	0.2	<0.05	0.4	1.54	11.0	<0.02	<1	0.1	0.8	<10	<2	62.4
2317352	Soil	0.12	10.7	0.3	<0.05	0.5	4.46	27.9	0.03	5	0.3	1.8	<10	2	13.7
2317353	Soil	0.10	22.7	0.5	<0.05	2.4	5.37	17.1	0.08	2	<0.1	2.5	19	3	17.0
2317354	Soil	0.64	17.9	0.5	<0.05	1.7	4.15	29.9	0.06	2	0.2	4.1	13	4	11.4
2317355	Soil	0.52	18.6	0.5	<0.05	1.3	4.02	31.2	0.06	4	0.4	4.2	12	6	11.3
2317356	Soil	0.03	11.0	0.1	<0.05	0.2	5.11	36.4	0.05	<1	0.4	1.6	<10	<2	7.9
2317357	Soil	0.11	12.4	0.3	<0.05	0.6	4.25	26.7	0.05	<1	0.2	1.6	<10	3	15.8
2317358	Soil	0.11	11.0	0.4	<0.05	0.5	1.62	37.2	0.02	<1	0.1	1.0	<10	3	12.7
2317359	Soil	0.21	12.1	0.3	<0.05	1.3	2.85	27.7	0.05	2	0.3	3.5	<10	2	15.2
2317360	Soil	0.06	22.9	0.6	<0.05	2.5	1.99	27.9	0.09	<1	<0.1	2.0	11	3	9.8
2317361	Soil	0.07	11.2	0.8	<0.05	<0.1	1.47	28.0	0.02	<1	0.2	1.0	<10	<2	12.0
2317362	Soil	0.14	12.5	1.0	<0.05	3.7	5.07	14.8	0.08	7	0.3	2.1	<10	2	17.5
2317363	Soil	0.13	13.9	1.3	<0.05	0.7	6.11	32.1	0.06	1	0.3	3.3	12	2	12.1
2317364	Soil	0.10	5.7	0.3	<0.05	2.5	17.29	22.5	0.04	2	1.0	4.8	<10	3	8.6
2317365 BAL-1	Rock Pulp	0.23	6.5	0.5	<0.05	2.3	19.59	32.1	0.02	5	0.7	8.0	<10	2	12.6
2317366	Soil	0.07	4.3	0.2	<0.05	2.5	14.93	19.8	0.03	2	0.8	3.0	<10	4	10.7
2317367	Soil	0.06	4.7	0.2	<0.05	2.5	14.36	19.6	0.02	<1	0.8	3.0	<10	<2	12.9
2317368	Soil	0.10	6.5	0.2	<0.05	1.4	12.42	20.9	0.03	<1	0.8	3.0	<10	3	13.1
2317369	Soil	<0.02	10.3	0.4	<0.05	<0.1	2.96	19.2	<0.02	<1	0.3	1.1	<10	<2	11.2
2317370	Soil	<0.02	8.8	0.3	<0.05	<0.1	4.16	20.3	<0.02	<1	0.2	1.0	<10	<2	8.3

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 Vancouver BC V6C 0B3 CANADA

Project: 204700  
 Report Date: September 12, 2013

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# CERTIFICATE OF ANALYSIS

VAN13003389.1

Method	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001	
2317371	Soil	14.17	13.02	19.03	106.0	377	23.2	3.3	46	1.18	7.8	0.7	0.5	<0.1	20.3	0.24	0.84	0.15	45	0.04	0.059
2317372	Soil	8.32	11.40	13.65	88.0	114	26.8	4.7	33	1.28	4.7	0.5	0.4	<0.1	7.5	0.23	0.62	0.14	35	0.01	0.063
2317373	Soil	12.59	10.87	13.64	124.3	483	24.2	6.4	414	0.73	2.9	0.4	1.7	0.1	14.7	2.83	0.77	0.08	17	0.26	0.150
2317374	Soil	16.77	10.03	16.91	206.2	68	49.1	6.8	156	1.43	5.1	1.0	0.3	0.2	6.8	0.77	0.55	0.12	32	0.04	0.067
2317375	Soil	18.34	15.89	26.94	181.1	337	41.5	5.1	51	1.55	11.6	0.9	<0.2	0.2	13.2	0.21	1.18	0.14	55	<0.01	0.055
2317376	Soil	4.46	9.53	9.98	64.3	4213	13.0	1.6	101	0.47	3.2	0.4	5.2	0.3	29.8	0.63	0.83	0.07	13	0.28	0.095
2317377	Soil	15.15	16.90	26.46	80.9	609	15.2	2.1	28	1.71	18.2	1.5	1.0	1.1	29.0	0.24	1.92	0.17	69	0.03	0.064

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Project: 204700  
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**CERTIFICATE OF ANALYSIS** VAN13003389.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F		
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga	Cs	Ge	Hf	
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	
MDL	0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02		
2317371	Soil	13.6	7.0	0.03	277.3	0.002	<20	0.30	0.005	0.09	<0.1	0.5	0.73	0.11	35	1.1	0.06	2.4	1.11	<0.1	<0.02	
2317372	Soil	12.2	7.4	0.04	156.7	0.001	<20	0.43	0.002	0.06	<0.1	0.5	0.32	0.03	23	0.7	0.03	2.1	0.43	<0.1	<0.02	
2317373	Soil	3.9	6.6	0.07	484.5	0.002	<20	0.22	0.002	0.15	<0.1	0.7	0.28	0.11	113	0.7	0.02	0.8	0.58	<0.1	<0.02	
2317374	Soil	11.8	9.5	0.05	244.8	0.002	<20	0.46	0.001	0.05	<0.1	0.8	0.39	0.03	21	0.7	0.03	1.9	0.47	<0.1	<0.02	
2317375	Soil	13.0	6.6	0.03	402.0	0.002	<20	0.35	0.003	0.06	<0.1	0.7	0.73	0.07	20	1.1	0.06	2.2	0.73	<0.1	<0.02	
2317376	Soil	2.2	5.6	0.04	999.1	0.002	<20	0.20	0.003	0.07	<0.1	1.0	0.47	0.13	221	0.6	0.03	0.6	0.62	<0.1	0.02	
2317377	Soil	12.6	7.9	0.03	1278	0.001	<20	0.46	0.004	0.09	<0.1	1.2	1.22	0.10	61	1.4	0.07	2.4	1.18	<0.1	<0.02	

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Project: 204700  
 Report Date: September 12, 2013

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# CERTIFICATE OF ANALYSIS

VAN13003389.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	LOI	
		Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	LOI
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb	%
		MDL	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	0.1
2317371	Soil	<0.02	9.3	0.4	<0.05	<0.1	2.38	26.0	<0.02	<1	0.2	1.1	<10	<2	9.3
2317372	Soil	0.02	6.8	0.3	<0.05	<0.1	1.87	23.6	<0.02	<1	0.2	1.0	<10	<2	8.8
2317373	Soil	0.10	5.3	0.2	<0.05	0.4	2.06	7.9	<0.02	<1	0.2	0.9	<10	<2	61.2
2317374	Soil	0.02	5.6	0.3	<0.05	0.1	4.79	23.6	<0.02	<1	0.3	1.7	<10	<2	10.0
2317375	Soil	0.05	8.1	0.4	<0.05	<0.1	3.28	24.7	<0.02	1	0.2	1.0	<10	<2	6.9
2317376	Soil	0.09	4.3	0.3	<0.05	1.0	1.26	4.5	<0.02	<1	<0.1	0.4	<10	3	79.8
2317377	Soil	0.14	10.7	0.6	<0.05	0.7	2.59	24.2	<0.02	3	0.1	1.2	<10	<2	20.8

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# QUALITY CONTROL REPORT

VAN13003389.1

		1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
STD DS9	Standard	14.32	112.2	135.5	324.6	1716	41.5	7.7	595	2.40	24.7	2.7	112.6	5.8	62.9	2.35	3.97	6.16	41	0.72	0.085
STD DS9	Standard	12.23	109.8	129.9	311.6	1738	38.2	7.4	536	2.28	27.1	2.7	110.4	6.4	62.8	2.48	4.01	5.80	39	0.66	0.081
STD DS9	Standard	12.79	104.2	122.5	293.6	1668	40.3	8.0	566	2.23	25.9	2.4	97.0	5.8	58.0	2.21	3.90	6.22	37	0.67	0.074
STD OREAS45EA	Standard	1.20	590.5	13.72	24.3	219	319.2	49.9	371	20.75	6.0	1.7	60.1	10.0	3.1	0.04	0.13	0.23	261	0.03	0.025
STD OREAS45EA	Standard	1.24	622.7	14.02	27.2	268	356.9	51.3	389	22.52	6.8	1.7	54.3	10.3	3.6	0.03	0.10	0.25	277	0.04	0.026
STD OREAS45EA	Standard	1.32	673.0	15.09	27.2	273	377.2	51.1	394	23.61	7.7	1.8	59.5	10.5	3.4	<0.01	0.11	0.24	300	0.03	0.028
STD OREAS45EA	Standard	1.15	608.1	14.93	25.9	240	337.8	46.7	373	20.94	5.6	1.7	63.9	10.5	3.3	0.04	0.14	0.27	275	0.03	0.026
STD OREAS45EA	Standard	1.11	553.0	13.88	22.6	227	310.3	48.4	348	20.31	4.9	1.7	64.8	9.8	3.2	0.03	0.14	0.22	253	0.04	0.023
STD DS9 Expected		12.84	108	126	317	1830	40.3	7.6	575	2.33	25.5	2.69	118	6.38	69.6	2.4	4.94	6.32	40	0.7201	0.0819
STD OREAS45EA Expected		1.78	709	14.3	30.6	311	357	52	400	22.65	11.4	1.73	53	10.7	4.05	0.03	0.64	0.26	295	0.032	0.029
STD DOLOMITE-2 Expected																					
BLK	Blank	<0.01	0.02	<0.01	<0.1	3	<0.1	<0.1	<1	<0.01	0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	<0.01	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	0.02	0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	<0.01	<0.01	<0.1	4	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	0.01	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001



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Project: 204700  
 Report Date: September 12, 2013

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# QUALITY CONTROL REPORT

VAN13003389.1

		1F La ppm	1F Cr ppm	1F Mg %	1F Ba ppm	1F Ti %	1F B ppm	1F Al %	1F Na %	1F K %	1F W ppm	1F Sc ppm	1F Ti ppm	1F S %	1F Hg ppb	1F Se ppm	1F Te ppm	1F Ga ppm	1F Cs ppm	1F Ge ppm	1F Hf ppm
		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
STD DS9	Standard	12.4	116.3	0.63	324.8	0.110	<20	0.95	0.081	0.40	2.7	2.3	5.33	0.15	264	5.6	5.30	4.4	2.44	0.1	0.07
STD DS9	Standard	10.7	113.0	0.60	346.8	0.097	<20	0.90	0.076	0.39	2.3	2.1	5.36	0.17	214	5.5	5.16	4.5	2.47	<0.1	0.08
STD DS9	Standard	10.5	110.8	0.59	313.3	0.092	<20	0.88	0.075	0.39	2.3	2.4	5.01	0.16	200	5.2	4.64	4.4	2.31	0.1	0.06
STD OREAS45EA	Standard	6.1	795.9	0.08	143.4	0.073	<20	2.76	0.014	0.05	<0.1	67.5	0.06	0.04	8	0.2	0.07	11.0	0.63	0.2	0.64
STD OREAS45EA	Standard	6.4	864.9	0.09	151.8	0.080	<20	2.95	0.024	0.05	<0.1	74.9	0.07	0.04	10	0.3	0.08	12.5	0.71	0.3	0.74
STD OREAS45EA	Standard	6.7	823.3	0.10	147.0	0.086	<20	3.24	0.018	0.06	<0.1	75.6	<0.02	0.04	7	0.7	0.07	11.8	0.74	0.3	0.72
STD OREAS45EA	Standard	5.9	770.6	0.09	149.4	0.078	<20	2.75	0.019	0.05	<0.1	68.6	<0.02	<0.02	7	0.3	0.09	11.1	0.63	0.2	0.63
STD OREAS45EA	Standard	5.9	765.8	0.08	136.7	0.071	<20	2.59	0.014	0.05	<0.1	63.3	0.06	0.03	9	<0.1	0.06	10.4	0.60	0.3	0.62
STD DS9 Expected		13.3	121	0.6165	330	0.1108		0.9577	0.0853	0.395	2.89	2.5	5.3	0.1615	200	5.2	5.02	4.59	2.37	0.1	0.08
STD OREAS45EA Expected		8.19	849	0.095	148	0.106		3.32	0.027	0.053		78	0.072	0.044	340	2.09	0.11	11.7	0.77	0.26	0.82
STD DOLOMITE-2 Expected																					
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02

## QUALITY CONTROL REPORT

VAN13003389.1

		1F Nb ppm 0.02	1F Rb ppm 0.1	1F Sn ppm 0.1	1F Ta ppm 0.05	1F Zr ppm 0.1	1F Y ppm 0.01	1F Ce ppm 0.1	1F In ppm 0.02	1F Re ppb 1	1F Be ppm 0.1	1F Li ppm 0.1	1F Pd ppb 10	1F Pt ppb 2	LOI %
STD DS9	Standard	0.85	34.9	6.6	<0.05	1.7	5.41	22.8	2.33	62	5.6	28.1	119	337	
STD DS9	Standard	0.78	34.3	6.5	<0.05	1.7	4.94	19.7	2.36	64	5.8	25.1	111	376	
STD DS9	Standard	0.83	32.2	5.6	<0.05	1.6	4.85	20.5	2.03	61	5.3	23.7	128	334	
STD OREAS45EA	Standard	0.06	7.0	0.7	<0.05	21.6	4.72	16.5	0.08	<1	0.4	2.1	70	97	
STD OREAS45EA	Standard	0.06	7.5	0.8	<0.05	23.7	5.29	17.5	0.08	<1	0.4	2.3	63	114	
STD OREAS45EA	Standard	0.05	7.4	0.7	<0.05	22.2	5.01	17.3	0.09	<1	0.4	2.8	81	115	
STD OREAS45EA	Standard	0.05	7.1	0.9	<0.05	20.6	4.80	15.7	0.06	<1	0.4	2.1	50	112	
STD OREAS45EA	Standard	0.07	6.9	0.7	<0.05	21.3	4.66	16.2	0.07	<1	0.3	2.0	95	103	
STD DS9 Expected		0.96	33.8	6.4	0.004	2	5.97	25.4	2.2	61	5.4	25.2	120	350	
STD OREAS45EA Expected		0.43	7.93	0.97		26.6	5.74	17.7	0.1		0.47	7.63	66	108	
STD DOLOMITE-2 Expected															45.9
BLK	Blank	<0.02	<0.1	<0.1	<0.05	0.3	<0.01	0.3	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	0.2	<0.01	0.2	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	0.1	<0.01	0.2	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	0.1	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank	<0.02	<0.1	<0.1	<0.05	0.1	<0.01	0.2	<0.02	<1	<0.1	<0.1	<10	<2	