

# ASSESSMENT REPORT ON GEOCHEMISTRY OF HIGHLAND SOUTH COPPER PROPERTY

**Event Number: 5424728**

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Assessment Report  
33780**

***BRITISH COLUMBIA***

***NEW WESTMINSTER MINING DIVISION  
NTS M092H084***

***Latitude 49° 48' 30", Longitude 121° 19' 00"***

***Prepared for***

***NATAN RESOURCES LTD.***

***2000-1177 WEST HASTINGS STREET***

***VANCOUVER, B.C.***

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## 1. SUMMARY

The Property is located a few kilometres east of Highway No 1, near Boston Bar in southwest British Columbia, some 200 kilometres (“km”) northeast of Vancouver and includes a 28-km long NNW-SSE contiguous group of 19 mineral claims, covering an area of 9,650 hectares.

The Property is situated along the contact of a major intrusive complex with slightly metamorphosed sedimentary-volcanogenic units (Fig. 1.1). The intrusive complex hosts numerous copper (“Cu”) and molybdenum (“Mo”) porphyry deposits including Highland Valley, the largest porphyry copper mine in Canada, located 60 to 80km north of the Property.

Presently the Property features a large, intense, coincident copper-molybdenum soil anomaly, covering an area of approximately 2km<sup>2</sup> (the “Central Zone”), roughly ellipsoidal in shape, with its longer axis oriented NE-SW. Historical exploration activities on the Property included predominantly soil sampling programs and very limited geological mapping and rock sampling. As a result, the Central Zone was discovered in 1979-1980 (Livingstone, 1980, 1981) as a strong soil anomaly returning unusual elevations of copper up to certified 3,150 ppm (Christie 1982) and 2,735 ppm (this report).

The latest 2012 reconnaissance exploration program conducted by Sunrise Drilling Ltd. (“Sunrise”) resulted in the historical Central Zone area significantly expanding to 2.2 km<sup>2</sup> from 1.2 km<sup>2</sup>. This Central Zone anomaly is, most likely, a surface expression of the copper-molybdenum porphyry system or mineralization related to such system in underlying bedrock at depth. Priority targets have been identified within the Central Zone. Infill sampling, trenching and auger drilling should be completed to identify additional priority targets prior to drilling.

The 2012 exploration program also proved that the Property has potential to host mineralization over multiple areas. This limited program resulted in the discovery of the Northern Discovery Zone and the Southern Discovery Zone (Fig. 1.1).

The Northern Discovery Zone is located approximately 11km north-northwest of the Central Zone where visible copper mineralization (azurite, malachite) hosted by smaller-scale feldspar porphyry intrusive was identified. Several rock samples collected nearby returned highly elevated concentrations of copper (up to 6,650 ppm Cu) accompanied by strongly elevated lead (up to 2,290 ppm Pb), zinc (“Zn”) (up to over 10,000 ppm Zn) and significantly elevated gold, silver, arsenic, mercury and antimony (Fig.1.1).

The Southern Discovery Zone lies approximately 10km southeast of the Central Zone. Recent reconnaissance rock sampling brought about sound evidence of a local zinc-lead and copper (up to 8,956 ppm Cu) mineralization in the southern part of the Property within the Southern Discovery Zone. The limited contour soil and silt sampling in this area also returned elevated concentrations of copper, silver, gold and strongly anomalous concentrations of antimony and

bismuth. Other evidence of base metals and/or gold mineralization is scattered throughout other parts of the Property. A significant portion of the Property still remains underexplored.

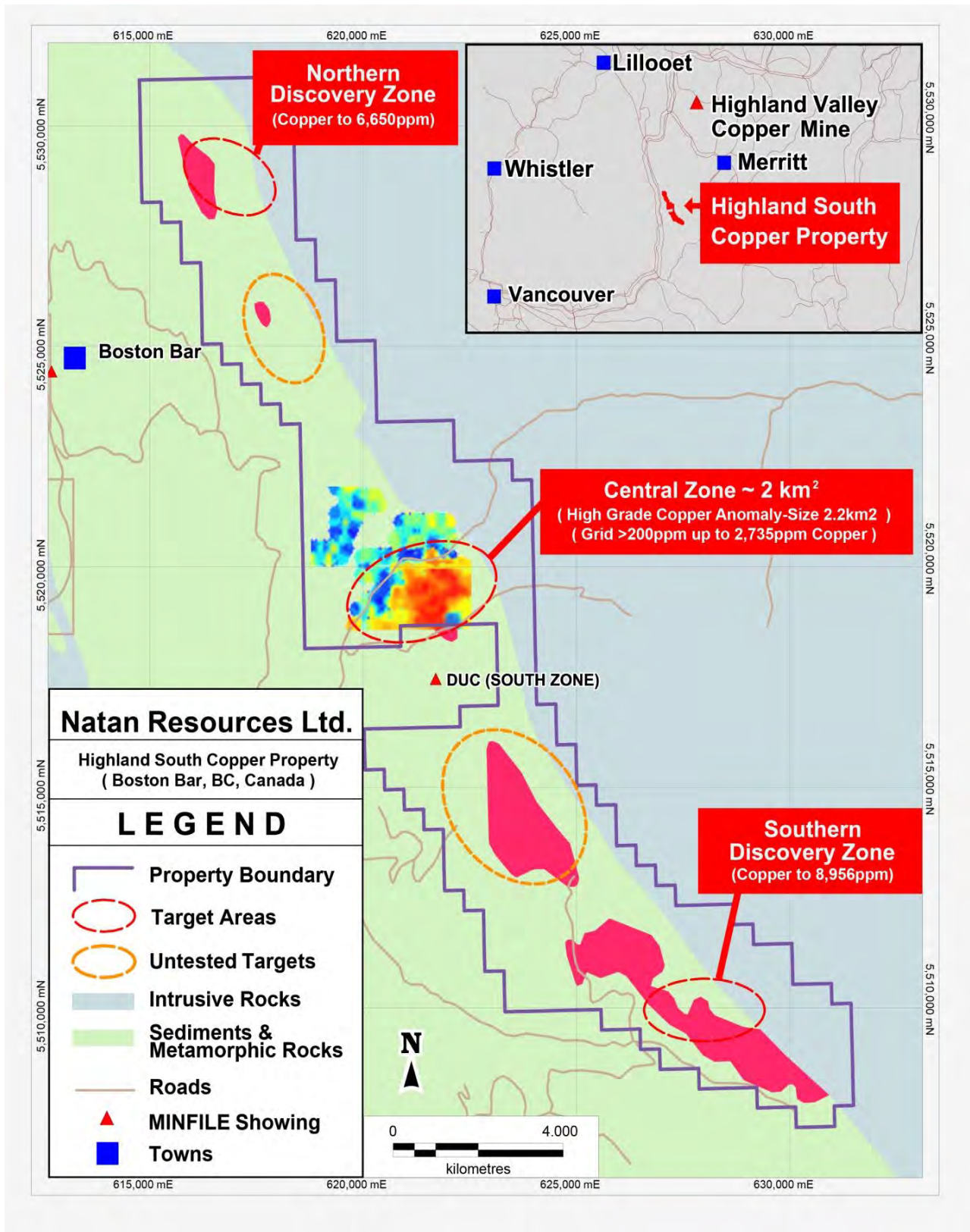
The 2012 Sunrise exploration program conducted on the Property resulted in significant extension of the historical Central Zone soil anomaly toward the north, west and south and resulted in two new discoveries, the Northern Discovery Zone and the Southern Discovery Zone, which confirmed potentially significant mineralization in other parts of the Property. The present-day Property hosts three documented and potentially significant zones of mineralization, and features two additional broad exploration targets, which stretch together for approximately 26 km along the Property (Fig. 1.1).

The Property is an early stage exploration property. However, the previous exploration programs on the Property, as well as favourable geological settings, allows for strong inferences concerning potentially significant mineralization hosted in bedrock on the Property. Information and evidence available to date indicates that it is premature to draw any conclusions of an economic nature concerning the Property at this stage.

The author recommends further exploration programs on the Property, which should bring about definition and additional targets for drill testing. The main elements of the proposed exploration program would include complementary soil sampling supported by deeper auger testing, detailed geological mapping, ground IP survey and trenching.

The Central Zone of the Property awaits more precise drill target definition. Several unexplored parts of the Property should be examined by means of prospecting and rock, soil and silt sampling.

Fig. 1.1. Highland South Copper Property – Anomalies and Target Areas



## 2. INTRODUCTION

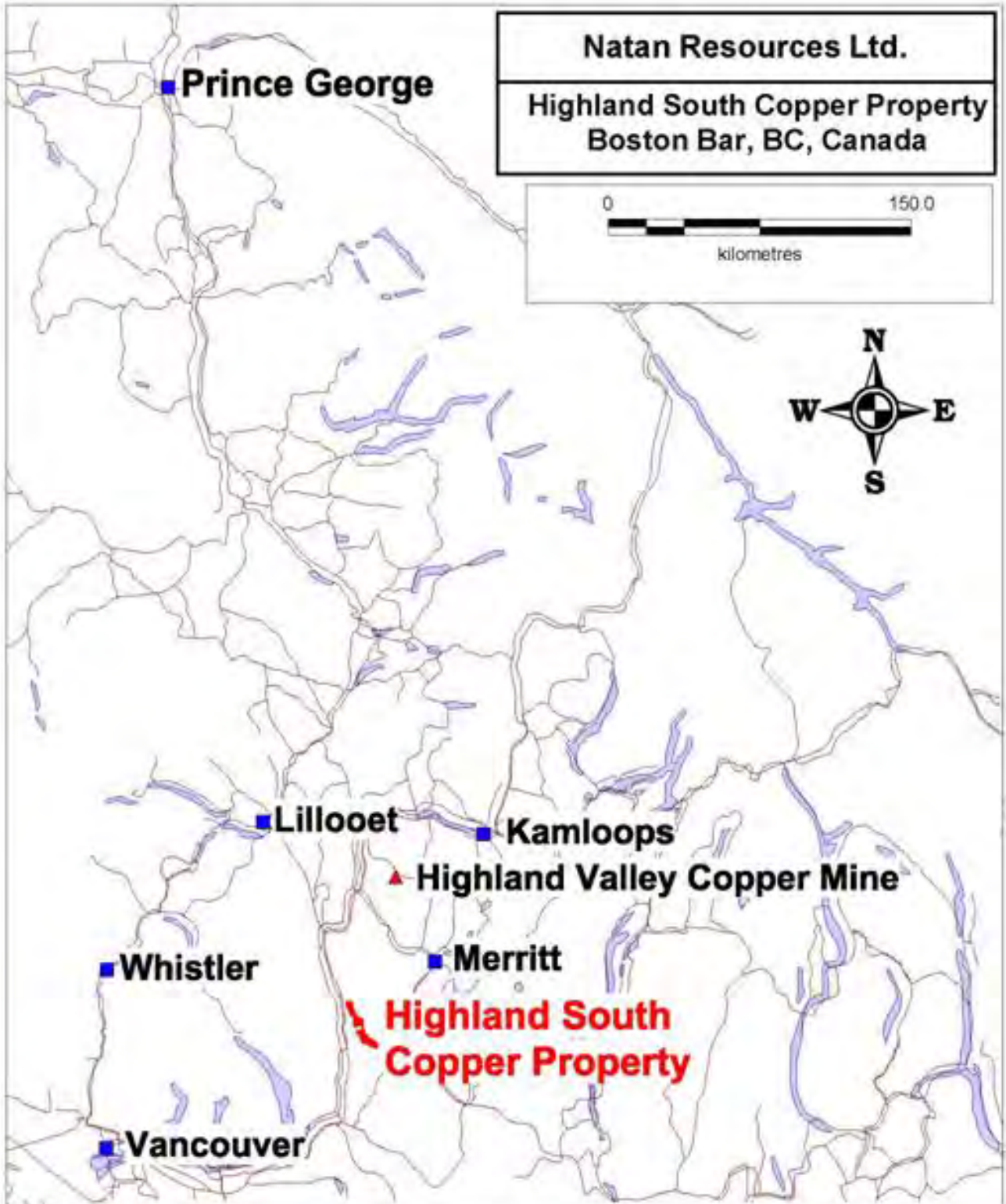
This report was created from the unfiled 43-101 report written by Krzysztof Mastalerz in October and November of 2012. Parts of the original 43-101 report which had no relevance for assessment report purpose were removed. The remaining parts which refer to geology and exploration conducted on these claims were left intact. Further changes were done to the technical report to meet the government assessment report requirements, specifically changing the scale of the claim map as well as adding additional maps over the worked areas at 1:5000 scale which include the analytical results of copper and molybdenum.

## 3. PROPERTY DESCRIPTION AND LOCATION

### 3.1. Property Location

The Highland South Copper Property is centered at coordinates 49° 48' 30"N and 121° 19' 00"W (UTM coordinates: 621200mE and 5519600mN, NAD83 Zone 10) and lies few kilometres east of Highway No 1, near Boston Bar in the Westminster Mining Division in southwest British Columbia, some 200 km northeast of Vancouver. (Figs. 4.1).

Fig. 3.1. Highland South Copper Property – Project location map





### 3.2. Property Description

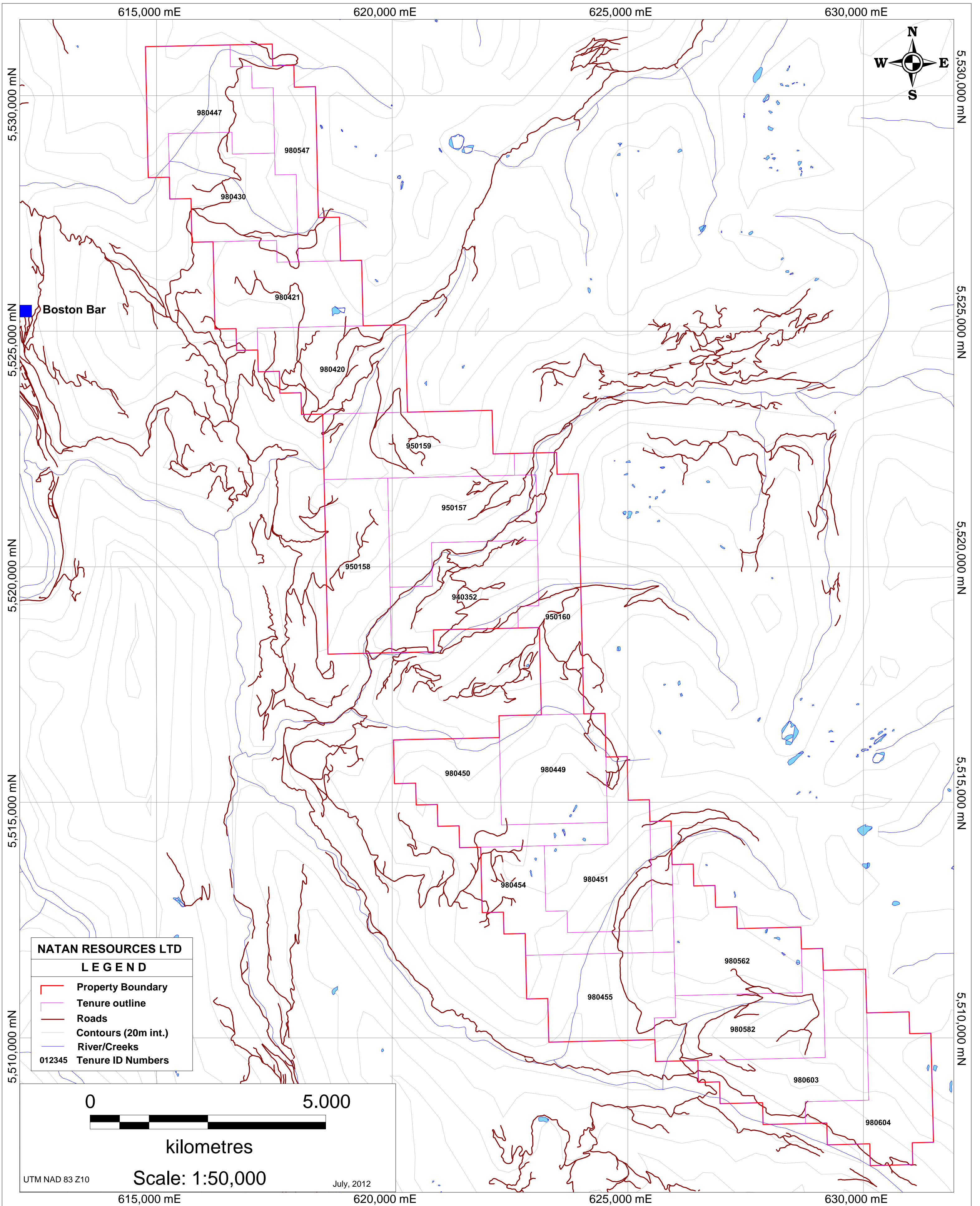
The Property consists of 19 a NNW-SSE elongated group of contiguous mineral claims totaling approximately 9,650 hectares (Fig. 4.2). Information about these claims is presented in the table below:

Table 3.1. Mineral tenures of the Highland South Copper Property.

Tenure #	Claim Name	Owner	Map	Issue Date	Good To Date	Area (ha)
940352	PILSUDSKI	128229 (100%)	092H	2012/jan/08	2013/jan/08	521.2139
950157	PILSUDSKI 2	128229 (100%)	092H	2012/feb/16	2013/feb/16	521.0649
950158	PILSUDSKI 3	128229 (100%)	092H	2012/feb/16	2013/feb/16	500.3021
950159		128229 (100%)	092H	2012/feb/16	2013/feb/16	520.9138
950160		128229 (100%)	092H	2012/feb/16	2013/feb/16	521.2014
980420	CHROBRY	128229 (100%)	092H	2012/apr/16	2013/apr/16	520.7421
980421	MIESZKO	128229 (100%)	092H	2012/apr/16	2013/apr/16	520.5822
980430	PIAST	128229 (100%)	092H	2012/apr/17	2013/apr/17	520.3824
980447	BOLESŁAW	128229 (100%)	092H	2012/apr/17	2013/apr/17	520.2005
980449	POPIEL	128229 (100%)	092H	2012/apr/17	2013/apr/17	521.5728
980450	GNIEZNO	128229 (100%)	092H	2012/apr/17	2013/apr/17	500.7583
980451	KAZIMIERZ	128229 (100%)	092H	2012/apr/17	2013/apr/17	521.7715
980454	BISKUPIN	128229 (100%)	092H	2012/apr/17	2013/apr/17	500.9684
980455	LESZEK	128229 (100%)	092H	2012/apr/17	2013/apr/17	522.0273
980547	AUGUSTOW	128229 (100%)	092H	2012/apr/18	2013/apr/18	374.6172
980562	NECKO	128229 (100%)	092H	2012/apr/18	2013/apr/18	501.0639
980582	ROSPUDA	128229 (100%)	092H	2012/apr/18	2013/apr/18	522.0934
980603	WIGRY	128229 (100%)	092H	2012/apr/18	2013/apr/18	522.1697
980604	MAMRY	128229 (100%)	092H	2012/apr/18	2013/apr/18	501.3487

The Property occupies an approximate width of 2 to 3 km, NNW-SSE elongated 28km long belt, which commences some 7km northeast of Boston Bar and terminates some 22km southeast of this village, in New Westminster Mining Division, southwestern British Columbia. The Property lies southeast and north of Uztlius Creek (a tributary of Anderson River) at elevations ranging from 600 to 1900m above sea level (“a.s.l.”) with the predominant part of the Property at elevations ranging between 800 and 1300m a.s.l.

Fig. 3.2. Highland South Copper Property – Mineral Tenures, Physiography and Access.



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**LEGEND**

- Property Boundary
- Tenure outline
- Roads
- Contours (20m int.)
- River/Creeks
- 012345 Tenure ID Numbers



kilometres

Scale: 1:50,000

UTM NAD 83 Z10

July, 2012

615,000 mE

620,000 mE

625,000 mE

630,000 mE

5,530,000 mN

5,525,000 mN

5,520,000 mN

5,515,000 mN

5,510,000 mN

5,530,000 mN

5,525,000 mN

5,520,000 mN

5,515,000 mN

5,510,000 mN

## 4. ACCESSIBILITY, CLIMATE, INFRASTRUCTURE AND LOCAL RESOURCES

### 4.1. Property Access

The Property is located in moderately diversified mountainous terrain, just east of Boston Bar on Highway No 1, in southwestern British Columbia (Fig. 4.1). Selected areas of the Property can be easily accessed by 4 wheel drive vehicles along a network of recently inactive logging roads (Fig. 4.2). Well maintained logging roads (the Anderson River FSR and the Uzitlius Creek FSR) off the highway no.1, just 1 kilometre south of the Boston Bar, lead directly to the centre of the Property. Some secondary logging roads, however, are overgrown and need to be cleared in order to ease access to other parts of the Property. In the steeper areas of the Property, deactivated logging roads are commonly partly or completely washed out by runoff and landslides.

### 4.2. Physiography and Climate

The Property is located in the cascade mountains of British Columbia and is characterised by moderately to strongly diversified topography. Elevations range from 800 to 1,300 metres a.s.l. on most of the Property. The highest elevations reach approximately 1,900 metres a.s.l. in the south-easternmost part of the Property. Relatively thick vegetation covered originally lower-to moderately elevated areas on the Property however significant parts of the Property have been logged. Recently logging is conducted only seasonally or on irregular basis.

Weather conditions are typical of the British Columbia Coast Mountains being generally wet and relatively mild. Average monthly temperature ranges from approximately -5 to -10 degrees Celsius in winter to +15 to 20 degrees Celsius in summer. Annual rain precipitation is expected to vary between 900 and 1,000 mm at lower elevations. Considerable snow can be expected at the Property due to its elevation; however, the whole Property would be free of snow from late June until September/October. Most of the snow fall is from November to March.

### 4.3. Infrastructure and Local Resources

The Property does not include infrastructure other than the logging roads and culverts. Power lines cross the Property from SSW to NNE and the power can be provided relatively easily to the Property. Advance exploration and establishment of the exploration camp would require application of portable power generators. Water for potential camp and/or drilling operations can be sourced from local creeks.

## 5. HISTORY

### 5.1. Prior Ownership

A group of 70 mineral claims located south of Uztlus Creek (MOD-BAR Claim Group) was originally staked in 1969 and was later expanded to 277 claims (Dircks, 1975). All MOD-BAR claims were subsequently allowed to lapse.

In December 1974, 24 DUC claims were recorded under the owner name of D.U. Christie. In June 1975, Quintana Minerals Corporation evaluated the DUC prospect by a limited program of geological mapping and very limited rock sampling (Dirks, 1975).

The successive attempt to assess the MOD-BAR claims was completed jointly by Utah Mines Ltd. and JMT Services Corp. in October 1979. However, the resultant assessment report (Livingstone 1980) did not reveal the ownership of the Property for this period nor is it satisfactorily dated. The next assessment report filed on the MOD-BAR claims (Livingstone 1981) mentioned that subsequently Messrs. K.W. Livingstone and W.K. Hanlin became co-owners of the Property. However, this report was also not satisfactorily dated.

The successive assessment report (Christie, 1982) which covered the work conducted on the Property in 1981 and 1982 named Mr. Livingstone as an owner of the MOD-BAR claims. JMT Services Corp. was still an operator on the Property.

Finally, the assessment report on the MOD-BAR property by Bellamy (1984) refers to Messrs. K.W. Livingstone and J.C. Christie as owners of various claims of the group. However, the report contains somewhat controversial information concerning the historical ownership of the claim group, which significantly differs from the data presented in some older reports (compare previous paragraphs).

In 2003, Mr. Walus staked the Pilsudski Claims which covered a portion of the previous MOD-BAR Claim Group. In previous assessments reports the area of the Pilsudski Claims was referred to as the North Zone, but is now referred to as the Central Zone. Mr. Walus conducted a limited soil sampling program on the new Property. Subsequently, the claims were allowed to lapse.

Mr. Walus re-staked the area of the Central Zone in 2012. In addition Mr. Walus also staked the area to the southeast and northwest. The claims are presently optioned to Natan Resources Ltd.

## 5.2. Exploration History

### General

In June 1975, Quintana Minerals Corp. evaluated the DUC prospect and carried out a limited program of geological mapping and rock sampling (Dirks, 1975). The program resulted in recognition of several lithological units, main lithostratigraphic end-members recognised in the area and depicted several structural features as well as alteration pattern and mineralization styles on the Property. Mapping proved an existence of a breccia pipe which cut quartz-eye rhyolite porphyry, and associated copper mineralization. Very limited rock sampling and assaying returned mildly elevated concentrations of copper and molybdenum in selected rock formations.

In 1979, Utah Mines Ltd., using JMT Services, conducted a reconnaissance geochemical soil and a very limited rock sampling program over the MOD-BAR property (Livingstone, 1980). The B-horizon soil samples were analysed for copper and molybdenum. Some strong copper and moderate molybdenum anomalies were identified in the northern part of the sampled area (historical “North Zone”) now the Central Zone, just SE of Utzlius Creek.

JMT Services conducted a major soil sampling program on the northern part of the Property in 1981 (Livingstone 1981, Christie 1982). Strong and relatively widespread copper and coincident molybdenum soil anomaly was confirmed to cover the MODBAR and MB #2 claims (Livingstone 1981). In 1982, JMT Services extended the previous soil grid and collected additional 54 soil samples, which were analysed for copper and molybdenum (Christie, 1982).

In 1984, Nicola Prospecting & Mining Syndicate carried out a program of geological mapping and geochemical sampling in order to assess the gold potential of the MOD-BAR property. An extensive soil sample program was conducted east of the Central Zone. Eight multiple chip samples were collected from the Central Zone area (Bellamy, 1984).

### Results of Soil Sampling Programs

The early reconnaissance soil sampling over the Central Zone of the MOD-BAR claims yielded highly anomalous values of copper of up to 2,900 ppm and molybdenum of up to 41 ppm (Livingstone, 1980). However, the corresponding assessment report does not include information at which laboratory analyses were conducted. Laboratory certificates are not included in the report (Livingstone, 1980).

In 1981 a regular soil grid was established with approximately 100 meter spaced lines oriented at a bearing of 62 degrees. Samples were collected at 50 meter intervals. A great number of samples returned more than 200 ppm copper (including 21 samples which assayed more than 1,000 ppm Cu) with the maximum of 2,400 ppm Cu (Livingstone, 1981). The most significant area of anomalous molybdenum was located in the northeast part of the grid where molybdenum

peaked at 139 ppm Mo. Livingstone (1981) referred to a range of 50 to 80 ppm as a background for copper and to 3 to 4 ppm for molybdenum. The laboratory analyses were conducted at Chemex Labs Ltd. (Livingstone, 1981), but the report does not include laboratory certificates.

In 1982 the grid was extended to the east and north to establish the limits of the copper-molybdenum anomaly. The results were even higher as compared to the previous survey. Analysed copper values reached up to 3,150 ppm and molybdenum up to 115 ppm (Christie, 1982). In total, approximately 230 soil samples were collected from the grid of the historical “North Zone” now the Central Zone. The area of the soil anomaly was extended but still anomaly was open to the north, west and south. Copper and molybdenum results for all soil samples collected on the Central Zone in the early 80’s are presented in Appendix 4. Sample coordinates were calculated by measuring their UTM position from the map in assessment report #10876.

In 2003, Mr. Walus conducted a limited soil sampling program on the historical “North Zone” now the Central Zone (Pilsudski Claims; Walus, 2004). A total of 42 soil samples were collected during this program. The soils analysed returned up to 2,306 ppm copper and 376 ppm molybdenum. Several of the regular soil samples were complemented by twin samples collected at approximately 50 cm below the regular B-soil horizon. “In almost all instances these deeper samples recorded significant increases in copper and molybdenum values as compared to the corresponding B-horizon soil-samples” (*op.cit.* Walus, 2004). The results of the program confirmed the existence of a large-size, strong copper-molybdenum soil anomaly as outlined by previous surveys. The author concluded that the anomaly is of residual nature and not related to transported soil.

### Results of Rock Sampling Programs

Dircks (1975) reported results of a few rock samples analysed for copper molybdenum, zinc, gold and silver. The same author mentioned in his report encountering a few older trenches while conducting assessment work on the DUC property, but the report did not bring about references to corresponding sources or written documents concerning any earlier exploration program, thus this information cannot be verified at present.

The earliest reference to semi-systematic rock geochemical sampling on the “North Zone” now the Central Zone has been reported by J. Bellamy (1984). That author visited the Central Zone and collected “eight multiple rock chip samples ... from selected exposures along the old mining roads ... located along the ridge south of Uztlius Creek” (*op. cit.* Bellamy, 1984). “The sample sites were selected from zones of stronger quartz stockwork, veining, silicification, alteration and sulphide mineralization” (*op. cit.* Bellamy, 1984). Sulphides were represented exclusively by pyrite; there was also identified specular hematite. The eight samples were analyzed for silver

and gold, and yielded up to 0.7 ppm silver and 45 ppb gold. The assessment report does not mention any sampling done over the small breccia pipe.

In 2003, Mr. Walus collected 7 selected grab bedrock samples from his Pilsudski claims. The samples were assayed for 30 elements by ICP method and assayed for gold. All samples returned anomalous copper values ranging from 223 to 712 ppm and molybdenum ranging from 4.2 to 77 ppm (Walus, 2004).

### 5.3. Historical Sample Methods and Approach

Historical geological assessments of the area were focused predominantly on soil geochemistry surveys. This exploration work led to delineation of a large-scale coincident, copper-molybdenum soil anomaly within the area named the Central Zone on the MOD-BAR group of claims (Livingstone 1980, 1981, Christie, 1982, Bellamy, 1984 and Walus, 2004). Most of the laboratory work conducted was focused on copper and molybdenum only, and the other elements were rarely analysed and/or reported (Walus, 2004). This approach put a serious limitation on concluding about geochemical character, possible geological source and its distance to the anomaly.

The reported historical rock sampling results have been also very limited (Dircks, 1975; Bellamy, 1984; Walus, 2004) and did not allow for satisfactory geological assessment of the property area. Lack of a sufficient amount of laboratory analyses of representative and selected rock samples has considerably limited attempts to date to determine a possible source of the soil anomaly. In addition, there are only two samples reported to have been examined by a standard method of microscope petrography (Walus, 2004).

Surprisingly, there is no record of historical attempts to locate the source of elevated concentrations of copper and molybdenum by silt sampling. This relatively simple and inexpensive method frequently allows for rapid assessment of source area location and its geological character. The Property area has not seen much of property-scale geological mapping (Dircks, 1975). Rigorous geological mapping often resolves many cardinal problems of local stratigraphy and structural geology, and is usually extremely helpful in determination of many factors concerning local alteration pattern and styles of mineralization.



## 6. GEOLOGICAL SETTING AND MINERALIZATION

### 6.1. Regional Geology

The area of the Property lies within the limits of the Sheet 92-H West Half (Hope) of the regional GSC Geological Map 12-1969. This map pictures the Eagle Plutonic Complex (Mid-Jurassic to Late Cretaceous intrusives, predominantly granodiorite composition) underlying the eastern part of the map sheet in probably NNW-SSE trending fault contact with the sediments of the Jackass Mountain Group to the west (Fig. 7.1). The steeply dipping units of the Jackass Mountain Group are apparently folded (as judged from the mapped contacts) and intruded by small-scale intrusive rocks of intermediate composition. Most likely, the sediments of the Jackass Mountain Group (conglomerates, graywackes and siltstones) are replaced “either by faulting or interfingering with a sequence comprised largely of acid to intermediate volcanics” (Dircks, 1975) south of the Uztlius Creek.

The belt of the Jackass Mountain Group is bound to the west by the Chuwanten fault and contact with sediments belonging to the Jurassic Dewdney Creek Formation of the Ladner Group, and to the east by the Pasayten fault and contact with plutonic rocks of the Eagle Plutonic Complex. Regional geology of the area has been briefly but quite satisfactorily summarized in the assessment reports by Dircks (1975) and Walus (2004).

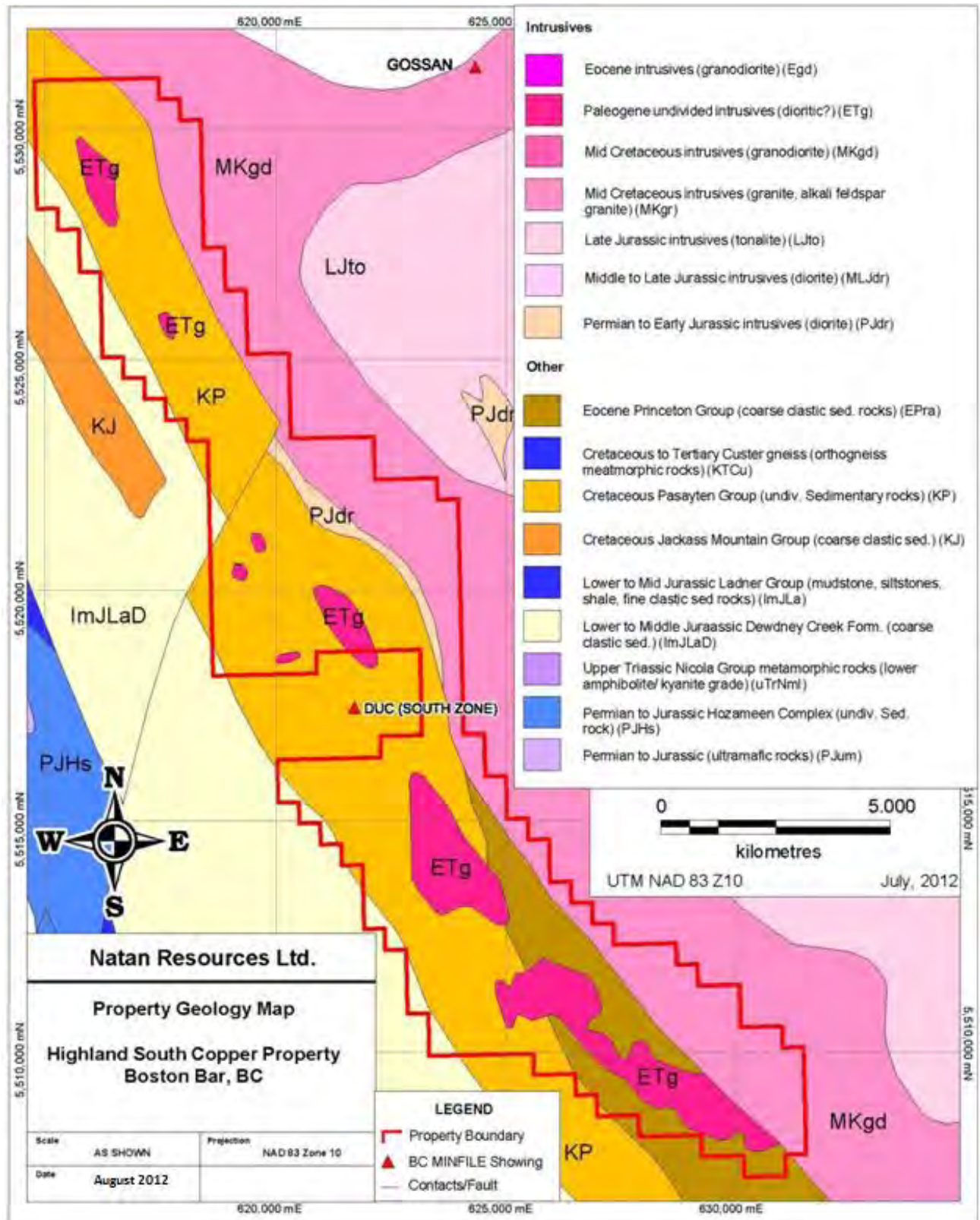
### 6.2. Property Geology

The Property is underlain by Cretaceous aged sedimentary rocks assigned to the Pasayten Group which are obviously facies equivalents of the upper part of the Jackass Mountain Group. The dominant lithologies of this Group on the Property consist of weakly metamorphosed interbedded shales (argillites), siltstones, sandstones and thick to very thick, commonly composite beds of conglomerates, and minor tuff layers. These meta-sediments commonly strike NNW-SSE with steep, but variable dips both to the east and west (Smith, 2012). The prominent sedimentary belt extends across the entire 92H map area (Fig. 7.1).

The complex of sedimentary rocks are bound to the west by the Chuwanten fault and contacts with sediments belonging to the Jurassic Dewdney Creek Formation of the Ladner Group, and to the east by the Pasayten fault and contacts with plutonic rocks of the Late Jurassic and Early Cretaceous Eagle Plutonic Complex (Fig. 7.1). The sediments are up against a regionally continuous contact with a granitic batholith to the east.

Locally younger, early tertiary intrusives composed primarily of plagioclase-phyric plugs and dykes of intermediate composition dissect the sedimentary complex on a local scale (Dircks, 1975).

Fig. 6.1. Highland South Copper - Property geology map



These later plugs, dykes and/or sills are reported to be of Paleogene age and commonly contain sulphides, and sporadic zones of alteration, most commonly silicification and less frequently argillic. The general composition of the younger intrusives became more mafic towards the south; 1 to 3 mm fenocrysts of amphiboles and primary magnetite occur here. A float of fine-grained diabase intrusives was found at the base of a ridge located with the Property boundaries in its southern most part. This rock material was shown to contain a noticeable amount of copper.

The Central Zone of the Property features only a few small outcrops located along old logging roads. Almost the entire zone occupies an elevated ridge and is covered by a blanket of overburden composed predominantly of local rocks (primarily quartz-plagioclase porphyritic dacite). The overburden is apparently no deeper than several metres. An absence of typical glacial to fluvio-glacial features and deposits as till, sands and clays may indicate relatively shallow overburden (Walus, 2004).

Most of the Central Zone is underlain by a quartz porphyritic rhyolite, which lies between black tuff and Eagle Granodiorite. Relict flow banding displays an apparent strike of 40 degrees with a dip of 10 degrees to southeast (Dircks, 1975). Several feldspar porphyry dykes of monzonite composition intrude the rhyolite flows. A part of the zone is underlain by biotite and granodiorite.

In the area of the historical Central Zone hornfelsed (and probably tuffaceous) siltstone is in contact with porphyritic rhyolite (cf. Dircks, 1975). Although the rhyolite could be tentatively correlated with a sequence of intermediate to felsic volcanics of the Spences Bridge Group exposed further north (*see also* Bellamy, 1984), it is possible that it represents a marginal phase of one of the Tertiary aged granodiorite stocks identified in the area of the Property.

### 6.3. Mineralization

Predominant observations concerning mineralization encountered in the area of the present-day Property comes from the early geological report by Dircks (1975) on the DUC group of claims. Within quartz-eye porphyritic rhyolite encountered on the Central Zone (directly south of Uztlius Creek) as well as within feldspar porphyry dikes there occurs a sparse disseminated and fracture pyrite (Dircks, 1975). Generally, pyrite is the most abundant where fracturing is the most intense. Locally, it reaches 2 to 5% of the rock volume. Narrow sericite envelopes are occasionally developed on pyrite-filled fractures. Fracture pyrite is commonly strongly oxidised to goethite. Rare traces of both fracture and disseminated chalcopyrite can be spotted in the areas on intense fracturing within rhyolite, feldspar porphyry (monzonite) as well as biotite granodiorite.

Also, a small-size breccia pipe encountered on the DUC claims was reported to contain approximately 1% fracture pyrite within sericite envelopes (Dircks, 1975). Pyrite is commonly replaced by goethite. The hornfelsed rocks at the very contact with the rhyolite porphyry contain up to 5 to 10% pyrite as both fracture-fillings and minor disseminations.

Chalcopyrite with minor malachite and chalcocite were reported to occur in association with pyrite locally, within the host flow-banded quartz-eye porphyry rhyolite. Dircks (1975) noted that “disseminated pyrite and chalcopyrite show a preference for certain flow units within the rhyolite”.

Molibdenite has been reported from stockwork quartz veins hosted in rhyolite (Walus, 2004).

The granitic rocks of the Eagle Plutonic Complex were found barren of sulfides where exposed along the northeast edge of the Property (Smith, 2012; see also Christie, 1982).

## 7. EXPLORATION

### 7.1 General

The historical exploration of the Property has been reported within Section 6.

In May and early June 2012, Sunrise Drilling Ltd. (“Sunrise”) conducted an exploration program on the Property which included the following:

- Soil sampling focused on the Central Zone;
- Reconnaissance soil sampling on other selected areas of the Property;
- Limited rock sampling; and
- Limited silt sampling.

Location of all samples collected during this program is shown on figure 9.1. Descriptions and locations of the samples are provided in Appendix 1.

During the 2012 exploration program conducted on the Highland South Copper Property a total of 591 soil samples were collected with a high of 2,735 ppm for copper and 79 ppm for molybdenum. The soil samples were collected at depths ranging between 10 cm to 50 cm with the average targeted depth of 30 to 50 cm, from the B-soil horizon. In the Central Zone area soil samples were collected at 50 metre spacing along grid lines running east-west and spaced by 200 metres (Fig. 9.2). The lines were run at high angle to the assumed NNW-SSE regional structural trend characteristic of the Property and evidenced by the strike of the intrusive and lithostratigraphic contacts, and major faults previously mapped on the Property (Fig. 7.1).

The 2012 work program also included reconnaissance soil sampling where the soil samples were collected in the same manner as at the soil grid on the Central Zone. Regional samples were

either collected at 50 meter or 100 meter intervals depending on the anticipated potential of the target areas. These reconnaissance soils were aimed to cross major structural trends or focus on areas of newly discovered anomalies.

A total of 47 rock grab samples were taken from outcrops in various parts of the Property during the 2012 work program (Fig. 9.1). The rock samples were complemented by additional 4 float samples, in all cases float have been considered as of local provenance. There were no representative chip and/or channel samples taken during this program.

Assay results of the 2012 rock sampling program displayed elevated concentrations of some elements including copper and molybdenum (Figs. 9.2 and 9.3, Appendix 2). The samples were received by Acme Labs on June 14, 2012. The report from Acme Labs was received on June 28, 2012. The following table contains/summarizes averages and maximum values for selected elements of the rock, soil and silt sampling as encountered during the 2012 program:

Table 7.1. Summarized results of the 2012 geochemistry program on the Highland South Copper Property.

Element	Rock Samples (51)		Soil Samples (593)		Silt Samples (38)	
	Average	Maximum	Average	Maximum	Average	Maximum
	ppm	ppm	ppm	ppm	ppm	ppm
Mo	2	37.4	1.55	79.6	0.6	1.8
Cu	437	8956	50.33	2735	21.6	37.9
Pb	106	2290	6.59	110	5.4	14.9
Zn	846	>10000	85.51	837	53.5	93.7
Ag	1.5	19	0.12	1.24	0.11	0.55
Ni	14.9	54.9	13.92	89	11.6	27
Co	9.9	34.9	7.87	36	8.1	20.6
Mn	668	3346	696	>10000	707	4902
As	92	2068	19.88	822	7.7	29.6
Au*	12.9	98.7	1.8	161.1	1.97	14.5
Sb	12.7	471	0.63	17.43	0.6	2.96
Bi	0.6	18.3	0.16	5.12	0.07	0.23
Cr	17	71	12.6	44	13	22
Ba	440	3225	290	2521	339	808
Sc	4.6	198	2.72	15	3.3	6.3
Hg*	700	15500	90.12	6610	182	2136
Te	0.3	2.4	0.05	2.43	0.04	0.23
Ga	4	14	4.57	13.4	2.73	5.9

\*- in ppb

The Thermo Scientific Niton handheld XRF analyser was used to test both the soil and rock samples in the field which allowed faster target generation.

In addition, a limited number of silt samples (38 samples; Fig. 9.1) were taken from key drainages across the Property. Silt samples were collected from the sides of creeks and sheltered areas behind and underneath large boulders within streams. No silt samples were taken from major rivers. A silt sampling program resulted in moderately diversified concentrations of copper, molybdenum and several other elements (Table 9.1). The maximum analysed copper value was 37.9 ppm Cu and molybdenum reached up to 1.78 ppm Mo (Table 9.1; Appendix 2). The silts with elevated copper levels were collected just south of the Northern Discovery Zone (up to 27 ppm Cu), between Azurite and the Central Zone (up to 32 ppm Cu) and along the southern and north-eastern contours of the Southern Discovery Zone (up to 37.9 ppm Cu). Locally, significantly elevated concentrations of gold (up to 14.5 ppb Au) and mercury (up to 2,136 ppb Hg – Azurite Zone) have been encountered in the silts collected from the Property. Relatively low levels of all elements in silts are apparently related to unusual weather conditions (late snow melting season and relatively heavy rains) which resulted in high water levels during the 2012 sampling program.

Laboratory analyses of the rock samples (report date June 28, 2012) returned highly diversified concentrations of both copper, molybdenum, and several other elements. The average copper content in collected rock samples equaled approximately 437 ppm with a maximum analysed value of 8,956 ppm copper (Table 9.1). Concentrations of molybdenum varied between 0.1 and 37.4 ppm with an average of approximately 2 ppm molybdenum. Additionally, several samples collected in other parts of the Property returned highly elevated concentrations of lead, zinc, gold, arsenic, mercury and elevated concentration of some other indicator elements (Table 9.1).

## 7.2 Central Zone

The main objective of the 2012 soil geochemistry program was to reveal potential extension of the historic copper-molybdenum soil anomaly (Central Zone). This historic soil anomaly covers an area of approximately 0.96 square km. The 2012 sampling results allowed expansion of the previously delineated soil anomaly of the Central Zone (see Christie, 1982) by approximately 400 meters to the north, 300 meters to the west and 200 meters to the south (Fig. 9.2). The solid, consistent core of the present-day soil anomaly of the Central Zone has roughly ellipsoidal shape (1.8 kilometres by 1.2 kilometres) with its longer axis oriented northeast-southwest and occupies an area of approximately 2.0 km<sup>2</sup>. Total area of the anomaly covers approximately 2.2 km<sup>2</sup>. The copper and molybdenum values in soils for the Central Zone are presented on figures 9.2 and 9.3. Historical rock sampling on the Central Zone was very limited due to little bedrock exposure

in the area. A few rock samples collected in the area from rocks exposed along old logging roads returned anomalous values of copper with the maximum of 884 ppm copper. A few other samples returned slightly elevated concentrations of gold of up to 19.9 ppb gold. Copper and Molybdenum values in rocks and silts in Central Zone area are presented on figures 9.4 and 9.5

Fig. 7.1. Highland South Copper Property - Sample location map



615,000 mE

620,000 mE

625,000 mE

630,000 mE

5,530,000 mN

5,525,000 mN

5,520,000 mN

5,515,000 mN

5,510,000 mN

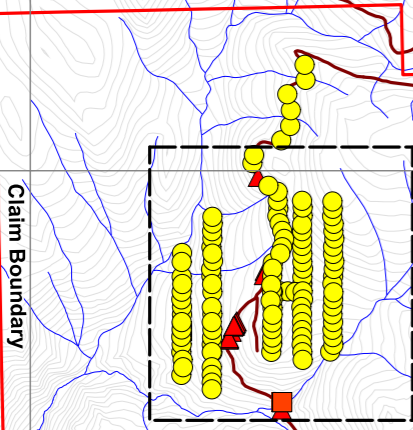
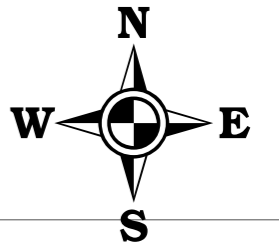
5,530,000 mN

5,525,000 mN

5,520,000 mN

5,515,000 mN

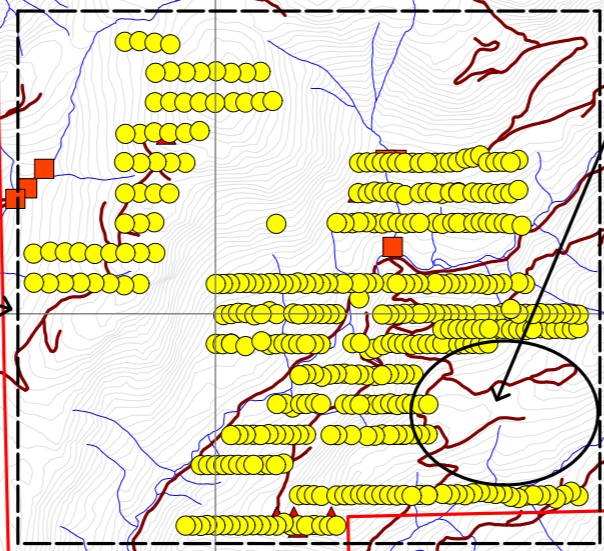
5,510,000 mN



Northern Discovery Zone

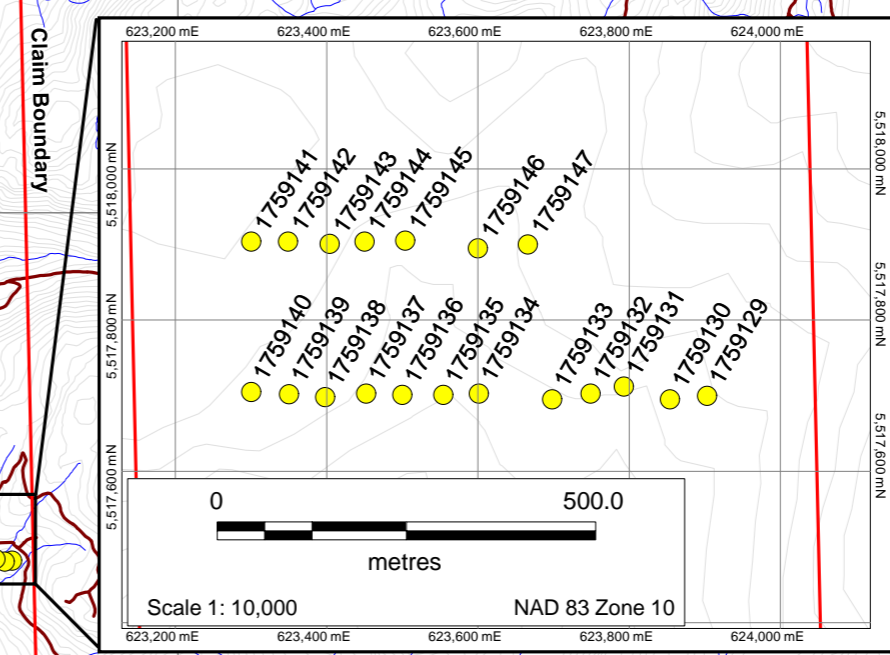
Claim Boundary

Claim Boundary



Area of Historic Soil Sampling

Central Zone



**LEGEND**

- 2012 Soil Sample Locations
- 2012 Silt Sample Locations
- ▲ 2012 Rock Sample Locations
- Contours
- Roads
- Property Boundary

**Natan Resources Ltd.**

**Highland South Copper Property  
Boston Bar, BC, Canada  
Sample Location Map**

Scale	1 : 50,000	Projection	NAD 83 Zone 10
Date	July 2012	Author	A.A.S.



Scale: 1:50,000

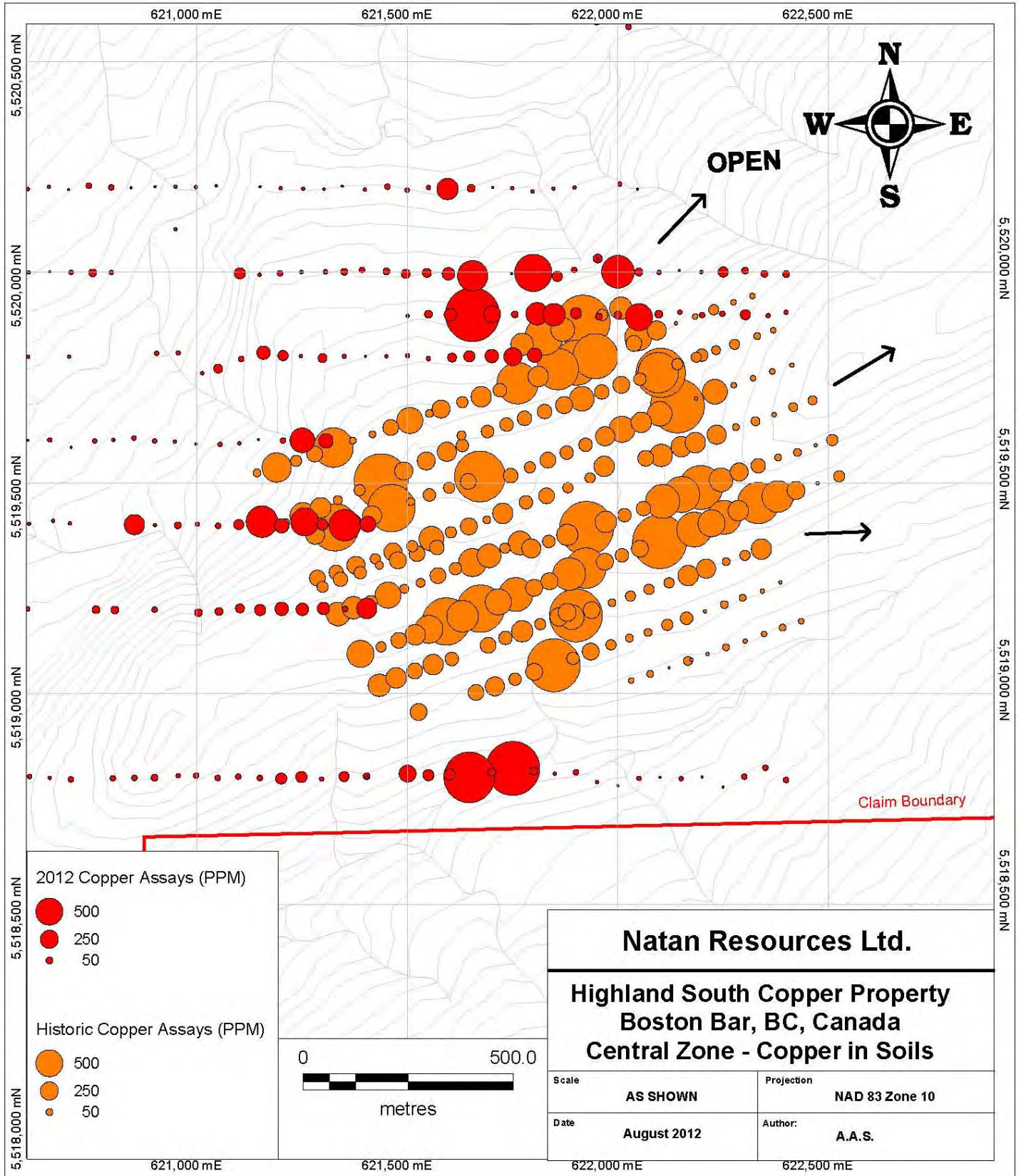
615,000 mE

620,000 mE

625,000 mE

630,000 mE

Fig.7.2. Highland South Copper Property – Central Zone – Copper in Soils



### 7.3. Highland South Copper Property – Central Zone – Molybdenum (Mo) in Soils

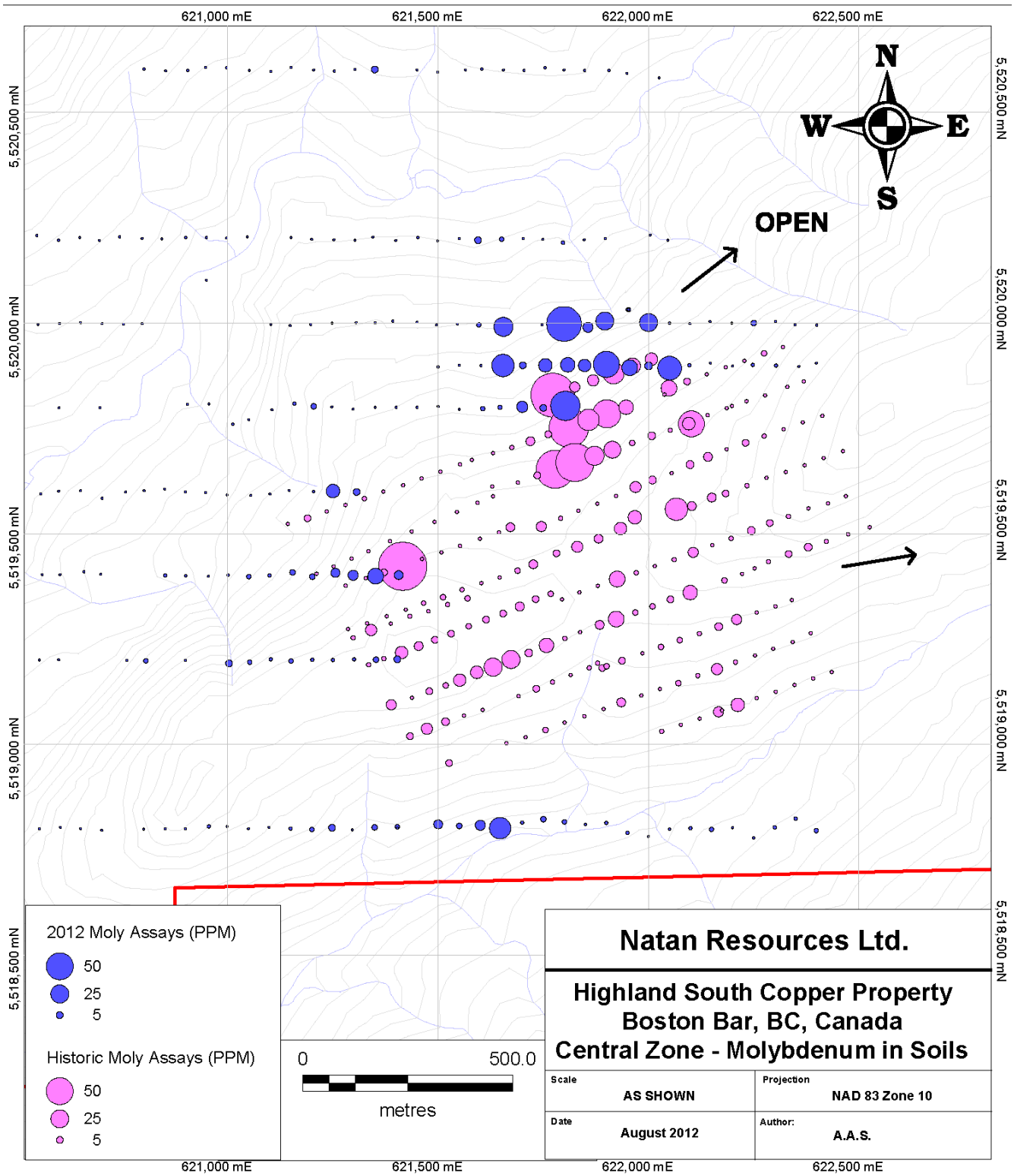


Fig 7.4 Highland South Copper Property – Central Zone – Copper in rocks and silts

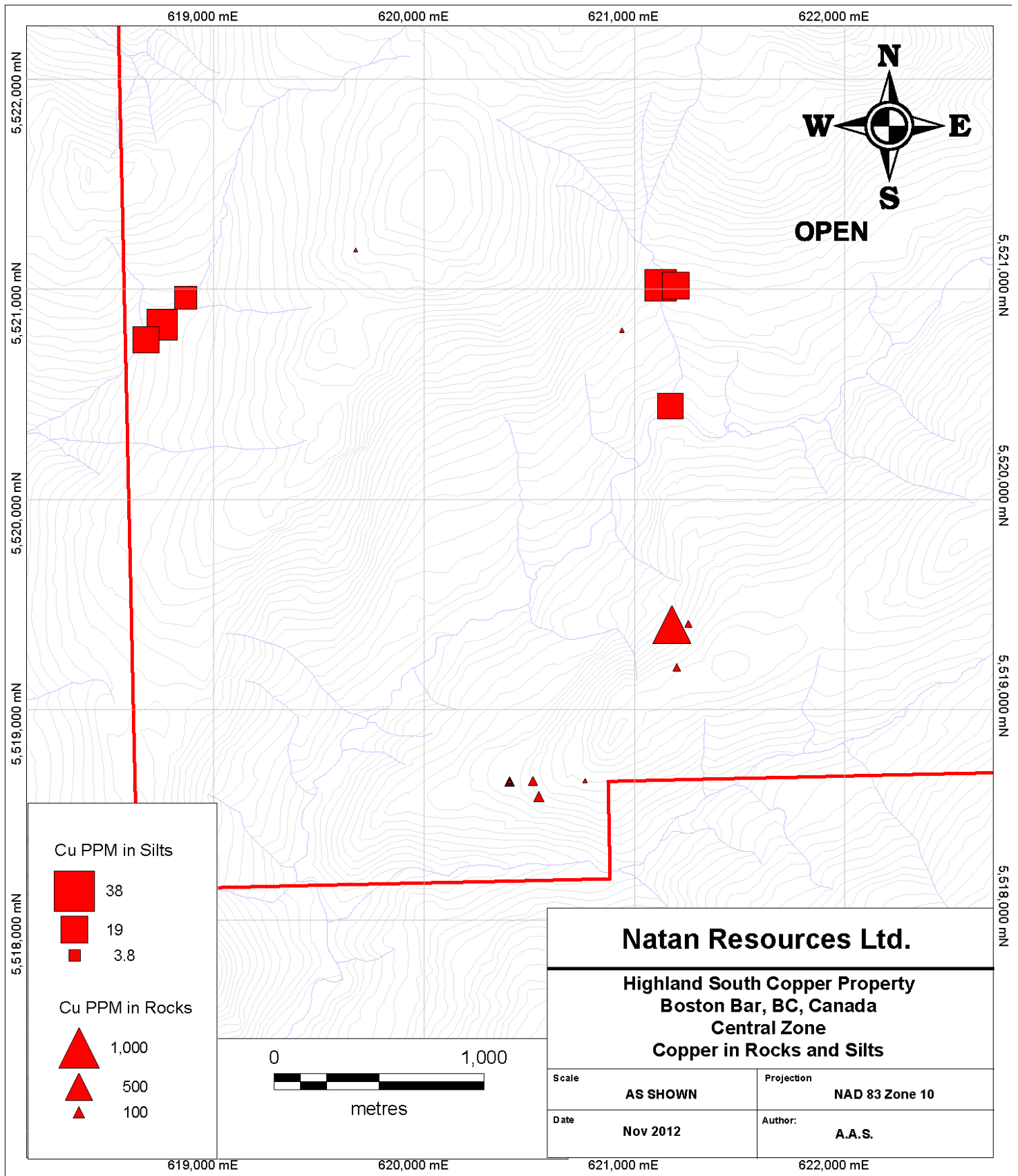
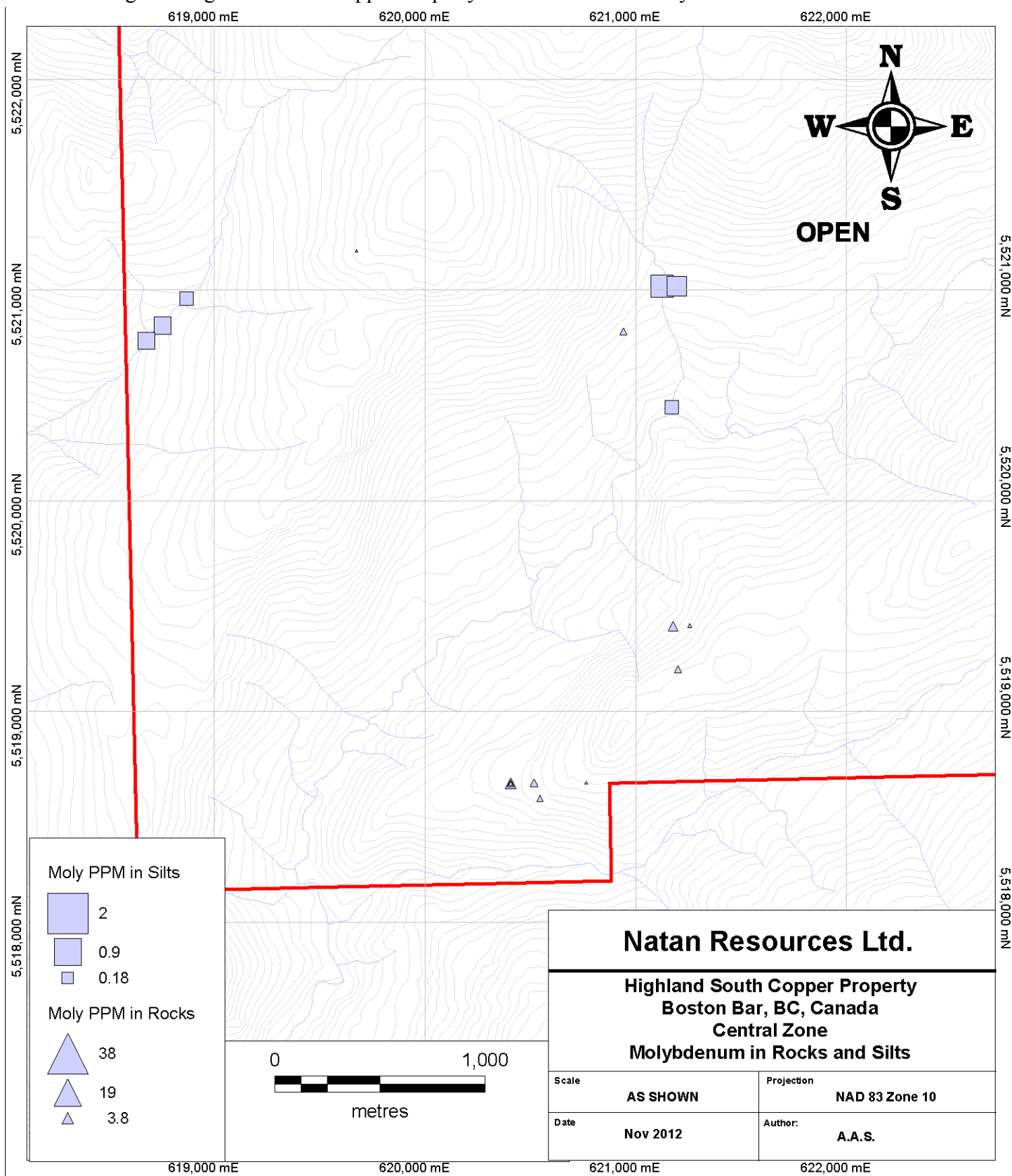


Fig.7.5. Highland South Copper Property – Central Zone – Molybdenum in rocks and silts



### 7.3 Northern Discovery Zone

The 2012 exploration program resulted in the discovery of visible copper mineralization (azurite, malachite) hosted by a smaller-scale feldspar porphyry intrusive on the northern part of the Property. This discovery is called the “Northern Discovery Zone” (for location refer to figure 1.1). Several rock samples collected nearby returned highly elevated concentrations of copper (up to 6,650 ppm Cu) accompanied by strongly elevated lead (up to 2,290 ppm Pb), zinc (up to over 10,000 ppm Zn) and significantly elevated gold, silver, arsenic, mercury and antimony. One rock sample returned significantly elevated molybdenum content of approximately 37 ppm Mo. Several soil samples returned slightly, but significantly elevated levels of molybdenum. For copper and molybdenum geochemistry on Northern Discovery Zone refer to figures 9.6 and 9.7.

Fig. 7.6. Highland South Copper Property – Northern Discovery Zone - Copper Geochemistry

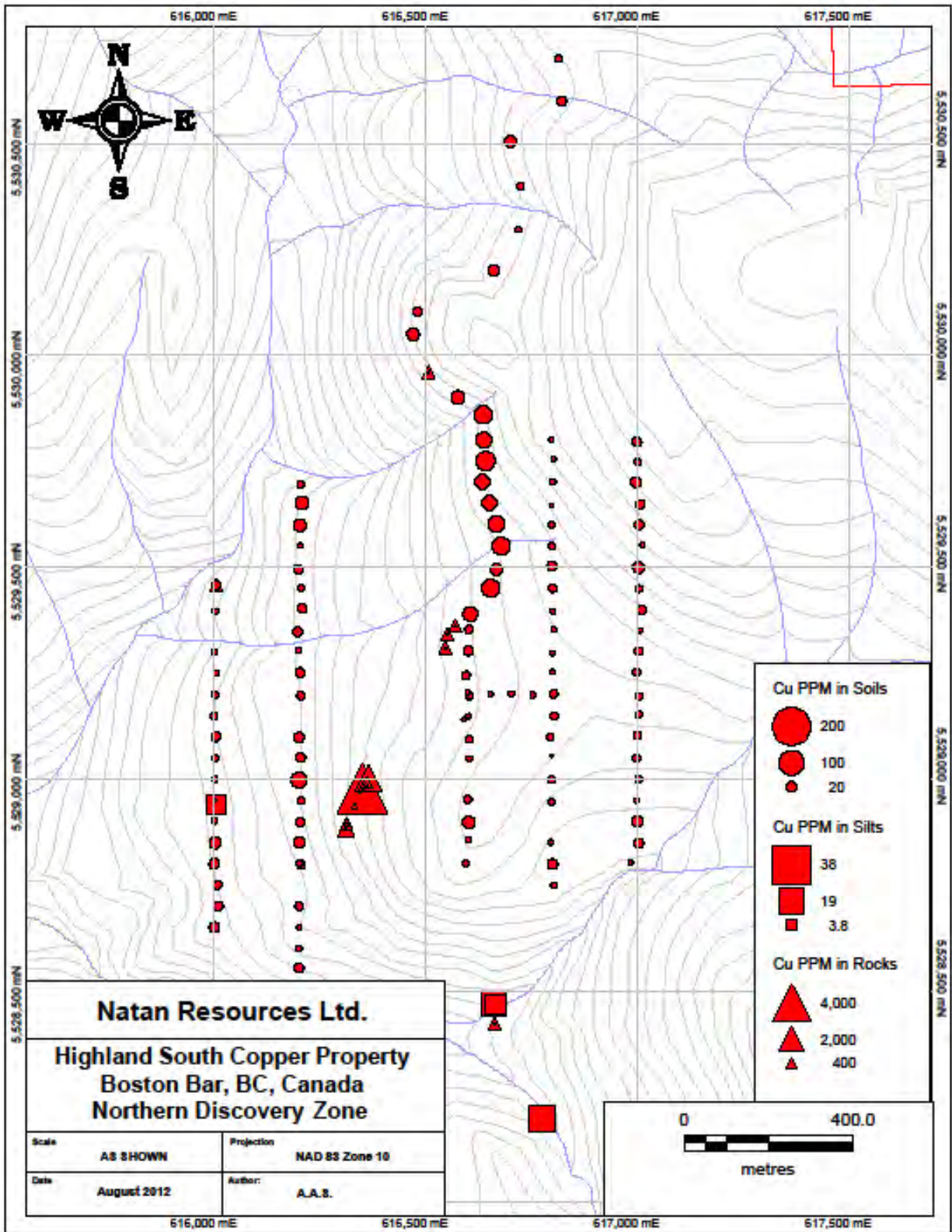
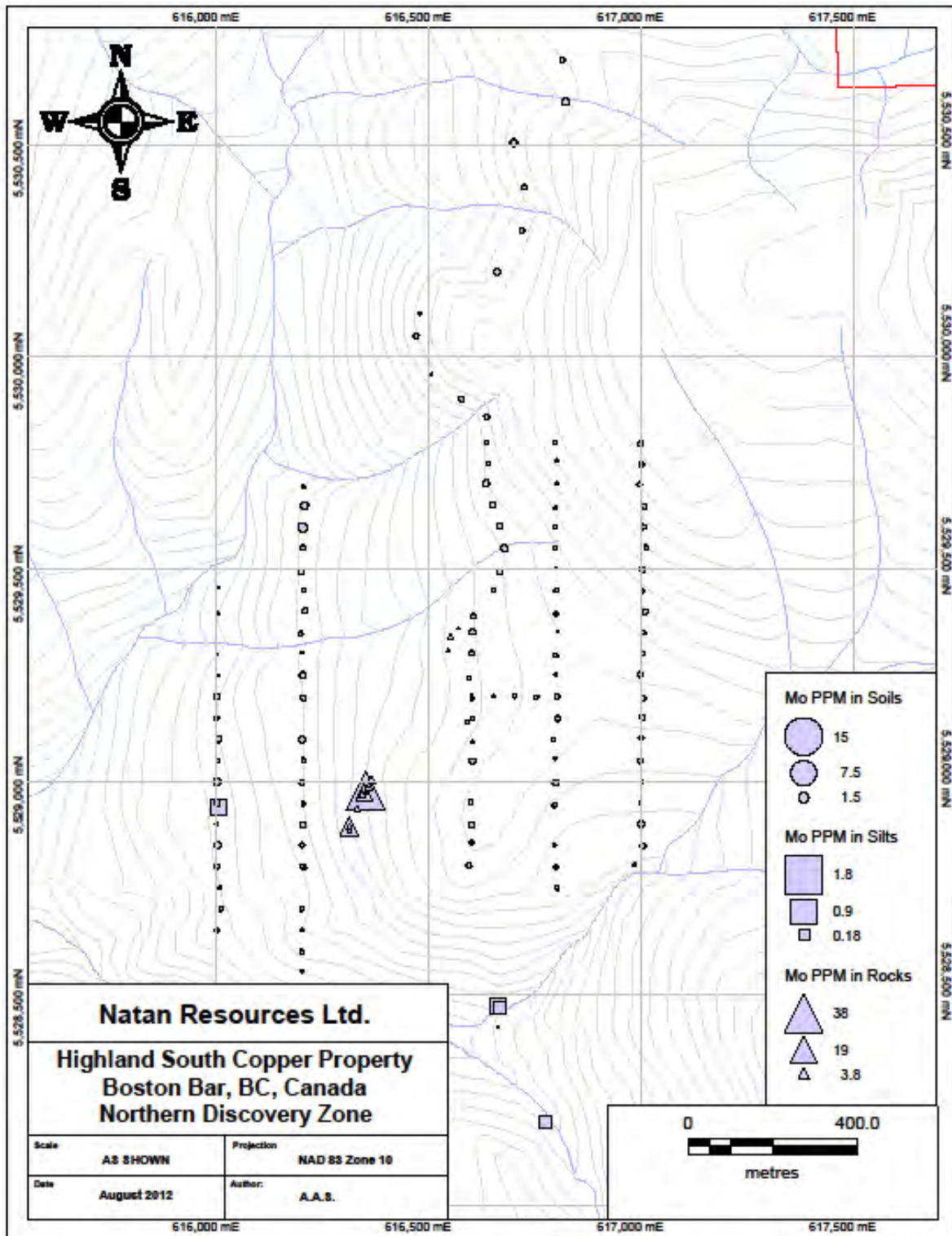


Fig. 7.7. Highland South Copper Property – Northern Discovery Zone – Molybdenum Geochemistry





#### 7.4 Southern Discovery Zone

Results of the rock sampling program on the southern part of the Property within the “Southern Discovery Zone” did not return as good results as the Northern Discovery Zone. However, a sample of float interpreted as of very local provenance (Smith, 2012) returned high concentration of copper (8,956 ppm Cu) and was accompanied by strongly elevated level of zinc, lead, gold, antimony and slightly elevated molybdenum. A few other rock samples collected on the Southern Discovery Zone returned only slightly elevated levels of copper. Two other analysed samples displayed significantly elevated concentrations of antimony. Soil sampling program on the Southern Discovery Zone encountered some significantly elevated concentrations of copper and molybdenum. For copper and molybdenum geochemistry on Southern Discovery Zone refer to figures 9.8 and 9.9.

Fig. 7.8. Highland South Copper Property – Southern Discovery Zone – Copper Geochemistry

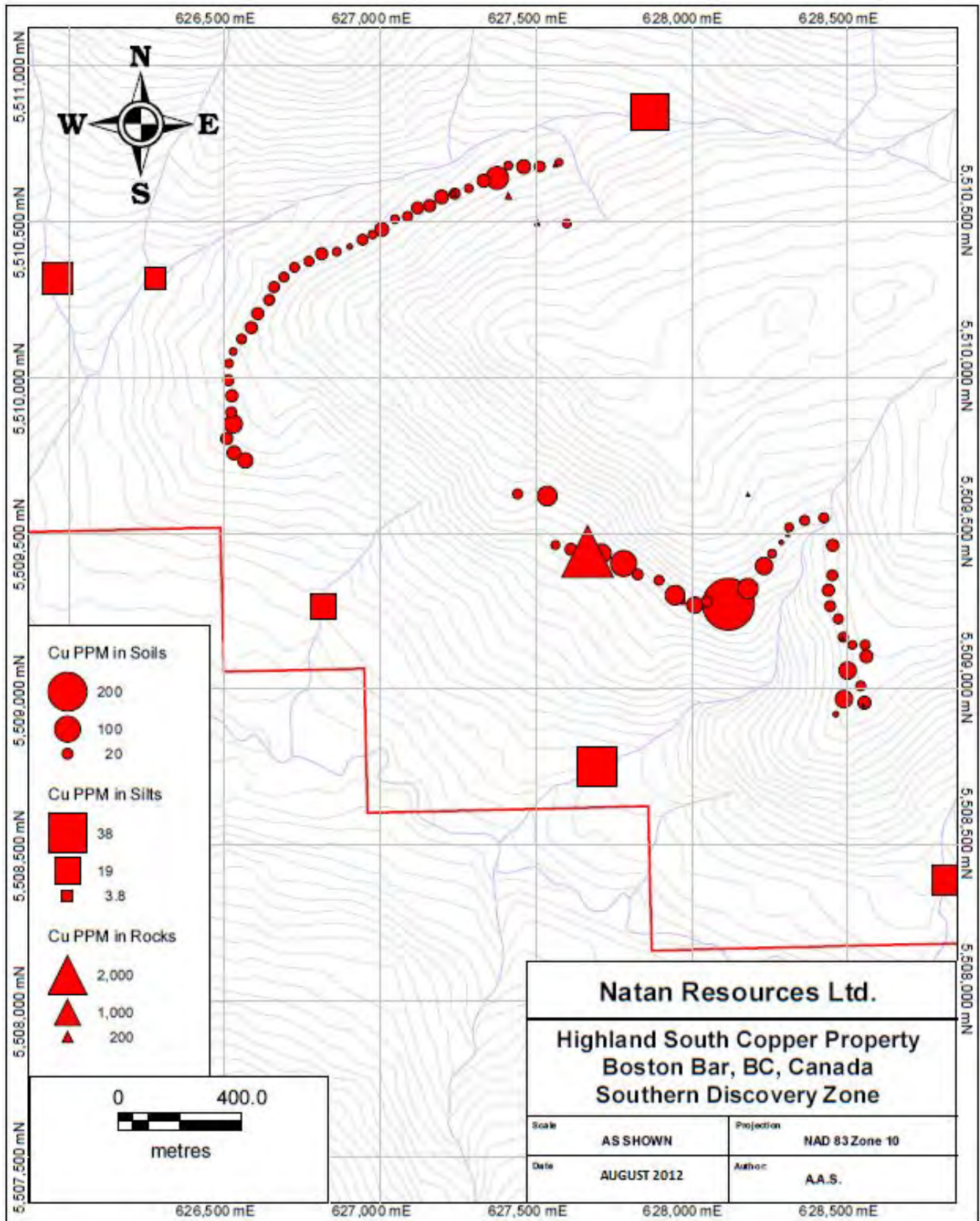
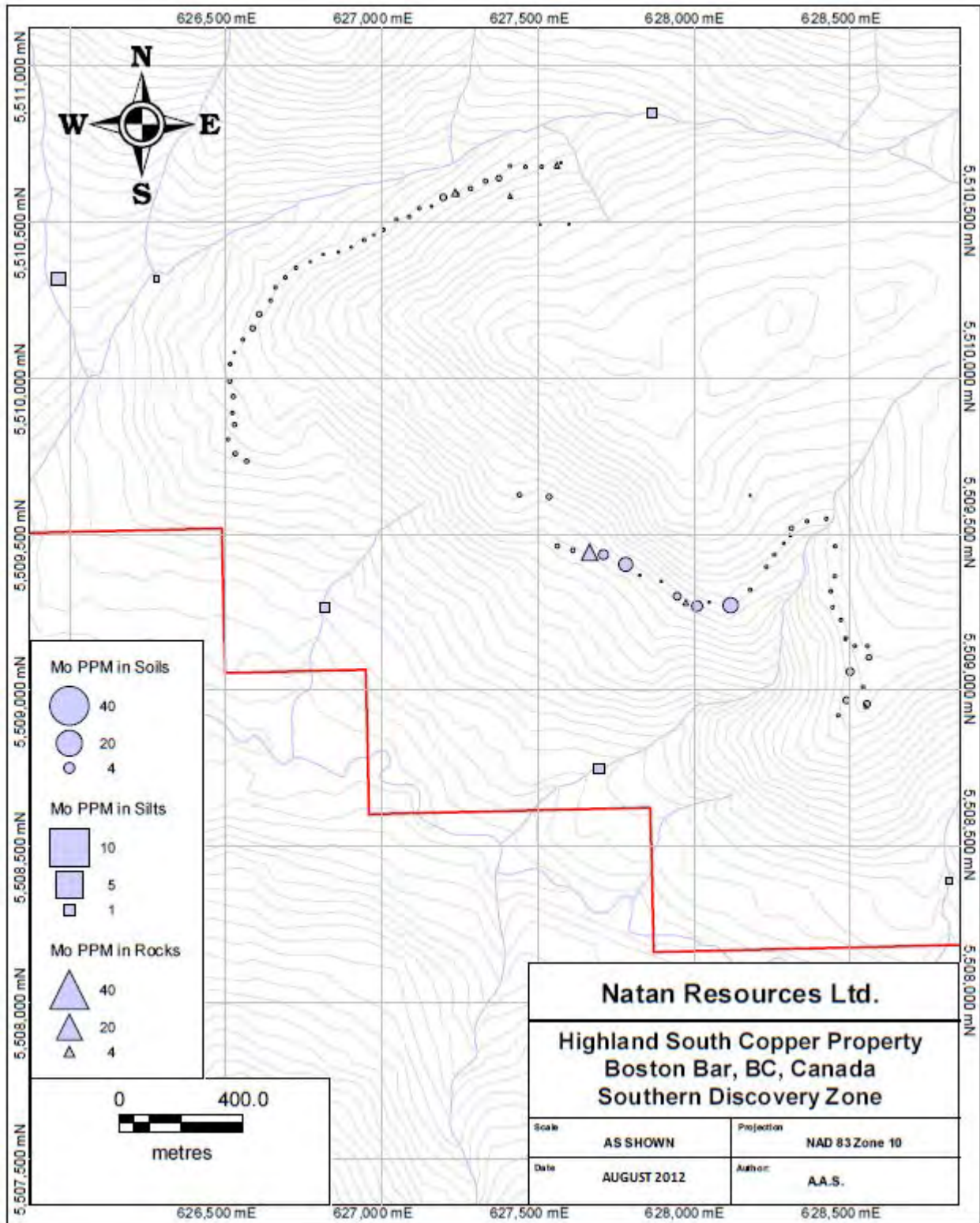


Fig. 7.9. Highland South Copper Property – Southern Discovery Zone – Molybdenum Geochemistry



## 8. DRILLING

No drilling was done on the property.

## 9. SAMPLE PREPARATION, ANALYSES AND SECURITY

Soil sampling consisted of collecting samples from the B soil horizon. Each soil sample was placed in standard paper Kraft bags. Each sample received a unique sample tag supplied by Acme Labs, where half of the uniquely number tag was labelled and placed in the sample bag, and the other half was labeled and stored for reference. Each rock sample was placed in a plastic bag which was labelled and received a unique sample tag similar to soil samples. Silt samples were taken from the sides and sheltered areas behind and underneath large boulders within streams. The silt samples were collected in HUBCO NEW Sentry Sample Bags. All silt sample sites received similar aluminum tags as both the soil and rocks, with unique sample numbers labeled, along with the sample type and other applicable information.

A total of 593 soil, 51 rock, and 38 silt samples were collected across the entire Property. Each sample site was tagged with a butter-soft aluminum tag with the unique sample number (Acme Labs sample number) as well as the unique grid location created for project reference, as well as the date sampled and sample type. These tags were nailed or wired into the tree nearest to the sample site and flagged with a piece of orange flagging tape for better visibility. All samples were shipped to Acme Labs in Vancouver, BC, for complete ICP-MS 36 element analysis. The ACME assay certificates record the following procedure codes for the soil and silt samples: SS80-RJSV-1FD1, and for the rock samples: R200-250-RIFL-1DX1. ACME has the following certifications in place: ISO/IEC 17025:2005 and ISO 9001:2000. Internal ACME QA/QC procedures are defined, noting approximately 1 blank per 20 samples, 1 standard per 35 samples, and 1 repeats per 35 samples. The procedures defined and followed throughout the sampling process, from sample collection to final assay, are considered to be relevant and professional.

In order to gain more accurate and consistent preliminary soil sample readings from the Thermo Scientific Niton handheld analyzer, all samples were analyzed within a controlled environment within the camp. Only selected samples which were aimed to target regional areas of interest were analyzed. These samples were collected in the field employing the same procedures as all other soil samples. Once collected, a small (approximately 10-20g) portion of each sample was placed onto a clean poly surface and covered with a thin sterile protective film to prevent contamination of the XRF device. Each sample was analyzed for 30 seconds. Once the analysis was complete this small portion of each sample was discarded, and the remaining portion of the sample was re-sealed and sent to Acme Labs to be analyzed with all other samples.

## 10. DATA VERIFICATION

The data presented in this report has come primarily from old assessment reports written by geologists who worked for the companies conducting exploration programs in the area. The author reviewed these reports, believes that the information has been presented accurately. Some of the reports (Livingstone, 1980, 1981) do not contain assay certificates or other supporting documents, and the results reported need independent verification (suggested in section 26 - Recommendations). However, the other historical results (Christie 1982; Bellamy 1984; Walus, 2004) and results of the recent 2012 exploration program, which all are supported by the lab certificates, appear to support the results quoted earlier by Livingstone (1980, 1981).

The author visited the Property on June 12<sup>th</sup>, 2012, and has examined several sampling sites and has been satisfied with the lithological descriptions of the rock samples, labelling and UTM coordinate readings during the Sunrise 2012 exploration program. The author is satisfied that the technical work was conducted in a competent and professional manner and that the data obtained may be considered valid and reasonable. The author has also focused on road access, and concluded that the main access roads were in good condition.

Mineral tenure data was checked against the B.C. Government Map Place and Mineral Titles Online databases with no discrepancies noted.

Bellamy (1984) referred to “old mining roads” running across the North Zone of the DUC group of claims. This reference suggests that some sort of mining activity was previously conducted in the area. However, the original source of this information has not been identified and no other reference to the mining activity in the area could be found.

A. Walus inserted the following information on that subject in his assessment report: “Previously, five diamond drill holes totaling 1,732.5 feet under the supervision of J.H. Montgomery, P. Eng” (*op. cit.* Walus, 2004). Dircks (1975) also stated that: “Previously, some trenching and diamond drilling had been conducted on the MOD-BAR claims with inconclusive results.” (*op. cit.*). The latter author also referred in his report to some old trenches and drill-site collars encountered elsewhere on the DUC property. However, none of the filed assessment reports concerning the area of interest contains satisfactory information about which company and when the drill program was carried out, and about drill results themselves. Thus, this information cannot be verified.

## 11. ADJACENT PROPERTIES

Additional information concerning geological setting and potential mineralization styles on the adjacent properties are available in the public domain. This information may be relevant in limited degree to the Highland South Copper Property. All three properties listed below are covered by mineral tenures held by various owners unrelated to the issuer.

### DUC (historical “South Zone”) Showing

The DUC showing is located between the northern and southern parts of the Property. “A small breccia pipe within the rhyolite porphyry carries 1% fracture pyrite with sericite envelopes.” (*op. cit.*, Dirks, 1975). The breccia pipe is approximately 60 metres (200 feet) in diameter. The zones of finer-grained brecciation are usually accompanied by kaolinization (Dirks, 1975). Fracture pyrite is usually oxidized to goethite. The hornfelsed rocks at the very contact with the rhyolite porphyry contain up to 5 to 10% pyrite as both fracture-fillings and minor disseminations. Chalcopyrite with minor malachite and chalcocite occur in association with pyrite locally, within the host flow-banded quartz-eye porphyry rhyolite. Some feldspar porphyry monzonite dikes which cut the rhyolite flows north of the breccia pipe also contain some 2 to 5% disseminated and fracture pyrite and trace of chalcopyrite (Dircks, 1975).

The DUC showing and the surrounding area are presently covered by a group of 3 mineral tenures, which bound directly to the central part of the Property and are held by two different owners.

### Gossan Showing

The Gossan showing is located 6km toward ENE of the Azurite Zone. The area is underlain by biotite-hornblende granodiorite, feldspar porphyry and quartz-feldspar porphyry of the Eagle Plutonic Complex, which have been intruded by felsic and lamprophyre dykes. Pegmatite and quartz veins are locally common in these rocks. Fracture density in the intrusives varies widely. Locally, the rocks have been kaolinized, although it is not determined whether this is a result of hydrothermal activity or extreme surface weathering. Sericitization is a common alteration type, while chlorite alteration and silicification occur only locally.

Pyrite disseminations and fracture-filled pyrite reach up to one per cent in the granodiorite and in quartz veins within the feldspar porphyry. Most of the quartz veins host pyrite with local malachite staining and rare molybdenite. Late quartz-carbonate-pyrite stockwork veins also host pyrite disseminations with rare malachite adjacent to the feldspar porphyry and granodiorite units. Minor occurrences of chalcopyrite, pyrrhotite, bornite, azurite and chalcocite have also been observed locally.

### Stoyoma Mountain Showing

The Stoyoma Mountain showing is located about 8km NNE of the northern boundary of the Highland Copper South Property. The area is underlain by Late Triassic and/or Early Jurassic granitic rocks assigned to the Mount Lytton Complex. This complex comprises mainly diorite and granodiorite which host local roof pendants of carbonate rocks of Paleozoic and Mesozoic age.

Several magnetite-copper skarn bodies and "hematite showings" appear adjacent to intrusive/limestone contacts. Base metal assay values as high as 2 per cent copper and 61 per cent iron across 12.19 metres, local silver values up to 68.57 grams per tonne were reported from showings consisting of massive magnetite, pyrite, pyrrhotite, chalcopyrite and hematite (White,

1958-1960 - <http://minfile.gov.bc.ca/Summary.aspx?minfilno=092HNW026>). The largest magnetite skarn is described as being 3.66 metres wide by 182.88 metres long.

Silver and copper values as high as 24 grams per tonne and 1.44 per cent respectively were also obtained from a zone of pyrrhotite mineralization located over three kilometres away from the skarn showings. (White, 1958-1960 - <http://minfile.gov.bc.ca/Summary.aspx?minfilno=092HNW026>).

## 12. OTHER RELEVANT DATA AND INFORMATION

The area located 60 to 80 km to the north of the Property features several porphyry-type, copper-molybdenum deposits. Among them, there occurs Highland Valley copper/molybdenum deposit which lies within the Late Jurassic batholite complex which includes porphyritic quartz monzonite and granodiorite. This batholite complex displays close affinity to the Eagle Plutonic Complex known from the Property. Faults and fractures in the deposit comprise four main sets and are interpreted to provide an overall control to mineralization. Quartz veinlets are subparallel to some faults and fracture sets. The rocks of the deposit display evidence of hydrothermal alteration followed by extensive quartz veining, quartz-sericite veining, and silicification. Main ore minerals - bornite, chalcopyrite and molybdenum were introduced with the quartz and quartz-sericite veins. The Highland Valley mine is one of the biggest open-pit copper mines in the world. The mine has approximately 431 million tonnes of reserves grading 0.38% copper and 0.007% molybdenum.

## 13. INTERPRETATION AND CONCLUSIONS

The Property features a large-size, intense, coincident copper-molybdenum soil anomaly in its central part called the Central Zone, which is accompanied by other evidence of potentially significant base metal (copper, zinc and lead) mineralization in bedrock and/or soil.

The large-scale copper-molybdenum soil anomaly of the Central Zone was discovered in 1979-1980 and referred to as the “North Zone” in previous assessment reports (Livingstone, 1980, 1981; Christie, 1982; Bellamy, 1984; see also Dircks, 1975 and Walus, 2004). The anomaly reached the size of approximately 1,200 by 800 metres as defined by the early exploration programs and was open to the north, south and west (Livingstone, 1980, 1981, Christie 1982). Soil sampling conducted before 2012 yielded as much as 3,150 ppm copper and 376 ppm molybdenum with the background values of 3 to 30 ppm for copper and <1 ppm for molybdenum. Soil sampling completed in 2012 by Sunrise Drilling Ltd. (“Sunrise”) returned up to 2,735 ppm copper and up to 79 ppm molybdenum in areas surrounding previously defined anomaly. The program resulted in significant increase of the size of the previously identified

anomaly (Livingstone 1980, 1981; Christie, 1982) by approximately 400 metres to the north, 300 meters to the west and 200 meters to the south. The consistent, solid core of the present-day anomaly has roughly ellipsoidal shape with its longer axis oriented northeast-southwest and occupies approximately 2.0 square kilometres in area.

The copper-molybdenum soil anomaly of the Central Zone is believed to be residual in nature. This conclusion is supported by the fact that copper and molybdenum values increase significantly with depth of soil (see Walus, 2003) but most of all, by the very sharp, definite northeast boundary of the anomaly at its up-slope side (Christie, 1982). However, no satisfactory bedrock related explanation for the soil anomaly was provided, most likely, due to very limited bedrock exposure. The 2012 rock sampling in the Central Zone was very limited since very few rock exposures are present in the area. A few rock samples collected from rocks exposed along old logging roads returned elevated concentrations of copper (up to 884 ppm Cu). Most rock samples collected in the area of the Central Zone returned anomalous values in copper and molybdenum (Dircks, 1975; Bellamy, 1984; Walus, 2004).

There is a distinct possibility that the anomaly is supported by hydromorphic migration of elements (Leybourne, 2007) and its source is a copper-molybdenum bearing sulphide body (or bodies) located along the higher portion of the ridge, along north-eastern boundary of the anomaly.

The Central Zone anomaly is, most likely, a surface expression of the copper-molybdenum porphyry system or related style of copper-molybdenum mineralization in underlying bedrock at depth. The second most likely interpretation may be related to the manto-type mineralization which has been frequently found to accompany many porphyry systems (McMillan, 1991). This interpretation is based on the following:

- a) The geochemistry and the large-size of the Central Zone anomaly.
- b) The Central Zone anomaly is centered on a minor quartz-eye porphyry intrusive body; a similar association is common in many known copper-molybdenum porphyry deposits.
- c) Presence of sulphides cemented rhyolite breccia pipes in direct vicinity of the Central Zone (Dircks, 1975) - similar features are common in many porphyry systems.

Concentrations of copper and molybdenum in the rock samples from the 2012 exploration program display relatively high affinity (Table 25.1). Excluding an obvious association between copper and iron (correlation coefficient for linear regression model equals 0.61 – Table 25.1) and surprisingly high correlation between copper and bismuth (c.c. = 0.62), copper displays the third highest correlation with the concentration of molybdenum. Calculated correlation coefficients between individual elements are generally much lower in a group of soil samples (Table 25.1). However, copper displays the closest association with concentrations of molybdenum. Comparison of the basic statistical parameters of the soil and rock sample populations indicates



that the strong coincident copper-molybdenum soil anomaly could be, most likely, related to copper-molybdenum porphyry type bedrock mineralization.

Table 13.1 Correlation coefficients (linear regression model) for selected pairs of elements as ICP analysed for rock and soil samples, 2012 exploration program, Highland South Copper Property

Elements	Rock Samples	Soil Samples
	51 samples	591 samples
Mo-Cu	<b>0.48</b>	<b>0.27</b>
Cu-Au	0.28	0.01
Cu-Pb	0.36	~ 0
Cu-Zn	0.16	0.034
Cu-As	<b>0.45</b>	0.014
Cu-Fe	<b>0.61</b>	0.08
Cu-Mn	0.39	~ 0
Cu-Ag	0.39	0.031
Cu-Hg	0.37	~ 0
Cu-Sb	0.34	<b>0.13</b>
Cu-Bi	<b>0.62</b>	<b>0.11</b>
Cu-Te	0.15	---
Cu-Cd	0.14	---

The Property is situated along the contact of a major intrusive complex with slightly metamorphosed sedimentary-volcanogenic units. The complex extends dozens of kilometres to the north and east and consists of numerous intrusions of mostly Mesozoic age. A further 60 to 80 kilometres to the north of the Property, the intrusive complex hosts numerous copper and molybdenum porphyry deposits including the biggest porphyry copper mine in Canada (Highland Valley).

The 2012 exploration program conducted by Sunrise proved that the Property also has a potential to host other base metal mineralization, besides the Central Zone. The Northern Discovery Zone located in the northern part of the property (Fig. 4.3) hosts visible secondary copper mineralization (azurite, malachite) which is associated with argillic alteration, localized silicification, fracturing and carbonate veining of the host feldspar porphyry. Grab samples taken from the Azurite Zone area yielded up to 6,650.8 ppm copper, over 10,000 ppm zinc, 2,289.9 ppm lead and displayed anomalous concentrations of molybdenum, gold and arsenic. The rock geochemistry of the Northern Discovery Zone is also characterised by strongly anomalous

concentrations of some indicator elements such as mercury, antimony, tellurium and mini bismuth.

Soil sampling and accompanied rock grab samples revealed the presence of a local zinc-lead mineralization in the Southern Discovery Zone of the Property (Figs. 9.6, 9.7, 26.1). Apart from the float sample discussed earlier (Item 9, see also Adrian Smith, 2012) other rock samples collected on the area of the Southern Discovery Zone returned slightly elevated concentrations of copper, silver, gold and strongly anomalous concentrations of antimony.

It is worth noting that the maximum analysed value of 8,956 ppm copper comes from a float sample which is characterised by unusually high concentrations of iron and sulfur (which may indicate its semi-massive sulfide character) but also extremely high contents of bismuth, selenium and gallium. Such geochemistry imprint is unique for the area (see Appendix 2) and may indicate that this particular piece of float material originated in area far distant than it was suggested by the exploration crew and was transported for considerably longer distance.

Disseminated pyrite and minor chalcopyrite was previously reported from “certain flow units within the rhyolite” (Dircks, 1975) on the historical “North Zone” now the Central Zone of the MOD-BAR claims.. Besides, chalcopyrite, malachite and chalcocite were previously reported from rhyolite breccia pipe located approximately 1 kilometre to the south from the Central Zone (“North Zone” of Dircks, 1975). The breccia is characterised by relatively abundant pyrite (as fracture fillings and disseminations) and common phyllic alteration. Laboratory results indicated some encouraging amounts of copper and molybdenum, minor elevations of zinc, and traces of gold and silver (Dircks, 1975).

The Property is situated along the contact of a large-scale intrusive complex and contains several smaller-scale intrusions similar the one present on the historical “North Zone” now the Central Zone (Fig. 7.1). The large-scale soil anomaly of the Central Zone is apparently related to one of these smaller-scale intrusive bodies. The two newly discovered areas of mineralization with base metal mineralization are also located in similar geological settings (compare Figs. 4.3 and 7.1). Of these two discoveries, the “Northern Discovery Zone” is located approximately 11 kilometres north-northwest of the Central Zone, and the “Southern Discovery Zone” lies approximately 10 kilometres southeast of the Central Zone.

#### 14. RECOMMENDATIONS

It was extremely encouraging for the 2012 exploration program to significantly extend the coincident copper-molybdenum soil anomaly of the Central Zone. Several priority targets for further exploration can be identified in this area and potentially become early drill targets. The 2012 program also identified two new mineralized zones, the Northern Discovery Zone and the

Southern Discovery Zone, and indicated numerous unexplored areas and potential targets within the limits of the Property still to be investigated (Fig. 26.1).

The Property remains still relatively underexplored with some parts completely unexplored. Most historical exploration programs were focused on the Central Zone. Recent exploration by Sunrise has provided additional information concerning the northernmost and southern parts of the Property. The following geological targets need to see at least a grass-root exploration program in the near future:

- Smaller-scale intrusives, which are located between Central Zone and the Southern Discovery Zone remains almost completely unexplored (Figs. 7.1, 26.1). The intrusive bodies occupy relatively high elevations and features longer lasting snow covers. This area needs prospecting, reconnaissance rock sampling, targeted silt sampling and contour soil sampling.
- A small-scale intrusive body exposed between the northern and central portions of the Property (Figs. 7.1, 26.1) also remains unexplored (excluding few silt samples taken recently). The area needs prospecting accompanied by rock sampling and contour soil sampling.
- The Northern Discovery Zone appears to be a very interesting exploration target with extremely encouraging concentrations of base metals and alteration. Exploration on this zone should be soon complemented by additional prospecting, rock sampling, auger testing and geological structural mapping.
- The 2012 soil grid on the Central Zone should be complemented by the soil line running approximately along UTM coordinate 5,519,000mN (Figs. 9.2 and 9.3)

The coincident copper-molybdenum soil anomaly of the Central Zone represents a quite significant but complex exploration target. It is the most important target on the Property at this stage of exploration. The north-eastern edge of this anomaly (delimited by two points with UTM coordinates: 622150mE/5520000mN and 622350mE/5519450mN) which hosts one of the highest concentrations of copper on the grid, and has to be considered the priority target, most likely located just next to the bedrock source or one of the sources. Some infill soil sampling and trenching for definition of the early drill targets should be completed in this area. Targeted auger testing before trenching should bring about information concerning expected depth to bedrock in this zone as well as provide some regolith samples for assaying.

Two additional areas characterised by exceptionally high levels of copper within the soil anomaly of the Central Zone are also considered as high priority targets which may potentially become the early drill test targets. The first target area is located in the northeastern part of the soil anomaly at coordinates 622000mE and 5520000mN whereas the second one, in southwestern part of the soil anomaly lies around UTM coordinates 621700mE and 5519200mN. Both areas returned very strongly anomalous coincident copper and molybdenum soils. Both areas should see complementary infill soil sampling, auger testing and trenching to develop

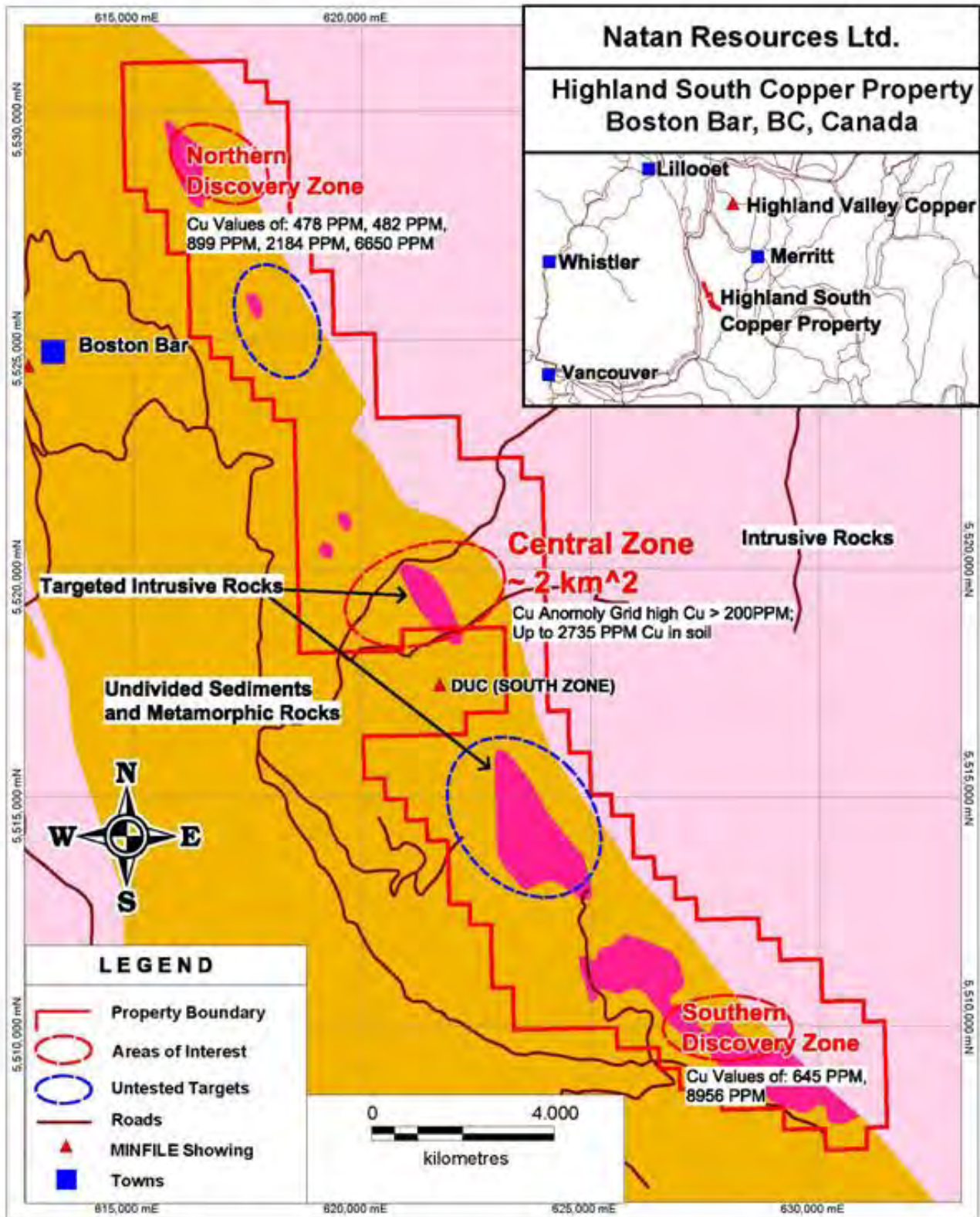
potential drill targets. Both areas are located along existing, though deactivated roads what will facilitate exploration and future drill testing.

A limited amount (20-25 samples) of additional laboratory analyses should suffice to establish a level of concentration of tin in the area since this element was not analysed during the last exploration program. Tin occurs in many porphyry-type deposits, and may be considered as potentially providing additional economic value. Retained duplicates of the analysed rock samples of the 2012 program provide more than sufficient material for this purpose.

It is also highly recommended to conduct an IP survey over the area of the coincident copper-molybdenum soil anomaly in the Central Zone. This method is one of the most effective in identifying bulk, low-grade, disseminated type mineralization. The IP survey should be complemented by inexpensive and fast VLF survey along selected transects. VLF method has proved to be extremely effective in delineation of fault zones buried by thin to moderately thick overburden. Strongly limited bedrock exposure practically eliminates the effectiveness of the other traditional exploration methods in the area of the Central Zone.

It is strongly recommended that all exploration be complemented by rigorous geological mapping on the target area and scale supported by targeted auger testing. The mapping should include detailed structural and stratigraphic observations and measurements and be accompanied by targeted rock sampling. Rigorous geological mapping conducted by well experienced geologists is one of the most effective and least expensive exploration methods, which provides the most valuable and accurate information. Geological mapping may be a critical element of a successful exploration program and will allow for recognition and better characterization of a potential manto style mineralization.

Fig. 14.1. Highland South Copper Property – Exploration target areas



The author recommends the following budget for the next exploration program on the Highland South Copper Property:

<u>ITEM</u>	<u>COST</u>
1. Fees, insurance, and permits	\$ 5,000
2. Field equipment & supplies, plus shipping	8,000
3. Food and accommodation (in Boston Bar)	12,000
4. Analyses – silt, soil, rock; 1000 samples @ \$30 per sample	30,000
5. Trenching excavator (100 hours at 200/per hour-all inclusive)	20,000
6. Vehicle 4WD and RV rental plus gas	12,000
7. Field personnel	
2 geologists @ \$650/per day for 30 days	52,000
2 field assistants @ \$400/per day for 30 days	32,000
2 soil samplers @ \$400/per day for 15 days	16,000
8. IP geophysics	36,000
9. Report, Compilation, graphic Figures	10,000
<b>Total</b>	<b>\$233,000</b>

A careful selection of the drill test targets should follow when warranted by positive results of the recommended exploration.

## 15. REFERENCES

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**APPENDIX I**  
**SAMPLE DESCRIPTIONS AND**  
**LOCATIONS**



Highland South Copper Technical Report 43-101  
Appendix 1 Rock Sample Locations/Descriptions

Sample	UTM (NAD83 Z 10)		Sample Type	Description
	Easting	Northing		
1757901	621177	5519404	Outcrop	Intrusive, 1-5mm plag phenocrystic dacite with ~1% diss sulph
1757902	621256	5519407	float	Altered dacitic intrusive in float with 0.5% py.
1757903	621201	5519201	subcrop	Silicified sedimentary rock with ~1% py
1757904	616010	5527598	Outcrop	Plag phyric porphyritic texture, sub to euhedral, fractures infilled with soft white mineral and 0.5mm quartz crystals
1757905	616010	5527598	Outcrop	Completely silicified intrusive, weak relic phenocrystic texture
1757906	616662	5528421	Outcrop	Intrusive, weak to med potassic altn, black finely disseminated (ilmenite?), ~1mm sub-euhedral plag phenos
1757908	616312	5528884	Outcrop	Heavily silicified intrusive? Relic porphyry texture ~1mm relic plag phenos, .5-1% sulphides
1757909	616312	5528884	Outcrop	Heavily silicified intrusive? Relic porphyry texture ~1mm relic plag phenos, .5-1% sulphides
1757910	616342	5528969	Outcrop	Heavily altered intrusive, pyrite infilling fractures, similar to last
1757912	616004	5529457	Outcrop	Sandstone, few rounded cherty clasts, minor disseminated py.
1757913	624869	5511163	Outcrop	~1-5mm feld phenos altered to clays, minor epidote alteration
1757914	624840	5511459	Outcrop	~1m wide silicified contact zone against relatively unaltered to sericite altered feld phyric intrusive, Fe stained.
1757916	624805	5512078	outcrop	Potassic altered, siliceous feld porphyry?, minor sulphides
1757917	624833	5512304	outcrop	Quartz-eye plag phyric flow?; chloritized and Fe stained section
1757918	624729	5512519	Outcrop	3m wide, Fe stained section within larger sericitized feldspar-phyric intrusive
1757919	620406	5518659	Outcrop	Silicified argillite or shale near contact with intrusive. ~1% py.
1757920	620406	5518659	Outcrop	Silicified intrusive, relic porphyritic texture; disseminated sulphides (py); 1-2cm angular clasts of wallrock (argillite)
1757921	620406	5518659	Outcrop	Silicified intrusive, with few 1-3mm qtz eyes, diss sulphides (mostly py); near contact with sed.
1757922	620406	5518659	Outcrop	Silicified argillite, diss py, minor fracture infilling with py
1757923	620406	5518659	Outcrop	Intrusive (intermediate comp.) pinkish, plag phenocrysts 1-3mm, minor diss py; with fine grained greenish groundmass.
1757924	620545	5518586	Outcrop	Silicified argillite with ~1% diss sulphides
1757925	620765	5518662	Outcrop	Contact conglomerate/intrusive. Weak relic porphyritic texture, silicified, 0.5% diss sulphides (wall rock frags as in 1757920)
1757926	620517	5518661	Outcrop	Contact conglomerate/argillite, strongly silicified ~1% diss py.
1757927	619758	5524785	Outcrop	Quartz veins over ~20m visible area along road, seems to be mix of silicified argillite, bull qtz, and fine grained intrusive texture.
1757928	619758	5524785	Outcrop	Quartz veins over ~20m visible area along road, seems to be mix of silicified argillite, bull qtz, and fine grained intrusive texture.
1757929	616551	5529340	Outcrop	Intrusive, strong argillic altn, diss black mineral (ilmenite?); uphill from azurite outcrop
1757930	616569	5529361	Outcrop	Same as last, potassic & argillic alteration also present.
1757931	616506	5529960	Outcrop	Plag phyric intrusive (dioritic?), few qtz eyes, iron stained, dark grey to purplish fresh.
1757932	616338	5528959	Outcrop	Azurite Area - Intrusive, silicification, calcite veining
1757933	616312	5528894	Outcrop	Azurite Area - Intrusive, silicification, calcite veining

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Appendix 1 Rock Sample Locations/Descriptions

1757934	616331	5528936	Outcrop	Azurite Area - Intrusive, silicification, calcite veining
1757935	616546	5529310	Outcrop	Azurite Area - Intrusive, silicification, calcite veining
1757936	616358	5528988	Outcrop	Azurite Area - Intrusive, silicification, calcite veining
1757937	616352	5528976	Outcrop	Azurite Area - Intrusive, silicification, calcite veining
1757951	619674	5521186	outcrop	Altered Felsic intrusive(?). Equigranular qtz/felds/pyroxene. Gray/red/orange. Bleached, k-spar alteration(?) to felds, pyroxene altered to chlorite.
1757952	628550	5508948	outcrop	Same as above, up to 5% diss Py and along fractures.
1757953	628484	5509163	float	Silicified/brecciated conglomerate. Chert/silica nodules. Very gossannous and rusty on all exposed surfaces. 2-5% vfg Py.
1757954	628180	5509624	outcrop	As in 1757952, remnant subhedral felds where weathered
1757955	628307	5509497	outcrop	Calcite brecciated, indistinguishable lithology. Slight malachite staining. Red/grey.
1757956	627974	5509281	outcrop	White/light green/orange, highly silicious unit at contact between Felds Porphy and fractured mudstone. Strike 0 dip 80
1757957	627657	5509426	float	Orange/red/green. Fine-grained, equigranular. Gossannous. Semi-massive sulphides in mm-cm scale bands throughout rock (cpy, py, Sph as determined by XRF)
1757958	627504	5510496	outcrop	Silicified intrusive. Trace-1% subhedral diss Py, possibly AsPy. Grey/Blue, oxidized red/orange on surface
1757959	627411	5510583	outcrop	Same as above, possible trace cpy
1757960	627561	5510682	outcrop	Strongly silicified qtz/carb breccia(?). Trace sulphides. Orange/tan/gossenous.
1757961	627235	5510594	outcrop	Silicified quartz-feldspar porphyry. Tan/Brown/Orange; 1-2% subhedral diss Py, trace cpy/gal. Strike 158, dip near vert.
1757962	616365	5529003	outcrop	Silicified contact with Intrusive. White/light green. 5-10% euhedral Py up to 5mm, 5-10% disseminated and veins Sphalerite/Cpy. Strike 90 dip vert
1757963	616359	5528992	outcrop	Same as above with malachite/azurite staining
1757964	616350	5528978	outcrop	same as above, more sphalerite, azurite and powdery malachite in veins.
1757965	616347	5528975	outcrop	Highly gossenous, silica-rich. 5-10% vfg-fg diss Py and Sph.
1757966	620941	5520803	float	Gossenous and highly silicious intrusive/rhyolite?, trace malachite?, up to 3 % vfg-fg diss Py.

**APPENDIX II**  
**LABORATORY CERTIFICATES**



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**Client:** **Sunrise Drilling Ltd.**  
2000 - 1177 West Hastings Street  
Vancouver BC V6E 2K3 Canada

Submitted By: Andrew Bowering  
Receiving Lab: Canada-Vancouver  
Received: June 14, 2012  
Report Date: June 28, 2012  
Page: 1 of 10

## CERTIFICATE OF ANALYSIS

VAN12002709.1

### CLIENT JOB INFORMATION

Project: PL-12  
Shipment ID:  
P.O. Number  
Number of Samples: 251

### SAMPLE DISPOSAL

RTRN-PLP Return  
RTRN-RJT Return

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: Sunrise Drilling Ltd.  
2000 - 1177 West Hastings Street  
Vancouver BC V6E 2K3  
Canada

CC: Adrian Smith  
Krzysztof  
Brett Matich

### SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
Dry at 60C	251	Dry at 60C			VAN
SS80	251	Dry at 60C sieve 100g to -80 mesh			VAN
RJSV	251	Saving all or part of Soil Reject			VAN
1F01	251	1:1:1 Aqua Regia digestion Ultratrace ICP-MS analysis	0.5	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: PL-12  
 Report Date: June 28, 2012

Page: 2 of 10

Part: 1 of 2

# CERTIFICATE OF ANALYSIS

VAN12002709.1

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	ppb	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	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
1758001	Soil	4.13	171.9	7.69	180.4	58	29.4	10.0	721	2.73	16.7	0.5	1.1	1.0	23.5	0.24	1.73	0.65	47	0.16	0.050	
1758002	Soil	14.63	413.1	10.90	75.9	73	16.2	10.8	548	4.26	58.5	1.6	3.5	0.8	24.4	0.11	4.95	1.95	34	0.13	0.050	
1758003	Soil	0.60	30.91	4.49	79.5	51	10.7	5.3	245	1.91	8.9	0.2	1.0	0.8	22.0	0.19	0.58	0.18	39	0.16	0.080	
1758004	Soil	0.12	6.86	3.84	75.4	52	4.5	3.7	501	1.06	2.4	0.2	<0.2	0.5	14.1	0.06	0.10	0.12	23	0.12	0.106	
1758005	Soil	0.11	9.89	2.91	33.0	58	6.2	3.5	219	1.20	2.5	0.1	<0.2	0.6	8.9	0.01	0.27	0.09	24	0.09	0.082	
1758006	Soil	0.10	17.22	2.89	51.3	81	7.4	7.2	525	1.89	3.0	0.3	2.5	1.7	49.0	0.04	0.19	0.03	35	0.97	0.116	
1758007	Soil	0.04	6.73	1.73	20.9	46	2.6	2.9	224	0.95	1.6	0.2	1.0	0.9	16.1	0.01	0.20	<0.02	19	0.29	0.098	
1758008	Soil	0.20	13.85	2.54	29.0	69	5.3	3.5	309	1.21	2.2	0.2	0.6	0.3	21.9	0.04	0.34	0.04	28	0.27	0.070	
1758009	Soil	0.23	20.61	2.79	30.0	78	8.9	6.3	435	1.61	2.9	0.3	2.5	0.8	28.3	0.03	0.38	0.02	39	0.35	0.079	
1758010	Soil	0.08	18.78	2.02	23.6	49	5.4	4.1	272	1.06	2.8	0.2	1.3	0.5	22.9	0.03	0.78	0.03	23	0.32	0.064	
1758011	Soil	0.24	11.49	1.98	25.7	62	6.8	3.9	284	1.32	1.4	0.2	1.0	0.6	23.2	0.05	0.29	0.02	31	0.29	0.072	
1758012	Soil	0.16	18.09	2.17	26.3	51	7.0	4.7	338	1.45	2.7	0.2	1.6	0.7	26.6	0.05	0.48	0.02	35	0.41	0.083	
1758013	Soil	0.23	7.33	2.88	29.7	92	5.4	4.7	259	1.25	1.7	0.4	0.6	0.2	58.0	0.14	0.14	0.04	29	0.52	0.026	
1758014	Soil	0.21	20.76	2.61	48.5	125	7.1	5.0	423	1.41	2.4	2.4	0.8	0.3	72.4	0.10	0.42	0.03	33	0.71	0.064	
1758015	Soil	0.11	7.88	1.92	33.5	53	5.0	4.6	166	1.33	1.3	0.2	<0.2	0.3	14.6	0.03	0.05	0.02	29	0.19	0.090	
1758016	Soil	0.10	8.95	1.66	25.7	35	4.8	4.1	209	1.62	1.4	0.3	<0.2	0.6	21.1	0.02	0.08	0.13	39	0.28	0.069	
1758017	Soil	0.19	20.26	2.78	31.6	56	4.6	4.8	375	1.56	3.9	0.3	1.0	1.0	18.0	0.06	0.80	0.08	32	0.38	0.115	
1758018	Soil	0.21	21.48	3.14	38.2	60	4.8	5.5	438	1.61	4.1	0.3	1.7	1.2	20.5	0.03	0.74	0.06	32	0.35	0.098	
1758019	Soil	0.17	13.96	2.67	30.1	31	4.2	4.0	225	1.36	3.3	0.2	3.0	0.8	11.6	0.03	0.33	0.03	28	0.13	0.036	
1758020	Soil	0.72	65.84	4.33	40.5	49	7.3	8.1	526	1.96	13.7	0.4	2.7	1.0	16.9	0.05	2.87	0.23	34	0.23	0.056	
1758021	Soil	0.30	34.04	3.70	40.9	31	6.1	5.9	400	1.52	7.3	0.3	2.5	1.0	23.7	0.07	2.15	0.13	31	0.31	0.079	
1758022	Soil	1.29	159.1	8.70	115.9	211	13.2	8.1	369	2.87	20.1	1.1	5.6	1.9	11.6	0.27	8.75	0.59	45	0.08	0.052	
1758023	Soil	3.12	95.47	5.97	65.4	108	10.4	6.1	248	2.25	15.1	0.7	2.1	1.4	12.0	0.11	7.38	0.31	39	0.11	0.037	
1758024	Soil	0.35	14.10	4.60	66.4	104	9.8	6.2	913	1.64	6.8	0.2	<0.2	0.6	12.7	0.07	0.20	0.08	35	0.12	0.130	
1758025	Soil	0.58	76.74	5.42	142.9	78	13.2	7.1	386	2.12	18.4	0.3	0.6	1.0	12.0	0.13	2.42	0.19	43	0.12	0.078	
1758026	Soil	0.36	17.58	5.28	163.1	69	14.9	8.2	399	1.96	6.7	0.2	0.7	0.8	30.7	0.11	0.22	0.12	40	0.16	0.114	
1758027	Soil	0.21	9.02	4.78	70.9	37	7.8	5.6	501	1.39	4.9	0.1	<0.2	0.6	13.2	0.07	0.08	0.09	30	0.15	0.073	
1758028	Soil	0.40	16.09	6.64	75.7	113	13.9	7.8	600	1.85	7.2	0.2	<0.2	0.9	10.4	0.05	0.16	0.12	36	0.10	0.068	
1758029	Soil	0.51	25.14	5.00	209.2	148	19.6	7.7	241	1.73	6.6	0.2	<0.2	1.0	14.7	0.13	0.16	0.10	35	0.11	0.070	
1758030	Soil	0.62	18.81	6.37	165.8	133	18.2	6.5	230	1.75	10.8	0.2	0.6	1.2	13.6	0.10	0.25	0.18	35	0.12	0.070	

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**Project:** PL-12  
**Report Date:** June 28, 2012

**Page:** 2 of 10

**Part:** 2 of 2

# CERTIFICATE OF ANALYSIS

# VAN12002709.1

Method	Analyte	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
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1758001	Soil	4.5	23.6	0.64	250.9	0.097	<20	2.28	0.006	0.07	0.5	2.2	0.14	<0.02	30	<0.1	0.24	8.9
1758002	Soil	8.7	7.3	0.14	424.7	0.006	<20	1.35	0.003	0.08	1.3	2.0	0.17	<0.02	71	0.5	0.90	4.0
1758003	Soil	3.6	8.4	0.27	296.4	0.064	<20	1.42	0.005	0.09	<0.1	1.4	0.05	<0.02	10	<0.1	<0.02	5.3
1758004	Soil	3.0	6.0	0.16	345.1	0.067	<20	0.70	0.007	0.08	<0.1	1.2	0.05	<0.02	18	<0.1	0.02	3.3
1758005	Soil	2.7	6.9	0.14	178.5	0.043	<20	0.83	0.006	0.04	<0.1	1.1	0.03	<0.02	23	<0.1	<0.02	3.1
1758006	Soil	9.0	6.8	0.49	354.4	0.085	<20	0.92	0.019	0.26	<0.1	4.1	0.07	<0.02	34	<0.1	<0.02	4.1
1758007	Soil	4.9	3.7	0.18	125.5	0.038	<20	0.36	0.010	0.09	<0.1	1.6	<0.02	<0.02	5	<0.1	<0.02	1.5
1758008	Soil	3.2	7.8	0.20	160.4	0.041	<20	0.65	0.007	0.07	<0.1	1.3	0.02	<0.02	21	<0.1	<0.02	2.4
1758009	Soil	7.2	11.5	0.35	178.8	0.075	<20	0.85	0.015	0.11	<0.1	3.2	0.04	<0.02	39	<0.1	0.02	3.0
1758010	Soil	4.2	5.8	0.23	129.4	0.041	<20	0.45	0.012	0.08	<0.1	1.9	<0.02	<0.02	44	<0.1	<0.02	1.6
1758011	Soil	4.5	10.2	0.27	124.3	0.062	<20	0.67	0.013	0.09	<0.1	2.0	0.03	<0.02	32	<0.1	<0.02	2.5
1758012	Soil	5.4	9.8	0.27	159.8	0.055	<20	0.57	0.017	0.10	<0.1	2.3	0.02	<0.02	43	<0.1	<0.02	2.1
1758013	Soil	3.3	9.5	0.20	227.3	0.059	<20	0.69	0.010	0.04	<0.1	1.5	0.03	0.02	36	0.1	0.03	2.8
1758014	Soil	5.3	9.4	0.30	199.9	0.052	<20	0.69	0.013	0.07	<0.1	1.9	0.03	0.03	47	<0.1	<0.02	2.5
1758015	Soil	3.2	7.8	0.21	111.7	0.049	<20	0.68	0.011	0.05	<0.1	1.5	<0.02	<0.02	23	<0.1	<0.02	2.8
1758016	Soil	4.6	8.6	0.23	115.8	0.049	<20	0.55	0.011	0.06	<0.1	1.7	<0.02	<0.02	20	<0.1	<0.02	2.5
1758017	Soil	6.3	5.1	0.25	207.0	0.049	<20	0.53	0.009	0.15	<0.1	2.2	0.05	<0.02	68	<0.1	0.06	2.4
1758018	Soil	8.1	5.5	0.32	255.7	0.066	<20	0.67	0.012	0.16	<0.1	2.8	0.06	<0.02	55	<0.1	0.05	3.1
1758019	Soil	4.4	5.0	0.24	178.5	0.044	<20	0.96	0.005	0.09	<0.1	1.8	0.04	<0.02	33	<0.1	<0.02	3.3
1758020	Soil	6.3	7.0	0.30	279.7	0.044	<20	0.68	0.009	0.12	<0.1	3.9	0.05	<0.02	221	0.1	0.15	2.8
1758021	Soil	6.9	6.6	0.30	273.5	0.059	<20	0.69	0.010	0.16	0.1	2.5	0.06	<0.02	124	<0.1	0.07	3.1
1758022	Soil	8.8	10.9	0.28	421.3	0.052	<20	1.74	0.006	0.09	0.3	4.6	0.10	<0.02	235	<0.1	0.30	5.2
1758023	Soil	5.7	11.0	0.27	499.4	0.048	<20	1.49	0.006	0.06	0.1	2.2	0.07	<0.02	104	0.1	0.12	4.4
1758024	Soil	3.7	11.3	0.25	248.5	0.051	<20	1.57	0.008	0.05	<0.1	2.0	0.07	<0.02	31	0.1	<0.02	5.8
1758025	Soil	3.4	13.5	0.31	203.2	0.066	<20	1.86	0.006	0.07	<0.1	2.1	0.08	<0.02	65	<0.1	0.03	6.3
1758026	Soil	3.5	13.3	0.33	252.0	0.070	<20	1.53	0.007	0.06	<0.1	2.3	0.06	<0.02	20	<0.1	<0.02	6.7
1758027	Soil	3.2	10.0	0.21	177.6	0.045	<20	0.98	0.007	0.04	<0.1	1.4	0.08	<0.02	30	<0.1	<0.02	4.9
1758028	Soil	3.7	12.3	0.28	235.8	0.063	<20	1.91	0.006	0.06	<0.1	2.0	0.09	<0.02	38	<0.1	<0.02	6.6
1758029	Soil	3.6	11.5	0.26	157.3	0.078	<20	1.52	0.009	0.06	<0.1	1.9	0.06	<0.02	38	<0.1	<0.02	6.2
1758030	Soil	3.7	11.2	0.23	127.7	0.071	<20	1.31	0.009	0.05	<0.1	1.8	0.05	<0.02	42	<0.1	<0.02	6.4



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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	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	ppb	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	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001	
1758031	Soil	1.82	70.46	6.33	134.0	238	13.8	8.0	174	2.07	21.8	0.3	0.8	1.2	7.3	0.09	0.80	0.53	32	0.06	0.083
1758032	Soil	1.95	109.4	5.73	74.7	84	16.1	5.5	130	1.98	13.3	0.2	3.0	0.9	13.0	0.01	0.30	0.28	45	0.07	0.072
1758033	Soil	10.67	152.4	8.15	40.7	115	11.7	4.3	110	4.48	30.6	0.3	2.8	1.6	16.7	0.02	1.54	0.56	58	0.05	0.131
1758034	Soil	4.46	235.1	3.36	49.1	233	10.0	6.0	64	1.49	10.2	0.3	1.2	0.8	14.7	0.04	0.39	0.22	29	0.05	0.022
1758035	Soil	56.86	160.9	2.73	19.7	86	6.3	3.5	103	2.95	8.6	0.2	1.9	0.4	34.2	0.03	0.29	0.13	27	0.19	0.038
1758036	Soil	25.11	35.78	6.84	79.1	33	3.2	7.4	597	3.52	5.5	0.3	4.1	0.9	15.2	0.08	0.08	0.02	53	0.34	0.062
1758037	Soil	8.30	87.62	2.25	52.0	59	2.7	2.3	87	1.30	8.2	0.1	4.2	0.4	11.5	0.06	0.53	0.09	20	0.08	0.031
1758038	Soil	79.60	852.0	3.18	32.9	99	7.1	4.8	170	1.61	44.5	0.3	3.5	0.4	82.0	0.10	0.93	0.23	24	0.43	0.024
1758039	Soil	0.58	6.37	1.69	9.5	20	1.2	0.5	25	0.41	0.5	<0.1	0.7	0.2	9.1	0.02	0.04	0.05	14	0.05	0.006
1758040	Soil	26.71	612.7	4.54	65.6	108	20.5	10.2	400	2.85	27.8	0.9	8.5	1.0	42.6	0.11	2.60	0.46	39	0.23	0.088
1758041	Soil	2.25	126.4	3.34	84.7	68	20.4	5.8	317	2.26	15.3	0.7	2.9	0.8	64.6	0.10	1.98	0.25	46	0.32	0.072
1758042	Soil	0.77	74.45	5.35	55.2	110	9.8	6.6	530	2.18	17.2	0.5	2.7	0.9	22.2	0.09	2.46	0.53	42	0.17	0.112
1758043	Soil	0.65	73.63	5.91	70.8	118	9.9	7.0	704	2.07	18.4	0.5	2.2	0.9	21.9	0.12	3.38	0.28	37	0.18	0.109
1758044	Soil	0.62	39.35	3.23	31.0	110	10.2	6.3	272	2.08	7.2	0.6	0.7	0.6	43.0	0.04	1.21	0.11	48	0.21	0.044
1758045	Soil	0.38	27.99	2.97	30.0	55	7.3	4.8	269	1.57	4.4	0.4	0.5	0.7	37.8	0.03	1.15	0.10	38	0.23	0.062
1758046	Soil	0.18	43.60	1.89	28.8	48	6.0	3.4	166	1.35	2.7	0.2	<0.2	0.4	22.0	0.02	1.14	0.09	33	0.12	0.023
1758047	Soil	0.39	25.65	5.16	65.6	88	10.5	5.8	449	1.83	5.7	0.2	<0.2	0.7	20.4	0.09	0.37	0.11	40	0.18	0.102
1758048	Soil	0.29	15.85	3.75	98.5	167	10.1	5.3	306	1.59	5.4	0.1	<0.2	0.8	10.3	0.12	0.18	0.09	33	0.11	0.142
1758049	Soil	0.45	33.01	8.02	98.7	137	10.1	6.0	881	2.02	9.8	0.4	0.2	1.0	17.1	0.17	1.44	0.35	35	0.21	0.129
1758050	Soil	0.16	13.67	4.44	98.5	70	8.5	3.6	417	1.37	6.5	0.2	<0.2	1.0	16.7	0.09	0.28	0.14	25	0.16	0.174
1758051	Soil	0.34	109.5	10.65	64.9	153	10.0	5.8	426	1.70	6.8	0.5	1.1	1.1	23.8	0.09	2.41	1.55	30	0.21	0.028
1758052	Soil	0.30	6.40	4.84	106.7	57	5.0	4.1	594	1.81	3.0	0.3	<0.2	0.6	11.3	0.11	0.28	0.13	35	0.12	0.199
1758053	Soil	0.19	7.27	2.85	31.5	14	5.8	3.5	310	1.24	2.1	0.2	<0.2	0.6	24.4	0.08	0.11	0.04	29	0.19	0.036
1758054	Soil	0.49	22.11	4.78	52.0	49	12.1	7.0	406	2.00	5.4	0.3	1.7	1.1	48.2	0.11	0.26	0.08	38	0.43	0.070
1758055	Soil	0.13	6.58	2.98	28.9	39	2.5	2.2	286	1.27	2.6	0.1	<0.2	0.3	19.8	0.05	0.20	0.04	31	0.31	0.061
1758056	Soil	0.20	13.96	2.88	33.8	45	6.1	4.4	352	1.45	3.0	0.3	0.7	0.5	30.9	0.07	0.44	0.06	32	0.39	0.076
1758057	Soil	0.27	14.74	6.57	175.6	125	8.6	5.7	783	1.44	11.3	0.2	1.0	0.8	16.6	0.17	0.37	0.26	24	0.14	0.214
1758058	Soil	0.79	53.48	4.96	127.7	237	15.8	7.3	198	2.00	10.2	0.2	<0.2	0.9	23.5	0.07	0.32	0.17	40	0.15	0.049
1758059	Soil	0.82	122.4	6.28	220.0	262	34.2	5.6	145	1.83	13.7	0.3	0.4	1.3	18.2	0.11	0.35	0.26	38	0.09	0.070
1758060	Soil	35.14	2736	7.16	100.9	702	32.2	24.2	938	5.68	67.6	3.2	18.5	2.9	31.7	0.17	4.16	1.21	61	0.16	0.326

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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	1F	1F	1F	1F	
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppb	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
1758031	Soil	3.3	11.9	0.18	105.0	0.064	<20	1.68	0.006	0.04	<0.1	1.7	0.09	<0.02	49	<0.1	0.05	6.7
1758032	Soil	4.4	22.8	0.35	115.8	0.052	<20	1.41	0.011	0.03	0.5	1.8	0.17	<0.02	29	<0.1	<0.02	8.8
1758033	Soil	4.7	21.8	0.41	344.1	0.062	<20	2.32	0.007	0.04	0.4	2.8	0.12	0.04	45	0.5	0.20	10.6
1758034	Soil	4.3	7.0	0.14	125.9	0.029	<20	1.05	0.006	0.03	0.1	1.1	0.14	<0.02	37	<0.1	<0.02	4.2
1758035	Soil	2.6	5.3	0.28	73.6	0.012	<20	0.87	0.006	0.05	0.2	1.0	0.05	<0.02	19	0.2	0.08	4.9
1758036	Soil	2.3	2.8	0.09	318.2	0.001	<20	0.72	0.006	0.08	<0.1	11.3	0.04	<0.02	58	<0.1	<0.02	2.0
1758037	Soil	1.7	3.4	0.07	198.2	0.003	<20	0.55	0.005	0.06	0.1	1.5	0.05	<0.02	24	<0.1	0.05	1.8
1758038	Soil	2.1	4.6	0.10	72.7	0.004	<20	0.61	0.007	0.06	<0.1	1.7	0.07	0.02	30	0.4	0.08	2.0
1758039	Soil	1.6	4.2	0.03	24.0	0.017	<20	0.18	0.008	0.02	<0.1	0.5	0.03	<0.02	9	<0.1	<0.02	1.5
1758040	Soil	5.8	12.7	0.35	223.6	0.044	<20	1.35	0.009	0.10	0.2	2.7	0.10	0.03	77	0.7	0.16	4.1
1758041	Soil	4.5	12.6	0.32	181.0	0.052	<20	1.06	0.009	0.07	1.2	2.3	0.06	<0.02	42	0.4	0.13	3.7
1758042	Soil	5.6	12.4	0.33	269.2	0.049	<20	1.61	0.007	0.09	0.1	2.6	0.07	<0.02	99	0.2	0.09	4.9
1758043	Soil	5.6	11.2	0.30	333.0	0.052	<20	1.44	0.007	0.08	0.1	2.7	0.07	<0.02	179	0.2	0.12	4.8
1758044	Soil	5.2	14.2	0.32	339.3	0.052	<20	1.34	0.007	0.08	<0.1	2.1	0.05	<0.02	62	0.3	0.04	3.9
1758045	Soil	5.0	11.3	0.26	229.9	0.055	<20	0.94	0.009	0.06	<0.1	2.0	0.04	<0.02	53	<0.1	0.04	3.3
1758046	Soil	2.9	8.3	0.20	142.8	0.037	<20	0.72	0.007	0.04	<0.1	1.5	0.03	<0.02	50	<0.1	<0.02	2.5
1758047	Soil	3.7	11.9	0.29	190.2	0.055	<20	1.42	0.006	0.06	<0.1	1.9	0.05	<0.02	55	<0.1	0.02	4.9
1758048	Soil	3.0	9.9	0.22	183.0	0.051	<20	1.27	0.007	0.05	<0.1	1.5	0.04	<0.02	44	<0.1	<0.02	5.1
1758049	Soil	3.4	11.3	0.27	338.0	0.073	<20	1.83	0.006	0.09	0.1	1.9	0.07	<0.02	105	<0.1	0.10	7.2
1758050	Soil	3.7	6.0	0.19	278.6	0.066	<20	1.37	0.008	0.08	<0.1	1.4	0.05	<0.02	39	<0.1	<0.02	5.0
1758051	Soil	6.7	8.3	0.24	347.1	0.038	<20	1.14	0.008	0.09	0.3	1.9	0.08	<0.02	45	<0.1	0.85	4.3
1758052	Soil	3.6	8.1	0.23	208.5	0.068	<20	1.37	0.006	0.05	<0.1	1.3	0.07	<0.02	42	<0.1	<0.02	6.2
1758053	Soil	3.5	8.0	0.18	140.5	0.034	<20	0.70	0.009	0.09	<0.1	1.9	0.04	<0.02	18	<0.1	<0.02	2.4
1758054	Soil	6.9	12.4	0.35	216.9	0.053	<20	0.80	0.015	0.14	<0.1	3.9	0.07	<0.02	46	<0.1	<0.02	3.2
1758055	Soil	4.1	5.0	0.14	128.4	0.032	<20	0.33	0.008	0.07	<0.1	1.1	0.03	<0.02	24	<0.1	<0.02	2.4
1758056	Soil	4.8	8.3	0.31	155.7	0.049	<20	0.65	0.016	0.16	<0.1	2.3	0.04	<0.02	40	<0.1	<0.02	2.6
1758057	Soil	3.2	7.9	0.16	429.6	0.052	<20	1.34	0.009	0.06	<0.1	1.4	0.08	<0.02	46	<0.1	<0.02	5.7
1758058	Soil	3.7	14.2	0.29	224.6	0.061	<20	1.86	0.014	0.07	<0.1	1.9	0.07	<0.02	39	<0.1	0.05	7.8
1758059	Soil	3.7	11.9	0.23	118.4	0.049	<20	1.95	0.009	0.05	0.5	1.9	0.08	<0.02	32	<0.1	0.04	7.8
1758060	Soil	9.8	31.9	0.78	305.6	0.027	<20	2.51	0.009	0.09	0.4	5.1	0.26	0.05	64	1.0	0.33	7.3

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CERTIFICATE OF ANALYSIS

VAN12002709.1

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	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
1758061	Soil	5.04	220.4	4.65	93.3	150	13.4	8.3	259	3.05	36.0	0.3	<0.2	1.3	15.4	0.06	1.76	0.61	41	0.08	0.203	
1758062	Soil	14.13	41.32	16.19	32.6	44	9.3	4.0	624	4.12	7.0	0.2	<0.2	0.9	23.6	0.05	0.15	1.21	43	0.18	0.095	
1758063	Soil	16.03	350.4	7.94	49.3	262	13.9	6.2	415	2.39	10.5	0.8	4.0	1.3	10.4	0.05	0.26	0.37	46	0.08	0.097	
1758064	Soil	12.57	349.5	4.97	41.5	165	8.6	8.4	169	2.39	8.9	0.2	2.6	1.0	9.2	0.02	0.24	0.42	39	0.08	0.071	
1758065	Soil	46.64	105.2	4.20	75.7	70	7.6	4.5	90	2.24	10.7	0.2	0.2	0.8	24.0	0.12	0.46	0.23	43	0.12	0.020	
1758066	Soil	20.25	49.82	7.62	97.6	402	8.5	5.3	155	2.85	11.8	0.2	<0.2	0.8	23.9	0.18	0.58	0.93	67	0.14	0.036	
1758067	Soil	5.12	60.95	4.13	69.3	61	5.0	6.7	402	3.05	8.9	0.1	0.9	0.5	18.6	0.05	0.23	0.17	51	0.19	0.053	
1758068	Soil	38.70	504.8	2.67	46.7	117	11.2	8.3	131	2.68	16.0	0.3	6.4	0.7	9.4	0.04	1.22	0.17	45	0.11	0.033	
1758069	Soil	1.47	61.45	2.62	62.6	63	4.8	4.6	118	3.00	7.5	0.2	1.1	0.3	12.9	0.02	0.09	0.06	49	0.14	0.030	
1758070	Soil	0.38	21.49	9.06	72.5	155	17.3	4.5	327	2.24	10.9	0.2	0.7	0.8	34.9	0.09	0.08	0.18	26	0.22	0.043	
1758071	Soil	0.82	26.89	8.58	140.9	92	21.7	7.4	425	2.91	5.8	0.2	0.6	2.4	33.4	0.33	0.05	0.19	40	0.24	0.039	
1758072	Soil	1.18	35.14	5.71	115.4	101	12.5	6.7	364	2.03	8.3	0.2	1.6	1.5	15.5	0.29	0.08	0.14	33	0.18	0.067	
1758073	Soil	1.32	95.17	7.28	106.3	43	22.2	10.3	317	3.32	10.0	0.2	1.8	2.2	14.8	0.25	0.10	0.18	36	0.16	0.055	
1758074	Soil	0.59	21.42	8.01	165.0	128	15.1	6.5	769	1.62	4.6	0.2	<0.2	1.5	19.6	0.84	0.02	0.16	28	0.26	0.122	
1758075	Soil	0.22	17.20	7.34	110.7	92	16.9	8.8	596	1.91	1.4	0.2	7.5	2.2	25.7	0.38	<0.02	0.15	28	0.30	0.050	
1758076	Soil	0.27	45.21	9.04	99.7	52	20.6	9.0	652	4.33	1.6	0.2	<0.2	2.9	20.5	0.47	0.10	0.32	46	0.21	0.084	
1758077	Soil	0.37	39.63	8.60	82.8	95	14.8	8.0	292	3.41	2.4	0.3	3.6	3.3	32.5	0.26	0.07	0.24	31	0.20	0.031	
1758078	Soil	0.46	42.71	7.44	87.7	144	14.0	4.6	233	3.71	3.4	0.4	1.4	2.7	24.3	0.31	0.11	0.28	34	0.16	0.075	
1758079	Soil	3.72	96.15	3.83	56.4	37	11.7	6.1	354	2.09	10.4	0.2	<0.2	0.9	16.5	0.20	0.46	0.10	38	0.13	0.074	
1758080	Soil	0.62	16.81	7.58	59.6	69	11.5	5.2	440	1.99	9.0	0.2	<0.2	1.6	38.5	0.41	0.07	0.14	25	0.24	0.077	
1758081	Soil	0.36	8.10	6.29	46.4	31	8.2	3.5	262	1.63	4.8	0.2	<0.2	1.8	25.2	0.18	<0.02	0.09	18	0.17	0.056	
1758082	Soil	0.42	17.78	6.73	91.3	120	11.1	4.9	303	2.69	3.5	0.2	<0.2	1.1	25.7	0.18	0.05	0.17	34	0.20	0.103	
1758083	Soil	0.84	58.08	4.39	52.5	159	11.3	5.5	260	2.38	12.6	0.5	2.3	0.7	46.6	0.10	0.30	0.12	36	0.26	0.038	
1758084	Soil	25.81	676.4	7.34	57.0	201	12.0	8.7	702	2.96	16.4	0.8	3.6	1.0	36.2	0.21	0.90	0.22	48	0.56	0.060	
1758085	Soil	2.25	65.92	5.03	76.3	93	3.6	7.9	509	2.74	7.6	0.2	12.1	0.5	22.3	0.09	0.20	0.06	38	0.29	0.030	
1758086	Soil	0.16	8.32	2.49	32.4	57	7.0	4.2	178	1.39	1.8	0.2	<0.2	0.4	20.9	0.05	0.09	0.03	35	0.19	0.055	
1758087	Soil	0.23	10.84	3.01	38.0	52	8.4	4.3	335	1.45	2.0	0.4	<0.2	0.4	32.4	0.07	0.15	0.03	34	0.29	0.060	
1758088	Soil	0.20	14.24	2.89	39.0	39	9.7	5.6	387	1.63	2.3	0.3	<0.2	0.9	42.4	0.04	0.14	0.03	38	0.43	0.087	
1758089	Soil	1.10	14.70	2.98	55.6	101	10.8	5.1	260	1.59	3.1	0.2	<0.2	0.3	71.1	0.10	0.14	0.04	36	0.56	0.155	
1758090	Soil	0.18	12.03	2.26	31.4	52	6.6	4.4	316	1.50	1.5	0.2	<0.2	0.8	29.6	0.04	0.08	<0.02	35	0.35	0.070	

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: PL-12  
 Report Date: June 28, 2012

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CERTIFICATE OF ANALYSIS

VAN12002709.1

Method	Analyte	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
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppb	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
1758061	Soil	4.7	14.0	0.33	301.0	0.033	<20	1.45	0.007	0.07	0.3	2.3	0.11	0.02	27	0.1	0.21	6.5
1758062	Soil	4.2	11.1	0.24	290.7	0.023	<20	1.86	0.006	0.08	0.4	1.3	0.17	<0.02	32	<0.1	0.22	7.8
1758063	Soil	4.1	10.5	0.20	195.3	0.055	<20	2.24	0.007	0.05	<0.1	1.7	0.11	<0.02	45	<0.1	0.04	10.3
1758064	Soil	3.3	9.8	0.24	198.7	0.021	<20	1.83	0.006	0.05	0.1	2.0	0.14	<0.02	17	<0.1	0.08	6.3
1758065	Soil	3.9	9.3	0.21	48.4	0.016	<20	0.95	0.006	0.06	<0.1	1.7	0.07	<0.02	11	<0.1	0.05	5.0
1758066	Soil	3.0	13.5	0.23	78.9	0.099	<20	1.88	0.008	0.04	1.2	1.5	0.04	0.03	83	<0.1	0.28	13.0
1758067	Soil	2.2	5.7	0.15	208.0	0.005	<20	1.06	0.007	0.06	<0.1	3.9	0.07	<0.02	23	<0.1	0.05	4.0
1758068	Soil	3.3	10.0	0.37	221.0	0.016	<20	1.38	0.005	0.05	0.1	2.9	0.06	<0.02	23	0.2	0.05	4.7
1758069	Soil	1.3	3.6	0.08	250.0	0.003	<20	0.85	0.008	0.05	<0.1	3.7	0.06	<0.02	22	<0.1	0.03	2.0
1758070	Soil	3.0	6.7	0.07	410.0	0.003	<20	0.89	0.006	0.13	<0.1	2.4	0.13	<0.02	19	<0.1	0.02	2.9
1758071	Soil	18.1	11.7	0.20	425.5	0.007	<20	1.27	0.007	0.09	<0.1	2.8	0.11	<0.02	16	<0.1	0.02	5.7
1758072	Soil	8.9	10.5	0.23	243.6	0.005	<20	1.14	0.005	0.10	<0.1	1.9	0.12	<0.02	13	<0.1	0.02	4.8
1758073	Soil	17.0	15.4	0.48	240.6	0.003	<20	1.94	0.002	0.11	<0.1	2.8	0.10	<0.02	18	<0.1	0.03	5.9
1758074	Soil	9.5	10.7	0.22	447.4	0.005	<20	1.56	0.004	0.13	<0.1	1.8	0.13	<0.02	25	<0.1	<0.02	5.8
1758075	Soil	16.1	13.7	0.34	534.8	0.002	<20	1.98	0.003	0.15	<0.1	2.2	0.17	<0.02	13	<0.1	<0.02	5.8
1758076	Soil	17.3	13.2	0.20	462.4	0.003	<20	1.05	0.003	0.23	<0.1	6.5	0.19	<0.02	26	<0.1	0.05	3.9
1758077	Soil	16.8	8.1	0.17	419.3	0.001	<20	0.65	0.004	0.13	<0.1	5.5	0.12	<0.02	27	0.2	0.05	2.2
1758078	Soil	16.0	7.4	0.10	248.6	<0.001	<20	0.46	0.003	0.10	<0.1	4.7	0.08	<0.02	24	0.2	0.05	1.4
1758079	Soil	6.0	9.8	0.23	240.0	0.009	<20	0.73	0.005	0.07	<0.1	2.5	0.05	<0.02	97	<0.1	<0.02	3.5
1758080	Soil	8.6	6.6	0.06	303.1	0.001	<20	0.64	0.003	0.12	<0.1	2.0	0.09	<0.02	12	<0.1	0.02	2.1
1758081	Soil	6.8	4.7	0.07	412.3	0.001	<20	0.68	0.003	0.12	<0.1	1.7	0.08	<0.02	16	<0.1	<0.02	2.0
1758082	Soil	5.2	8.5	0.11	334.9	0.005	<20	0.84	0.004	0.11	<0.1	2.8	0.10	<0.02	10	<0.1	0.02	3.3
1758083	Soil	3.8	9.2	0.10	475.4	0.004	<20	0.50	0.007	0.07	<0.1	5.3	0.05	<0.02	208	0.2	0.05	1.5
1758084	Soil	7.1	8.8	0.27	541.3	0.010	<20	1.25	0.008	0.08	<0.1	7.5	0.10	0.02	83	0.3	0.06	3.6
1758085	Soil	3.6	1.7	0.05	910.2	<0.001	<20	0.45	0.009	0.07	<0.1	11.7	0.04	<0.02	89	<0.1	0.05	0.9
1758086	Soil	3.3	9.8	0.23	107.2	0.042	<20	0.87	0.011	0.07	<0.1	1.7	0.04	<0.02	22	<0.1	<0.02	2.9
1758087	Soil	4.7	10.6	0.29	157.6	0.051	<20	0.89	0.010	0.12	<0.1	2.7	0.04	<0.02	66	<0.1	<0.02	3.1
1758088	Soil	6.0	12.3	0.39	177.5	0.067	<20	0.90	0.016	0.14	<0.1	3.5	0.04	<0.02	32	<0.1	0.03	3.5
1758089	Soil	3.1	11.9	0.31	146.1	0.038	<20	1.15	0.008	0.09	<0.1	1.9	0.04	0.02	40	0.1	<0.02	3.9
1758090	Soil	5.9	8.6	0.29	168.6	0.059	<20	0.78	0.015	0.11	<0.1	2.6	0.03	<0.02	10	<0.1	<0.02	3.0

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 Report Date: June 28, 2012

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CERTIFICATE OF ANALYSIS

VAN12002709.1

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	ppb	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	0.1	0.2	0.01	0.02	0.02	0.02	2	0.01	0.001
1758091	Soil	0.18	6.77	1.68	30.3	67	5.1	3.3	193	1.28	1.0	0.2	<0.2	0.4	13.0	0.04	0.06	<0.02	30	0.15	0.080
1758092	Soil	1.97	63.54	2.16	42.8	48	6.1	4.5	286	1.42	1.8	0.2	<0.2	0.4	27.5	0.08	0.09	0.04	35	0.24	0.109
1758093	Soil	4.13	329.9	3.05	134.6	105	18.3	13.1	542	2.32	5.0	0.3	<0.2	0.5	28.9	0.16	0.36	0.18	49	0.19	0.172
1758094	Soil	0.83	20.32	4.26	34.7	93	5.5	3.1	503	1.25	2.8	0.2	<0.2	0.2	55.1	0.12	0.17	0.05	30	0.40	0.096
1758095	Soil	0.25	20.85	2.62	32.2	65	6.9	4.2	289	1.42	2.2	0.5	<0.2	0.4	34.8	0.05	0.48	0.08	34	0.15	0.040
1758096	Soil	0.36	36.23	5.09	105.7	122	6.4	3.9	766	1.46	6.1	0.4	0.6	0.6	45.7	0.07	0.64	0.28	23	0.16	0.134
1758097	Soil	0.20	12.58	3.20	83.9	65	7.8	5.3	365	1.56	2.8	0.2	<0.2	0.7	30.7	0.08	0.21	0.09	34	0.15	0.230
1758098	Soil	0.12	4.70	2.17	37.0	50	4.7	3.1	240	1.03	1.2	0.1	<0.2	0.4	35.7	0.05	0.05	0.03	25	0.17	0.077
1758099	Soil	0.10	5.57	1.84	19.0	43	4.0	2.6	132	1.22	1.1	0.1	<0.2	0.3	20.9	0.03	0.06	<0.02	33	0.12	0.039
1758100	Soil	0.12	10.33	2.39	43.5	45	3.0	2.1	204	0.96	1.3	0.1	<0.2	0.3	21.9	0.10	0.49	0.03	26	0.18	0.018
1758101	Soil	0.24	10.90	4.03	139.1	53	6.7	3.7	321	1.78	2.7	0.1	<0.2	0.7	21.5	0.17	0.24	0.07	40	0.16	0.084
1758102	Soil	0.17	10.79	1.89	23.8	31	6.1	4.2	515	1.48	3.0	0.2	<0.2	0.7	26.2	0.05	0.25	0.03	36	0.38	0.095
1758103	Soil	0.16	7.96	2.46	23.0	31	4.5	3.0	222	0.93	1.6	0.2	<0.2	0.4	30.0	0.06	0.30	0.03	22	0.38	0.051
1758104	Soil	0.26	15.04	3.27	38.4	49	4.9	4.9	381	1.99	4.1	0.5	<0.2	1.1	35.9	0.04	0.61	0.08	43	0.53	0.143
1758105	Soil	0.70	47.54	5.36	92.2	62	22.5	15.7	1358	3.72	29.0	0.3	<0.2	0.8	30.2	0.07	0.89	0.36	77	0.31	0.042
1758106	Soil	1.03	22.43	9.37	83.3	109	18.4	17.5	5723	3.04	58.6	0.2	0.4	0.4	47.5	0.19	0.58	0.33	55	0.53	0.098
1758107	Soil	0.70	29.65	5.15	79.4	41	19.5	14.2	2173	3.01	94.1	0.3	<0.2	0.8	25.8	0.12	0.75	0.29	58	0.31	0.126
1758108	Soil	0.81	33.82	6.73	80.5	90	19.2	14.8	3032	2.91	135.7	0.3	<0.2	0.5	83.9	0.22	1.05	0.33	56	0.70	0.119
1758109	Soil	0.85	30.59	6.38	99.8	61	20.6	14.7	3602	2.64	680.9	0.3	2.0	1.0	43.4	0.49	1.30	0.36	44	0.39	0.100
1758110	Soil	1.25	28.19	6.60	72.0	51	18.4	13.2	1992	2.62	128.4	0.2	0.9	0.8	38.3	0.19	0.97	0.35	45	0.33	0.105
1758111	Soil	1.77	113.8	8.20	206.3	260	38.0	22.4	5857	2.56	47.6	0.7	2.0	0.6	148.8	0.38	1.63	0.43	28	1.03	0.708
1758112	Soil	3.97	107.5	7.53	100.2	81	16.8	9.7	1985	2.29	21.3	0.5	1.6	1.0	28.1	0.28	0.85	0.21	33	0.30	0.057
1758113	Soil	0.87	21.03	3.53	71.8	60	5.3	3.9	2152	1.16	4.6	0.2	1.0	0.3	29.2	0.17	0.16	0.06	20	0.23	0.119
1758114	Soil	3.14	81.63	3.12	35.4	21	5.7	4.8	255	1.41	8.0	0.2	1.4	0.6	11.6	0.06	0.49	0.06	28	0.10	0.018
1758115	Soil	1.72	48.24	3.69	42.5	53	7.3	4.7	375	1.41	6.1	0.4	1.8	0.8	13.1	0.04	0.31	0.05	28	0.10	0.028
1758116	Soil	0.76	14.56	5.32	133.7	100	8.6	4.3	970	1.15	4.8	0.1	1.1	0.7	21.8	0.16	0.11	0.11	19	0.16	0.215
1758117	Soil	0.16	12.41	2.28	37.5	35	7.0	5.7	299	1.60	2.5	0.4	1.5	0.9	32.0	0.04	0.09	<0.02	36	0.42	0.109
1758118	Soil	0.10	8.94	1.75	24.8	21	5.6	4.2	216	1.31	1.7	0.2	0.9	0.7	22.3	0.03	0.07	<0.02	32	0.30	0.081
1758119	Soil	0.47	31.24	4.41	52.3	104	11.4	9.3	661	2.40	4.9	1.0	2.8	1.4	44.1	0.12	0.37	0.03	49	0.55	0.088
1758120	Soil	0.31	29.92	7.47	55.8	661	15.5	8.6	896	2.64	3.1	0.3	1.3	2.3	66.7	0.40	0.80	0.14	35	0.64	0.034

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Project: PL-12  
 Report Date: June 28, 2012

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CERTIFICATE OF ANALYSIS

VAN12002709.1

Method	Analyte	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
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppb	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
1758091	Soil	3.1	6.7	0.19	95.2	0.043	<20	0.80	0.010	0.06	<0.1	1.5	0.02	<0.02	10	<0.1	<0.02	2.6
1758092	Soil	2.8	9.5	0.20	94.0	0.046	<20	0.74	0.013	0.07	<0.1	1.6	0.03	<0.02	28	<0.1	<0.02	2.8
1758093	Soil	3.7	13.8	0.27	181.0	0.049	<20	1.10	0.009	0.06	<0.1	2.1	0.07	<0.02	10	<0.1	0.03	4.5
1758094	Soil	3.2	8.1	0.16	216.6	0.033	<20	0.66	0.009	0.05	<0.1	1.1	0.02	0.02	91	0.1	<0.02	2.7
1758095	Soil	4.7	10.7	0.23	129.0	0.047	<20	0.91	0.009	0.05	<0.1	1.7	0.04	<0.02	55	<0.1	0.03	3.0
1758096	Soil	2.5	6.2	0.16	291.6	0.033	<20	1.29	0.006	0.07	<0.1	1.4	0.05	<0.02	51	<0.1	0.05	5.0
1758097	Soil	3.6	10.7	0.24	234.8	0.066	<20	1.14	0.009	0.05	<0.1	2.0	0.03	<0.02	24	<0.1	<0.02	5.1
1758098	Soil	2.5	6.7	0.16	98.1	0.048	<20	0.74	0.009	0.05	<0.1	1.3	0.02	<0.02	24	<0.1	<0.02	3.3
1758099	Soil	2.4	8.2	0.14	48.0	0.041	<20	0.62	0.007	0.04	<0.1	1.1	<0.02	<0.02	22	<0.1	<0.02	2.2
1758100	Soil	2.6	6.6	0.11	97.8	0.037	<20	0.38	0.008	0.05	<0.1	0.9	<0.02	<0.02	68	<0.1	<0.02	2.1
1758101	Soil	3.6	7.9	0.16	143.2	0.066	<20	0.99	0.007	0.04	<0.1	1.4	0.05	<0.02	27	<0.1	0.02	5.5
1758102	Soil	4.7	8.7	0.23	117.3	0.039	<20	0.50	0.016	0.09	<0.1	2.2	0.02	<0.02	36	<0.1	<0.02	2.0
1758103	Soil	3.2	6.1	0.21	98.2	0.037	<20	0.45	0.015	0.08	<0.1	1.6	<0.02	<0.02	53	0.1	<0.02	1.8
1758104	Soil	7.3	8.1	0.34	233.2	0.060	<20	0.70	0.012	0.14	<0.1	2.8	0.04	<0.02	29	<0.1	0.03	3.4
1758105	Soil	5.3	22.7	0.69	388.4	0.029	<20	2.83	0.008	0.07	<0.1	5.8	0.13	<0.02	114	0.2	0.13	8.4
1758106	Soil	5.4	16.6	0.35	614.6	0.065	<20	2.16	0.012	0.08	<0.1	2.9	0.20	0.04	104	0.2	0.07	8.9
1758107	Soil	4.5	18.5	0.49	353.0	0.059	<20	2.57	0.007	0.09	<0.1	4.0	0.19	<0.02	86	0.1	0.11	8.0
1758108	Soil	5.1	17.6	0.44	556.9	0.064	<20	2.60	0.009	0.07	<0.1	3.3	0.13	0.04	65	0.2	0.13	8.4
1758109	Soil	6.1	16.1	0.39	643.3	0.054	<20	2.33	0.007	0.10	<0.1	3.4	0.20	0.03	60	<0.1	0.09	6.6
1758110	Soil	4.9	16.4	0.39	397.6	0.055	<20	1.94	0.005	0.09	<0.1	2.7	0.11	<0.02	42	<0.1	0.06	6.9
1758111	Soil	9.7	13.5	0.26	1240	0.041	<20	2.45	0.005	0.10	<0.1	2.8	0.10	0.03	67	0.6	0.06	5.9
1758112	Soil	7.5	8.5	0.24	519.5	0.027	<20	1.16	0.004	0.12	<0.1	2.5	0.10	<0.02	30	<0.1	0.06	4.2
1758113	Soil	3.9	4.5	0.17	461.2	0.034	<20	0.88	0.005	0.11	<0.1	1.4	0.07	<0.02	21	<0.1	<0.02	3.0
1758114	Soil	3.7	6.3	0.23	145.0	0.024	<20	0.67	0.006	0.09	<0.1	1.7	0.05	<0.02	15	<0.1	<0.02	2.6
1758115	Soil	5.1	5.5	0.21	233.6	0.034	<20	1.00	0.005	0.11	<0.1	2.2	0.07	<0.02	22	<0.1	<0.02	2.9
1758116	Soil	3.7	6.0	0.14	964.9	0.042	<20	1.13	0.006	0.07	<0.1	1.4	0.07	<0.02	23	<0.1	<0.02	4.1
1758117	Soil	5.7	9.0	0.42	168.3	0.077	<20	0.73	0.014	0.18	<0.1	2.3	0.05	<0.02	12	<0.1	0.02	3.3
1758118	Soil	3.9	8.3	0.30	136.1	0.061	<20	0.57	0.015	0.11	<0.1	1.6	0.03	<0.02	11	<0.1	<0.02	2.3
1758119	Soil	21.9	11.5	0.60	324.0	0.107	<20	1.34	0.012	0.18	<0.1	6.8	0.08	0.02	68	<0.1	<0.02	5.0
1758120	Soil	16.6	17.5	0.48	390.3	0.103	<20	2.23	0.014	0.09	<0.1	4.6	0.12	0.02	113	0.8	<0.02	5.4

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# CERTIFICATE OF ANALYSIS

VAN12002709.1

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	ppb	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	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
1758121	Soil	0.21	6.49	4.14	59.9	81	6.3	4.7	788	1.58	2.7	0.2	0.8	0.8	19.8	0.08	0.07	0.15	31	0.17	0.275	
1758122	Soil	0.30	11.35	3.75	70.8	60	12.4	6.1	338	1.70	4.8	0.2	1.4	1.1	13.9	0.11	0.18	0.09	33	0.13	0.136	
1758123	Soil	0.58	16.22	7.97	143.6	269	20.4	8.9	905	2.05	8.9	0.2	2.3	1.0	41.3	0.32	0.75	0.15	36	0.22	0.231	
1758124	Soil	0.47	13.51	7.39	182.8	165	20.0	8.0	376	2.29	14.1	0.2	0.6	1.4	18.1	0.19	0.45	0.14	38	0.15	0.254	
1758125	Soil	1.27	26.07	7.15	85.5	126	22.6	8.6	465	2.64	33.7	0.2	1.4	0.8	25.1	0.16	1.94	0.14	40	0.17	0.082	
1758126	Soil	0.31	7.77	4.70	94.1	85	10.3	6.0	1218	1.45	7.3	0.1	0.5	0.7	21.9	0.20	0.21	0.08	27	0.18	0.163	
1758127	Soil	0.35	12.55	6.31	114.3	86	17.1	8.0	1348	1.87	5.5	0.2	<0.2	0.9	13.2	0.20	0.44	0.09	35	0.11	0.161	
1758128	Soil	0.40	21.96	5.06	59.4	147	14.5	7.3	700	1.91	6.2	0.2	0.4	0.6	28.7	0.14	0.70	0.05	38	0.23	0.070	
1758129	Soil	0.41	15.87	5.41	80.6	100	16.2	7.1	659	2.11	7.0	0.2	1.2	0.8	17.3	0.14	0.71	0.07	38	0.14	0.204	
1758130	Soil	0.55	24.35	5.22	54.4	85	14.7	7.0	453	2.10	10.1	0.2	0.8	0.6	16.4	0.06	0.93	0.05	40	0.13	0.043	
1758131	Soil	0.41	16.00	6.38	92.5	68	17.7	8.6	1363	2.16	6.4	0.2	0.5	0.8	20.1	0.20	0.46	0.09	38	0.13	0.207	
1758132	Soil	0.53	22.65	4.77	60.6	102	13.2	7.3	335	1.97	7.7	0.2	0.3	0.7	22.1	0.11	0.44	0.05	37	0.21	0.127	
1758133	Soil	0.61	25.25	6.28	83.8	100	24.9	9.5	776	2.37	11.7	0.3	0.3	0.9	24.4	0.16	0.43	0.08	42	0.21	0.215	
1758134	Soil	0.48	19.92	5.81	105.4	92	21.0	10.4	897	2.30	8.4	0.2	<0.2	1.0	17.8	0.21	0.34	0.08	47	0.18	0.088	
1758135	Soil	0.68	18.23	7.81	128.6	131	15.8	11.9	4408	1.99	7.3	0.2	<0.2	0.5	39.7	0.46	0.33	0.11	37	0.41	0.103	
1758136	Soil	0.40	18.15	4.02	64.1	72	17.4	7.0	268	1.82	5.5	0.2	0.3	0.6	16.8	0.08	0.32	0.04	39	0.17	0.065	
1758137	Soil	0.22	13.15	4.63	102.5	36	14.6	6.6	356	1.65	3.4	0.2	<0.2	0.8	14.4	0.13	0.19	0.05	33	0.20	0.088	
1758138	Soil	0.19	5.82	2.53	52.9	16	5.4	3.8	373	1.01	1.7	<0.1	<0.2	0.4	9.4	0.05	0.15	<0.02	22	0.09	0.048	
1758139	Soil	0.46	16.98	3.93	59.1	74	10.0	6.7	707	1.66	5.9	0.2	0.3	0.7	22.5	0.13	0.40	0.04	33	0.18	0.123	
1758140	Soil	0.46	19.46	4.19	66.3	52	11.0	6.0	395	1.67	5.9	0.2	0.3	0.6	22.9	0.10	0.35	0.05	35	0.20	0.060	
1758141	Soil	0.66	24.82	4.20	59.1	53	12.3	7.7	336	2.08	7.8	0.2	0.3	0.8	21.7	0.12	0.36	0.06	40	0.16	0.070	
1758142	Soil	0.58	19.30	4.59	101.6	54	10.6	6.8	385	1.84	7.7	0.2	1.2	0.7	22.9	0.16	0.94	0.05	32	0.18	0.105	
1758143	Soil	0.70	22.35	5.40	75.9	42	13.6	6.9	241	2.68	12.1	0.2	0.4	0.6	15.2	0.17	1.58	0.05	42	0.13	0.088	
1758144	Soil	0.43	15.80	3.78	51.4	42	7.8	5.8	351	1.66	7.7	0.2	0.3	0.5	17.9	0.10	0.95	0.02	32	0.23	0.102	
1758145	Soil	0.18	19.01	4.04	71.2	85	8.6	7.5	468	2.21	2.5	0.5	3.5	1.3	47.1	0.09	0.23	0.05	45	0.53	0.085	
1758146	Soil	0.20	56.50	2.97	27.4	373	9.7	5.4	1226	1.50	2.8	0.3	2.4	0.1	302.2	0.48	0.99	0.05	30	12.50	0.150	
1758147	Soil	0.47	22.37	3.89	43.8	180	11.9	9.2	1119	1.99	1.3	0.7	1.4	0.2	133.3	0.33	1.22	0.03	36	2.01	0.093	
1758148	Soil	0.19	5.30	3.78	72.9	82	6.2	3.6	511	1.21	2.3	0.1	<0.2	0.5	12.2	0.10	0.11	0.05	24	0.12	0.126	
1758149	Soil	0.59	11.64	6.29	85.7	169	17.5	6.3	384	1.57	9.2	0.2	0.4	1.0	13.1	0.12	0.53	0.08	28	0.10	0.108	
1758150	Soil	0.92	21.24	7.98	75.3	127	14.8	7.3	966	1.89	16.1	0.2	1.8	0.7	24.6	0.23	1.50	0.09	32	0.21	0.104	

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		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppb	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
1758121	Soil	4.0	9.4	0.23	223.5	0.063	<20	1.28	0.005	0.07	<0.1	1.9	0.05	<0.02	27	<0.1	<0.02	4.9
1758122	Soil	4.3	11.0	0.31	159.0	0.071	<20	1.52	0.004	0.07	<0.1	2.0	0.07	<0.02	75	<0.1	0.04	5.2
1758123	Soil	4.8	13.6	0.32	383.3	0.061	<20	1.38	0.007	0.09	<0.1	2.5	0.08	<0.02	39	<0.1	0.04	5.2
1758124	Soil	4.2	14.6	0.37	343.6	0.079	<20	1.68	0.005	0.08	<0.1	2.6	0.06	<0.02	41	<0.1	<0.02	7.3
1758125	Soil	4.7	14.4	0.31	164.6	0.032	<20	1.41	0.004	0.05	<0.1	2.7	0.06	<0.02	33	0.2	0.06	4.0
1758126	Soil	3.7	8.2	0.19	360.1	0.025	<20	1.09	0.006	0.08	<0.1	1.6	0.07	<0.02	35	<0.1	<0.02	3.6
1758127	Soil	3.9	13.2	0.26	256.4	0.046	<20	1.37	0.006	0.06	<0.1	2.1	0.10	<0.02	24	<0.1	<0.02	4.8
1758128	Soil	4.0	11.1	0.29	316.7	0.028	<20	1.14	0.007	0.06	<0.1	2.3	0.06	<0.02	126	<0.1	<0.02	3.7
1758129	Soil	4.0	13.7	0.25	319.3	0.033	<20	1.31	0.005	0.06	<0.1	2.5	0.06	<0.02	52	<0.1	<0.02	4.0
1758130	Soil	3.7	11.9	0.24	216.8	0.019	<20	1.11	0.006	0.05	<0.1	2.4	0.05	<0.02	34	<0.1	<0.02	3.7
1758131	Soil	4.3	13.7	0.30	405.6	0.041	<20	1.55	0.006	0.08	<0.1	2.6	0.09	<0.02	27	<0.1	0.02	5.1
1758132	Soil	4.5	12.4	0.28	182.3	0.010	<20	0.88	0.008	0.07	<0.1	2.5	0.04	<0.02	33	<0.1	<0.02	3.1
1758133	Soil	5.2	16.0	0.34	208.4	0.040	<20	1.67	0.006	0.09	<0.1	3.1	0.07	<0.02	37	<0.1	0.05	5.4
1758134	Soil	5.1	15.2	0.35	233.1	0.066	<20	1.59	0.007	0.07	<0.1	2.6	0.09	<0.02	30	<0.1	0.03	5.5
1758135	Soil	6.1	13.3	0.31	531.7	0.048	<20	1.32	0.006	0.09	<0.1	2.5	0.11	<0.02	53	<0.1	0.02	4.8
1758136	Soil	3.5	12.1	0.32	167.1	0.044	<20	1.37	0.006	0.07	<0.1	1.8	0.04	<0.02	33	<0.1	<0.02	4.9
1758137	Soil	4.1	12.5	0.33	269.9	0.057	<20	1.43	0.007	0.08	<0.1	2.1	0.07	<0.02	23	<0.1	<0.02	5.1
1758138	Soil	3.2	6.4	0.17	138.4	0.015	<20	0.60	0.008	0.04	<0.1	1.1	0.04	<0.02	16	<0.1	<0.02	2.1
1758139	Soil	4.1	10.4	0.22	139.4	0.012	<20	0.76	0.007	0.05	<0.1	1.9	0.04	<0.02	17	<0.1	<0.02	2.9
1758140	Soil	4.9	10.7	0.25	159.7	0.010	<20	0.79	0.007	0.07	<0.1	2.1	0.05	<0.02	33	<0.1	0.02	3.1
1758141	Soil	5.3	12.5	0.31	147.3	0.009	<20	0.96	0.008	0.07	<0.1	2.5	0.04	<0.02	26	<0.1	0.03	3.3
1758142	Soil	3.7	10.4	0.25	234.6	0.017	<20	0.88	0.007	0.09	<0.1	2.3	0.04	<0.02	30	<0.1	0.03	3.3
1758143	Soil	3.8	12.2	0.24	109.4	0.008	<20	0.86	0.007	0.05	<0.1	3.3	0.04	<0.02	28	<0.1	<0.02	2.9
1758144	Soil	3.7	8.5	0.26	131.4	0.033	<20	0.62	0.007	0.09	<0.1	2.0	0.03	<0.02	28	<0.1	<0.02	2.8
1758145	Soil	8.1	9.8	0.65	317.9	0.108	<20	1.30	0.020	0.36	<0.1	4.2	0.09	<0.02	106	<0.1	0.05	5.9
1758146	Soil	7.4	13.3	0.48	607.3	0.030	<20	0.93	0.012	0.12	<0.1	1.6	0.16	0.07	220	1.5	0.10	4.3
1758147	Soil	8.3	26.6	0.74	401.6	0.066	<20	1.35	0.014	0.13	<0.1	2.1	0.15	0.10	114	3.8	<0.02	5.3
1758148	Soil	2.8	6.9	0.13	107.6	0.042	<20	1.06	0.007	0.04	<0.1	1.1	0.06	<0.02	26	<0.1	<0.02	3.3
1758149	Soil	3.9	10.3	0.18	174.7	0.052	<20	1.45	0.008	0.06	<0.1	1.6	0.07	<0.02	35	<0.1	<0.02	4.6
1758150	Soil	4.3	10.7	0.20	285.8	0.020	<20	0.87	0.006	0.07	<0.1	2.1	0.04	<0.02	70	<0.1	0.04	3.0

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Project: PL-12  
 Report Date: June 28, 2012

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CERTIFICATE OF ANALYSIS

VAN12002709.1

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	ppb	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	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001	
1758151	Soil	0.41	19.35	4.63	101.0	48	18.0	9.3	238	2.14	4.6	0.2	<0.2	0.7	18.0	0.11	0.21	0.05	44	0.25	0.079
1758152	Soil	0.44	15.34	3.65	57.5	62	11.8	7.0	308	1.76	3.8	0.2	0.4	0.4	13.8	0.06	0.27	0.03	40	0.17	0.020
1758153	Soil	0.34	8.50	3.10	53.2	36	8.0	6.5	469	1.46	2.3	0.1	<0.2	0.4	14.8	0.10	0.14	0.02	33	0.18	0.012
1758154	Soil	0.94	67.56	9.03	46.6	362	33.7	18.6	961	2.71	9.9	5.4	2.9	1.1	67.6	0.35	0.47	0.13	46	0.79	0.050
1758155	Soil	0.47	25.07	6.77	52.7	85	14.7	8.5	1404	2.06	4.8	1.0	1.8	0.7	59.4	0.16	0.44	0.08	34	0.52	0.021
1758156	Soil	0.47	21.98	3.65	33.3	36	10.1	7.3	177	1.85	9.4	0.2	0.6	0.7	23.2	0.04	0.51	0.03	42	0.17	0.025
1758157	Soil	0.41	15.70	5.69	71.4	97	11.7	5.3	1130	1.56	5.7	0.1	<0.2	0.5	58.2	0.24	0.48	0.05	29	1.36	0.088
1758158	Soil	0.73	19.46	5.45	61.6	59	10.1	6.9	1520	1.76	8.3	0.2	1.2	0.3	94.4	0.24	1.01	0.05	31	1.12	0.047
1758159	Soil	0.14	8.58	0.99	22.5	59	1.7	2.0	1600	0.25	1.0	<0.1	<0.2	<0.1	667.6	0.25	0.17	<0.02	3	29.80	0.138
1758160	Soil	0.32	6.13	4.45	100.7	66	7.3	4.7	760	1.35	4.6	<0.1	1.5	0.3	16.7	0.13	0.37	0.04	24	0.21	0.056
1758162	Soil	0.25	13.13	3.83	35.9	64	6.3	4.9	494	1.39	4.3	0.2	0.9	0.2	304.0	0.23	0.51	0.04	29	8.12	0.043
1758164	Soil	0.37	16.46	4.98	55.2	81	10.0	6.9	350	1.58	2.8	0.8	0.7	0.6	19.0	0.07	0.45	0.06	34	0.24	0.046
1758165	Soil	0.40	21.79	4.16	40.1	80	10.3	7.6	457	1.92	4.2	0.6	2.2	0.8	37.5	0.08	0.69	0.05	42	0.51	0.046
1758166	Soil	0.23	24.41	4.10	49.3	93	11.0	7.9	376	1.98	2.6	1.0	2.1	1.2	37.5	0.08	0.50	0.04	41	0.39	0.026
1758167	Soil	0.22	24.91	3.74	58.9	93	12.2	8.4	563	2.21	2.8	0.6	1.5	1.4	39.6	0.10	0.15	0.03	49	0.53	0.086
1758168	Soil	0.28	34.27	3.65	59.7	134	13.2	9.4	645	2.36	2.7	0.4	1.5	1.8	44.0	0.06	0.14	0.02	52	0.52	0.083
1758169	Soil	0.24	21.45	3.55	53.1	47	10.7	8.0	568	2.04	2.8	0.4	1.2	1.1	40.3	0.12	0.17	0.15	44	0.49	0.095
1758170	Soil	4.07	23.31	4.15	63.4	85	13.6	12.1	>10000	3.45	13.6	0.4	1.6	0.8	79.1	0.27	0.21	0.07	43	0.98	0.099
1758171	Soil	0.24	16.09	2.87	60.4	45	7.4	5.9	462	1.55	2.8	0.2	0.3	0.8	17.1	0.07	0.18	0.03	34	0.26	0.115
1758172	Soil	0.38	30.04	4.64	57.0	106	12.0	9.0	860	2.25	4.6	0.4	2.1	1.0	36.5	0.12	0.19	0.03	47	0.60	0.093
1758173	Soil	0.72	9.93	3.25	43.6	52	6.9	7.2	3128	4.23	12.8	0.2	0.4	0.4	68.9	0.11	0.19	0.02	40	1.04	0.048
1758174	Soil	0.15	11.71	2.65	51.1	65	5.6	5.4	425	1.39	1.5	0.2	0.3	0.6	23.0	0.04	0.08	0.03	29	0.40	0.071
1758175	Soil	0.12	5.77	2.23	38.7	27	3.5	4.0	330	1.10	1.5	0.1	0.3	0.4	15.4	0.07	0.08	<0.02	25	0.25	0.079
1758176	Soil	0.22	13.24	2.78	47.9	63	6.5	5.6	355	1.64	2.6	0.2	0.3	0.7	21.3	0.05	0.13	0.02	37	0.33	0.085
1758177	Soil	0.22	13.33	3.34	48.1	49	7.0	6.3	389	1.64	2.4	0.2	3.1	0.9	29.2	0.10	0.14	0.02	37	0.39	0.110
1758178	Soil	0.14	10.72	2.65	37.4	33	7.6	5.8	341	1.54	1.6	0.3	0.7	0.9	24.9	0.04	0.09	<0.02	37	0.37	0.094
1758179	Soil	0.18	17.76	2.77	64.8	51	7.7	5.9	453	1.64	1.8	0.2	0.8	1.0	22.5	0.11	0.12	<0.02	38	0.29	0.102
1758180	Soil	0.13	18.67	2.73	38.2	34	10.2	6.9	389	2.03	2.5	0.3	2.0	1.3	28.8	0.03	0.06	<0.02	46	0.41	0.094
1758181	Soil	0.14	8.08	1.66	26.5	25	4.6	3.8	212	1.46	1.2	0.2	0.2	0.8	17.3	0.02	0.05	<0.02	36	0.31	0.108
1758182	Soil	0.58	28.98	3.10	43.1	96	10.7	7.5	2255	2.04	5.8	0.8	1.6	0.6	42.1	0.11	0.24	<0.02	42	0.54	0.081

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Method	Analyte	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
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppb	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
1758151	Soil	3.7	15.2	0.43	163.3	0.071	<20	1.73	0.008	0.06	<0.1	2.5	0.06	<0.02	17	0.1	<0.02	5.8
1758152	Soil	3.6	14.0	0.37	86.3	0.047	<20	1.19	0.008	0.05	<0.1	1.8	0.04	<0.02	39	<0.1	<0.02	3.9
1758153	Soil	3.4	11.3	0.26	87.2	0.043	<20	0.93	0.008	0.04	<0.1	1.7	0.04	<0.02	20	<0.1	<0.02	3.3
1758154	Soil	22.2	28.2	0.39	516.2	0.058	<20	2.71	0.017	0.08	0.1	8.6	0.11	0.05	463	0.7	0.04	7.0
1758155	Soil	6.7	16.9	0.38	233.5	0.022	<20	1.20	0.016	0.07	<0.1	3.8	0.05	<0.02	92	0.7	<0.02	3.6
1758156	Soil	4.3	13.4	0.29	88.1	0.022	<20	0.81	0.008	0.08	<0.1	2.2	0.04	<0.02	225	0.1	<0.02	3.1
1758157	Soil	3.8	9.5	0.20	224.5	0.015	<20	0.83	0.008	0.07	<0.1	1.7	0.06	<0.02	51	0.1	<0.02	3.0
1758158	Soil	4.0	10.2	0.22	206.9	0.014	<20	0.69	0.007	0.06	<0.1	1.8	0.05	0.02	58	0.5	<0.02	2.5
1758159	Soil	0.5	2.2	0.36	359.1	0.004	<20	0.16	0.009	0.02	<0.1	0.3	0.02	0.05	44	0.9	<0.02	0.5
1758160	Soil	3.5	7.0	0.14	182.9	0.013	<20	0.75	0.007	0.06	<0.1	1.1	0.07	<0.02	20	<0.1	<0.02	2.7
1758162	Soil	3.2	8.6	0.41	223.9	0.034	<20	0.74	0.013	0.07	<0.1	1.7	0.07	0.05	52	0.4	<0.02	2.5
1758164	Soil	5.5	12.5	0.33	235.0	0.047	<20	0.92	0.011	0.11	<0.1	2.3	0.05	<0.02	39	<0.1	0.04	3.5
1758165	Soil	5.3	13.9	0.41	234.2	0.058	<20	0.87	0.017	0.12	<0.1	3.0	0.05	<0.02	107	<0.1	0.03	3.4
1758166	Soil	7.6	11.6	0.53	323.4	0.077	<20	1.09	0.017	0.18	<0.1	3.2	0.06	<0.02	67	<0.1	0.04	4.3
1758167	Soil	8.2	14.0	0.63	294.8	0.106	<20	1.22	0.023	0.32	<0.1	3.6	0.08	<0.02	129	<0.1	<0.02	5.0
1758168	Soil	10.8	14.8	0.69	373.3	0.103	<20	1.29	0.021	0.35	<0.1	4.2	0.09	<0.02	52	<0.1	0.03	4.9
1758169	Soil	7.0	12.6	0.50	257.1	0.077	<20	1.03	0.017	0.19	<0.1	3.0	0.05	<0.02	38	<0.1	<0.02	4.2
1758170	Soil	7.1	12.0	0.53	252.1	0.073	<20	1.16	0.018	0.21	<0.1	3.6	0.09	0.04	72	0.2	0.03	4.8
1758171	Soil	4.5	10.3	0.32	206.2	0.056	<20	0.79	0.011	0.09	<0.1	1.9	0.04	<0.02	42	<0.1	0.04	3.3
1758172	Soil	9.0	14.1	0.53	315.7	0.085	<20	1.13	0.016	0.26	<0.1	3.6	0.07	<0.02	81	<0.1	0.04	4.3
1758173	Soil	3.5	10.2	0.41	569.6	0.051	<20	0.84	0.013	0.09	0.1	2.3	0.04	0.05	159	<0.1	<0.02	3.7
1758174	Soil	3.7	7.6	0.28	209.0	0.052	<20	0.83	0.011	0.10	<0.1	1.8	0.04	<0.02	34	<0.1	<0.02	3.2
1758175	Soil	3.2	6.4	0.19	148.0	0.041	<20	0.51	0.008	0.07	<0.1	1.1	0.03	<0.02	18	<0.1	<0.02	2.7
1758176	Soil	4.7	9.6	0.34	175.4	0.060	<20	0.88	0.012	0.09	<0.1	1.9	0.04	<0.02	98	<0.1	<0.02	3.6
1758177	Soil	4.8	9.6	0.36	162.1	0.069	<20	0.84	0.014	0.12	<0.1	2.0	0.04	<0.02	58	<0.1	<0.02	3.5
1758178	Soil	5.5	10.2	0.37	146.6	0.083	<20	0.74	0.018	0.15	<0.1	2.2	0.04	<0.02	11	<0.1	<0.02	3.1
1758179	Soil	5.7	11.0	0.32	234.2	0.069	<20	0.74	0.016	0.11	<0.1	2.4	0.05	<0.02	40	<0.1	<0.02	3.1
1758180	Soil	8.0	11.1	0.47	241.9	0.099	<20	1.01	0.025	0.21	<0.1	3.5	0.05	<0.02	20	<0.1	<0.02	4.1
1758181	Soil	4.6	8.2	0.22	97.4	0.052	<20	0.54	0.014	0.09	<0.1	1.3	<0.02	<0.02	13	<0.1	<0.02	2.1
1758182	Soil	7.5	11.9	0.42	401.3	0.064	<20	1.09	0.017	0.15	<0.1	3.3	0.06	<0.02	72	<0.1	0.03	3.9

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		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	%
Unit	MDL	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
1758183	Soil	0.57	27.31	3.38	44.2	119	10.5	7.3	1440	2.21	4.4	0.7	1.9	1.2	38.5	0.11	0.15	0.05	44	0.55	0.073	
1759001	Soil	0.56	16.91	9.02	146.3	122	16.7	8.6	332	2.62	11.6	0.3	0.8	1.3	11.3	0.22	0.22	0.18	50	0.14	0.142	
1759002	Soil	0.57	16.54	5.68	70.2	60	14.4	9.1	685	2.22	3.8	0.3	0.5	0.9	11.5	0.13	0.25	0.10	46	0.17	0.069	
1759003	Soil	0.27	9.81	5.69	84.5	125	9.6	5.7	1493	1.38	2.3	0.1	0.5	0.3	18.7	0.36	0.14	0.07	29	0.24	0.084	
1759004	Soil	0.55	43.21	5.47	61.3	66	17.4	15.1	1261	3.28	8.1	0.3	1.1	0.7	23.3	0.13	0.29	0.06	69	0.31	0.065	
1759005	Soil	0.47	12.85	5.54	85.7	71	13.0	7.9	423	2.09	5.6	0.2	1.2	0.7	10.6	0.14	0.16	0.08	45	0.19	0.078	
1759006	Soil	1.21	17.22	6.19	74.7	155	14.3	7.5	1123	2.12	3.7	1.0	1.0	0.6	30.4	0.30	0.26	0.09	44	0.58	0.036	
1759007	Soil	0.46	15.69	9.71	136.9	158	16.2	17.4	2321	2.91	5.0	0.4	0.9	0.8	34.6	0.20	0.16	0.13	66	0.39	0.184	
1759008	Soil	0.94	31.30	6.54	73.6	105	20.5	12.7	577	2.97	8.0	0.5	118.0	0.8	29.1	0.11	0.28	0.12	56	0.64	0.038	
1759009	Soil	0.47	9.98	3.73	91.6	68	9.4	7.7	1187	1.72	4.7	0.1	0.7	0.3	16.3	0.25	0.18	0.21	40	0.29	0.067	
1759010	Soil	0.62	11.66	4.81	46.6	72	12.4	6.7	262	1.98	25.3	0.3	0.7	0.7	16.3	0.08	0.16	0.11	49	0.26	0.015	
1759011	Soil	0.49	22.10	7.14	105.3	56	15.9	12.4	1400	3.36	7.2	0.2	0.5	1.6	27.8	0.17	0.18	0.10	75	0.62	0.047	
1759012	Soil	0.62	10.41	8.69	126.7	107	10.3	13.4	4600	1.89	8.8	0.1	<0.2	0.4	27.5	0.71	0.14	0.11	44	0.44	0.082	
1759013	Soil	0.50	12.83	9.52	92.3	156	13.8	10.3	1910	1.82	4.4	0.2	0.3	0.5	14.6	0.21	0.18	0.12	39	0.24	0.052	
1759014	Soil	0.56	33.71	4.67	50.2	66	14.5	10.0	471	2.67	10.2	0.5	1.2	1.2	12.3	0.06	0.42	0.05	53	0.15	0.068	
1759015	Soil	0.53	21.16	4.89	57.0	59	13.1	7.4	521	2.18	7.5	0.3	<0.2	0.7	10.7	0.10	0.24	0.06	45	0.14	0.111	
1759016	Soil	0.42	11.42	5.31	78.7	49	10.5	7.3	2388	1.93	4.9	0.2	0.5	0.1	11.0	0.18	0.19	0.09	38	0.16	0.118	
1759017	Soil	0.61	11.17	7.42	63.4	42	11.2	6.8	1099	2.19	7.1	0.2	0.6	0.8	10.8	0.08	0.24	0.13	45	0.13	0.059	
1759018	Soil	0.54	15.72	7.50	116.9	185	18.6	9.3	1373	2.31	8.6	0.2	<0.2	0.5	12.6	0.29	0.52	0.11	42	0.19	0.151	
1759019	Soil	0.64	22.74	5.90	131.6	275	13.9	9.1	764	3.07	14.0	0.2	1.0	0.7	9.5	0.13	0.44	0.09	51	0.14	0.085	
1759020	Soil	0.57	12.61	8.04	109.7	94	16.5	10.4	1654	2.18	16.8	0.1	<0.2	0.6	18.2	0.37	0.24	0.22	43	0.24	0.050	
1759021	Soil	0.63	10.36	8.32	158.8	136	13.8	8.0	1037	1.80	4.3	0.3	0.3	1.0	38.8	0.55	0.15	0.14	38	0.22	0.151	
1759022	Soil	0.47	9.12	6.06	72.5	72	10.9	5.6	306	1.63	2.4	0.2	0.5	0.7	10.2	0.15	0.17	0.10	35	0.11	0.034	
1759023	Soil	0.27	23.20	3.36	37.0	23	10.9	7.1	217	1.84	6.1	0.2	0.5	0.6	11.5	0.07	0.23	0.05	39	0.12	0.036	
1759024	Soil	0.38	6.51	5.90	195.7	163	11.3	8.1	2520	1.28	3.5	0.2	<0.2	0.5	15.4	2.34	0.08	0.09	27	0.17	0.096	
1759025	Soil	0.82	14.31	7.34	75.5	29	14.4	7.3	650	1.98	8.4	0.2	<0.2	0.8	10.9	0.10	0.34	0.11	39	0.16	0.062	
1759026	Soil	0.40	11.77	9.28	87.5	146	11.9	5.7	1463	1.65	4.5	0.2	0.8	0.8	16.2	0.23	0.28	0.15	28	0.20	0.227	
1759027	Soil	0.67	33.02	5.36	65.1	139	16.6	8.5	605	2.33	7.7	0.3	1.2	0.9	12.8	0.13	0.69	0.08	46	0.14	0.070	
1759028	Soil	0.40	10.72	4.01	55.5	148	9.4	5.8	857	1.50	3.5	0.2	1.2	0.5	10.1	0.12	0.18	0.06	31	0.10	0.069	
1759029	Soil	0.53	17.62	6.91	110.5	320	38.7	7.9	2639	1.91	4.4	0.2	0.7	0.4	20.3	1.83	0.21	0.10	36	0.31	0.119	

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Project: PL-12  
 Report Date: June 28, 2012

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CERTIFICATE OF ANALYSIS

VAN12002709.1

Method	Analyte	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
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1758183	Soil	7.9	11.4	0.50	377.1	0.093	<20	1.15	0.018	0.24	<0.1	3.9	0.07	<0.02	46	<0.1	0.03	4.4
1759001	Soil	3.4	16.9	0.28	146.0	0.104	<20	2.04	0.008	0.04	<0.1	2.4	0.08	<0.02	37	<0.1	0.03	8.7
1759002	Soil	5.0	16.8	0.30	184.7	0.069	<20	1.97	0.007	0.05	<0.1	2.5	0.11	<0.02	63	<0.1	<0.02	6.5
1759003	Soil	2.9	9.5	0.19	187.4	0.040	<20	1.15	0.009	0.05	<0.1	1.6	0.06	<0.02	63	<0.1	<0.02	3.6
1759004	Soil	7.3	24.2	0.73	222.1	0.025	<20	2.23	0.008	0.08	<0.1	8.5	0.06	<0.02	248	<0.1	0.03	6.4
1759005	Soil	3.2	13.9	0.26	122.1	0.086	<20	1.78	0.008	0.05	<0.1	2.5	0.06	<0.02	34	<0.1	<0.02	6.4
1759006	Soil	8.5	17.9	0.35	147.9	0.076	<20	2.03	0.013	0.05	<0.1	4.2	0.09	0.02	84	0.5	<0.02	5.3
1759007	Soil	5.4	22.2	0.69	268.2	0.133	<20	1.98	0.010	0.05	<0.1	5.4	0.12	0.02	87	0.2	<0.02	9.4
1759008	Soil	6.7	24.9	0.73	187.3	0.028	<20	2.21	0.009	0.05	<0.1	6.2	0.08	0.02	95	0.3	<0.02	6.8
1759009	Soil	2.9	11.5	0.30	147.8	0.077	<20	1.28	0.010	0.04	<0.1	2.6	0.10	<0.02	31	<0.1	<0.02	5.0
1759010	Soil	3.7	16.0	0.31	138.8	0.063	<20	1.52	0.010	0.04	<0.1	3.0	0.08	<0.02	50	<0.1	<0.02	4.7
1759011	Soil	3.3	22.7	0.94	403.8	0.008	<20	2.72	0.006	0.08	<0.1	5.0	0.08	0.02	77	<0.1	0.04	9.2
1759012	Soil	4.5	14.8	0.42	715.8	0.010	<20	1.46	0.006	0.07	<0.1	3.2	0.13	0.02	86	<0.1	<0.02	5.5
1759013	Soil	4.0	14.2	0.32	193.9	0.058	<20	1.54	0.009	0.07	<0.1	2.4	0.09	0.02	65	<0.1	<0.02	6.0
1759014	Soil	6.3	17.8	0.48	138.1	0.096	<20	2.54	0.010	0.05	0.1	6.1	0.07	<0.02	121	0.2	<0.02	5.8
1759015	Soil	4.2	15.1	0.34	146.4	0.052	<20	1.88	0.008	0.05	<0.1	2.9	0.07	<0.02	81	<0.1	<0.02	5.1
1759016	Soil	3.6	12.6	0.25	286.4	0.054	<20	1.45	0.008	0.04	<0.1	1.7	0.09	<0.02	21	<0.1	0.02	5.4
1759017	Soil	3.6	14.4	0.24	228.5	0.064	<20	1.65	0.008	0.03	<0.1	2.1	0.09	<0.02	43	0.1	<0.02	6.7
1759018	Soil	3.4	15.0	0.28	233.0	0.033	<20	1.60	0.008	0.06	<0.1	2.3	0.08	<0.02	89	0.2	<0.02	5.9
1759019	Soil	2.8	12.4	0.26	221.6	0.010	<20	1.35	0.006	0.07	<0.1	4.0	0.08	<0.02	74	0.1	0.02	4.9
1759020	Soil	4.8	13.4	0.37	341.7	0.021	<20	1.63	0.006	0.07	<0.1	2.7	0.10	<0.02	44	<0.1	0.03	5.4
1759021	Soil	4.9	19.4	0.31	273.5	0.062	<20	1.67	0.008	0.04	<0.1	2.3	0.09	<0.02	73	<0.1	<0.02	8.2
1759022	Soil	4.1	12.9	0.21	296.3	0.034	<20	1.11	0.009	0.03	<0.1	1.7	0.06	<0.02	28	<0.1	<0.02	5.4
1759023	Soil	3.5	15.1	0.36	200.3	0.021	<20	1.47	0.008	0.03	<0.1	2.5	0.05	<0.02	59	0.2	<0.02	3.9
1759024	Soil	3.9	10.5	0.14	201.8	0.026	<20	1.18	0.009	0.04	<0.1	1.6	0.11	<0.02	71	0.1	<0.02	4.5
1759025	Soil	3.8	12.8	0.23	289.0	0.043	<20	1.38	0.008	0.04	<0.1	1.8	0.07	<0.02	103	<0.1	<0.02	5.6
1759026	Soil	4.2	10.3	0.21	380.5	0.036	<20	1.49	0.009	0.06	<0.1	1.8	0.09	<0.02	80	0.1	<0.02	5.7
1759027	Soil	5.7	15.9	0.31	242.3	0.024	<20	1.59	0.008	0.06	<0.1	3.1	0.07	<0.02	95	0.2	0.04	4.8
1759028	Soil	3.3	11.2	0.18	167.2	0.022	<20	0.98	0.008	0.04	<0.1	1.6	0.05	<0.02	24	<0.1	<0.02	3.6
1759029	Soil	3.7	14.4	0.27	422.9	0.023	<20	1.32	0.009	0.05	<0.1	2.2	0.10	<0.02	72	0.2	<0.02	4.6

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Project: PL-12  
 Report Date: June 28, 2012

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# CERTIFICATE OF ANALYSIS

# VAN12002709.1

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	ppb	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	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
1759030	Soil	0.40	12.51	6.67	102.8	129	13.1	5.1	450	1.65	3.7	0.2	1.0	0.5	10.3	0.16	0.28	0.10	25	0.11	0.131	
1759031	Soil	0.49	16.49	5.61	69.8	56	12.5	6.8	475	1.92	4.7	0.2	0.3	0.6	12.7	0.13	0.17	0.08	41	0.16	0.123	
1759032	Soil	0.40	14.81	4.41	50.7	92	12.9	7.9	667	1.85	4.5	0.2	0.5	0.7	8.8	0.12	0.33	0.06	41	0.10	0.038	
1759033	Soil	0.59	14.23	6.33	64.6	111	10.8	7.8	1341	2.21	9.6	0.2	1.8	0.5	9.9	0.20	0.22	0.09	41	0.13	0.108	
1759034	Soil	2.20	26.98	11.03	105.8	315	32.1	11.2	1425	3.02	28.9	0.3	0.4	1.2	12.6	1.05	0.41	0.18	39	0.13	0.089	
1759035	Soil	0.55	24.90	9.86	130.6	239	31.9	14.3	1838	2.56	15.5	0.3	4.6	1.2	13.3	1.73	0.62	0.15	35	0.16	0.089	
1759036	Soil	1.76	30.99	9.01	74.2	182	22.2	10.3	434	2.89	13.8	0.3	<0.2	1.0	10.6	0.10	1.22	0.15	34	0.08	0.050	
1759037	Soil	0.64	19.39	9.69	128.6	419	27.9	10.3	516	2.80	4.7	0.2	1.9	0.9	9.5	0.22	0.76	0.22	34	0.08	0.080	
1759038	Soil	1.08	30.81	11.08	116.7	312	31.7	11.3	788	2.87	21.0	0.4	1.3	1.3	8.3	0.58	0.93	0.18	34	0.06	0.068	
1759039	Soil	0.38	19.06	7.19	56.0	57	10.7	6.4	328	2.19	6.6	0.9	1.4	1.1	21.7	0.09	0.59	0.10	29	0.15	0.041	
1759040	Soil	0.46	13.96	6.41	72.1	136	8.0	6.8	261	2.08	3.1	0.1	<0.2	0.5	12.0	0.15	0.21	0.12	32	0.09	0.037	
1759041	Soil	0.44	18.65	5.27	45.3	23	9.6	5.1	178	1.99	5.3	0.3	0.3	1.0	9.8	0.06	0.30	0.07	29	0.08	0.039	
1759042	Soil	0.53	6.56	13.40	55.8	40	9.9	9.8	638	2.16	3.1	0.4	0.7	1.6	24.7	0.03	0.47	0.05	13	0.16	0.077	
1759043	Soil	1.60	47.70	9.99	74.7	102	23.0	12.1	579	3.14	10.6	0.8	1.3	1.6	22.4	0.11	2.16	0.23	26	0.24	0.049	
1759044	Soil	2.20	45.93	13.86	92.4	213	31.9	17.2	900	3.86	16.9	0.8	1.7	1.8	42.6	0.19	2.64	0.21	32	0.30	0.075	
1759045	Soil	0.48	18.39	5.46	55.6	58	10.6	5.3	101	2.38	6.1	0.3	<0.2	0.8	8.1	0.07	0.44	0.08	32	0.05	0.045	
1759046	Soil	0.50	21.46	5.50	62.5	48	13.6	6.1	178	2.36	6.7	0.5	0.5	1.0	11.7	0.07	0.47	0.09	32	0.09	0.030	
1759047	Soil	0.56	24.41	5.09	54.5	40	12.5	6.6	205	2.28	6.6	0.4	0.6	1.1	9.2	0.08	0.40	0.07	30	0.07	0.044	
1759048	Soil	0.52	22.54	6.02	57.8	47	12.3	7.3	327	2.28	4.6	0.2	0.2	0.8	12.4	0.14	0.49	0.06	33	0.15	0.059	
1759049	Soil	0.48	25.48	8.46	77.8	128	24.8	7.1	293	3.37	4.3	0.6	1.4	1.3	15.8	0.31	0.41	0.10	41	0.11	0.068	
1759050	Soil	0.73	18.04	8.53	61.3	112	16.5	7.4	281	2.41	8.3	0.4	0.8	0.8	10.2	0.19	0.54	0.09	27	0.06	0.054	
1759051	Soil	0.38	18.13	5.52	51.3	58	10.0	6.6	146	1.60	5.6	0.5	0.4	1.0	13.7	0.06	0.20	0.06	19	0.06	0.029	
1759052	Soil	0.38	16.08	7.72	58.2	79	9.5	7.3	207	2.16	3.5	0.8	0.4	1.0	19.9	0.11	0.16	0.09	33	0.11	0.047	
1759053	Soil	1.03	14.70	5.68	83.0	81	13.0	5.2	105	2.48	8.9	0.3	<0.2	0.7	16.2	0.11	0.12	0.12	32	0.05	0.070	
1759054	Soil	0.35	5.22	5.43	41.8	60	2.7	2.3	66	1.45	2.8	0.2	<0.2	0.5	7.4	0.09	0.07	0.08	25	0.04	0.053	
1759055	Soil	0.56	12.85	7.57	85.8	75	10.2	6.5	376	2.10	4.0	0.3	<0.2	0.7	13.5	0.17	0.16	0.10	35	0.10	0.104	
1759056	Soil	0.64	47.14	6.43	101.5	80	22.3	9.6	156	3.22	3.6	0.3	<0.2	0.7	16.5	0.08	0.16	0.09	48	0.07	0.125	
1759057	Soil	0.52	62.66	11.74	131.6	57	19.0	8.9	332	4.18	8.0	0.4	0.2	0.7	28.3	0.08	0.53	0.08	56	0.22	0.131	
1759058	Soil	7.36	644.9	22.11	196.2	427	30.1	17.2	1856	7.67	152.3	0.6	20.7	1.2	35.1	0.50	17.43	2.90	76	0.27	0.076	
1759059	Soil	0.18	20.70	5.82	52.6	23	6.1	5.0	177	2.42	5.0	1.5	0.3	2.2	23.5	0.02	0.05	0.04	29	0.27	0.044	

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		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppb	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
1759030	Soil	2.6	7.5	0.11	424.8	0.006	<20	1.23	0.009	0.05	<0.1	1.4	0.06	<0.02	54	0.2	<0.02	4.8
1759031	Soil	3.1	14.2	0.27	188.8	0.044	<20	1.44	0.008	0.04	<0.1	1.9	0.06	<0.02	66	0.1	0.02	5.7
1759032	Soil	3.8	14.3	0.24	111.6	0.029	<20	1.22	0.009	0.04	<0.1	2.0	0.05	<0.02	84	0.1	<0.02	4.4
1759033	Soil	4.4	13.3	0.25	175.0	0.013	<20	1.39	0.007	0.05	<0.1	2.1	0.09	<0.02	76	0.2	<0.02	5.2
1759034	Soil	11.8	14.5	0.13	430.3	0.005	<20	0.97	0.007	0.08	<0.1	3.3	0.12	<0.02	69	0.4	0.05	3.5
1759035	Soil	9.3	14.5	0.13	414.7	0.006	<20	1.07	0.006	0.09	<0.1	3.1	0.11	<0.02	87	0.1	<0.02	3.5
1759036	Soil	7.3	11.3	0.19	279.1	0.003	<20	1.37	0.006	0.05	0.8	2.3	0.11	<0.02	46	<0.1	<0.02	4.0
1759037	Soil	7.4	11.3	0.20	305.1	0.012	<20	1.68	0.008	0.07	<0.1	2.0	0.10	<0.02	63	<0.1	<0.02	5.2
1759038	Soil	7.2	13.9	0.24	178.7	0.005	<20	1.50	0.007	0.05	<0.1	2.7	0.11	<0.02	56	0.2	0.06	4.2
1759039	Soil	6.3	10.9	0.23	249.6	0.014	<20	0.81	0.008	0.05	<0.1	2.9	0.06	<0.02	45	<0.1	<0.02	2.9
1759040	Soil	3.8	9.6	0.15	139.8	0.010	<20	1.00	0.010	0.04	<0.1	1.4	0.09	<0.02	43	<0.1	0.02	4.7
1759041	Soil	5.3	9.6	0.20	140.7	0.010	<20	0.93	0.008	0.05	<0.1	2.1	0.06	<0.02	23	<0.1	0.02	3.1
1759042	Soil	14.9	3.0	0.11	795.3	<0.001	<20	0.66	0.008	0.09	<0.1	2.5	0.06	<0.02	80	<0.1	<0.02	1.5
1759043	Soil	10.4	7.5	0.16	390.7	<0.001	<20	0.78	0.010	0.07	<0.1	4.7	0.08	<0.02	83	0.3	<0.02	1.9
1759044	Soil	12.6	10.2	0.23	432.7	0.002	<20	0.88	0.011	0.10	<0.1	6.4	0.07	<0.02	94	0.2	<0.02	2.2
1759045	Soil	4.0	9.5	0.17	147.1	0.009	<20	0.88	0.006	0.03	<0.1	2.2	0.05	<0.02	28	<0.1	<0.02	3.6
1759046	Soil	5.2	10.6	0.20	194.1	0.007	<20	0.80	0.007	0.04	<0.1	2.8	0.06	<0.02	34	<0.1	0.02	3.0
1759047	Soil	4.0	10.9	0.21	164.4	0.005	<20	1.08	0.007	0.05	<0.1	3.0	0.06	<0.02	45	0.1	0.02	2.8
1759048	Soil	4.0	9.5	0.19	222.9	0.005	<20	0.78	0.007	0.08	<0.1	2.3	0.05	<0.02	86	<0.1	0.02	2.8
1759049	Soil	3.0	12.4	0.13	438.3	0.002	<20	0.92	0.007	0.08	<0.1	6.3	0.05	<0.02	68	<0.1	<0.02	2.4
1759050	Soil	1.6	11.1	0.08	233.2	0.001	<20	0.62	0.007	0.06	1.0	3.4	0.07	<0.02	31	0.1	0.03	1.8
1759051	Soil	5.6	6.9	0.15	192.1	0.003	<20	0.74	0.009	0.06	<0.1	2.1	0.07	<0.02	26	<0.1	<0.02	2.0
1759052	Soil	5.6	11.7	0.19	252.7	0.007	<20	1.39	0.010	0.05	<0.1	2.3	0.10	<0.02	23	<0.1	0.03	4.3
1759053	Soil	3.6	8.5	0.12	189.5	0.004	<20	1.14	0.009	0.05	<0.1	2.1	0.09	<0.02	33	<0.1	<0.02	4.9
1759054	Soil	3.1	5.3	0.06	136.7	0.004	<20	0.84	0.007	0.04	<0.1	0.9	0.07	<0.02	27	<0.1	<0.02	3.7
1759055	Soil	4.5	10.6	0.17	211.2	0.013	<20	1.35	0.009	0.05	<0.1	1.7	0.09	<0.02	32	<0.1	0.02	5.3
1759056	Soil	5.8	26.9	0.17	282.1	0.004	<20	1.65	0.007	0.06	<0.1	3.7	0.10	<0.02	48	<0.1	<0.02	4.4
1759057	Soil	8.7	17.8	0.26	435.5	0.007	<20	1.34	0.006	0.07	<0.1	4.1	0.07	<0.02	23	<0.1	<0.02	5.2
1759058	Soil	14.7	17.3	0.15	426.5	0.002	<20	1.04	0.005	0.09	<0.1	5.8	0.09	<0.02	964	1.1	0.23	3.0
1759059	Soil	26.6	7.8	0.19	326.9	<0.001	<20	0.85	0.006	0.06	<0.1	4.6	0.05	<0.02	13	<0.1	<0.02	2.1



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Project: PL-12  
 Report Date: June 28, 2012

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CERTIFICATE OF ANALYSIS

VAN12002709.1

	Method	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	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	
1759060	Soil	3.93	42.60	23.45	94.4	122	17.1	14.2	679	3.52	52.5	1.3	1.8	2.4	33.0	0.21	0.59	0.13	35	0.31	0.062	
1759061	Soil	2.15	58.62	16.69	99.0	178	16.1	13.3	652	4.47	9.1	1.5	0.4	2.1	38.6	0.14	1.20	0.06	55	0.42	0.065	
1759062	Soil	0.18	16.21	6.33	61.6	40	7.4	5.7	184	2.29	1.5	0.5	<0.2	1.1	18.5	0.04	0.07	<0.02	33	0.22	0.069	
1759063	Soil	0.22	20.41	12.08	63.7	40	9.7	10.8	707	2.61	2.4	0.8	<0.2	2.2	28.8	0.06	0.28	<0.02	37	0.42	0.102	
1759064	Soil	6.91	101.6	33.60	115.3	96	13.5	17.2	1371	3.28	24.5	1.2	0.3	0.9	41.5	0.54	3.95	0.11	31	0.76	0.095	
1759065	Soil	3.67	60.85	11.35	87.7	61	20.0	9.7	330	3.40	124.7	0.7	2.6	1.2	12.6	0.17	1.14	0.13	36	0.12	0.052	
1759066	Soil	0.44	25.09	6.17	88.3	72	9.1	5.6	156	2.11	3.3	0.2	<0.2	0.6	18.1	0.03	0.47	0.11	27	0.10	0.072	
1759067	Soil	0.69	23.39	6.41	70.7	22	11.8	6.7	192	3.36	5.9	0.7	0.3	1.6	19.2	0.02	1.15	0.04	48	0.13	0.058	
1759068	Soil	0.77	14.72	8.09	125.5	224	18.2	10.7	1077	2.04	4.9	0.3	0.3	1.2	12.7	0.20	0.17	0.10	31	0.11	0.120	
1759069	Soil	0.35	13.30	4.18	45.4	102	7.5	4.6	126	2.02	3.2	0.4	<0.2	0.7	11.5	0.09	0.16	0.06	39	0.10	0.040	
1759070	Soil	1.39	57.87	7.72	86.0	80	20.4	10.1	362	3.51	7.6	0.3	0.5	1.0	18.0	0.10	1.39	0.24	49	0.14	0.071	



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# CERTIFICATE OF ANALYSIS

VAN12002709.1

Method	Analyte	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
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1759060	Soil	25.0	12.8	0.28	527.8	0.004	<20	1.19	0.006	0.09	<0.1	6.9	0.07	<0.02	40	0.2	0.04	3.4
1759061	Soil	30.9	14.7	0.41	1080	0.002	<20	1.52	0.006	0.09	<0.1	8.0	0.08	<0.02	97	<0.1	<0.02	5.1
1759062	Soil	9.3	9.3	0.22	711.5	0.001	<20	0.89	0.006	0.08	<0.1	2.6	0.07	<0.02	15	<0.1	<0.02	3.1
1759063	Soil	16.7	9.5	0.36	725.8	0.002	<20	0.85	0.005	0.10	<0.1	5.1	0.05	<0.02	28	<0.1	<0.02	3.4
1759064	Soil	11.4	9.2	0.19	808.4	<0.001	<20	0.97	0.008	0.10	<0.1	4.9	0.07	<0.02	61	0.1	<0.02	3.1
1759065	Soil	9.4	10.5	0.25	319.7	0.003	<20	0.95	0.006	0.05	<0.1	4.8	0.05	<0.02	47	0.3	0.09	3.0
1759066	Soil	6.6	9.4	0.14	656.6	<0.001	<20	0.98	0.006	0.06	<0.1	2.0	0.08	<0.02	84	<0.1	<0.02	3.2
1759067	Soil	8.8	10.9	0.23	204.2	0.001	<20	0.74	0.005	0.07	<0.1	4.1	0.03	<0.02	29	<0.1	<0.02	2.5
1759068	Soil	9.1	12.3	0.22	478.1	0.006	<20	1.66	0.008	0.07	<0.1	1.9	0.14	<0.02	67	<0.1	<0.02	5.6
1759069	Soil	5.2	10.1	0.24	162.3	0.013	<20	1.12	0.008	0.04	0.1	1.8	0.05	<0.02	41	<0.1	0.03	4.9
1759070	Soil	11.4	16.1	0.23	432.9	0.003	<20	0.89	0.006	0.09	<0.1	3.5	0.05	<0.02	331	<0.1	<0.02	3.1



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# QUALITY CONTROL REPORT

VAN12002709.1

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																					
1758025	Soil	0.58	76.74	5.42	142.9	78	13.2	7.1	386	2.12	18.4	0.3	0.6	1.0	12.0	0.13	2.42	0.19	43	0.12	0.078
REP 1758025	QC	0.59	80.61	5.77	149.2	80	13.8	7.3	411	2.18	19.0	0.3	0.2	0.9	13.1	0.14	2.58	0.22	43	0.14	0.085
1758061	Soil	5.04	220.4	4.65	93.3	150	13.4	8.3	259	3.05	36.0	0.3	<0.2	1.3	15.4	0.06	1.76	0.61	41	0.08	0.203
REP 1758061	QC	4.98	220.8	4.64	95.2	139	13.1	8.1	246	2.99	35.5	0.3	1.5	1.4	14.8	0.06	1.60	0.61	40	0.09	0.192
1758097	Soil	0.20	12.58	3.20	83.9	65	7.8	5.3	365	1.56	2.8	0.2	<0.2	0.7	30.7	0.08	0.21	0.09	34	0.15	0.230
REP 1758097	QC	0.18	11.91	3.08	79.6	65	7.1	4.9	349	1.50	2.6	0.2	<0.2	0.6	28.9	0.06	0.20	0.08	32	0.15	0.228
1758133	Soil	0.61	25.25	6.28	83.8	100	24.9	9.5	776	2.37	11.7	0.3	0.3	0.9	24.4	0.16	0.43	0.08	42	0.21	0.215
REP 1758133	QC	0.62	25.41	6.29	87.1	105	24.9	9.8	785	2.41	12.1	0.4	<0.2	1.0	24.2	0.21	0.46	0.09	43	0.21	0.217
1758146	Soil	0.20	56.50	2.97	27.4	373	9.7	5.4	1226	1.50	2.8	0.3	2.4	0.1	302.2	0.48	0.99	0.05	30	12.50	0.150
REP 1758146	QC	0.20	56.58	3.00	28.5	383	9.6	5.6	1217	1.48	3.1	0.3	1.9	0.1	291.3	0.45	0.98	0.05	30	12.48	0.156
1758183	Soil	0.57	27.31	3.38	44.2	119	10.5	7.3	1440	2.21	4.4	0.7	1.9	1.2	38.5	0.11	0.15	0.05	44	0.55	0.073
REP 1758183	QC	0.64	28.88	3.53	47.3	139	11.3	7.5	1575	2.28	4.6	0.7	3.2	1.2	40.6	0.10	0.17	0.04	45	0.57	0.073
1759060	Soil	3.93	42.60	23.45	94.4	122	17.1	14.2	679	3.52	52.5	1.3	1.8	2.4	33.0	0.21	0.59	0.13	35	0.31	0.062
REP 1759060	QC	3.96	42.80	23.40	99.4	122	17.8	14.0	688	3.55	53.6	1.2	1.3	2.4	32.4	0.23	0.64	0.12	35	0.30	0.059
Reference Materials																					
STD DS9	Standard	14.49	117.8	132.7	327.2	1787	45.7	8.5	618	2.50	25.0	3.0	111.0	6.1	72.8	2.52	4.61	6.15	42	0.76	0.086
STD DS9	Standard	12.80	116.8	125.8	305.7	1772	42.4	7.8	584	2.33	25.7	2.8	208.4	6.2	68.9	2.47	4.70	6.52	39	0.70	0.085
STD DS9	Standard	12.76	117.0	128.3	320.9	1973	43.5	8.1	600	2.42	27.6	3.0	122.7	6.1	68.5	2.53	4.78	6.26	39	0.73	0.096
STD DS9	Standard	11.99	116.2	132.0	328.4	1932	42.4	8.1	605	2.42	26.3	2.8	127.7	5.9	68.2	2.43	4.85	6.35	40	0.72	0.088
STD DS9	Standard	14.57	121.6	133.9	329.6	1896	45.8	7.9	619	2.49	27.7	2.8	125.4	6.3	71.2	2.39	4.47	6.13	42	0.75	0.088
STD DS9	Standard	13.25	110.3	130.6	329.9	1935	40.3	7.3	609	2.43	27.8	3.0	138.3	6.7	77.3	2.60	4.73	6.93	41	0.74	0.094
STD DS9	Standard	13.25	116.5	132.1	336.7	1959	42.7	8.0	650	2.51	29.5	2.8	201.4	6.5	79.9	2.58	4.70	7.09	43	0.78	0.096
STD DS9	Standard	13.24	112.4	118.4	324.4	1820	39.7	7.6	597	2.32	27.5	2.9	103.9	6.9	70.9	2.74	4.80	7.24	40	0.72	0.088
STD OREAS45CA	Standard	1.08	534.0	21.46	59.6	264	263.7	101.3	991	17.12	4.0	1.3	46.4	7.9	15.5	0.10	0.09	0.15	224	0.46	0.039
STD OREAS45CA	Standard	1.07	503.0	20.80	63.9	252	238.8	95.3	998	16.20	4.4	1.3	43.8	7.6	15.5	0.10	0.14	0.20	212	0.44	0.041
STD OREAS45CA	Standard	0.88	520.4	19.67	56.8	249	235.3	95.4	948	15.47	3.5	1.2	45.3	7.1	15.1	0.11	0.10	0.17	197	0.43	0.042
STD OREAS45CA	Standard	0.99	511.2	20.40	58.5	285	253.1	99.2	968	16.38	3.7	1.2	45.8	7.3	15.2	0.09	0.10	0.16	219	0.47	0.040
STD OREAS45CA	Standard	1.18	530.1	21.51	60.2	283	259.6	101.4	981	17.36	3.9	1.4	46.0	8.0	15.5	0.11	0.12	0.18	225	0.48	0.040



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# QUALITY CONTROL REPORT

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Method	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	
Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	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	
Pulp Duplicates																		
1758025	Soil	3.4	13.5	0.31	203.2	0.066	<20	1.86	0.006	0.07	<0.1	2.1	0.08	<0.02	65	<0.1	0.03	6.3
REP 1758025	QC	3.5	13.4	0.33	217.6	0.070	<20	1.96	0.005	0.07	<0.1	2.3	0.08	<0.02	76	<0.1	0.02	6.9
1758061	Soil	4.7	14.0	0.33	301.0	0.033	<20	1.45	0.007	0.07	0.3	2.3	0.11	0.02	27	0.1	0.21	6.5
REP 1758061	QC	4.7	13.7	0.33	287.9	0.034	<20	1.44	0.007	0.06	0.3	2.4	0.10	0.02	15	0.2	0.19	6.3
1758097	Soil	3.6	10.7	0.24	234.8	0.066	<20	1.14	0.009	0.05	<0.1	2.0	0.03	<0.02	24	<0.1	<0.02	5.1
REP 1758097	QC	3.2	10.5	0.23	220.9	0.061	<20	1.12	0.008	0.05	<0.1	2.0	0.03	<0.02	30	<0.1	<0.02	4.6
1758133	Soil	5.2	16.0	0.34	208.4	0.040	<20	1.67	0.006	0.09	<0.1	3.1	0.07	<0.02	37	<0.1	0.05	5.4
REP 1758133	QC	5.3	15.5	0.34	215.9	0.041	<20	1.68	0.006	0.08	<0.1	3.1	0.07	<0.02	34	0.2	0.02	5.2
1758146	Soil	7.4	13.3	0.48	607.3	0.030	<20	0.93	0.012	0.12	<0.1	1.6	0.16	0.07	220	1.5	0.10	4.3
REP 1758146	QC	7.6	13.1	0.46	605.7	0.031	<20	0.93	0.013	0.12	<0.1	1.8	0.16	0.07	227	1.6	0.07	4.3
1758183	Soil	7.9	11.4	0.50	377.1	0.093	<20	1.15	0.018	0.24	<0.1	3.9	0.07	<0.02	46	<0.1	0.03	4.4
REP 1758183	QC	8.1	11.6	0.52	388.4	0.094	<20	1.21	0.018	0.25	<0.1	4.2	0.07	<0.02	99	<0.1	0.04	4.4
1759060	Soil	25.0	12.8	0.28	527.8	0.004	<20	1.19	0.006	0.09	<0.1	6.9	0.07	<0.02	40	0.2	0.04	3.4
REP 1759060	QC	25.0	13.4	0.27	526.6	0.004	<20	1.17	0.007	0.09	<0.1	7.2	0.07	<0.02	37	0.2	<0.02	3.5
Reference Materials																		
STD DS9	Standard	13.9	123.7	0.66	336.6	0.119	<20	1.01	0.086	0.42	3.0	2.2	6.05	0.18	239	5.5	5.29	4.8
STD DS9	Standard	12.9	114.8	0.61	326.7	0.113	<20	0.94	0.079	0.40	2.9	2.3	5.77	0.17	216	5.6	4.84	4.5
STD DS9	Standard	12.8	117.1	0.63	338.2	0.117	<20	0.96	0.085	0.41	3.2	2.4	5.96	0.17	210	5.7	5.22	4.8
STD DS9	Standard	11.8	123.9	0.64	335.6	0.110	<20	0.95	0.081	0.41	3.1	2.3	5.90	0.18	214	5.4	5.06	4.7
STD DS9	Standard	13.3	124.1	0.66	340.7	0.119	<20	1.00	0.085	0.42	3.4	2.5	6.11	0.18	240	6.0	5.38	4.8
STD DS9	Standard	13.0	120.4	0.64	348.7	0.111	<20	0.97	0.083	0.41	3.1	2.4	6.31	0.17	226	5.8	5.67	4.9
STD DS9	Standard	13.5	126.4	0.67	361.3	0.120	<20	1.01	0.087	0.43	3.2	2.7	6.26	0.18	220	6.0	5.38	5.0
STD DS9	Standard	13.5	111.8	0.64	320.3	0.108	<20	0.95	0.080	0.40	2.7	2.4	5.54	0.17	195	5.6	5.36	4.8
STD OREAS45CA	Standard	17.8	804.4	0.16	173.8	0.159	<20	3.80	0.011	0.08	<0.1	43.8	0.13	0.03	26	0.2	0.05	19.9
STD OREAS45CA	Standard	17.6	683.5	0.15	168.8	0.140	<20	3.40	0.006	0.07	<0.1	44.0	0.11	0.03	29	0.2	0.11	18.4
STD OREAS45CA	Standard	16.7	677.2	0.16	170.1	0.138	<20	3.61	0.013	0.08	<0.1	43.8	0.12	0.03	27	0.4	0.08	18.9
STD OREAS45CA	Standard	17.1	754.4	0.15	171.6	0.140	<20	3.55	0.011	0.07	<0.1	47.0	0.12	0.03	33	0.3	0.06	19.0
STD OREAS45CA	Standard	17.9	804.8	0.16	182.0	0.147	<20	3.76	0.011	0.08	<0.1	48.3	0.13	0.03	30	0.6	0.08	20.0





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 2000 - 1177 West Hastings Street  
 Vancouver BC V6E 2K3 Canada

Project: PL-12  
 Report Date: June 28, 2012

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Part: 1 of 2

QUALITY CONTROL REPORT

VAN12002709.1

		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	%	%
STD OREAS45CA	Standard	0.86	537.1	21.64	63.1	297	262.3	96.5	973	16.85	3.7	1.2	47.6	7.0	16.8	0.11	0.09	0.19	226	0.46	0.046
STD OREAS45CA	Standard	0.81	511.9	19.35	62.9	281	246.3	92.8	947	15.79	3.6	1.1	41.8	6.7	15.7	0.09	0.09	0.17	217	0.44	0.042
STD OREAS45CA	Standard	1.03	540.0	22.00	63.5	279	268.2	89.4	951	16.53	4.2	1.4	41.7	7.9	17.7	0.13	0.18	0.20	231	0.47	0.040
STD OREAS45CA Expected		1	494	20	60	275	240	92	943	15.69	3.8	1.2	43	7	15	0.1	0.13	0.19	215	0.4265	0.0385
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
BLK	Blank	<0.01	0.08	<0.01	<0.1	<2	<0.1	<0.1	2	<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	<0.01	<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	0.02	<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	2	<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	<0.01	<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	<0.1	<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: PL-12  
 Report Date: June 28, 2012

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QUALITY CONTROL REPORT

VAN12002709.1

		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
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	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
STD OREAS45CA	Standard	17.0	737.6	0.17	180.0	0.151	<20	3.78	0.010	0.08	<0.1	42.8	0.13	0.03	23	0.2	0.05	21.3
STD OREAS45CA	Standard	16.2	689.5	0.15	168.9	0.133	<20	3.45	0.009	0.07	<0.1	46.3	0.11	0.03	30	0.2	0.06	19.8
STD OREAS45CA	Standard	19.1	675.5	0.15	175.2	0.138	<20	3.78	0.009	0.09	<0.1	47.6	0.08	0.02	34	0.6	0.08	21.0
STD OREAS45CA Expected		15.9	709	0.1358	164	0.128		3.592	0.0075	0.0717		39.7	0.07	0.021	30	0.5	0.06	18.4
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
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
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
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
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
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
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
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
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



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Submitted By: Andrew Bowering
Receiving Lab: Canada-Vancouver
Received: June 14, 2012
Report Date: June 28, 2012
Page: 1 of 9

CERTIFICATE OF ANALYSIS

VAN12002710.1

CLIENT JOB INFORMATION

Project: PL-12
Shipment ID:
P.O. Number
Number of Samples: 240

SAMPLE DISPOSAL

RTRN-PLP Return
RTRN-RJT Return

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: Sunrise Drilling Ltd.
2000 - 1177 West Hastings Street
Vancouver BC V6E 2K3
Canada

CC: Krzvsztof
Brett Matich
Adrian Smith

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Table with 6 columns: Method Code, Number of Samples, Code Description, Test Wgt (g), Report Status, Lab. Rows include methods like Dry at 60C, SS80, RJSV, and 1F01.

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: PL-12  
 Report Date: June 28, 2012

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Part: 1 of 2

CERTIFICATE OF ANALYSIS

VAN12002710.1

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	%
MDL		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
1759071	Soil	0.94	16.17	17.31	94.1	31	13.5	8.6	1717	2.77	11.5	0.4	3.2	1.1	17.8	0.26	0.65	0.23	30	0.24	0.075	
1759072	Soil	0.34	12.17	5.68	50.9	73	7.1	5.7	121	1.69	4.3	0.3	1.6	0.9	7.9	0.12	0.47	0.09	26	0.06	0.063	
1759073	Soil	0.43	22.84	6.87	52.8	71	9.9	5.8	176	2.20	6.2	0.4	1.0	1.1	10.7	0.15	0.63	0.08	32	0.09	0.090	
1759074	Soil	0.55	31.46	7.67	76.6	250	15.3	6.9	303	2.64	12.1	0.5	1.4	1.3	14.2	0.37	0.57	0.10	35	0.10	0.096	
1759075	Soil	0.47	14.16	5.28	48.4	131	8.8	6.6	140	1.88	3.4	0.4	1.6	1.1	12.2	0.15	0.29	0.05	30	0.07	0.041	
1759076	Soil	1.39	80.75	14.37	240.6	348	42.8	11.3	489	3.65	14.2	1.2	2.3	3.1	22.3	0.59	0.21	0.31	47	0.07	0.109	
1759077	Soil	0.74	29.61	9.98	133.2	1207	23.0	10.6	553	3.21	4.6	0.9	0.6	2.0	31.0	0.49	0.20	0.15	39	0.16	0.121	
1759078	Soil	0.79	14.90	5.73	72.0	137	10.0	6.5	529	1.59	3.2	0.4	1.3	1.5	14.9	0.37	0.16	0.12	26	0.06	0.046	
1759079	Soil	0.76	20.20	10.59	77.9	262	10.8	7.8	278	2.20	7.0	0.4	7.0	1.3	15.4	0.20	0.45	0.22	31	0.09	0.078	
1759080	Soil	1.64	33.05	14.41	99.8	332	19.6	11.1	296	3.35	96.7	0.3	3.3	1.0	13.4	0.18	0.37	1.47	41	0.08	0.096	
1759081	Soil	0.30	23.39	7.15	49.7	68	8.6	7.0	427	1.72	3.3	0.4	0.8	0.9	30.3	0.08	0.27	0.09	28	0.25	0.068	
1759082	Soil	0.40	24.71	7.74	79.3	99	12.5	8.8	246	2.14	3.7	0.3	0.6	1.0	19.0	0.07	0.37	0.07	34	0.14	0.201	
1759083	Soil	0.47	17.67	5.09	57.6	143	8.6	5.6	153	1.53	2.3	0.3	0.8	0.9	13.2	0.07	0.32	0.05	24	0.07	0.042	
1759084	Soil	0.41	12.90	4.49	49.2	150	9.7	5.2	165	1.74	3.0	0.3	0.5	0.9	11.0	0.08	0.27	0.03	27	0.09	0.038	
1759085	Soil	0.57	32.83	10.40	57.4	509	16.2	9.3	848	2.19	6.3	3.3	0.2	1.7	76.1	0.35	0.44	0.19	30	0.44	0.030	
1759086	Soil	0.32	13.87	4.96	64.8	138	6.9	5.1	356	1.55	2.1	0.4	1.4	0.9	19.9	0.20	0.23	0.05	24	0.13	0.069	
1759087	Soil	0.51	22.92	7.21	54.9	96	22.0	9.5	478	2.86	5.4	1.5	2.7	2.3	42.0	0.33	0.38	0.09	39	0.16	0.027	
1759088	Soil	0.12	6.40	7.43	44.7	53	12.6	8.1	191	2.67	3.2	0.5	1.3	1.7	31.3	0.07	0.37	0.06	32	0.24	0.044	
1759089	Soil	0.26	14.16	7.34	56.7	20	16.7	12.8	1030	3.02	5.2	0.7	3.4	2.0	33.8	0.21	0.36	0.04	41	0.45	0.074	
1759090	Soil	0.27	25.19	6.08	86.3	109	6.1	4.9	279	1.66	1.7	0.4	0.6	0.8	18.1	0.07	0.10	0.08	29	0.16	0.076	
1759091	Soil	0.27	17.09	5.76	31.8	56	6.8	4.8	127	1.59	3.0	0.4	0.8	1.1	9.7	0.03	0.42	0.02	27	0.08	0.028	
1759092	Soil	0.40	18.42	5.99	53.4	141	11.4	6.1	232	1.96	4.2	0.3	1.1	1.0	10.5	0.06	0.45	0.03	30	0.09	0.065	
1759093	Soil	0.46	18.45	7.06	55.2	65	9.5	6.3	207	1.82	3.4	0.6	0.6	1.5	12.1	0.07	0.33	0.05	32	0.08	0.049	
1759094	Soil	0.64	22.68	8.16	59.9	92	14.8	7.7	377	2.42	6.7	0.7	1.3	1.3	12.8	0.11	0.61	0.06	35	0.15	0.057	
1759095	Soil	0.61	19.64	6.27	78.9	72	18.5	8.6	246	2.51	5.8	0.3	0.7	1.3	10.7	0.10	0.43	0.07	36	0.08	0.061	
1759096	Soil	1.23	26.27	8.53	66.8	189	16.0	7.5	308	2.19	18.7	0.4	1.3	1.1	10.0	0.18	1.04	0.13	30	0.09	0.077	
1759097	Soil	1.16	25.82	11.60	134.9	216	19.2	9.6	1003	2.43	13.3	0.5	1.3	2.5	13.1	0.53	0.31	0.20	27	0.08	0.103	
1759098	Soil	0.39	16.79	5.70	40.2	99	11.6	5.4	176	1.67	3.9	0.4	0.3	1.1	8.0	0.07	0.46	0.03	28	0.06	0.048	
1759099	Soil	0.34	11.85	6.91	79.6	224	16.6	6.1	600	1.61	2.8	0.3	0.7	1.1	11.7	0.11	0.25	0.06	27	0.10	0.098	
1759100	Soil	0.54	15.42	7.47	65.4	119	11.8	5.8	432	2.06	4.7	0.5	0.9	1.8	8.9	0.08	0.33	0.08	33	0.09	0.182	

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: PL-12  
 Report Date: June 28, 2012

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CERTIFICATE OF ANALYSIS

VAN12002710.1

Method	Analyte	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
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1759071	Soil	7.6	10.9	0.23	593.8	0.005	<20	1.37	0.004	0.07	<0.1	2.2	0.12	<0.02	60	0.1	<0.02	5.1
1759072	Soil	3.8	7.4	0.16	145.9	0.010	<20	1.33	0.011	0.04	<0.1	2.0	0.03	<0.02	50	0.3	<0.02	3.2
1759073	Soil	4.8	9.8	0.22	136.7	0.010	<20	1.41	0.010	0.04	<0.1	2.9	0.03	<0.02	48	0.2	0.03	3.0
1759074	Soil	6.0	12.5	0.27	182.8	0.006	<20	1.62	0.007	0.06	<0.1	4.2	0.04	<0.02	42	0.2	0.03	3.1
1759075	Soil	4.3	9.6	0.21	161.2	0.011	<20	1.64	0.009	0.04	<0.1	2.6	0.03	<0.02	52	0.2	<0.02	3.7
1759076	Soil	17.7	27.1	0.27	454.2	0.011	<20	3.96	0.004	0.06	<0.1	8.2	0.13	<0.02	52	0.5	<0.02	8.2
1759077	Soil	16.0	17.8	0.28	425.7	0.008	<20	2.27	0.004	0.08	<0.1	4.1	0.08	<0.02	89	0.2	0.02	5.3
1759078	Soil	12.7	11.5	0.15	202.2	0.004	<20	1.42	0.004	0.04	<0.1	2.1	0.07	<0.02	35	<0.1	<0.02	4.1
1759079	Soil	6.9	10.3	0.24	210.6	0.006	<20	1.47	0.008	0.05	<0.1	2.7	0.06	<0.02	43	0.2	<0.02	4.3
1759080	Soil	8.2	14.9	0.28	216.4	0.002	<20	2.08	0.004	0.05	<0.1	3.8	0.07	<0.02	40	0.1	<0.02	5.1
1759081	Soil	7.3	9.2	0.23	272.5	0.007	<20	0.95	0.008	0.06	<0.1	3.2	0.03	<0.02	40	<0.1	<0.02	3.2
1759082	Soil	4.4	10.0	0.28	235.6	0.008	<20	1.87	0.004	0.06	<0.1	2.7	0.04	<0.02	44	<0.1	<0.02	4.9
1759083	Soil	5.4	9.5	0.20	193.7	0.007	<20	1.52	0.008	0.05	<0.1	2.1	0.06	<0.02	32	<0.1	<0.02	4.0
1759084	Soil	4.2	7.9	0.22	192.3	0.009	<20	1.22	0.008	0.04	<0.1	2.0	0.03	<0.02	33	<0.1	<0.02	3.3
1759085	Soil	11.5	12.4	0.26	703.8	0.011	<20	1.18	0.008	0.08	<0.1	5.1	0.03	<0.02	72	0.3	0.03	3.4
1759086	Soil	5.5	7.6	0.26	213.7	0.014	<20	1.27	0.011	0.07	<0.1	2.5	0.06	<0.02	32	<0.1	<0.02	3.9
1759087	Soil	8.5	15.9	0.35	266.8	0.009	<20	0.94	0.003	0.04	<0.1	4.5	0.03	<0.02	19	<0.1	<0.02	2.2
1759088	Soil	5.2	12.3	0.18	313.9	0.010	<20	0.65	0.004	0.07	<0.1	4.3	0.02	<0.02	10	<0.1	<0.02	1.2
1759089	Soil	13.4	14.3	0.53	434.5	0.011	<20	1.23	0.009	0.06	<0.1	7.9	0.03	<0.02	17	<0.1	<0.02	3.2
1759090	Soil	4.7	7.0	0.21	535.0	0.005	<20	1.60	0.006	0.06	<0.1	2.2	0.08	<0.02	25	<0.1	<0.02	5.8
1759091	Soil	5.2	7.7	0.21	234.2	0.016	<20	1.15	0.014	0.05	<0.1	2.4	0.03	<0.02	32	<0.1	<0.02	2.9
1759092	Soil	4.4	9.2	0.25	199.2	0.010	<20	1.36	0.006	0.05	<0.1	2.4	0.03	<0.02	32	<0.1	<0.02	3.8
1759093	Soil	6.1	10.4	0.28	247.1	0.015	<20	1.67	0.008	0.07	<0.1	2.9	0.06	<0.02	26	0.2	<0.02	5.0
1759094	Soil	6.6	12.8	0.30	384.2	0.011	<20	1.51	0.007	0.07	<0.1	3.5	0.05	<0.02	59	<0.1	<0.02	4.1
1759095	Soil	8.0	12.1	0.31	229.2	0.007	<20	1.42	0.004	0.06	<0.1	2.6	0.04	<0.02	31	<0.1	<0.02	4.1
1759096	Soil	7.9	10.8	0.20	428.9	0.005	<20	1.24	0.005	0.07	<0.1	2.7	0.07	<0.02	69	0.2	0.03	3.4
1759097	Soil	16.6	10.6	0.15	382.8	0.005	<20	1.37	0.004	0.09	<0.1	3.6	0.10	<0.02	29	0.1	<0.02	4.0
1759098	Soil	4.2	9.1	0.23	187.9	0.017	<20	1.29	0.009	0.04	<0.1	2.2	0.03	<0.02	39	<0.1	<0.02	3.2
1759099	Soil	5.2	9.1	0.20	271.4	0.025	<20	1.52	0.008	0.06	<0.1	2.2	0.06	<0.02	41	0.1	<0.02	4.7
1759100	Soil	5.0	12.2	0.24	153.8	0.039	<20	2.58	0.005	0.05	<0.1	2.9	0.06	<0.02	99	0.4	<0.02	5.5

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Project: PL-12  
 Report Date: June 28, 2012

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CERTIFICATE OF ANALYSIS

VAN12002710.1

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	ppb	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	0.2	0.1	0.5	0.01	0.02	0.02	0.02	2	0.01	0.001
1759101	Soil	0.68	22.96	9.76	86.7	248	21.8	8.0	294	2.48	4.5	0.6	1.4	1.8	15.7	0.10	0.37	0.11	38	0.12	0.115
1759102	Soil	0.82	25.77	6.13	60.1	54	13.4	6.7	179	2.26	9.0	0.4	0.7	1.0	13.4	0.07	0.83	0.08	32	0.09	0.037
1759103	Soil	0.59	19.66	7.92	92.0	230	19.0	7.8	552	1.97	4.4	0.3	<0.2	1.2	12.1	0.26	0.16	0.10	31	0.08	0.082
1759104	Soil	0.86	55.79	11.55	119.6	183	27.0	11.0	299	3.46	12.9	0.4	1.2	1.3	12.0	0.33	0.38	0.19	35	0.07	0.065
1759105	Soil	0.63	24.40	7.42	61.7	243	17.5	6.2	288	2.06	8.4	0.4	0.5	1.5	14.8	0.35	0.27	0.09	32	0.10	0.054
1759106	Soil	0.97	31.61	8.49	73.1	102	18.8	7.6	202	2.50	14.4	0.3	<0.2	1.6	12.3	0.33	0.48	0.12	30	0.05	0.061
1759107	Soil	1.03	37.03	10.42	122.2	106	22.4	10.1	348	2.83	13.3	0.4	2.1	1.7	11.1	0.49	0.21	0.22	29	0.04	0.141
1759108	Soil	0.38	16.55	4.92	79.7	162	17.5	8.8	337	2.20	4.9	0.4	1.6	0.7	8.5	0.18	0.35	0.10	41	0.10	0.057
1759109	Soil	0.49	28.20	7.98	69.7	319	11.4	8.3	1049	2.74	5.8	0.3	1.4	0.6	9.6	0.34	3.24	0.13	48	0.10	0.080
1759110	Soil	0.26	8.42	6.00	86.5	102	14.1	7.4	415	2.89	3.8	0.2	5.5	0.8	9.5	0.23	0.20	0.09	41	0.14	0.079
1759111	Soil	0.22	4.41	5.05	46.1	59	8.7	3.2	225	2.28	3.7	0.2	1.6	0.6	2.8	0.05	0.72	0.07	43	0.02	0.045
1759112	Soil	0.57	13.41	6.72	86.5	464	16.1	6.4	455	2.55	7.7	0.2	0.5	0.7	5.8	0.45	0.58	0.14	41	0.05	0.050
1759113	Soil	0.87	21.56	8.82	159.3	1071	30.1	10.8	970	3.01	7.8	0.6	0.9	2.1	5.3	0.83	0.77	0.18	44	0.05	0.112
1759114	Soil	0.54	23.17	7.27	97.1	122	20.1	9.8	725	2.78	7.6	0.4	0.5	0.8	10.1	0.29	0.51	0.15	42	0.15	0.044
1759115	Soil	0.61	15.95	8.53	134.4	213	13.2	10.3	2937	2.15	7.7	0.2	2.5	0.6	12.1	0.74	0.67	0.14	33	0.15	0.145
1759116	Soil	0.68	25.76	10.23	88.9	237	21.2	8.7	696	2.57	8.7	0.3	3.8	1.1	7.7	0.33	0.91	0.14	37	0.09	0.059
1759117	Soil	0.56	27.44	6.70	296.0	381	24.1	9.6	286	2.58	9.9	0.3	2.1	1.0	6.7	0.73	0.78	0.11	39	0.06	0.087
1759118	Soil	0.63	28.66	8.86	137.0	325	19.8	8.2	544	2.82	8.3	0.3	1.3	1.0	4.8	0.47	0.62	0.22	41	0.06	0.109
1759119	Soil	0.73	17.33	8.62	85.9	577	13.1	7.3	419	2.52	9.4	0.2	1.4	0.8	5.6	0.31	0.83	0.16	41	0.05	0.063
1759120	Soil	0.95	24.58	8.63	81.0	582	13.7	7.1	240	3.05	7.8	0.3	0.4	1.0	7.5	0.18	0.48	0.20	55	0.07	0.093
1759121	Soil	0.28	14.91	5.97	73.7	127	14.1	7.9	251	2.22	5.8	0.2	0.4	0.4	11.6	0.19	0.43	0.10	38	0.16	0.039
1759122	Soil	0.28	12.77	5.31	56.6	94	9.4	7.4	174	1.88	4.1	0.2	0.3	0.6	9.3	0.17	0.33	0.10	35	0.11	0.038
1759123	Soil	0.50	21.23	4.42	27.7	159	9.9	7.1	557	1.60	11.1	1.3	<0.2	0.2	54.1	0.36	0.42	0.08	29	0.71	0.053
1759124	Soil	0.52	20.19	6.81	88.0	234	19.2	9.0	523	2.32	4.8	0.8	0.7	0.6	30.3	0.28	0.37	0.13	41	0.42	0.044
1759125	Soil	0.53	12.44	4.34	52.8	130	11.1	6.2	274	1.70	4.9	0.2	<0.2	0.5	10.4	0.07	0.26	0.08	39	0.12	0.055
1759126	Soil	0.61	20.55	4.35	55.0	58	13.5	6.8	303	1.97	6.2	0.4	<0.2	1.2	6.8	0.06	0.30	0.10	41	0.07	0.095
1759127	Soil	0.46	27.35	8.43	79.9	132	15.7	9.2	668	3.01	7.8	0.2	0.5	0.7	14.4	0.27	0.63	0.12	39	0.15	0.070
1759128	Soil	0.55	36.56	7.78	73.9	234	18.0	15.7	1034	3.06	11.9	0.6	3.4	1.5	33.2	0.40	1.01	0.13	44	0.37	0.031
1759129	Soil	0.37	8.10	4.79	49.1	155	7.3	4.9	109	1.34	3.5	0.2	<0.2	0.9	7.1	0.04	0.14	0.07	25	0.04	0.023
1759130	Soil	0.39	12.13	4.33	64.4	83	8.8	5.3	477	1.74	4.0	0.2	<0.2	0.8	7.3	0.05	0.20	0.06	31	0.04	0.081

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Project: PL-12  
 Report Date: June 28, 2012

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# CERTIFICATE OF ANALYSIS

VAN12002710.1

Method	Analyte	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
Unit	MDL	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppb	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
1759101	Soil	6.7	13.7	0.29	394.5	0.034	<20	3.41	0.004	0.09	<0.1	3.5	0.09	<0.02	78	0.2	0.03	8.0
1759102	Soil	8.3	10.0	0.24	222.1	0.007	<20	1.05	0.007	0.05	<0.1	3.1	0.05	<0.02	37	0.2	<0.02	3.6
1759103	Soil	4.8	11.3	0.25	255.0	0.007	<20	1.54	0.005	0.08	<0.1	2.6	0.09	<0.02	27	0.2	<0.02	4.5
1759104	Soil	4.7	12.0	0.23	304.2	0.002	<20	1.54	0.004	0.09	<0.1	5.6	0.10	<0.02	37	0.1	<0.02	4.3
1759105	Soil	5.7	11.4	0.26	243.3	0.008	<20	1.54	0.004	0.07	<0.1	2.9	0.09	<0.02	34	<0.1	<0.02	4.1
1759106	Soil	6.1	14.0	0.23	204.8	0.005	<20	1.19	0.004	0.07	<0.1	3.6	0.07	<0.02	14	<0.1	0.04	3.4
1759107	Soil	4.7	13.3	0.16	337.4	0.003	<20	1.34	0.003	0.08	<0.1	4.9	0.11	<0.02	38	0.2	0.06	4.1
1759108	Soil	3.7	15.7	0.25	380.0	0.023	<20	1.74	0.007	0.05	<0.1	2.2	0.05	<0.02	74	<0.1	<0.02	5.8
1759109	Soil	4.1	10.0	0.09	403.5	0.004	<20	1.01	0.003	0.06	0.3	3.1	0.07	<0.02	1583	0.2	0.03	3.4
1759110	Soil	6.5	10.2	0.16	308.1	0.002	<20	1.17	0.003	0.07	<0.1	2.4	0.07	<0.02	55	<0.1	0.02	3.8
1759111	Soil	5.1	8.2	0.05	52.9	0.006	<20	0.65	0.003	0.03	<0.1	1.8	0.07	<0.02	43	<0.1	0.02	2.9
1759112	Soil	5.5	12.7	0.14	153.0	0.008	<20	1.09	0.003	0.03	<0.1	1.7	0.05	<0.02	76	0.1	0.04	4.5
1759113	Soil	5.1	19.1	0.23	153.2	0.028	<20	2.28	0.005	0.04	<0.1	3.1	0.08	<0.02	129	0.3	0.02	6.3
1759114	Soil	6.8	17.2	0.28	234.7	0.010	<20	1.36	0.005	0.04	<0.1	2.8	0.06	<0.02	60	0.2	0.02	5.0
1759115	Soil	5.5	12.5	0.13	301.1	0.012	<20	0.94	0.005	0.06	<0.1	1.7	0.07	<0.02	67	0.1	0.04	3.8
1759116	Soil	6.1	14.8	0.20	187.1	0.010	<20	1.40	0.005	0.04	<0.1	2.4	0.06	<0.02	77	0.2	0.05	4.1
1759117	Soil	5.5	17.3	0.25	143.2	0.009	<20	1.49	0.006	0.04	<0.1	2.7	0.05	<0.02	56	0.1	0.04	4.0
1759118	Soil	6.1	15.8	0.21	120.2	0.011	<20	1.22	0.004	0.03	<0.1	2.2	0.06	<0.02	61	0.1	0.06	4.8
1759119	Soil	4.7	13.6	0.12	88.5	0.010	<20	1.32	0.005	0.03	<0.1	1.9	0.07	<0.02	122	0.2	0.04	5.7
1759120	Soil	6.2	17.5	0.18	138.7	0.015	<20	1.60	0.006	0.03	<0.1	2.3	0.05	<0.02	130	0.2	0.03	8.4
1759121	Soil	5.9	15.4	0.28	282.7	0.015	<20	1.01	0.007	0.03	<0.1	2.2	0.04	<0.02	52	<0.1	<0.02	4.3
1759122	Soil	5.7	12.6	0.22	177.4	0.016	<20	0.76	0.006	0.03	<0.1	1.7	0.03	<0.02	40	<0.1	<0.02	3.8
1759123	Soil	5.2	14.0	0.23	445.3	0.020	<20	1.10	0.010	0.03	<0.1	1.6	0.04	0.04	93	1.2	<0.02	3.0
1759124	Soil	10.6	17.7	0.29	449.5	0.035	<20	1.98	0.009	0.04	<0.1	2.9	0.05	0.02	115	0.4	0.02	5.5
1759125	Soil	3.0	14.5	0.20	105.7	0.024	<20	1.40	0.008	0.03	<0.1	1.6	0.04	<0.02	61	0.1	<0.02	5.1
1759126	Soil	3.3	17.2	0.24	68.3	0.042	<20	2.03	0.007	0.03	<0.1	2.5	0.02	<0.02	93	0.2	<0.02	5.4
1759127	Soil	8.0	13.8	0.18	214.2	0.005	<20	1.07	0.006	0.07	<0.1	3.1	0.06	<0.02	64	0.2	0.06	3.9
1759128	Soil	10.6	17.6	0.25	385.3	0.013	<20	1.12	0.011	0.05	<0.1	5.6	0.07	<0.02	174	0.4	0.04	3.2
1759129	Soil	4.9	8.7	0.10	127.5	0.008	<20	1.55	0.009	0.04	<0.1	1.5	0.07	<0.02	93	<0.1	<0.02	5.5
1759130	Soil	3.1	8.6	0.15	158.8	0.007	<20	1.42	0.007	0.04	<0.1	2.4	0.08	<0.02	206	0.1	0.03	4.6



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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	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	ppb	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	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001	
1759131	Soil	0.26	8.88	3.63	47.6	90	6.9	4.2	338	1.18	2.4	0.2	<0.2	0.5	8.4	0.06	0.15	0.06	21	0.05	0.033
1759132	Soil	0.33	10.22	5.66	46.6	86	7.2	6.9	500	1.29	2.8	0.3	0.4	0.6	20.0	0.07	0.19	0.08	26	0.13	0.027
1759133	Soil	0.28	9.75	4.54	56.6	52	8.7	6.1	378	1.39	2.6	0.3	0.8	0.9	12.0	0.06	0.16	0.07	26	0.09	0.025
1759134	Soil	0.67	20.70	4.90	66.8	32	10.6	6.1	102	2.18	9.8	0.3	1.0	1.3	9.6	0.06	0.52	0.08	32	0.04	0.034
1759135	Soil	0.45	16.15	6.48	110.4	303	13.3	10.0	228	1.85	3.9	0.3	0.4	0.9	21.5	0.10	0.11	0.13	32	0.14	0.143
1759136	Soil	0.35	10.66	13.32	92.0	140	7.9	3.9	202	1.26	2.6	0.4	0.3	0.5	23.6	0.16	0.15	0.22	27	0.18	0.038
1759137	Soil	0.45	12.89	23.02	126.4	235	10.8	4.7	228	1.56	4.3	0.6	3.9	1.6	7.6	0.14	0.14	0.29	28	0.06	0.138
1759138	Soil	0.28	11.53	12.20	127.0	52	16.7	7.4	299	1.62	2.9	0.4	0.8	1.6	9.4	0.08	0.06	0.14	28	0.09	0.074
1759139	Soil	0.27	8.86	8.21	49.2	130	4.4	2.5	217	0.90	2.7	0.3	9.2	0.7	8.4	0.10	0.17	0.14	19	0.09	0.024
1759140	Soil	2.58	38.51	54.66	259.8	505	17.0	6.9	2083	2.19	9.8	25.2	5.9	2.3	115.9	0.64	0.24	0.49	33	0.40	0.068
1759141	Soil	0.47	12.43	15.36	105.6	883	12.3	5.4	472	1.45	3.4	0.4	23.4	1.3	5.4	0.13	0.33	0.15	22	0.04	0.043
1759142	Soil	1.43	10.08	49.11	211.3	1236	6.4	6.1	3155	1.63	6.0	0.9	0.7	1.9	7.1	0.57	0.80	0.36	27	0.06	0.190
1759143	Soil	0.21	6.42	13.94	79.5	325	4.6	3.6	724	0.96	1.6	0.4	2.1	0.3	20.8	0.19	0.11	0.26	19	0.12	0.025
1759144	Soil	0.17	5.37	11.35	56.3	156	3.5	2.3	251	0.97	1.9	0.2	5.9	0.8	8.4	0.13	0.12	0.16	18	0.06	0.047
1759145	Soil	0.25	13.47	5.33	38.4	300	5.9	3.4	179	1.16	2.5	0.2	3.2	0.5	44.1	0.13	0.19	0.09	22	0.24	0.040
1759146	Soil	2.00	23.81	7.38	90.8	230	13.2	7.6	178	2.51	6.3	0.4	0.8	1.3	29.9	0.20	0.25	0.12	37	0.18	0.046
1759147	Soil	0.57	39.47	15.86	122.2	520	23.8	13.9	1321	3.08	7.3	0.6	1.1	2.4	15.0	0.49	0.10	0.20	42	0.13	0.126
1759148	Soil	0.53	15.21	7.81	55.2	66	11.3	6.8	130	1.66	3.9	0.2	0.6	0.7	16.2	0.04	0.11	0.05	39	0.18	0.016
1759149	Soil	0.50	20.01	18.76	122.5	245	10.1	5.8	211	1.70	6.7	0.5	1.3	0.9	15.3	0.15	0.37	0.06	33	0.21	0.012
1759150	Soil	0.55	19.13	40.17	161.6	147	7.3	5.3	1261	1.41	5.8	0.4	0.3	0.6	19.0	0.47	0.12	0.06	27	0.17	0.026
1759151	Soil	0.32	11.26	10.88	223.4	61	16.0	3.3	707	1.06	3.2	0.1	<0.2	0.4	15.4	0.46	0.05	0.04	20	0.12	0.020
1759152	Soil	0.49	41.03	47.45	837.0	193	5.2	3.7	669	1.28	13.4	0.3	6.1	0.6	16.1	5.58	0.38	0.07	22	0.21	0.024
1759153	Soil	0.32	17.75	6.68	267.4	84	6.6	3.9	121	1.40	5.4	0.3	0.9	0.6	13.8	0.51	0.20	0.03	32	0.20	0.012
1759154	Soil	0.61	21.00	7.64	102.8	145	15.5	7.5	214	1.99	7.3	0.4	0.6	0.9	16.3	0.14	0.21	0.07	42	0.26	0.022
1759155	Soil	0.50	13.31	7.66	152.0	127	11.7	6.0	252	1.85	7.7	0.2	<0.2	0.7	12.6	0.24	0.14	0.14	32	0.11	0.038
1759156	Soil	0.68	16.75	7.08	135.6	160	12.2	6.2	823	2.01	6.5	0.4	0.9	1.6	16.6	0.56	0.08	0.20	34	0.21	0.064
1759157	Soil	0.19	5.55	5.42	82.5	55	4.3	3.1	536	1.01	2.3	0.1	<0.2	0.4	14.1	0.21	0.03	0.07	23	0.19	0.025
1759158	Soil	0.40	16.17	7.03	90.5	61	10.4	4.0	221	2.12	7.3	0.4	0.5	1.6	17.0	0.13	0.13	0.11	40	0.23	0.033
1759159	Soil	0.51	18.07	6.68	105.4	67	13.3	5.6	190	2.16	11.6	0.3	0.7	0.9	16.4	0.19	0.20	0.09	41	0.14	0.049
1759160	Soil	0.25	7.45	4.75	35.0	18	4.9	3.4	129	1.12	3.8	0.2	<0.2	0.7	10.4	0.05	0.16	<0.02	23	0.08	0.015





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Project: PL-12  
 Report Date: June 28, 2012

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Method	Analyte	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
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1759131	Soil	4.6	7.0	0.10	181.7	0.006	<20	1.03	0.006	0.05	<0.1	1.2	0.08	<0.02	51	<0.1	<0.02	3.5
1759132	Soil	6.4	8.5	0.13	311.6	0.005	<20	1.09	0.008	0.05	<0.1	1.8	0.09	<0.02	67	<0.1	<0.02	4.0
1759133	Soil	7.7	10.0	0.18	300.0	0.007	<20	1.02	0.007	0.05	<0.1	1.7	0.09	<0.02	53	<0.1	<0.02	3.9
1759134	Soil	6.6	10.4	0.17	149.4	0.007	<20	1.13	0.006	0.07	<0.1	2.7	0.08	<0.02	72	0.1	<0.02	3.8
1759135	Soil	9.7	12.8	0.14	343.0	0.008	<20	1.90	0.007	0.06	<0.1	2.1	0.10	<0.02	67	0.1	<0.02	7.1
1759136	Soil	7.6	12.6	0.15	288.2	0.013	<20	0.86	0.007	0.06	<0.1	1.4	0.07	<0.02	26	<0.1	0.02	4.7
1759137	Soil	9.0	13.9	0.20	151.6	0.016	<20	1.53	0.006	0.05	<0.1	1.8	0.14	<0.02	50	0.2	<0.02	8.1
1759138	Soil	7.9	14.3	0.22	421.2	0.009	<20	1.66	0.006	0.06	<0.1	1.8	0.12	<0.02	21	<0.1	<0.02	6.0
1759139	Soil	5.9	7.6	0.10	99.4	0.016	<20	0.55	0.007	0.06	<0.1	1.1	0.08	<0.02	15	<0.1	<0.02	3.7
1759140	Soil	26.7	19.7	0.25	2125	0.004	<20	3.11	0.008	0.12	<0.1	6.3	0.22	0.02	95	0.2	0.05	7.6
1759141	Soil	6.3	10.9	0.14	164.3	0.008	<20	1.44	0.005	0.05	<0.1	1.4	0.10	<0.02	77	<0.1	0.02	3.8
1759142	Soil	4.2	11.5	0.11	210.6	0.073	<20	2.29	0.008	0.06	<0.1	1.6	0.13	0.02	144	0.3	0.02	9.6
1759143	Soil	5.6	6.7	0.10	344.1	0.012	<20	0.72	0.006	0.05	<0.1	0.9	0.08	<0.02	25	<0.1	<0.02	3.3
1759144	Soil	5.3	6.4	0.05	149.3	0.007	<20	0.83	0.006	0.04	<0.1	0.8	0.11	<0.02	16	<0.1	<0.02	3.5
1759145	Soil	4.6	7.6	0.11	209.6	0.005	<20	0.72	0.007	0.05	<0.1	1.3	0.06	0.03	68	<0.1	<0.02	2.7
1759146	Soil	8.8	11.8	0.22	262.9	0.007	<20	1.42	0.005	0.07	<0.1	3.1	0.12	<0.02	121	0.2	0.03	4.9
1759147	Soil	11.6	20.9	0.46	391.9	0.007	<20	3.20	<0.001	0.13	<0.1	3.7	0.21	<0.02	102	0.2	0.05	7.6
1759148	Soil	2.9	13.6	0.23	213.8	0.026	<20	1.45	0.008	0.06	<0.1	1.5	0.08	<0.02	19	<0.1	<0.02	4.6
1759149	Soil	5.3	13.5	0.25	291.3	0.017	<20	1.25	0.006	0.06	<0.1	1.9	0.09	<0.02	49	<0.1	0.05	3.2
1759150	Soil	10.7	8.4	0.13	800.9	0.006	<20	1.65	0.004	0.08	<0.1	1.3	0.13	<0.02	42	<0.1	0.06	3.8
1759151	Soil	2.5	8.2	0.10	763.8	0.006	<20	1.34	0.005	0.09	<0.1	0.8	0.19	<0.02	14	<0.1	<0.02	3.1
1759152	Soil	8.7	7.5	0.12	631.5	0.004	<20	0.92	0.007	0.09	<0.1	1.4	0.13	<0.02	81	<0.1	0.07	2.2
1759153	Soil	5.7	10.7	0.16	248.8	0.013	<20	1.03	0.008	0.04	<0.1	1.7	0.07	<0.02	37	<0.1	<0.02	2.7
1759154	Soil	5.1	17.3	0.29	478.3	0.031	<20	1.98	0.009	0.06	<0.1	2.1	0.08	<0.02	26	<0.1	0.05	5.7
1759155	Soil	3.9	11.4	0.17	561.2	0.020	<20	1.30	0.006	0.06	<0.1	1.5	0.10	<0.02	23	<0.1	0.07	4.8
1759156	Soil	9.2	13.3	0.07	616.9	0.006	<20	0.82	0.005	0.11	<0.1	2.3	0.13	<0.02	25	<0.1	0.03	2.3
1759157	Soil	3.6	6.8	0.09	485.4	0.009	<20	0.79	0.009	0.06	<0.1	0.9	0.09	<0.02	21	<0.1	<0.02	2.8
1759158	Soil	15.1	13.5	0.12	376.7	0.010	<20	0.93	0.005	0.06	<0.1	2.1	0.11	<0.02	18	<0.1	0.04	2.8
1759159	Soil	4.8	11.7	0.12	303.9	0.006	<20	1.05	0.005	0.06	<0.1	2.6	0.08	<0.02	39	<0.1	0.03	3.5
1759160	Soil	4.0	6.7	0.10	129.0	0.011	<20	0.48	0.007	0.05	<0.1	1.2	0.05	<0.02	264	<0.1	<0.02	1.7

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Project: PL-12  
 Report Date: June 28, 2012

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# CERTIFICATE OF ANALYSIS

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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	%	%
1759161	Soil	0.73	18.30	24.17	136.7	195	6.1	4.1	367	1.84	15.4	0.4	0.9	1.0	14.5	0.46	0.42	0.13	20	0.12	0.024
1759162	Soil	0.49	7.12	11.45	265.1	179	3.6	3.2	339	1.50	8.0	0.2	<0.2	0.4	21.6	0.44	0.12	0.07	24	0.28	0.038
1759163	Soil	1.20	27.48	9.36	153.1	95	13.1	7.2	525	2.89	23.3	0.4	<0.2	1.3	26.3	0.73	0.17	0.18	46	0.38	0.064
1759164	Soil	0.94	33.69	5.34	134.7	74	17.5	6.5	231	3.30	18.4	0.5	0.9	1.6	12.0	0.23	0.15	0.09	49	0.17	0.070
1759165	Soil	0.24	10.15	4.07	47.6	88	7.1	4.1	200	1.24	7.3	0.2	<0.2	0.6	14.2	0.07	0.09	0.05	27	0.11	0.028
1759166	Soil	0.40	38.43	4.53	59.3	51	16.9	7.9	195	2.20	6.9	0.5	0.7	1.4	19.7	0.06	0.16	0.03	48	0.16	0.024
1759167	Soil	0.50	17.96	4.34	43.0	49	10.4	6.0	301	1.73	6.2	0.2	<0.2	0.8	13.4	0.05	0.12	0.07	35	0.11	0.027
1759168	Soil	0.12	7.97	2.89	25.8	51	5.5	3.6	131	1.00	2.2	0.2	<0.2	0.3	14.8	0.04	0.06	<0.02	23	0.14	0.014
1758601	Soil	0.31	12.29	6.19	94.2	61	18.5	9.2	647	1.78	2.8	0.3	<0.2	0.8	20.5	0.08	0.10	0.08	36	0.23	0.033
1758602	Soil	0.38	16.56	5.69	76.9	79	21.4	13.8	614	2.32	10.9	0.2	<0.2	0.6	21.6	0.08	0.20	0.08	51	0.26	0.067
1758603	Soil	0.26	10.58	5.28	62.6	43	12.6	8.0	363	1.68	7.1	0.2	<0.2	0.7	14.6	0.06	0.11	0.06	38	0.18	0.034
1758604	Soil	0.27	11.00	5.38	57.9	65	8.7	5.6	725	1.48	5.7	0.2	<0.2	0.3	19.3	0.09	0.14	0.05	32	0.31	0.079
1758605	Soil	0.45	34.08	6.89	131.5	57	26.6	15.2	610	3.06	78.7	0.3	<0.2	1.0	20.5	0.15	1.11	0.13	58	0.40	0.055
1758606	Soil	0.76	26.31	9.25	169.3	115	31.0	19.8	2447	2.93	159.6	0.2	<0.2	0.8	27.9	0.38	1.03	0.16	55	0.48	0.070
1758607	Soil	0.56	16.86	9.30	246.9	97	23.8	17.8	2173	2.34	25.1	0.2	<0.2	1.1	14.4	0.43	0.36	0.16	43	0.17	0.130
1758608	Soil	0.66	29.27	9.27	156.8	98	24.1	14.6	2263	3.22	172.0	0.4	<0.2	0.5	23.3	0.43	1.15	0.16	58	0.32	0.168
1758609	Soil	0.88	30.86	7.89	178.5	93	21.7	14.2	2149	2.68	23.5	0.2	0.4	0.6	26.7	0.74	0.59	0.18	52	0.41	0.078
1758610	Soil	0.82	33.99	7.45	69.3	76	27.4	12.0	2302	2.96	22.3	0.2	0.3	0.8	25.2	0.11	0.71	0.27	58	0.40	0.048
1758611	Soil	0.32	9.88	5.77	45.2	49	7.5	5.2	99	1.44	3.7	0.1	1.9	0.5	12.8	0.05	0.06	0.06	34	0.14	0.010
1758612	Soil	0.30	13.10	4.49	62.4	38	16.2	7.5	234	1.58	4.3	0.2	0.9	0.6	15.7	0.05	0.12	0.04	38	0.16	0.052
1758613	Soil	0.17	5.60	4.45	93.7	44	13.9	5.7	492	1.17	2.2	0.1	0.6	0.5	18.1	0.08	0.08	0.06	26	0.20	0.062
1758614	Soil	0.26	9.90	3.75	44.6	24	11.3	5.7	505	1.44	4.9	0.1	1.5	0.6	21.6	0.04	0.18	0.04	35	0.18	0.043
1758615	Soil	0.23	17.52	2.73	31.8	9	7.6	6.9	248	1.58	6.3	0.2	0.6	0.7	24.9	0.07	0.39	0.02	44	0.25	0.030
1758616	Soil	0.29	21.04	4.03	31.7	22	7.7	6.1	271	1.59	4.4	0.3	0.9	0.9	19.6	0.04	0.27	<0.02	36	0.20	0.039
1758617	Soil	0.26	18.63	3.20	26.7	25	7.8	5.9	190	1.50	3.6	0.3	0.8	0.7	21.2	0.04	0.24	<0.02	32	0.23	0.040
1758618	Soil	0.22	13.77	3.35	26.2	49	9.0	4.8	165	1.33	2.3	0.4	<0.2	0.6	15.3	0.03	0.14	0.07	29	0.22	0.015
1758619	Soil	0.50	20.59	5.16	52.8	51	15.2	7.2	144	1.93	3.2	0.4	0.5	0.8	14.5	0.05	0.17	0.08	40	0.20	0.021
1758620	Soil	0.68	26.29	8.30	90.6	97	24.6	10.4	248	2.62	6.4	0.7	0.4	0.9	23.6	0.11	0.21	0.12	48	0.34	0.049
1758621	Soil	0.23	7.49	2.85	18.8	68	5.6	3.5	124	0.98	1.9	0.7	0.6	0.5	14.4	0.03	0.09	<0.02	22	0.15	0.012
1758622	Soil	0.74	2.67	2.89	41.1	20	2.6	2.5	76	1.01	4.3	0.1	0.6	0.6	15.4	0.06	0.15	<0.02	21	0.11	0.010

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Method	Analyte	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
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1759161	Soil	4.6	5.7	0.06	303.9	0.003	<20	0.43	0.004	0.10	<0.1	1.8	0.08	<0.02	72	0.1	0.11	1.1
1759162	Soil	2.7	5.7	0.12	447.2	0.002	<20	0.97	0.006	0.09	<0.1	1.1	0.14	<0.02	61	<0.1	0.09	2.7
1759163	Soil	6.0	14.7	0.11	482.5	0.002	<20	1.02	0.005	0.11	<0.1	3.3	0.12	<0.02	49	<0.1	0.03	2.7
1759164	Soil	9.9	14.2	0.15	368.8	0.005	<20	1.06	0.004	0.07	<0.1	4.0	0.11	<0.02	23	0.2	0.06	3.1
1759165	Soil	3.4	7.6	0.10	234.8	0.007	<20	0.90	0.008	0.05	<0.1	1.8	0.05	<0.02	153	<0.1	<0.02	2.7
1759166	Soil	6.0	21.5	0.43	236.3	0.038	<20	1.66	0.009	0.08	<0.1	3.5	0.08	<0.02	83	<0.1	<0.02	4.3
1759167	Soil	3.3	11.9	0.18	219.0	0.008	<20	1.25	0.005	0.05	<0.1	1.7	0.08	<0.02	65	<0.1	0.05	3.5
1759168	Soil	3.6	8.9	0.20	151.5	0.012	<20	0.86	0.010	0.04	<0.1	1.1	0.05	<0.02	54	<0.1	<0.02	2.6
1758601	Soil	5.6	14.3	0.39	237.9	0.096	<20	1.86	0.007	0.09	<0.1	2.5	0.08	<0.02	16	<0.1	<0.02	6.6
1758602	Soil	3.5	15.0	0.41	197.1	0.085	<20	1.88	0.005	0.09	<0.1	2.4	0.06	<0.02	31	<0.1	<0.02	7.4
1758603	Soil	3.9	12.5	0.30	109.7	0.069	<20	1.55	0.006	0.06	<0.1	1.9	0.06	<0.02	27	<0.1	<0.02	5.8
1758604	Soil	3.2	10.4	0.26	133.7	0.056	<20	1.31	0.007	0.06	<0.1	1.5	0.04	<0.02	30	<0.1	<0.02	4.7
1758605	Soil	4.9	20.5	0.54	282.1	0.061	<20	2.57	0.007	0.12	<0.1	4.2	0.11	<0.02	29	<0.1	0.05	8.0
1758606	Soil	3.9	18.2	0.48	297.5	0.090	<20	2.26	0.007	0.07	<0.1	2.8	0.11	0.02	49	<0.1	0.04	9.5
1758607	Soil	4.3	18.4	0.41	315.9	0.083	<20	1.93	0.007	0.07	<0.1	2.5	0.12	<0.02	36	0.1	<0.02	7.4
1758608	Soil	5.7	22.4	0.49	381.1	0.074	<20	2.73	0.004	0.07	<0.1	3.1	0.11	0.02	71	<0.1	0.04	9.2
1758609	Soil	3.8	20.2	0.49	410.1	0.071	<20	2.22	0.003	0.08	0.1	2.8	0.10	0.02	76	0.1	0.12	7.4
1758610	Soil	4.3	17.8	0.49	373.4	0.067	<20	2.54	0.004	0.09	<0.1	3.7	0.12	0.02	74	<0.1	0.09	7.9
1758611	Soil	2.5	11.8	0.20	174.8	0.022	<20	1.00	0.007	0.05	<0.1	1.4	0.05	<0.02	22	<0.1	0.03	3.2
1758612	Soil	2.6	12.6	0.21	219.2	0.026	<20	1.23	0.009	0.05	<0.1	1.6	0.04	<0.02	73	<0.1	<0.02	3.9
1758613	Soil	2.6	9.8	0.17	245.8	0.039	<20	0.96	0.010	0.06	<0.1	1.3	0.04	<0.02	18	<0.1	<0.02	3.5
1758614	Soil	3.2	12.7	0.19	192.5	0.024	<20	1.11	0.008	0.06	<0.1	1.6	0.05	<0.02	27	<0.1	<0.02	3.1
1758615	Soil	3.2	13.8	0.26	104.0	0.030	<20	0.69	0.018	0.06	<0.1	2.4	0.03	<0.02	48	<0.1	<0.02	2.2
1758616	Soil	4.2	12.6	0.23	187.3	0.026	<20	0.84	0.010	0.06	<0.1	2.8	0.03	<0.02	60	0.1	<0.02	2.4
1758617	Soil	4.5	11.9	0.26	180.3	0.025	<20	0.85	0.012	0.05	<0.1	2.4	0.03	<0.02	44	<0.1	<0.02	2.4
1758618	Soil	5.2	10.8	0.19	186.9	0.019	<20	0.99	0.010	0.04	0.5	2.2	<0.02	<0.02	25	<0.1	<0.02	2.7
1758619	Soil	3.4	15.7	0.29	230.4	0.050	<20	1.62	0.008	0.05	<0.1	2.1	0.05	<0.02	29	<0.1	<0.02	4.4
1758620	Soil	5.1	20.3	0.35	421.7	0.067	<20	2.66	0.007	0.08	<0.1	3.0	0.07	<0.02	41	0.1	0.04	7.9
1758621	Soil	5.0	8.5	0.16	179.3	0.018	<20	0.92	0.010	0.03	<0.1	1.9	0.04	<0.02	37	<0.1	<0.02	2.4
1758622	Soil	3.3	4.8	0.09	93.4	0.008	<20	0.47	0.007	0.06	<0.1	0.8	0.04	<0.02	94	<0.1	<0.02	2.0

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Project: PL-12  
 Report Date: June 28, 2012

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CERTIFICATE OF ANALYSIS

VAN12002710.1

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	ppb	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	0.2	0.1	0.5	0.01	0.02	0.02	0.02	2	0.01	0.001
1758623	Soil	0.91	9.67	5.06	87.5	30	9.4	8.1	164	1.79	5.0	0.4	0.5	0.8	16.7	0.20	0.21	0.06	38	0.18	0.017
1758624	Soil	0.39	8.24	4.49	64.3	23	13.3	4.8	308	1.32	4.9	0.1	0.6	0.6	13.8	0.06	0.12	0.04	30	0.15	0.017
1758625	Soil	0.71	16.33	6.65	69.3	22	6.8	4.4	223	1.98	11.8	0.2	<0.2	0.9	16.1	0.08	0.12	0.12	36	0.19	0.041
1758626	Soil	0.34	12.02	6.13	114.3	72	25.7	9.0	261	1.57	3.6	0.2	<0.2	0.8	17.7	0.06	0.09	0.08	34	0.16	0.042
1758627	Soil	0.60	12.63	7.85	77.7	87	9.4	6.4	262	2.16	7.3	0.2	0.6	0.6	19.0	0.12	0.11	0.14	32	0.25	0.026
1758628	Soil	0.13	9.68	1.57	21.9	14	4.1	4.0	186	0.96	1.9	<0.1	<0.2	0.4	13.7	0.02	0.13	<0.02	26	0.16	0.020
1758629	Soil	0.14	9.49	1.92	25.5	15	4.8	4.4	135	1.00	2.3	<0.1	<0.2	0.4	11.2	0.04	0.16	<0.02	27	0.12	0.031
1758630	Soil	0.16	8.93	2.47	29.2	16	5.7	4.7	175	1.35	10.0	0.1	0.9	0.5	14.5	0.03	0.14	0.06	28	0.16	0.033
1758631	Soil	0.13	13.65	2.21	30.0	28	6.6	6.0	202	1.22	3.3	0.1	0.7	0.5	17.6	0.14	0.10	0.03	32	0.21	0.028
1758632	Soil	2.07	33.68	2.02	34.4	27	4.6	3.0	149	1.14	5.1	0.2	0.4	0.5	21.8	0.02	0.36	0.04	21	0.10	0.017
1758633	Soil	1.10	27.55	4.71	69.7	166	6.3	4.5	323	1.58	4.8	0.4	0.2	0.5	26.2	0.07	0.24	0.09	25	0.16	0.202
1758634	Soil	1.23	29.07	2.74	38.9	44	6.4	3.4	158	1.38	2.7	0.2	0.6	0.8	8.8	0.03	0.19	0.02	26	0.06	0.033
1758635	Soil	0.54	8.61	2.91	30.7	51	2.4	2.0	183	0.80	1.4	0.2	<0.2	0.6	10.4	0.03	0.11	0.03	16	0.07	0.049
1758636	Soil	0.89	5.47	4.09	49.2	138	3.2	2.7	298	0.87	1.5	0.2	<0.2	0.7	5.9	0.06	0.05	0.06	16	0.04	0.077
1758637	Soil	2.32	18.37	3.94	38.9	95	5.8	3.8	174	1.03	1.4	2.4	0.3	0.2	60.4	0.06	0.16	0.04	22	0.29	0.051
1758638	Soil	1.68	8.99	2.21	51.2	26	3.7	3.4	134	1.28	1.3	0.2	<0.2	0.6	14.1	0.03	0.10	0.02	28	0.07	0.012
1758639	Soil	0.32	20.65	3.02	48.7	38	10.7	7.1	376	1.92	5.5	0.3	1.0	0.7	33.4	0.04	0.52	<0.02	43	0.32	0.067
1758640	Soil	0.25	8.28	2.63	44.3	30	4.0	4.1	469	1.08	2.4	0.1	0.3	0.3	11.3	0.05	0.17	<0.02	23	0.11	0.100
1758641	Soil	1.19	9.92	2.26	41.8	61	3.1	3.7	288	0.97	1.7	0.3	<0.2	0.4	22.0	0.10	0.15	<0.02	21	0.16	0.029
1758642	Soil	1.01	27.99	2.87	46.9	31	5.1	5.2	306	1.36	2.4	0.2	0.6	0.6	23.9	0.06	0.18	<0.02	30	0.25	0.082
1758643	Soil	0.33	13.46	3.50	38.9	28	4.7	4.7	420	1.26	1.9	0.4	0.3	0.6	21.5	0.04	0.18	<0.02	27	0.22	0.044
1758644	Soil	1.87	52.09	3.21	79.3	36	6.0	4.7	777	1.05	2.5	0.2	1.2	0.4	20.9	0.17	0.11	0.03	25	0.14	0.021
1758645	Soil	3.54	2483	2.37	71.1	50	20.8	4.6	271	1.37	7.1	1.1	1.6	0.8	23.8	0.15	0.43	0.04	28	0.18	0.049
1758646	Soil	1.56	58.87	4.00	47.4	35	9.2	6.8	444	1.77	5.9	0.3	2.0	1.0	29.1	0.09	0.36	0.03	35	0.29	0.060
1758647	Soil	33.47	1530	6.54	510.8	90	72.1	10.1	886	2.23	56.8	3.2	3.7	1.1	98.1	1.51	5.27	0.16	36	0.70	0.059
1758648	Soil	9.25	117.5	3.41	273.1	69	18.9	6.4	227	1.56	15.0	0.3	1.0	0.6	16.3	0.20	1.07	0.09	35	0.14	0.026
1758649	Soil	3.28	109.9	3.71	91.5	119	13.8	7.0	446	1.51	15.2	0.4	1.6	0.8	18.6	0.08	0.51	0.14	30	0.15	0.087
1758650	Soil	7.02	210.2	2.82	31.1	21	6.9	6.7	217	1.67	20.1	0.4	6.9	1.2	16.5	0.05	2.42	0.10	30	0.13	0.039
1758651	Soil	0.17	8.02	2.39	35.4	29	5.3	4.5	387	1.32	5.0	0.2	1.4	0.6	18.3	0.09	0.18	0.03	34	0.22	0.093
1758652	Soil	0.12	10.18	2.36	30.6	15	5.9	4.6	267	1.42	1.8	0.2	0.7	0.8	25.9	0.03	0.14	0.03	34	0.35	0.095

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Project: PL-12  
 Report Date: June 28, 2012

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CERTIFICATE OF ANALYSIS

VAN12002710.1

Method	Analyte	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
Unit	MDL	ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1758623	Soil	3.5	11.2	0.15	236.6	0.018	<20	1.16	0.009	0.04	<0.1	1.9	0.05	<0.02	188	0.1	<0.02	4.0
1758624	Soil	3.3	10.9	0.17	298.4	0.023	<20	1.14	0.009	0.05	<0.1	1.6	0.06	<0.02	21	<0.1	<0.02	3.4
1758625	Soil	5.6	6.4	0.09	448.2	0.003	<20	0.90	0.005	0.08	<0.1	1.8	0.08	<0.02	39	<0.1	0.04	3.2
1758626	Soil	3.4	13.8	0.21	321.8	0.060	<20	1.53	0.009	0.06	<0.1	1.8	0.05	<0.02	20	<0.1	<0.02	6.0
1758627	Soil	3.2	10.1	0.18	485.7	0.010	<20	1.33	0.005	0.12	<0.1	1.4	0.11	<0.02	18	0.1	0.16	4.2
1758628	Soil	2.4	7.3	0.17	113.4	0.017	<20	0.50	0.010	0.04	<0.1	1.1	<0.02	<0.02	23	<0.1	<0.02	1.5
1758629	Soil	1.9	8.1	0.19	138.5	0.015	<20	0.62	0.008	0.03	<0.1	1.2	<0.02	<0.02	18	<0.1	<0.02	2.0
1758630	Soil	2.3	9.1	0.18	111.7	0.010	<20	0.52	0.011	0.06	<0.1	1.4	0.02	<0.02	56	<0.1	0.04	1.6
1758631	Soil	2.6	11.7	0.36	96.4	0.020	<20	0.75	0.016	0.05	<0.1	1.8	0.03	<0.02	33	<0.1	<0.02	2.3
1758632	Soil	2.9	4.2	0.13	147.7	0.007	<20	0.79	0.005	0.05	<0.1	1.3	0.04	<0.02	20	<0.1	<0.02	2.9
1758633	Soil	4.5	7.0	0.17	215.6	0.017	<20	1.51	0.004	0.07	<0.1	2.0	0.05	<0.02	60	0.1	<0.02	5.5
1758634	Soil	3.6	6.3	0.17	128.6	0.015	<20	1.22	0.005	0.05	<0.1	1.7	0.04	<0.02	20	<0.1	0.04	3.1
1758635	Soil	3.0	3.4	0.10	79.6	0.018	<20	0.78	0.006	0.05	<0.1	1.3	0.04	<0.02	73	<0.1	<0.02	2.9
1758636	Soil	2.9	3.3	0.07	96.9	0.025	<20	1.05	0.006	0.03	<0.1	1.2	0.04	<0.02	29	<0.1	<0.02	4.1
1758637	Soil	6.2	7.3	0.25	201.8	0.023	<20	1.26	0.007	0.09	<0.1	2.5	0.05	0.03	36	0.6	<0.02	4.0
1758638	Soil	3.2	4.4	0.19	113.3	0.021	<20	0.87	0.006	0.04	<0.1	1.6	0.03	<0.02	20	<0.1	<0.02	3.9
1758639	Soil	5.3	13.1	0.42	163.3	0.057	<20	0.97	0.021	0.12	<0.1	4.6	0.05	<0.02	6610	0.1	<0.02	3.6
1758640	Soil	2.7	6.4	0.18	141.9	0.022	<20	0.74	0.009	0.05	<0.1	1.6	0.03	<0.02	61	0.1	<0.02	3.1
1758641	Soil	3.8	5.7	0.17	163.3	0.025	<20	0.57	0.008	0.05	<0.1	1.8	0.04	<0.02	36	<0.1	<0.02	2.6
1758642	Soil	4.2	7.0	0.25	186.5	0.038	<20	0.69	0.011	0.09	<0.1	2.3	0.04	<0.02	35	0.2	<0.02	2.7
1758643	Soil	5.4	6.8	0.24	162.7	0.036	<20	0.66	0.011	0.11	<0.1	2.4	0.05	<0.02	48	<0.1	<0.02	2.7
1758644	Soil	3.7	6.5	0.16	281.0	0.019	<20	0.54	0.008	0.06	<0.1	1.6	0.04	<0.02	33	<0.1	<0.02	2.4
1758645	Soil	6.3	8.9	0.22	128.4	0.029	<20	0.76	0.009	0.07	<0.1	2.8	0.06	<0.02	15	<0.1	<0.02	2.5
1758646	Soil	6.3	10.1	0.37	185.0	0.047	<20	0.79	0.014	0.12	<0.1	3.8	0.05	<0.02	64	<0.1	<0.02	3.1
1758647	Soil	7.1	13.4	0.41	283.4	0.047	<20	1.05	0.010	0.14	<0.1	4.6	0.11	0.02	109	0.9	0.04	3.7
1758648	Soil	3.7	11.2	0.26	160.1	0.043	<20	1.01	0.007	0.07	0.2	1.9	0.06	<0.02	14	<0.1	0.02	3.7
1758649	Soil	3.9	10.1	0.25	448.2	0.038	<20	1.07	0.007	0.08	<0.1	1.9	0.07	<0.02	21	<0.1	0.03	4.1
1758650	Soil	5.5	9.4	0.23	209.3	0.030	<20	0.64	0.008	0.05	<0.1	2.7	0.05	<0.02	51	0.1	0.03	2.3
1758651	Soil	3.5	10.3	0.21	154.1	0.055	<20	0.63	0.012	0.06	<0.1	1.7	0.03	<0.02	28	<0.1	<0.02	2.6
1758652	Soil	4.8	8.6	0.29	111.7	0.065	<20	0.64	0.018	0.11	<0.1	1.9	0.03	<0.02	14	<0.1	<0.02	2.5

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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	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	0.001
1758653	Soil	0.17	15.49	4.22	48.7	55	6.5	6.5	370	1.83	3.1	0.4	1.7	1.3	31.3	0.04	0.56	0.07	40	0.38	0.111	
1758654	Soil	0.16	11.44	2.35	28.1	46	5.4	4.3	262	1.47	2.6	0.3	0.5	0.6	21.2	0.04	0.17	0.02	40	0.27	0.099	
1758655	Soil	0.14	10.98	2.53	29.1	50	6.0	4.3	249	1.40	2.1	0.2	0.3	0.6	20.1	0.03	0.10	0.02	33	0.26	0.076	
1758656	Soil	0.21	13.36	2.80	35.7	26	8.9	5.8	422	1.76	2.3	0.3	<0.2	0.9	28.6	0.08	0.10	0.03	49	0.36	0.100	
1758657	Soil	0.29	12.16	3.21	59.9	69	9.6	5.0	236	1.52	4.3	0.2	0.5	0.7	18.8	0.07	0.20	0.07	35	0.16	0.101	
1758658	Soil	1.60	308.4	6.80	545.3	207	61.6	8.4	874	2.71	111.1	1.9	2.2	0.9	141.8	1.19	2.46	0.26	48	0.87	0.099	
1758659	Soil	0.70	10.94	8.40	100.5	74	11.7	10.3	1053	1.67	41.8	0.2	<0.2	0.6	19.4	0.20	0.31	0.20	34	0.18	0.098	
1758660	Soil	0.74	49.95	5.72	63.3	118	22.5	16.9	1494	2.65	79.0	0.8	0.4	1.4	53.9	0.12	0.56	0.14	53	0.56	0.078	
1758661	Soil	0.94	25.07	11.08	237.6	140	24.9	12.2	2074	2.49	115.4	0.4	1.1	1.8	68.0	0.43	2.00	0.31	34	0.40	0.443	
1758662	Soil	1.82	36.64	15.10	207.3	229	31.0	22.7	5998	2.67	222.8	0.5	0.6	0.8	73.4	0.84	3.53	0.27	38	0.55	0.535	
1758663	Soil	1.66	88.34	18.25	232.6	219	39.4	22.8	1652	3.93	262.7	0.3	0.6	1.5	40.3	0.70	2.68	2.15	41	0.27	0.180	
1758664	Soil	3.29	642.8	10.39	467.8	606	89.2	30.9	1428	5.53	203.5	0.4	3.5	1.2	54.0	1.25	3.72	3.02	69	0.48	0.134	
1758665	Soil	3.41	169.6	5.05	263.8	144	29.5	12.6	530	3.34	50.0	0.3	0.6	0.8	15.8	0.35	1.55	0.55	51	0.14	0.079	
1758666	Soil	7.58	543.1	11.16	232.8	223	11.0	14.3	364	5.14	185.3	0.9	27.7	1.3	41.9	0.52	11.02	5.12	36	0.24	0.106	
1758667	Soil	9.17	111.8	25.15	219.8	339	9.2	9.9	5839	2.11	49.4	0.8	2.6	0.9	69.4	0.76	9.35	0.80	22	0.50	0.104	
1758668	Soil	19.01	643.3	4.48	125.0	177	21.9	11.3	724	4.64	44.1	0.7	6.9	1.4	21.5	0.09	8.38	2.19	98	0.14	0.085	
1758669	Soil	7.52	204.4	9.86	112.6	189	22.9	9.5	431	2.61	95.9	0.9	1.4	1.5	9.3	0.11	5.73	0.61	38	0.07	0.062	
1758670	Soil	4.96	311.1	7.67	156.3	195	25.9	13.8	1101	2.98	97.1	0.5	3.2	1.6	21.3	0.16	4.41	0.69	49	0.19	0.119	
1758671	Soil	3.51	37.69	9.68	289.8	266	11.5	8.5	1533	1.70	89.9	0.2	0.3	1.2	10.5	0.33	1.12	0.49	32	0.07	0.101	
1758672	Soil	1.37	119.2	7.14	98.3	285	22.8	10.5	977	2.60	177.4	0.5	1.3	1.6	9.1	0.17	2.45	0.39	41	0.08	0.095	
1758673	Soil	1.46	133.7	7.15	86.0	149	30.6	13.6	762	2.79	125.0	0.5	1.4	1.8	7.7	0.10	1.42	0.41	46	0.07	0.125	
1758674	Soil	1.07	141.8	6.60	145.6	250	39.3	11.7	478	2.66	356.6	0.2	0.3	1.1	10.0	0.15	1.12	0.86	42	0.11	0.110	
1758675	Soil	2.45	117.5	10.73	164.7	355	40.5	20.6	852	3.73	211.4	0.5	9.8	1.6	11.8	0.29	1.85	1.40	50	0.11	0.124	
1758676	Soil	0.98	78.14	12.02	208.3	176	87.0	23.1	431	4.22	821.7	0.3	0.9	1.2	34.3	0.24	6.76	1.15	39	0.21	0.237	
1758677	Soil	2.04	60.89	11.54	136.5	108	39.8	20.8	3515	4.05	242.7	0.3	2.3	0.7	49.6	0.46	7.32	0.37	58	0.38	0.174	
1758678	Soil	4.88	54.87	23.64	146.6	212	41.7	29.9	>10000	3.53	227.2	0.4	0.8	0.3	81.0	1.62	5.70	0.41	41	0.60	0.235	
1758679	Soil	0.85	31.50	6.03	83.2	44	21.0	18.0	2016	3.49	61.8	0.2	<0.2	0.8	30.0	0.12	0.54	0.17	64	0.54	0.172	
1758680	Soil	2.55	61.76	5.62	81.2	48	19.6	24.7	1306	5.24	317.9	0.3	0.5	0.7	21.2	0.09	0.71	0.11	71	0.45	0.057	
1758681	Soil	0.73	53.96	8.19	112.5	73	30.1	35.4	1764	4.30	457.0	0.2	0.6	0.7	36.5	0.19	6.80	0.18	52	0.64	0.160	
1758682	Soil	0.43	18.22	6.40	55.2	95	12.8	8.7	868	1.87	26.7	0.2	0.2	0.4	25.1	0.08	0.34	0.09	37	0.27	0.082	

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: PL-12  
 Report Date: June 28, 2012

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# CERTIFICATE OF ANALYSIS

VAN12002710.1

Method	Analyte	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
Unit	MDL	ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1758653	Soil	7.8	8.6	0.47	257.8	0.104	<20	0.91	0.021	0.26	<0.1	2.8	0.07	<0.02	68	<0.1	0.04	4.2
1758654	Soil	4.1	10.9	0.23	92.4	0.064	<20	0.57	0.016	0.07	<0.1	1.6	0.03	<0.02	15	<0.1	0.02	2.3
1758655	Soil	4.3	9.0	0.25	153.8	0.062	<20	0.72	0.013	0.08	<0.1	1.9	0.03	<0.02	21	<0.1	<0.02	2.8
1758656	Soil	5.7	15.8	0.31	131.5	0.088	<20	0.79	0.018	0.08	<0.1	2.4	0.03	<0.02	17	<0.1	<0.02	3.3
1758657	Soil	3.2	12.2	0.22	164.2	0.066	<20	1.17	0.007	0.07	<0.1	1.6	0.03	<0.02	20	<0.1	<0.02	4.5
1758658	Soil	10.8	17.8	0.44	353.5	0.090	<20	2.34	0.011	0.12	0.1	4.8	0.10	0.04	56	0.8	0.10	5.9
1758659	Soil	4.0	12.6	0.23	172.5	0.077	<20	1.05	0.009	0.05	<0.1	1.7	0.07	<0.02	32	0.1	0.05	6.4
1758660	Soil	14.8	22.4	0.45	363.3	0.089	<20	3.64	0.008	0.16	<0.1	6.8	0.11	<0.02	38	0.4	0.04	9.4
1758661	Soil	9.0	16.0	0.23	704.7	0.081	<20	1.81	0.010	0.09	<0.1	2.8	0.14	0.02	71	0.3	0.05	7.0
1758662	Soil	6.0	13.3	0.29	644.7	0.093	<20	2.04	0.011	0.13	<0.1	2.0	0.15	0.04	102	0.5	0.07	6.4
1758663	Soil	8.5	18.5	0.22	473.6	0.018	<20	1.48	0.010	0.06	1.3	2.7	0.16	0.03	53	0.2	1.04	6.3
1758664	Soil	8.7	32.6	0.51	453.6	0.038	<20	2.77	0.009	0.10	5.4	5.4	0.21	0.03	110	0.7	0.94	8.5
1758665	Soil	4.1	14.5	0.30	184.9	0.061	<20	1.69	0.005	0.07	6.2	1.7	0.10	<0.02	26	<0.1	0.22	7.6
1758666	Soil	8.2	10.6	0.25	2235	0.002	<20	2.16	0.004	0.11	1.6	3.5	0.14	0.04	74	0.7	2.43	6.3
1758667	Soil	9.2	7.7	0.11	2133	0.014	<20	1.17	0.007	0.08	0.2	1.2	0.28	0.03	193	0.3	0.28	5.2
1758668	Soil	6.3	35.6	1.31	243.3	0.112	<20	3.25	0.006	0.07	3.9	7.2	0.27	0.02	58	0.4	1.14	12.4
1758669	Soil	5.7	14.6	0.24	327.0	0.039	<20	2.40	0.005	0.06	0.2	1.7	0.16	<0.02	54	0.1	0.21	7.2
1758670	Soil	6.0	18.4	0.38	508.9	0.038	<20	2.38	0.007	0.08	0.2	2.7	0.24	<0.02	44	0.1	0.23	7.4
1758671	Soil	4.8	13.6	0.19	376.8	0.059	<20	1.41	0.009	0.05	1.1	1.5	0.27	<0.02	100	0.1	0.06	6.7
1758672	Soil	5.8	16.1	0.29	238.5	0.047	<20	2.22	0.005	0.04	0.5	2.4	0.15	<0.02	276	0.2	0.16	6.5
1758673	Soil	6.2	17.1	0.26	130.4	0.067	<20	2.71	0.006	0.05	0.7	2.8	0.20	<0.02	74	0.3	0.20	7.8
1758674	Soil	4.8	15.9	0.28	231.1	0.052	<20	2.05	0.005	0.05	1.6	2.0	0.17	<0.02	49	0.2	0.39	7.9
1758675	Soil	6.6	17.9	0.31	224.0	0.062	<20	2.58	0.006	0.05	0.2	2.4	0.16	<0.02	96	0.4	1.06	9.5
1758676	Soil	5.6	12.4	0.16	424.9	0.055	<20	1.82	0.010	0.05	0.2	2.4	0.13	<0.02	55	0.4	0.42	8.8
1758677	Soil	5.9	17.9	0.38	472.3	0.032	<20	1.84	0.005	0.09	<0.1	3.7	0.13	<0.02	90	0.4	0.15	6.3
1758678	Soil	9.6	16.9	0.15	515.2	0.014	<20	2.20	0.005	0.07	0.1	1.8	0.21	0.06	200	0.9	0.13	5.4
1758679	Soil	5.6	20.7	0.29	701.9	0.014	<20	2.22	0.008	0.14	<0.1	5.6	0.15	<0.02	84	<0.1	0.08	7.5
1758680	Soil	5.6	14.0	0.35	452.6	0.002	<20	2.11	0.003	0.10	<0.1	10.7	0.11	<0.02	58	0.2	0.04	6.0
1758681	Soil	4.2	16.6	0.53	319.4	0.027	<20	2.16	0.024	0.07	<0.1	4.5	0.10	0.02	79	<0.1	0.08	6.9
1758682	Soil	3.8	13.2	0.31	186.4	0.054	<20	1.65	0.006	0.07	<0.1	1.9	0.07	<0.02	37	0.1	<0.02	5.7



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Project: PL-12  
 Report Date: June 28, 2012

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# CERTIFICATE OF ANALYSIS

VAN12002710.1

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	%	%
1758683	Soil	0.29	29.64	3.91	34.3	72	11.9	7.5	251	1.93	11.8	0.3	3.8	1.1	19.0	0.04	0.29	0.05	42	0.15	0.028
1758684	Soil	0.29	5.39	6.30	42.7	60	6.7	3.5	203	1.35	18.3	0.1	3.9	0.4	10.2	0.06	0.12	0.08	28	0.16	0.050
1758685	Soil	0.14	5.27	5.15	26.5	37	4.8	3.0	540	1.00	7.4	<0.1	0.9	0.3	12.3	0.08	0.05	0.09	22	0.20	0.035
1758686	Soil	0.20	6.33	4.25	30.6	35	7.6	3.7	232	1.35	6.5	<0.1	0.5	0.3	10.1	0.05	0.09	0.07	30	0.16	0.026
1758687	Soil	0.23	12.80	4.35	58.5	17	11.1	6.0	313	1.69	19.6	0.1	2.3	0.5	17.1	0.06	0.19	0.06	33	0.25	0.013
1758688	Soil	0.15	7.76	5.25	72.1	58	7.6	5.6	1147	1.44	3.4	0.1	1.6	0.3	26.5	0.17	0.09	0.05	31	0.32	0.045
1758689	Soil	0.08	12.98	4.30	34.2	115	5.6	5.1	637	1.19	2.0	0.4	1.8	0.5	36.6	0.05	0.09	0.03	24	0.37	0.022
1758690	Soil	0.13	14.84	3.33	38.5	31	8.2	6.9	520	1.61	2.8	0.2	0.3	0.8	24.6	0.07	0.14	0.03	36	0.31	0.049
1758691	Soil	0.07	8.93	2.71	29.5	20	5.8	4.4	300	1.49	1.0	0.2	0.7	0.8	26.0	0.03	0.11	<0.02	34	0.30	0.055
1758692	Soil	0.39	40.68	5.68	80.6	99	11.7	11.5	816	2.97	47.0	0.5	3.6	1.8	36.2	0.09	1.46	0.08	51	0.49	0.090
1758693	Soil	0.22	11.46	2.51	50.6	29	7.3	5.9	471	1.58	1.8	0.2	0.5	0.7	18.3	0.04	0.15	<0.02	36	0.28	0.097
1758694	Soil	0.25	15.36	4.86	60.7	60	8.1	6.6	1098	1.60	3.0	0.2	1.9	0.3	34.5	0.17	0.12	0.04	37	0.61	0.079
1758695	Soil	0.29	22.90	4.23	53.2	101	10.1	9.2	530	2.40	4.3	0.4	0.2	1.0	26.1	0.06	0.16	0.02	53	0.36	0.126
1758696	Soil	0.19	12.48	3.46	30.5	31	6.2	5.6	352	1.42	2.5	0.1	0.8	0.3	21.8	0.07	0.21	<0.02	33	0.38	0.047
1758697	Soil	0.17	12.76	2.55	28.4	47	6.0	4.1	276	1.31	5.2	0.2	3.4	0.3	18.6	0.05	0.18	<0.02	28	0.35	0.041
1758698	Soil	0.19	8.11	4.11	68.9	57	6.4	5.0	1114	1.42	3.3	0.1	14.4	0.3	10.6	0.15	0.09	0.05	29	0.13	0.094
1758699	Soil	0.47	52.44	20.48	374.3	153	23.7	16.4	2722	2.96	22.1	0.5	<0.2	0.9	21.7	1.28	0.95	0.16	51	0.39	0.146
1758700	Soil	0.70	43.14	5.71	71.3	49	20.9	20.1	875	3.18	30.2	0.3	<0.2	0.8	17.1	0.09	1.26	0.07	59	0.28	0.087
1758701	Soil	0.55	37.96	7.99	110.7	62	35.2	17.4	734	2.98	17.8	0.2	1.2	0.9	27.6	0.18	0.37	0.13	50	0.27	0.049
1758702	Soil	0.94	57.31	7.31	119.0	76	34.3	16.7	592	3.13	21.0	0.5	3.4	1.5	18.3	0.26	0.48	0.14	59	0.18	0.085
1758703	Soil	0.95	75.18	11.02	230.8	182	66.4	30.5	2783	3.66	49.6	0.3	1.1	0.9	35.8	0.55	0.61	0.49	60	0.43	0.098
1758704	Soil	1.49	62.25	110.3	287.2	329	42.3	36.5	1320	4.13	244.8	0.5	<0.2	1.4	23.4	0.38	0.90	3.06	71	0.31	0.082
1758705	Soil	0.44	65.05	6.11	120.3	45	25.2	15.9	467	3.31	39.5	0.3	0.5	1.0	37.6	0.37	0.62	0.16	68	0.24	0.027
1758706	Soil	1.13	54.31	8.03	217.0	196	47.8	21.1	2256	4.47	538.6	0.4	<0.2	1.2	36.4	0.54	2.98	0.51	60	0.54	0.057
1758707	Soil	1.09	37.74	7.40	154.7	90	26.8	18.4	2607	3.14	36.7	0.4	<0.2	1.1	51.1	0.33	0.50	0.38	57	0.43	0.083
1758708	Soil	1.02	49.69	6.59	81.7	127	19.6	15.9	916	3.26	43.2	0.5	1.1	1.0	41.9	0.20	0.92	0.27	58	0.37	0.078
1758709	Soil	0.38	62.06	3.15	83.3	60	25.1	7.9	158	3.52	8.0	0.3	<0.2	1.0	40.0	0.07	0.39	0.26	96	0.23	0.037
1758710	Soil	0.32	43.18	5.48	88.2	32	29.3	12.8	703	3.65	10.0	0.4	2.2	0.9	56.4	0.07	0.95	0.54	101	0.28	0.045
1758711	Soil	0.44	56.23	4.41	76.1	45	15.7	8.3	220	2.97	9.5	0.3	<0.2	1.1	30.9	0.04	1.31	0.09	77	0.15	0.035
1758712	Soil	0.44	34.07	3.40	68.1	28	19.3	7.4	138	3.00	8.8	0.2	<0.2	0.6	25.0	0.04	0.85	0.12	83	0.15	0.023

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 2000 - 1177 West Hastings Street  
 Vancouver BC V6E 2K3 Canada

Project: PL-12  
 Report Date: June 28, 2012

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CERTIFICATE OF ANALYSIS

VAN12002710.1

Method	Analyte	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
Unit	MDL	ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1758683	Soil	3.9	13.4	0.41	256.5	0.056	<20	2.21	0.006	0.09	<0.1	3.0	0.04	<0.02	38	0.4	<0.02	5.1
1758684	Soil	2.3	8.5	0.14	54.5	0.070	<20	1.08	0.009	0.05	<0.1	1.1	0.03	<0.02	27	0.1	<0.02	4.9
1758685	Soil	2.6	6.8	0.12	87.8	0.066	<20	0.67	0.010	0.05	<0.1	1.1	0.03	<0.02	31	0.2	0.03	3.8
1758686	Soil	2.3	9.3	0.17	63.0	0.062	<20	1.12	0.008	0.05	<0.1	1.1	0.04	<0.02	13	0.1	<0.02	4.2
1758687	Soil	3.4	11.3	0.37	85.2	0.101	<20	1.37	0.011	0.06	<0.1	3.1	0.07	<0.02	423	<0.1	0.03	4.0
1758688	Soil	3.3	9.2	0.27	153.5	0.049	<20	1.03	0.009	0.08	<0.1	1.6	0.04	<0.02	46	0.2	<0.02	4.1
1758689	Soil	13.4	8.0	0.26	136.1	0.049	<20	1.21	0.011	0.05	<0.1	2.9	0.06	<0.02	30	<0.1	<0.02	3.4
1758690	Soil	5.0	11.2	0.36	166.8	0.070	<20	0.95	0.012	0.11	<0.1	2.7	0.04	<0.02	36	<0.1	<0.02	3.0
1758691	Soil	5.2	8.3	0.30	135.0	0.074	<20	0.74	0.018	0.14	<0.1	2.3	0.04	<0.02	22	0.2	<0.02	2.8
1758692	Soil	10.3	10.0	0.69	466.7	0.123	<20	1.55	0.020	0.45	<0.1	6.2	0.12	<0.02	139	0.3	0.07	6.9
1758693	Soil	3.6	10.5	0.36	100.8	0.069	<20	0.90	0.011	0.07	<0.1	2.2	0.03	<0.02	31	0.1	0.04	4.2
1758694	Soil	4.1	9.7	0.38	230.6	0.068	<20	0.84	0.012	0.11	<0.1	1.8	0.05	0.02	62	<0.1	<0.02	3.8
1758695	Soil	5.4	12.9	0.56	153.9	0.132	<20	1.26	0.013	0.17	<0.1	3.5	0.08	<0.02	63	0.2	<0.02	5.4
1758696	Soil	2.8	8.5	0.31	87.9	0.052	<20	0.74	0.011	0.09	<0.1	1.9	0.02	<0.02	415	<0.1	<0.02	2.5
1758697	Soil	2.5	6.0	0.24	78.6	0.044	<20	0.81	0.009	0.07	<0.1	1.5	0.04	<0.02	29	0.2	<0.02	2.6
1758698	Soil	3.1	8.9	0.18	128.9	0.055	<20	0.98	0.007	0.06	<0.1	1.2	0.05	<0.02	16	<0.1	<0.02	4.1
1758699	Soil	12.2	20.6	0.48	426.7	0.089	<20	2.65	0.008	0.09	<0.1	5.2	0.10	<0.02	140	<0.1	0.05	8.6
1758700	Soil	3.8	20.6	0.51	121.7	0.071	<20	2.25	0.004	0.06	0.1	3.6	0.06	<0.02	65	<0.1	<0.02	7.5
1758701	Soil	4.9	21.8	0.64	194.6	0.071	<20	2.80	0.006	0.09	<0.1	3.2	0.09	<0.02	23	<0.1	0.04	9.4
1758702	Soil	4.7	26.5	0.68	125.1	0.124	<20	3.69	0.003	0.07	0.1	4.7	0.15	<0.02	45	0.3	0.07	10.2
1758703	Soil	10.2	27.6	0.65	549.9	0.038	<20	3.23	0.008	0.09	<0.1	4.8	0.14	<0.02	70	0.2	0.23	10.2
1758704	Soil	5.6	26.0	0.59	266.4	0.087	<20	4.21	0.005	0.08	0.3	4.9	0.17	<0.02	67	<0.1	0.63	13.4
1758705	Soil	5.1	26.5	0.90	214.2	0.074	<20	3.31	0.005	0.09	0.2	5.6	0.07	<0.02	29	0.2	<0.02	8.4
1758706	Soil	6.4	20.5	0.49	904.4	0.036	<20	2.73	0.006	0.11	<0.1	6.3	0.15	<0.02	77	0.1	0.25	8.1
1758707	Soil	7.5	23.8	0.58	282.9	0.094	<20	3.05	0.007	0.09	<0.1	4.4	0.10	<0.02	43	0.4	0.04	9.2
1758708	Soil	6.0	19.1	0.52	201.7	0.075	<20	3.12	0.004	0.07	0.1	4.1	0.12	<0.02	59	0.2	0.14	8.8
1758709	Soil	5.1	33.2	0.11	395.5	0.005	<20	0.88	0.007	0.09	<0.1	11.0	0.08	<0.02	222	0.2	<0.02	2.8
1758710	Soil	8.5	32.8	0.10	571.4	0.004	<20	1.05	0.004	0.07	<0.1	15.1	0.06	<0.02	238	<0.1	<0.02	2.7
1758711	Soil	5.2	24.2	0.09	301.1	0.005	<20	0.75	0.005	0.08	<0.1	11.5	0.06	<0.02	810	<0.1	<0.02	2.3
1758712	Soil	2.9	26.0	0.09	352.9	0.003	<20	0.84	0.004	0.08	<0.1	6.4	0.07	<0.02	4181	0.2	<0.02	2.8

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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	1F
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
Unit	MDL	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
1758713	Soil	0.45	27.59	5.52	81.2	44	21.8	10.0	152	2.69	6.7	0.3	1.1	0.9	26.5	0.06	0.28	0.06	68	0.17	0.052
1758714	Soil	0.23	14.88	2.05	34.9	11	11.9	4.6	104	1.70	7.7	0.2	<0.2	0.7	14.1	0.04	0.38	<0.02	47	0.11	0.017
1758715	Soil	0.74	26.72	7.34	76.4	200	17.2	7.2	273	1.94	17.3	0.4	1.0	1.1	25.9	0.31	0.11	0.13	30	0.20	0.041
1758716	Soil	0.43	8.93	3.80	55.4	86	6.5	2.7	90	1.81	13.7	0.2	<0.2	0.8	15.0	0.08	0.07	0.07	37	0.05	0.034
1758717	Soil	0.42	11.14	5.96	63.3	59	8.0	5.6	279	2.11	14.1	0.2	<0.2	0.9	19.7	0.11	0.04	0.11	58	0.04	0.046
1758718	Soil	0.78	24.45	5.08	59.6	42	10.6	4.8	130	2.03	38.7	0.3	<0.2	0.9	14.5	0.12	0.21	0.10	39	0.09	0.020
1758719	Soil	0.79	18.64	4.67	40.6	134	9.8	5.4	118	1.66	18.4	0.2	0.9	0.7	14.2	0.21	0.42	0.06	32	0.06	0.022
1758720	Soil	0.41	10.41	5.04	46.4	31	9.4	5.4	304	1.97	4.7	0.2	0.5	0.6	15.9	0.10	0.10	0.08	48	0.07	0.037
1758721	Soil	0.69	11.45	4.74	74.5	45	11.2	6.8	431	1.70	1.8	0.3	0.6	0.7	21.3	0.04	0.33	0.09	38	0.19	0.056
1758722	Soil	0.19	11.92	2.66	43.4	43	8.0	4.8	230	1.31	1.4	0.2	0.3	0.4	13.9	0.03	0.12	0.03	31	0.10	0.021
1758723	Soil	0.38	29.24	9.96	109.2	107	20.0	10.0	871	2.56	6.3	0.3	1.1	0.7	28.7	0.23	0.67	0.19	44	0.24	0.161
1758724	Soil	0.27	27.54	5.38	83.9	79	15.2	7.6	318	2.13	4.1	0.3	0.4	0.6	32.1	0.20	0.35	0.09	40	0.26	0.195
1758725	Soil	0.19	7.70	4.42	92.2	58	6.2	5.0	776	1.21	1.9	0.1	1.7	0.2	19.2	0.19	0.21	0.08	26	0.15	0.071
1758726	Soil	0.52	32.50	6.10	80.7	111	15.2	9.8	847	2.77	6.7	0.6	0.6	0.8	33.9	0.14	0.25	0.07	54	0.29	0.165
1758727	Soil	0.58	20.86	5.41	68.9	118	13.0	7.9	600	2.15	5.5	0.5	0.2	0.6	32.3	0.09	0.24	0.07	45	0.31	0.068
1758728	Soil	0.61	19.17	6.50	102.0	68	16.9	9.5	647	2.43	5.2	0.3	<0.2	0.5	36.5	0.14	0.20	0.20	49	0.44	0.082
1758729	Soil	0.56	25.15	5.29	123.6	83	13.4	10.0	920	2.69	7.5	0.3	0.8	0.7	30.8	0.16	0.25	0.11	51	0.26	0.347
1758730	Soil	0.83	11.95	6.87	90.4	64	10.3	8.8	848	2.05	3.8	0.4	0.4	0.5	26.7	0.08	0.29	0.10	42	0.23	0.038
1758731	Soil	0.57	23.51	6.99	124.5	60	28.8	11.2	760	2.73	8.8	0.4	0.5	1.0	30.7	0.15	0.34	0.11	51	0.31	0.114
1758732	Soil	0.85	25.36	9.28	185.5	121	15.6	10.1	2092	2.02	8.8	1.2	0.9	0.3	48.0	0.81	0.38	0.12	35	0.63	0.122
1758733	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758734	Soil	0.60	38.41	7.24	94.0	77	19.4	10.8	1047	2.59	15.4	0.6	1.4	0.8	47.2	0.19	0.70	0.08	53	0.62	0.180
1758735	Soil	0.79	41.94	7.93	68.9	174	23.0	10.6	524	2.93	15.9	0.6	0.6	0.9	25.7	0.11	0.85	0.08	58	0.32	0.095
1758736	Soil	0.34	19.32	3.43	52.2	57	13.3	7.1	372	1.88	5.5	0.4	0.4	1.1	17.4	0.04	0.24	0.04	41	0.21	0.048
1758737	Soil	1.09	22.94	4.50	67.6	83	17.0	8.1	324	2.18	7.6	1.4	0.5	1.2	18.5	0.05	0.36	0.07	44	0.19	0.040
1758738	Soil	0.73	20.38	5.36	82.9	44	17.2	9.0	587	2.34	6.5	0.3	0.3	1.0	16.8	0.08	0.32	0.09	43	0.20	0.099
1758739	Soil	1.36	14.09	5.64	71.3	59	15.2	8.4	453	2.13	5.9	0.5	<0.2	0.6	22.7	0.08	0.31	0.08	43	0.28	0.042
1758740	Soil	0.61	16.14	9.22	95.6	132	11.6	6.8	1442	1.71	7.4	0.2	0.4	0.5	32.0	0.29	0.33	0.11	28	0.42	0.291
1758741	Soil	1.60	25.44	6.97	100.9	82	17.9	10.4	824	2.66	11.0	0.7	<0.2	0.7	31.6	0.14	0.53	0.10	51	0.35	0.074
1758742	Soil	1.11	41.12	4.54	63.9	76	16.9	11.5	449	2.83	8.7	1.1	0.9	1.1	30.7	0.08	0.57	0.06	61	0.32	0.044

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		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	
MDL		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.01	0.02	0.02	5	0.1	0.02	0.1	
1758713	Soil	3.8	29.0	0.14	579.7	0.012	<20	2.33	0.006	0.09	<0.1	4.6	0.11	<0.02	<5	<0.02	5.6	
1758714	Soil	3.0	15.7	0.10	194.9	0.007	<20	0.53	0.006	0.04	<0.1	3.6	0.04	<0.02	37	<0.1	<0.02	1.5
1758715	Soil	5.0	11.0	0.13	619.6	0.003	<20	1.03	0.003	0.09	<0.1	3.3	0.12	<0.02	40	0.3	<0.02	2.7
1758716	Soil	2.6	12.6	0.05	179.9	0.001	<20	0.92	0.002	0.06	<0.1	2.3	0.07	<0.02	39	0.2	<0.02	1.8
1758717	Soil	2.8	12.7	0.04	269.6	0.002	<20	0.89	0.001	0.07	<0.1	3.5	0.08	<0.02	23	0.1	<0.02	2.5
1758718	Soil	3.7	11.7	0.07	212.2	0.002	<20	0.62	0.005	0.06	<0.1	3.7	0.07	<0.02	47	<0.1	0.02	1.6
1758719	Soil	2.5	8.9	0.10	166.8	0.005	<20	1.04	0.007	0.05	<0.1	2.4	0.08	<0.02	128	0.2	0.02	2.3
1758720	Soil	2.6	10.8	0.11	323.9	0.010	<20	1.15	0.005	0.06	<0.1	2.4	0.11	<0.02	27	<0.1	0.03	4.1
1758721	Soil	3.3	14.6	0.38	172.1	0.063	<20	1.27	0.009	0.07	<0.1	1.8	0.05	<0.02	25	<0.1	0.02	4.8
1758722	Soil	3.1	9.5	0.23	144.8	0.029	<20	0.94	0.008	0.07	<0.1	1.3	0.04	<0.02	60	<0.1	<0.02	3.1
1758723	Soil	4.4	14.4	0.37	449.7	0.033	<20	1.85	0.008	0.10	<0.1	2.9	0.07	<0.02	46	<0.1	0.10	6.0
1758724	Soil	3.8	14.6	0.35	374.5	0.019	<20	1.74	0.008	0.10	<0.1	3.1	0.06	<0.02	46	0.1	0.07	5.2
1758725	Soil	2.9	8.9	0.21	249.3	0.014	<20	0.88	0.008	0.05	<0.1	1.2	0.05	<0.02	25	<0.1	0.03	3.4
1758726	Soil	6.1	18.6	0.41	495.3	0.022	<20	1.86	0.008	0.11	<0.1	5.2	0.08	<0.02	311	0.2	<0.02	5.6
1758727	Soil	4.3	15.7	0.34	326.7	0.042	<20	1.59	0.009	0.06	<0.1	3.3	0.06	<0.02	96	0.3	0.03	5.0
1758728	Soil	2.6	17.5	0.49	276.7	0.071	<20	2.21	0.011	0.08	<0.1	2.9	0.03	<0.02	50	0.1	0.03	6.7
1758729	Soil	3.3	15.1	0.44	392.1	0.053	<20	2.09	0.010	0.07	<0.1	4.0	0.06	<0.02	72	0.1	0.04	7.0
1758730	Soil	3.7	13.4	0.35	223.5	0.063	<20	1.39	0.010	0.07	<0.1	2.3	0.07	<0.02	66	<0.1	0.03	5.2
1758731	Soil	5.4	20.2	0.52	377.1	0.075	<20	2.62	0.008	0.11	<0.1	3.5	0.08	<0.02	78	<0.1	<0.02	8.4
1758732	Soil	4.4	15.6	0.36	498.1	0.057	<20	1.73	0.007	0.08	<0.1	2.4	0.07	0.03	139	0.2	0.03	5.7
1758733	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758734	Soil	7.4	18.0	0.53	320.3	0.063	<20	1.93	0.023	0.21	<0.1	4.6	0.08	<0.02	95	0.1	0.03	6.0
1758735	Soil	4.9	19.1	0.62	278.1	0.064	<20	2.24	0.011	0.13	<0.1	4.0	0.07	<0.02	108	0.2	0.06	5.9
1758736	Soil	6.2	15.6	0.38	191.7	0.069	<20	1.34	0.009	0.09	<0.1	3.1	0.07	<0.02	55	<0.1	0.03	4.6
1758737	Soil	6.1	16.8	0.41	189.1	0.073	<20	1.87	0.008	0.08	<0.1	3.1	0.07	<0.02	80	0.2	<0.02	5.7
1758738	Soil	4.2	16.1	0.42	243.2	0.069	<20	2.16	0.010	0.09	<0.1	2.7	0.08	<0.02	58	<0.1	0.02	6.4
1758739	Soil	3.3	14.1	0.37	206.8	0.062	<20	1.88	0.010	0.07	<0.1	2.3	0.06	<0.02	50	0.1	0.03	5.7
1758740	Soil	3.5	12.0	0.27	435.9	0.064	<20	1.66	0.009	0.08	<0.1	1.7	0.06	0.04	99	0.2	0.03	5.6
1758741	Soil	3.4	17.1	0.45	205.1	0.062	<20	2.06	0.011	0.06	<0.1	3.4	0.07	<0.02	149	0.1	0.03	6.7
1758742	Soil	5.6	18.9	0.49	289.8	0.071	<20	1.83	0.014	0.10	<0.1	6.3	0.06	<0.02	175	0.2	0.02	5.6

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 2000 - 1177 West Hastings Street  
 Vancouver BC V6E 2K3 Canada

Project: PL-12  
 Report Date: June 28, 2012

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QUALITY CONTROL REPORT

VAN12002710.1

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																					
1759095	Soil	0.61	19.64	6.27	78.9	72	18.5	8.6	246	2.51	5.8	0.3	0.7	1.3	10.7	0.10	0.43	0.07	36	0.08	0.061
REP 1759095	QC	0.63	19.87	6.56	83.3	76	19.5	8.4	262	2.61	6.2	0.3	0.7	1.3	11.4	0.14	0.41	0.07	36	0.08	0.066
1759131	Soil	0.26	8.88	3.63	47.6	90	6.9	4.2	338	1.18	2.4	0.2	<0.2	0.5	8.4	0.06	0.15	0.06	21	0.05	0.033
REP 1759131	QC	0.28	8.36	3.62	49.3	89	6.7	4.1	330	1.17	2.5	0.2	0.2	0.5	8.7	0.06	0.16	0.06	21	0.05	0.033
1759143	Soil	0.21	6.42	13.94	79.5	325	4.6	3.6	724	0.96	1.6	0.4	2.1	0.3	20.8	0.19	0.11	0.26	19	0.12	0.025
REP 1759143	QC	0.22	6.44	14.30	78.9	337	4.8	3.7	744	0.96	1.8	0.4	2.0	0.3	20.4	0.21	0.11	0.21	19	0.12	0.025
1758611	Soil	0.32	9.88	5.77	45.2	49	7.5	5.2	99	1.44	3.7	0.1	1.9	0.5	12.8	0.05	0.06	0.06	34	0.14	0.010
REP 1758611	QC	0.32	9.87	5.71	45.0	55	8.1	4.7	102	1.43	3.5	0.1	1.1	0.5	11.8	0.05	0.11	0.04	34	0.13	0.009
1758647	Soil	33.47	1530	6.54	510.8	90	72.1	10.1	886	2.23	56.8	3.2	3.7	1.1	98.1	1.51	5.27	0.16	36	0.70	0.059
REP 1758647	QC	34.09	1519	6.66	523.8	86	74.5	10.7	910	2.28	56.9	3.1	2.8	1.1	96.8	1.47	5.23	0.15	37	0.69	0.058
1758683	Soil	0.29	29.64	3.91	34.3	72	11.9	7.5	251	1.93	11.8	0.3	3.8	1.1	19.0	0.04	0.29	0.05	42	0.15	0.028
REP 1758683	QC	0.27	32.40	3.97	34.6	91	12.9	7.6	268	2.01	12.2	0.3	2.6	1.1	19.2	0.02	0.32	0.05	43	0.14	0.033
1758718	Soil	0.78	24.45	5.08	59.6	42	10.6	4.8	130	2.03	38.7	0.3	<0.2	0.9	14.5	0.12	0.21	0.10	39	0.09	0.020
REP 1758718	QC	0.74	23.92	4.91	57.4	40	10.4	4.9	123	2.00	37.7	0.3	0.4	0.8	14.3	0.12	0.21	0.10	39	0.08	0.019
Reference Materials																					
STD DS9	Standard	13.75	116.8	125.4	335.6	1890	41.6	7.8	582	2.35	27.9	2.9	112.6	6.8	77.9	2.65	5.94	7.07	38	0.72	0.091
STD DS9	Standard	13.94	118.2	131.9	329.7	1733	44.6	8.6	620	2.47	26.7	3.0	106.9	6.5	76.1	2.52	4.56	6.78	42	0.76	0.098
STD DS9	Standard	14.34	114.7	139.3	322.0	2064	43.5	7.9	595	2.43	28.4	2.9	131.4	6.3	71.8	2.57	4.72	6.80	40	0.73	0.085
STD DS9	Standard	12.43	108.4	120.8	301.3	1747	41.5	7.8	571	2.33	25.6	2.6	97.9	5.6	64.9	2.43	4.63	5.89	37	0.68	0.091
STD DS9	Standard	11.96	112.5	124.8	307.1	1710	41.4	8.2	579	2.34	25.8	2.5	111.1	6.0	66.5	2.39	4.47	6.64	39	0.70	0.094
STD DS9	Standard	13.54	114.0	130.7	335.4	1852	42.5	8.2	621	2.44	28.1	2.7	122.2	6.3	77.4	2.60	4.85	7.01	41	0.75	0.092
STD DS9	Standard	13.73	120.7	137.8	319.8	2162	43.4	8.1	632	2.42	27.8	2.9	122.6	7.0	68.4	2.41	4.22	5.76	39	0.74	0.088
STD DS9	Standard	12.31	112.6	126.1	309.1	2111	40.6	8.7	571	2.36	27.8	2.9	99.7	7.2	77.8	2.90	5.10	7.56	40	0.73	0.087
STD OREAS45CA	Standard	1.04	496.8	21.87	63.5	281	237.3	93.7	979	16.16	4.5	1.3	43.0	7.8	17.6	0.12	0.19	0.18	199	0.44	0.040
STD OREAS45CA	Standard	0.97	512.3	20.48	59.7	258	253.0	98.4	976	16.44	4.0	1.3	39.7	7.4	15.5	0.08	0.09	0.19	214	0.44	0.044
STD OREAS45CA	Standard	1.08	551.4	23.60	65.1	301	274.1	107.4	1010	18.05	4.5	1.4	47.0	8.3	17.1	0.10	0.11	0.19	231	0.47	0.046
STD OREAS45CA	Standard	0.98	492.6	19.15	56.3	244	226.3	91.2	906	14.85	3.6	1.1	38.7	6.5	14.6	0.07	0.13	0.15	192	0.41	0.042
STD OREAS45CA	Standard	1.06	519.9	20.46	59.7	272	258.9	103.4	958	16.64	3.9	1.3	42.7	7.5	15.7	0.09	0.11	0.19	221	0.44	0.047

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QUALITY CONTROL REPORT

VAN12002710.1

Method	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	Ti	S	Hg	Se	Te	Ga	
Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	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	
Pulp Duplicates																		
1759095	Soil	8.0	12.1	0.31	229.2	0.007	<20	1.42	0.004	0.06	<0.1	2.6	0.04	<0.02	31	<0.1	<0.02	4.1
REP 1759095	QC	8.3	12.7	0.31	240.4	0.008	<20	1.48	0.004	0.06	<0.1	2.7	0.05	<0.02	37	<0.1	0.03	4.3
1759131	Soil	4.6	7.0	0.10	181.7	0.006	<20	1.03	0.006	0.05	<0.1	1.2	0.08	<0.02	51	<0.1	<0.02	3.5
REP 1759131	QC	4.4	7.1	0.10	180.1	0.006	<20	1.03	0.007	0.05	<0.1	1.2	0.08	<0.02	39	<0.1	<0.02	3.6
1759143	Soil	5.6	6.7	0.10	344.1	0.012	<20	0.72	0.006	0.05	<0.1	0.9	0.08	<0.02	25	<0.1	<0.02	3.3
REP 1759143	QC	5.9	6.5	0.10	342.4	0.011	<20	0.72	0.006	0.05	<0.1	0.9	0.10	<0.02	28	<0.1	<0.02	3.3
1758611	Soil	2.5	11.8	0.20	174.8	0.022	<20	1.00	0.007	0.05	<0.1	1.4	0.05	<0.02	22	<0.1	0.03	3.2
REP 1758611	QC	2.4	11.1	0.20	164.6	0.017	<20	0.95	0.006	0.04	<0.1	1.4	0.05	<0.02	29	<0.1	<0.02	2.9
1758647	Soil	7.1	13.4	0.41	283.4	0.047	<20	1.05	0.010	0.14	<0.1	4.6	0.11	0.02	109	0.9	0.04	3.7
REP 1758647	QC	7.2	13.9	0.42	283.4	0.049	<20	1.08	0.011	0.15	<0.1	4.7	0.11	0.03	101	0.9	0.02	3.9
1758683	Soil	3.9	13.4	0.41	256.5	0.056	<20	2.21	0.006	0.09	<0.1	3.0	0.04	<0.02	38	0.4	<0.02	5.1
REP 1758683	QC	4.1	13.7	0.42	252.2	0.056	<20	2.12	0.006	0.09	<0.1	2.8	0.06	<0.02	77	0.2	<0.02	5.3
1758718	Soil	3.7	11.7	0.07	212.2	0.002	<20	0.62	0.005	0.06	<0.1	3.7	0.07	<0.02	47	<0.1	0.02	1.6
REP 1758718	QC	3.4	10.7	0.07	207.7	0.002	<20	0.62	0.005	0.06	<0.1	3.5	0.07	<0.02	16	<0.1	<0.02	1.5
Reference Materials																		
STD DS9	Standard	13.3	114.6	0.62	346.6	0.117	<20	0.95	0.086	0.41	2.5	2.6	5.65	0.16	210	5.7	5.25	4.6
STD DS9	Standard	13.7	117.7	0.66	355.7	0.122	<20	1.00	0.087	0.42	3.4	2.5	6.12	0.18	224	5.9	5.47	5.1
STD DS9	Standard	13.1	123.5	0.64	339.7	0.112	<20	0.97	0.083	0.41	2.9	2.5	6.18	0.18	236	5.9	5.40	4.7
STD DS9	Standard	11.0	112.0	0.61	307.0	0.103	<20	0.92	0.080	0.39	2.6	2.0	5.87	0.17	211	5.5	4.95	4.5
STD DS9	Standard	11.9	116.1	0.63	309.6	0.106	<20	0.92	0.079	0.40	2.7	2.3	5.70	0.17	203	5.6	5.28	4.7
STD DS9	Standard	13.6	119.5	0.64	354.6	0.111	<20	0.99	0.087	0.42	3.2	2.6	6.07	0.18	231	6.0	5.45	5.0
STD DS9	Standard	12.8	122.4	0.64	325.8	0.115	<20	0.98	0.081	0.41	2.8	2.5	6.10	0.17	275	5.7	5.85	5.3
STD DS9	Standard	13.0	127.3	0.62	348.9	0.112	<20	0.88	0.085	0.41	3.0	2.5	5.93	0.17	218	5.3	5.35	4.7
STD OREAS45CA	Standard	18.2	626.2	0.15	175.6	0.139	<20	3.42	0.007	0.07	<0.1	46.7	0.06	0.02	25	0.4	0.02	19.1
STD OREAS45CA	Standard	17.9	708.6	0.15	177.1	0.146	<20	3.69	0.010	0.08	<0.1	46.1	0.13	0.03	32	0.4	0.05	20.4
STD OREAS45CA	Standard	19.3	818.8	0.18	181.8	0.165	<20	4.05	0.007	0.08	<0.1	51.5	0.13	0.03	24	0.4	0.07	21.3
STD OREAS45CA	Standard	15.7	659.2	0.15	159.4	0.137	<20	3.50	0.012	0.07	<0.1	41.6	0.11	0.02	53	0.4	0.04	18.3
STD OREAS45CA	Standard	18.0	754.0	0.15	171.3	0.148	<20	3.65	0.011	0.08	<0.1	45.3	0.13	0.03	35	0.3	0.06	20.6

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Project: PL-12  
 Report Date: June 28, 2012

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QUALITY CONTROL REPORT

VAN12002710.1

		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	%	%
STD OREAS45CA	Standard	0.85	515.2	19.22	59.5	291	252.2	95.4	984	16.44	3.6	1.1	43.4	6.7	15.2	0.09	0.12	0.15	216	0.42	0.039
STD OREAS45CA	Standard	1.00	529.5	20.31	58.4	276	256.0	104.9	1014	16.06	3.9	1.2	35.6	7.2	14.7	0.13	0.08	0.15	216	0.43	0.038
STD OREAS45CA	Standard	0.98	531.7	23.74	69.0	296	253.6	100.0	955	17.00	4.4	1.4	41.5	8.5	18.7	0.13	0.14	0.21	217	0.47	0.043
STD OREAS45CA Expected		1	494	20	60	275	240	92	943	15.69	3.8	1.2	43	7	15	0.1	0.13	0.19	215	0.4265	0.0385
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
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	0.2	<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	3	<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	0.17	<0.01	0.4	<2	0.2	<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	0.08	<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	<0.1	<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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		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
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	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
STD OREAS45CA	Standard	16.8	707.7	0.13	179.2	0.127	<20	3.58	0.007	0.08	<0.1	46.4	0.06	0.03	33	0.5	0.03	18.8
STD OREAS45CA	Standard	16.0	757.3	0.16	159.8	0.139	<20	3.65	0.006	0.07	<0.1	43.5	0.11	<0.02	26	0.4	0.06	19.6
STD OREAS45CA	Standard	18.8	758.5	0.15	188.7	0.147	<20	3.69	0.008	0.07	<0.1	47.7	0.09	0.03	34	0.4	0.06	22.1
STD OREAS45CA Expected		15.9	709	0.1358	164	0.128		3.592	0.0075	0.0717		39.7	0.07	0.021	30	0.5	0.06	18.4
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
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
BLK	Blank	<0.5	0.7	<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
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
BLK	Blank	<0.5	0.9	<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
BLK	Blank	<0.5	0.6	<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
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
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



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Received: June 14, 2012
Report Date: June 28, 2012
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CERTIFICATE OF ANALYSIS

VAN12002711.1

CLIENT JOB INFORMATION

Project: PL-12
Shipment ID:
P.O. Number
Number of Samples: 104

SAMPLE DISPOSAL

RTRN-PLP Return
RTRN-RJT Return

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: Sunrise Drilling Ltd.
2000 - 1177 West Hastings Street
Vancouver BC V6E 2K3
Canada

CC: Krzvsztof
Brett Matich
Adrian Smith

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Table with 6 columns: Method Code, Number of Samples, Code Description, Test Wgt (g), Report Status, Lab. Rows include methods like Dry at 60C, SS80, RJSV, and 1F01.

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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CERTIFICATE OF ANALYSIS

VAN12002711.1

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	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	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
1759169	Soil	0.83	40.01	8.60	46.9	156	8.5	4.7	91	1.66	53.6	0.6	4.2	2.2	21.6	0.08	0.32	0.20	19	0.18	0.021	
1759170	Soil	0.65	36.82	7.78	72.4	36	16.0	10.4	496	2.49	64.1	0.4	3.8	2.5	27.7	0.12	0.39	0.24	29	0.16	0.036	
1759171	Soil	0.71	49.04	3.92	49.0	62	12.0	8.5	211	2.43	15.0	0.3	2.3	1.0	16.7	0.07	0.23	0.06	55	0.12	0.043	
1759172	Soil	0.82	51.81	7.20	69.3	48	15.8	13.2	718	3.09	30.5	0.7	3.6	1.7	30.3	0.09	0.41	0.12	61	0.26	0.057	
1759173	Soil	0.51	24.07	4.51	53.6	70	12.2	6.6	265	2.06	12.3	0.3	1.0	1.2	14.6	0.06	0.24	0.07	39	0.08	0.067	
1759174	Soil	0.33	52.95	4.31	48.5	30	11.7	10.5	427	2.45	7.4	0.6	2.0	1.6	21.3	0.04	0.18	0.03	54	0.17	0.043	
1759175	Soil	0.69	15.89	6.98	54.8	134	11.5	6.1	202	2.31	5.3	0.2	0.3	0.8	15.8	0.05	0.14	0.11	44	0.17	0.052	
1759176	Soil	0.31	13.98	3.72	59.0	22	16.6	6.8	212	1.62	3.3	0.2	1.5	0.7	18.3	<0.01	0.11	0.04	35	0.19	0.032	
1759177	Soil	0.24	5.51	3.10	33.8	36	5.9	4.1	195	1.20	3.6	0.1	0.3	0.3	12.1	0.01	0.09	0.04	31	0.12	0.040	
1759178	Soil	0.17	6.06	1.29	16.2	18	3.7	2.3	79	0.70	1.9	0.2	0.5	0.4	11.7	<0.01	0.06	<0.02	16	0.10	0.010	
1759179	Soil	0.53	17.56	6.06	63.8	58	10.5	7.2	509	1.77	4.8	0.5	0.4	0.6	27.2	0.02	0.16	0.05	35	0.26	0.075	
1759180	Soil	0.57	25.94	4.23	47.6	33	14.6	7.2	319	2.16	9.3	0.4	<0.2	0.9	17.3	0.02	0.17	0.03	44	0.15	0.097	
1759181	Soil	0.20	7.25	3.10	18.0	27	4.2	3.3	347	0.77	2.2	0.1	0.3	0.2	26.4	0.04	0.09	0.03	20	0.22	0.019	
1759182	Soil	0.25	11.04	2.55	24.4	42	5.6	3.6	125	1.31	4.7	0.2	<0.2	0.5	10.8	<0.01	0.12	0.02	32	0.09	0.025	
1759183	Soil	0.40	11.48	4.14	51.2	57	11.0	5.7	349	1.60	4.5	0.2	0.5	0.5	14.6	0.02	0.10	0.04	35	0.12	0.037	
1759184	Soil	0.40	13.00	5.35	57.6	54	13.8	6.7	576	1.58	4.8	0.2	<0.2	0.8	14.4	0.04	0.12	0.06	32	0.13	0.044	
1759185	Soil	0.45	10.66	5.81	62.6	54	15.4	6.7	357	1.85	5.6	0.3	0.5	1.0	14.6	0.02	0.15	0.08	38	0.10	0.055	
1759186	Soil	0.45	11.25	5.32	62.4	88	14.6	6.6	225	1.64	3.8	0.2	0.5	0.8	12.9	0.02	0.15	0.08	32	0.11	0.040	
1759187	Soil	0.52	14.21	5.15	65.1	71	15.2	7.0	344	1.84	4.8	0.3	0.6	0.9	15.1	0.05	0.19	0.07	37	0.09	0.051	
1759188	Soil	0.37	15.22	3.29	57.4	43	10.0	5.9	147	2.11	8.9	0.2	<0.2	0.7	22.2	<0.01	0.18	0.09	49	0.13	0.049	
1759189	Soil	0.37	5.45	4.41	37.4	48	7.0	3.8	384	1.28	3.4	0.2	<0.2	0.4	23.6	<0.01	0.16	0.08	30	0.13	0.032	
1759190	Soil	0.41	14.54	4.77	75.4	106	20.0	7.6	461	1.90	7.4	0.2	0.4	0.8	19.0	0.05	0.47	0.07	40	0.08	0.066	
1759191	Soil	0.28	11.01	3.94	62.7	60	13.1	4.9	231	1.83	7.4	0.2	3.9	0.6	24.6	0.06	0.43	0.08	41	0.10	0.051	
1759192	Soil	0.45	26.29	6.50	78.6	58	32.4	12.2	763	2.57	9.0	0.3	12.8	0.6	35.4	0.24	0.55	0.07	62	0.38	0.046	
1759193	Soil	0.31	6.44	5.60	92.1	18	11.1	6.0	672	1.60	4.4	0.1	1.6	0.5	24.6	0.05	0.88	0.07	39	0.13	0.036	
1759194	Soil	0.43	18.82	4.54	81.1	17	17.5	7.4	286	2.22	8.0	0.2	10.8	0.8	21.8	0.03	0.82	0.05	52	0.13	0.039	
1759195	Soil	0.55	19.20	4.59	54.4	30	17.3	7.4	243	2.32	9.0	0.2	0.3	0.6	26.5	0.02	0.47	0.06	53	0.16	0.030	
1759196	Soil	0.55	21.68	7.58	80.0	97	21.8	11.9	1014	2.73	10.0	0.9	1.1	1.6	36.4	0.21	0.32	0.12	49	0.41	0.042	
1759197	Soil	0.55	12.27	6.12	78.6	69	17.6	7.0	270	2.30	11.3	0.3	0.7	0.7	26.2	0.08	0.22	0.09	49	0.18	0.036	
1759198	Soil	0.52	16.01	6.42	98.8	59	22.9	10.6	809	2.58	9.8	0.3	1.1	0.8	37.5	0.16	0.25	0.21	62	0.18	0.038	

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Project: PL-12  
 Report Date: June 28, 2012

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CERTIFICATE OF ANALYSIS

VAN12002711.1

Method	Analyte	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
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	%	ppb	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
1759169	Soil	23.0	3.6	0.04	296.8	<0.001	<20	0.43	0.005	0.13	<0.1	4.0	0.07	<0.02	65	0.3	0.11	0.8
1759170	Soil	12.8	7.5	0.08	351.2	0.001	<20	0.54	0.008	0.10	<0.1	5.3	0.13	<0.02	2042	0.1	0.11	1.3
1759171	Soil	3.9	15.9	0.30	230.5	0.010	<20	1.46	0.007	0.08	<0.1	3.9	0.08	<0.02	36	<0.1	0.05	3.1
1759172	Soil	7.0	18.8	0.30	319.3	0.015	<20	1.07	0.015	0.10	<0.1	6.8	0.11	<0.02	213	0.2	0.08	2.8
1759173	Soil	5.3	12.7	0.18	162.2	0.012	<20	1.38	0.007	0.05	<0.1	2.9	0.08	<0.02	124	<0.1	<0.02	3.0
1759174	Soil	6.9	18.4	0.43	257.4	0.041	<20	1.69	0.011	0.11	<0.1	5.3	0.09	<0.02	64	0.2	0.03	4.0
1759175	Soil	3.0	13.2	0.19	253.5	0.039	<20	1.91	0.006	0.05	<0.1	1.9	0.08	<0.02	64	<0.1	0.03	7.0
1759176	Soil	3.6	14.8	0.27	205.4	0.032	<20	1.60	0.007	0.06	<0.1	1.9	0.04	<0.02	65	<0.1	0.03	4.5
1759177	Soil	2.4	8.1	0.12	121.1	0.013	<20	0.81	0.007	0.03	<0.1	1.0	0.03	<0.02	38	<0.1	<0.02	3.1
1759178	Soil	2.5	5.6	0.13	142.2	0.009	<20	0.67	0.009	0.03	<0.1	1.0	0.03	<0.02	86	<0.1	<0.02	1.7
1759179	Soil	4.6	15.3	0.25	232.9	0.023	<20	1.38	0.012	0.06	<0.1	2.5	0.06	<0.02	107	<0.1	<0.02	4.7
1759180	Soil	3.2	15.2	0.25	135.9	0.024	<20	2.16	0.014	0.08	<0.1	3.4	0.06	<0.02	77	0.2	0.03	3.9
1759181	Soil	2.8	5.9	0.11	173.6	0.013	<20	0.58	0.009	0.05	<0.1	0.9	0.02	<0.02	44	<0.1	<0.02	2.1
1759182	Soil	2.8	8.7	0.15	68.3	0.012	<20	1.01	0.009	0.03	<0.1	1.4	0.05	<0.02	69	<0.1	<0.02	3.3
1759183	Soil	3.4	12.7	0.21	148.9	0.023	<20	1.37	0.008	0.04	<0.1	1.8	0.05	<0.02	27	0.1	<0.02	4.6
1759184	Soil	3.8	12.6	0.21	152.7	0.032	<20	1.62	0.009	0.04	<0.1	1.9	0.08	<0.02	56	<0.1	<0.02	5.2
1759185	Soil	3.8	12.6	0.20	155.8	0.040	<20	2.07	0.008	0.04	<0.1	2.3	0.08	<0.02	48	<0.1	<0.02	6.1
1759186	Soil	3.8	12.6	0.19	154.0	0.040	<20	1.82	0.005	0.04	<0.1	1.9	0.07	<0.02	54	<0.1	<0.02	6.0
1759187	Soil	3.6	14.2	0.21	204.5	0.033	<20	2.03	0.005	0.04	<0.1	1.8	0.08	<0.02	69	0.2	<0.02	5.5
1759188	Soil	3.0	13.8	0.12	204.3	0.004	<20	1.49	0.004	0.05	<0.1	2.5	0.10	<0.02	229	0.2	0.03	3.7
1759189	Soil	2.7	9.1	0.12	321.8	0.007	<20	1.12	0.007	0.05	<0.1	1.6	0.07	<0.02	40	<0.1	<0.02	3.3
1759190	Soil	3.7	16.9	0.18	300.7	0.015	<20	1.38	0.006	0.05	<0.1	2.5	0.08	<0.02	112	<0.1	<0.02	4.2
1759191	Soil	2.9	13.5	0.09	388.2	0.006	<20	1.01	0.005	0.06	<0.1	2.0	0.08	<0.02	1011	<0.1	<0.02	3.3
1759192	Soil	5.1	44.3	0.20	603.2	0.006	<20	1.09	0.008	0.10	<0.1	5.6	0.07	<0.02	532	0.1	<0.02	3.2
1759193	Soil	3.1	12.9	0.12	441.4	0.018	<20	0.99	0.009	0.05	<0.1	1.7	0.07	<0.02	35	<0.1	<0.02	3.9
1759194	Soil	3.9	19.8	0.19	384.3	0.012	<20	1.66	0.004	0.07	<0.1	3.5	0.07	<0.02	66	<0.1	<0.02	4.7
1759195	Soil	3.0	18.7	0.13	323.9	0.009	<20	1.57	0.005	0.07	<0.1	3.1	0.07	<0.02	77	<0.1	<0.02	4.5
1759196	Soil	11.4	21.1	0.21	960.8	0.010	<20	1.75	0.005	0.10	<0.1	8.1	0.11	<0.02	200	0.3	<0.02	3.9
1759197	Soil	3.8	16.8	0.16	403.0	0.013	<20	1.18	0.007	0.06	<0.1	3.0	0.08	<0.02	44	<0.1	<0.02	3.7
1759198	Soil	4.9	21.5	0.14	597.4	0.014	<20	1.83	0.007	0.08	<0.1	3.1	0.10	<0.02	64	<0.1	<0.02	5.8

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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	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	ppb	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	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001	
1759199	Soil	0.18	11.02	7.29	220.4	312	19.5	8.5	1443	1.88	4.2	0.2	4.6	1.3	19.8	0.36	0.26	0.27	34	0.22	0.174
1759200	Soil	0.38	12.50	8.22	179.8	256	13.5	6.9	1168	1.65	3.6	0.2	31.1	0.5	21.9	0.33	0.50	0.19	31	0.22	0.082
1759201	Soil	0.69	27.92	7.36	125.6	138	22.1	7.7	349	2.54	6.2	0.3	4.0	0.8	16.0	0.16	2.00	0.28	40	0.14	0.080
1759202	Soil	0.33	26.60	3.97	74.9	88	16.9	8.2	388	2.00	3.4	0.2	1.9	0.8	24.9	0.11	0.27	0.09	45	0.23	0.090
1759203	Soil	0.51	21.28	9.94	142.0	133	23.8	9.4	926	2.32	5.4	0.3	1.9	1.2	25.2	0.24	0.46	0.14	43	0.20	0.127
1759204	Soil	0.45	22.56	9.45	197.3	217	21.9	8.8	845	2.31	7.9	0.5	5.5	1.1	36.1	0.71	1.03	0.23	35	0.35	0.253
1759205	Soil	0.38	12.87	3.84	110.2	114	9.0	4.6	357	1.50	2.6	0.2	161.1	0.6	21.5	0.33	0.44	0.17	32	0.22	0.076
1759206	Soil	0.29	17.74	5.42	115.9	231	16.4	6.4	407	1.85	4.0	0.3	1.1	1.1	18.6	0.15	0.29	0.12	36	0.17	0.273
1759207	Soil	0.43	24.12	6.76	178.5	127	20.2	9.8	1017	2.18	3.7	0.3	1.1	1.0	17.5	0.49	0.20	0.11	45	0.15	0.171
1759208	Soil	0.25	17.29	2.86	40.2	70	7.9	6.7	308	1.66	2.3	0.5	0.7	0.6	28.0	0.08	0.17	0.04	39	0.29	0.091
1759209	Soil	0.59	17.91	5.59	97.8	61	11.9	11.3	1335	2.36	3.3	0.3	<0.2	0.4	47.9	0.27	0.20	0.07	52	0.42	0.081
1759210	Soil	0.24	7.20	2.12	37.3	113	5.2	4.6	234	1.48	1.5	0.2	0.3	0.4	32.8	0.10	0.07	0.02	37	0.29	0.019
1759211	Soil	0.28	16.42	3.73	62.8	53	15.1	6.4	266	1.70	3.9	0.2	3.4	0.7	16.1	0.07	0.32	0.06	39	0.15	0.081
1759212	Soil	0.55	24.11	6.57	98.2	116	19.0	9.7	718	2.17	4.9	0.4	<0.2	1.2	19.8	0.11	0.22	0.11	44	0.20	0.102
1759213	Soil	0.46	21.70	4.61	72.3	119	16.6	8.0	288	2.03	4.4	0.3	<0.2	1.0	16.6	0.05	0.22	0.07	44	0.15	0.089
1759214	Soil	0.48	22.36	5.45	90.0	113	18.5	9.0	608	2.18	5.1	0.3	<0.2	1.2	18.6	0.10	0.23	0.08	45	0.16	0.115
1759215	Soil	0.39	19.94	6.67	109.9	142	16.5	9.4	1351	1.97	4.9	0.3	0.7	0.8	46.8	0.19	0.19	0.10	40	0.34	0.189
1759216	Soil	0.32	13.83	5.80	118.6	104	14.9	8.4	1175	1.85	4.0	0.2	<0.2	0.8	34.5	0.15	0.15	0.10	35	0.29	0.223
1759217	Soil	0.40	19.35	5.61	107.2	106	17.4	8.6	458	2.15	5.3	0.2	<0.2	1.1	24.3	0.12	0.16	0.09	45	0.20	0.116
1759218	Soil	0.37	21.47	4.20	70.9	101	12.6	8.6	500	2.12	5.0	0.3	<0.2	0.9	17.2	0.07	0.23	0.07	49	0.18	0.083
1759219	Soil	0.40	17.64	5.43	81.6	97	15.0	8.4	1092	1.96	4.2	0.3	<0.2	0.8	27.4	0.10	0.16	0.09	43	0.29	0.078
1759220	Soil	0.56	30.81	5.96	166.5	151	32.5	17.2	1169	2.29	4.1	0.4	<0.2	1.2	23.4	0.12	0.14	0.10	47	0.18	0.077
1759221	Soil	0.24	19.31	3.17	54.2	80	10.3	8.6	393	2.34	3.9	0.5	1.0	1.3	38.0	0.06	0.17	0.05	56	0.50	0.124
1759222	Soil	0.36	23.40	3.36	54.1	153	9.3	7.5	809	1.79	4.1	0.9	1.0	0.6	66.5	0.24	0.16	0.05	39	1.13	0.099
1759224	Soil	0.23	18.51	3.30	55.8	106	9.5	8.9	961	2.58	5.8	0.4	1.3	1.2	53.7	0.04	0.11	0.04	53	0.84	0.100
1758027	Soil	0.48	13.08	5.64	73.4	190	9.8	6.1	206	1.82	6.2	0.2	<0.2	0.8	16.8	0.08	0.13	0.10	39	0.19	0.030
1758125	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758133	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758184	Soil	0.73	36.05	19.42	138.1	215	24.1	14.7	2158	2.92	23.4	0.4	<0.2	0.8	41.2	1.01	0.39	0.16	50	0.47	0.135
1758185	Soil	0.83	55.57	13.74	106.0	202	33.0	15.6	600	3.86	45.1	0.5	1.0	1.2	26.6	0.21	0.88	0.20	56	0.27	0.053

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Project: PL-12  
 Report Date: June 28, 2012

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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	1F	1F	1F	1F	
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1759199	Soil	4.4	13.6	0.27	469.3	0.059	<20	1.73	0.010	0.07	<0.1	2.1	<0.02	<0.02	65	<0.1	0.04	6.0
1759200	Soil	4.1	11.4	0.23	391.2	0.036	<20	1.28	0.009	0.06	<0.1	1.9	0.08	<0.02	140	<0.1	0.04	4.6
1759201	Soil	4.1	11.9	0.24	282.4	0.024	<20	1.38	0.008	0.06	<0.1	2.5	0.06	<0.02	93	<0.1	0.20	4.5
1759202	Soil	3.6	16.1	0.38	232.5	0.047	<20	1.81	0.006	0.09	<0.1	2.7	0.05	<0.02	55	<0.1	0.06	5.3
1759203	Soil	6.5	15.1	0.35	388.4	0.066	<20	2.06	0.009	0.08	<0.1	2.9	0.11	<0.02	43	<0.1	0.07	6.7
1759204	Soil	6.8	12.8	0.28	686.9	0.049	<20	1.99	0.007	0.08	<0.1	3.0	0.07	<0.02	40	<0.1	0.10	5.5
1759205	Soil	3.8	9.6	0.19	448.7	0.031	<20	1.07	0.009	0.06	<0.1	1.2	0.04	<0.02	111	<0.1	0.08	3.9
1759206	Soil	4.4	14.6	0.30	396.1	0.056	<20	1.70	0.006	0.08	<0.1	2.2	0.06	<0.02	39	<0.1	0.04	6.2
1759207	Soil	4.7	16.3	0.33	519.7	0.035	<20	1.89	0.008	0.11	<0.1	3.1	0.09	<0.02	37	0.1	0.02	6.2
1759208	Soil	6.8	12.1	0.33	138.5	0.046	<20	0.87	0.012	0.09	<0.1	2.4	0.05	<0.02	84	<0.1	<0.02	3.5
1759209	Soil	4.2	17.8	0.41	311.9	0.032	<20	1.35	0.014	0.11	<0.1	2.7	0.07	<0.02	61	<0.1	<0.02	5.3
1759210	Soil	3.5	9.1	0.24	171.4	0.045	<20	0.80	0.011	0.08	<0.1	1.2	0.03	<0.02	93	<0.1	<0.02	3.2
1759211	Soil	4.2	12.1	0.26	184.9	0.030	<20	1.20	0.008	0.05	<0.1	1.9	0.05	<0.02	27	<0.1	<0.02	4.4
1759212	Soil	6.3	16.8	0.34	285.9	0.078	<20	2.18	0.008	0.08	<0.1	2.5	0.09	<0.02	56	0.1	<0.02	7.3
1759213	Soil	5.1	16.4	0.38	208.5	0.061	<20	1.90	0.007	0.06	<0.1	2.3	0.07	<0.02	63	0.1	<0.02	5.8
1759214	Soil	5.5	16.6	0.37	271.8	0.065	<20	2.04	0.007	0.07	<0.1	2.4	0.08	<0.02	92	<0.1	<0.02	6.6
1759215	Soil	8.0	15.5	0.35	546.0	0.066	<20	1.99	0.007	0.09	<0.1	2.4	0.09	<0.02	68	0.1	<0.02	6.9
1759216	Soil	5.6	14.8	0.32	503.4	0.064	<20	1.89	0.009	0.08	<0.1	2.1	0.10	<0.02	63	0.1	<0.02	6.6
1759217	Soil	4.7	15.8	0.37	355.7	0.071	<20	1.88	0.008	0.08	<0.1	2.4	0.09	<0.02	75	<0.1	<0.02	7.1
1759218	Soil	4.5	15.2	0.42	230.9	0.062	<20	1.64	0.008	0.09	<0.1	2.4	0.07	<0.02	54	<0.1	<0.02	5.8
1759219	Soil	8.1	16.0	0.39	304.1	0.065	<20	1.78	0.009	0.09	<0.1	2.5	0.09	<0.02	46	<0.1	<0.02	6.5
1759220	Soil	7.9	18.4	0.46	448.8	0.088	<20	2.75	0.011	0.11	<0.1	3.6	0.15	<0.02	59	0.1	<0.02	8.2
1759221	Soil	8.7	15.5	0.59	244.5	0.117	<20	1.17	0.025	0.29	<0.1	3.3	0.08	<0.02	21	<0.1	0.03	5.1
1759222	Soil	7.3	11.4	0.48	396.7	0.077	<20	0.97	0.017	0.21	<0.1	2.6	0.06	0.04	52	0.3	0.06	3.8
1759224	Soil	8.9	12.6	0.64	405.1	0.117	<20	1.29	0.023	0.30	<0.1	3.7	0.09	0.02	25	0.2	0.03	5.6
1758027	Soil	4.1	14.3	0.23	264.8	0.013	<20	1.39	0.008	0.05	<0.1	1.6	0.09	<0.02	34	0.1	0.02	5.5
1758125	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758133	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758184	Soil	10.2	22.6	0.60	402.7	0.050	<20	2.85	0.007	0.12	<0.1	3.4	0.10	0.03	59	0.2	0.05	8.5
1758185	Soil	10.4	27.0	0.83	262.7	0.026	<20	2.39	0.007	0.10	<0.1	5.2	0.07	<0.02	44	0.2	0.11	6.9

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Project: PL-12  
 Report Date: June 28, 2012

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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	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	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	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
1758186	Soil	0.84	36.45	8.85	196.7	164	29.6	16.1	1602	3.11	13.9	0.5	0.9	1.0	44.8	0.50	0.42	0.15	52	0.39	0.223	
1758187	Soil	0.83	45.80	16.12	257.1	216	35.9	16.5	2946	2.83	9.1	0.4	0.5	1.2	51.9	2.70	0.36	0.14	49	0.45	0.147	
1758188	Soil	0.38	28.81	4.51	76.7	82	17.5	11.3	406	2.54	9.0	0.3	0.4	1.1	26.4	0.07	0.32	0.07	54	0.25	0.104	
1758189	Soil	0.48	14.14	7.36	174.3	140	14.6	10.7	2761	1.90	10.4	0.2	<0.2	0.6	40.7	0.29	0.13	0.12	36	0.46	0.187	
1758190	Soil	0.36	27.93	3.79	75.0	49	15.1	9.9	739	3.29	18.9	0.3	<0.2	1.1	12.7	0.05	0.15	0.07	60	0.22	0.202	
1758191	Soil	0.63	28.09	6.08	108.3	58	20.1	12.6	1140	2.70	6.8	0.4	<0.2	1.3	20.8	0.14	0.22	0.13	53	0.29	0.090	
1758192	Soil	0.69	37.08	7.00	106.9	88	22.6	14.7	935	3.08	11.5	0.6	0.3	1.5	16.0	0.16	0.24	0.14	62	0.21	0.196	
1758193	Soil	0.70	24.17	9.76	155.8	107	20.2	13.3	1328	2.88	15.0	0.4	<0.2	1.1	21.1	0.29	0.27	0.17	52	0.34	0.168	
1758194	Soil	0.57	35.53	7.79	157.0	141	21.8	16.4	1723	3.04	9.3	0.4	<0.2	1.2	30.7	0.30	0.21	0.13	54	0.35	0.268	
1758195	Soil	0.49	25.28	5.47	138.0	99	16.6	11.2	1021	2.35	6.6	0.3	<0.2	1.0	21.3	0.19	0.17	0.09	45	0.22	0.187	
1758196	Soil	0.92	55.69	12.27	137.1	234	39.8	29.6	1932	3.95	13.8	0.5	0.4	1.3	58.8	0.41	0.34	0.18	65	0.53	0.283	
1758197	Soil	0.18	10.11	4.14	46.4	81	8.4	6.0	538	1.27	2.6	0.2	<0.2	0.4	18.9	0.06	0.07	0.05	29	0.20	0.022	
1758198	Soil	0.18	6.80	3.84	42.0	27	5.6	3.5	152	1.04	2.3	0.1	<0.2	0.4	14.6	0.04	0.06	0.05	27	0.13	0.021	
1758199	Soil	0.26	8.16	4.25	53.7	81	7.4	4.8	249	1.27	3.2	0.2	<0.2	0.3	19.3	0.05	0.09	0.07	26	0.17	0.039	
1758200	Soil	0.33	9.94	5.22	59.1	71	9.3	5.6	263	1.53	4.1	0.2	0.7	0.5	15.5	0.05	0.14	0.08	31	0.14	0.048	
1758201	Soil	0.42	14.21	3.80	35.9	49	9.9	6.6	167	1.53	6.4	0.2	<0.2	0.6	11.6	0.04	0.15	<0.02	33	0.10	0.039	
1758202	Soil	0.46	12.58	5.40	104.4	54	14.3	7.2	256	1.81	4.7	0.2	<0.2	0.9	13.1	0.13	0.19	0.03	36	0.13	0.053	
1758203	Soil	0.38	10.46	4.35	53.5	61	8.8	6.1	710	1.52	4.6	0.1	<0.2	0.5	10.4	0.08	0.12	0.08	33	0.11	0.026	
1758204	Soil	0.23	2.37	5.83	37.8	54	2.7	2.6	342	0.92	3.6	<0.1	0.4	0.4	7.8	0.07	0.04	0.10	24	0.06	0.017	
1758205	Soil	0.56	10.29	6.34	169.0	217	10.5	5.8	345	1.81	7.6	0.2	0.2	0.7	11.8	0.23	0.11	0.14	31	0.11	0.023	
1758206	Soil	0.42	8.14	4.92	64.8	126	7.0	4.6	366	1.39	6.2	0.1	6.2	0.4	15.0	0.09	0.14	0.09	30	0.21	0.028	
1758208	Soil	0.22	5.25	3.70	34.5	64	5.9	2.9	116	1.12	3.6	0.1	0.9	0.5	9.4	0.03	0.10	0.06	25	0.09	0.016	
1758209	Soil	0.35	22.41	4.60	38.8	39	10.6	7.6	364	1.78	7.7	0.3	1.7	1.1	11.7	0.04	0.20	0.04	39	0.11	0.034	
1758210	Soil	0.28	7.98	4.73	39.5	89	6.3	5.0	1269	1.16	4.0	0.1	4.3	0.1	11.4	0.04	0.09	0.06	24	0.08	0.048	
1758211	Soil	0.44	9.05	10.39	129.5	50	12.0	6.7	2401	1.64	6.0	0.2	<0.2	0.8	12.4	0.42	0.33	0.14	31	0.12	0.050	
1758212	Soil	0.35	7.69	7.37	60.7	18	7.7	4.7	1273	1.41	5.2	0.2	0.9	0.3	14.8	0.10	0.09	0.06	27	0.10	0.030	
1758213	Soil	0.68	28.50	17.71	107.5	567	13.3	7.5	631	2.13	8.7	0.4	<0.2	1.3	14.6	0.44	0.75	0.03	41	0.10	0.041	
1758214	Soil	0.39	13.68	7.41	115.9	368	9.1	4.5	300	1.64	7.1	0.2	<0.2	0.5	14.2	0.24	0.21	0.08	32	0.11	0.046	
1758216	Soil	0.57	9.42	3.02	61.3	304	2.4	2.2	180	1.03	6.0	0.1	3.2	0.3	5.9	0.06	0.16	0.02	14	0.04	0.020	
1758217	Soil	0.20	10.43	4.22	64.4	173	9.9	6.1	675	1.39	3.8	0.2	<0.2	0.4	10.7	0.05	0.09	0.06	29	0.10	0.041	

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		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1758186	Soil	8.1	23.2	0.58	242.0	0.074	<20	2.80	0.007	0.14	<0.1	4.2	0.10	0.02	55	0.2	0.03	8.2
1758187	Soil	11.0	22.6	0.57	442.2	0.077	<20	2.46	0.009	0.10	<0.1	4.3	0.12	<0.02	99	0.2	0.03	7.6
1758188	Soil	5.7	19.4	0.61	152.7	0.076	<20	1.93	0.008	0.10	<0.1	3.4	0.07	<0.02	50	<0.1	0.02	6.7
1758189	Soil	5.3	16.0	0.32	413.0	0.068	<20	1.76	0.010	0.09	<0.1	2.3	0.12	<0.02	159	0.1	<0.02	7.0
1758190	Soil	3.9	17.0	0.71	222.2	0.077	<20	2.31	0.005	0.06	<0.1	3.9	0.07	<0.02	33	<0.1	<0.02	7.6
1758191	Soil	7.8	22.1	0.55	256.9	0.087	<20	2.76	0.006	0.10	<0.1	4.0	0.11	<0.02	62	0.1	<0.02	8.8
1758192	Soil	6.8	22.8	0.48	204.7	0.111	<20	3.09	0.007	0.08	<0.1	3.9	0.15	<0.02	48	0.1	0.06	10.2
1758193	Soil	5.4	19.8	0.48	257.6	0.085	<20	2.42	0.008	0.10	<0.1	3.1	0.11	<0.02	65	0.1	0.03	9.2
1758194	Soil	6.9	22.6	0.57	417.8	0.093	<20	3.10	0.007	0.14	<0.1	4.2	0.13	<0.02	68	0.2	0.03	9.9
1758195	Soil	5.0	18.0	0.46	188.5	0.068	<20	2.44	0.005	0.09	<0.1	2.9	0.11	<0.02	45	<0.1	<0.02	7.5
1758196	Soil	8.7	42.2	1.26	208.0	0.096	<20	3.26	0.008	0.12	0.3	5.5	0.12	<0.02	38	0.2	0.05	9.6
1758197	Soil	4.0	12.6	0.24	240.3	0.021	<20	1.19	0.009	0.04	<0.1	1.3	0.06	<0.02	36	<0.1	<0.02	3.7
1758198	Soil	3.5	9.6	0.18	126.5	0.017	<20	0.76	0.008	0.04	<0.1	0.9	0.05	<0.02	30	<0.1	<0.02	3.7
1758199	Soil	3.6	10.5	0.15	159.0	0.021	<20	0.92	0.008	0.04	<0.1	1.0	0.05	<0.02	36	<0.1	<0.02	4.1
1758200	Soil	4.4	10.0	0.15	224.9	0.029	<20	1.19	0.007	0.03	<0.1	1.4	0.05	<0.02	46	<0.1	0.04	4.9
1758201	Soil	2.9	11.8	0.17	106.6	0.013	<20	1.14	0.008	0.03	<0.1	1.8	0.04	<0.02	50	<0.1	<0.02	3.1
1758202	Soil	3.8	14.1	0.24	248.3	0.044	<20	1.69	0.008	0.04	<0.1	1.9	0.06	<0.02	49	<0.1	<0.02	4.6
1758203	Soil	3.0	10.1	0.16	167.9	0.012	<20	0.97	0.007	0.04	<0.1	1.5	0.07	<0.02	58	<0.1	0.07	3.6
1758204	Soil	2.4	4.9	0.07	119.3	0.013	<20	0.66	0.007	0.03	<0.1	0.7	0.06	<0.02	23	<0.1	0.04	3.2
1758205	Soil	3.7	12.9	0.22	175.9	0.012	<20	1.32	0.006	0.05	<0.1	1.5	0.09	<0.02	55	0.2	0.04	4.4
1758206	Soil	2.8	8.3	0.15	208.8	0.015	<20	1.00	0.007	0.05	<0.1	1.1	0.05	<0.02	52	<0.1	<0.02	4.1
1758208	Soil	3.1	6.6	0.14	211.7	0.015	<20	0.84	0.007	0.03	<0.1	1.1	0.04	<0.02	39	<0.1	0.04	3.6
1758209	Soil	3.6	14.0	0.24	228.1	0.015	<20	1.49	0.008	0.06	<0.1	2.4	0.06	<0.02	107	0.2	0.06	3.4
1758210	Soil	2.7	8.4	0.14	199.5	0.015	<20	1.09	0.008	0.03	<0.1	0.9	0.08	<0.02	43	<0.1	<0.02	3.8
1758211	Soil	3.8	12.7	0.17	404.5	0.062	<20	1.71	0.007	0.04	<0.1	1.7	0.13	<0.02	66	<0.1	<0.02	5.8
1758212	Soil	2.7	6.9	0.11	397.8	0.008	<20	1.45	0.005	0.06	<0.1	1.1	0.13	<0.02	55	0.2	0.03	3.7
1758213	Soil	6.4	15.8	0.25	276.9	0.036	<20	1.72	0.006	0.04	<0.1	2.7	0.11	<0.02	266	<0.1	0.06	5.3
1758214	Soil	3.8	11.4	0.18	326.5	0.014	<20	1.26	0.007	0.05	<0.1	1.5	0.09	<0.02	51	0.1	0.03	4.8
1758216	Soil	1.9	3.3	0.05	175.1	0.002	<20	0.88	0.002	0.05	<0.1	0.8	0.13	<0.02	94	<0.1	0.03	2.5
1758217	Soil	3.0	10.5	0.15	193.3	0.024	<20	1.18	0.008	0.03	<0.1	1.2	0.04	<0.02	65	<0.1	<0.02	3.7



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 Vancouver BC V6E 2K3 Canada

Project: PL-12  
 Report Date: June 28, 2012

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CERTIFICATE OF ANALYSIS

VAN12002711.1

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
1758218	Soil	0.23	6.82	3.88	50.3	56	9.2	4.7	266	1.36	5.0	0.1	1.5	0.5	10.6	0.05	0.11	0.21	29	0.13	0.027
1758219	Soil	0.11	7.12	2.77	24.3	32	4.8	4.1	126	0.94	1.7	0.2	1.7	0.5	11.6	<0.01	0.03	0.05	22	0.10	0.006
1758220	Soil	0.23	5.95	3.49	26.5	71	4.5	4.0	164	1.05	2.9	<0.1	<0.2	0.2	9.9	0.04	0.07	0.06	26	0.08	0.020
1758221	Soil	0.31	7.04	3.91	39.1	107	5.9	3.4	72	1.36	3.7	0.1	<0.2	0.4	9.8	0.04	0.06	0.06	33	0.12	0.053
1758222	Soil	0.12	5.63	2.83	24.7	46	4.7	3.6	198	0.83	2.2	<0.1	0.7	0.4	11.6	0.06	0.07	0.02	20	0.14	0.014
1758223	Soil	0.31	7.41	5.08	50.6	113	7.0	4.4	714	1.40	4.9	0.1	<0.2	0.3	11.4	0.07	0.12	0.07	30	0.10	0.063
1758224	Soil	0.29	13.97	4.98	60.0	161	12.7	6.2	499	1.72	6.9	0.2	0.2	0.8	14.9	0.08	0.10	0.07	37	0.11	0.072
1758225	Soil	0.12	16.00	4.85	55.7	110	12.0	5.0	263	1.67	4.4	0.4	<0.2	1.0	31.4	0.14	0.28	0.09	36	0.30	0.018
1758226	Soil	0.29	12.07	4.08	44.5	53	8.5	4.1	147	1.61	6.0	0.2	0.8	0.6	20.1	0.07	0.28	0.08	38	0.19	0.029
1758227	Soil	0.21	9.23	4.62	54.8	15	9.4	3.9	414	1.47	5.0	0.1	0.5	0.4	23.1	0.26	0.34	0.09	35	0.18	0.046
1758228	Soil	0.17	4.73	5.19	98.4	25	8.9	4.3	485	1.11	2.6	0.1	<0.2	0.4	20.4	0.08	0.39	0.08	27	0.18	0.044
1758229	Soil	0.21	9.81	4.15	56.8	13	8.3	4.0	183	1.64	4.7	0.1	1.5	0.5	20.8	0.01	0.69	0.03	41	0.11	0.028
1758230	Soil	0.24	5.53	4.15	63.3	14	7.7	4.4	182	1.24	3.3	<0.1	<0.2	0.3	25.6	0.02	0.73	0.02	32	0.13	0.021
1758231	Soil	0.23	6.00	4.51	41.5	14	6.3	4.4	241	1.34	4.7	<0.1	<0.2	0.4	32.5	0.01	0.44	0.04	37	0.13	0.015



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Project: PL-12  
 Report Date: June 28, 2012

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CERTIFICATE OF ANALYSIS

VAN12002711.1

Method	Analyte	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
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1758218	Soil	2.6	8.9	0.12	195.4	0.021	<20	0.90	0.008	0.03	<0.1	1.1	0.02	<0.02	70	<0.1	0.02	3.1
1758219	Soil	4.1	8.5	0.20	157.3	0.015	<20	0.89	0.009	0.03	<0.1	1.3	0.05	<0.02	65	<0.1	<0.02	2.4
1758220	Soil	2.3	8.1	0.14	74.7	0.021	<20	0.72	0.008	0.03	<0.1	0.9	0.05	<0.02	28	<0.1	<0.02	3.4
1758221	Soil	2.5	9.3	0.13	92.3	0.017	<20	1.01	0.008	0.03	<0.1	1.2	0.05	<0.02	55	<0.1	0.07	4.0
1758222	Soil	2.4	6.1	0.14	143.1	0.012	<20	0.60	0.010	0.04	<0.1	1.0	0.03	<0.02	30	<0.1	0.02	2.1
1758223	Soil	2.8	8.9	0.10	167.2	0.018	<20	1.02	0.008	0.04	<0.1	1.2	0.06	<0.02	49	0.2	0.02	3.8
1758224	Soil	3.5	13.0	0.19	237.0	0.027	<20	1.32	0.008	0.04	<0.1	1.7	0.06	<0.02	79	0.2	<0.02	4.4
1758225	Soil	7.0	15.7	0.15	760.7	0.010	<20	1.13	0.010	0.07	<0.1	4.3	0.07	<0.02	90	<0.1	<0.02	3.0
1758226	Soil	5.6	11.9	0.11	335.7	0.006	<20	0.86	0.008	0.04	<0.1	2.7	0.07	<0.02	136	<0.1	<0.02	2.9
1758227	Soil	2.4	11.1	0.08	282.8	0.006	<20	0.76	0.006	0.06	<0.1	1.5	0.09	<0.02	147	<0.1	<0.02	2.4
1758228	Soil	1.9	10.5	0.12	261.3	0.021	<20	0.87	0.011	0.06	<0.1	1.2	0.04	<0.02	80	<0.1	<0.02	3.6
1758229	Soil	2.3	15.1	0.10	189.3	0.010	<20	0.78	0.007	0.06	<0.1	1.9	0.06	<0.02	101	<0.1	<0.02	3.0
1758230	Soil	1.8	11.7	0.06	245.9	0.006	<20	0.92	0.007	0.06	<0.1	1.4	0.05	<0.02	55	<0.1	<0.02	2.7
1758231	Soil	2.3	10.7	0.07	203.7	0.006	<20	0.73	0.006	0.05	<0.1	1.3	0.05	<0.02	37	<0.1	<0.02	2.8





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Project: PL-12  
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# QUALITY CONTROL REPORT

VAN12002711.1

Method	Analyte	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F	1F
Unit		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	%	%
Pulp Duplicates																					
1759193	Soil	0.31	6.44	5.60	92.1	18	11.1	6.0	672	1.60	4.4	0.1	1.6	0.5	24.6	0.05	0.88	0.07	39	0.13	0.036
REP 1759193	QC	0.36	6.37	5.44	91.0	19	11.1	6.0	668	1.59	4.3	0.1	0.6	0.4	23.9	0.06	0.87	0.07	39	0.14	0.035
1758188	Soil	0.38	28.81	4.51	76.7	82	17.5	11.3	406	2.54	9.0	0.3	0.4	1.1	26.4	0.07	0.32	0.07	54	0.25	0.104
REP 1758188	QC	0.39	28.51	4.61	75.3	72	17.1	11.3	407	2.58	9.2	0.3	0.7	1.1	26.3	0.06	0.30	0.07	55	0.24	0.104
1758226	Soil	0.29	12.07	4.08	44.5	53	8.5	4.1	147	1.61	6.0	0.2	0.8	0.6	20.1	0.07	0.28	0.08	38	0.19	0.029
REP 1758226	QC	0.32	11.62	4.26	46.3	65	9.1	4.2	146	1.63	5.1	0.2	<0.2	0.6	20.6	0.07	0.25	0.07	38	0.20	0.028
Reference Materials																					
STD DS9	Standard	13.07	118.3	136.1	336.0	2056	44.9	8.1	596	2.49	28.6	2.8	118.6	6.2	75.2	2.38	5.36	6.39	40	0.76	0.088
STD DS9	Standard	15.65	120.9	136.8	333.0	1895	45.4	8.7	632	2.53	27.8	2.9	122.0	6.9	78.0	2.66	4.84	6.91	43	0.78	0.099
STD DS9	Standard	14.54	119.3	139.2	341.2	1938	43.4	7.9	665	2.57	26.9	3.0	159.4	6.9	70.7	2.40	4.34	5.87	41	0.76	0.087
STD OREAS45CA	Standard	1.06	551.4	21.39	61.0	297	276.9	102.5	1060	16.88	4.1	1.3	51.6	7.8	16.4	0.07	0.10	0.15	234	0.47	0.045
STD OREAS45CA	Standard	1.04	538.2	21.45	62.9	277	267.9	104.4	988	17.23	4.3	1.3	45.6	7.8	16.4	0.09	0.09	0.18	224	0.46	0.046
STD OREAS45CA	Standard	0.93	530.8	22.50	64.3	300	258.1	96.5	1011	17.28	4.0	1.4	45.2	8.1	18.0	0.08	0.14	0.15	216	0.46	0.044
STD OREAS45CA Expected		1	494	20	60	275	240	92	943	15.69	3.8	1.2	43	7	15	0.1	0.13	0.19	215	0.4265	0.0385
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
BLK	Blank	<0.01	0.16	0.13	0.2	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
BLK	Blank	<0.01	<0.01	<0.01	0.1	<2	0.1	<0.1	<1	<0.01	0.4	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001



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# QUALITY CONTROL REPORT

VAN12002711.1

Method	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	
Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	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	
Pulp Duplicates																		
1759193	Soil	3.1	12.9	0.12	441.4	0.018	<20	0.99	0.009	0.05	<0.1	1.7	0.07	<0.02	35	<0.1	<0.02	3.9
REP 1759193	QC	3.0	13.1	0.11	415.1	0.019	<20	0.99	0.008	0.05	<0.1	1.7	0.06	<0.02	35	<0.1	<0.02	3.9
1758188	Soil	5.7	19.4	0.61	152.7	0.076	<20	1.93	0.008	0.10	<0.1	3.4	0.07	<0.02	50	<0.1	0.02	6.7
REP 1758188	QC	5.8	19.8	0.62	153.2	0.077	<20	1.96	0.009	0.10	<0.1	3.4	0.07	<0.02	41	<0.1	<0.02	6.7
1758226	Soil	5.6	11.9	0.11	335.7	0.006	<20	0.86	0.008	0.04	<0.1	2.7	0.07	<0.02	136	<0.1	<0.02	2.9
REP 1758226	QC	5.8	12.7	0.11	332.3	0.007	<20	0.87	0.009	0.04	<0.1	2.7	0.07	<0.02	145	0.1	<0.02	2.5
Reference Materials																		
STD DS9	Standard	12.9	120.3	0.67	344.4	0.117	<20	1.03	0.088	0.44	2.9	2.6	6.20	0.17	250	5.8	5.82	5.0
STD DS9	Standard	15.2	121.8	0.67	345.9	0.128	<20	1.03	0.086	0.43	3.2	2.3	6.24	0.18	242	6.1	5.78	5.2
STD DS9	Standard	13.7	133.9	0.67	331.8	0.121	<20	1.02	0.086	0.43	2.6	2.8	6.34	0.17	238	5.9	5.40	5.2
STD OREAS45CA	Standard	17.6	790.3	0.17	177.8	0.151	<20	3.90	0.007	0.07	<0.1	43.5	0.12	<0.02	33	0.4	0.09	20.0
STD OREAS45CA	Standard	18.9	768.5	0.16	179.3	0.158	<20	3.94	0.011	0.08	<0.1	45.0	0.14	0.03	26	0.5	0.06	21.5
STD OREAS45CA	Standard	19.3	672.0	0.16	178.1	0.158	<20	3.66	0.007	0.07	<0.1	47.5	0.08	0.02	36	0.4	0.05	20.3
STD OREAS45CA Expected		15.9	709	0.1358	164	0.128		3.592	0.0075	0.0717		39.7	0.07	0.021	30	0.5	0.06	18.4
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
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
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
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	17	<0.1	0.06	<0.1



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Submitted By: Andrew Bowering
Receiving Lab: Canada-Vancouver
Received: June 14, 2012
Report Date: June 30, 2012
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CERTIFICATE OF ANALYSIS

VAN12002712.1

CLIENT JOB INFORMATION

Project: PL-12
Shipment ID:
P.O. Number
Number of Samples: 50

SAMPLE DISPOSAL

RTRN-PLP Return
RTRN-RJT Return

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: Sunrise Drilling Ltd.
2000 - 1177 West Hastings Street
Vancouver BC V6E 2K3
Canada

CC: Krzvsztof
Brett Matich
Adrian Smith

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Table with 6 columns: Method Code, Number of Samples, Code Description, Test Wgt (g), Report Status, Lab. Rows include methods like Dry at 60C, SS80, RJSV, and 1F01.

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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 Vancouver BC V6E 2K3 Canada

Project: PL-12  
 Report Date: June 30, 2012

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Part: 1 of 2

CERTIFICATE OF ANALYSIS

VAN12002712.1

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	ppb	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	0.2	0.1	0.5	0.01	0.02	0.02	0.02	2	0.01	0.001
1758161	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758163	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1757907	Silt	0.25	12.56	2.88	35.0	32	6.4	5.9	337	1.49	7.1	0.6	2.0	0.5	24.7	0.09	0.32	0.03	34	0.27	0.042
1757911	Silt	0.36	12.24	3.26	54.0	36	6.3	3.7	290	1.41	7.9	0.3	3.4	0.7	19.1	0.42	0.61	0.04	20	0.24	0.037
1757915	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758501	Silt	0.31	17.30	2.75	34.6	72	8.9	7.1	300	3.36	3.1	1.1	2.3	1.2	34.0	0.07	0.22	0.04	92	0.49	0.139
1758502	Silt	0.28	13.14	2.51	32.0	40	7.2	5.1	344	1.66	3.6	0.5	1.7	0.6	24.8	0.08	0.36	0.03	43	0.30	0.049
1758503	Silt	0.41	22.36	3.97	41.9	93	10.5	6.8	453	2.04	4.9	0.3	1.8	0.6	45.0	0.14	0.32	0.05	41	0.50	0.051
1758504	Silt	0.41	17.01	3.12	42.1	70	8.8	6.8	625	1.77	4.4	0.7	0.6	0.3	37.1	0.12	0.34	0.04	38	0.49	0.060
1758505	Silt	0.58	17.28	4.32	58.8	62	9.2	6.2	631	1.49	8.7	0.8	0.9	0.2	67.6	0.13	0.32	0.04	27	0.54	0.063
1758506	Silt	0.35	13.49	4.32	24.3	57	6.5	5.0	353	1.39	4.0	0.3	1.4	0.1	56.6	0.11	0.34	0.04	32	0.53	0.044
1758507	Silt	0.56	18.11	4.27	47.0	85	13.1	10.0	608	2.58	4.6	0.7	1.2	1.0	42.9	0.07	0.23	0.03	56	0.38	0.031
1758508	Silt	0.69	25.14	4.85	64.6	54	16.2	12.2	648	2.76	5.2	0.5	1.1	0.8	62.5	0.17	0.26	0.06	56	0.49	0.055
1759225	Silt	1.08	29.94	14.93	92.0	557	15.2	9.4	555	2.82	14.8	7.1	1.5	1.5	57.7	0.22	0.64	0.17	24	0.20	0.067
1759226	Silt	0.92	23.83	14.70	93.7	252	13.0	8.3	659	2.26	14.1	5.1	1.4	0.7	115.4	0.39	0.86	0.14	19	0.49	0.075
1759227	Silt	0.49	23.55	8.83	71.1	121	13.2	8.0	597	1.97	5.3	1.6	0.8	0.8	74.8	0.22	0.52	0.08	21	0.48	0.081
1759228	Silt	0.82	37.90	10.72	89.2	153	27.0	12.4	628	3.20	13.5	1.5	2.4	1.5	67.1	0.35	1.07	0.15	33	0.46	0.081
1759229	Silt	0.87	19.15	7.21	66.7	107	12.8	6.7	547	2.00	8.4	0.5	2.2	1.0	59.9	0.20	0.22	0.10	24	0.36	0.047
1759230	Silt	0.75	35.14	8.29	91.8	94	15.6	10.6	506	3.43	12.8	0.9	2.1	1.2	41.0	0.26	1.03	0.13	34	0.28	0.067
1759231	Silt	0.28	13.66	4.67	38.4	44	7.0	5.1	328	1.76	4.0	0.7	0.2	1.0	31.1	0.08	0.59	0.04	25	0.39	0.123
1759232	Silt	1.78	24.75	9.34	64.2	149	17.4	9.6	1449	2.54	5.3	9.7	1.7	1.4	89.0	0.40	0.10	0.10	37	0.59	0.043
1759233	Silt	0.22	17.39	3.82	54.0	44	6.7	5.0	335	1.66	3.7	0.4	1.4	0.8	31.3	0.07	0.34	0.04	31	0.41	0.092
1759234	Silt	0.42	20.01	5.63	54.4	106	11.1	6.9	524	1.80	7.6	0.3	1.3	0.5	32.9	0.16	0.17	0.08	27	0.27	0.043
1759235	Silt	0.74	28.93	4.39	52.2	74	15.4	20.6	4902	3.29	10.1	0.8	2.4	0.8	54.1	0.26	0.71	0.06	47	0.48	0.068
1758256	Silt	0.51	14.10	3.06	30.0	91	8.3	5.1	519	1.33	5.2	0.7	0.5	0.2	37.8	0.13	0.24	0.02	25	0.35	0.039
1758506	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758507	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758245	Silt	0.49	18.22	4.41	56.2	94	9.8	6.6	558	1.96	6.4	0.5	0.7	0.5	69.9	0.13	0.44	0.05	36	0.52	0.044
1758246	Silt	0.51	32.09	5.82	83.0	109	19.1	11.5	829	2.86	8.9	0.8	4.3	0.8	59.3	0.27	1.03	0.08	47	0.43	0.066
1758247	Silt	0.94	24.07	5.21	59.9	170	14.9	12.0	690	2.75	6.6	1.4	14.5	0.5	45.8	0.17	1.10	0.18	44	0.45	0.077

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: PL-12  
 Report Date: June 30, 2012

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Part: 2 of 2

# CERTIFICATE OF ANALYSIS

VAN12002712.1

Method	Analyte	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
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1758161	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	
1758163	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	
1757907	Silt	3.2	10.1	0.19	246.6	0.013	<20	0.57	0.016	0.06	<0.1	2.1	0.04	<0.02	188	<0.1	<0.02	1.4
1757911	Silt	4.6	7.6	0.12	154.3	0.009	<20	0.41	0.009	0.06	<0.1	2.3	0.04	<0.02	113	0.1	<0.02	1.3
1757915	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	
1758501	Silt	6.7	21.9	0.28	203.0	0.046	<20	0.68	0.013	0.07	<0.1	2.7	0.04	0.04	547	<0.1	0.03	3.3
1758502	Silt	4.9	13.6	0.24	172.2	0.019	<20	0.70	0.013	0.04	<0.1	1.9	0.04	<0.02	209	0.1	<0.02	2.4
1758503	Silt	7.5	14.4	0.31	253.4	0.045	<20	1.30	0.013	0.06	<0.1	4.4	0.06	<0.02	79	0.2	0.03	3.4
1758504	Silt	4.6	13.7	0.27	211.7	0.024	<20	0.99	0.014	0.04	<0.1	2.6	0.05	0.03	143	0.4	<0.02	2.9
1758505	Silt	4.8	11.4	0.21	266.6	0.010	<20	1.00	0.011	0.04	<0.1	1.9	0.05	0.04	102	0.6	<0.02	2.2
1758506	Silt	5.1	12.5	0.20	229.5	0.016	<20	0.81	0.009	0.03	<0.1	1.6	0.04	0.04	113	0.2	<0.02	2.2
1758507	Silt	7.3	18.5	0.49	371.0	0.027	<20	1.25	0.014	0.09	<0.1	5.2	0.06	<0.02	57	0.2	<0.02	4.5
1758508	Silt	6.3	21.4	0.53	425.5	0.026	<20	1.57	0.019	0.13	<0.1	5.7	0.08	<0.02	51	0.2	0.02	5.2
1759225	Silt	12.2	10.5	0.19	493.9	0.002	<20	0.84	0.010	0.09	<0.1	4.9	0.08	<0.02	63	0.3	0.02	2.3
1759226	Silt	6.3	9.3	0.22	566.1	0.003	<20	0.63	0.011	0.09	<0.1	3.6	0.05	0.03	67	0.6	0.05	1.9
1759227	Silt	7.3	11.1	0.24	525.7	0.002	<20	0.72	0.010	0.08	<0.1	3.7	0.05	0.03	73	0.3	0.03	2.0
1759228	Silt	8.1	15.4	0.26	534.7	0.003	<20	0.80	0.011	0.08	<0.1	5.9	0.06	0.03	95	0.5	0.03	2.1
1759229	Silt	8.3	11.9	0.25	295.0	0.002	<20	1.08	0.008	0.10	<0.1	2.4	0.08	<0.02	52	0.4	0.02	3.4
1759230	Silt	4.3	8.0	0.20	472.4	0.002	<20	0.36	0.010	0.07	<0.1	6.3	0.05	0.03	74	0.2	0.06	1.1
1759231	Silt	6.0	6.8	0.18	467.1	0.013	<20	0.32	0.009	0.05	<0.1	2.4	0.02	0.03	25	<0.1	<0.02	1.4
1759232	Silt	18.3	19.8	0.40	808.5	0.006	<20	2.08	0.012	0.10	<0.1	5.0	0.10	<0.02	54	0.8	<0.02	5.9
1759233	Silt	4.9	8.6	0.24	297.4	0.028	<20	0.47	0.010	0.05	<0.1	1.9	0.02	0.03	57	<0.1	<0.02	2.0
1759234	Silt	5.6	11.0	0.27	221.1	0.004	<20	1.18	0.009	0.05	<0.1	3.2	0.06	<0.02	69	0.3	<0.02	3.6
1759235	Silt	6.1	13.7	0.25	533.6	0.011	<20	1.05	0.020	0.09	<0.1	5.1	0.12	0.02	190	0.4	0.03	3.3
1758256	Silt	5.3	10.9	0.21	245.0	0.013	<20	0.80	0.013	0.03	<0.1	2.1	0.04	<0.02	62	0.3	<0.02	2.1
1758506	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	
1758507	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	
1758245	Silt	6.9	14.4	0.24	288.5	0.015	<20	1.14	0.014	0.05	<0.1	3.9	0.06	0.02	122	0.3	<0.02	3.1
1758246	Silt	6.8	15.2	0.29	336.0	0.008	<20	1.05	0.014	0.08	<0.1	5.2	0.08	0.02	397	0.4	<0.02	3.0
1758247	Silt	3.6	13.3	0.31	239.5	0.013	<20	0.58	0.016	0.08	<0.1	3.9	0.06	0.54	251	0.3	0.23	2.0



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Part: 1 of 2

CERTIFICATE OF ANALYSIS

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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	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	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
1758232	Silt	0.40	17.40	3.53	47.2	30	9.5	7.1	521	1.74	10.8	0.6	<0.2	0.7	27.1	0.12	0.43	0.03	34	0.27	0.039
1758233	Silt	0.31	19.11	3.48	46.1	42	9.6	8.1	425	1.94	6.8	0.7	1.7	0.7	30.8	0.12	2.96	0.03	44	0.31	0.061
1758234	Silt	0.57	19.58	3.47	40.3	44	9.5	7.9	559	1.85	6.0	0.5	0.5	0.4	41.4	0.16	0.33	0.05	41	0.35	0.048
1758235	Silt	0.58	23.81	4.82	39.3	156	11.5	6.0	664	1.71	9.1	1.0	3.8	0.3	61.3	0.28	0.40	0.05	31	0.50	0.053
1758208	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758209	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758210	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758211	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758212	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758213	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758214	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758237	Silt	0.46	21.62	3.94	46.6	65	11.1	8.3	471	2.23	7.9	0.3	0.7	0.4	36.1	0.11	0.32	0.11	41	0.40	0.044
1758238	Silt	0.59	26.97	5.34	43.0	64	12.2	8.5	493	2.03	6.3	0.5	1.2	0.3	42.2	0.15	0.35	0.07	42	0.60	0.041
1758239	Silt	0.47	16.40	4.10	52.9	95	11.6	6.5	622	1.60	5.3	0.6	1.3	0.4	44.7	0.22	0.35	0.05	26	0.33	0.045
1758240	Silt	0.74	26.43	4.58	53.6	176	10.8	7.6	915	1.81	7.3	0.8	2.0	0.2	64.9	0.51	2.42	0.07	37	0.65	0.068
1758241	Silt	1.41	14.39	3.41	35.7	91	6.3	6.2	1225	1.23	5.4	1.5	0.8	<0.1	112.7	0.33	0.33	0.03	23	0.65	0.045
1758242	Silt	0.51	25.96	3.46	33.8	47	14.1	8.8	648	1.80	5.4	0.6	1.9	0.4	40.6	0.15	0.29	0.03	36	0.36	0.048
1758243	Silt	0.54	18.72	3.83	48.3	114	9.4	7.8	815	1.89	5.6	1.1	1.5	0.1	79.9	0.24	0.27	0.04	43	0.57	0.055
1758244	Silt	0.60	26.97	4.00	42.6	81	11.5	8.4	612	2.01	7.0	0.5	1.2	0.2	54.7	0.22	0.31	0.07	47	0.78	0.068
1757916	Silt	1.24	32.83	10.48	71.5	191	16.9	11.5	690	2.40	29.6	1.8	2.6	1.0	139.7	0.35	0.91	0.23	31	0.76	0.066



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 Vancouver BC V6E 2K3 Canada

Project: PL-12  
 Report Date: June 30, 2012

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CERTIFICATE OF ANALYSIS

VAN12002712.1

Method	Analyte	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
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	%	ppb	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
1758232	Silt	3.4	10.3	0.25	277.9	0.019	<20	0.62	0.016	0.07	<0.1	2.9	0.06	<0.02	68	0.1	<0.02	1.8
1758233	Silt	3.7	12.5	0.25	214.5	0.015	<20	0.63	0.015	0.07	<0.1	3.2	0.06	<0.02	2136	0.2	0.03	2.0
1758234	Silt	3.9	14.0	0.24	211.7	0.020	<20	0.89	0.012	0.04	<0.1	2.4	0.04	<0.02	55	0.1	<0.02	2.4
1758235	Silt	10.3	13.3	0.23	348.9	0.010	<20	1.11	0.010	0.04	<0.1	3.5	0.06	0.03	132	0.5	<0.02	2.8
1758208	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758209	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758210	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758211	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758212	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758213	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758214	Silt	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
1758237	Silt	4.9	13.9	0.29	251.1	0.015	<20	0.96	0.011	0.04	<0.1	3.5	0.02	<0.02	72	0.4	0.03	3.0
1758238	Silt	6.6	16.0	0.36	156.1	0.029	<20	1.28	0.011	0.04	<0.1	3.0	0.06	0.03	89	0.5	<0.02	3.6
1758239	Silt	5.4	10.7	0.22	327.4	0.007	<20	0.87	0.009	0.04	<0.1	2.3	0.06	0.02	107	0.3	<0.02	2.2
1758240	Silt	7.2	13.3	0.23	347.3	0.012	<20	1.14	0.012	0.05	<0.1	3.0	0.09	0.04	454	0.8	<0.02	3.1
1758241	Silt	5.5	10.1	0.19	416.7	0.021	<20	0.90	0.011	0.03	<0.1	1.2	0.06	0.04	79	1.0	<0.02	2.2
1758242	Silt	4.8	14.4	0.26	273.5	0.021	<20	1.09	0.013	0.05	<0.1	3.0	0.06	<0.02	235	0.2	<0.02	2.5
1758243	Silt	5.5	16.5	0.23	395.9	0.021	<20	1.19	0.010	0.03	<0.1	1.9	0.05	0.04	86	0.7	0.02	2.8
1758244	Silt	5.9	15.1	0.37	173.4	0.032	<20	1.34	0.011	0.05	<0.1	3.6	0.07	0.04	84	0.5	<0.02	3.5
1757916	Silt	14.3	13.0	0.40	629.5	0.005	<20	1.23	0.009	0.08	<0.1	3.9	0.08	0.05	85	1.5	0.04	3.8



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Project: PL-12  
 Report Date: June 30, 2012

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Part: 1 of 2

# QUALITY CONTROL REPORT

VAN12002712.1

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																					
1759235	Silt	0.74	28.93	4.39	52.2	74	15.4	20.6	4902	3.29	10.1	0.8	2.4	0.8	54.1	0.26	0.71	0.06	47	0.48	0.068
REP 1759235	QC	0.78	28.53	4.46	53.0	74	15.6	20.4	4961	3.26	9.9	0.8	1.5	0.7	53.7	0.21	0.73	0.06	48	0.47	0.068
1757916	Silt	1.24	32.83	10.48	71.5	191	16.9	11.5	690	2.40	29.6	1.8	2.6	1.0	139.7	0.35	0.91	0.23	31	0.76	0.066
REP 1757916	QC	1.16	31.49	9.55	67.7	174	16.2	10.9	651	2.35	27.3	1.6	2.6	1.0	124.3	0.30	0.82	0.22	31	0.69	0.065
Reference Materials																					
STD DS9	Standard	12.88	111.7	134.6	344.6	1869	42.6	8.1	626	2.47	28.4	2.7	115.7	6.4	78.6	2.67	4.90	7.53	42	0.77	0.095
STD DS9	Standard	13.74	118.0	128.3	332.3	1976	44.5	8.4	632	2.52	28.7	2.7	146.6	6.1	72.6	2.59	4.82	6.41	40	0.75	0.102
STD OREAS45CA	Standard	0.98	528.5	21.05	62.7	291	261.4	96.4	956	16.30	4.1	1.2	43.5	6.8	16.4	0.12	0.14	0.20	220	0.44	0.045
STD OREAS45CA	Standard	0.99	538.3	21.12	59.5	276	246.1	96.0	954	16.13	4.0	1.3	44.7	7.3	15.5	0.10	0.08	0.17	203	0.44	0.044
STD OREAS45CA Expected		1	494	20	60	275	240	92	943	15.69	3.8	1.2	43	7	15	0.1	0.13	0.19	215	0.4265	0.0385
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
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	0.05	<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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Vancouver BC V6E 2K3 Canada

Project: PL-12  
Report Date: June 30, 2012

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Part: 2 of 2

# QUALITY CONTROL REPORT

VAN12002712.1

Method		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	
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	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	
Pulp Duplicates																			
1759235	Silt	6.1	13.7	0.25	533.6	0.011	<20	1.05	0.020	0.09	<0.1	5.1	0.12	0.02	190	0.4	0.03	3.3	
REP 1759235	QC	5.7	13.0	0.25	525.4	0.011	<20	1.07	0.021	0.09	<0.1	5.0	0.12	0.02	156	0.3	0.02	3.2	
1757916	Silt	14.3	13.0	0.40	629.5	0.005	<20	1.23	0.009	0.08	<0.1	3.9	0.08	0.05	85	1.5	0.04	3.8	
REP 1757916	QC	13.9	12.2	0.39	590.8	0.004	<20	1.21	0.009	0.07	<0.1	3.7	0.07	0.04	68	1.3	0.03	3.5	
Reference Materials																			
STD DS9	Standard	13.4	118.2	0.66	359.9	0.115	<20	1.01	0.085	0.42	3.3	2.8	6.25	0.18	225	5.9	5.72	5.2	
STD DS9	Standard	13.2	124.2	0.65	342.4	0.123	<20	0.99	0.087	0.42	2.7	2.4	6.11	0.17	222	5.9	5.57	4.9	
STD OREAS45CA	Standard	16.6	733.8	0.17	176.0	0.147	<20	3.73	0.010	0.07	<0.1	48.4	0.10	0.03	31	0.4	0.05	21.0	
STD OREAS45CA	Standard	17.2	758.6	0.17	171.2	0.154	<20	3.85	0.013	0.08	<0.1	46.4	0.13	0.03	31	0.3	0.07	19.7	
STD OREAS45CA Expected		15.9	709	0.1358	164	0.128		3.592	0.0075	0.0717		39.7	0.07	0.021	30	0.5	0.06	18.4	
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	
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	
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	



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Submitted By: Andrew Bowering  
Receiving Lab: Canada-Vancouver  
Received: June 14, 2012  
Report Date: June 27, 2012  
Page: 1 of 3

## CERTIFICATE OF ANALYSIS

VAN12002713.1

### CLIENT JOB INFORMATION

Project: PL-12  
Shipment ID:  
P.O. Number  
Number of Samples: 47

### SAMPLE DISPOSAL

RTRN-PLP Return  
RTRN-RJT Return

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: Sunrise Drilling Ltd.  
2000 - 1177 West Hastings Street  
Vancouver BC V6E 2K3  
Canada

CC: Krzvsztof  
Brett Matich  
Adrian Smith

### SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	47	Crush, split and pulverize 250 g rock to 200 mesh			VAN
RIFL	47	Split samples by riffle splitter			VAN
1DX1	47	1:1:1 Aqua Regia digestion ICP-MS analysis	0.5	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: PL-12  
 Report Date: June 27, 2012

Page: 2 of 3

Part: 1 of 2

# CERTIFICATE OF ANALYSIS

VAN12002713.1

Method	WGHT	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	
1757901	Rock	1.57	1.5	884.7	3.1	76	1.2	29.8	12.1	435	3.45	3.0	19.9	1.7	66	0.2	0.2	0.3	73	1.06	0.127
1757902	Rock	0.41	0.2	46.1	2.3	69	0.1	9.9	4.3	700	2.31	2.6	15.2	0.6	56	0.3	1.3	0.9	47	0.60	0.100
1757903	Rock	0.67	0.9	53.8	4.1	63	0.2	17.8	17.4	684	4.04	8.7	6.0	0.8	31	0.2	0.6	0.1	104	1.05	0.051
1757904	Rock	0.97	<0.1	5.4	3.0	48	<0.1	16.5	9.4	456	2.22	1.6	2.2	1.2	39	<0.1	<0.1	<0.1	57	0.60	0.077
1757905	Rock	1.15	0.2	27.1	3.7	50	<0.1	16.6	10.3	577	2.42	3.0	3.2	0.9	29	<0.1	<0.1	<0.1	52	0.44	0.069
1757906	Rock	0.55	0.1	8.0	5.5	34	<0.1	1.2	2.9	424	1.02	7.2	2.3	1.5	96	<0.1	0.1	<0.1	13	1.34	0.008
1757908	Rock	1.15	0.5	898.8	401.4	952	2.8	5.6	5.3	1618	1.58	327.7	21.2	0.9	34	21.7	20.7	<0.1	11	1.69	0.018
1757909	Rock	1.29	0.8	26.2	12.0	67	0.3	3.4	4.3	695	1.54	18.1	6.1	0.8	35	0.5	1.6	<0.1	4	1.88	0.001
1757910	Rock	0.89	1.9	30.1	354.3	9450	3.9	5.3	6.2	222	4.39	12.2	50.3	1.4	5	73.5	0.7	0.8	6	0.24	0.017
1757912	Rock	0.75	0.2	18.6	2.9	42	0.1	8.9	7.2	434	2.01	8.6	8.4	0.7	20	0.3	<0.1	<0.1	26	1.26	0.020
1757913	Rock	0.58	0.2	22.8	4.8	61	<0.1	15.9	11.0	524	2.35	4.7	<0.5	1.6	90	<0.1	<0.1	<0.1	54	1.39	0.105
1757914	Rock	1.92	0.4	39.1	5.3	63	<0.1	12.4	10.5	532	2.32	3.9	3.4	1.1	127	<0.1	<0.1	<0.1	30	2.99	0.099
1757916	Rock	1.10	<0.1	27.6	3.4	38	<0.1	7.3	6.4	445	1.71	<0.5	3.2	0.9	77	<0.1	<0.1	<0.1	27	2.25	0.070
1757917	Rock	0.72	<0.1	22.8	3.5	62	<0.1	11.5	7.4	555	1.90	2.0	6.6	1.1	32	0.2	<0.1	0.1	25	0.93	0.061
1757918	Rock	0.85	0.3	19.3	7.3	56	0.1	9.1	7.3	497	1.89	3.2	<0.5	0.6	23	<0.1	<0.1	<0.1	30	0.90	0.078
1757919	Rock	1.93	1.6	12.9	3.6	51	<0.1	31.5	15.7	511	3.72	13.8	4.3	0.7	80	<0.1	1.4	0.2	70	2.02	0.090
1757920	Rock	0.67	0.8	33.9	3.4	56	<0.1	36.6	15.2	696	3.12	4.9	2.3	0.3	89	<0.1	0.2	<0.1	60	2.20	0.125
1757921	Rock	0.71	0.5	34.2	5.2	68	0.1	36.1	14.8	730	3.04	3.6	4.4	0.2	102	<0.1	<0.1	<0.1	46	2.54	0.125
1757922	Rock	1.41	0.5	67.9	4.4	73	0.2	27.6	18.4	754	4.55	17.8	1.4	0.7	54	<0.1	0.2	<0.1	79	1.63	0.078
1757923	Rock	1.32	0.3	52.7	2.6	67	<0.1	30.8	14.2	624	3.03	1.7	2.6	0.6	53	<0.1	<0.1	<0.1	64	1.61	0.121
1757924	Rock	1.31	0.7	81.4	4.2	81	<0.1	29.8	15.9	681	4.34	1.1	4.5	0.7	96	<0.1	0.2	<0.1	136	1.46	0.067
1757925	Rock	0.55	0.1	17.9	2.3	83	<0.1	20.8	12.3	578	2.81	1.6	0.8	0.7	114	<0.1	<0.1	0.1	72	1.17	0.089
1757926	Rock	0.70	1.0	77.0	4.1	150	0.1	35.4	20.4	676	4.37	3.5	4.5	0.7	123	0.6	0.2	<0.1	118	1.95	0.086
1757927	Rock	2.49	0.2	52.5	0.5	52	<0.1	1.2	2.5	329	2.66	18.3	4.8	<0.1	3	<0.1	3.0	<0.1	12	0.04	0.003
1757928	Rock	1.56	1.4	11.7	0.5	51	<0.1	1.3	5.2	531	2.45	5.3	8.4	0.1	6	0.1	1.2	<0.1	22	0.16	0.005
1757929	Rock	1.40	1.4	15.8	4.3	21	0.1	1.0	3.8	495	1.43	15.9	3.5	0.7	20	0.1	<0.1	<0.1	5	0.04	0.003
1757930	Rock	0.88	0.3	19.6	4.5	15	<0.1	0.8	4.0	200	1.33	8.9	3.2	1.1	14	<0.1	0.3	<0.1	4	0.02	0.010
1757931	Rock	0.80	0.1	23.9	4.4	64	<0.1	21.3	14.2	628	2.56	5.7	3.8	1.0	93	0.2	0.5	<0.1	61	2.42	0.072
1757932	Rock	1.23	10.6	478.2	220.1	95	19.0	1.4	2.9	132	2.17	536.5	71.9	0.9	11	0.8	43.9	1.6	5	0.03	0.006
1757935	Rock	1.37	0.5	4.7	2.1	14	0.3	1.2	2.8	275	0.95	4.8	5.5	0.6	17	<0.1	0.2	<0.1	4	0.55	0.003

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: PL-12  
 Report Date: June 27, 2012

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# CERTIFICATE OF ANALYSIS

VAN12002713.1

Method Analyte	Unit	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
MDL		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	
		1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.05	1	0.5	0.2	
1757901	Rock	5	52	1.43	294	0.122	<20	2.01	0.082	0.07	19.5	0.01	3.8	0.1	1.12	9	2.0	<0.2
1757902	Rock	3	18	0.92	225	0.098	<20	1.27	0.085	0.10	1.4	<0.01	3.2	<0.1	1.18	7	1.2	0.6
1757903	Rock	2	36	1.57	225	0.118	<20	1.96	0.086	0.06	0.3	0.07	9.7	<0.1	1.09	9	<0.5	<0.2
1757904	Rock	7	24	1.02	105	0.159	<20	1.45	0.080	0.07	0.1	<0.01	5.0	<0.1	<0.05	9	<0.5	<0.2
1757905	Rock	8	22	1.10	86	0.132	<20	1.79	0.059	0.07	<0.1	<0.01	5.4	<0.1	<0.05	8	<0.5	<0.2
1757906	Rock	2	2	0.11	950	<0.001	<20	0.44	0.038	0.20	<0.1	<0.01	2.4	<0.1	<0.05	<1	<0.5	<0.2
1757908	Rock	2	3	0.41	307	<0.001	<20	0.43	0.014	0.21	<0.1	1.19	1.6	<0.1	0.81	1	0.8	<0.2
1757909	Rock	2	<1	0.47	97	<0.001	<20	0.36	0.019	0.16	<0.1	0.25	1.0	<0.1	1.26	<1	<0.5	<0.2
1757910	Rock	3	<1	0.09	24	<0.001	<20	0.38	0.012	0.27	<0.1	0.86	0.7	0.1	4.50	<1	3.1	1.9
1757912	Rock	3	8	0.09	355	<0.001	<20	0.32	0.012	0.17	<0.1	0.07	3.1	<0.1	0.19	<1	<0.5	<0.2
1757913	Rock	9	20	1.28	85	0.140	<20	2.26	0.052	0.06	0.2	<0.01	4.0	<0.1	<0.05	10	<0.5	<0.2
1757914	Rock	10	6	0.74	553	<0.001	<20	0.41	0.037	0.17	<0.1	0.04	5.8	<0.1	0.05	1	<0.5	<0.2
1757916	Rock	10	11	0.55	305	0.002	<20	0.89	0.043	0.16	<0.1	<0.01	2.2	<0.1	<0.05	6	<0.5	<0.2
1757917	Rock	12	18	0.68	479	0.002	<20	1.04	0.053	0.11	<0.1	0.06	3.4	<0.1	<0.05	7	<0.5	<0.2
1757918	Rock	12	7	0.05	937	<0.001	<20	0.36	0.043	0.16	<0.1	0.07	3.1	<0.1	<0.05	2	<0.5	<0.2
1757919	Rock	7	34	1.81	233	0.007	<20	1.94	0.083	0.08	<0.1	<0.01	6.9	<0.1	0.98	8	1.2	<0.2
1757920	Rock	9	29	1.76	190	0.003	<20	2.09	0.058	0.09	<0.1	<0.01	5.4	<0.1	0.25	9	<0.5	<0.2
1757921	Rock	9	27	1.69	183	0.003	<20	1.96	0.050	0.11	<0.1	<0.01	4.7	<0.1	0.33	8	<0.5	<0.2
1757922	Rock	5	40	1.80	112	0.005	<20	2.28	0.039	0.12	<0.1	0.05	10.1	<0.1	0.21	8	0.8	<0.2
1757923	Rock	10	38	1.25	717	0.004	<20	1.74	0.067	0.08	<0.1	0.07	5.7	<0.1	0.07	9	<0.5	<0.2
1757924	Rock	2	60	1.81	83	0.161	<20	3.75	0.302	0.12	0.1	0.03	13.0	<0.1	0.62	11	<0.5	<0.2
1757925	Rock	3	25	1.14	76	0.125	<20	2.46	0.218	0.21	0.1	0.07	5.7	0.3	<0.05	10	<0.5	<0.2
1757926	Rock	2	71	1.73	140	0.184	<20	4.00	0.400	0.65	0.2	<0.01	7.1	0.3	0.86	11	<0.5	<0.2
1757927	Rock	<1	3	0.02	10	<0.001	<20	0.37	0.007	0.01	<0.1	1.87	7.4	<0.1	0.17	<1	<0.5	<0.2
1757928	Rock	<1	2	0.10	23	0.002	<20	0.37	0.031	0.02	<0.1	1.00	11.6	<0.1	0.24	1	<0.5	<0.2
1757929	Rock	2	1	0.03	1277	<0.001	<20	0.42	0.036	0.21	<0.1	0.09	0.9	0.1	0.07	<1	1.3	0.3
1757930	Rock	1	1	0.02	2125	<0.001	<20	0.39	0.036	0.18	<0.1	0.11	0.9	<0.1	0.05	<1	0.6	0.4
1757931	Rock	5	19	0.48	329	0.004	<20	0.62	0.035	0.14	<0.1	0.18	9.6	<0.1	<0.05	1	<0.5	<0.2
1757932	Rock	2	<1	<0.01	775	<0.001	<20	0.35	0.017	0.22	<0.1	1.74	0.8	0.3	0.34	<1	<0.5	2.1
1757935	Rock	1	<1	0.03	673	<0.001	<20	0.38	0.030	0.21	<0.1	0.08	0.6	0.1	0.34	<1	<0.5	0.2



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Project: PL-12  
 Report Date: June 27, 2012

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CERTIFICATE OF ANALYSIS

VAN12002713.1

Method	WGHT	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	
Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	
1757951	Rock	1.41	<0.1	9.7	3.2	44	0.1	8.8	7.3	553	1.55	2.8	7.8	0.9	23	0.2	0.3	<0.1	20	0.53	0.064
1757952	Rock	1.48	0.4	29.4	4.4	57	<0.1	32.1	15.2	691	3.22	2.9	2.7	1.3	225	0.1	2.4	<0.1	53	3.80	0.134
1757953	Rock	1.27	0.2	19.5	9.7	62	0.2	26.4	12.4	446	3.35	66.5	98.7	3.4	15	0.2	2.8	<0.1	68	0.15	0.040
1757954	Rock	1.80	0.1	28.8	7.5	77	<0.1	14.8	15.3	851	2.55	0.8	1.4	0.4	437	<0.1	<0.1	<0.1	35	5.11	0.064
1757955	Rock	1.00	0.3	44.6	5.4	62	<0.1	54.9	19.2	612	3.08	1.5	2.3	0.5	163	0.1	<0.1	<0.1	39	4.30	0.045
1757956	Rock	1.44	1.1	58.0	6.3	49	<0.1	8.9	7.3	592	2.43	16.7	2.6	0.7	159	<0.1	7.4	<0.1	33	2.98	0.079
1757957	Rock	0.96	8.9	8956	117.8	553	8.1	15.1	34.9	1389	14.22	280.7	77.9	1.5	32	0.6	1.3	18.3	87	0.28	0.173
1757958	Rock	1.00	0.6	55.6	18.7	70	<0.1	29.4	14.2	588	3.02	1.7	6.2	1.7	77	<0.1	0.2	0.1	70	1.71	0.124
1757959	Rock	1.58	0.8	96.9	10.7	53	0.2	31.4	16.1	576	3.24	7.5	2.1	1.4	83	<0.1	0.3	1.2	90	1.42	0.122
1757960	Rock	2.36	1.2	47.6	9.5	58	<0.1	29.7	13.8	598	2.94	4.6	2.1	0.9	557	<0.1	1.4	<0.1	55	3.45	0.078
1757961	Rock	0.94	2.2	114.4	91.1	117	2.9	34.0	17.6	721	3.42	34.8	6.1	1.4	124	0.2	12.6	0.7	30	2.61	0.126
1757962	Rock	2.68	2.1	2185	1160	>10000	7.4	2.4	7.0	1076	2.29	759.1	39.4	1.3	13	752.2	50.7	0.4	5	0.60	0.020
1757963	Rock	0.84	0.4	481.6	77.4	8540	1.4	1.4	3.8	1161	1.02	128.1	9.1	2.0	13	91.1	4.2	0.1	4	0.58	0.026
1757964	Rock	1.21	37.4	6651	2290	>10000	18.1	5.2	10.2	3346	5.61	2068	42.9	1.2	13	324.4	470.9	0.7	7	2.50	0.021
1757965	Rock	1.45	8.8	73.7	24.6	152	0.9	2.3	3.0	75	2.20	50.0	9.7	0.6	9	0.7	3.7	0.2	5	<0.01	0.009
1757966	Rock	1.56	0.8	17.7	10.2	66	0.2	0.6	0.1	25	0.70	7.2	7.5	2.5	31	0.8	1.8	1.8	<2	0.02	0.019
1757967	Rock	2.12	4.4	6.0	1.3	128	<0.1	4.6	10.1	1383	3.91	2.1	3.7	<0.1	44	0.2	0.8	<0.1	71	2.20	0.002



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Project: PL-12  
 Report Date: June 27, 2012

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# CERTIFICATE OF ANALYSIS

VAN12002713.1

Method	Analyte	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	
MDL		1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.01	0.01	0.01	0.05	1	0.5	0.2	
1757951	Rock	5	8	0.47	138	0.003	<20	0.93	0.071	0.12	<0.1	0.04	3.0	<0.1	<0.05	4	0.5	<0.2
1757952	Rock	12	41	1.57	215	0.001	<20	1.17	0.042	0.13	<0.1	0.05	8.2	<0.1	0.05	4	<0.5	<0.2
1757953	Rock	11	15	0.22	188	0.001	<20	0.98	0.030	0.13	<0.1	0.06	3.6	<0.1	0.60	2	<0.5	<0.2
1757954	Rock	7	8	1.69	3225	0.005	23	0.30	0.035	0.05	<0.1	<0.01	3.7	0.1	0.07	1	<0.5	<0.2
1757955	Rock	7	41	0.74	1083	<0.001	<20	0.46	0.050	0.13	<0.1	0.02	6.5	<0.1	<0.05	2	<0.5	<0.2
1757956	Rock	7	10	0.73	148	0.002	22	0.58	0.032	0.07	<0.1	0.02	3.6	<0.1	<0.05	2	<0.5	<0.2
1757957	Rock	6	27	1.47	30	0.006	26	3.31	<0.001	0.04	0.1	0.88	5.3	<0.1	4.28	14	14.9	1.3
1757958	Rock	12	41	1.54	235	0.003	24	1.64	0.048	0.13	<0.1	0.03	8.1	<0.1	0.19	9	<0.5	<0.2
1757959	Rock	11	57	1.78	97	0.005	29	1.82	0.050	0.05	<0.1	0.02	7.6	<0.1	0.24	9	<0.5	<0.2
1757960	Rock	3	18	1.50	1588	<0.001	<20	0.34	0.037	0.11	<0.1	0.07	7.6	<0.1	0.08	<1	<0.5	<0.2
1757961	Rock	10	20	1.13	425	<0.001	27	0.41	0.044	0.24	<0.1	0.07	7.0	<0.1	0.53	2	<0.5	<0.2
1757962	Rock	3	<1	0.15	17	<0.001	28	0.25	0.007	0.21	<0.1	6.91	0.7	0.1	4.13	1	<0.5	1.4
1757963	Rock	6	1	0.13	199	<0.001	24	0.32	0.008	0.26	<0.1	1.42	0.8	0.1	0.89	<1	<0.5	0.2
1757964	Rock	2	1	0.79	12	<0.001	27	0.21	0.006	0.18	<0.1	15.46	0.7	0.1	4.99	<1	2.4	1.2
1757965	Rock	2	<1	0.02	224	<0.001	26	0.38	0.006	0.20	<0.1	0.12	0.6	<0.1	0.88	<1	3.5	<0.2
1757966	Rock	9	2	<0.01	830	<0.001	29	0.23	0.045	0.19	<0.1	0.32	0.3	<0.1	0.15	<1	<0.5	1.1
1757967	Rock	<1	1	1.58	9	<0.001	29	0.40	0.006	0.01	<0.1	0.27	19.8	<0.1	0.78	1	<0.5	<0.2



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Project: PL-12  
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# QUALITY CONTROL REPORT

VAN12002713.1

Method	WGHT	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	
Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	
Pulp Duplicates																					
REP G1	QC	<0.1	2.1	2.6	44	<0.1	2.5	3.6	563	1.87	0.7	3.5	5.7	49	<0.1	<0.1	<0.1	35	0.53	0.073	
Core Reject Duplicates																					
1757931	Rock	0.80	0.1	23.9	4.4	64	<0.1	21.3	14.2	628	2.56	5.7	3.8	1.0	93	0.2	0.5	<0.1	61	2.42	0.072
DUP 1757931	QC	<0.1	23.5	4.1	63	<0.1	21.8	13.2	588	2.53	4.1	3.9	1.0	90	0.2	0.7	<0.1	61	2.45	0.062	
Reference Materials																					
STD DS9	Standard	12.7	106.7	127.3	323	1.7	41.6	7.5	601	2.38	26.2	128.9	6.1	68	2.7	4.6	5.2	39	0.68	0.085	
STD DS9	Standard	12.5	107.0	128.2	302	1.8	39.9	7.5	549	2.25	28.1	162.6	6.6	69	2.3	4.1	6.8	38	0.68	0.079	
STD OREAS45CA	Standard	1.1	527.0	20.9	64	0.3	257.6	97.5	1009	16.17	3.6	43.2	7.6	15	0.2	<0.1	0.1	239	0.48	0.041	
STD OREAS45CA	Standard	0.8	463.0	19.4	58	0.3	229.2	90.3	886	14.96	3.2	43.6	7.1	14	0.1	<0.1	0.2	200	0.41	0.038	
STD DS9 Expected		12.84	108	126	317	1.83	40.3	7.6	575	2.33	25.5	118	6.38	69.6	2.4	4.94	6.32	40	0.7201	0.0819	
STD OREAS45CA Expected		1	494	20	60	0.275	240	92	943	15.69	3.8	43	7	15	0.1	0.13	0.19	215	0.4265	0.0385	
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	0.01	0.8	2.1	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	
BLK	Blank	<0.1	0.5	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	
Prep Wash																					
G1	Prep Blank	<0.01																			
G1	Prep Blank	<0.01	<0.1	2.6	2.8	43	<0.1	1.9	3.6	574	1.87	<0.5	1.8	5.6	52	<0.1	<0.1	<0.1	35	0.55	0.068
G1	Prep Blank	<0.1	2.5	2.6	48	<0.1	1.7	3.7	554	1.82	1.0	4.9	6.1	51	<0.1	<0.1	<0.1	33	0.51	0.072	



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Project: PL-12  
 Report Date: June 27, 2012

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# QUALITY CONTROL REPORT

VAN12002713.1

Method	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	
Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	
Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	
MDL	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	
Pulp Duplicates																		
REP G1	QC	11	6	0.57	151	0.118	<20	0.83	0.065	0.46	0.1	<0.01	2.5	0.4	<0.05	4	<0.5	<0.2
Core Reject Duplicates																		
1757931	Rock	5	19	0.48	329	0.004	<20	0.62	0.035	0.14	<0.1	0.18	9.6	<0.1	<0.05	1	<0.5	<0.2
DUP 1757931	QC	5	18	0.49	334	0.005	<20	0.63	0.037	0.14	<0.1	0.17	9.1	<0.1	<0.05	2	<0.5	<0.2
Reference Materials																		
STD DS9	Standard	12	123	0.62	308	0.111	<20	0.97	0.081	0.40	3.5	0.18	3.1	5.7	0.16	4	6.0	5.3
STD DS9	Standard	12	116	0.59	292	0.105	35	0.90	0.078	0.39	2.8	0.23	2.3	5.7	0.16	5	5.1	5.0
STD OREAS45CA	Standard	17	810	0.15	174	0.141	<20	3.88	0.007	0.07	<0.1	0.07	49.9	0.1	<0.05	20	0.6	<0.2
STD OREAS45CA	Standard	15	681	0.13	165	0.129	24	3.34	0.006	0.07	<0.1	0.02	42.5	<0.1	<0.05	18	<0.5	<0.2
STD DS9 Expected		13.3	121	0.6165	330	0.1108		0.9577	0.0853	0.395	2.89	0.2	2.5	5.3	0.1615	4.59	5.2	5.02
STD OREAS45CA Expected		15.9	709	0.1358	164	0.128		3.592	0.0075	0.0717		0.03	39.7	0.07	0.021	18.4	0.5	
BLK	Blank	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.001	<0.01	<0.1	0.02	<0.1	<0.1	<0.05	<1	<0.5	<0.2
Prep Wash																		
G1	Prep Blank																	
G1	Prep Blank	11	5	0.57	154	0.124	<20	0.87	0.073	0.47	<0.1	<0.01	2.5	0.3	<0.05	5	<0.5	<0.2
G1	Prep Blank	10	6	0.56	159	0.113	<20	0.83	0.064	0.46	<0.1	<0.01	2.3	0.3	<0.05	5	<0.5	<0.2





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Submitted By: Andrew Bowering
Receiving Lab: Canada-Vancouver
Received: June 19, 2012
Report Date: June 27, 2012
Page: 1 of 2

CERTIFICATE OF ANALYSIS

VAN12002794.1

CLIENT JOB INFORMATION

Project: PL-12
Shipment ID:
P.O. Number
Number of Samples: 4

SAMPLE DISPOSAL

RTRN-PLP Return
RTRN-RJT Return

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: Sunrise Drilling Ltd.
2000 - 1177 West Hastings Street
Vancouver BC V6E 2K3
Canada

CC: Krzvsztof
Brett Matich
Adrian Smith

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Table with 6 columns: Method Code, Number of Samples, Code Description, Test Wgt (g), Report Status, Lab. Rows include R200-250, RIFL, and 1DX1.

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: PL-12  
 Report Date: June 27, 2012

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CERTIFICATE OF ANALYSIS

VAN12002794.1

Method	WGHT	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	
Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	
1757933	Rock	1.04	1.1	58.3	6.9	85	0.3	2.7	5.1	428	1.43	37.8	7.8	0.8	26	0.5	1.3	0.2	8	0.67	0.007
1757934	Rock	0.71	1.6	105.0	9.8	42	0.9	2.7	5.7	219	1.93	48.7	7.7	0.5	27	0.2	3.0	0.3	2	0.15	0.002
1757936	Rock	1.28	1.9	104.7	395.4	463	5.4	0.5	0.7	224	3.11	139.0	46.8	1.5	11	1.9	7.8	1.0	2	0.06	0.030
1757937	Rock	1.34	0.4	27.3	67.9	394	0.2	5.7	2.8	1886	1.22	4.5	0.8	0.9	16	9.5	0.1	<0.1	<2	0.37	0.027



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# CERTIFICATE OF ANALYSIS

VAN12002794.1

Method	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	
Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	
Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	
MDL	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	
1757933	Rock	2	2	0.05	1112	<0.001	<20	0.42	0.031	0.21	<0.1	0.11	1.1	<0.1	0.15	<1	<0.5	<0.2
1757934	Rock	1	1	0.04	388	<0.001	<20	0.39	0.023	0.20	<0.1	0.19	0.9	<0.1	0.50	<1	1.2	0.8
1757936	Rock	9	2	0.01	114	<0.001	<20	0.37	0.006	0.24	<0.1	2.51	0.7	0.1	0.08	<1	<0.5	2.4
1757937	Rock	11	1	0.13	209	<0.001	<20	0.54	0.017	0.23	<0.1	0.05	0.8	0.1	0.63	1	1.2	<0.2



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QUALITY CONTROL REPORT

VAN12002794.1

Method	WGHT	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	
Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	
Reference Materials																					
STD DS9	Standard	12.7	118.4	127.2	314	1.7	41.5	7.8	576	2.31	27.5	127.4	6.4	71	2.4	4.3	6.6	41	0.67	0.082	
STD OREAS45CA	Standard	0.9	503.4	18.4	57	0.3	240.1	94.7	890	16.11	3.2	42.1	6.6	14	0.1	<0.1	0.1	204	0.42	0.038	
STD OREAS45CA Expected		1	494	20	60	0.275	240	92	943	15.69	3.8	43	7	15	0.1	0.13	0.19	215	0.4265	0.0385	
STD DS9 Expected		12.84	108	126	317	1.83	40.3	7.6	575	2.33	25.5	118	6.38	69.6	2.4	4.94	6.32	40	0.7201	0.0819	
BLK	Blank	<0.1	1.2	<0.1	1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	
Prep Wash																					
G1	Prep Blank	<0.01	0.1	3.9	2.8	46	<0.1	2.4	4.4	578	2.08	0.6	<0.5	5.3	68	<0.1	<0.1	<0.1	40	0.53	0.080



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QUALITY CONTROL REPORT

VAN12002794.1

Method	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	
Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	
Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	
MDL	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	
Reference Materials																		
STD DS9	Standard	12	123	0.61	325	0.112	<20	0.94	0.083	0.40	2.8	0.21	2.4	5.5	0.17	5	5.2	5.2
STD OREAS45CA	Standard	15	736	0.12	162	0.135	<20	3.65	0.013	0.08	<0.1	0.03	42.9	<0.1	<0.05	18	<0.5	<0.2
STD OREAS45CA Expected		15.9	709	0.1358	164	0.128		3.592	0.0075	0.0717		0.03	39.7	0.07	0.021	18.4	0.5	
STD DS9 Expected		13.3	121	0.6165	330	0.1108		0.9577	0.0853	0.395	2.89	0.2	2.5	5.3	0.1615	4.59	5.2	5.02
BLK	Blank	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
Prep Wash																		
G1	Prep Blank	12	6	0.52	171	0.138	<20	0.98	0.101	0.49	<0.1	<0.01	2.6	0.3	<0.05	5	<0.5	<0.2

**APPENDIX III**  
**ADRIAN SMITH MEMO**

## **Memo: Highland South Copper Property**

### **2012 Work Program**

The property is centered at 621,200 mE and 5,519,600mN UTM NAD 83 Zone 10 and covers an area of 96.2 square km's. The property is accessible off the #1 highway close to the town of Boston Bar, via the Anderson River FSR and the Uztlius Creek FSR. Further access across the more remote parts of the property could be gained by ATV (4x4 vehicle) access on deactivated logging roads (see map in report). Most of the old road surfaces were in good condition, however in many places they have been heavily overgrown by alders. In the steeper areas of the property it was common for deactivated roads to be completely washed out by landslides.

The 2012 field program consisted of one geologist, one geo-teck, one soil sampler, and three field assistants. Also one field Thermo Scientific Niton handheld XRF analyser was used to test both the soil and rock samples in the field which allow for faster target generation. Daily access into the property was gained by the use of two side-by-sides ATV's, and one Nissan Xterra 4-wheel drive vehicle. The primary objective of the program was the expansion of the historical soil grid, base stage reconnaissance over the surrounding area, and regional soil sampling. Geo-tul (mattock/rock hammer) were used to dig down to the appropriate depth within the B horizon, at which point small handheld shovels were used to collect the soil and remove rocks/clasts where necessary.

Daily field work consisted of collecting B horizon soil samples in standard paper Kraft bags. Each sample received a unique sample tag supplied by Acme Labs, where half of the uniquely number tag was labeled and placed in the sample bag, and the other half was labeled and stored for reference. The samples were collected at depths ranging between 10cm to 50cm with the average targeted depth of 30 to 50 cm. This was based off previous work completed by Alojzy Walus in 2003 that indicated a greater concentration of Cu within the soil at an approximate depth of 50cm or close to the base of the B horizon.

The 2012 work program was aimed to expand the zone of known mineralization located close to the center of the property (see assessment report 10,876). The historic anomalous zone covers an area of approximately 1km by 1km, and is located along a ridge towards the center of the current property bounds. The majority of the soil sampling was conducted to the north and west of the old soil grid, where soil samples were collected at 50m spacing along grid lines running east-west at 200m spacing (see map within Report) The lines were run at high angles to the assumed NNW-SSE regional structural trend of the regionally mapped intrusives, major contacts, and faults previously mapped on the property (see Sample Location Map within report). A total of 331 soil samples and 12 rock samples were taken directly proximal to this area.

The 2012 work program also involved regional scale reconnaissance sampling where the regional soil samples were collected in the same manner as the focused soil grid. Regional samples were either collected at 50m or 100m intervals depending on the theoretical potential of the target areas. These regional soils were aimed to cross major structural trends and focus on newly discovered anomalous

zones. Also due to the limited time of the program, old logging roads were used to collect road samples in areas of interest. Road samples were always collected above (uphill from) the cut bank of the old road to avoid contamination from reworking etc. A total of 596 soil, 51 rocks, and 37 silt samples were collected across the entire property (see sample location map in attached report). Each sample site was tagged with a butter-soft aluminum tag with the unique sample number (Acme Labs sample number) as well as the un-unique grid location created for project reference, as well as the date sampled and sample type. These tags were nailed into the closest tree to the sample site and flagged with a piece of orange flagging for easy visibility. All samples were sent to Acme Labs for complete 36 element analysis.

Rock samples taken during the 2012 work program were taken as grab samples, each sample received a similar unique tag as the soils. Rock samples locations were tagged using aluminum tags which were placed proximal to the sample location and labeled with the unique sample number and the sample type. Flagging tape was also placed when applicable at the specific spot that the sample was taken from. There were no representative chip samples taken during this program, all rock samples were taken as grab samples which were selected to give the best chance for containing Cu mineralization.

In addition to the soil and Rock samples a relatively small number of silt samples were taken from key drainages across the property. Silt samples were taken from the sides and sheltered areas behind and underneath large boulders within streams. The silt samples were collected in HUBCO NEW Sentry Sample Bags. No silt samples were taken from major rivers as these would not be representative of anomalous mineralization within the property bounds. All silt sample sites received similar aluminum tags as both the soil and rocks, with unique sample numbers labeled, along with the sample type and other applicable information.

In order to gain more accurate and consistent soil sample readings from the Thermo Scientific Niton handheld analyzer, all samples were analyzed within a controlled environment within the camp. Due to the time consuming nature of analyzing individual samples, only the samples that were aimed to target regional areas of interest were analyzed. These samples were collected in the field employing the same procedures as all other soil samples. Once collected, a small (approximately 10-20g) portion of each sample was placed onto a clean poly surface and covered with a thin sterile protective film to prevent contamination of the XRF device. Each sample was analyzed for 30 seconds. Once the analysis was complete this small portion of each sample was discarded, and the remaining portion of the sample was re-sealed and sent to Acme Labs to be analyzed with all other samples.

As a result of the 2012 work program on the Highland South Copper Property, two new areas were located that have not been previously reported by any known source. The first of the two consists of a series of localized intense argillically altered zones within a greater zone of silicified intermediate plagiophytic intrusive. Within and proximal to the intensely argillically altered zones were high concentrations of Cu, Zn, Pb and As. Minerals identified in the field at this showing were Azurite, Malachite, Sphalerite, Arsenopyrite, and Pyrite. The exposed portion of the silicified intrusive could be traced over at least 600m along deactivated road cut bank. This is the North (Azurite) Zone.



The second area outlined by the 2012 work program outlined a new zone to the south of the property the "South Zone" where a single float sample of fine grained intrusive with 2-4% disseminated pyrite was analyzed with the portable handheld XRF gun on site to have 0.3% Cu, and .89% Cu from Acme Labs sample #1757957 (see assay certificates in report). The float sample was collected at approximately 1180m, where the top of the ridge on which it was located is approximately 1500m. Due to the large amount of snow above 1300m it was not possible to search for the source of the float or collect soils across the top of the ridge. However soils collected along contour and within the proximity of where the float sample was collected showed a continuous series of slightly anomalous Zn and Cu values by handheld XRF analysis. It is recommended that the "South Zone" Ridge be subject to a future soil grid, and general prospecting to identify the source of the fine grained (diabase?) intrusive which was shown to host significant copper mineralization.

Sphalerite mineralization was found to be higher in both the southern zone and northern (Azurite) zone in comparison to the Central zone. In both cases Zn was directly correlated to the Cu mineralization. Within the Northern (Azurite) Zone where sphalerite was found to be disseminated within the heavily argillically altered zones as well as occurring as minor vein infilling within these same zones. To the south (South Zone) the sphalerite was not visible within the rock sample that reported 0.9% Cu, however the sample reported 500 PPM Zn. Based on these observations, anomalous Zn values across the property should be followed up.

In General the geology on the property consisted of weakly metamorphosed interbedded shales siltstones sandstones and large beds of conglomerates. These sediments were commonly striking close to north-south with commonly steep, but variable dips both to the east and west. These sediments are up against a regionally continuous contact with a granitic batholith dated as mid cretaceous that was barren of sulfides where visible on the property. Subsequently younger aged intrusions dissect the sediments on a more local scale and seem to be composed primarily of plagioclase dykes and dykes of intermediate composition. Vesicles were also commonly noted within the plagioclase intrusives in the northern part of the property probably relative to hypabyssal nature. These later plugs dykes and or sills are reported to be of Paleogene age and commonly contain sulphides, and sporadic zones of alteration most commonly silicification and less argillic. The general composition of the younger intrusives became more mafic towards the south apparent from 1-3mm phenocrysts of amphiboles and presence of (primary?) magnetite. Furthermore to the south of the property float of a fine grained diabase intrusive was found at the base of a ridge located with the property bounds, and was shown to be carrying a noticeable amount of Cu.

Note that the area of the property with the known high Cu values in the historic soil grid was previously followed up by Alojzy Walus in a small sampling program aimed at confirming the existence of the anomalous zone, thus the 2012 work program did not complete any work over this area. However one sample from outcrop of dioritic intrusive with minor disseminated sulphides taken just outside of the historic grid area returned Cu value of 0.09% (sample # 1757901).

**Adrian Smith, BSc., GIT.**

**APPENDIX IV**  
**CENTRAL ZONE -**  
**HISTORICAL COPPER AND**  
**MOLYBDENUM RESULTS**

Central Zone – Historical Copper and Molybdenum Results

Sample_ID	Cu_PPM	Mo_PPM	Easting_NAD_83	Northing_NAD_83
B1388	365	115	621772	5519829
B1387	900	9	621825	5519848
B1386	385	10	621869	5519864
B1385	3150	34	621917	5519881
B1384	115	19	621962	5519898
B1383	370	13	622007	5519914
Z640	57	1	621142	5519523
Z641	590	5	621189	5519536
Z642	116	1	621235	5519553
Z643	205	1	621280	5519568
Z644	970	2	621324	5519584
Z645	43	1	621370	5519600
Z646	39	1	621417	5519615
Z647	190	1	621460	5519631
Z648	475	1	621505	5519648
Z649	60	1	621552	5519665
Z650	250	1	621580	5519675
Z1101	106	1	621631	5519691
Z1100	315	2	621675	5519704
Z1099	140	7	621719	5519720
Z1098	1050	4	621762	5519736
AM1097	310	95	621811	5519752
AM1096	1050	33	621857	5519770
AM1095	1200	54	621901	5519785
AM1094	1200	17	621946	5519800
AM1093	0	0	621991	5519814
AM1092	187	1	622038	5519831
B1382	495	20	622048	5519845
B1381	260	4	622092	5519861
B1380	16	1	622138	5519878
B1378	33	1	622183	5519895
B1377	85	1	622228	5519910
B1376	31	3	622275	5519928
B1375	34	1	622319	5519943
Z660	64	1	621211	5519405
Z659	475	1	621252	5519422
Z658	300	1	621294	5519441
Z657	73	1	621334	5519459
Z656	106	1	621386	5519482

Z655	1850	1	621437	5519505
Z654	245	1	621491	5519528
Z653	250	1	621545	5519552
Z652	275	1	621594	5519574
Z651	126	1	621630	5519589
AM1102	75	1	621628	5519612
AM1103	130	1	621690	5519621
AM1104	139	5	621735	5519638
AM1106	175	94	621778	5519653
AM1106	175	94	621825	5519669
AM1107	220	26	621872	5519685
AM1108	445	22	621914	5519699
AM1109	168	3	621961	5519715
AM1110	230	6	622008	5519733
AM1111	129	2	622052	5519746
AM1112	1000	13	622096	5519761
1376	1450	45	622102	5519761
1368	101	1	622141	5519781
B1369	90	1	622186	5519798
B1370	129	1	622199	5519803
1371	68	1	622233	5519815
1372	89	1	622277	5519828
1373	38	1	622330	5519849
1374	27	1	622369	5519862
Z661	275	1	621280	5519377
Z662	1350	1	621328	5519395
Z663	164	4	621371	5519408
Z664	265	139	621416	5519423
Z665	1350	1	621462	5519440
Z666	63	1	621508	5519456
Z667	127	1	621552	5519471
Z668	105	1	621599	5519488
Z669	183	1	621644	5519503
Z670	1500	7	621672	5519515
AM1122	162	9	621745	5519517
AM1121	109	2	621791	5519537
AM1120	205	1	621833	5519554
AM1119	143	1	621878	5519571
AM1118	146	1	621923	5519590
AM1117	275	10	621969	5519611
AM1116	450	6	622009	5519627
AM1115	310	1	622055	5519644

AM1114	415	6	622099	5519664
AM1113	2000	7	622141	5519682
H869	17	1	622186	5519700
H870	430	4	622230	5519716
H871	32	2	622275	5519732
H872	35	1	622321	5519748
H873	35	1	622367	5519764
H874	23	1	622413	5519780
Z681	195	1	621286	5519274
Z680	162	1	621331	5519287
Z679	245	1	621378	5519304
Z678	88	1	621423	5519320
Z677	240	2	621465	5519336
Z676	106	3	621511	5519350
Z675	425	2	621557	5519367
Z674	102	1	621603	5519383
Z673	210	1	621646	5519396
Z672	56	3	621689	5519413
Z671	315	7	621726	5519427
AM1128	0	0	621784	5519446
H890	149	4	621781	5519454
AM1127	0	0	621830	5519463
H889	196	10	621830	5519469
Z781	0	0	621881	5519481
H888	83	7	621881	5519488
Z780	0	0	621925	5519500
H887	86	12	621934	5519512
Z779	0	0	621969	5519523
H886	310	14	621967	5519539
H885	0	0	622008	5519547
Z778	0	0	622016	5519538
Z776	0	0	622060	5519555
H884	205	37	622066	5519558
Z883	350	8	622103	5519565
Z775	0	0	622100	5519576
Z774	305	7	622150	5519586
H881	315	4	622184	5519596
Z773	0	0	622191	5519600
H880	265	2	622234	5519614
H879	41	1	622280	5519632
H878	77	1	622326	5519646
H877	21	1	622371	5519662

H876	74	1	622417	5519679
H875	80	1	622462	5519696
Z704	117	2	621298	5519253
Z703	176	10	621341	5519271
Z702	135	1	621388	5519287
Z701	54	2	621433	5519304
Z700	210	1	621477	5519316
Z699	200	2	621523	5519332
Z698	161	3	621570	5519346
Z697	0	0	621616	5519363
Z696	0	0	621657	5519378
Z695	0	0	621702	5519395
Z694	0	0	621736	5519410
Z682	380	2	621335	5519189
Z683	355	2	621371	5519204
Z684	123	13	621413	5519218
Z685	475	8	621454	5519233
Z686	79	5	621492	5519248
Z687	79	5	621531	5519263
Z688	192	3	621572	5519280
Z716	485	9	621388	5519094
Z715	91	1	621437	5519111
Z714	205	5	621479	5519126
Z713	290	3	621518	5519140
Z712	555	13	621551	5519152
Z711	1360	12	621592	5519171
Z710	650	24	621631	5519183
Z689	137	5	621614	5519296
Z690	550	4	621655	5519311
Z691	380	7	621694	5519327
Z692	96	4	621732	5519345
Z693	400	3	621768	5519357
Z772	260	1	621794	5519344
Z771	125	1	621836	5519361
Z770	330	1	621879	5519376
Z709	1350	25	621673	5519201
Z708	475	6	621716	5519217
Z707	750	17	621757	5519235
Z706	220	2	621801	5519251
Z705	210	1	621837	5519266
Z751	700	7	621884	5519283
Z752	1000	19	621923	5519297

Z769	2150	19	621925	5519392
Z768	320	2	621971	5519407
Z767	153	1	622015	5519423
Z766	165	2	622061	5519439
Z765	750	9	622106	5519456
Z764	850	1	622152	5519472
Z763	1150	2	622196	5519489
Z753	230	3	621969	5519313
Z754	138	3	622010	5519328
Z755	225	4	622052	5519344
Z756	2400	18	622099	5519360
Z757	0	0	622142	5519374
Z758	800	3	622181	5519389
Z759	500	1	622222	5519404
Z762	400	6	622245	5519507
C110	250	4	622288	5519526
C109	181	2	622333	5519541
C108	48	1	622380	5519560
C107	60	1	622426	5519572
C106	13	1	622469	5519589
Z760	750	1	622252	5519418
Z761	310	2	622285	5519434
C100	1050	5	622333	5519452
C101	660	6	622379	5519468
C102	235	2	622423	5519482
C103	17	1	622475	5519499
C104	113	1	622526	5519515
C105	102	0	622509	5519601
Z717	360	5	621433	5519020
Z718	315	11	621473	5519037
Z719	197	6	621517	5519054
Z720	310	1	621561	5519069
Z721	151	1	621605	5519082
Z722	0	0	621648	5519099
Z723	205	1	621691	5519114
AM1071	225	5	621526	5518956
AM10	195	1	621663	5519002
AM1075	275	1	621708	5519017
AM1076	136	3	621755	5519034
Z724	156	5	621733	5519132
Z725	325	2	621772	5519148
Z726	110	1	621815	5519165

Z727	240	2	621859	5519182
Z728	245	2	621879	5519193
Z750	435	4	621890	5519181
Z749	1600	3	621900	5519185
Z748	225	4	621937	5519198
Z747	63	1	621986	5519216
AM1077	230	1	621801	5519051
AM1078	1600	1	621848	5519067
AM1077	122	1	621893	5519083
AM1080	230	8	621935	5519100
Z729	83	1	621983	5519116
Z730	51	1	622027	5519131
Z746	84	3	622030	5519231
Z745	86	3	622074	5519247
Z744	98	2	622121	5519263
Z743	300	6	622167	5519280
Z742	265	9	622210	5519296
Z741	63	1	622257	5519313
Z731	62	3	622071	5519146
Z732	105	2	622117	5519163
Z733	126	10	622163	5519179
Z734	12	2	622207	5519195
Z735	64	1	622253	5519211
Z736	38	1	622296	5519227
Z740	82	1	622302	5519328
Z739	300	1	622341	5519343
Z737	22	1	622343	5519243
Z738	15	1	622386	5519264
AM1081	27	2	622031	5519031
AM1082	43	1	622077	5519046
AM1083	8	1	622122	5519061
AM1084	73	9	622166	5519077
AM1085	16	1	622175	5519080
AM1086	14	14	622212	5519094
AM1087	46	1	622257	5519110
AM1088	26	1	622302	5519125
AM1089	31	1	622347	5519141
AM1090	43	1	622391	5519157
AM1091	32	1	622435	5519172



**APPENDIX VI**  
**COSTS STATEMENT**

<b>Exploration Work type</b>	<b>Comment</b>	<b>Days</b>			<b>Totals</b>
<b>Personnel (Name)* / Position</b>	<b>Field Days (list actual days)</b>	<b>Days</b>	<b>Rate</b>	<b>Subtotal*</b>	
Adrian Smith	May 7 to June 14, 2012	16	\$650.00	\$10,400.00	
Jared Henrickson	May 28 to June 14, 2012	19	\$450.00	\$8,550.00	
Lucas Betnar	May 28 to June 14, 2012	15	\$350.00	\$5,250.00	
Robert Alexander Zullo	May 28 to June 14, 2012	15	\$350.00	\$5,250.00	
Connor Mayo	May 28 to June 14, 2012	15	\$350.00	\$5,250.00	
Jordan Lewis	May 28 to June 14, 2012	15	\$475.00	\$7,125.00	
				<b>\$41,825.00</b>	<b>\$41,825.00</b>
<b>Office Studies</b>	<b>List Personnel (note - Office only, do not include field days)</b>				
Literature search	Alojzy Walus	6.0	\$400.00	\$2,400.00	
Database compilation	Adrian Smith	6.0	\$350.00	\$2,100.00	
Computer modelling			\$0.00	\$0.00	
Reprocessing of data			\$0.00	\$0.00	
General research			\$0.00	\$0.00	
Report preparation	Krzysztof Mastalerz	13.0	\$500.00	\$6,500.00	
Other (specify)					
				<b>\$11,000.00</b>	<b>\$11,000.00</b>
<b>Airborne Exploration Surveys</b>	<b>Line Kilometres / Enter total invoiced amount</b>				
Aeromagnetics			\$0.00	\$0.00	
Radiometrics			\$0.00	\$0.00	
Electromagnetics			\$0.00	\$0.00	
Gravity			\$0.00	\$0.00	
Digital terrain modelling			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
				<b>\$0.00</b>	<b>\$0.00</b>
<b>Remote Sensing</b>	<b>Area in Hectares / Enter total invoiced amount or list personnel</b>				
Aerial photography			\$0.00	\$0.00	
LANDSAT			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
				<b>\$0.00</b>	<b>\$0.00</b>
<b>Ground Exploration Surveys</b>	<b>Area in Hectares/List Personnel</b>				
Geological mapping					
Regional					
Reconnaissance					
Prospect					
Underground	Define by length and width				
Trenches	Define by length and width			\$0.00	<b>\$0.00</b>
<b>Ground geophysics</b>	<b>Line Kilometres / Enter total amount invoiced list personnel</b>				
Radiometrics					
Magnetics					
Gravity					
Digital terrain modelling					

*note: expenditures here  
should be captured in  
Personnel  
field expenditures above*

Electromagnetics  
 SP/AP/EP  
 IP  
 AMT/CSAMT  
 Resistivity  
 Complex resistivity  
 Seismic reflection  
 Seismic refraction  
 Well logging  
 Geophysical interpretation  
 Petrophysics  
 Other (specify)

*note: expenditures for your crew in the field  
 should be captured above in Personnel  
 field expenditures above*

Define by total length

					\$0.00	<b>\$0.00</b>
<b>Geochemical Surveying</b>	<b>Number of Samples</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>		
Drill (cuttings, core, etc.)			\$0.00	\$0.00		
Stream sediment		37.0	\$23.10	\$854.70		
Soil		596.0	\$23.10	\$13,767.60		
Rock		51.0	\$23.10	\$1,178.10		
Water			\$0.00	\$0.00		
Biogeochemistry			\$0.00	\$0.00		
Whole rock			\$0.00	\$0.00		
Petrology			\$0.00	\$0.00		
Other (specify)			\$0.00	\$0.00		
					\$15,800.40	<b>\$15,800.40</b>
<b>Drilling</b>	<b>No. of Holes, Size of Core and Metres</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>		
Diamond			\$0.00	\$0.00		
Reverse circulation (RC)			\$0.00	\$0.00		
Rotary air blast (RAB)			\$0.00	\$0.00		
Other (specify)			\$0.00	\$0.00		
					\$0.00	<b>\$0.00</b>
<b>Other Operations</b>	<b>Clarify</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>		
Trenching			\$0.00	\$0.00		
Bulk sampling			\$0.00	\$0.00		
Underground development			\$0.00	\$0.00		
Other (specify)			\$0.00	\$0.00		
					\$0.00	<b>\$0.00</b>
<b>Reclamation</b>	<b>Clarify</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>		
After drilling			\$0.00	\$0.00		
Monitoring			\$0.00	\$0.00		
Other (specify)			\$0.00	\$0.00		
<b>Transportation</b>		<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>		
Airfare			\$0.00	\$0.00		
Taxi	Jordan Lewis	2.00	\$60.00	\$120.00		
truck rental	4x4 (used off-road)	15.00	\$232.00	\$3,480.00		
truck rental	Ford F150	15.00	\$100.00	\$1,500.00		
kilometers			\$0.00	\$0.00		

ATV	polaris Rangers - 1 month rental	31.00	\$137.10	\$4,250.10	
ATV	polaris Rangers - 1 month rental	31.00	\$137.10	\$4,250.10	
Trailer	trailer - 1 month term	31.00	\$48.39	\$1,500.09	
fuel	for trucks and ATV's	15.00	\$200.00	\$3,000.00	
Helicopter (hours)			\$0.00	\$0.00	
Fuel (litres/hour)			\$0.00	\$0.00	
Other	vehicle repairs on site (total)	1.00	\$1,250.00	\$1,250.00	
				\$19,350.29	<b>\$19,350.29</b>
<b>Accommodation &amp; Food</b>		<b>Rates per day</b>			
Hotel	50\$ per person (x6)	15.00	\$300.00	\$4,500.00	
Camp			\$0.00	\$0.00	
Meals	33\$ per person per day	15.00	\$200.00	\$3,000.00	
				\$7,500.00	<b>\$7,500.00</b>
<b>Miscellaneous</b>					
Telephone			\$0.00	\$0.00	
Other (Specify)	maps - printing and drafting	1.00	\$1,850.00	\$1,850.00	
				\$1,850.00	<b>\$1,850.00</b>
<b>Equipment Rentals</b>					
Field Gear	Niton XRF Analyzer	15.00	\$150.00	\$2,250.00	
Field Gear	Garmin hand held GPS plus (x3)	15.00	\$60.00	\$900.00	
Field Gear	Backroad GPS SD card (x3)	15.00	\$15.00	\$225.00	
Field Gear	Radios - 1 month rental	31.00	\$11.30	\$350.30	
Other (Deakin-Purchased supplies)	hammers, soil bags, vests, flagging etc. (cont.) bare bangers, bear spray, etc.	1.00	\$3,000.00	\$3,000.00	
				\$6,725.30	<b>\$6,725.30</b>
<b>Freight, rock samples</b>					
				\$0.00	\$0.00
				\$0.00	\$0.00
				\$0.00	<b>\$0.00</b>
<b>TOTAL Expenditures</b>					<b>\$104,050</b>

**APPENDIX VII**  
**CERTIFICATE OF AUTHOR**

**SIGNATURE PAGE**

**Certificate of Author – K. Mastalerz, Ph.D., P.Geo.**

I, Krzysztof Mastalerz, am a Professional Geoscientist and consulting geologist at 2005 Bow Drive in the City of Coquitlam, in the Province of British Columbia.

As the author of this Technical Report entitled “NI 43-101 Technical Report on the Highland South Copper Property”, dated November 12<sup>th</sup>, 2012, I hereby make the following statements:

1. I am a member in good standing of the Association of professional Engineers and Geoscientists of British Columbia (Member # 31243).
2. I am a graduate of the University of Wrocław, Poland, (M.Sc. in Geology in 1981, Ph.D. in 1990).
3. I have continuously practiced my profession since graduation in 1981 as an academic teacher (University of Wrocław, A. Mickiewicz University of Poznań) through 1997, a research associate for the State Geological Survey of Poland (1993-1995), and independent consulting geologist in Canada and Peru since 1994.
4. As a result of my education, professional qualifications and work experience I am a Qualified Person as defined by National instrument 43-101.
5. I performed a site visit to the Highland South Copper property on June 12, 2012. I have reviewed the access roads to the property, have met with Adrian Smith, the Project Geologist on the Sunrise Drilling exploration program, have examined the northern part of the property and have verified those rock and soil sample locations which I felt were required to complete this technical report
6. I am responsible for all sections of this technical report.
7. I am independent of Natan Resources Ltd. in accordance with the National Instrument 43-101.
8. As of the date of this Certificate, to the best of my knowledge and belief, the Technical report contains all scientific and technical information that is required to be disclosed to make the Technical report not misleading.
9. I have read National Instrument 43-101, Form 43-101F1 and the Companion Policy 43-101CP and this Technical report has been prepared in compliance with those documents.

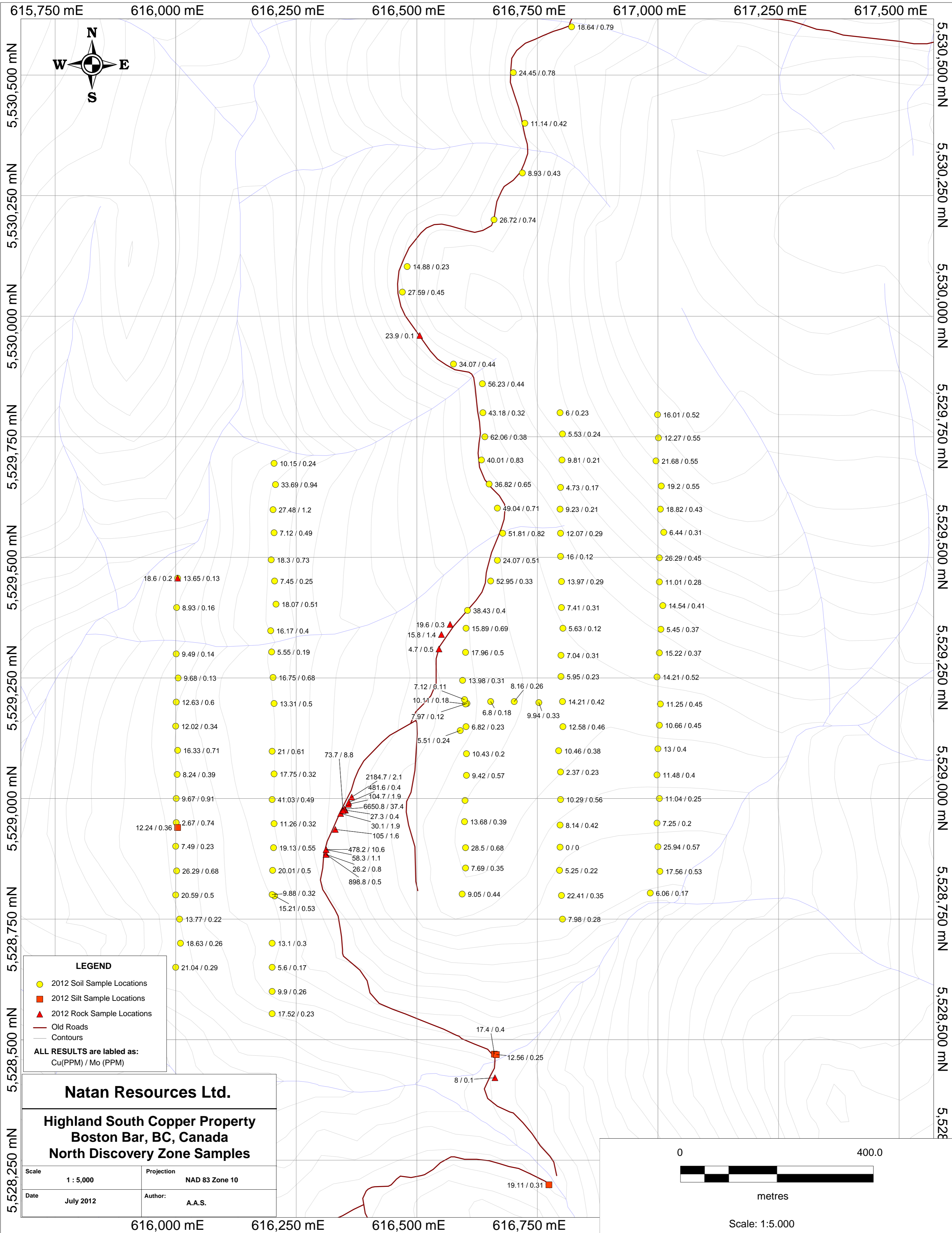
Signed and dated at Coquitlam, BC, this 12<sup>th</sup> day of November, 2012.

“Krzysztof Mastalerz”

-----

(signed) Krzysztof Mastalerz (P. Geo.)      /Professional Seal/

**APPENDIX VIII**  
**SAMPLE RESULT MAPS**



**LEGEND**

- 2012 Soil Sample Locations
- 2012 Silt Sample Locations
- ▲ 2012 Rock Sample Locations
- Old Roads
- Contours

ALL RESULTS are labeled as:  
Cu(PPM) / Mo (PPM)

**Natan Resources Ltd.**

**Highland South Copper Property  
Boston Bar, BC, Canada  
North Discovery Zone Samples**

Scale	1 : 5,000	Projection	NAD 83 Zone 10
Date	July 2012	Author:	A.A.S.

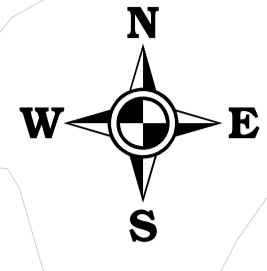
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metres

Scale: 1:5,000

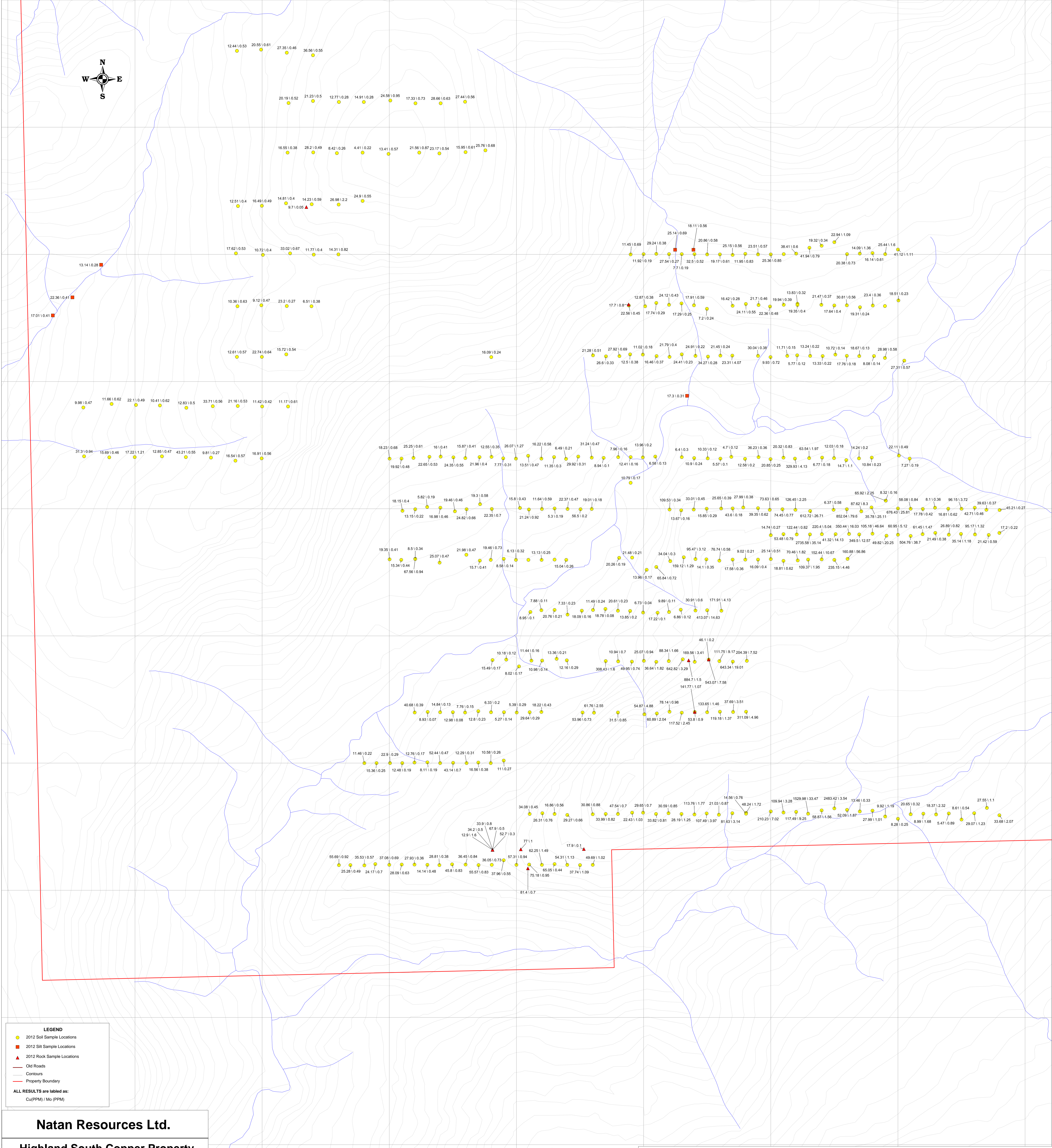


619,000 mE 619,500 mE 620,000 mE 620,500 mE 621,000 mE 621,500 mE 622,000 mE 622,500 mE



5,521,500 mN  
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5,517,500 mN



**LEGEND**

- 2012 Soil Sample Locations
- 2012 Silt Sample Locations
- ▲ 2012 Rock Sample Locations
- Old Roads
- Contours
- Property Boundary

ALL RESULTS are labeled as:  
Cu (PPM) / Mo (PPM)

**Natan Resources Ltd.**

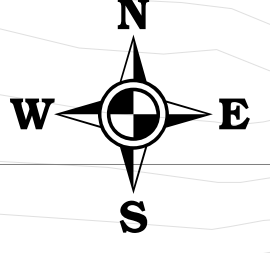
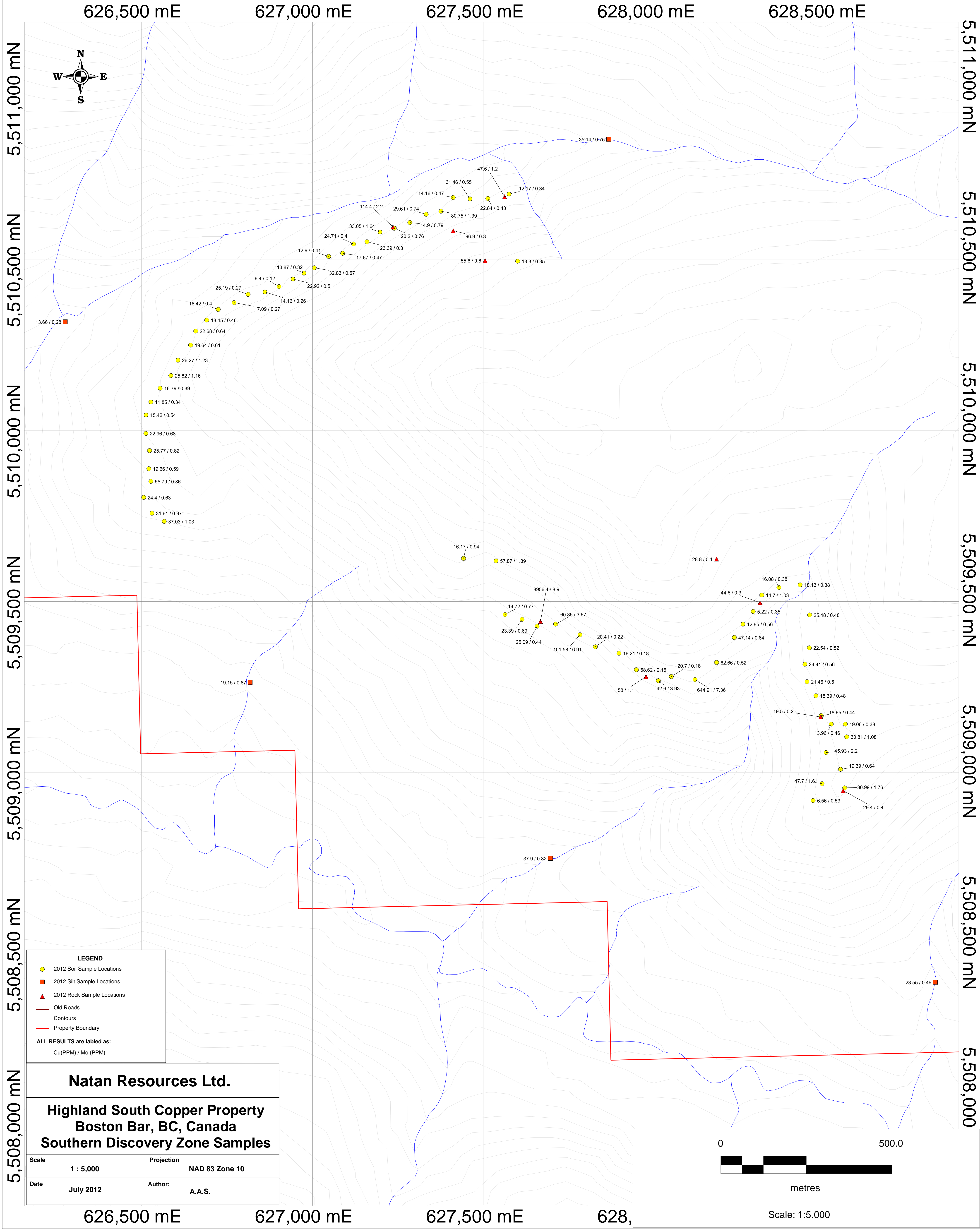
**Highland South Copper Property  
Boston Bar, BC, Canada  
Central Zone Samples**

Scale	1 : 5,000	Projection	NAD 83 Zone 10
Date	July 2012	Author:	A.A.S.



Scale: 1:5,000

619,000 mE 619,500 mE 620,000 mE 620,500 mE 621,000 mE



**LEGEND**

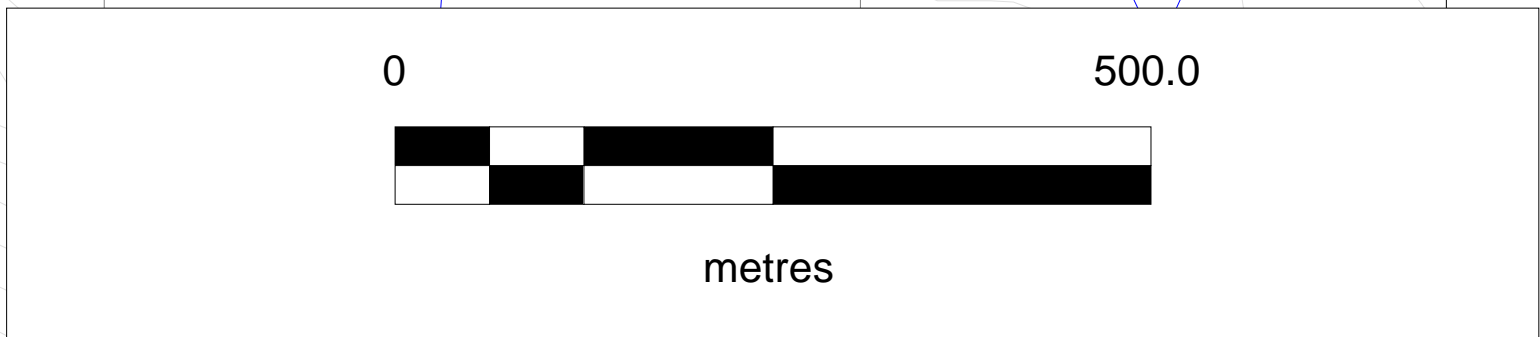
- 2012 Soil Sample Locations
- 2012 Silt Sample Locations
- ▲ 2012 Rock Sample Locations
- Old Roads
- Contours
- Property Boundary

ALL RESULTS are labeled as:  
Cu(PPM) / Mo (PPM)

**Natan Resources Ltd.**

**Highland South Copper Property  
Boston Bar, BC, Canada  
Southern Discovery Zone Samples**

Scale	1 : 5,000	Projection	NAD 83 Zone 10
Date	July 2012	Author:	A.A.S.



626,500 mE      627,000 mE      627,500 mE      628,000 mE      628,500 mE

5,511,000 mN

5,510,500 mN

5,510,000 mN

5,509,500 mN

5,509,000 mN

5,508,500 mN

5,508,000 mN

626,500 mE      627,000 mE      627,500 mE      628,