2011 PHASE 1 DIAMOND DRILL PROGRAM:
FREEPORT ZONE
STRAW LAKE PROPERTY

BLUFFPOINT LAKE AREA
KENORA MINING DIVISION, NORTHWESTERN ONTARIO
NTS: 052F03NW

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TABLE OF CONTENTS **page**

EXECUTIVE SUMMARY 2
1.0 INTRODUCTION 4
2.0 PROPERTY DETAILS 4
2.1 Location and Access 4
2.2 Topography and Vegetation 4
2.3 Claims 5
3.0 PREVIOUS WORK 7
4.0 GEOLOGY 9
4.1 Regional Geology 9
4.2 Property Geology 11
5.0 2011 PHASE 1 DIAMOND DRILL PROGRAM 12
5.1 Sample Preparation, Analysis and Security 12
5.2 Drill Results 13
5.3 Data Verification 15
6.0 CONCLUSIONS 17
7.0 RECOMMENDATIONS 18
8.0 REFERENCES 19

LIST OF FIGURES

Figure 1: Location Map 5
Figure 2: Claim Map 6
Figure 3: Regional Geology 10
Figure 4: OREAS 19a and Actlabs Comparison Chart 16
Figure 5: OREAS 15d and Actlabs Comparison Chart 16
Figure 6: OREAS 15f and Actlabs Comparison Chart 17

LIST OF TABLES

Table 1: Summary of Phase I Drill Holes, Freeport Zone 13
Table 2: Summary of significant Results 15

LIST OF APPENDICES

Appendix I: Certificate of Qualifications 20
Appendix II: List of Claims 21
Appendix III: Drill Logs (back pocket)
Appendix IV: Drill Sections (back pocket)
Appendix V: Assay Certificates (back pocket)

MAPS (back pocket)

Map1: FP DDH Location Map

EXECUTIVE SUMMARY

The Straw Lake Property is held by Mineral Mountain Resources Ltd ("MMR") and consists of 14 patented parcels and 30 unpatented mineral claims acquired through option and staking in the historic Straw Lake area, located about 75 kilometres northeast of Fort Frances and 120 kilometres south of Dryden, Ontario.

The property is located in the Bluffpoint Lake area (Map Sheet- G2669) of the Kenora Mining Division, NTS 52 F/3

This report discusses the drill results of 4 holes of NQ-sized core totalling 522m carried out by MMR from August 01 to August 11, 2011. The purpose of the program was to test the gold potential of an altered feldspar porphyry unit intersected by Freeport Canada in 1971.

The Straw Lake Property is covered by the Straw Lake Greenstone Belt a component of the western part of the Archean Wabigoon Subprovince of the Canadian Shield.

The Wabigoon Subprovince is a major, east striking subdivision of the Superior Province. It has an exposed length of almost 900 kilometres and an average width of about 150 kilometers.

The Straw Lake property straddles the contact between the Lawrence Lake Batholith, a late mantle-derived pluton in the north and a complexly folded supracrustal greenstone belt in the south which is bisected by a regional large-scale fault zone known as the Manitou Stretch-Pipestone Lake Fault.

Deposit types identified on the property include:

1. Structurally-controlled silicified +/- carbonate altered shear zones and fractures spatially associated with the Manitou Stretch-Pipestone Fault. Any structurally competent rock unit may host gold mineralization however gold associated with a) quartz veins and b) intrusive bodies including porphyry dykes appear to be an economically important target-type.

2.Disseminated gold mineralization occuring within an alteration assemblage comprising sausserite+sericite+silica+pyrite hosted by high Al-TTG type intrusive rocks such as the Lawrence Lake Batholith are suggestive of low-grade, high tonnage bulk mineable deposits.

MMR completed a Phase 1 diamond drill program totalling 522 m in 4 drill holes. The program was carried out from August 1st, 2011 through to August 11th, 2011.

The holes were used to test the gold potential of a well developed porphyry dyke and closely related EM conductor drilled by Freeport Canada in 1971. The altered porphyry dyke is located within the structurally complex Manitou Stretch-Pipestone deformation zone (MSPF).

Geochemically anomalous gold mineralization is localized in pyritic shears at the upper contact of the targeted porphyry, in graphitic metasediments and in intermediate tuffaceous rocks near this regional MSPF system.

Additional exploration is recommended to the west of the Freeport drill holes encompassing the Straw Lake Occurrence.

1.0 INTRODUCTION

The Straw Lake Property is held by Mineral Mountain Resources Ltd ("MMR") and consists of 14 patented parcels and 30 unpatented mineral claims acquired through option and staking in the historic Straw Lake area, located about 75 kilometres northeast of Fort Frances and 120 kilometres south of Dryden, Ontario.

The property covers an auriferous gold environment that includes the past producing Straw Lake Beach Mine where production from 1938 to 1941 totalled 11,258 ounces of gold.

This report discusses the diamond drill results of 4 holes of NQ-sized core totalling 522m carried out by MMR from August 1st to 11th, 2011 and provides recommendations for future exploration in 2012.

The objective of the program was to test the gold potential of altered porphyry that lies within a structurally complex portion of the Manitou Stretch-Pipestone deformation zone.

2.0 PROPERTY DETAILS

2.1 Location and Access

The property is located in the Bluffpoint Lake area (Map Sheet G2669) of the Kenora Mining Division, NTS 52 F/3 (Figure 1 and 2). The property is bounded by UTM NAD83 coordinates 15U 469,000mE to 482,000mE and 5,440,000mN to 5,445,250mN located about 75 kilometres northeast of Fort Frances and 120 south of Dryden, Ontario.

The property is accessible year-round via the Cedar Narrows Road which is an all-weather forest access road that branches westward from Highway 502, approximately 50 kilometres north of the junction of Highway 502 and Highway 11 and 120 kilometres south of Dryden, Ontario.

2.2 Topography and Vegetation

The topography within the area is comparatively flat, with no hills rising more than 40 meters above lake level. A shallow layer of overburden covers most of the area, averaging from 3 to 5 meters in depth from drill log information, but outcrops can be found near shorelines and along the tops of prominent ridges. Extensive outcroppings can be found immediately east of Straw Lake, south of Floyd Lake and east of Bluffpoint Lake in the Lawrence Lake Batholith.

The area is covered with growths of balsam, poplar, birch, spruce, pine, cedar and some scrub oak on higher ground. Densely interspersed between the stands of trees are thickets of aspen, willow and alder brush. Generally, low areas are covered with hummocky cedar and black ash swamp.

Climatic conditions are typical of northwestern Ontario. The annual average precipitation for the Fort Frances area is 720 mm including 580 mm of rainfall and

139cm of snowfall. June sees an average rainfall of 113 mm, whereas November receives the highest monthly average of snowfall at 33 cm. The mean daily temperature in July is 18.8°C while January records average temperatures of -16.2°C.

Figure 1: Location Map

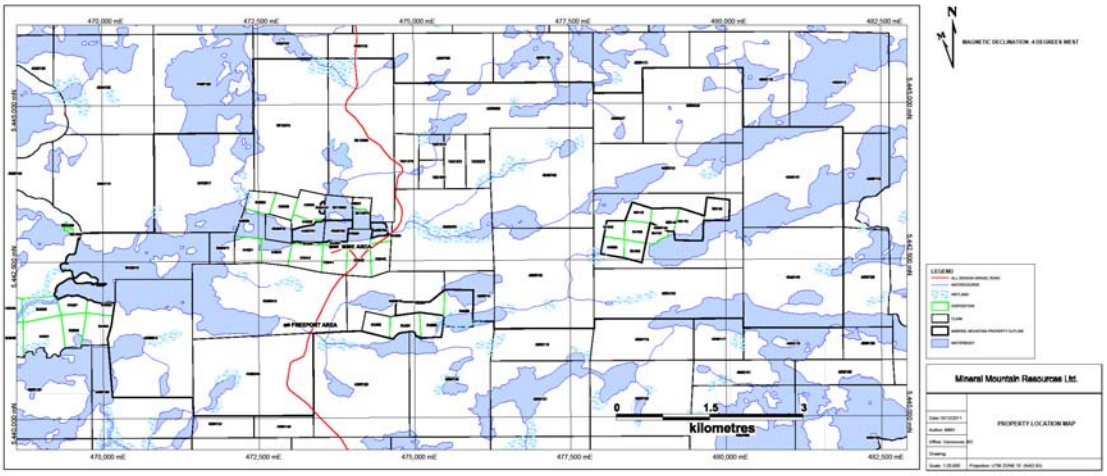
2.3 Claims

MMR acquired the following 4 patented parcels and 7 mineral claims from Mr. T. Ryznar ("Shotgun"), totalling 80.245 and 1040 hectares respectively.

K3943, K3944, K3945 and K3946, 4258611, 4258612, 4258613, 4258614, 4258615, 4258616 and 4258618

The Agreement dated September 20, 2010 between Shotgun Exploration and MMR, wherein MMR acquired the right to earn, in two stages, a 75% participating interest by completing a series of option payments, annual work commitments and issuance of shares to the Optionor on or before September 20, 2016.

Figure 2 – Claim Map



MMR acquired the following 11 unpatented mineral claims from Whetstone Minerals Ltd totalling 1104 hectares.

1221067, 1221272, 1221273, 1221274, 1221275, 3012517, 3012518, 3012519, 3012520, 3014652 and 3018670

The Agreement dated February 23, 2011 between Whetstone Minerals Ltd. and MMR, wherein MMR acquired the right to earn a 100% interest by making option payments totalling $200,000 and issuing a total of 650,000 shares to the Optionor on or before February 23, 2012. The Agreement is subject to a 2% Net Smelter Royalty ("NSR") and five (5) of the claims identified in the Agreement are subject to a 2% NSR payable to R. J. Fairservice.

MMR acquired the following 4 patented parcels from D. Swennumson, G. McKay, T. McKay, J. Gillies, D. and D. Salter totalling 54.51 hectares.

K3999, K4000, K4001 and K4002

The Agreement dated February 28, 2011 between the Vendors (refer to paragraph 1 above) and MMR, wherein MMR can earn a 100% interest by making option payments

totalling $140,000 and issuing 600,000 shares to the Vendors on or before February 28, 2012. The Agreement is subject to a 3% NSR payable to the vendors. The NSR (1%) can be purchased for $1,500,000.

MMR staked a total of 19 unpatented mineral claims in the Bluffpoint Area totalling 3216 hectares.

4258611, 458612, 4258613, 458614, 458615, 458616, 458618, 458626, 458627, 458628, 458741, 4258742, 4258743, 4258744, 4258745, 4258746, 4258747, 4258748 and 4258411

MMR purchased the following 6 patented mineral parcels from Ms. A. Eustace totalling 64 hectares. The patents adjoin the original Straw Lake Beach Mine patents acquired from Mr. T. Ryznar.

K2549, K2550, K4387, K4388, K4389 and K4390

3.0 PREVIOUS WORK

1933: Murdock Mosher and Fred Grozelle discover gold in quartz veins on the south shore of the "north arm" of Straw Lake.

1933: William Lucy of Fort Frances discovered gold on the south side of the "south arm" of Straw Lake on claims K4016 and K4017. The Straw Lake Occurrence occurs in a feldspar porphyry dyke containing extensional quartz veins / stringers that has been traced for in excess of 600 meters. Nine pits were sunk on the dyke and limited grab sampling has returned 0.15 opt Au (5.14 g/t) and 0.52opt Au (17.83 g/t).

1934: The Straw Lake Beach Mine Syndicate was formed to develop the Mosher Vein. During the following years an underground operation was carried out with a 723 ft vertical shaft and drifts established at the 100, 200, 300, 425, 575 and 700 ft levels. A total of 4,631 feet of lateral development was completed. The mine produced 11,568 ounces of gold and 1,049 ounces of silver from 33,662 tons at a gold grade of 0.34 opt Au (11.66 g/t)

1934: Edward Konigson discovered gold and copper in a shear zone hosted within intermediate volcaniclastic rocks along the north-shore of Straw Lake. The 2.7m wide shear zone returned 27.0 and 39.18 g/t Au from grab samples. A shallow 12.0m shaft was sunk on the zone.

1935: The Ontario Department of Mines published reports entitled Geology of the Straw Lake – Manitou Lakes Area and another entitled Geology of the Rowan-Straw Lake Area; both reports were authored by J.E. Thompson.

1945: Sylvanite Gold Mines completed 342 meters in 6 holes.

1970: Freeport Canadian Exploration completed an airborne Questor® input geophysical survey with follow-up ground EM and magnetic surveys and 6 diamond drill holes of which 3 are located on the present Straw Lake Property.

1976: Minedel Mines completed geological mapping, sampling and 890 meters of diamond drilling in 3 holes directed below the Straw Lake Beach Mine. Only low gold values were reported.

1977: G.E. Edwards and R. Sutcliffe of the Ontario Geological Survey released Map P. 1243 indicating a new gold showing about 4 kilometres northeast of the Straw Lake Beach Mine. The showing consisted of sheared, altered granodiorite of the Lawrence Lake Batholith that assayed 0.54 opt Au (18.51g/t).

1980: R.J. Fairservice optioned the area about 2.5 kilometres north of the SLBM in the vicinity of Pine Lake to Selco Mining Corp. (1980-1982) and subsequent mineral exploration companies Noranda Exploration (1984-1987) and Corporation Falconbridge Copper / Minnova Inc. (1988-1989). Work carried out included line-cutting, prospecting, magnetometer, IP and VLF-EM geophysical surveying, humus sampling, trenching and diamond drilling. Drilling defined a gold bearing alteration system over a strike length of 245 metres with an average width of 23.3 metres.

1983: Sparton Resources carried out line-cutting, VLF-EM, magnetometer and IP/resistivity surveys, soil and humus sampling, geological mapping and sampling, and diamond drilling. The drill program consisting of 5 shallow holes totalling 486m tested IP targets 300m west of the Straw Lake Beach Mine. Hole SL83-2 intersected 10.97 g/t Au over 1.52m.

1988: Dayton Porcupine Gold Mines Ltd carried out 1210 metres of diamond drilling in 10 holes over a 700 metre strike length of the SLBM horizon. The holes tested the stratigraphy at shallow depths returning up to 0.141opt Au (4.83 g/t) over narrow intervals.

1995: Tri Origin Exploration Ltd. carried out trenching, IP geophysical surveys and 1772 metres of diamond drilling in 7 holes east of the SLBM between Floyd and Rick Lakes. The drill holes explained the IP anomaly as fine-grained pyrite hosted within inter-bedded intermediate to- felsic tuffaceous rocks containing geochemically anomalous gold values.

2000: R. J. Fairservice outlines gold bearing alteration zones within the Lawrence Lake Batholith along north to northeast trending structures ‘A’, ‘B’ and ‘C’ outlined in previous work.

2003: Opawica Exploration Inc. options the claims from R.J. Fairservice and carries out a comprehensive program of mechanical stripping, detailed mapping and sampling and diamond drilling. The drill program tested four principal targets within the Lawrence Lake Batholith; Pine West, Pine Hill, Pine Centre and Pine East with 12 holes totalling

1775m. Holes OPW-2 and OPW-3 intersected 15.7m grading 1.0 g/t Au and 14.5m grading 1.25 g/t Au respectively at Pine Centre At Pine West, Hole OPW-10 returned 59.5m grading 0.135 g/t Au and at Pine East Hole OPW-6 returned 3.2m grading 3.43 g/t Au and 0.8m grading 6.39 g/t Au.

2007: Whetstone Minerals Ltd. (formerly Western Warrior Resources) tested the gold potential of the Pine East, Pine Hill and Pine Centre targets with 10 holes totalling 1990 metres. Hole BP07-09 returned 2.90 g/t Au across 13.46m and Hole BP07-10 returned 2.09 g/t Au over 8.35m from the Pine Centre target.

2011: Mineral Mountain Resources carried out 140 line kilometers of line cutting at 200 meter line spacing and commissions SRK Consulting to review and interpret the regional magnetic data.

4.0 GEOLOGY

The majority of this section was adapted from OGS Map 2463 and Straw Lake Report by G.E. Edwards and R. Sutcliffe (1976) and also from a NI 43-101 compliant Technical Report on the Whetstone Property filed by B. Nelson in 2011 on behalf of Mineral Mountain Resources.

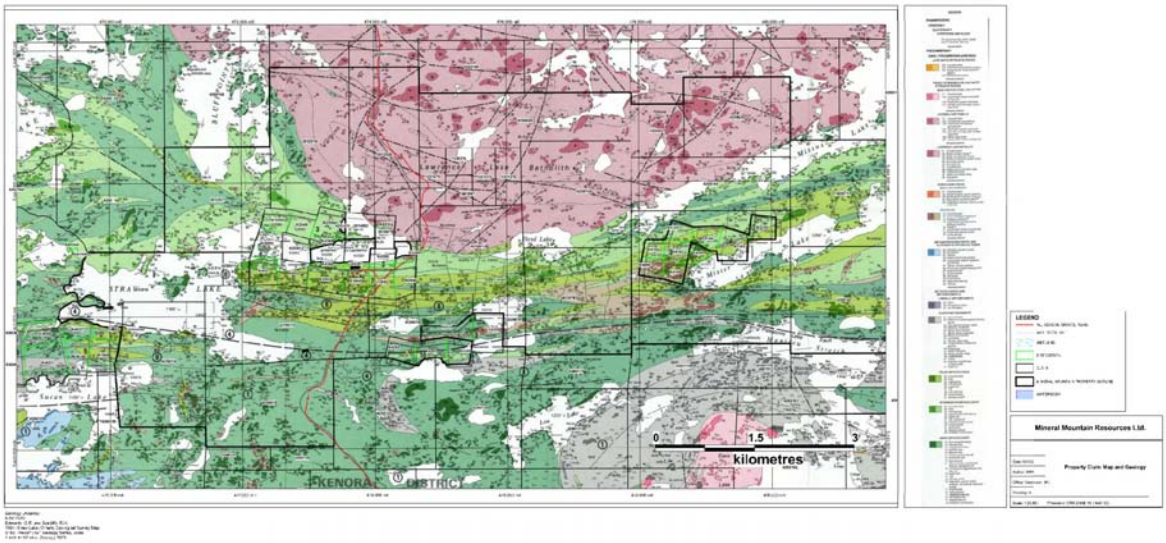
4.1 Regional Geology

The Straw Lake Property is situated within the Straw Lake Greenstone Belt a component of the western part of the Archean Wabigoon Subprovince of the Canadian Shield.

The Wabigoon Subprovince is a major east striking subdivision of the Superior Province. It has an exposed length of almost 900 kilometres and an average width of about 150 kilometers. To the west, in eastern Manitoba, and to the east, near Longlac, the Subprovince extends beneath flat-lying Paleozoic sedimentary rocks.

Supracrustal rocks of the Wabigoon Subprovince are predominantly volcanic. They are steeply dipping and most have not been metamorphosed above greenschist facies. In contrast, the English River Subprovince to the north consists of granitic and metasedimentary gneisses, which have resulted from high temperature metamorphism and the Quetico Subprovince to the south consists of metasediments, which were subject to moderately high temperature metamorphism.

Figure 3: Regional Geology Map



Numerous, round to oval, granitoid diapirs, between which folded supracrustal rocks are preserved, characterize the Wabigoon Subprovince. It has been suggested that the three subprovinces were “developed”, at least in part, contemporaneously, and there appears to be a lateral gradation from shallow water or terrestrial sedimentation in the Wabigoon Subprovince to deep-water sedimentation in adjacent provinces.

The oldest volcanic rocks in the Wabigoon Subprovince are tholeiitic mafic flows. Overlying intermediate to felsic volcanics are predominantly calc-alkaline pyroclastics. At least, three mafic to felsic cycles have been recognized in some parts of the Subprovince and metasediments are commonly associated with the pyroclastic rocks. Geochronological data suggest that there may be significant differences in the ages of apparently similar sequences in different parts of the Subprovince. It has been recognized that there is a genetic relationship between the granitic intrusions, their overlying subvolcanic apophyses, and the mantling felsic volcanic sequences.

The boundary between the Wabigoon and English River Subprovinces is generally defined as the contact between granitic gneisses and low-grade volcanic rocks. North of the Lake of the Woods, this coincides with a fault or intrusive contact, but further east it may be gradational. The Dryberry Batholith has been considered to be part of the English River Subprovince, most importantly because of the presence of migmatized metasediments along its southeastern boundary. The western boundary is in contact with relatively low-grade volcanics of Bigstone Bay and, here, the Batholith resembles more

closely those of the Wabigoon Subprovince.

4.2 Property Geology

The Straw Lake property straddles the contact between the Lawrence Lake Batholith ('LLB'), a late mantle-derived pluton in the north and a complexly folded supracrustal greenstone belt in the south which is bisected by a regional large-scale fault zone known as the Manitou Stretch-Pipestone Lake Fault ('MSPF')

The LLB displays granodioritic (65.3% SiO_2, potash feldspar >10%) and dioritic (58.2% SiO_2, potash feldspar <10%, sodic plagioclase, quartz <10%) phases along its contact margin from Bluffpoint to Missus Lakes. This intrusive appears to have a geochemical signature that is consistent with TTG-type magmas, that being a distinctive suite of tonalitic to granodioritic composition characterized by relatively sodic plagioclase that were termed trondjhemites (=leuco-tonalite). TTG suite intrusions occur as multiphase intrusive complexes ranging up to batholithic dimensions. Biotite and/or hornblende are the predominant ferromagnesian silicates. Magnetite is the main oxide mineral constituent.

The salient direction of structures found along the LLB margin trend 040° to 065°NE, 085° to 110°EW and 125° to 140°SE. The contact margin shows subordinate quartz-rich leucocratic granodiorite and metasomatized and/or assimilated volcanic material together with porphyritic, felsite and aplite dykes.

The supracrustal sequence is divided by the Manitou Stretch-Pipestone Lake Fault which is a regional strike-slip deformation zone that trends parallel to sub-parallel to the stratigraphy through the southern one-third of the property and passes through the south arm of Straw Lake to the west and the extreme north end of Esox Lake to the east. The stratigraphy on the north side of the MSPF consists of a lower cycle of submarine mafic flows overlain by interlayered intermediate flows and pyroclastic rocks evident from south of Floyd Lake continuing to the west between Missus and Mister Lake. The stratigraphy on the south side of the MSPF is not correlatable with that north of the fault. They consist of a intricately folded lower sequence (or sequences) of submarine flows capped by mafic flow breccia, hyaloclastite and tuff-breccia that is overlain by predominantly volcanic-derived turbiditic metasediments exhibiting both proximal and distal characteristics.

Deposit types identified on the property include:

1. Structurally-controlled silicified +/- carbonatized shear zones and fractures spatially associated with the Manitou Stretch-Pipestone Fault. Any structurally competent rock unit may host gold mineralization however gold associated with a) quartz veins and b) intrusive bodies and porphyry dykes appear to be an economically important type of target.

2.Disseminated gold mineralization occuring within an alteration assemblage comprising sausserite+sericite+silica+pyrite hosted by high Al-TTG type intrusive rocks such as the

Lawrence Lake Batholith are suggestive of low-grade, high tonnage bulk mineable deposits.

5.0 2011 PHASE 1 DIAMOND DRILLING PROGRAM

5.1 Sample Preparation, Analysis and Security

i) Fire Assay (AA – detection limits 5 to 3,000ppb, Code 1A2)

A 30 g sample is mixed with fluxes (materials such as borax, soda ash, silica) and lead. The sample with the fluxes is then added to a crucible, placed in a 1000°C to 1200°C assay furnace and left for a predetermined time, to melt or "fuse" the contents of the crucible. The crucibles are then removed from the assay furnace and the molten slag (lighter material) is carefully poured from the crucible into a mould, leaving a lead button at the base of the mould. When cooled, the lead button is placed in a cupel which is designed to absorb the lead when heated to the melting point, leaving only a tiny metal bead of Ag which contains Au. The entire bead is dissolved in acid and the gold content is determined by atomic absorption spectroscopy. Atomic Absorption is an instrumental method of determining element concentration by introducing an element in its atomic form, to a light beam of appropriate wavelength causing the atom to absorb light – atomic absorption. The reduction in the intensity of the light beam directly correlates with the concentration of the elemental atomic species. If the gold value exceeded the upper limit of 3000ppb, then the sample was re-analyzed by the Fire Assay-Gravimetric method.

ii) ICP (Multi-element analysis – Code 1E3)

The ICP data is collected by digesting 0.5 g of sample with aqua regia (0.5 ml H_2O, 0.6 ml concentrated HNO_3 and 1.8 ml concentrated HCl) for 2 hours at 95° C. Sample is cooled then diluted to 10 ml with deionized water. The samples are then analyzed on a Varian Vista Pro or Varian Vista 735 ICP for the 35 element suite. A matrix standard and blank are run every 13samples. A series of USGS and OREAS geochemical standards are used as controls. This digestion is near total for base metals however will only be partial for silicates and oxides.

iii) Sampling Protocol

The drill holes were recorded digitally and drill hole data was directly entered into a Toshiba laptop computer using Geotic® software, a program designed for core logging and data management. Holes were surveyed by hand held GPS and caps secured on the casings following the completion and demobilization from each set-up. A Reflex® survey instrument was used to track the azimuth of the drill holes.

Logging and sampling of drill core was carried out by Qualified Person, Kevin Leonard, a registered professional geologist in the provinces of Manitoba and Ontario, Canada and in the state of Washington, USA. The core was sawn, processed and dispatched under the supervision of Mr. Leonard.

The core was evaluated during the logging process and marked for sampling over the entire length of the hole. Lithology, structure, mineralization and significant alteration determined the size of each sample. Sample intervals generally ranged from 0.40 to 1.0 meters. Each sample interval was marked in the core box and on the drill log. Core was sawn using a Husqvarna TS250 core saw. Half of the sawn core was returned to its proper position in the core box and the other half of the core was bagged for shipment to the lab for analysis. Each labelled plastic sample bag contained the corresponding sample tag with a unique sample number. On average, about 10 plastic sample bags were placed in shipment sacks (i.e.woven rice bags) with the top of the sack securely fastened and then shipped by Gardewine North in Fort Frances to Activation Laboratories in Thunder Bay, Ontario.

An inventory of core in each core tray was recorded and photographed. Metal tags were affixed to each tray and inscribed with the hole ID, box number and corresponding core interval. The core is stored in pre-fabricated racks at the Straw Lake exploration camp.

5.2 Drill Results

Drill logs, a plan of the drill holes, cross sections, and assay certificates are located in Appendix III, IV, and V respectively.

MMR completed a Phase 1 diamond drill program totalling 522 m in 4 drill holes. The program was carried out from August 1st, 2011 through to August 11th, 2011.

The holes were used to test the gold potential of a well developed porphyry dyke intersected by Freeport Canada in 1971. The altered porphyry dyke is located within the structurally complex Manitou Stretch-Pipestone deformation zone.

Table 1: Summary of Phase 1 Drill Holes, Freeport zone

DDH	EASTING (NAD 83)	NORTHING (NAD 83)	AZIMUTH	DIP	ELEVATION (m)	LENGTH (m)
FP11-009	472975	5441481	360	-50	371	120
FP11-010	472975	5441481	360	-65	371	141
FP11-011	472924	5441474	360	-50	382	121
FP11-012	472924	5441474	360	-65	382	140

*datum in NAD83, Zone 15U

Two collar locations were positioned about 50 m apart and two holes were drilled from each set-up. All the holes were directed from south to north aligned along an azimuth of 360°. Holes FP11-009 and 010 were drilled close to historic Hole #6 drilled by Freeport.

Drill hole FP11-009 intersected a distinctive greenish grey porphyry unit containing cm-scale plagioclase phenocrysts over a 31.1m interval from 49.88 to 80.4 meters. Intermediate massive to-flow-banded tuff modified by narrow dyklets occurs above the

porphyry unit and laminated to- thinly banded yellowish-grey felsic tuff occurs below the porphyry unit.

The targeted porphyry showed a variable alteration assemblage consisting of quartz, sericite, sausserite, hematite and minor carbonate. Finely disseminated specks of pyrite up to 30% were observed near the upper contact from 49.88 to 55.14 m. This mineralized zone termed the Freeport Zone, yielded 0.252 g/t Au over a core length of 5.26 m. The lower contact showed a mixture of smokey dark grey quartz, patchy pyrite mineralization and slickensided fractures coated with graphite. Intermittent strong brecciation and discrete faulting occurs at the lower contact. The graphitic material explains the strong EM conductor identified by Freeport Canada.

Drill hole FP11-010 undercut Hole 009 and intersected a broad zone or wedge of graphitic sediments containing coarse grained, botryoidal-shaped pyrite intimately associated with the targeted porphyry unit. Sharp faulting was again noticed at the lower porphyry – felsic tuff contact. The Freeport Zone returned 0.199 g/t Au over a core length of 3.17m from 53 to 56.17 m.

Pyrite-bearing graphitic (in part sheared and silicified) sediment and the distinctive porphyry unit were intersected in Holes FP11-011 and 012. Consistent faulting was observed at the lower porphyry contact. Geochemically anomalous gold mineralization in the vicinity of the upper porphyry-intermediate tuff contact in Hole FP11-011 returned 0.197 g/t Au over a core length of 11.1 m from 54.9 to 66.0 m.

A brief list of observations from the Phase 1 drilling is presented below:

- The feldspar porphyry unit occupies the lithological contact between massive to-flow-banded intermediate tuffs to the north and laminated felsic tuffs to the south,
- A wedge and/or horizon(s) of graphitic sediments is complexly folded within the contact zone,
- Strong brecciation, slickensides and fault gouge in the drill core indicates a major structural influence of the Manitou Stretch-Pipestone Fault,
- Geochemical data and macroscopic observations of the core suggest the targeted porphyry unit resembles syenite to alkali syenite composition,
- The interval of geochemically anomalous gold appears to widen to the west,
- Although economic gold values have yet to be encountered, this environment is worthy of further exploration.

Table 2 below summarizes the results from the Phase 1 program.

Table 2: Summary of Significant Results

DDH	From (m)	To (m)	Core Length (m)	Grade (g/t Au)	Comments or Remarks
FP11-009	49.88	55.14	5.26	0.252	FPZ
FP11-010	53.00	56.17	3.17	0.199	FPZ
FP11-011	20.00	21.00	1.00	2.530	
	54.90	66.00	11.1	0.197	FPZ
FP11-012	59.00	66.00	7.00	0.254	FPZ

*FPZ – Freeport Zone

5.3 Data Verification

There was no information on Quality Assurance and/or Quality Control ('QA/QC') programs run on drill hole assays prior to Mineral Mountain's involvement in this project.

A total of 525 core samples were sent in for gold- fire assay AA (ppb), gravimetric (g/t) and ICP (multi-element) analysis at Activation Laboratories Ltd ('Actlabs'). Actlabs received 130 OREAS 19a, OREAS 15d and OREAS 15f reference standards as well as locally sourced blank material. About 5% of the samples submitted are standards, which are blind to the laboratory. The sampling ratio consisted of 1 OREAS reference standard for every 20-core samples. The standards test the precision and accuracy of the assaying process, and will identify any sample numbering problems.

Assay results of reference samples from Actlabs can be found in figures 4, 5 and 6. In addition the OREAS specification sheets summarizing OREAS 19a, OREAS 15d and OREAS 15f are found in Appendix V.

OREAS 19a has an average (i.e. mean) gold value of 5.49 g/t, and a second standard OREAS15d has an average gold value of 1.559 g/t and a third standard OREAS 15f has an average gold value of 0.334 g/t Au. Gold values returning 5.49 g/t +/- 0.2g/t, 1.559g/t +/-0.084g/t and 0.334g/t +/-0.033g/t respectively represent 2 standard deviations from the mean and show a 95% confidence level of accuracy. Details of the standards are provided in Appendix V and Figures 4 to 6 compare Actlabs results to the reference standards OREAS 19a, 15d and 15f respectively.

Figure 4 below compares the assay results from Actlabs to reference standard 19a. The data indicate that all of Actlabs high-grade sample population fall within the 95% confidence level and the arithmetic mean of Actlabs samples equal 5.47 g/t Au, well within the reliability range.

Figure 4

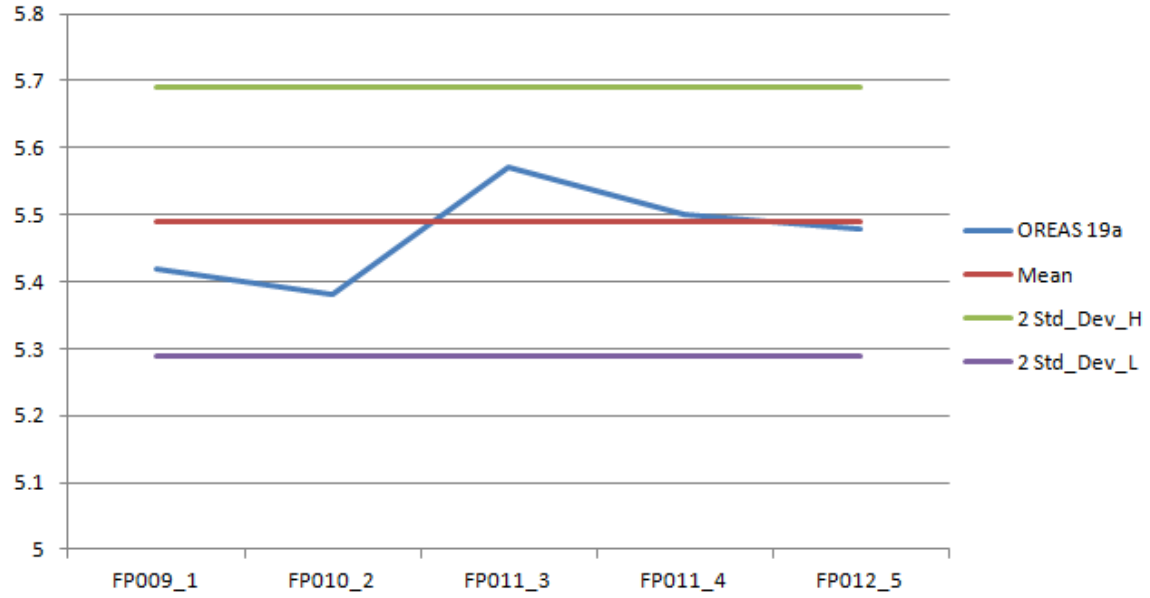


Figure 5 below compares the assay results from Actlabs to reference standard 15d. The data indicate some volatility with Actlabs mid-grade sample population. One of Actlabs samples falls marginally above the two standard deviation threshold observed in Hole FP11-010. The arithmetic mean of Actlabs samples equal 1.59 g/t Au, which correlates within the range of reliability of 1.559 g/t Au as determined for standard 15d

Figure 5

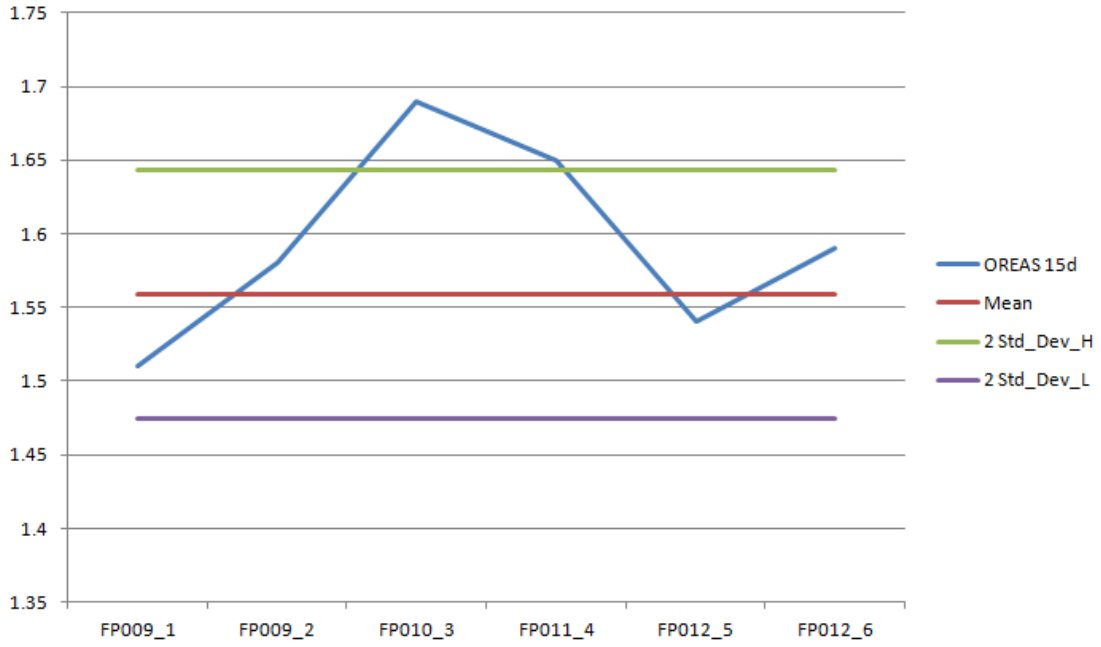
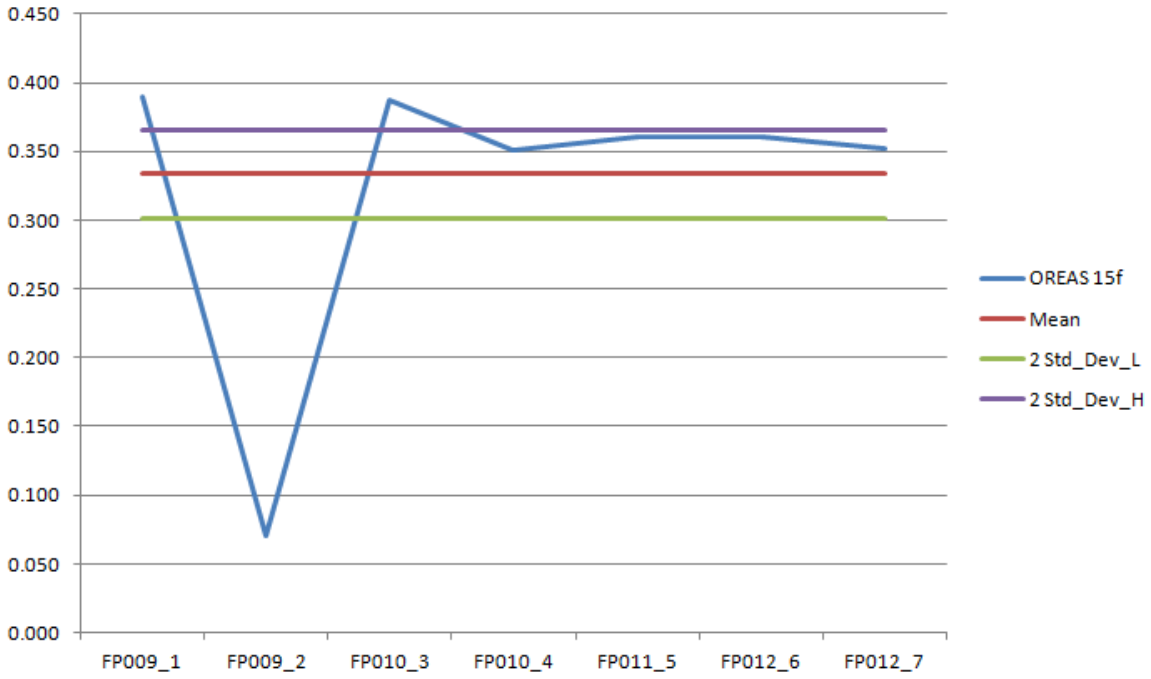


Figure 6 below compares the assay results from Actlabs to reference standard 15f.
The data indicate that Actlabs low-grade sample population shows volatility in Holes FP11-009 and 010. Low-grade gold values in Hole FP11-009 may be considerably understated. Actlabs low grade sample in Hole FP11-010 is only marginally outside the 95% confidence level. The arithmetic mean of Actlabs samples equal 0.324 g/t Au, well within the range of reliability of 0.334 g/t Au as determined for standard 15f.

Figure 6



Field blanks were inserted in rotation with the three grades of reference standard material. The blank material was purchased and consisted of decorative limestone. All samples returned <0.005 g/t Au, thus passing the laboratory performance standard for this material.

As mentioned above, the data indicate some volatility with Actlabs mid-grade sample population. About 78% of Actlabs samples fall well within the range of reliability with respect to the 95% confidence level of accuracy for each of the standards used. Only two samples, one each from Hole SLB11-001 and Hole SLB11-003 may be understating the gold content of the mineralization for values in this grade range

6.0 CONCLUSIONS

Geochemically anomalous gold values have been intersected from limited drilling within a strongly altered, lithologically diverse and structurally controlled geological environment. Tenor of alteration and width of anomalous gold values appear to strengthen to the west.

7.0 RECOMMENDATIONS

It is recommended that a program of detailed mapping, sampling and diamond drilling be carried to the west of the Freeport drill holes, which encompasses the Straw Lake Occurrence. Following-up on historically anomalous gold values discovered within the quartz-veined porphyry would be the first priority.

8.0 REFERENCES

Baker, C.J. 2011. Compilation Report, Exploration recommendations for Mineral Mountain Resources, Straw Lake Property; Internal Document 41p.

Beakhouse, G.P. 2001. Nature, timing and significance of intermediate to felsic intrusive rocks associated with the Hemlo greenstone belt and implications for the regional geological setting of the Hemlo gold deposit; Ontario geological survey, Open File Report 6020, 248p.

Berger, B.R., 1991. Precambrian Geology, Manitou Stretch Area; Ontario Geological Survey Report 284, 45p.

Blackburn, C.E. 1976. Geology of the Lower Manitou-Uphill Lakes area, district of Kenora; Ontario division of Mines, Geoscience Report 142, 81p.

Edwards G.R., and R. Sutcliffe, R.H. 1977. Straw Lake Area, Districts of Rainy River and Kenora; Ontario Geological Report 222 67p.

Ladouceur, K., Blampin, A., 2011. Technical Report for MNDM Assessment Purposes – Straw Lake Property; Assessment Files, Kenora Mining Division;19p.

Nelson, B., 2011. Technical Report on the Whetstone Property; 48p.

Nelson, B., 2011. Technical Report on the Konigson Property; 27p.

Poulsen, K.H., Robert, F., and Dube, B. 2000: Geological Classification of Canadian Gold Deposits; Geological Survey of Canada, Bulletin 540 106p.

Appendix I

STATEMENT OF QUALIFICATIONS

I, Kevin William Leonard of 1209 Hansberry Ave, Orting, Washington, USA do hereby certify that:

I am the author of this report and under contract to Mineral Mountain Resources Ltd.

I am a graduate of McMaster University, Hamilton, Ontario with a B.Sc. Geology, 1979, and have practised my profession continuously since.

I am a member with the Association of Professional Geoscientists of Ontario (#1926).

I am a member with the Association of Professional Engineers and Geoscientists of Manitoba (# 30831).

I am a licensed geologist with the State of Washington (#1346).

I am a member of the Prospectors & Developers Association of Canada (#218580), the Canadian Institute of Mining and Metallurgy (#145186) and the Society of Economic Geologists (#465988).

The report is based on a study of the data and literature available on the Straw Lake property. I am responsible for supervising the drill program and logging of the drill core. All exploration work carried out since May 2011 has been conducted under my direct supervision.

I currently hold securities of Mineral Mountain Resources Inc.

Kevin William Leonard
December 15, 2011
Fort Frances, Ontario

Appendix II

List of Claims comprising the Straw Lake Property

Straw Lake Property - MMR Unpatented Claims

Claim Number	Area Units	Area Ha	Township/ Area	Map Sheet	Owner
4258613	12	192	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258611	1	16	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258614	16	256	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258628	12	192	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258612	1	16	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258615	14	224	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258616	6	96	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258618	15	240	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258626	16	256	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258741	4	64	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258742	16	256	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258743	16	256	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258744	12	192	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258745	9	144	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258746	12	192	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258747	16	256	Napanee Lake	G2690	Mineral Mountain Resources Ltd.
4258748	16	256	Napanee Lake	G2690	Mineral Mountain Resources Ltd.
4258627	4	64	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.
4258411	3	48	Bluffpoint Lake Area	G2669	Mineral Mountain Resources Ltd.

Straw Lake Property - Ryznar Patents

Patent Number	Area Ha	Township/ Area	Owner
K3943	23.682	Bluffpoint Lake Area	1659134 Ontario Limited
K3944	19.348	Bluffpoint Lake Area	1659134 Ontario Limited
K3945	20.603	Bluffpoint Lake Area	1659134 Ontario Limited
K3946	16.612	Bluffpoint Lake Area	1659134 Ontario Limited
	80.245		

Straw Lake Property - Swennumson et al Patents

Patent Number	Area Area (ac)	Area (ha)	Township/ Area	Map PIN	Parcel
K3999	34.39	13.918	Bluffpoint Lake Area	42185-0420	12517
K4000	12.51	5.063	Bluffpoint Lake Area	42185-0421	12526
K4001	43.754	17.707	Bluffpoint Lake Area	42185-0422	12527
K4002	44.034	17.821	Bluffpoint Lake Area	42185-0423	12528
	134.688	54.509			

Straw Lake Property - Whetstone Unpatented Claims

Claim Number	Area Units	Area Ha	Township/ Area	Map Sheet	Owner
1221067	16	256	Bluffpoint Lake Area	G2669	Whetstone Minerals Ltd.
1221272	12	192	Bluffpoint Lake Area	G2669	Whetstone Minerals Ltd.
1221273	16	256	Bluffpoint Lake Area	G2669	Whetstone Minerals Ltd.
1221274	1	16	Bluffpoint Lake Area	G2669	Whetstone Minerals Ltd.
1221275	15	240	Bluffpoint Lake Area	G2669	Whetstone Minerals Ltd.

3012517	1	16	Bluffpoint Lake Area	G2669	Whetstone Minerals Ltd.
3012518	1	16	Bluffpoint Lake Area	G2669	Whetstone Minerals Ltd.
3012519	2	32	Bluffpoint Lake Area	G2669	Whetstone Minerals Ltd.
3012520	2	32	Bluffpoint Lake Area	G2669	Whetstone Minerals Ltd.
3014652	1	16	Bluffpoint Lake Area	G2669	Whetstone Minerals Ltd.
3018670	2	32	Bluffpoint Lake	G2669	Whetstone Minerals Ltd.

Mineral Mountain Resources

DDH: **FP11-009**

		Claims title:	4258615	Section:	4722950
		Township:		Level:	Surface
		Range:		Work place:	Straw Lake
Drilled by:	Mallette Drilling	Lot:			
Described by:	K Leonard	From:	01/08/2011	Description date:	02/08/2011
		To:	05/08/2011		

Collar

Azimuth:	360.00°
Dip:	-50.00°
Length:	120.00 m

System 1

East	472,975
North	5,441,481
Elevation	371

Down hole survey

Type	Depth	Azimuth	Dip	Invalid	Description
Reflex	21.00	359.40°	-49.70°	No	
Reflex	51.00	358.30°	49.20°	No	
Reflex	100.00	357.70°	-49.50°	No	
Reflex	120.00	358.60°	-48.70°	No	

Description

Hole FP11-009 was used to test an altered Feldspar porphyry intersected by Freeport Canada in 1971. The unit was intersected over a 31.1m interval from 49.88 to 80.4m and consisted of variably altered assemblage consisting of quartz, sericite, hematite+/-sausserite, strong pyrite mineralization with minor sphalerite observed from the upper contact from 49.88m to 55.14m. The lower contact showed smokey blue grey quartz (slicification) with patchy pyrite disseminations and slickensided fractures coated with graphite. (likely Freeport EM target).

Core size: NQ Cemented: No Stored: Yes

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
0.00	6.00	CAS							
		Overburden							
		CASING							
6.00	37.31	2a; MAS							
		Int. Tuff - massive flow; Massive							
		greenish-grey in colour, fine grained, intermediate "dacitic" volcanic flow, 20% silicified +/- bleached+/- pyrite mineralized, locally blocky/fractured core, cut by narrow feldspar porphyry dykes approaching the lower contact							
11.77	14.58	BLE; Ser; Sil40							
		Bleached; Sericitisation; Silicification 40							
		bleached, silicified and sericitized core							
11.77	14.58	Py03		12.00	13.00	1061351	1.00	20	
		Pyrite 3%		13.00	14.00	1061352	1.00	20	
		3% disseminated pyrite in zone of silicification and bleached core		14.00	14.58	1061353	0.58	9	
				14.58	15.00	1061354	0.42	6	
				15.00	16.00	1061355	1.00	1	
				16.00	17.00	1061356	1.00	16	
				17.00	18.00	1061357	1.00	7	
				18.00	19.00	1061358	1.00	7	
				19.00	20.00	1061359	1.00	1	
				19.00	20.00	1061360 (Std)	1.00	390	
				20.00	21.00	1061361	1.00	13	
				21.00	21.50	1061362	0.50	12	
				21.50	22.12	1061363	0.62	39	
21.60	21.75	FRC							
		Fractured							
		strongly fractured core, random fracture sets							
22.03	23.12	Sil; BLE							
		Silicification; Bleached							
		alteration zone, light grey to pale greenish grey in colour, pervasive silicification, bleached section							
22.03	23.12	Py05		22.12	23.12	1061364	1.00	40	
		Pyrite 5%		23.12	24.00	1061365	0.88	1	
		silcified, bleached core, minor quartz stringers and 3-5% disseminated pyrite		24.00	24.50	1061366	0.50	1	
				24.50	25.13	1061367	0.63	7	
				25.13	26.00	1061368	0.87	21	

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
25.14	26.00	BLE; Ser; Sil		26.00	26.57	1061369	0.57	7	
		Bleached; Sericitisation; Silicification		26.57	27.55	1061370	0.98	32	
		pale greenish grey, bleached section, cherty silicification, pervasive sericite alteration, minor grey/glassy quartz and wallrock brecciation							
26.65	28.12	BLE; Sil		27.55	28.11	1061371	0.56	12	
		Bleached; Silicification		28.11	29.00	1061372	0.89	1	
		pale yellowish-grey cherty and bleached section cut by narrow criss-crossing glassy-grey quartz stringers, 0.5-1% disseminated pyrite within stringers and along margins.		29.00	30.00	1061373	1.00	9	
				30.00	31.00	1061374	1.00	35	
				31.00	32.00	1061375	1.00	6	
				32.00	33.00	1061376	1.00	1	
33.00	37.31	Sil; Ser25							
		Silicification; Sericitisation 25							
		pale yellowish-grey altered section, strongly silicified, pervasive sericitization, cut by narrow dyklets of diorite and feldspar porphyry, 1-2% disseminated pyrite throughout							
33.00	37.31	Py02		33.00	34.00	1061377	1.00	12	
		Pyrite 2%		34.00	35.00	1061378	1.00	34	
		fine grained specks of disseminated pyrite throughout.							
34.63	34.81	4a; POR		35.00	36.00	1061379	1.00	53	
		Dyke - (fspar porphyry); Porphyritic		35.00	36.00	1061380 (Std)	1.00	1,510	1.51
		pale greenish grey, 25% light grey-cream subhedral to euhedral plagioclase phenocrysts, irregular upper and lower contacts							
35.40	35.93	VEIN;0.43 m;;IRR;;Py05;		36.00	36.50	1061381	0.50	11	
		Vein 0.43 m Irregular Pyrite 5%		36.50	37.31	1061382	0.81	12	
		milky white quartz vein flecked with 3-5% disseminated pyrite							
37.31	40.47	4a		37.31	38.00	1061383	0.69	5	
		Dyke - (fspar porphyry) 40°		38.00	39.00	1061384	1.00	7	
		pale greenish grey in colour, with 20-30% glomeroporphyrytic - metacrystic feldspar phenocrysts, 1.5 x 2cm in size, massive, homogenous texture, pervasively silicified and greenish tinge imparted by sericite alteration, abrupt contacts at 90deg (broken) and 40deg to the LCA respectively, <0.5% pyrite throughout		39.00	40.00	1061385	1.00	9	
				40.00	40.47	1061386	0.47	6	
40.47	49.88	2d		40.47	41.00	1061387	0.53	1	
		Int. Tuff - flow banded		41.00	42.00	1061388	1.00	8	
		light greenish-grey colour, fine grained, short chert laminated sections, patchy sericite alteration, pervasive silicification, locally brecciated and pyrite mineralized,Fe-oxide stained healed fractures, increased alteration toward lower contact.							
40.47	41.78	FRC; EAR; FLT; BRX							
		Fractured; Earthy; Fault 45°; Breccia							

		Description	Assay					
			From	To	Number	Length	Au (ppb)	Au (g/t)
		zone of brecciation near contact with Feldspar Porphyry unit, core is segmented into 5-8cm lengths. 40.60m - 40.80m - dark seam of earthy core, strongly weathered earthy appearrance wirh vresidual 5% pyrite grains						
41.35	41.48	VEIN;0.13 m;;SIM;47°;Py02; **Vein 0.13 m Simple 47° Pyrite 2%** white quartz vein dotted with 1-2% disseminatewd pyrite, sharp upper ad lower contacts at 47deg and 60deg to the LVA respectively.						
42.00	42.65	FRC **Fractured** strongly fractured core, three fracture sets observed.	42.00 43.00	43.00 44.00	1061389 1061390	1.00 1.00	8 9	
43.73	44.10	FRC; BLOC **Fractured; Blocky** fractured , blocky core.	44.00	45.00	1061391	1.00	8	
44.10	44.73	CHERT **Chert** chert-silicate lamellae trending at 55deg to the LCA	45.00	46.00	1061392	1.00	42	
45.72	45.95	FRC **Fractured** strongly fractured core, hematitie and sericite stained fracture faces, relatively clean surfaces.	46.00 46.50	46.50 47.17	1061393 1061394	0.50 0.67	15 10	
47.00	47.11	FRC; BRC; BRC; FIS; FLT **Fractured; Broken Core; Broken Core; Fissile; Fault** strongly fractured seam, fissile/friable pebbly gouge observed - FAULT?						
47.17	47.60	Py25; Sp10 **Pyrite 25%; Sphalerite 10%** coarse grained fractured pyrite seam set in a black matrix of sphalerite?	47.17	47.60	1061395	0.43	297	
47.20	47.60	BRX **Breccia** well-defined healed breccia zone,consisting of angular wallrock fragments and coarse grained pyrite set in a black chlorite or possibly sphalerite matrix. the black mass streaks red when cut.	47.60 48.12	48.12 48.60	1061396 1061397	0.52 0.48	1 76	
48.46	49.88	Hem20 **Hematisation 20** patc.hy hematite alteration near lower contact and within broken-down earthy dyklets cutting dacitic flow / banded tuff unit						
48.46	49.89	SHD; BRX **Sheared; Breccia** sheared and locally brecciated, altered tuff with earthy granitoid dyklets	48.60 49.15	49.15 49.88	1061398 1061399	0.55 0.73	34 169	

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
			approaching lower contact, locally coarse pyrite grains and trace t0 2% sphalerite	49.15	49.88	1061400 (Std)	0.73	1,580	1.58
48.46		48.57	Py; Py12 **Pyrite; Pyrite 12%** sheared, crudely laminated medium to-coarse grained pyrite as tighly packed aggreagates and disseminations.						
49.45		49.63	4f **Dyke - granitiod 50°** medium grained, massive, strongly hematized and partially quartz veined granitiod dyklet, trace sulphides, sharp contacts at 50deg to the LCA.						
49.76		49.88	Py07 **Pyrite 7%** very coarse grains and aggregates of pyrite.						
49.88	55.14		4a; POR **Dyke - (fspar porphyry); Porphyritic** MINERALIZED FELDSPAR PORPHYRY strongly quartz altered and pyrite mineralized upper contact margin of FP dyke, patchy pink potassic alteration within relict porphyry textures, sections replaced by strong glassy grey quartz flooding, chunky pyrite together with finely diiseminated specks up to 30%. 49.88-50.24m - immediate contact margin, brecciated texture, mottled grey and beige to pinkish red, healed hematized fractures, large random clot of pyrite, 50.24 - 50.95m - original textures nearly obliterated, predominantely silica flooded and superimposed light glassy-grey quartz veining, abundant pyrite. 50.95 - 51.54m - pinkish granitic texture and greyish white quartz veinlets and irregular knot. 51.54 - 54.20m - original textures strongly obscured by pervasive silicifcation and abundant fg disseminated to chunky pyrite 54.20 - 54.60m - for the most part strongly fractured, hematized core, subordinate greenish-yellow sericite and patchy pyrite. 54.60 - 55.14m narrow glassy quartz veinlets cut relict textures, strongly silicified, abundant pyrite.						

Description			Assay					
			From	To	Number	Length	Au (ppb)	Au (g/t)
49.88	55.14	Sil55; Hem15	49.88	50.24	1061401	0.36	80	
		Silicification 55; Hematisation 15						
		sections showing pervasive silica flooding and destruction of primary textures						
		together with patchy hematization						
49.88	50.24	Py15						
		Pyrite 15%						
		15% fg to chunky pyrite mineralization						
50.24	50.95	Py12	50.24	50.95	1061402	0.71	114	
		Pyrite 12%						
		fg disseminated pyrite and silica flooding						
50.95	51.54	Py01	50.95	51.54	1061403	0.59	31	
		Pyrite 1%						
		0.5-2.0% fg pyrite specks in relict pinkish texture						
51.54	54.20	Py20; Mo01; Sp00.25	51.54	52.00	1061404	0.46	111	
		Pyrite 20%; Molybdenite 1%; Sphalerite 0.25%	52.00	52.50	1061405	0.50	329	
		fg and chunky pyrite ranging between 10-20%, trace molybdenum and sphalerite	52.50	53.00	1061406	0.50	380	
			53.00	53.60	1061407	0.60	186	
			53.60	54.20	1061408	0.60	594	
54.20	55.14	Py10	54.20	54.60	1061409	0.40	356	
		Pyrite 10%	54.60	55.14	1061410	0.54	337	
		10-15% fg disseminated pyrite						
55.14	81.42	4a; POR	55.14	55.64	1061411	0.50	24	
		Dyke - (fspar porphyry); Porphyritic	55.64	56.50	1061412	0.86	15	
		ALTERED FELDSPAR PORPHYRY	56.50	57.50	1061413	1.00	32	
		multicoloured red, pink, light greenish yellow to grey medium grained,porphyritic texture	57.50	58.37	1061414	0.87	54	
		when not obscured by alteration, patchy hematite and sericite alteration, locally silicified,	58.37	59.00	1061415	0.63	12	
		1-2% disseminated specks of pyrite, strongly weathered sections show dull earthy look,	59.00	60.00	1061416	1.00	17	
		fairly competent core.	60.00	61.00	1061417	1.00	17	
		55.70 - 58.37m strongly altered to red and yellow, hematite and sericite altered, broken	61.00	62.00	1061418	1.00	22	
		down earthy appearrance but porphyroblasts still visible.	62.00	63.00	1061419	1.00	13	
		58.37 - 60.90m - 60% grey to greyish-white silicification replacing patchy relict textures.	62.00	63.00	1061420 (Std)	1.00	5,420	5.42
			63.00	64.00	1061421	1.00	37	
		60.90 - 78.45m feldspar-phyric texture more noticable, medium grained with metacrystic	64.00	65.00	1061422	1.00	29	
		plag porphyroblasts, greenish-yellow-beige colouration, cut by glassy white quartz	65.00	66.00	1061423	1.00	34	
		stringers and pods, minor hematite healed fractures, weak to moderate and patchy	66.00	67.00	1061424	1.00	52	
		quartz sericite+/-sausserite+/-hematite+/-epidote alteration assemblage, trace to 1%	67.00	68.00	1061425	1.00	26	
		discontinuous pyrite mineralization, competent core.						

Description			Assay					
			From	To	Number	Length	Au (ppb)	Au (g/t)
		78.45 - 81.42m - dark grey to black smokey quartz, locally brecciated,20% remnant feldspar porphyry textures visible, chunky/discontinuous pyrite mineralization, 5-10% graphite as slickensides in unconsolidated, fractured core.	68.00	69.00	1061426	1.00	55	
			69.00	70.00	1061427	1.00	26	
			70.00	71.00	1061428	1.00	35	
			71.00	72.00	1061429	1.00	66	
			72.00	73.00	1061430	1.00	31	
			73.00	74.00	1061431	1.00	36	
			74.00	75.00	1061432	1.00	18	
			75.00	76.00	1061433	1.00	33	
			76.00	77.00	1061434	1.00	20	
			77.00	78.00	1061435	1.00	20	
			78.00	78.45	1061436	0.45	13	
78.45	81.42	Sil; Hem **Silicification; Hematisation** dark grey to black silicification continuing to the lower broken contact, hematite staining on fractures	78.45	79.00	1061437	0.55	79	
78.45	80.42	BRX; FRC; SLIC **Breccia; Fractured; Slickensides** locally brecciated set within a dark grey to black silicified alteration. 79.67 - 79.80m strongly fractured, graphite slickensides, 80.07 - 80.23m strongly fractures, hematite coated core						
78.78	78.84	Py20 **Pyrite 20%** chunky, subhedra pyrite aggregation						
79.00	80.42	Gp03 **Graphite 3%** graphite slickensides observed at 78.69 - 78.81m, 80.07 - 80.23m and 80.41-80.42m	79.00	79.45	1061438	0.45	43	
			79.45	80.00	1061439	0.55	58	
			79.45	80.00	1061440 (Bln)	0.55	1	
			80.00	80.42	1061441	0.42	88	
80.42	81.47	RUB; CRC; FLT **Rubble; Crushed Core; Fault** upper contact zone between Feldspar Porphyry and Interrmediate Flow-banded Tuff, 0.60cm of core loss possible FAULT ZONE	80.42	81.00	1061442	0.58	171	
			81.00	82.00	1061443	1.00	6	
81.42	98.70	2d; TUF; 3d **Int. Tuff - flow banded; Tuffaceous 80°; Felsic Tuff- flow banding**	82.00	83.00	1061444	1.00	11	

			Description	Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
			pale yellow to greenish grey in colour, finely laminated, crude colour banding, sericite	83.00	84.00	1061445	1.00	1	
			altered and silicified, strongly fractured in places, broken upper contact with Feldspar	84.00	85.00	1061446	1.00	1	
			Porphyry. noticable kink banding in tightly laminated section from 85.5 - 87.5m, locally	85.00	86.00	1061447	1.00	5	
			convolute lamellae, trace sulphides, arbitrary lower contact based upon ratio of sericite	86.00	87.00	1061448	1.00	1	
			and chlorite content.						
			Structural measurements observed as follows:						
			70deg at 81.82m						
			72deg at 86.62m						
			66deg at 92.35m						
			67deg at 96.80m						
			70deg at 98.11m						
	86.07	86.40	FRC						
			Fractured						
			fractured zone, silty clay grit on fracture faces.						
	86.95	87.38	FRC; CRC	87.00	88.00	1061449	1.00	1	
			Fractured; Crushed Core 85°	88.00	89.00	1061450	1.00	1	
			fractured to locally crushed core	89.00	90.00	1061451	1.00	1	
				90.00	91.00	1061452	1.00	1	
				91.00	92.00	1061453	1.00	1	
				92.00	93.00	1061454	1.00	8	
	92.70	92.87	FRC	93.00	94.00	1061455	1.00	1	
			Fractured	94.00	95.00	1061456	1.00	1	
			randomly fractured core	95.00	96.00	1061457	1.00	1	
				96.00	97.00	1061458	1.00	1	
				97.00	98.00	1061459	1.00	1	
				98.00	98.70	1061460	0.70	1	
98.70	119.40		3d; TUF	98.70	99.47	1061461	0.77	1	
			Felsic Tuff- flow banding; Tuffaceous 65°	99.47	100.00	1061462	0.53	32	
			very similar to section above,	100.00	100.56	1061463	0.56	150	
				100.00	100.56	1061464 (Std)	0.56	70	
			pale yellowish-grey, finely laminated, intercalated with darker grey (chloritic) lamellae						
			imparting a crude colour banding or lamination, hairline to millimetric-scale quartz	100.56	101.00	1061465	0.44	44	
			stringers parallel to bedding observed between 103.5 - 108m accompanied by trace						
			specks of pyrite, consistent core axis angles about 65-70deg to the LCA, trace to nil						

Description			Assay					
			From	To	Number	Length	Au (ppb)	Au (g/t)
		sulphides, devoid of quartz veining, competent core.						
100.71	100.84	STR;0.015 m;Pg;FOLD;;;	101.00	102.00	1061466	1.00	1	
		Stringer 0.015 m Plagioclase Folded	102.00	102.50	1061467	0.50	1	
		glassy irregularly contorted quartz stringer in convolutesericite-chlorite lamellae	102.50	103.00	1061468	0.50	1	
			103.00	104.00	1061469	1.00	1	
			104.00	105.00	1061470	1.00	1	
			105.00	106.00	1061471	1.00	22	
			106.00	107.00	1061472	1.00	16	
			107.00	108.00	1061473	1.00	1	
			108.00	109.00	1061474	1.00	1	
120.00		**End of DDH**						
		Number of samples: 118						
		Number of QAQC samples: 6						
		Total sampled length: 97.00						

Mineral Mountain Resources

DDH: **FP11-010**

		Claims title:	4258615	Section:	4722950
		Township:		Level:	Surface
		Range:		Work place:	Straw Lake
Drilled by:	Mallette Drilling	Lot:			
Described by:	K Leonard	From:	05/08/2011	Description date:	06/08/2011
		To:	07/08/2011		

Collar

Azimuth:	360.00°
Dip:	-65.00°
Length:	140.00 m

System 1

East	472,975
North	5,441,481
Elevation	371

Down hole survey

Type	Depth	Azimuth	Dip	Invalid	Description
Reflex	51.00	355.50°	-64.50°	No	
Reflex	102.00	355.90°	-63.70°	No	

Description

Hole FP11-010 was used to undercut Hole FP11-009. Hole 010 intersected a wide interval of graphitic sediments above and in contact with the Feldspar Porphyry target. This would explain the EM Conductor delineated in 1971 by Freeport Canada. The lower litho contact between FP and Flow-banded Tuff showed moderate to strong alteration, that being siicifcation in the FP and sericite alteration in the tuffs, two prominent FAULT GOUGE was also evident in the section, Graphite was observed as well. Feldspar Porphyry was not as well developed as the unit intersected in Hole 009.

Core size: NQ Cemented: No Stored: Yes

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
0.00	4.30	CAS							
		Overburden							
		Casing							
4.30	28.15	2a; MAS		4.50	5.00	1061501	0.50	20	
		Int. Tuff - massive flow; Massive		5.00	6.00	1061502	1.00	5	
		grey to pale yellowish grey, fine grained, massive to locally sheared, locally		6.00	7.00	1061503	1.00	1	
		brecciated,fractured sections, patchy disseminated pyrite, quartz and yellowish sericite		7.00	8.00	1061504	1.00	1	
		alteration and increased core fracturing towards lower contact.							
		19.18 - 19.79m 5-7% graphitic slickensides							
		19.18 - 23.10m elevated disseminated pyrite 1-2% overall							
7.50	11.00	FRC		8.00	9.00	1061505	1.00	12	
		Fractured							
		fractured core is common over 3.50m, varying fracture sets.							
9.00	12.00	Ser; Sil; Hem		9.00	10.00	1061506	1.00	25	
		Sericitisation; Silicification; Hematisation		10.00	11.00	1061507	1.00	9	
		pervasive silicification and sericitization, locally cherty, hematite staining on		11.00	12.00	1061508	1.00	9	
		fracture surfaces		12.00	13.00	1061509	1.00	8	
12.90	13.60	BRX		13.00	14.00	1061510	1.00	12	
		Breccia		14.00	15.00	1061511	1.00	12	
		healed breccia		15.00	16.00	1061512	1.00	29	
				16.00	17.00	1061513	1.00	1	
				17.00	18.00	1061514	1.00	22	
				18.00	19.00	1061515	1.00	1	
				19.00	20.00	1061516	1.00	55	
19.18	19.76	Gp07							
		Graphite 7%							
		graphite coats fracture surfaces							
19.76	23.20	Py03		20.00	21.00	1061517	1.00	36	
		Pyrite 3%		21.00	22.00	1061518	1.00	1	
		zone of elevated disseminated pyrite ranging from 1 to 3%.		22.00	23.00	1061519	1.00	1	
				22.00	23.00	1061520 (Bln)	1.00	1	
				23.00	24.00	1061521	1.00	21	

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
	23.25	28.15	Ser; Sil; Lim **Sericitisation; Silicification; Limonitisation** amorphous pale yellowish grey sericite and silicifcation towards the lower contact at 28.15m. 24.45 - 24.73m limonite alteration coating fractures	24.00	25.00	1061522	1.00	33	
	24.51	28.15	FRC **Fractured** core is commonly fractured throughout this section	25.00	26.00	1061523	1.00	21	
				26.00	27.00	1061524	1.00	6	
				27.00	27.50	1061525	0.50	5	
				27.50	28.15	1061526	0.65	7	
28.15		30.13	4a; POR **Dyke - (fspar porphyry); Porphyritic** greenish grey matrix with distinctive light yellowish-beige euhedral plagioclase phenocrysts, similar to unit intersected in Hole FP11-009 from 37.3 to 40.5m, sharp upper and lower contacts at 50deg and 45deg (slight irregular) to the LCA respectively, <1% pyrite specks overall.	28.15	29.00	1061527	0.85	9	
				29.00	29.50	1061528	0.50	22	
				29.50	30.13	1061529	0.63	13	
30.13		48.00	2a; MAS **Int. Tuff - massive flow; Massive** similar to unit above from 4.3 to 28.15m. exhibits sericite alteration immediately below contact with Feldsapr Porphyry above.	30.13	31.00	1061530	0.87	1	
				31.00	32.00	1061531	1.00	1	
				32.00	33.00	1061532	1.00	6	
				33.00	34.00	1061533	1.00	6	
				34.00	35.00	1061534	1.00	1	
				35.00	36.00	1061535	1.00	9	
				36.00	37.00	1061536	1.00	5	
				37.00	38.00	1061537	1.00	5	
				38.00	39.00	1061538	1.00	32	
				39.00	40.00	1061539	1.00	7	
				39.00	40.00	1061540 (Std)	1.00	5,380	5.38
				40.00	41.00	1061541	1.00	1	
				41.00	42.00	1061542	1.00	6	
				42.00	43.00	1061543	1.00	25	
				43.00	44.00	1061544	1.00	30	
	43.40	50.75	BLOC **Blocky** fractured, blocky core, a section og core shows medium grey dull earthy appearance, slightly gritty						
	43.50	45.50	Sil						

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
			Silicification						
			medium grey, sheared and strongly broken core, siliceous, earthy/ gritty appearance, elevated sulphides						
43.50	45.50		Py05	44.00	45.00	1061545	1.00	24	
			Pyrite 5%	45.00	46.00	1061546	1.00	51	
			5-7% fg pyrite specks in strongly sheared and broken core	46.00	47.00	1061547	1.00	15	
				47.00	48.00	1061548	1.00	10	
48.00	52.69		4a	48.00	49.00	1061549	1.00	29	
			Dyke - (fspar porphyry)	49.00	50.00	1061550	1.00	8	
			greenish-grey, 15% light grey to white plagioclase phencrysts (0.1-4mm in size), much smaller than porphyry unit above, pervasively silicified, locally hematitzed and fractured, minor brecciation and shearing, fg pyrite specks between 0.25-0.8%, broken upper contact and sharp lower contact at 70deg to the LCA.	50.00	51.00	1061551	1.00	14	
				51.00	52.00	1061552	1.00	46	
				52.00	53.00	1061553	1.00	33	
52.69	56.16		2a						
			Int. Tuff - massive flow						
			grey in colour, massive texture, intermediate tuff intercalated with graphitic sediment, locally brecciated, patchy sulphides, locally fractured and hematite altered near upper contact with feldspar porphyry.						
53.00	54.00		Hem						
			Hematisation						
			moderately reddish hematite alteration						
53.00	54.00		FRC	53.00	54.00	1061554	1.00	46	
			Fractured						
			locally fractured, broken core						
54.00	54.65		Gp10; Py05	54.00	54.65	1061555	0.65	206	
			Graphite 10%; Pyrite 5%	54.65	55.60	1061556	0.95	206	
			black graphitic sediment, locally strongly fractured						
54.66	55.35		5d; FGr; SHR	55.60	56.17	1061557	0.57	450	
			Graphitic Sediment; Fine grained; Sheared						
			black in colour, very fine grained, sheared, stringer and nodular pyrite up to 10%, sharp upper and lower contact at 75deg and 40deg to the LCA respectively.						
56.16	72.20		5d; APH						
			Graphitic Sediment; Aphanitic 50°						
			black in colour, very fine grained to aphanitic, foliated to sheared, coarse grained, nodular pyrite and coalesced aggregates throughout - up to 15% locally, sharp upper contact ast 50deg and blocky/fractured lower contact, +65% fg graphite overall, noticable 'shiny' slickenside fracture coatings.						
56.17	72.20		Gp70; Py15						
			Graphite 70%; Pyrite 15%						

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
			black fg graphite and nodular anhedral pryrite						
72.20	83.55		4a; MGr; POR	72.20	73.00	1061558	0.80	113	
			Dyke - (fspar porphyry); Medium Grained; Porphyritic	73.00	74.00	1061559	1.00	19	
			light grey to beige and salmon coloured. medium grainedmatrix and 20% cm-sized	73.00	74.00	1061560 (Std)	1.00	1,690	1.69
			porphyroblastic plagioclase phenocrysts,40% patchy silicification obscures texture and	74.00	75.00	1061561	1.00	33	
			imparts a brecciated appearance,intewrmittent potassic alteration as well as weak to						
			moderate sausseritzation and seritization of feldspars, strong qtz-brecciated upper and						
			lower contacts, trace to 0.5% pyrite.						
	72.20	73.26	Gp10; Py03						
			Graphite 10%; Pyrite 3%						
			brecciated porphyry set in a black fg graphitic matrix						
	75.00	76.00	SAUS; Hem; EP30; Alb	75.00	76.00	1061562	1.00	19	
			sausseritization; Hematisation; Epidotized 30; Albitisation						
			light grey to whitish grey albitization and/or sausseritization of plagioclase,						
			weathered earthy look in fractured section, subordinate reddish hematite and						
			patchy epidote coating fracture surfaces.						
	75.30	75.70	FRC	76.00	77.00	1061563	1.00	10	
			Fractured	77.00	78.00	1061564	1.00	15	
			fractured core with epidote and hematite alteration	78.00	79.00	1061565	1.00	16	
				79.00	80.00	1061566	1.00	14	
	79.32	83.50	Sil	80.00	81.00	1061567	1.00	9	
			Silicification	81.00	82.00	1061568	1.00	49	
			glassy to whitish grey quartz flooding, turns distinctively darker smokey grey						
			below 82.0m						
	82.00	83.50	BRX; FRC	82.00	83.00	1061569	1.00	61	
			Breccia; Fractured	83.00	83.50	1061570	0.50	48	
			strongly quartz brecciated, abundant open fractures						
			82.5 - 82.70m FAULT GOUGE, unconsolidated, gritty silty clay						
	83.50	83.55	FLT	83.50	84.60	1061571	1.10	18	
			Fault						
			Fault Gouge black unconsolidated grit and silty clay						
83.55	140.00		3d; LAM	84.60	85.00	1061572	0.40	19	
			Felsic Tuff- flow banding; Laminated 70°	85.00	85.60	1061573	0.60	35	
			grey to yellow in colour, strongly laminated, locally convolute lamellae and kink banding,	85.60	86.00	1061574	0.40	22	
			- sections of colour banding alternating grey to yellow, locally fractured becoming more	86.00	87.00	1061575	1.00	9	
			competent below 93m, patchy sulphides from trace to 1% locally.	87.00	88.00	1061576	1.00	1	
			Structural measurements as follows:	88.00	89.00	1061577	1.00	5	

Description			Assay					
			From	To	Number	Length	Au (ppb)	Au (g/t)
			89.00	90.00	1061578	1.00	1	
		65deg at 86..65m (to the LCA)	90.00	91.00	1061579	1.00	1	
		60deg at 99.34m						
		60deg at 106.1m						
		55deg at 115.85m						
		5odeg at 133.35m						
		35deg at 137.80m						
		68deg at 139.80m						
83.55	94.50	Ser; POT						
		Sericitisation; Potassic						
		banana yellow sericitization and light pinkish lamellae imparted by potassic overprint, possibly hematitic alteration.						
90.32	90.50	FRC	91.00	92.00	1061581	1.00	1	
		Fractured	91.00	92.00	1061580 (Std)	1.00	387	
		srtongly fractured section						
91.07	91.74	FRC	92.00	93.00	1061582	1.00	1	
		Fractured	93.00	94.00	1061583	1.00	1	
		strongly fractured core	94.00	95.00	1061584	1.00	1	
94.50	114.00	Ser	95.00	95.44	1061585	0.44	1	
		Sericitisation						
		tightly laminated chlorite and sericite rich lamellae						
114.00	140.00	Ser; Sil	114.00	115.00	1061586	1.00	6	
		Sericitisation; Silicification	115.00	116.00	1061587	1.00	18	
		tightly laminated quartz-sericite+/-chlorite assemblage, locally convoluted and irregular quartz knots	116.00	117.00	1061588	1.00	46	
			117.00	118.00	1061589	1.00	8	
			118.00	119.00	1061590	1.00	1	
			119.00	120.00	1061591	1.00	33	
			120.00	121.00	1061592	1.00	1	
			121.00	122.00	1061593	1.00	5	
			122.00	123.00	1061594	1.00	1	
			123.00	124.00	1061595	1.00	1	
			124.00	125.00	1061596	1.00	6	
			125.00	126.00	1061597	1.00	1	
			126.00	127.00	1061598	1.00	1	
			127.00	128.00	1061599	1.00	1	
			127.00	128.00	1061600 (Std)	1.00	351	

Description	Assay					
	From	To	Number	Length	Au (ppb)	Au (g/t)
	128.00	129.00	1061601	1.00	1	
	129.00	130.00	1061602	1.00	1	
	130.00	131.00	1061603	1.00	1	
	131.00	132.00	1061604	1.00	1	
	132.00	133.00	1061605	1.00	1	
	133.00	134.00	1061606	1.00	1	
	134.00	135.00	1061607	1.00	1	
	135.00	136.00	1061608	1.00	1	
	136.00	137.00	1061609	1.00	1	
	137.00	138.00	1061610	1.00	1	
	138.00	139.00	1061611	1.00	1	
	139.00	140.00	1061612	1.00	1	
140.00	**End of DDH**					
	Number of samples: 107					
	Number of QAQC samples: 5					
	Total sampled length: 100.91					

Mineral Mountain Resources

DDH: **FP11-011**

		Claims title:	4258615	Section:	472925
		Township:		Level:	Surface
		Range:		Work place:	Straw Lake
Drilled by:	Mallette Drilling	Lot:			
Described by:	K Leonard	From:	07/08/2011	Description date:	09/08/2011
		To:	09/08/2011		

Collar

Azimuth:	360.00°
Dip:	-52.00°
Length:	120.60 m

System 1

East	472,924
North	5,441,474
Elevation	382

Down hole survey

Type	Depth	Azimuth	Dip	Invalid	Description
Reflex	1.50	346.90°	-51.90°	No	
Reflex	51.00	342.40°	-51.70°	No	
Reflex	102.00	344.10°	-50.80°	No	
Reflex	120.60	344.30°	-50.40°	No	

Description

Core size: NQ Cemented: No Stored: Yes

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
0.00	3.00		CAS						
			Overburden						
			CASING						
3.00	13.00		2a; FRAC						
			Int. Tuff - massive flow; Fractured						
			grey, fine grained, massive to weakly foliated, patchy sericite alteration, siliceous,						
			elevated patchy disseminated pyrite, strong' near-surface' fracturing,						
	3.00	13.00	Sil						
			Silicification						
			pervasiveweak to moderate silicification						
	3.00	13.10	BLOC; FRC						
			Blocky; Fractured						
			strongly blocky and fractured core						
	3.00	5.50	Py02						
			Pyrite 2%						
			patcyh chunky pyrite aggregates associated witj limonite-altered shear+/- breccia						
			bands						
	3.00	20.06	62.54%	3.00	4.00	1061651	1.00	1	
			RQD: 62.54%; Recovered: 94.61%	4.00	5.00	1061652	1.00	1	
			Rock type: 2a Intermediate "Dacitic" Flow - fractured; Core length less than	5.00	6.00	1061653	1.00	35	
			10cm: 5.47m; Length of Lost core: 0.92m; Number of Fractures: 87; Fracture						
			Frequency: 5.09964830011723/m; Fracture Types: L; Jn (number): 6; Jr (rough):						
			1; Ja (alteration): 3; Comments:						
	5.65	6.15	4a	6.00	7.00	1061654	1.00	5	
			Dyke - (fspar porphyry)	7.00	8.00	1061655	1.00	1	
			grey in colour with light grey to cream coloured feldspar (plag) phenocyrst up to	8.00	9.00	1061656	1.00	1	
			20%, massive to weakly foliated, blocky and fractured, broken contacts, 0.5%	9.00	10.00	1061657	1.00	1	
			pyrite	10.00	11.00	1061658	1.00	1	
				11.00	12.00	1061659	1.00	1	
				11.00	12.00	1061660 (Bln)	1.00	1	
				12.00	13.00	1061661	1.00	1	
13.00	16.33		2a; FGr	13.00	14.00	1061662	1.00	1	
			Int. Tuff - massive flow; Fine grained	14.00	15.00	1061663	1.00	5	
			similar to above but noticably less fractured.	15.00	16.00	1061664	1.00	1	
				16.00	16.33	1061665	0.33	1	
16.33	18.02		4b						
			Dyke - (qtz-fspar porphyry)						

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
			pale yellowish-grey in colour, pervasive silicification and sericitization, grey-blue mm-scale vitreous quartz-eyes comprising 10-15%, 2% pyrite mineralized, sharp contacts at 52 and 66 deg to the LCA respectively						
	16.33	18.02	Ser	16.33	17.00	1061666	0.67	20	
			Sericitisation	17.00	18.02	1061667	1.02	11	
			pervasive, amorphous sericitization						
18.02	21.70		2a; FGr						
			Int. Tuff - massive flow; Fine grained						
			similar to unit above from 13.0 - 16.33m, cut by random mm-scale quartz stringers.						
	18.02	21.70	Py00.25	18.02	19.00	1061668	0.98	1	
			Pyrite 0.25%	19.00	20.00	1061669	1.00	1	
			fine pinhead specks of pyrite	20.00	21.00	1061670	1.00	2,530	2.53
	20.05	20.25	STW;0.005;Qz;IRR;;Py01;						
			Stockworks 0.005 Quartz Irregular Pyrite 1%						
			fine quartz stockworks, set of 090deg hairline stringers dextrally offset the 025deg set of stringers.						
	20.06	38.01	86.41%						
			RQD: 86.41%; Recovered: 96.88%						
			Rock type: 2a, 4b Int. "Dacitic" Flow + porphyry Dyklets ; Core length less than 10cm: 1.88m; Length of Lost core: 0.56m; Number of Fractures: 77; Fracture Frequency: 4.28969359331476/m; Fracture Types: L; Jn (number): 6; Jr (rough): 2; Ja (alteration): 3; Comments:						
	20.26	20.34	4b	21.00	21.72	1061671	0.72	13	
			Dyke - (qtz-fspar porphyry) 75°						
			greenish grey coloured quartz eye porphyry dyke, cut by fine (0.25mm) discordant quartz stringers, tr-0.5% pyrite						
21.70	22.08		4a; POR	21.72	22.08	1061672	0.36	8	
			Dyke - (fspar porphyry); Porphyritic						
			greenish-grey groundmass and 25% light grey to beige euhedral to subhedral feldspar phenocrysts from 1 to 5mm in size.						
22.08	23.56		2a; FGr	22.08	23.00	1061673	0.92	1	
			Int. Tuff - massive flow; Fine grained	23.00	23.56	1061674	0.56	1	
			same as units above from 13-16.33m and 18.02 to 21.70m respectively						
23.56	25.04		4a; POR						
			Dyke - (fspar porphyry); Porphyritic						
			same as unit from 21.70 to 22.08 except more earthy appearance, moderately fractured, 35% plagioclase porphyroblasts throughout, trace pyrite, sharp upper contact at 52deg to the LCA, broken / fractured lower contact						
	23.56	26.00	FRC	23.56	24.00	1061675	0.44	6	

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
			Fractured	24.00	24.85	1061676	0.85	1	
			fractured core - two fracture sets 70deg and 05deg	24.85	26.00	1061677	1.15	1	
25.04	34.88		2a; FGr	26.00	27.00	1061678	1.00	1	
			Int. Tuff - massive flow; Fine grained	27.00	28.00	1061679	1.00	1	
			similar to Dacitic tuffaceous flow units above, parially well fractured unit, trace sulphides, siliceous core	27.00	28.00	1061680 (Std)	1.00	5,570	5.57
	27.65	30.50	FRC	28.00	29.00	1061681	1.00	1	
			Fractured	29.00	30.00	1061682	1.00	1	
			strongly fractured core	30.00	31.00	1061683	1.00	1	
				31.00	32.00	1061684	1.00	10	
				32.00	33.00	1061685	1.00	7	
				33.00	34.00	1061686	1.00	25	
				34.00	34.69	1061687	0.69	1	
	34.68	36.69	Ser; Sil	34.69	35.95	1061688	1.26	12	
			Sericitisation; Silicification						
			cherty silicification and pervasive yellowish sericite alteration						
34.88	36.65		4e; FGr						
			Dyke - aplite, felsite; Fine grained						
			pale yellowish grey, fine grained, pervasive sericitization, locally brecciated, possible mm-sized quartz eyes - 2-7%, 3% pyrite throughout, sharp upper and lower contacts at 65 and 70deg to the LCA respectively						
	35.95	36.33	BRX	35.95	36.69	1061689	0.74	21	
			Breccia						
			strongly quartz brecciated, trace sulphides						
36.65	37.71		2a; FGr	36.69	37.71	1061690	1.02	28	
			Int. Tuff - massive flow; Fine grained						
			medium to dark grey in colour, fine grained, siliceous, cut by ribbony, criss-crossing quartz stringers, trace pyrite						
37.71	38.77		4e; FGr						
			Dyke - aplite, felsite; Fine grained						
			pale yellowish grey, sharp upper contact at 70deg to the LCA, pervasively sericitized, trace specks of pyrite						
	37.71	41.40	Sil; Ser	37.71	38.56	1061691	0.85	62	
			Silicification; Sericitisation						
			patchy sericitization related to felsic dyklets and pervasive amorphous silicification						
	38.01	55.58	86.06%	38.56	39.00	1061692	0.44	1	
			RQD: 86.06%; Recovered: 94.93%						

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
			Rock type: 2a,5d Int. "Dacitic" Flow + Graphitic Sediment; Core length less than 10cm: 1.56m; Length of Lost core: 0.89m; Number of Fractures: 58; Fracture Frequency: 3.30108138873079/m; Fracture Types: L; Jn (number): 3; Jr (rough): 3; Ja (alteration): 2; Comments:						
38.77	50.67		2a; FGr	39.00	40.00	1061693	1.00	1	
			Int. Tuff - massive flow; Fine grained	40.00	41.00	1061694	1.00	14	
			grey in colour, fine grained, massive to weakly foliated, siliceous, locally fractured, trace to 0.5% disseminated pyrite.	41.00	42.00	1061695	1.00	6	
				42.00	43.00	1061696	1.00	1	
				43.00	44.00	1061697	1.00	11	
				44.00	45.00	1061698	1.00	6	
	45.00	46.10	FRC	45.00	46.00	1061699	1.00	20	
			Fractured	45.00	46.00	1061700 (Std)	1.00	1,650	1.65
			strongly fractured core	46.00	47.00	1061701	1.00	7	
				47.00	48.00	1061702	1.00	1	
				48.00	49.00	1061703	1.00	21	
				49.00	50.00	1061704	1.00	1	
				50.00	51.00	1061705	1.00	65	
	50.66	52.11	Ser; Sil						
			Sericitisation; Silicification						
			amorphous silicification and patchy sericite alteration						
50.67	52.11		4b; FGr						
			Dyke - (qtz-fspar porphyry); Fine grained						
			pale yellowish grey in colour, patchy disseminated medium grained pyrite clusters/aggregates ranging between trace - 10% locally, sharp upper contact at 56deg to the LCA., abrupt lower contact at 50deg to the LCA, locally fractured, very minor ribbony quartz stringers.						
	50.67	52.11	Py	51.00	52.11	1061706	1.11	121	
			Pyrite						
			patchy aggregates and disseminations ranging between 5 and 7% pyrite						
52.11	54.90		5d; FOL						
			Graphitic Sediment; Foliated						
			black in colour, greenishcoarse grained pyrite nodulesthroughout comprising10-15% of the unit, locally fractured, 60-80% graphite,wispy quartz-carb material, distinct lower contact at 42deg to the LCA						
	52.11	54.90	Py; Gp65						
			Pyrite; Graphite 65%						
			nodular pyrite and ubiquitou (50-70%)s graphite						

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
	53.70	53.81	CRC **Crushed Core** fractured, crushed graphitic material						
54.90		55.30	2d **Int. Tuff - flow banded** grey to pale yellow, strongly laminated - in part wavy (undulating) lamellae, 5-7% pyrite subhedra and minor aggregates, moderate sericite alteration						
	54.90	55.30	Py10 **Pyrite 10%** fine grained disseminations and medium grained aggregates up to 10% pyrite	54.90	55.30	1061707	0.40	141	
55.30		55.96	5d; FGr **Graphitic Sediment; Fine grained** same as unit from 52.11 to 55.30m above.						
	55.30	55.96	Gp50; Py10 **Graphite 50%; Pyrite 10%** pyritiferous graphitic sediment	55.30	56.00	1061708	0.70	217	
	55.58	72.76	77.82% **RQD: 77.82%; Recovered: 96.8%** Rock type: 4a Feldspar Porphyry; Core length less than 10cm: 3.26m; Length of Lost core: 0.55m; Number of Fractures: 61; Fracture Frequency: 3.55064027939464/m; Fracture Types: L; Jn (number): 6; Jr (rough): 3; Ja (alteration): 2; Comments:						
55.96		57.00	5d; BRX **Graphitic Sediment; Brecciated** dark grey in colour, occupies contact zone between Graphitic sediment above and Feldspar Porphyry below. 10-15% pyrite, strongly brecciated, silicified						
	55.96	57.00	Sil **Silicification** silicified contact zone						
	55.96	57.00	BRX **Breccia** strongly brecciated						
	55.96	57.00	Py10; Gp05 **Pyrite 10%; Graphite 5%** silicified, brecciated contact zone, decreasing graphite abundance, noticable fgr to cgr pyrite mineralization up to 10%	56.00 56.50	56.50 57.00	1061709 1061710	0.50 0.50	391 407	
57.00		96.10	4a; MGr **Dyke - (fspar porphyry); Medium Grained**						

Description			Assay					
			From	To	Number	Length	Au (ppb)	Au (g/t)
		light beige-grey to salmon to cream colours, medium grained, porphyrytic composed of 25% subhedra plagioclase porphyroblasts, locally fractured, patchy, silicification, sericite+/-sausserite+/-hematite alteration, minor potassic alteration, trace to 0.5% pyrite specks, broken upper contact and faulted lower contact						
57.00	58.04	Sil40; Ser25; SAUS10; Hem10; POT10 **Silicification 40; Sericitisation 25; sausseritization 10; Hematisation 10; Potassic 10** strongly silicified, patchy sericite and minor hematite and sausserite alteration, trace garnets on fracture face						
57.00	96.10	Py00.5 **Pyrite 0.5%** disseminated pyrite specks in low abundance	57.00	58.00	1061711	1.00	30	
			58.00	59.00	1061712	1.00	39	
			59.00	60.00	1061713	1.00	95	
			60.00	61.00	1061714	1.00	286	
			61.00	62.00	1061715	1.00	116	
			62.00	63.00	1061716	1.00	12	
			63.00	64.00	1061717	1.00	289	
			64.00	65.00	1061718	1.00	37	
			65.00	66.00	1061719	1.00	132	
			65.00	66.00	1061720 (Std)	1.00	361	
			66.00	67.00	1061721	1.00	80	
			67.00	68.00	1061722	1.00	10	
			68.00	69.00	1061723	1.00	15	
			69.00	70.00	1061724	1.00	20	
70.00	72.28	FRC **Fractured** strongly fractured, reddish hematite staining and gritty clay alteration, earthy weathered feldspar	70.00	71.00	1061725	1.00	27	
			71.00	72.00	1061726	1.00	17	
			72.00	73.00	1061727	1.00	17	
72.76	90.61	76.81% **RQD: 76.81%; Recovered: 98.99%** Rock type: 4a Feldspar Porphyry; Core length less than 10cm: 3.96m; Length of Lost core: 0.18m; Number of Fractures: 85; Fracture Frequency: 4.76190476190476/m; Fracture Types: L; Jn (number): 3; Jr (rough): 2; Ja (alteration): 1; Comments:	73.00	74.00	1061728	1.00	89	
			74.00	75.00	1061729	1.00	36	
			75.00	76.00	1061730	1.00	11	
			76.00	77.00	1061731	1.00	30	
			77.00	78.00	1061732	1.00	29	
			78.00	79.00	1061733	1.00	14	
			79.00	80.00	1061734	1.00	10	
			80.00	81.00	1061735	1.00	11	

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
				81.00	82.00	1061736	1.00	15	
				82.00	83.00	1061737	1.00	13	
				83.00	84.00	1061738	1.00	7	
				84.00	85.00	1061739	1.00	11	
				84.00	85.00	1061740 (Bln)	1.00	1	
				85.00	86.00	1061741	1.00	14	
				86.00	87.00	1061742	1.00	32	
				87.00	88.00	1061743	1.00	17	
				88.00	89.00	1061744	1.00	20	
				89.00	90.00	1061745	1.00	11	
				90.00	91.00	1061746	1.00	52	
90.61	107.97	65.67%		91.00	92.00	1061747	1.00	12	
		RQD: 65.67%; Recovered: 92.51%							
		Rock type: 2d Intermediate Flow-banded Tuff ; Core length less than 10cm: 4.66m; Length of Lost core: 1.3m; Number of Fractures: 96; Fracture Frequency: 5.52995391705069/m; Fracture Types: L; Jn (number): 6; Jr (rough): 0.5; Ja (alteration): 3; Comments:							
91.41	91.80	FRC		92.00	93.00	1061748	1.00	13	
		Fractured							
		strongly fractured, pinkish red alteration							
93.00	93.22	BLOC		93.00	94.00	1061749	1.00	15	
		Blocky							
		short segmented core							
93.46	93.95	FRC		94.00	95.00	1061750	1.00	9	
		Fractured							
		strongly fractured							
95.00	95.56	FRC; FLT		95.00	96.10	1061751	1.10	6	
		Fractured; Fault							
		badlt fractured core, 0.60cm core loss FAULT, contains reddish gritty coating on fractures							
96.10	120.60	3d; 2d; LAM		96.10	97.00	1061752	0.90	1	
		Felsic Tuff- flow banding; Int. Tuff - flow banded; Laminated 70°		97.00	98.00	1061753	1.00	1	
		alternating pale yellow to grey, tightly laminated, good core axis angles, local fracturing, trace sulphides		98.00	99.00	1061754	1.00	1	
				99.00	100.00	1061755	1.00	1	
				100.00	101.00	1061756	1.00	1	
				101.00	102.00	1061757	1.00	1	

Description			Assay					
			From	To	Number	Length	Au (ppb)	Au (g/t)
			102.00	103.00	1061758	1.00	1	
			103.00	104.00	1061759	1.00	1	
			103.00	104.00	1061760 (Std)	1.00	5,500	5.50
			104.00	105.00	1061761	1.00	1	
			105.00	106.00	1061762	1.00	1	
			106.00	107.00	1061763	1.00	1	
			107.00	108.00	1061764	1.00	1	
107.97	120.58	68.2%	108.00	109.00	1061765	1.00	1	
		RQD: 68.2%; Recovered: 94.21%	109.00	110.00	1061766	1.00	1	
		Rock type: 2d, 3d Int. to Felsic Flow-banded Tuff; Core length less than 10cm:	110.00	111.00	1061767	1.00	1	
		3.28m; Length of Lost core: 0.73m; Number of Fractures: 124; Fracture	111.00	112.00	1061768	1.00	8	
		Frequency: 9.8334655035686/m; Fracture Types: L; Jn (number): 2; Jr (rough):	112.00	113.00	1061769	1.00	6	
		1; Ja (alteration): 3; Comments:	113.00	114.00	1061770	1.00	17	
			114.00	115.00	1061771	1.00	17	
			115.00	116.00	1061772	1.00	1	
			116.00	117.00	1061773	1.00	1	
			117.00	118.00	1061774	1.00	1	
			118.00	119.00	1061775	1.00	1	
			119.00	120.00	1061776	1.00	1	
			120.00	120.60	1061777	0.60	1	
120.60		**End of DDH**						
		Number of samples: 121						
		Number of QAQC samples: 6						
		Total sampled length: 114.81						

Mineral Mountain Resources

DDH: **FP11-012**

		Claims title:	4258615	Section:	472925
		Township:		Level:	Surface
		Range:		Work place:	Straw Lake
Drilled by:	Mallette Drilling	Lot:			
Described by:	K Leonard	From:	09/08/2011	Description date:	12/08/2011
		To:	11/08/2011		

Collar

Azimuth:	360.00°
Dip:	-65.00°
Length:	140.30 m

System 1

East	472,924
North	5,441,474
Elevation	382

Down hole survey

Type	Depth	Azimuth	Dip	Invalid	Description
Reflex	51.00	342.20°	-65.30°	No	
Reflex	102.00	342.50°	-65.20°	No	
Reflex	140.30	343.90°	-62.30°	No	

Description

Hole FP11-012 will be used to undercut Hole FP11-011 that intersected an altered Feldspar Porphyry Dyke over a 37.5m width. Hole FP11-012 intersected a stucturally complex zone of Feldsapr Porphyry dyking and segments of graphitic sediments. Strong brecciation occurs in a number of sections between 3.0 - and 106.0.

Core size: NQ Cemented: No Stored: Yes

Description			Assay					
			From	To	Number	Length	Au (ppb)	Au (g/t)
0.00	2.80	CAS						
		Overburden						
		CASING						
2.80	5.00	4a; POR	3.00	4.00	1061801	1.00	1	
		Dyke - (fspar porphyry); Porphyritic	4.00	5.00	1061802	1.00	1	
		dark grey, fine grained, 30% light grey plagioclase phenocrysts, segmented core,						
5.00	21.00	2a; FGr	5.00	6.00	1061803	1.00	7	
		Int. Tuff - massive flow; Fine grained	6.00	7.00	1061804	1.00	28	
		grey in colour, fine grained to aphanitic, silicified to cherty, trace sulphides	7.00	8.00	1061805	1.00	34	
			8.00	9.00	1061806	1.00	1	
			9.00	10.00	1061807	1.00	1	
			10.00	11.00	1061808	1.00	1	
			11.00	12.00	1061809	1.00	1	
			12.00	13.00	1061810	1.00	1	
			13.00	14.00	1061811	1.00	52	
			14.00	15.00	1061812	1.00	56	
			15.00	16.00	1061813	1.00	1	
			16.00	17.00	1061814	1.00	7	
			17.00	18.00	1061815	1.00	10	
5.00	7.50	Ser30; Sil20; Lim15						
		Sericitisation 30; Silicification 20; Limonitisation 15						
		sericite alteration envelope below contact with Feldspar Porphyry above, limonite coated fracture surfaces						
5.00	8.50	FRC						
		Fractured						
		strongly fractured core, two fracture sets observed						
5.00	8.50	Py						
		Pyrite						
		isolated coarse grained pyrite aggregation						
17.21	18.48	Ser; Fusc						
		Sericitisation; Fuschsite						
		amorphous sericitization, green fuschsite specks overall						
17.22	18.56	4e; FGr	18.00	18.75	1061816	0.75	1	
		Dyke - aplite, felsite; Fine grained	18.75	19.50	1061817	0.75	1	
		pale yellow-grey, fine grained, silicified, 1-2% pyrite specks throughout, blebs of green fushsite present, broken upper and lower contacts	19.50	20.00	1061818	0.50	8	
			20.00	21.00	1061819	1.00	1	

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
				20.00	21.00	1061820 (Std)	1.00	1,590	1.59
21.00	22.42		4a; MGr	21.00	22.00	1061821	1.00	1	
			Dyke - (fspar porphyry); Medium Grained	22.00	22.42	1061822	0.42	52	
			greenish-grey groundmass, fine to-medium grained, modified by 25-30% light grey plagioclase phenocrysts, sharp 30deg upper contact marked by a narrow (0.03cm) quartz stringer, distinct lower contact at 60deg to the LCA, trace pyrite.						
22.42	34.13		2a; FGr	22.42	23.00	1061823	0.58	1	
			Int. Tuff - massive flow; Fine grained	23.00	24.00	1061824	1.00	1	
			same as unit observed above from 5.0 to 21.0m	24.00	25.00	1061825	1.00	9	
	24.61	24.67	FRC	25.00	26.00	1061826	1.00	1	
			Fractured	26.00	27.00	1061827	1.00	1	
			localized fractured core	27.00	28.00	1061828	1.00	6	
	27.78	27.96	FRC	28.00	29.00	1061829	1.00	1	
			Fractured	29.00	30.00	1061830	1.00	1	
			localized fracturing in core, along foliation	30.00	31.00	1061831	1.00	1	
				31.00	32.00	1061832	1.00	8	
				32.00	33.00	1061833	1.00	9	
				33.00	33.50	1061834	0.50	16	
				33.50	34.13	1061835	0.63	6	
34.13	38.43		4e	34.13	35.00	1061836	0.87	12	
			Dyke - aplite, felsite						
			pale yellow, fine grained to cherty, pervasive sericite alteration,strongly silicic, 1-2% pyrite specks throughout sharp upper and lower contacts at 50deg to the LCA, cut by sparse milky white quartz veinlets, minor brecciation						
	34.21	38.43	Ser35; Sil35	35.00	36.00	1061837	1.00	11	
			Sericitisation 35; Silicification 35	36.00	37.00	1061838	1.00	15	
			amorphous sericite and silicic alteration	37.00	38.00	1061839	1.00	12	
				37.00	38.00	1061840 (Std)	1.00	360	
				38.00	38.43	1061841	0.43	14	
38.43	49.87		4d; APH						
			Dyke - (int. to mafic, assimilated zenoliths; Aphanitic						
			dark grey, very fine grained to aphanitic, cherty, siliceous core, trace pyrite specks, sharp lower contact at 55deg to the LCA						
	38.43	49.87	Sil50						
			Silicification 50						
			pervasive silicifcation - appears cherty						

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
38.43	49.87	Py01		38.43	39.00	1061842	0.57	6	
		Pyrite 1%		39.00	40.00	1061843	1.00	1	
		between 0.5 and 1% disseminated specks of pyrite throughout		40.00	41.00	1061844	1.00	1	
				41.00	42.00	1061845	1.00	1	
				42.00	43.00	1061846	1.00	6	
				43.00	44.00	1061847	1.00	1	
				44.00	45.00	1061848	1.00	10	
				45.00	45.54	1061849	0.54	8	
				45.54	46.00	1061851	0.46	1	
				46.00	47.00	1061852	1.00	6	
				47.00	48.00	1061853	1.00	27	
				48.00	49.00	1061854	1.00	5	
				49.00	49.87	1061855	0.87	1	
49.87	58.53	POR; 4a							
		Porphyritic; Dyke - (fspar porphyry)							
		greenish grey in colour with tinges of light grey, fine to medium grained, multi-phased (hybrid) dyke displaying coarse phenocrystic texture (similar to the targeted Freeport Porphyry) and a finer grained sericitized variety with intervening grey, massive (homogenous) sections, 1-2% pyrite specks (and rare fuschsite) from 51.33 to 52.35m and 53.22 to 56.26m decreasing gradationally, locally brecciated, competent core, upper contact at 20deg to the LCA, broken lower contact at 55deg to the LCA							
49.87	58.53	Sil25; Ser35; FuscTRACE		49.87	50.90	1061856	1.03	1	
		Silicification 25; Sericitisation 35; Fuschsite TRACE		50.90	51.33	1061857	0.43	33	
		pervasive and amorphous silica and sericite alteration and trace fuchsite speck							
51.33	52.35	Py02		51.33	52.00	1061858	0.67	7	
		Pyrite 2%		52.00	52.38	1061859	0.38	9	
		dusting of fine grained pyrite specks		52.00	52.38	1061860 (Bln)	0.38	1	
				52.38	53.22	1061861	0.84	24	
53.22	58.02	Py01.5		53.22	54.00	1061862	0.78	23	
		Pyrite 1.5%		54.00	55.00	1061863	1.00	37	
		fine grained disseminated pyrite specks in sericite altered dyke		55.00	56.00	1061864	1.00	13	
				56.00	57.00	1061865	1.00	13	
				57.00	58.00	1061866	1.00	1	
				58.00	58.58	1061867	0.58	25	
58.53	59.00	2a; SPH		58.58	59.00	1061868	0.42	1	

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
		Int. Tuff - massive flow; Spherolitic							
		short section of spherolitic dacitic tuff, noticable reaction rims arounds spherules, lower contact is sharp at 68deg to the LCA.							
59.00	61.66	2g; SHR							
		Int. Tuff - qtz+/-ser+/-chl+/-carb schist; Sheared							
		greenish grey, strongly sheared, patchy red hematite alteration,fien to- coarse grained pyrite grains up to 1.3cm in size, subdehral to euhedra shape							
		Structural (foliation) measurements as follows							
		50deg at 60.16m (to the LCA)							
		45deg at 61.34m							
		32deg at 61.70m							
59.00	61.66	Hem20		59.00	60.00	1061869	1.00	259	
		Hematisation 20							
		patchy hematite alteration intimately associated with coarse grained pyrite mineralization							
59.36	61.66	Py20		60.00	61.00	1061870	1.00	253	
		Pyrite 20%		61.00	61.66	1061871	0.66	216	
		coarse crowded pyrite grains ranging in size from 0.1mm to 1.7cm, euhedral to subhedral shapes.							
61.66	62.36	5d; SHR							
		Graphitic Sediment; Sheared							
		black in colour, weakly silicic, graphite-bearing - strong smudge-like streaks, coarse (in part internally fractured) pyrite, weakly foliated to sheared, cut by occassional white quartz stringers.							
61.66	62.36	Sil15							
		Silicification 15							
		weak pervasive silicification							
61.66	62.36	SHD							
		Sheared 30°							
		sheared graphitic sediment							
61.66	62.36	Py12		61.66	62.36	1061872	0.70	168	
		Pyrite 12%							
		fine to-very coarse grained subhedral to- euhedral pyrite							
62.36	106.00	4a; POR		62.36	63.00	1061873	0.64	53	
		Dyke - (fspar porphyry); Porphyritic		63.00	64.00	1061874	1.00	14	
		targeted Feldspar Porphyry with interspersed graphitic sections, locally brecciated, FAULTED lower contact, hybrid - multi-phased upper contact showing predominantely finer grained textures changing abruptly below 67.60m to a porphyroblastic phase.		64.00	64.50	1061875	0.50	11	

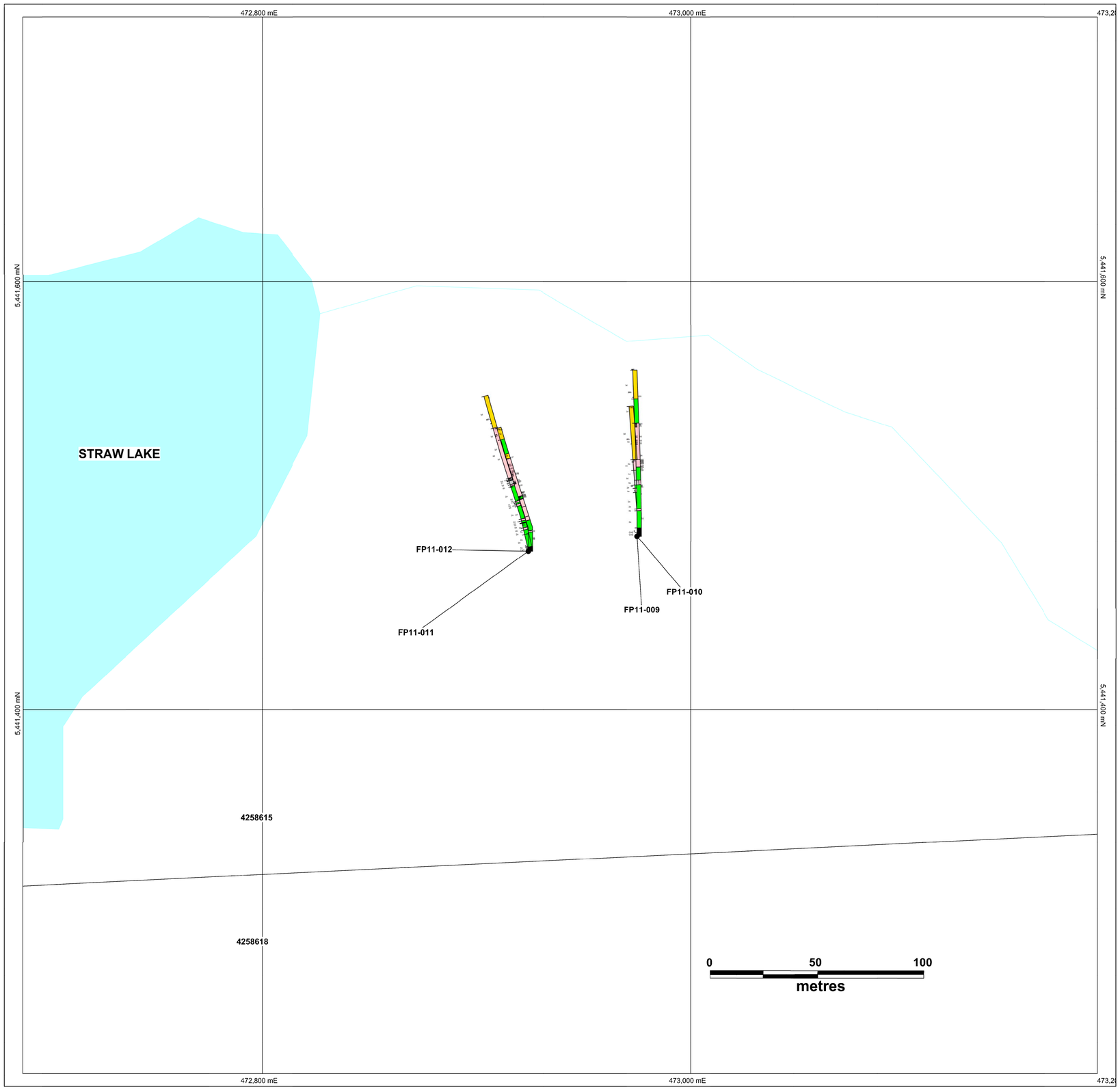
Description			Assay					
			From	To	Number	Length	Au (ppb)	Au (g/t)
		patchy alteration that includes silicification, sericite, sausserite, epidote and hematite assemblage.						
		trace to 0.5% pyrite specks, locally fractured.						
62.36	67.60	Sil25; Ser25 **Silicification 25; Sericitisation 25** weak to moderate amorphous silicification and sericitization						
64.50	64.80	5d; SHR **Graphitic Sediment; Sheared** sheared inlier of graphitic sediment, similar to units observed above.						
64.50	64.80	Py12; Gp03 **Pyrite 12%; Graphite 3%** chunky and blebby pyrite grains, euhedral to- anheral shapes	64.50	65.00	1061876	0.50	407	
			65.00	65.40	1061877	0.40	89	
			65.40	66.00	1061878	0.60	312	
			66.00	67.00	1061879	1.00	39	
			66.00	67.00	1061880 (Std)	1.00	5,480	5.48
			67.00	67.60	1061881	0.60	10	
67.60	71.96	Ser15; EP10 **Sericitisation 15; Epidotized 10** weak to moderate seritization and greenish epidote? staining in groundmass	67.60	68.50	1061882	0.90	21	
			68.50	69.00	1061883	0.50	18	
			69.00	70.00	1061884	1.00	16	
			70.00	71.00	1061885	1.00	8	
			71.00	72.00	1061886	1.00	11	
72.00	72.04	Hem40 **Hematisation 40** hematite alteration associated with fracture	72.00	73.00	1061887	1.00	24	
72.30	73.43	POT15 **Potassic 15** salmon coloured weak potassic overprint	73.00	74.00	1061888	1.00	100	
73.22	76.10	BRX **Breccia** strong brecciation of contrasting litho units in porphyry						
73.44	73.62	5d **Graphitic Sediment** black, silicified and brecciated graphitic sediment, angular heterolithic breccia fragments range in size from 2mm to 4.5cm						
73.44	73.63	Gp10; Py07 **Graphite 10%; Pyrite 7%**						

Description			Assay					
			From	To	Number	Length	Au (ppb)	Au (g/t)
		brecciated graphite-bearing interval containing 5-7% pyrite,rubbing fracture(slickensides) face produces a black graphite smudge.						
73.63	74.40	Sil25; Ser20 **Silicification 25; Sericitisation 20** weak to moderate sericite and silicic alteration	74.00	75.00	1061889	1.00	26	
74.40	74.68	POT15; Hem15 **Potassic 15; Hematisation 15** salmon coloured potassic alteration and accompanying hematization						
75.00	75.76	Sil70 **Silicification 70** strong cherty silicification, brecciated appearrance	75.00	76.00	1061890	1.00	9	
			76.00	77.00	1061891	1.00	17	
76.90	77.65	Sil50 **Silicification 50** lime green finer grained interval, pervasive sil and ser alteration						
76.90	77.65	SHD **Sheared 40°** strongly sheared texture	77.00	77.70	1061892	0.70	63	
77.65	78.52	5d; SHR **Graphitic Sediment; Sheared** black in colour, graphitic sediment						
77.65	78.52	Py10; Gp30 **Pyrite 10%; Graphite 30%** pyritiferous graphite-bearing interval	77.70	78.48	1061893	0.78	202	
			78.48	79.00	1061894	0.52	1	
			79.00	80.00	1061895	1.00	85	
			80.00	81.00	1061896	1.00	1	
81.00	84.00	SHD; FRC; BLOC; BRX **Sheared; Fractured; Blocky; Breccia** strongly fractured and blocky core, brecciated appearrance	81.00	82.00	1061897	1.00	23	
			82.00	83.00	1061898	1.00	13	
			83.00	84.00	1061899	1.00	22	
			83.00	84.00	1061900 (Std)	1.00	1,540	1.54
			84.00	84.58	1061901	0.58	20	
			84.58	85.60	1061902	1.02	7	
			85.60	86.00	1061903	0.40	6	
86.00	87.00	5d; SHR **Graphitic Sediment; Sheared 65°** pyritiferous graphitic sediment						
86.00	87.00	Gp70; Py05 **Graphite 70%; Pyrite 5%** sheared and chunky pyrite ain black graphitic section	86.00	87.04	1061904	1.04	376	

Description			Assay					
			From	To	Number	Length	Au (ppb)	Au (g/t)
87.00	88.30	Sil45	87.04	88.00	1061905	0.96	143	
		Silicification 45	88.00	89.00	1061906	1.00	38	
		pervasive and marbley grey to whitish-grey quartz alteration						
88.30	90.00	Sil35; SAUS25	89.00	89.40	1061907	0.40	45	
		Silicification 35; sausseritization 25	89.40	90.00	1061908	0.60	12	
		dull earthy weathering intermixed with strong silicification	90.00	91.00	1061909	1.00	15	
			91.00	92.00	1061910	1.00	47	
			92.00	93.00	1061911	1.00	12	
			93.00	94.00	1061912	1.00	17	
			94.00	95.00	1061913	1.00	13	
			95.00	96.00	1061914	1.00	17	
			96.00	97.00	1061915	1.00	16	
			97.00	98.00	1061916	1.00	18	
			98.00	99.00	1061917	1.00	15	
			99.00	100.00	1061918	1.00	22	
			100.00	101.00	1061919	1.00	18	
			100.00	101.00	1061920 (Std)	1.00	1,590	1.59
			101.00	102.00	1061921	1.00	26	
			102.00	103.00	1061922	1.00	7	
			103.00	104.00	1061923	1.00	15	
			104.00	105.00	1061924	1.00	9	
104.85	106.00	Sil50; Hem20						
		Silicification 50; Hematisation 20						
		strong grey silicification and hematite stained fractures						
105.00	106.30	FRC	105.00	106.00	1061925	1.00	17	
		Fractured						
		strongly fractured core						
106.00	111.85	3d						
		Felsic Tuff- flow banding 60°						
		yellow in colour, fine grained, finely laminated, cut by rare quartz vein, nil to trace						
		sulphides, competnet core						
106.00	111.85	Ser50	106.00	106.40	1061926	0.40	137	
		Sericitisation 50						
		uniformly sericite altered						
106.00	106.30	Gp10						
		Graphite 10%						

Description				Assay					
				From	To	Number	Length	Au (ppb)	Au (g/t)
			graphite coated fractures, sheared and altered litho contact between Porphyry and Banded-Flow Units						
	106.30	106.35	FLT; GOU	106.40	107.00	1061927	0.60	14	
			Fault; Gouge	107.00	108.00	1061928	1.00	11	
			strong fissile FAULT GOUGE at lower contact	108.00	109.00	1061929	1.00	1	
				109.00	110.00	1061930	1.00	10	
				110.00	111.00	1061931	1.00	1	
				111.00	112.00	1061932	1.00	1	
	111.83	111.85	FRC						
			Fractured 45°						
			gritty clay coated fracture at the contact between felsic and mixed felsic to-intermediate units						
111.85	128.00		2d; LAM	112.00	113.00	1061933	1.00	1	
			Int. Tuff - flow banded; Laminated 60°	113.00	114.00	1061934	1.00	1	
			grey and yellow laminated section	114.00	115.00	1061935	1.00	1	
				115.00	116.00	1061936	1.00	1	
				116.00	117.00	1061937	1.00	1	
				117.00	118.00	1061938	1.00	1	
				118.00	119.00	1061939	1.00	1	
				118.00	119.00	1061940 (Std)	1.00	352	
				119.00	120.00	1061941	1.00	1	
				120.00	121.00	1061942	1.00	1	
				121.00	122.00	1061943	1.00	1	
				122.00	123.00	1061944	1.00	1	
				123.00	124.00	1061945	1.00	1	
				124.00	125.00	1061946	1.00	1	
				125.00	126.00	1061947	1.00	13	
				126.00	127.00	1061948	1.00	5	
				127.00	128.00	1061949	1.00	13	
128.00	140.00		3d						
			Felsic Tuff- flow banding 60°						
			similar to unit observed above from 106 to 111.85						
			hairline quartz stringers conformable and slightly oblique to lamellae past 156m to the end of the hole.						

Description			Assay					
			From	To	Number	Length	Au (ppb)	Au (g/t)
		Trace to nil sulphides present						
128.00	140.30	Ser30; Sil10	128.00	129.00	1061950	1.00	13	
		Sericitisation 30; Silicification 10	129.00	130.00	1061951	1.00	1	
		ubiquitous seritization and foliation conformable quartz stringers	130.00	131.00	1061952	1.00	1	
			131.00	132.00	1061953	1.00	1	
			132.00	133.00	1061954	1.00	1	
			133.00	134.00	1061955	1.00	24	
			134.00	135.00	1061956	1.00	25	
			135.00	136.00	1061957	1.00	21	
			136.00	137.00	1061958	1.00	1	
			137.00	138.00	1061959	1.00	7	
			137.00	138.00	1061960 (Bln)	1.00	1	
			138.00	139.00	1061961	1.00	1	
			139.00	140.00	1061962	1.00	5	
			140.00	140.30	1061963	0.30	1	
140.30		**End of DDH**						
		Number of samples: 154						
		Number of QAQC samples: 8						
		Total sampled length: 137.30						



MAGNETIC DECLINATION -4 DEGREES WEST

GEOLOGICAL LEGEND

CATEGORY	SUBCATEGORY
8 Regolith - kaolin +/- chlorite clay	
7 Quartz Vein	
5 Clastic Sediments	
	5a *wacke, argillite, mudstone*
	5b *arkose, siltstone*
	5c *sandstone, quartzite*
	5d *graphitic sediment*
	5e *bedded, laminated*
	5f *tuffaceous*
	5g *conglomerate*
	5h *schist, phyllite*
	5i *cherty*
	5j *carbonate*
4 Dike Rocks	
	4a *feldspar porphyry*
	4b *quartz-feldspar porphyry*
	4c *carbonate-sericite schist*
	4d *mafic dyke, assimilated xenolith*
	4e *aplite, felsite*
	4f *granitic*
3 Felsic Metavolcanics	
	3a *fragmental*
	3b *tuff-breccia*
	3c *lapilli tuff*
	3d *flowbanding*
	3e *carbonate altered*
	3f *quartz-sericite schist, sericite schist*
2 Intermediate Metavolcanics	
	2a *massive flow*
	2b *flowbanded tuff*
	2b *tuff-breccia*
	2c *lapilli tuff*
	2d *crystal tuff*
	2e *fragmental tuff*
	2f *carbonate altered*
	2g *chlorite-sericite schist, chlorite schist*
1 Mafic Metavolcanics	
	1a *massive flow*
	1b *pillowed flow*
	1c *amygdaloidal and variolitic flow*
	1d *porphyritic flow*
	1e *flowbreccia*
	1f *tuff-breccia*
	1g *lapilli tuff*
	1h *chlorite schist*
	1j *amphibolite*
	1k *carbonate altered*
	1m *magnetite-bearing*

TRACE SHADE BY LITHOLOGY

LITHOLOGY CODE AU (PPB)

EOH

HOLE ID

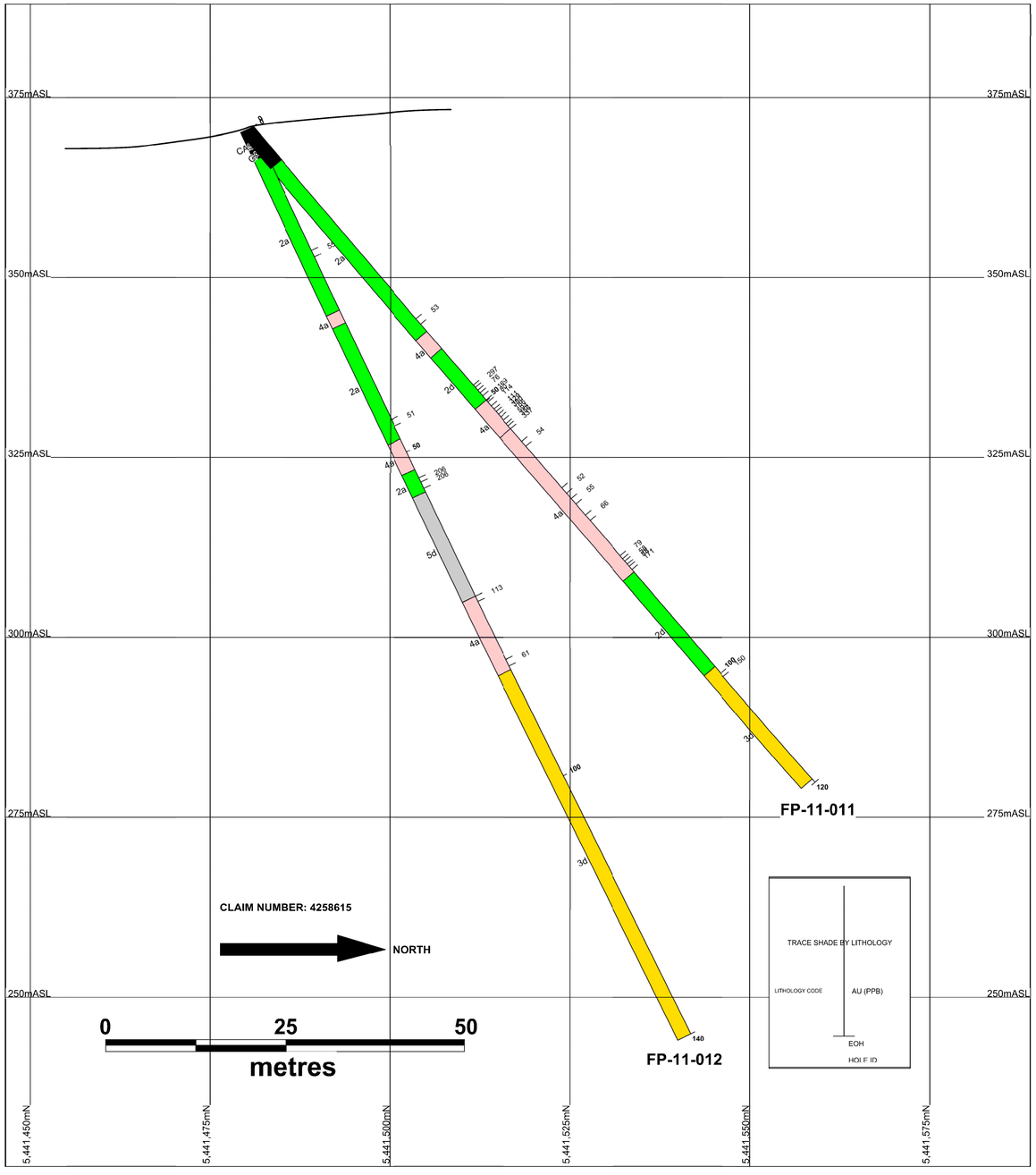
LEGEND

- ALL SEASON GRAVEL ROAD
- DRILLHOLE TRACE
- DRILLHOLE COLLAR LOCATION
- DISPOSITION BOUNDARY
- WATERBODY
- CLAIM BOUNDARY

HOLE-ID	UTM EAST	UTM NORTH	UTM EL (ASL)	LENGTH (M)	AZIMUTH	DIP
FP11-009	472975.0	5441481.0	371.0	120.0	360	-50
FP11-010	472975.0	5441481.0	371.0	140.0	360	-65
FP11-011	472924.0	5441474.0	382.0	120.6	360	-52
FP11-012	472924.0	5441474.0	382.0	140.3	360	-65

Mineral Mountain Resources Ltd.

	Drillhole Location Map
Date:10/12/2011	
Author: MMV	
Office: Vancouver,	
Drawing: 3	
Scale: 1:1000	Projection: UTM ZONE 15 (NAD 83)



GEOLOGICAL LEGEND

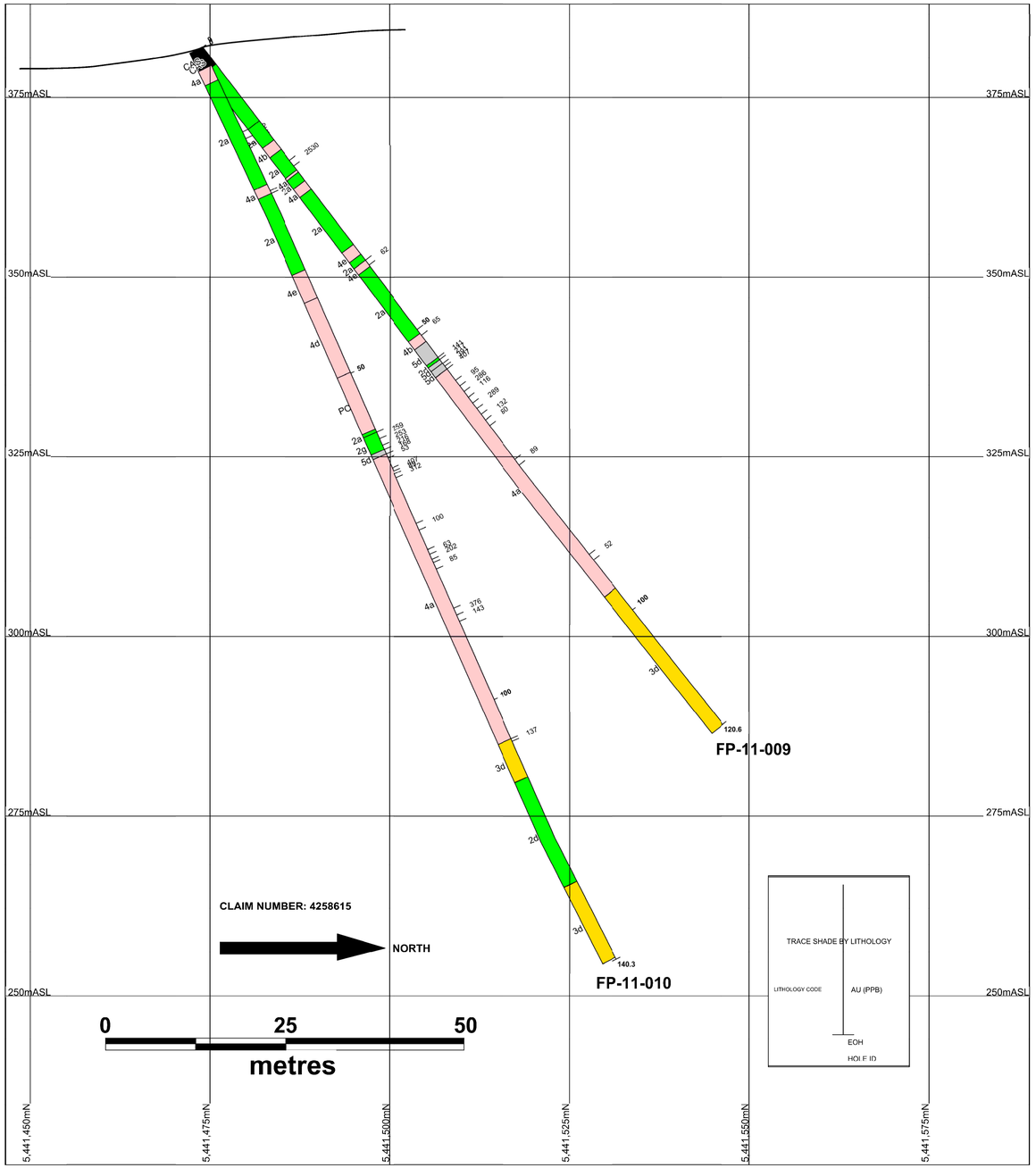
CATEGORY	SUBCATEGORY
8 Regolith - kaolin +/- chlorite clay	
7 Quartz Vein	
5 Clastic Sediments	
	5a *wacke, argillite, mudstone*
	5b *arkose, siltstone*
	5c *sandstone, quartzite*
	5d *graphitic sediment*
	5e *bedded, laminated*
	5f *tuffaceous*
	5g *conglomerate*
	5h *schist, phyllite*
	5i *cherty*
	5j *carbonate*
4 Dike Rocks	
	4a *feldspar porphyry*
	4b *quartz-feldspar porphyry*
	4c *carbonate-sericite schist*
	4d *mafic dyke, assimilated xenolith*
	4e *aplite, felsite*
	4f *granitic*
3 Felsic Metavolcanics	
	3a *fragmental*
	3b *tuff-breccia*
	3c *lapilli tuff*
	3d *flowbanding*
	3e *carbonate altered*
	3f *quartz-sericite schist, sericite schist*
2 Intermediate Metavolcanics	
	2a *massive flow*
	2b *flowbanded tuff*
	2b *tuff-breccia*
	2c *lapilli tuff*
	2d *crystal tuff*
	2e *fragmental tuff*
	2f *carbonate altered*
	2g *chlorite-sericite schist, chlorite schist*
1 Mafic Metavolcanics	
	1a *massive flow*
	1b *pillowed flow*
	1c *amygdaloidal and variolitic flow*
	1d *porphyritic flow*
	1e *flowbreccia*
	1f *tuff-breccia*
	1g *lapilli tuff*
	1h *chlorite schist*
	1j *amphibolite*
	1k *carbonate altered*
	1m *magnetite-bearing*

HOLE-ID	UTM EAST	UTM NORTH	UTM EL (ASL)	LENGTH (M)	AZIMUTH	DIP
FP11-009	472975.0	5441481.0	371.0	120.0	360	-50
FP11-010	472975.0	5441481.0	371.0	140.0	360	-65
FP11-011	472924.0	5441474.0	382.0	120.6	360	-52
FP11-012	472924.0	5441474.0	382.0	140.3	360	-65

Mineral Mountain Resources Ltd.

Date:10/12/2011	**Drillhole Section 472976E** **View Looking to West**
Author: MMV	
Office: Vancouver, BC	
Drawing: 2	
Scale: 1:350	Projection: UTM ZONE 15 (NAD 83)

NOTE: DRILLHOLE TRACES ONLY LABELLED WITH AU VALUES (PPB) GREATER THAN 50 PPB FOR VISUAL CLARITY



GEOLOGICAL LEGEND

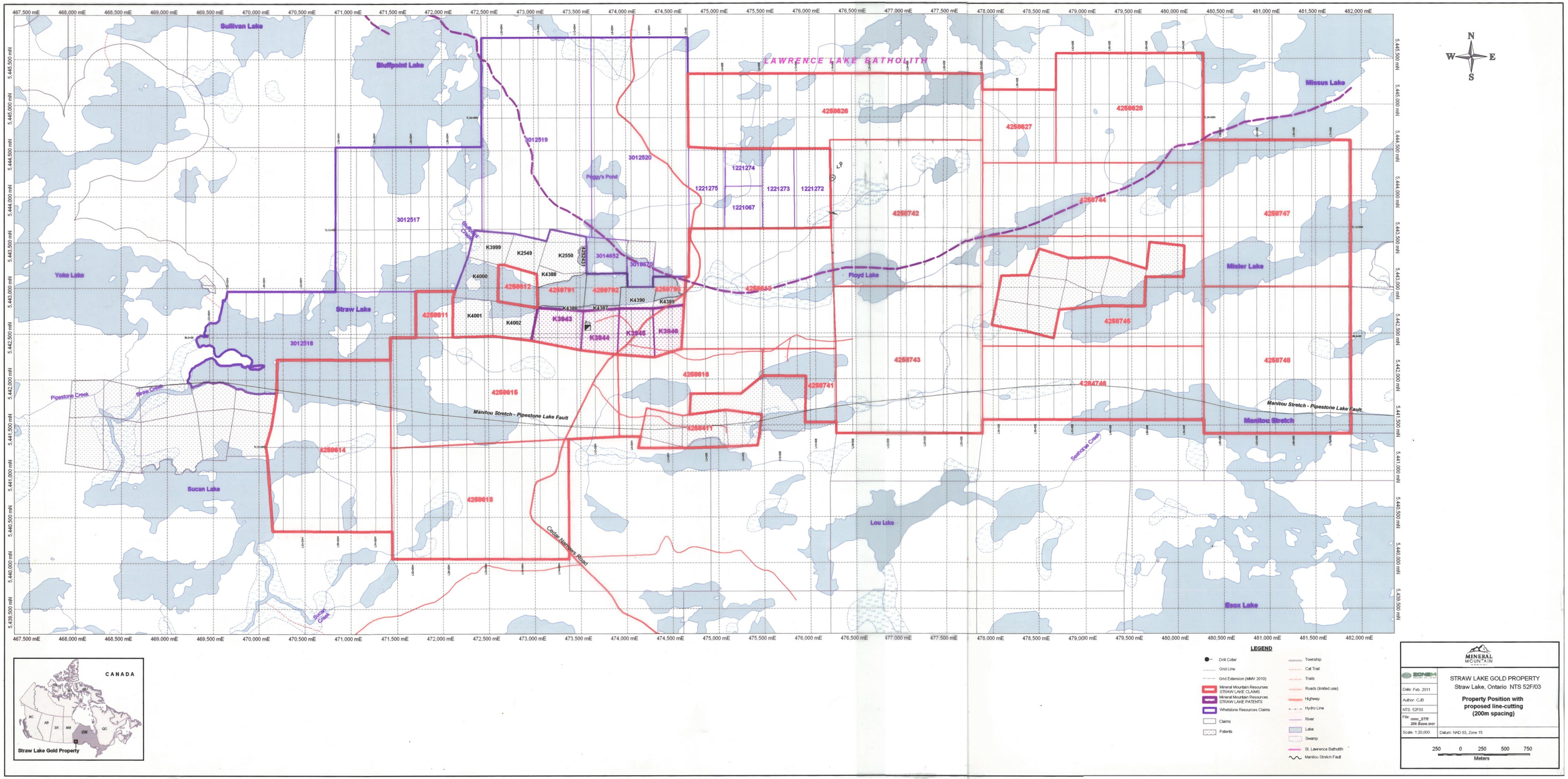
CATEGORY	SUBCATEGORY
8 Regolith - kaolin +/- chlorite clay	
7 Quartz Vein	
5 Clastic Sediments	
	5a *wacke, argillite, mudstone*
	5b *arkose, siltstone*
	5c *sandstone, quartzite*
	5d *graphitic sediment*
	5e *bedded, laminated*
	5f *tuffaceous*
	5g *conglomerate*
	5h *schist, phyllite*
	5i *cherty*
	5j *carbonate*
4 Dike Rocks	
	4a *feldspar porphyry*
	4b *quartz-feldspar porphyry*
	4c *carbonate-sericite schist*
	4d *mafic dyke, assimilated xenolith*
	4e *aplite, felsite*
	4f *granitic*
3 Felsic Metavolcanics	
	3a *fragmental*
	3b *tuff-breccia*
	3c *lapilli tuff*
	3d *flowbanding*
	3e *carbonate altered*
	3f *quartz-sericite schist, sericite schist*
2 Intermediate Metavolcanics	
	2a *massive flow*
	2b *flowbanded tuff*
	2b *tuff-breccia*
	2c *lapilli tuff*
	2d *crystal tuff*
	2e *fragmental tuff*
	2f *carbonate altered*
	2g *chlorite-sericite schist, chlorite schist*
1 Mafic Metavolcanics	
	1a *massive flow*
	1b *pillowed flow*
	1c *amygdaloidal and variolitic flow*
	1d *porphyritic flow*
	1e *flowbreccia*
	1f *tuff-breccia*
	1g *lapilli tuff*
	1h *chlorite schist*
	1j *amphibolite*
	1k *carbonate altered*
	1m *magnetite-bearing*

HOLE-ID	UTM EAST	UTM NORTH	UTM EL (ASL)	LENGTH (M)	AZIMUTH	DIP
FP11-009	472975.0	5441481.0	371.0	120.0	360	-50
FP11-010	472975.0	5441481.0	371.0	140.0	360	-65
FP11-011	472924.0	5441474.0	382.0	120.6	360	-52
FP11-012	472924.0	5441474.0	382.0	140.3	360	-65

Mineral Mountain Resources Ltd.

Date:10/12/2011	**Drillhole Section 472921E View Looking to West**
Author: MMV	
Office: Vancouver, BC	
Drawing: 1	
Scale: 1:350	Projection: UTM ZONE 15 (NAD 83)

NOTE: DRILLHOLE TRACES ONLY LABELLED WITH AU VALUES (PPB) GREATER THAN 50 PPB FOR VISUAL CLARITY


LAWRENCE LAKE BATHOLITH
Sullivan Lake
Bluffpoint Lake
Missus Lake
Peggy's Pond
Floyd Lake
Mister Lake
Yoke Lake
Straw Lake
Pipestone Creek
Straw Creek
Manitou Stretch - Pipestone Lake Fault
Sucan Lake
Lou Lake
Sasx Lake
Seahorse Creek
Secret Creek
Cedar Narrows Road
3012519
3012520
3012517
3012518
3014652
3018670
4256626
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4256628
4256742
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4256747
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4256611
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4256793
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4256614
4256618
1221274
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K2549
K2550
K4000
K4388
K4390
K4389
K4387
K4001
K4002
K3943
K3944
K3945
K3946
CANADA
BC
AB
SK
MB
ON
QC
Straw Lake Gold Property
LEGEND
Drill Collar
Grid Line
Grid Extension (MMV 2010)
Mineral Mountain Resources STRAW LAKE CLAIMS
Mineral Mountain Resources STRAW LAKE PATENTS
Whitestone Resources Claims
Claims
Patents
Township
Cat Trail
Trails
Roads (limited use)
Highway
Hydro Line
River
Lake
Swamp
St. Lawrence Batholith
Manitou Stretch Fault
MINERAL MOUNTAIN
STRAW LAKE GOLD PROPERTY
Straw Lake, Ontario NTS 52F/03
Property Position with proposed line-cutting (200m spacing)
Date: Feb. 2011
Author: CJB
NTS: 52F03
File: mmr_STR 209 Base.wor
Scale: 1:20,000
Datum: NAD 83, Zone 15
250 0 250 500 750
Meters

ORE RESEARCH & EXPLORATION PTY LTD

6-8 Gatwick Drive, Bayswater North, Vic 3153 AUSTRALIA
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CERTIFICATE OF ANALYSIS FOR

GOLD ORE REFERENCE MATERIAL

OREAS 15f

SUMMARY STATISTICS

Constituent	Recommended Value	1SD
Gold, Au (ppm)	0.334	0.016

Prepared by:
Ore Research & Exploration Pty Ltd
January 2009

REPORT 08-790_15f

INTRODUCTION

OREAS reference materials (RM) are intended to provide a low cost method of evaluating and improving the quality of precious and base metal analysis of geological samples. To the explorationist, they provide an important control in analytical data sets related to exploration from the grass roots level through to resource definition. To the mine geologist, they provide a tool for grade control in routine mining operations. To the analyst, they provide an effective means of calibrating analytical equipment, assessing new techniques and routinely monitoring in-house procedures.

SOURCE MATERIALS

Reference material OREAS 15f was prepared from a blend of barren alkali olivine basalt from Epping, Victoria, Australia and gold-bearing Magdala ore from the Stawell Gold Mine, west-central Victoria, Australia. The Magdala lode is intimately associated with an intensely deformed package of volcanogenic sedimentary rocks. Mineralisation in the ore consists of a quartz-sericite-carbonate schist assemblage containing the sulphides pyrite and arsenopyrite. The major constituents of the alkali olivine basalt are feldspar, augite, olivine and titanomagnetite.

The approximate major and trace element composition of this sulphide-bearing gold ore standard OREAS 15f is given in Table 1. The constituents SiO_2 to Total are the means of duplicate XRF analyses determined using a borate fusion method, S and C are means of duplicate IR combustion furnace analyses, while the remaining constituents, Ag to Zr, are means of duplicate analyses determined by 4-acid digestion with ICP-MS finish.

Gold homogeneity has been evaluated and confirmed by INAA on twenty ~1.8 gram sample portions and by a nested ANOVA program using conventional fire assay. The tolerance interval is determined from the INAA data while the recommended value and confidence interval are based on a round robin program incorporating a total of 122 analyses at 17 laboratories.

COMMINUTION AND HOMOGENISATION PROCEDURES

The gold-bearing basaltic material comprising OREAS 15f was prepared in the following manner:

a) jaw crushing to minus 3mm
b) drying to constant mass at 105^0C
c) milling of the barren material to 98% minus 75 micron
d) milling of the gold–bearing material to 100% minus 20 micron
e) blending in appropriate proportions to achieve the desired grade
f) bagging into 25kg sublots
g) packaging into 60g units in laminated foil pouches and 1kg units in plastic jars

ANALYSIS OF OREAS 15f

Seventeen laboratories participated in the analytical program and are listed in the section headed ‘Participating Laboratories’. To maintain anonymity laboratories have been randomly designated the letter codes A through Q. Each laboratory received two scoop-split 120 gram subsamples from each of three 1kg test units taken at regular intervals during the bagging

stage. They were instructed to carry out one 30-50 gram fire assay gold determination with new pots on each subsample. The nested design of the interlaboratory programme is amenable to analysis of variance (ANOVA) and enables a comparative assessment of within- and between-unit homogeneity (see 'ANOVA study' section).

Table 1. Approximate major and trace element composition of gold-bearing reference material OREAS 15f; wt.% - weight percent; ppm - parts per million.

Constituent	wt.%	Constituent	ppm	Constituent	ppm	Constituent	ppm
SiO_2	51.0	Ag	<0.5	Gd	5.9	Sb	0.4
TiO_2	1.78	As	127	Hf	4.5	Sc	18.5
Al_2O_3	14.2	Ba	328	Ho	0.91	Sm	5.28
Fe_2O_3	12	Be	1.3	In	0.06	Sn	2
MnO	0.18	Bi	<0.1	La	17.9	Sr	382
MgO	7.13	Cd	<0.5	Li	8.8	Ta	1.1
CaO	8.59	Ce	38.8	Lu	0.24	Tb	0.88
Na_2O	3.02	Co	47	Mo	4.5	Te	<0.2
K_2O	0.82	Cs	1.1	Nb	20.8	Th	3.05
P_2O_5	0.336	Cu	61	Nd	21.6	U	0.9
LOI	0.44	Dy	5.18	Ni	157	W	0.5
Total	100.25	Er	2.48	Pb	5	Y	23.2
C	0.16	Eu	1.98	Pr	4.82	Yb	1.9
S	0.24	Ga	18.8	Rb	22.4	Zn	113
						Zr	166

For the determination of a statistical tolerance interval, a 10 gram scoop split was taken from each of the twenty test units and submitted to 'Lab A' for gold assay via instrumental neutron activation analysis on a reduced analytical subsample weight of ~1.8 grams.

Individual assay results for the fire assay and INAA methods are presented in Tables 2 and 3 together with the mean, median, standard deviations (absolute and relative) and percent deviation of the lab mean from the corrected mean of means for each data set (PDM^3). Interlaboratory agreement of the means is good with all labs lying within 9% relative of the corrected mean of means of 0.334 ppm Au.

STATISTICAL EVALUATION OF ANALYTICAL DATA FOR OREAS 15f

Recommended Value and Confidence Limits

The recommended value was determined from the mean of means of accepted replicate values of accepted laboratory data sets A to Q according to the formulae

$$\overline{x}_i = \frac{1}{n_i} \sum_{j=1}^{n_i} x_{ij}$$

$$\dot{x}^{\cdot} = \frac{1}{p} \sum_{i=1}^{p} \overline{x}_i$$

where

x_{ij} *is the jth result reported by laboratory i;*
p *is the number of participating laboratories;*
n_i *is the number of results reported by laboratory i;*
$\bar{x}_i$ *is the mean for laboratory i;*
$\ddot{x}$ *is the mean of means.*

The confidence limits were obtained by calculation of the variance of the consensus value (mean of means) and reference to Student's-*t* distribution with degrees of freedom (*p*-1):

$$\hat{V}(\ddot{x}) = \frac{1}{p(p-1)} \sum_{i=1}^{p} (\bar{x}_i - \ddot{x})^2$$

$$\text{Confidence limits} = \ddot{x} \pm t_{1-x/2}(p-1)\left(\hat{V}(\ddot{x})\right)^{1/2}$$

where $t_{1-x/2}(p-1)$ *is the 1-x/2 fractile of the t-distribution with (p-1) degrees of freedom.*

The distribution of the values is assumed to be symmetrical about the mean in the calculation of the confidence limits.

The test for rejection of individual outliers from each laboratory data set was based on *z* scores (rejected if $|z_i| > 2.5$) computed from the robust estimators of location and scale, *T* and *S*, respectively, according to the formulae

$$S = 1.483 \underset{j=1.....n}{\text{median}} / x_j - \underset{i=1.....n}{\text{median}} (x_i) /$$

$$z_i = \frac{x_i - T}{S}$$

where

T is the median value in a data set;
S is the median of all absolute deviations from the sample median multiplied by 1.483, a correction factor to make the estimator consistent with the usual parameter of a normal distribution.

The z-score test is used in combination with a second method of individual outlier detection that determines the percent deviation of the individual value from the median. Outliers in general are selected on the basis of z-scores > 2.5 and with percent deviations > 1.5%. In certain instances statistician's prerogative has been employed in discriminating outliers.
Each laboratory data set is tested for outlying status based on z-score discrimination and rejected if $|z_i| > 2.5$. After individual and entire lab data set outliers have been eliminated a non-iterative 3 standard deviation filter is applied, with those values lying outside this window also relegated to outlying status.
Individual outliers and, more rarely, laboratory means deemed to be outlying are shown left justified and in bold in the tabulated results (Tables 2 and 3) and have been omitted in the determination of recommended values.
The magnitude of the confidence interval is inversely proportional to the number of participating laboratories and interlaboratory agreement. It is a measure of the reliability of the recommended value, i.e. the narrower the confidence interval the greater the certainty in the recommended value.

Table 2. Analytical results for gold in OREAS 15f (FA - fire assay; AAS - flame atomic absorption spectrometry; SXAAS - solvent extraction AAS; OES - inductively coupled plasma optical emission spectrometry; Std.Dev. - one sigma standard deviation; Rel.Std.Dev. - one sigma relative standard deviation; PDM[3] - percent deviation of lab mean from corrected mean of means; outliers in bold and left justified; sample charge weights shown in row 3; values in ppm).

Replicate No.	Lab A FA*AAS 30g	Lab B FA*OES 30g	Lab C FA*SXAAS 25g	Lab D FA*AAS 50g	Lab E FA*SXAAS 30g	Lab F FA*OES 50g	Lab G FA*AAS 50g	Lab H FA*OES 40g	Lab I FA*OES 30g
1	0.358	0.329	0.329	0.352	0.329	0.314	0.319	**0.312**	0.301
2	0.363	0.333	0.325	0.348	0.320	0.328	0.323	0.335	0.318
3	0.367	0.325	0.323	0.350	0.330	0.312	0.311	0.325	0.320
4	0.360	0.325	0.329	0.352	0.335	0.324	0.317	0.331	0.312
5	0.364	0.323	0.333	0.350	0.346	0.321	0.312	0.330	0.309
6	0.353	**0.310**	0.332	**0.361**	0.323	0.313	0.312	0.332	0.324
Mean	0.361	0.324	0.329	0.352	0.331	0.319	0.316	0.328	0.314
Median	0.362	0.325	0.329	0.351	0.330	0.318	0.315	0.331	0.315
Std.Dev.	0.005	0.008	0.004	0.005	0.009	0.007	0.005	0.008	0.008
Rel.Std.Dev.	1.37%	2.41%	1.18%	1.30%	2.80%	2.08%	1.52%	2.52%	2.66%
PDM[3]	8.18%	-2.81%	-1.51%	5.59%	-0.91%	-4.46%	-5.36%	-1.81%	-5.86%

Table 2. Continued

Replicate No.	Lab J FA*AAS 30g	Lab K FA*AAS 30g	Lab L FA*OES 30g	Lab M FA*AAS 30g	Lab N FA*AAS 30g	Lab O FA*SXAAS 30g	Lab P FA*OES 40g	Lab Q FA*AAS 30g
1	0.366	0.328	0.333	0.333	**0.327**	0.335	**0.340**	0.310
2	0.362	0.334	0.343	0.332	**0.327**	0.328	0.351	0.300
3	0.346	0.334	0.340	**0.361**	0.338	0.323	0.347	0.300
4	0.365	0.339	0.336	0.331	0.335	0.334	0.352	0.310
5	0.359	0.334	0.338	0.330	0.336	0.322	0.351	0.300
6	0.353	0.338	0.338	0.327	0.336	0.332	0.352	0.310
Mean	0.359	0.335	0.338	0.336	0.333	0.329	0.349	0.305
Median	0.361	0.334	0.338	0.332	0.336	0.330	0.351	0.305
Std.Dev.	0.008	0.004	0.003	0.013	0.005	0.006	0.005	0.005
Rel.Std.Dev.	2.15%	1.16%	1.01%	3.75%	1.46%	1.70%	1.34%	1.80%
PDM[3]	7.48%	0.29%	1.34%	0.64%	-0.11%	-1.36%	4.59%	-8.56%

Table 3. Analytical results for gold in OREAS 15f by INAA (instrumental neutron activation analysis on ~1.8 gram analytical subsample weights; other abbreviations as for Table 2).

Replicate No.	Lab A INAA
1	0.349
2	0.343
3	**0.378**
4	0.333
5	0.356
6	0.345
7	0.344
8	**0.369**
9	0.358
10	0.338
11	0.344
12	0.337
13	0.338
14	**0.372**
15	0.343
16	0.349
17	0.334
18	0.341
19	0.354
20	0.360
Mean	0.349
Median	0.345
Std.Dev.	0.013
Rel.Std.Dev.	3.67%
PDM[3]	4.71%

Table 4. Recommended Value and 95% Confidence Interval

Constituent	Recommended Value	95% Confidence Interval	
		Low	High
Gold, Au (ppm)	0.334	0.326	0.341

Statement of Homogeneity

The variability of replicate assays from each laboratory is a result of both measurement and subsampling errors. In the determination of a statistical tolerance interval it is therefore necessary to eliminate, or at least substantially minimise, those errors attributable to measurement. One way of achieving this is by substantially reducing the analytical subsample weight to a point where most of the variability in replicate assays is due to inhomogeneity of the reference material and measurement error becomes negligible. This approach was adopted in the INAA data set (Table 3) where a ~1.8 gram subsample weight was employed.

The homogeneity was determined from tables of factors for two-sided tolerance limits for normal distributions (ISO Guide 3207) in which

$$\textit{Lower limit is } \ddot{x} - k_2'(n, p, 1-\alpha)s$$
$$\textit{Upper limit is } \ddot{x} + k_2'(n, p, 1-\alpha)s$$

where

n is the number of results reported by laboratory Q;

$1-\alpha$ is the confidence level;

p is the proportion of results expected within the tolerance limits;

k_2' is the factor for two-sided tolerance limits (m, σ unknown);

and *s* is computed according to the formula

$$s = \left[\frac{\sum_{j=1}^{n} \left(x_j - \bar{x} \right)^2}{n-1} \right]^{1/2}$$

No individual outliers were removed from the results prior to the calculation of tolerance intervals.

Table 5. Recommended Value and Tolerance Interval.

Constituent	Recommended Value	Tolerance Interval $1-\alpha=0.99$, $\rho=0.95$	
		Low	High
Gold, Au (ppm)	0.334	0.326	0.341

From the INAA data set an estimated tolerance interval of ±0.007 ppm at an analytical subsample weight of 50 gram was obtained (using the sampling constant relationship of Ingamells and Switzer, 1973) and is considered to reflect the actual homogeneity of the material under test. The meaning of this tolerance interval may be illustrated for gold (refer Table 5), where 99% of the time at least 95% of 50g-sized subsamples will have concentrations lying between 0.326 and 0.341 ppm. Put more precisely, this means that if the same number of subsamples were taken and analysed in the same manner repeatedly, 99% of the tolerance intervals so constructed would cover at least 95% of the total population, and 1% of the tolerance intervals would cover less than 95% of the total population (IS0 Guide 35).

ANOVA Study

The sampling format for OREAS 15f was structured to enable nested ANOVA treatment of the round robin results. During the bagging stage immediately following final homogenization, samples were taken at 20 intervals representative of the entire batch of OREAS 15f. All labs participated in the ANOVA study (Labs A to Q) where each received paired samples of three different, non-adjacent, sampling units. For example, the six samples that any one of the eight participating labs could have received is:

- Sample 1 (from sampling interval 1)
- Sample 2 (from sampling interval 6)
- Sample 3 (from sampling interval 11)
- Sample 4 (from sampling interval 1)
- Sample 5 (from sampling interval 6)
- Sample 6 (from sampling interval 11)

The purpose of the ANOVA investigation was to compare the within-unit variance with that of the between-unit variance. This approach permitted an assessment of homogeneity across the entire batch of OREAS 15f. The test was performed using the following parameters:

- Significance Level α = P (type I error) = 0.05
- Null Hypothesis, H_0: Between-unit variance is no greater than within-unit variance (reject H_0 if p-value < 0.05)
- Alternative Hypothesis, H_1: Between-unit variance is greater than within-unit variance

P-values are a measure of probability whereby values less than 0.05 indicate a greater than 95% probability that the observed differences in within-unit and between-unit variances are real. The dataset was filtered for both individual and laboratory outliers prior to calculation of the p-value. This derived a p-value of 0.71 and indicates no evidence that between-unit variance is greater than within-unit variance. Conclusion: do not reject H_0. Note that ANOVA is not an absolute measure of homogeneity. Rather, it establishes that gold is uniformly distributed throughout OREAS 15f and that the variance between two subsamples from the same unit is identical to the variance from two subsamples taken from any two separate units.

Performance Gates

Performance gates provide an indication of a level of performance that might reasonably be expected for a particular analyte from a laboratory being monitored by this standard in a QA/QC program. They incorporate errors attributable to measurement (analytical bias and precision) and standard variability. For an effective standard the contribution of the latter should be negligible in comparison to measurement errors. Two methods have been employed to calculate performance gates. The first method uses the standard deviation of the pooled individual analyses generated from the certification program after removal of all individual and lab dataset (batch) outliers as well as application of a non-iterative 3

standard deviation filter. These outliers can only be removed if they can be confidently deemed to be analytical rather than arising from inhomogeneity of the CRM. Performance gates have been calculated for one, two and three standard deviations of the accepted pool of certification data and are presented in Table 6. As a guide these intervals may be regarded as informational (1SD), warning or rejection for multiple outliers (2SD), or rejection for individual outliers (3SD) in QC monitoring although their precise application should be at the discretion of the QC manager concerned. It is important to note that performance gates calculated from a single submission round robin, as in the present case, do not take reproducibility errors (batch-to-batch bias) into consideration and will accordingly be more constrained than those incorporating a temporal dimension.
For the second method a simple ±5% error bar on the certified value is used as the window of acceptability (refer Table 6). Both methods should be used with caution when concentration levels approach lower limits of detection of the analytical methods employed, as performance gates calculated from standard deviations tend to be excessively wide whereas those determined by the 5% method are too narrow.

Table 6. Performance Gates for OREAS 15f

Constituent	Certified Value	Absolute Standard Deviations					Relative Standard Deviations			5% window	
		1SD	2SD Low	2SD High	3SD Low	3SD High	1RSD	2RSD	3RSD	Low	High
Au (ppm)	0.334	0.016	0.301	0.366	0.285	0.382	4.83%	9.66%	14.5%	0.317	0.350

Note: intervals may appear asymmetric due to rounding

PARTICIPATING LABORATORIES

Acme Analytical Laboratories Ltd, Vancouver, BC, Canada
Activation Laboratories, Ancaster, ONtario, Canada
Amdel Laboratories Ltd, Thebarton, SA, Australia
ALS Chemex, Townsville, QLD, Australia
ALS Chemex, La Serena, Chile, South America
ALS Chemex, Sparks, Nevada, USA
ALS Chemex, Perth, WA, Australia
ALS Chemex, Val-d'or, Quebec, Canada
ALS Chemex, Vancouver, BC, Canada
Genalysis Laboratory Services Pty Ltd, Perth, WA, Australia
Intertek Testing Services, Jakarta, Indonesia
McPhar Laboratories, Legaspi Village, Makati City, Philippines
OMAC Laboratories Ltd, Loughrea, County Galway, Ireland
SGS Lakefield Research Ltd, Lakefield, ON, Canada
SGS, Townsville, QLD, Australia
SGS Australia, Perth, WA, Australia
Ultra Trace Pty Ltd, Perth, WA, Australia

PREPARER AND SUPPLIER OF THE REFERENCE MATERIAL

The gold ore reference material, OREAS 15f has been prepared and certified and is supplied by:

Ore Research & Exploration Pty Ltd
6-8 Gatwick Road
Bayswater North, VIC 3153
AUSTRALIA

Telephone	(03) 9729 0333	International	+613-9729 0333
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It is available in unit sizes of 60g foil packets and 1kg plastic jars.

INTENDED USE

OREAS 15f is a reference material intended for the following:

i) for the monitoring of laboratory performance in the analysis of gold in geological samples;
ii) for the calibration of instruments used in the determination of the concentration of gold;
iii) for the verification of analytical methods for gold;
iv) for the preparation of secondary reference materials of similar composition;

STABILITY AND STORAGE INSTRUCTIONS

OREAS 15f has been prepared from gold ore diluted with barren alkali olivine basalt. The CRM is considered to have long-term stability under normal storage conditions.

INSTRUCTIONS FOR THE CORRECT USE OF THE REFERENCE MATERIAL

The certified value for OREAS 15f refers to the concentration level of Au after removal of hygroscopic moisture by drying in air to constant mass at 105^0 C. If the reference material is not dried by the user prior to analysis, the certified values should be corrected to the moisture-bearing basis.

LEGAL NOTICE

Ore Research & Exploration Pty Ltd has prepared and statistically evaluated the property values of this reference material to the best of its ability. The Purchaser by receipt hereof releases and indemnifies Ore Research & Exploration Pty Ltd from and against all liability and costs arising from the use of this material and information.

CERTIFYING OFFICER

Craig Hamlyn (B.Sc. Hons - Geology)

REFERENCES

Ingamells, C. O. and Switzer, P. (1973), Talanta 20, 547-568.

ISO Guide 35 (1985), Certification of reference materials - General and statistical principals.

ISO Guide 35 (2006), Rference materials - General and statistical principals for certification.

ISO Guide 3207 (1975), Statistical interpretation of data - Determination of a statistical tolerance interval.

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CERTIFICATE OF ANALYSIS FOR

GOLD ORE REFERENCE MATERIAL

OREAS 15d

SUMMARY STATISTICS

Constituent	Recommended Value	1SD
Gold, Au (ppm)	1.559	0.042

Prepared by:
Ore Research & Exploration Pty Ltd
September 2008

REPORT 07-723

INTRODUCTION

OREAS reference materials (RM) are intended to provide a low cost method of evaluating and improving the quality of precious and base metal analysis of geological samples. To the explorationist, they provide an important control in analytical data sets related to exploration from the grass roots level through to resource definition. To the analyst, they provide an effective means of calibrating analytical equipment, assessing new techniques and routinely monitoring in-house procedures.

SOURCE MATERIALS

Reference material OREAS 15d was prepared from a blend of barren alkali olivine basalt from Epping, Victoria, Australia and gold-bearing Magdala ore from the Stawell Gold Mine, west-central Victoria, Australia. The Magdala lode is intimately associated with an intensely deformed package of volcanogenic sedimentary rocks. Mineralisation in the ore consists of a quartz-sericite-carbonate schist assemblage containing the sulphides pyrite and arsenopyrite. The major constituents of the alkali olivine basalt are feldspar, augite, olivine and titanomagnetite.

The approximate major and trace element composition of this sulphide-bearing gold ore standard OREAS 15d is given in Table 1. The constituents SiO_2 to Total are the means of duplicate XRF analyses determined using a borate fusion method, S and C are means of duplicate IR combustion furnace analyses, while the remaining constituents, Ag to Zr, are means of duplicate analyses determined by 4-acid digestion with ICP-MS finish.

Gold homogeneity has been evaluated and confirmed by INAA on twenty 0.5 gram sample portions and by a nested ANOVA program using conventional fire assay. The tolerance interval is determined from the INAA data while the recommended value and confidence interval are based on a round robin program incorporating a total of 116 analyses at 17 laboratories.

COMMINUTION AND HOMOGENISATION PROCEDURES

The gold-bearing basaltic material comprising OREAS 15d was prepared in the following manner:

a) jaw crushing to minus 3mm
b) drying to constant mass at 105^0C
c) milling of the barren material to 98% minus 75 micron
d) milling of the gold–bearing material to 100% minus 20 micron
e) blending in appropriate proportions to achieve the desired grade
f) bagging into 25kg sublots
g) packaging into 60g units in laminated foil pouches and 1kg units in plastic jars

ANALYSIS OF OREAS 15d

Eighteen laboratories participated in the analytical program and are listed in the section headed ‘Participating Laboratories’. To maintain anonymity laboratories have been randomly designated the letter codes A through S. With the exception of Laboratory S, each laboratory received two scoop-split 120 gram subsamples from each of three 1kg test units taken at regular intervals during the bagging stage. They were instructed to carry out one 30-50 gram

fire assay gold determination with new pots on each subsample. The nested design of the interlaboratory programme is amenable to analysis of variance (ANOVA) and enables a comparative assessment of within- and between-unit homogeneity (see 'ANOVA study' section).

Table 1. Approximate major and trace element composition of gold-bearing reference material OREAS 15d; wt.% - weight percent; ppm - parts per million.

Constituent	wt.%	Constituent	ppm	Constituent	ppm	Constituent	ppm
SiO_2	52.86	Ag	0.5	Gd	4.9	Sb	2.3
TiO_2	1.61	As	2445	Hf	3.2	Sc	21
Al_2O_3	13.25	Ba	252	Ho	0.81	Sm	4.7
Fe_2O_3	12.17	Be	0.9	In	0.06	Sn	1
MnO	0.188	Bi	0.4	La	16.9	Sr	357
MgO	6.47	Cd	<0.5	Li	8.3	Ta	1
CaO	7.95	Ce	34.1	Lu	0.23	Tb	0.75
Na_2O	2.74	Co	43	Mo	2	Te	0.3
K_2O	0.743	Cs	0.8	Nb	17.8	Th	2.9
P_2O_5	0.326	Cu	68	Nd	18.2	U	0.8
LOI	1.28	Dy	4.3	Ni	147	W	1.5
Total	100.4	Er	2.1	Pb	12	Y	20.2
C	0.20	Eu	1.6	Pr	4.29	Yb	1.73
S	0.62	Ga	17.9	Rb	21.1	Zn	107
						Zr	120

For the determination of a statistical tolerance interval, a 10 gram scoop split was taken from each of the twenty test units and submitted to 'Lab S' for gold assay via instrumental neutron activation analysis on a reduced analytical subsample weight of 0.5 gram.

Individual assay results for the fire assay and INAA methods are presented in Tables 2 and 3 together with the mean, median, standard deviations (absolute and relative) and percent deviation of the lab mean from the corrected mean of means for each data set (PDM[3]). Interlaboratory agreement of the means is good with all labs lying within 4% relative of the corrected mean of means of 1.56 ppm Au.

STATISTICAL EVALUATION OF ANALYTICAL DATA FOR OREAS 15d

Recommended Value and Confidence Limits

The recommended value was determined from the mean of means of accepted replicate values of accepted laboratory data sets A to Q according to the formulae

$$\overline{x}_i = \frac{1}{n_i} \sum_{j=1}^{n_i} x_{ij}$$

$$\dot{x} = \frac{1}{p} \sum_{i=1}^{p} \overline{x}_i$$

where

x_{ij} is the jth result reported by laboratory i;
p is the number of participating laboratories;
n_i is the number of results reported by laboratory i;
$\bar{x}_i$ is the mean for laboratory i;
$\ddot{x}$ is the mean of means.

The confidence limits were obtained by calculation of the variance of the consensus value (mean of means) and reference to Student's-*t* distribution with degrees of freedom (*p*-1):

$$\hat{V}(\ddot{x}) = \frac{1}{p(p-1)} \sum_{i=1}^{p} (\bar{x}_i - \ddot{x})^2$$

$$\text{Confidence limits} = \ddot{x} \pm t_{1-x/2}(p-1) \left(\hat{V}(\ddot{x})\right)^{1/2}$$

where $t_{1-x/2}(p-1)$ is the 1-x/2 fractile of the t-distribution with (p-1) degrees of freedom.

The distribution of the values is assumed to be symmetrical about the mean in the calculation of the confidence limits.

The test for rejection of individual outliers from each laboratory data set was based on *z* scores (rejected if $|z_i| > 2.5$) computed from the robust estimators of location and scale, *T* and *S*, respectively, according to the formulae

$$S = 1.483 \underset{j=1.....n}{\text{median}} / x_j - \underset{i=1.....n}{\text{median}} (x_i) /$$

$$z_i = \frac{x_i - T}{S}$$

where

T is the median value in a data set;
S is the median of all absolute deviations from the sample median multiplied by 1.483, a correction factor to make the estimator consistent with the usual parameter of a normal distribution.

The z-score test is used in combination with a second method of individual outlier detection that determines the percent deviation of the individual value from the median. Outliers in general are selected on the basis of z-scores > 2.5 and with percent deviations > 1.5%. In certain instances statistician's prerogative has been employed in discriminating outliers.
Each laboratory data set is tested for outlying status based on z-score discrimination and rejected if $|z_i| > 2.5$. After individual and entire lab data set outliers have been eliminated a non-iterative 3 standard deviation filter is applied, with those values lying outside this window also relegated to outlying status.
Individual outliers and, more rarely, laboratory means deemed to be outlying are shown left justified and in bold in the tabulated results (Tables 2 and 3) and have been omitted in the determination of recommended values.
The magnitude of the confidence interval is inversely proportional to the number of participating laboratories and interlaboratory agreement. It is a measure of the reliability of the recommended value, i.e. the narrower the confidence interval the greater the certainty in the recommended value.

Table 2. Analytical results for gold in OREAS 15d (FA - fire assay; AAS - flame atomic absorption spectrometry; OES - inductively coupled plasma optical emission spectrometry; Std.Dev. - one sigma standard deviation; Rel.Std.Dev. - one sigma relative standard deviation; PDM[3] – percent deviation of lab mean from corrected mean of means; outliers in bold and left justified; sample charge weights shown in row 3; values in ppm).

Replicate No.	Lab A FA*AAS 50g	Lab B FA*OES 30g	Lab C FA*AAS 25g	Lab D FA*AAS 30g	Lab E FA*AAS 40g	Lab F FA*OES 30g	Lab G FA*AAS 50g	Lab H FA*OES 40g	Lab I FA*AAS 50g
1	1.450	1.585	**1.530**	1.620	1.590	1.510	1.500	1.550	1.640
2	1.470	**1.605**	1.560	1.600	1.560	1.560	1.490	1.555	1.600
3	1.400	1.575	1.570	1.610	1.580	1.530	1.490	1.550	1.570
4	1.450	**1.550**	1.580	1.600	1.540	1.550	1.510	1.550	1.570
5	1.380	1.580	1.570	1.620	1.510	1.540	1.460	**1.570**	1.590
6	1.410	1.575	1.580	1.630	**1.430**	1.560	1.510	1.540	1.600
Mean	**1.427**	1.578	1.565	1.613	1.535	1.542	1.493	1.553	1.595
Median	1.430	1.578	1.570	1.615	1.550	1.545	1.495	1.550	1.595
Std.Dev.	0.035	0.018	0.019	0.012	0.059	0.019	0.019	0.010	0.026
Rel.Std.Dev.	2.45%	1.13%	1.20%	0.75%	3.84%	1.26%	1.25%	0.64%	1.62%
PDM[3]	-8.50%	1.23%	0.37%	3.47%	-1.55%	-1.12%	-4.22%	-0.43%	2.30%

Table 2. Continued

Replicate No.	Lab J FA*AAS 30g	Lab K FA*AAS 30g	Lab L FA*AAS 50g	Lab M FA*AAS 30g	Lab N FA*AAS 50g	Lab O FA*AAS 50g	Lab P FA*OES 40g	Lab Q FA*AAS 30g	Lab R FA*AAS 30g
1	1.523	1.575	1.470	1.560	1.520	1.560	1.580	1.530	1.540
2	1.525	1.615	1.510	1.600	1.520	1.630	1.592	1.560	**1.470**
3	1.517	1.630	1.495	1.620	1.500	1.570	1.571	1.510	1.510
4	1.528	1.595	1.500	1.595	1.520	1.600	1.550	1.530	1.520
5	1.522	1.615	1.505	1.580	1.510	1.570	1.612	1.550	1.530
6	1.528	1.600	1.490	1.570	1.510	1.520	1.642	1.520	1.520
Mean	1.524	1.605	1.495	1.588	1.513	1.575	1.591	1.533	1.515
Median	1.524	1.608	1.498	1.588	1.515	1.570	1.586	1.530	1.520
Std.Dev.	0.004	0.019	0.014	0.022	0.008	0.037	0.032	0.019	0.024
Rel.Std.Dev.	0.27%	1.20%	0.95%	1.38%	0.54%	2.37%	2.04%	1.21%	1.60%
PDM[3]	-2.27%	2.94%	-4.12%	1.82%	-2.94%	1.01%	2.05%	-1.66%	-2.83%

Table 3. Analytical results for gold in OREAS 15d by INAA (instrumental neutron activation analysis on 0.5 gram analytical subsample weights; other abbreviations as for Table 2).

Replicate No.	Lab S INAA
1	1.600
2	1.600
3	1.640
4	1.640
5	1.600
6	1.630
7	1.590
8	1.600
9	1.630
10	1.620
11	1.620
12	1.630
13	1.590
14	**1.700**
15	1.620
16	1.610
17	1.620
18	1.640
19	1.640
20	1.620
Mean	1.622
Median	1.620
Std.Dev.	0.025
Rel.Std.Dev.	1.53%
PDM[3]	4.03%

Table 4. Recommended Value and 95% Confidence Interval

Constituent	Recommended Value	95% Confidence Interval	
		Low	High
Gold, Au (ppm)	1.559	1.540	1.579

Statement of Homogeneity

The variability of replicate assays from each laboratory is a result of both measurement and subsampling errors. In the determination of a statistical tolerance interval it is therefore necessary to eliminate, or at least substantially minimise, those errors attributable to measurement. One way of achieving this is by substantially reducing the analytical subsample weight to a point where most of the variability in replicate assays is due to inhomogeneity of the reference material and measurement error becomes negligible. This approach was adopted in the INAA data set (Table 3) where a 0.5 gram subsample weight was employed.

The homogeneity was determined from tables of factors for two-sided tolerance limits for normal distributions (ISO Guide 3207) in which

$$\textit{Lower limit is } \ddot{x} - k_2'(n, p, 1-\alpha)s$$
$$\textit{Upper limit is } \ddot{x} + k_2'(n, p, 1-\alpha)s$$

where

n is the number of results reported by laboratory Q;

$1-\alpha$ is the confidence level;

p is the proportion of results expected within the tolerance limits;

k_2' is the factor for two-sided tolerance limits (m, σ unknown);

and *s* is computed according to the formula

$$s = \left[\frac{\sum_{j=1}^{n} \left(x_j - \bar{x} \right)^2}{n-1} \right]^{1/2}$$

No individual outliers were removed from the results prior to the calculation of tolerance intervals.

Table 5. Recommended Value and Tolerance Interval.

Constituent	Recommended Value	Tolerance Interval 1-α=0.99, ρ=0.95	
		Low	High
Gold, Au (ppm)	1.559	1.551	1.567

From the INAA data set an estimated tolerance interval of ±0.01 ppm at an analytical subsample weight of 50 gram was obtained (using the sampling constant relationship of Ingamells and Switzer, 1973) and is considered to reflect the actual homogeneity of the material under test. The meaning of this tolerance interval may be illustrated for gold (refer Table 5), where 99% of the time at least 95% of 50g-sized subsamples will have concentrations lying between 1.551 and 1.567 ppm. Put more precisely, this means that if the same number of subsamples were taken and analysed in the same manner repeatedly, 99% of the tolerance intervals so constructed would cover at least 95% of the total population, and 1% of the tolerance intervals would cover less than 95% of the total population (IS0 Guide 35).

ANOVA Study

The sampling format for OREAS 15d was structured to enable nested ANOVA treatment of the round robin results. During the bagging stage immediately following final homogenization, samples were taken at 20 intervals representative of the entire batch of OREAS 15d. Eight labs were chosen for the ANOVA study (Labs A to H) where each received paired samples of three different, non-adjacent, sampling units. For example, the six samples that any one of the eight participating labs could have received is:

- Sample 1 (from sampling interval 1)
- Sample 2 (from sampling interval 1)
- Sample 3 (from sampling interval 6)
- Sample 4 (from sampling interval 6)
- Sample 5 (from sampling interval 11)
- Sample 6 (from sampling interval 11)

The purpose of the ANOVA investigation was to compare the within-unit variance with that of the between-unit variance. This approach permitted an assessment of homogeneity across the entire batch of OREAS 15d. The test was performed using the following parameters:

- Significance Level α = P (type I error) = 0.05
- Null Hypothesis, H_0: Between-unit variance is no greater than within-unit variance (reject H_0 if p-value < 0.05)
- Alternative Hypothesis, H_1: Between-unit variance is greater than within-unit variance

P-values are a measure of probability whereby values less than 0.05 indicate a greater than 95% probability that the observed differences in within-unit and between-unit variances are real. The dataset was filtered for both individual and laboratory outliers prior to calculation of the p-value. This derived a p-value of 0.64 and indicates no evidence that between-unit variance is greater than within-unit variance. Conclusion: do not reject H_0. Note that ANOVA is not an absolute measure of homogeneity. Rather, it establishes that gold is uniformly distributed throughout OREAS 15d and that the variance between two subsamples from the same unit is identical to the variance from two subsamples taken from any two separate units.

Performance Gates

Performance gates provide an indication of a level of performance that might reasonably be expected for a particular analyte from a laboratory being monitored by this standard in a QA/QC program. They incorporate errors attributable to measurement (analytical bias and precision) and standard variability. For an effective standard the contribution of the latter should be negligible in comparison to measurement errors. Two methods have been employed to calculate performance gates. The first method uses the standard deviation of the pooled individual analyses generated from the certification program after removal of all individual and lab dataset (batch) outliers as well as application of a non-iterative 3

standard deviation filter. These outliers can only be removed if they can be confidently deemed to be analytical rather than arising from inhomogeneity of the CRM. Performance gates have been calculated for one, two and three standard deviations of the accepted pool of certification data and are presented in Table 6. As a guide these intervals may be regarded as informational (1SD), warning or rejection for multiple outliers (2SD), or rejection for individual outliers (3SD) in QC monitoring although their precise application should be at the discretion of the QC manager concerned. It is important to note that performance gates calculated from a single submission round robin, as in the present case, do not take reproducibility errors (batch-to-batch bias) into consideration and will accordingly be more constrained than those incorporating a temporal dimension.
For the second method a simple ±5% error bar on the certified value is used as the window of acceptability (refer Table 6). Both methods should be used with caution when concentration levels approach lower limits of detection of the analytical methods employed, as performance gates calculated from standard deviations tend to be excessively wide whereas those determined by the 5% method are too narrow.

Table 6. Performance Gates for OREAS 15d

Constituent	Certified Value	Absolute Standard Deviations					Relative Standard Deviations			5% window	
		1SD	2SD Low	2SD High	3SD Low	3SD High	1RSD	2RSD	3RSD	Low	High
Au (ppm)	1.559	0.042	1.475	1.643	1.433	1.685	2.69%	5.38%	8.07%	1.481	1.637

Note: intervals may appear asymmetric due to rounding

PARTICIPATING LABORATORIES

Acme Analytical Laboratories Ltd, Vancouver, BC, Canada
Activation Laboratories, Ancaster, ONtario, Canada
Amdel Laboratories, Perth, WA, Australia
Amdel Laboratories Ltd, Thebarton, SA, Australia
ALS Chemex, Brisbane, QLD, Australia
ALS Chemex, La Serena, Chile, South America
ALS Chemex, Sparks, Nevada, USA
ALS Chemex, Val-d'or, Quebec, Canada
ALS Chemex, Vancouver, BC, Canada
Genalysis Laboratory Services Pty Ltd, Perth, WA, Australia
Intertek Testing Services, Jakarta, Indonesia
McPhar Laboratories, Legaspi Village, Makati City, Philippines
OMAC Laboratories Ltd, Loughrea, County Galway, Ireland
PT Indo Assay Laboratories, Balikpapan, Kalimantan Timur, Indonesia
SGS Lakefield Research Ltd, Lakefield, ON, Canada
SGS, Townsville, QLD, Australia
SGS Australia, Perth, WA, Australia
Ultra Trace Pty Ltd, Perth, WA, Australia

PREPARER AND SUPPLIER OF THE REFERENCE MATERIAL

The gold ore reference material, OREAS 15d has been prepared and certified and is supplied by:

Ore Research & Exploration Pty Ltd
6-8 Gatwick Road
Bayswater North, VIC 3153
AUSTRALIA

Telephone	(03) 9729 0333	International	+613-9729 0333
Facsimile	(03) 9729 4777	International	+613-9729 4777

It is available in unit sizes of 60g foil packets and 1kg plastic jars.

INTENDED USE

OREAS 15d is a reference material intended for the following:

i) for the monitoring of laboratory performance in the analysis of gold in geological samples;
ii) for the calibration of instruments used in the determination of the concentration of gold;
iii) for the verification of analytical methods for gold;
iv) for the preparation of secondary reference materials of similar composition;

STABILITY AND STORAGE INSTRUCTIONS

OREAS 15d has been prepared from gold ore diluted with barren alkali olivine basalt. The CRM is considered to have long-term stability under normal storage conditions.

INSTRUCTIONS FOR THE CORRECT USE OF THE REFERENCE MATERIAL

The recommended value for OREAS 15d refers to the concentration level of gold in its packaged state. Therefore it should not be dried prior to weighing and analysis.

LEGAL NOTICE

Ore Research & Exploration Pty Ltd has prepared and statistically evaluated the property values of this reference material to the best of its ability. The Purchaser by receipt hereof releases and indemnifies Ore Research & Exploration Pty Ltd from and against all liability and costs arising from the use of this material and information.

CERTIFYING OFFICER

Dr Paul Hamlyn

REFERENCES

Ingamells, C. O. and Switzer, P. (1973), Talanta 20, 547-568.

ISO Guide 35 (1985), Certification of reference materials - General and statistical principals.

ISO Guide 35 (2006), Rference materials - General and statistical principals for certification.

ISO Guide 3207 (1975), Statistical interpretation of data - Determination of a statistical tolerance interval.

Quality Analysis ... *Innovative Technologies*

Date Submitted: 23-Aug-11
Invoice No.: A11-9255
Invoice Date: 22-Sep-11
Your Reference: 19555-Straw Lake

Mineral Mountain Resources Ltd.
411 Mowat Ave. Suite 222
Fort Frances Ontario P9A1Y8
Canada

ATTN: Project Manager Kevin Leonard

CERTIFICATE OF ANALYSIS

3 Pulp samples and 103 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 1A2-Tbay Au - Fire Assay AA (QOP Fire Assay Tbay)
Code 1E3-Tbay Aqua Regia ICP(AQUAGEO)

REPORT **A11-9255**

Notes:
If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3
Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

ACTIVATION LABORATORIES LTD.

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Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061931	< 5	0.3	< 0.5	30	663	3	28	5	87	0.66	50	< 10	71	< 0.5	2	3.40	11	26	2.40	< 10	< 1	0.26	34	1.09
1061932	< 5	< 0.2	< 0.5	33	662	< 1	17	4	76	1.02	48	< 10	84	< 0.5	4	3.83	13	8	2.90	< 10	< 1	0.34	46	1.33
1061933	< 5	< 0.2	0.5	43	1150	< 1	32	3	110	2.52	29	< 10	523	< 0.5	< 2	5.27	23	19	5.36	< 10	< 1	0.29	74	1.86
1061934	< 5	< 0.2	< 0.5	51	1340	< 1	32	3	81	1.62	46	< 10	132	< 0.5	< 2	5.20	21	34	4.51	< 10	< 1	0.24	36	1.76
1061935	< 5	0.2	< 0.5	46	1200	1	33	3	70	1.50	57	< 10	128	< 0.5	< 2	4.36	21	49	4.21	< 10	< 1	0.26	28	1.85
1061936	< 5	< 0.2	0.6	47	1790	1	18	< 2	74	1.47	22	< 10	284	< 0.5	< 2	4.33	18	24	4.82	< 10	< 1	0.20	30	1.85
1061937	< 5	< 0.2	< 0.5	42	1440	< 1	15	< 2	79	1.70	27	< 10	600	< 0.5	< 2	4.18	21	24	4.78	< 10	< 1	0.25	27	1.92
1061938	< 5	< 0.2	0.7	49	1830	< 1	23	2	81	1.62	32	< 10	132	< 0.5	< 2	4.68	23	35	5.32	< 10	< 1	0.25	27	1.94
1061939	< 5	< 0.2	0.7	41	1520	< 1	17	3	78	1.45	13	< 10	149	< 0.5	< 2	4.34	20	23	4.69	< 10	< 1	0.24	28	1.84
1061940	352	< 0.2	< 0.5	44	599	2	122	< 2	62	1.54	104	< 10	103	< 0.5	< 2	1.40	28	44	4.17	< 10	< 1	0.06	13	2.01
1061941	< 5	0.2	< 0.5	46	1730	< 1	21	4	76	1.49	17	< 10	111	< 0.5	< 2	4.32	22	26	5.20	< 10	< 1	0.20	36	1.78
1061942	< 5	0.2	< 0.5	49	1330	< 1	19	4	81	1.53	35	< 10	327	< 0.5	< 2	3.85	19	22	4.42	< 10	< 1	0.24	40	1.86
1061943	< 5	0.2	< 0.5	52	1400	< 1	20	4	73	1.67	9	< 10	904	< 0.5	< 2	4.24	20	39	4.39	< 10	< 1	0.22	62	2.03
1061944	< 5	< 0.2	< 0.5	61	1740	< 1	28	2	61	1.91	< 2	< 10	680	< 0.5	< 2	5.08	22	57	5.15	< 10	< 1	0.15	59	2.37
1061945	< 5	< 0.2	< 0.5	66	1520	< 1	21	3	70	1.61	5	< 10	289	< 0.5	< 2	4.70	21	32	4.93	< 10	< 1	0.20	61	2.26
1061946	< 5	< 0.2	0.7	50	1310	1	18	7	66	1.24	20	< 10	184	< 0.5	< 2	4.09	16	19	3.70	< 10	< 1	0.28	49	1.61
1061947	13	0.3	< 0.5	54	2360	< 1	27	35	82	1.48	151	< 10	115	< 0.5	< 2	4.77	25	17	5.78	< 10	< 1	0.28	45	1.73
1061948	5	0.6	< 0.5	51	866	< 1	30	11	73	1.22	48	< 10	156	< 0.5	< 2	3.88	23	16	3.10	< 10	< 1	0.22	67	1.92
1061949	13	0.6	0.6	55	1630	< 1	18	9	68	0.99	223	< 10	143	< 0.5	< 2	4.69	19	7	4.43	< 10	< 1	0.28	68	1.77
1061950	13	0.2	< 0.5	37	1010	< 1	14	17	118	0.78	980	< 10	142	< 0.5	< 2	3.42	15	8	3.24	< 10	2	0.28	36	1.04
1061951	< 5	< 0.2	< 0.5	46	1350	< 1	20	8	59	0.90	67	< 10	132	< 0.5	< 2	3.54	20	18	4.68	< 10	< 1	0.28	42	0.99
1061952	< 5	< 0.2	< 0.5	42	1170	< 1	21	3	70	0.93	52	< 10	130	< 0.5	< 2	3.04	20	17	4.35	< 10	< 1	0.26	34	0.76
1061953	< 5	< 0.2	< 0.5	35	996	< 1	20	3	68	0.81	45	< 10	106	< 0.5	< 2	3.03	18	14	3.91	< 10	< 1	0.19	33	0.81
1061954	< 5	0.2	< 0.5	50	1320	< 1	19	5	103	0.85	57	< 10	120	< 0.5	< 2	3.22	22	10	4.98	< 10	< 1	0.22	35	0.84
1061955	24	< 0.2	< 0.5	24	771	< 1	12	3	67	0.69	3260	< 10	86	< 0.5	< 2	2.36	14	7	2.94	< 10	< 1	0.16	22	0.64
1061956	25	0.2	< 0.5	24	745	< 1	13	5	68	0.84	3280	< 10	101	< 0.5	< 2	2.41	13	11	2.71	< 10	< 1	0.19	21	0.65
1061957	21	< 0.2	< 0.5	27	647	< 1	16	5	65	0.70	2700	< 10	105	< 0.5	< 2	3.30	14	8	2.99	< 10	< 1	0.20	25	0.88
1061958	< 5	< 0.2	< 0.5	29	669	< 1	23	12	66	0.87	103	< 10	137	< 0.5	< 2	4.68	13	7	3.26	< 10	< 1	0.23	31	1.37
1061959	7	< 0.2	< 0.5	29	550	< 1	29	5	60	0.71	1050	< 10	101	< 0.5	< 2	2.91	19	8	2.56	< 10	2	0.22	21	0.71
1061960	< 5	2.4	< 0.5	1	23	< 1	1	< 2	2	0.03	< 2	< 10	17	< 0.5	< 2	22.3	< 1	< 1	0.04	< 10	< 1	< 0.01	< 10	1.85
1061961	< 5	< 0.2	< 0.5	40	795	< 1	29	4	63	0.82	199	< 10	95	< 0.5	< 2	4.63	17	11	3.56	< 10	< 1	0.17	28	1.30
1061962	5	< 0.2	< 0.5	115	1340	< 1	112	< 2	62	1.01	530	< 10	39	< 0.5	< 2	5.24	36	41	5.47	< 10	< 1	0.09	< 10	1.70
1061963	< 5	< 0.2	0.7	121	1300	< 1	123	< 2	64	0.66	214	< 10	30	< 0.5	< 2	5.84	41	30	4.65	< 10	< 1	0.07	< 10	1.78
1062001	2330	< 0.2	< 0.5	24	304	1	< 1	2	31	0.41	273	< 10	41	< 0.5	< 2	0.72	2	1	1.56	< 10	< 1	0.17	22	0.10
1062002	2460	0.3	< 0.5	29	374	1	< 1	2	32	0.39	243	< 10	31	< 0.5	< 2	0.83	2	< 1	1.80	< 10	< 1	0.20	29	0.06
1062003	166	< 0.2	< 0.5	14	436	1	< 1	2	32	0.29	21	< 10	66	< 0.5	3	0.77	1	1	1.77	< 10	< 1	0.14	37	0.07
1062004	21	< 0.2	< 0.5	45	422	2	< 1	3	35	0.36	5	< 10	96	< 0.5	< 2	0.74	2	< 1	1.83	< 10	< 1	0.19	36	0.08
1062005	118	< 0.2	< 0.5	18	366	2	< 1	< 2	27	0.41	6	< 10	99	< 0.5	3	0.85	3	1	2.10	< 10	< 1	0.21	46	0.07
1062006	12	< 0.2	< 0.5	20	287	1	< 1	< 2	58	0.34	4	< 10	80	< 0.5	< 2	0.60	2	< 1	1.37	< 10	< 1	0.19	34	0.06
1062007	41	< 0.2	< 0.5	27	254	1	< 1	2	38	0.49	3	< 10	46	< 0.5	< 2	0.64	5	< 1	1.34	< 10	< 1	0.27	21	0.09
1062008	93	< 0.2	< 0.5	13	352	2	5	< 2	34	0.35	6	< 10	83	< 0.5	3	1.29	3	2	1.74	< 10	< 1	0.18	31	0.32
1062009	45	< 0.2	< 0.5	9	455	2	< 1	< 2	34	0.36	3	< 10	95	< 0.5	< 2	0.87	1	< 1	1.84	< 10	< 1	0.19	40	0.11
1062010	7	< 0.2	< 0.5	8	503	1	< 1	< 2	43	0.31	2	< 10	103	< 0.5	2	1.01	1	< 1	1.86	< 10	< 1	0.15	35	0.06
1062011	15	< 0.2	< 0.5	8	437	1	< 1	< 2	43	0.33	4	< 10	95	< 0.5	< 2	0.78	< 1	1	1.80	< 10	< 1	0.17	30	0.06
1062012	140	< 0.2	< 0.5	11	369	< 1	< 1	< 2	30	0.40	2	< 10	182	< 0.5	< 2	0.96	< 1	< 1	1.64	< 10	< 1	0.22	32	0.11
1062013	1100	< 0.2	< 0.5	17	389	3	< 1	3	31	0.41	28	< 10	50	< 0.5	3	0.83	3	< 1	1.68	< 10	< 1	0.21	33	0.11
1062014	2170	0.2	< 0.5	20	542	1	5	< 2	41	0.41	65	< 10	51	< 0.5	2	1.47	5	2	2.39	< 10	< 1	0.21	27	0.29
1062015	1900	< 0.2	< 0.5	17	321	3	< 1	< 2	21	0.40	56	< 10	35	< 0.5	5	0.61	4	1	1.76	< 10	< 1	0.19	32	0.08
1062016	1630	< 0.2	0.7	10	845	8	1	< 2	37	0.51	48	< 10	42	< 0.5	< 2	1.61	5	< 1	2.75	< 10	< 1	0.25	25	0.30
1062017	1170	< 0.2	< 0.5	10	401	2	< 1	< 2	26	0.28	18	< 10	47	< 0.5	3	0.69	2	< 1	1.66	< 10	< 1	0.13	27	0.09
1062018	663	< 0.2	< 0.5	8	382	2	< 1	< 2	23	0.32	4	< 10	64	< 0.5	< 2	0.63	2	< 1	1.70	< 10	< 1	0.16	25	0.07
1062019	92	< 0.2	< 0.5	8	533	2	< 1	< 2	36	0.33	< 2	< 10	173	< 0.5	3	0.84	1	< 1	1.80	< 10	< 1	0.17	30	0.13

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1062020	< 5	2.6	< 0.5	1	28	< 1	< 1	< 2	< 2	0.02	< 2	< 10	13	< 0.5	< 2	22.0	< 1	< 1	0.04	< 10	< 1	< 0.01	< 10	1.72
1062021	57	< 0.2	< 0.5	11	384	2	< 1	2	35	0.32	< 2	< 10	161	< 0.5	< 2	0.66	1	1	1.72	< 10	< 1	0.16	34	0.08
1062022	16	< 0.2	< 0.5	9	460	1	< 1	3	54	0.35	< 2	< 10	107	< 0.5	< 2	0.69	2	< 1	1.66	< 10	< 1	0.18	38	0.09
1062023	101	< 0.2	< 0.5	6	419	2	< 1	2	71	0.41	< 2	< 10	112	< 0.5	< 2	0.68	< 1	< 1	1.81	< 10	< 1	0.22	39	0.11
1062024	< 5	< 0.2	< 0.5	5	477	1	< 1	< 2	53	0.38	< 2	< 10	101	< 0.5	< 2	0.70	< 1	< 1	1.88	< 10	< 1	0.20	35	0.08
1062025	< 5	< 0.2	< 0.5	9	591	2	< 1	< 2	56	0.43	< 2	< 10	122	< 0.5	< 2	0.89	2	< 1	1.73	< 10	< 1	0.25	33	0.17
1062026	9	< 0.2	< 0.5	10	437	1	< 1	< 2	48	0.33	< 2	< 10	92	< 0.5	< 2	0.69	1	1	1.75	< 10	< 1	0.16	38	0.07
1062027	21	< 0.2	< 0.5	9	729	2	< 1	2	71	0.43	< 2	< 10	119	< 0.5	< 2	1.17	1	< 1	2.30	< 10	< 1	0.21	43	0.14
1062028	< 5	< 0.2	< 0.5	7	462	1	< 1	< 2	103	0.36	< 2	< 10	93	< 0.5	< 2	0.69	1	1	1.85	< 10	< 1	0.17	38	0.07
1062029	< 5	< 0.2	< 0.5	5	500	1	< 1	< 2	69	0.55	< 2	< 10	92	< 0.5	< 2	0.71	1	1	2.20	< 10	< 1	0.17	39	0.10
1062030	< 5	< 0.2	< 0.5	5	454	1	< 1	4	75	0.57	< 2	< 10	87	< 0.5	< 2	0.55	1	2	2.15	< 10	< 1	0.16	40	0.09
1062031	< 5	< 0.2	< 0.5	6	512	1	< 1	8	86	0.55	< 2	< 10	97	< 0.5	< 2	0.63	1	1	2.00	< 10	< 1	0.20	36	0.09
1062032	< 5	< 0.2	< 0.5	8	537	1	< 1	9	101	0.62	< 2	< 10	87	< 0.5	< 2	0.50	< 1	1	2.14	< 10	< 1	0.17	37	0.10
1062033	< 5	< 0.2	< 0.5	9	529	2	< 1	5	109	0.66	< 2	< 10	97	< 0.5	< 2	0.54	1	1	2.33	< 10	< 1	0.19	42	0.11
1062034	< 5	< 0.2	< 0.5	7	507	2	< 1	6	106	0.55	< 2	< 10	87	< 0.5	< 2	0.54	1	1	2.12	< 10	< 1	0.16	40	0.09
1062035	< 5	< 0.2	< 0.5	8	406	< 1	< 1	4	72	0.56	< 2	< 10	95	< 0.5	< 2	0.63	1	1	2.13	< 10	< 1	0.19	39	0.08
1062036	< 5	< 0.2	< 0.5	6	519	2	< 1	3	88	0.69	< 2	< 10	116	< 0.5	< 2	0.63	2	1	2.16	< 10	< 1	0.32	44	0.19
1062037	134	< 0.2	< 0.5	10	434	2	< 1	2	60	0.46	4	< 10	109	< 0.5	< 2	0.75	1	1	1.80	< 10	< 1	0.23	31	0.05
1062038	< 5	< 0.2	< 0.5	12	480	1	< 1	4	113	0.53	< 2	< 10	112	< 0.5	< 2	0.64	2	< 1	2.11	< 10	< 1	0.29	34	0.17
1062039	< 5	< 0.2	< 0.5	12	493	1	< 1	4	96	0.84	< 2	< 10	134	< 0.5	< 2	0.54	2	< 1	2.35	< 10	< 1	0.48	37	0.34
1062040	354	< 0.2	< 0.5	47	642	2	128	< 2	64	1.78	104	< 10	111	< 0.5	< 2	1.54	28	49	4.49	< 10	< 1	0.06	14	2.18
1062041	< 5	< 0.2	< 0.5	7	455	1	< 1	4	63	0.40	< 2	< 10	94	< 0.5	< 2	0.76	2	< 1	1.89	< 10	< 1	0.21	37	0.08
1062042	70	< 0.2	< 0.5	10	522	2	< 1	4	66	0.44	< 2	< 10	100	< 0.5	< 2	0.83	< 1	< 1	1.80	< 10	< 1	0.23	39	0.06
1062043	108	< 0.2	< 0.5	4	451	< 1	< 1	< 2	51	0.51	4	< 10	100	< 0.5	< 2	0.87	1	1	1.99	< 10	< 1	0.20	44	0.06
1062044	74	< 0.2	< 0.5	13	507	1	< 1	4	69	0.56	< 2	< 10	102	< 0.5	< 2	0.88	1	1	2.01	< 10	< 1	0.21	37	0.06
1062045	9	< 0.2	< 0.5	10	454	2	< 1	4	77	0.60	< 2	< 10	106	< 0.5	< 2	0.71	1	1	1.92	< 10	< 1	0.22	41	0.07
1062046	< 5	< 0.2	< 0.5	8	475	2	< 1	6	122	0.62	< 2	< 10	118	< 0.5	< 2	0.67	1	1	2.03	< 10	< 1	0.28	41	0.09
1062047	26	< 0.2	< 0.5	10	427	2	< 1	10	113	0.64	< 2	< 10	111	< 0.5	< 2	0.60	2	1	2.06	< 10	< 1	0.25	36	0.09
1062048	< 5	< 0.2	< 0.5	7	556	2	4	6	100	0.62	< 2	< 10	107	< 0.5	< 2	0.88	1	7	1.98	< 10	< 1	0.24	41	0.09
1062049	< 5	< 0.2	< 0.5	4	474	2	< 1	3	87	0.59	< 2	< 10	99	< 0.5	< 2	0.64	1	1	2.12	< 10	< 1	0.20	42	0.09
1062050	< 5	< 0.2	< 0.5	8	525	2	< 1	4	124	0.71	< 2	< 10	86	< 0.5	< 2	0.65	< 1	2	2.35	< 10	< 1	0.15	47	0.12
1062051	< 5	< 0.2	< 0.5	4	496	2	< 1	4	96	0.59	< 2	< 10	100	< 0.5	< 2	0.58	< 1	2	2.17	< 10	< 1	0.19	39	0.10
1062052	< 5	< 0.2	< 0.5	3	492	2	< 1	5	92	0.48	< 2	< 10	101	< 0.5	< 2	0.36	< 1	1	2.20	< 10	< 1	0.17	40	0.09
1062053	< 5	< 0.2	< 0.5	5	513	2	< 1	3	101	0.64	< 2	< 10	101	< 0.5	< 2	0.49	1	1	2.33	< 10	< 1	0.19	38	0.12
1062054	< 5	< 0.2	< 0.5	3	477	2	< 1	6	79	0.49	< 2	< 10	95	0.6	< 2	0.43	1	2	2.23	< 10	< 1	0.15	37	0.10
1062055	< 5	< 0.2	< 0.5	5	440	1	< 1	4	74	0.58	< 2	< 10	101	0.5	< 2	0.63	1	1	1.99	< 10	< 1	0.19	34	0.10
1062056	8	< 0.2	< 0.5	22	354	5	2	14	127	0.64	< 2	< 10	110	< 0.5	< 2	0.54	2	1	2.25	< 10	< 1	0.28	68	0.12
1062057	18	< 0.2	< 0.5	18	375	4	< 1	6	94	0.71	< 2	< 10	123	< 0.5	< 2	0.82	2	1	1.98	< 10	< 1	0.32	60	0.15
1062058	304	< 0.2	< 0.5	15	318	2	< 1	6	50	0.63	16	< 10	88	< 0.5	< 2	0.80	5	< 1	1.55	< 10	< 1	0.31	30	0.09
1062059	< 5	< 0.2	< 0.5	5	319	2	< 1	3	59	0.51	< 2	< 10	93	< 0.5	< 2	0.69	2	1	2.03	< 10	< 1	0.18	38	0.08
1062060	1590	0.3	< 0.5	63	821	< 1	129	8	72	1.65	1930	< 10	37	< 0.5	< 2	1.48	29	37	5.03	< 10	< 1	0.06	13	2.02
1062061	< 5	< 0.2	< 0.5	4	277	< 1	< 1	2	40	0.49	< 2	< 10	102	< 0.5	< 2	0.82	1	1	1.94	< 10	< 1	0.20	40	0.05
1062062	< 5	< 0.2	< 0.5	2	180	< 1	2	2	28	0.60	< 2	< 10	69	< 0.5	< 2	1.11	2	1	1.14	< 10	< 1	0.14	45	0.19
1062063	< 5	< 0.2	< 0.5	2	159	< 1	1	< 2	18	0.47	< 2	< 10	74	< 0.5	< 2	1.03	1	2	1.53	< 10	< 1	0.15	37	0.05
1062064	11	< 0.2	< 0.5	3	190	< 1	< 1	3	11	0.40	< 2	< 10	83	< 0.5	< 2	1.13	< 1	< 1	0.62	< 10	< 1	0.19	38	0.04
1062065	37	< 0.2	< 0.5	2	432	< 1	3	2	25	0.50	4	< 10	111	< 0.5	< 2	1.04	2	5	1.00	< 10	< 1	0.28	19	0.18
1062066	9	< 0.2	< 0.5	3	161	< 1	< 1	3	11	0.45	< 2	< 10	90	< 0.5	< 2	1.06	< 1	1	0.63	< 10	< 1	0.19	38	0.04
1062067	12	< 0.2	< 0.5	8	156	< 1	< 1	5	16	0.41	< 2	< 10	106	< 0.5	< 2	1.00	1	< 1	0.99	< 10	< 1	0.20	33	0.03
1062068	< 5	< 0.2	< 0.5	7	162	< 1	< 1	5	16	0.43	< 2	< 10	91	< 0.5	< 2	1.10	1	1	0.64	< 10	< 1	0.18	34	0.04
1062069	< 5	< 0.2	< 0.5	4	157	< 1	1	2	22	0.58	< 2	< 10	104	< 0.5	< 2	0.93	1	1	1.22	< 10	< 1	0.21	42	0.09
1062070	< 5	< 0.2	< 0.5	3	209	< 1	< 1	< 2	22	0.66	< 2	< 10	124	< 0.5	< 2	1.10	2	1	1.05	< 10	< 1	0.29	37	0.11
1062071	< 5	< 0.2	< 0.5	4	151	< 1	1	2	24	0.69	< 2	< 10	95	< 0.5	< 2	0.88	2	2	1.30	< 10	< 1	0.19	38	0.15

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1062072	< 5	< 0.2	< 0.5	3	160	< 1	< 1	< 2	25	0.69	< 2	< 10	93	< 0.5	< 2	1.00	2	1	1.36	< 10	< 1	0.20	31	0.16
1062073	19	< 0.2	< 0.5	4	179	1	< 1	3	16	0.67	< 2	< 10	140	< 0.5	< 2	1.12	2	1	1.12	< 10	< 1	0.35	41	0.11

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061931	0.057	0.070	0.19	9	3	403	< 0.01	2	< 2	< 10	11	< 10	4	< 1
1061932	0.057	0.102	0.29	4	3	476	< 0.01	< 1	< 2	< 10	17	< 10	5	< 1
1061933	0.059	0.170	0.12	3	6	483	< 0.01	< 1	< 2	< 10	57	< 10	8	2
1061934	0.042	0.107	0.05	5	4	379	< 0.01	< 1	3	< 10	29	< 10	5	1
1061935	0.044	0.097	0.02	11	5	409	< 0.01	< 1	< 2	< 10	32	< 10	4	1
1061936	0.041	0.104	0.02	3	5	465	< 0.01	2	< 2	< 10	33	< 10	4	2
1061937	0.058	0.113	0.02	< 2	6	432	< 0.01	< 1	< 2	< 10	41	< 10	4	2
1061938	0.041	0.103	0.05	3	7	429	< 0.01	4	2	< 10	46	< 10	4	2
1061939	0.039	0.113	0.03	< 2	6	486	< 0.01	3	3	< 10	41	< 10	4	2
1061940	0.373	0.091	0.19	< 2	3	92	0.15	3	< 2	< 10	29	< 10	11	3
1061941	0.036	0.104	0.03	3	5	691	< 0.01	1	4	< 10	37	< 10	4	2
1061942	0.049	0.123	0.11	3	5	535	< 0.01	< 1	< 2	< 10	39	< 10	5	2
1061943	0.070	0.174	0.03	2	7	473	< 0.01	< 1	< 2	< 10	57	< 10	7	2
1061944	0.057	0.140	0.02	< 2	9	488	0.01	< 1	< 2	< 10	75	< 10	6	2
1061945	0.044	0.132	< 0.01	3	8	475	< 0.01	< 1	< 2	< 10	57	< 10	6	2
1061946	0.049	0.123	0.10	4	4	477	< 0.01	< 1	< 2	< 10	26	< 10	6	2
1061947	0.048	0.131	0.79	3	5	823	< 0.01	1	2	< 10	31	< 10	6	3
1061948	0.049	0.145	0.10	23	5	1060	< 0.01	< 1	< 2	< 10	32	< 10	6	2
1061949	0.048	0.167	0.22	19	5	974	< 0.01	< 1	< 2	< 10	26	< 10	7	2
1061950	0.062	0.100	0.33	8	4	593	< 0.01	4	2	< 10	15	< 10	4	2
1061951	0.086	0.140	0.09	3	7	475	< 0.01	< 1	< 2	< 10	30	< 10	5	2
1061952	0.125	0.098	0.04	3	6	369	< 0.01	< 1	< 2	< 10	24	< 10	4	2
1061953	0.122	0.088	0.08	3	4	336	< 0.01	3	< 2	< 10	14	< 10	4	2
1061954	0.121	0.132	0.11	4	7	332	< 0.01	< 1	7	< 10	24	< 10	4	2
1061955	0.117	0.057	0.63	7	2	259	< 0.01	< 1	< 2	< 10	8	< 10	3	3
1061956	0.147	0.053	0.55	11	2	268	< 0.01	< 1	2	< 10	12	< 10	3	5
1061957	0.100	0.073	0.80	17	2	289	< 0.01	3	< 2	< 10	10	< 10	3	5
1061958	0.128	0.076	0.10	12	3	338	< 0.01	1	< 2	< 10	12	< 10	4	2
1061959	0.094	0.074	0.59	4	2	231	< 0.01	1	< 2	< 10	11	< 10	3	2
1061960	0.018	0.003	0.05	< 2	< 1	2850	< 0.01	< 1	4	< 10	1	< 10	< 1	< 1
1061961	0.121	0.095	0.10	< 2	5	313	< 0.01	< 1	3	< 10	20	< 10	4	1
1061962	0.146	0.016	0.31	5	12	176	< 0.01	< 1	< 2	< 10	37	< 10	2	2
1061963	0.122	0.015	0.09	7	11	152	< 0.01	3	< 2	< 10	26	< 10	1	2
1062001	0.069	0.012	1.03	< 2	1	18	0.01	3	< 2	< 10	4	< 10	4	16
1062002	0.071	0.008	1.26	< 2	1	18	< 0.01	4	< 2	< 10	< 1	< 10	4	17
1062003	0.086	0.009	0.18	< 2	2	20	< 0.01	1	< 2	< 10	< 1	< 10	6	12
1062004	0.084	0.009	0.13	< 2	2	21	< 0.01	< 1	< 2	< 10	< 1	< 10	6	12
1062005	0.089	0.010	0.19	< 2	2	21	< 0.01	< 1	< 2	< 10	< 1	< 10	7	15
1062006	0.078	0.003	0.20	< 2	1	15	< 0.01	< 1	< 2	< 10	< 1	< 10	11	28
1062007	0.058	0.004	0.65	< 2	< 1	21	< 0.01	1	< 2	< 10	< 1	< 10	5	30
1062008	0.070	0.009	0.38	< 2	2	58	< 0.01	5	< 2	< 10	1	< 10	4	16
1062009	0.077	0.010	0.12	< 2	1	26	< 0.01	< 1	< 2	< 10	< 1	< 10	5	13
1062010	0.099	0.009	0.08	< 2	2	35	< 0.01	< 1	< 2	< 10	< 1	< 10	5	14
1062011	0.081	0.009	0.09	< 2	1	31	< 0.01	< 1	< 2	< 10	< 1	< 10	6	13
1062012	0.058	0.005	0.25	< 2	1	58	< 0.01	< 1	< 2	< 10	< 1	< 10	6	19
1062013	0.070	0.008	0.81	< 2	1	44	< 0.01	3	< 2	< 10	< 1	< 10	4	14
1062014	0.064	0.009	1.21	< 2	2	53	< 0.01	2	< 2	< 10	2	< 10	4	18
1062015	0.073	0.011	1.24	< 2	1	23	< 0.01	4	< 2	< 10	< 1	< 10	4	18
1062016	0.069	0.006	1.29	< 2	2	66	< 0.01	3	< 2	< 10	1	< 10	4	16
1062017	0.088	0.009	0.81	< 2	1	41	< 0.01	1	< 2	< 10	1	< 10	3	16
1062018	0.085	0.010	0.54	< 2	2	41	< 0.01	3	< 2	< 10	< 1	< 10	3	15
1062019	0.087	0.010	0.19	< 2	2	50	< 0.01	< 1	3	< 10	< 1	< 10	4	13

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1062020	0.015	0.004	0.07	< 2	< 1	3030	< 0.01	< 1	3	< 10	< 1	< 10	< 1	< 1
1062021	0.095	0.010	0.15	< 2	1	41	< 0.01	5	< 2	< 10	< 1	< 10	6	17
1062022	0.089	0.008	0.13	< 2	2	27	< 0.01	< 1	< 2	< 10	< 1	< 10	7	18
1062023	0.085	0.008	0.09	< 2	2	24	0.02	< 1	< 2	< 10	< 1	< 10	12	34
1062024	0.092	0.008	0.03	< 2	2	22	0.02	< 1	< 2	< 10	< 1	< 10	12	37
1062025	0.077	0.009	0.08	< 2	1	29	< 0.01	< 1	< 2	< 10	< 1	< 10	7	15
1062026	0.096	0.009	0.17	< 2	2	32	0.01	< 1	< 2	< 10	< 1	< 10	7	21
1062027	0.095	0.010	0.16	< 2	2	45	0.04	< 1	< 2	< 10	< 1	< 10	11	28
1062028	0.097	0.009	0.05	< 2	2	23	0.06	< 1	< 2	< 10	< 1	< 10	11	25
1062029	0.120	0.010	< 0.01	< 2	5	24	0.09	2	< 2	< 10	2	< 10	26	42
1062030	0.120	0.010	0.01	< 2	5	18	0.09	< 1	< 2	< 10	< 1	< 10	33	48
1062031	0.131	0.009	0.02	< 2	4	16	0.08	< 1	< 2	< 10	1	< 10	25	40
1062032	0.126	0.010	< 0.01	< 2	5	24	0.10	1	< 2	< 10	1	< 10	33	50
1062033	0.121	0.011	< 0.01	< 2	5	26	0.10	< 1	< 2	< 10	1	< 10	31	41
1062034	0.123	0.010	0.01	< 2	5	21	0.09	< 1	< 2	< 10	1	< 10	31	43
1062035	0.106	0.009	0.03	< 2	4	20	0.08	< 1	< 2	< 10	1	< 10	22	31
1062036	0.104	0.009	0.03	< 2	4	21	0.08	1	< 2	< 10	1	< 10	18	34
1062037	0.090	0.009	0.21	< 2	2	20	0.05	1	< 2	< 10	< 1	< 10	9	22
1062038	0.088	0.010	0.05	< 2	2	18	0.07	< 1	< 2	< 10	1	< 10	10	29
1062039	0.112	0.007	0.04	< 2	3	15	0.08	< 1	< 2	< 10	1	< 10	14	35
1062040	0.408	0.097	0.20	< 2	3	102	0.17	< 1	< 2	< 10	31	< 10	12	3
1062041	0.089	0.010	0.03	< 2	2	17	0.06	< 1	< 2	< 10	< 1	< 10	10	18
1062042	0.090	0.010	0.07	< 2	2	18	0.07	1	< 2	< 10	< 1	< 10	8	21
1062043	0.092	0.010	0.12	< 2	2	19	0.06	< 1	< 2	< 10	< 1	< 10	11	21
1062044	0.102	0.010	0.08	< 2	3	19	0.07	< 1	< 2	< 10	< 1	< 10	13	26
1062045	0.102	0.010	0.04	< 2	3	17	0.08	< 1	< 2	< 10	1	< 10	16	28
1062046	0.110	0.010	0.05	< 2	3	16	0.08	< 1	< 2	< 10	1	< 10	17	32
1062047	0.101	0.010	0.09	< 2	3	19	0.09	< 1	< 2	< 10	1	< 10	20	36
1062048	0.110	0.010	0.03	< 2	4	17	0.09	< 1	< 2	< 10	1	< 10	22	35
1062049	0.120	0.010	< 0.01	< 2	4	20	0.10	< 1	< 2	< 10	1	< 10	27	39
1062050	0.131	0.011	0.04	< 2	5	31	0.11	< 1	< 2	< 10	1	< 10	32	38
1062051	0.126	0.010	< 0.01	< 2	5	22	0.10	< 1	< 2	< 10	1	< 10	29	39
1062052	0.158	0.010	< 0.01	< 2	6	11	0.09	1	< 2	< 10	1	< 10	33	47
1062053	0.140	0.011	< 0.01	< 2	6	26	0.10	< 1	< 2	< 10	1	< 10	32	43
1062054	0.160	0.009	< 0.01	< 2	6	17	0.09	1	< 2	< 10	1	< 10	33	44
1062055	0.119	0.011	0.02	< 2	5	22	0.10	1	< 2	< 10	1	< 10	30	42
1062056	0.112	0.011	0.25	< 2	3	15	0.08	< 1	< 2	< 10	1	< 10	31	38
1062057	0.108	0.010	0.11	< 2	3	15	0.08	< 1	< 2	< 10	1	< 10	21	38
1062058	0.087	0.013	0.44	< 2	2	12	0.06	< 1	< 2	< 10	< 1	< 10	10	35
1062059	0.105	0.011	0.03	< 2	4	20	0.09	1	< 2	< 10	1	< 10	30	44
1062060	0.345	0.085	0.70	4	3	94	0.05	< 1	< 2	< 10	28	< 10	12	2
1062061	0.099	0.009	< 0.01	< 2	3	23	0.08	< 1	< 2	< 10	1	< 10	25	35
1062062	0.097	0.012	< 0.01	< 2	5	28	0.09	1	< 2	< 10	2	< 10	25	30
1062063	0.106	0.010	0.05	< 2	2	27	0.07	4	< 2	< 10	3	< 10	14	29
1062064	0.074	0.008	0.05	< 2	1	28	0.04	< 1	< 2	< 10	< 1	< 10	6	23
1062065	0.039	0.008	0.14	< 2	< 1	29	0.03	2	< 2	< 10	3	< 10	3	22
1062066	0.091	0.008	0.06	< 2	1	29	0.05	< 1	< 2	< 10	< 1	< 10	10	22
1062067	0.076	0.004	0.03	< 2	1	26	0.05	< 1	< 2	< 10	< 1	< 10	10	26
1062068	0.075	0.005	0.03	< 2	1	28	0.04	< 1	< 2	< 10	< 1	< 10	9	22
1062069	0.094	0.009	0.01	< 2	2	35	0.08	3	< 2	< 10	3	< 10	21	24
1062070	0.077	0.012	0.03	< 2	2	33	0.09	4	< 2	< 10	3	< 10	15	27
1062071	0.096	0.013	< 0.01	< 2	3	53	0.12	2	< 2	< 10	5	< 10	21	31

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1062072	0.079	0.016	< 0.01	< 2	3	51	0.11	4	< 2	< 10	6	< 10	19	29
1062073	0.067	0.014	0.05	< 2	2	23	0.08	< 1	< 2	< 10	3	< 10	15	30

Quality Control

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
OxG84 Meas	959																							
OxG84 Cert	922.000																							
OxG84 Meas	971																							
OxG84 Cert	922.000																							
OxG84 Meas	990																							
OxG84 Cert	922.000																							
OxG84 Meas	956																							
OxG84 Cert	922.000																							
OxJ80 Meas	2380																							
OxJ80 Cert	2331.000																							
OxJ80 Meas	2420																							
OxJ80 Cert	2331.000																							
OxJ80 Meas	2430																							
OxJ80 Cert	2331.000																							
OxJ80 Meas	2440																							
OxJ80 Cert	2331.000																							
1061941 Orig	< 5																							
1061941 Dup	< 5																							
1061948 Orig		0.6	< 0.5	52	870	< 1	30	11	70	1.20	47	< 10	150	< 0.5	< 2	3.92	24	16	3.13	< 10	< 1	0.21	67	1.94
1061948 Dup		0.6	< 0.5	51	861	< 1	30	11	75	1.24	48	< 10	162	< 0.5	< 2	3.85	23	16	3.07	< 10	< 1	0.22	67	1.91
1061950 Orig	13																							
1061950 Dup	13																							
1061960 Orig	< 5	2.4	< 0.5	1	23	< 1	1	< 2	2	0.03	< 2	< 10	17	< 0.5	< 2	22.3	< 1	< 1	0.04	< 10	< 1	< 0.01	< 10	1.85
1061960 Split	< 5	2.3	< 0.5	1	23	< 1	< 1	< 2	2	0.03	3	< 10	16	< 0.5	< 2	21.7	< 1	< 1	0.03	< 10	< 1	< 0.01	< 10	1.79
1061960 Orig	< 5																							
1061960 Dup	< 5																							
1061962 Orig		< 0.2	< 0.5	113	1320	< 1	109	< 2	61	1.00	527	< 10	39	< 0.5	< 2	5.17	35	42	5.40	< 10	< 1	0.09	< 10	1.68
1061962 Dup		< 0.2	< 0.5	118	1350	< 1	115	< 2	63	1.01	533	< 10	40	< 0.5	< 2	5.32	37	41	5.54	< 10	< 1	0.09	< 10	1.72
1062012 Orig	146	< 0.2	< 0.5	11	360	< 1	< 1	< 2	30	0.39	2	< 10	186	< 0.5	< 2	0.93	< 1	< 1	1.58	< 10	< 1	0.22	32	0.11
1062012 Dup	134	< 0.2	< 0.5	11	378	1	< 1	< 2	31	0.42	3	< 10	179	< 0.5	< 2	0.99	< 1	< 1	1.70	< 10	< 1	0.23	33	0.11
1062017 Orig	1170	< 0.2	< 0.5	10	401	2	< 1	< 2	26	0.28	18	< 10	47	< 0.5	3	0.69	2	< 1	1.66	< 10	< 1	0.13	27	0.09
1062017 Split	1410	< 0.2	< 0.5	11	440	2	< 1	< 2	28	0.33	18	< 10	26	< 0.5	< 2	0.76	2	1	1.81	< 10	< 1	0.15	27	0.10
1062022 Orig	11																							
1062022 Dup	22																							
1062026 Orig		< 0.2	< 0.5	10	449	1	< 1	< 2	49	0.34	< 2	< 10	95	< 0.5	< 2	0.71	2	1	1.80	< 10	< 1	0.16	40	0.07
1062026 Dup		< 0.2	< 0.5	9	424	1	< 1	2	47	0.31	< 2	< 10	88	< 0.5	< 2	0.66	1	1	1.69	< 10	< 1	0.15	36	0.07
1062027 Orig	21	< 0.2	< 0.5	9	729	2	< 1	2	71	0.43	< 2	< 10	119	< 0.5	< 2	1.17	1	< 1	2.30	< 10	< 1	0.21	43	0.14
1062027 Split	17	< 0.2	< 0.5	8	644	3	< 1	2	64	0.40	< 2	< 10	111	< 0.5	< 2	1.02	1	< 1	2.04	< 10	< 1	0.20	38	0.12
1062032 Orig	< 5																							
1062032 Dup	< 5																							
1062044 Orig		< 0.2	< 0.5	13	501	2	< 1	5	70	0.55	< 2	< 10	100	< 0.5	< 2	0.86	1	1	1.99	< 10	< 1	0.20	37	0.06
1062044 Dup		< 0.2	< 0.5	12	513	1	< 1	4	67	0.57	< 2	< 10	104	< 0.5	< 2	0.90	1	1	2.04	< 10	< 1	0.21	37	0.06
1062047 Orig	24																							
1062047 Dup	28																							
1062057 Orig	18	< 0.2	< 0.5	18	375	4	< 1	6	94	0.71	< 2	< 10	123	< 0.5	< 2	0.82	2	1	1.98	< 10	< 1	0.32	60	0.15
1062057 Split	14	< 0.2	< 0.5	20	386	3	< 1	6	96	0.72	< 2	< 10	126	< 0.5	< 2	0.84	2	1	2.01	< 10	< 1	0.33	62	0.15
1062058 Orig		< 0.2	< 0.5	15	321	2	< 1	6	51	0.63	16	< 10	74	< 0.5	< 2	0.81	5	< 1	1.55	< 10	< 1	0.31	30	0.09
1062058 Dup		< 0.2	< 0.5	15	315	2	< 1	6	50	0.63	15	< 10	102	< 0.5	< 2	0.80	4	< 1	1.55	< 10	< 1	0.31	30	0.09
1062067 Orig	12	< 0.2	< 0.5	8	156	< 1	< 1	5	16	0.41	< 2	< 10	106	< 0.5	< 2	1.00	1	< 1	0.99	< 10	< 1	0.20	33	0.03
1062067 Split	12	< 0.2	< 0.5	7	155	< 1	< 1	4	14	0.38	< 2	< 10	85	< 0.5	< 2	1.09	1	< 1	0.59	< 10	< 1	0.17	37	0.04
1062067 Orig	9																							
1062067 Dup	15																							
1062071 Orig		< 0.2	< 0.5	3	150	< 1	1	2	24	0.69	< 2	< 10	94	< 0.5	< 2	0.86	2	2	1.28	< 10	< 1	0.19	37	0.15
1062071 Dup		< 0.2	< 0.5	4	153	< 1	1	2	24	0.70	< 2	< 10	97	< 0.5	< 2	0.90	2	2	1.33	< 10	< 1	0.19	39	0.15
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01

Quality Control

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01

Quality Control

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
OxG84 Meas														
OxG84 Cert														
OxG84 Meas														
OxG84 Cert														
OxG84 Meas														
OxG84 Cert														
OxG84 Meas														
OxG84 Cert														
OxJ80 Meas														
OxJ80 Cert														
OxJ80 Meas														
OxJ80 Cert														
OxJ80 Meas														
OxJ80 Cert														
OxJ80 Meas														
OxJ80 Cert														
1061941 Orig														
1061941 Dup														
1061948 Orig	0.048	0.146	0.10	23	5	1060	< 0.01	< 1	4	< 10	31	< 10	6	2
1061948 Dup	0.051	0.144	0.09	23	5	1060	< 0.01	< 1	< 2	< 10	33	< 10	6	1
1061950 Orig														
1061950 Dup														
1061960 Orig	0.018	0.003	0.05	< 2	< 1	2850	< 0.01	< 1	4	< 10	1	< 10	< 1	< 1
1061960 Split	0.018	0.003	0.05	< 2	< 1	2870	< 0.01	1	< 2	< 10	< 1	< 10	< 1	< 1
1061960 Orig														
1061960 Dup														
1061962 Orig	0.144	0.015	0.31	4	12	175	< 0.01	< 1	< 2	< 10	37	< 10	2	2
1061962 Dup	0.147	0.016	0.32	6	12	177	< 0.01	< 1	< 2	< 10	38	< 10	2	2
1062012 Orig	0.056	0.005	0.24	< 2	1	56	< 0.01	< 1	< 2	< 10	< 1	< 10	6	18
1062012 Dup	0.059	0.005	0.25	< 2	1	60	< 0.01	3	< 2	< 10	< 1	< 10	6	20
1062017 Orig	0.088	0.009	0.81	< 2	1	41	< 0.01	1	< 2	< 10	1	< 10	3	16
1062017 Split	0.101	0.009	0.79	< 2	2	44	< 0.01	< 1	< 2	< 10	< 1	< 10	3	18
1062022 Orig														
1062022 Dup														
1062026 Orig	0.100	0.010	0.18	< 2	2	33	0.01	< 1	< 2	< 10	< 1	< 10	8	22
1062026 Dup	0.093	0.009	0.17	< 2	2	31	0.01	1	< 2	< 10	< 1	< 10	7	20
1062027 Orig	0.095	0.010	0.16	< 2	2	45	0.04	< 1	< 2	< 10	< 1	< 10	11	28
1062027 Split	0.086	0.008	0.14	< 2	2	38	0.03	< 1	< 2	< 10	1	< 10	10	22
1062032 Orig														
1062032 Dup														
1062044 Orig	0.100	0.010	0.07	< 2	3	18	0.07	< 1	< 2	< 10	< 1	< 10	13	25
1062044 Dup	0.103	0.010	0.08	< 2	3	19	0.07	< 1	< 2	< 10	1	< 10	13	27
1062047 Orig														
1062047 Dup														
1062057 Orig	0.108	0.010	0.11	< 2	3	15	0.08	< 1	< 2	< 10	1	< 10	21	38
1062057 Split	0.112	0.010	0.12	< 2	3	15	0.08	2	< 2	< 10	1	< 10	22	38
1062058 Orig	0.088	0.013	0.43	< 2	2	12	0.06	< 1	< 2	< 10	< 1	< 10	10	35
1062058 Dup	0.086	0.013	0.44	< 2	2	12	0.06	< 1	< 2	< 10	< 1	< 10	10	35
1062067 Orig	0.076	0.004	0.03	< 2	1	26	0.05	< 1	< 2	< 10	< 1	< 10	10	26
1062067 Split	0.069	0.004	0.04	< 2	1	27	0.04	< 1	< 2	< 10	< 1	< 10	8	18
1062067 Orig														
1062067 Dup														
1062071 Orig	0.095	0.013	< 0.01	< 2	3	51	0.12	2	< 2	< 10	5	< 10	20	31
1062071 Dup	0.097	0.013	< 0.01	< 2	3	54	0.12	2	< 2	< 10	6	< 10	21	32
Method Blank Method Blank	0.012	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1
Method Blank Method Blank	0.014	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1

Quality Control

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
Method Blank Method Blank	0.013	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1
Method Blank Method Blank	0.011	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1

Quality Analysis ... *Innovative Technologies*

Date Submitted: 18-Aug-11
Invoice No.: A11-8953
Invoice Date: 13-Sep-11
Your Reference: 19555-Straw Lake

Mineral Mountain Resources Ltd.
411 Mowat Ave. Suite 222
Fort Frances Ontario P9A1Y8
Canada

ATTN: Project Manager Kevin Leonard

CERTIFICATE OF ANALYSIS

6 Pulp samples and 171 Rock samples were submitted for analysis.

The following analytical packages were requested:

Code 1A2-Tbay Au - Fire Assay AA (QOP Fire Assay Tbay)
Code 1A3-Tbay Au - Fire Assay Gravimetric (QOP Fire Assay Tbay)
Code 1E3 Aqua Regia ICP(AQUAGEO)

REPORT **A11-8953**

Notes:
If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3
Values which exceed the upper limit should be assayed for accurate numbers.

Footnote: sample with missing data did not have material for analysis.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061731	30	< 0.2	< 0.5	37	425	2	10	7	126	1.10	71	< 10	96	0.7	< 2	1.57	6	10	2.07	< 10	< 1	0.40	37	0.56
1061732	29	0.3	< 0.5	10	326	3	8	5	170	0.70	41	< 10	135	0.5	< 2	1.13	3	8	1.48	< 10	< 1	0.20	19	0.39
1061733	14	< 0.2	3.8	23	520	< 1	13	6	1670	1.56	602	< 10	82	0.9	< 2	2.04	6	14	1.92	< 10	< 1	0.65	30	0.72
1061734	10	< 0.2	3.4	22	472	< 1	9	3	1720	1.28	250	< 10	95	0.7	< 2	1.88	4	13	1.78	< 10	< 1	0.50	26	0.68
1061735	11	< 0.2	< 0.5	8	414	1	10	2	154	1.00	43	< 10	148	0.5	< 2	1.68	4	11	1.62	< 10	< 1	0.32	23	0.61
1061736	15	< 0.2	1.0	31	592	6	18	5	371	1.74	397	< 10	122	0.9	< 2	2.29	8	16	2.38	< 10	< 1	0.66	37	0.90
1061737	13	< 0.2	1.2	35	539	4	15	5	826	1.63	2110	< 10	81	0.9	< 2	2.17	7	16	2.25	< 10	1	0.68	32	0.79
1061738	7	< 0.2	< 0.5	17	430	10	9	2	267	0.94	164	< 10	202	0.5	< 2	1.69	4	10	1.60	< 10	< 1	0.35	25	0.60
1061739	11	< 0.2	< 0.5	14	852	26	14	4	195	1.15	104	< 10	243	0.6	< 2	1.42	6	11	1.88	< 10	< 1	0.39	29	0.52
1061740	< 5	< 0.2	< 0.5	< 1	26	< 1	< 1	< 2	< 2	0.02	< 2	< 10	13	< 0.5	< 2	22.2	< 1	< 1	0.05	< 10	< 1	< 0.01	< 10	1.82
1061741	14	< 0.2	< 0.5	13	630	3	15	3	157	1.09	115	< 10	248	0.5	< 2	1.28	6	11	1.82	< 10	< 1	0.35	29	0.40
1061742	32	< 0.2	< 0.5	18	744	< 1	11	3	102	1.20	173	< 10	79	0.7	< 2	1.50	7	12	2.00	< 10	< 1	0.43	32	0.52
1061743	17	< 0.2	0.6	20	980	2	18	5	151	1.60	134	< 10	113	0.9	< 2	1.27	8	18	2.35	< 10	< 1	0.57	38	0.47
1061744	20	< 0.2	< 0.5	16	42	4	20	5	181	1.83	818	< 10	76	0.9	< 2	0.29	8	16	2.19	< 10	< 1	0.63	41	0.12
1061745	11	< 0.2	< 0.5	9	931	1	13	4	93	1.31	75	< 10	153	0.8	< 2	1.68	7	14	1.86	< 10	< 1	0.48	34	0.58
1061746	52	< 0.2	< 0.5	14	624	1	12	2	87	0.90	224	< 10	84	< 0.5	< 2	1.68	5	10	1.86	< 10	< 1	0.29	26	0.60
1061747	12	< 0.2	< 0.5	13	523	1	13	2	91	0.87	54	< 10	161	< 0.5	< 2	1.32	6	9	1.62	< 10	< 1	0.24	24	0.47
1061748	13	< 0.2	< 0.5	9	380	1	11	2	89	0.89	47	< 10	146	< 0.5	< 2	0.86	5	9	1.47	< 10	< 1	0.26	23	0.30
1061749	15	< 0.2	< 0.5	4	404	1	12	< 2	64	0.75	68	< 10	125	< 0.5	< 2	0.97	4	8	1.55	< 10	< 1	0.20	20	0.34
1061750	9	< 0.2	< 0.5	6	510	28	25	< 2	46	0.80	32	< 10	162	< 0.5	< 2	2.21	6	49	1.63	< 10	< 1	0.28	14	0.96
1061751	6	< 0.2	< 0.5	9	52	4	17	< 2	53	0.69	49	< 10	130	< 0.5	< 2	0.10	5	30	1.24	< 10	< 1	0.21	14	0.05
1061752	< 5	< 0.2	< 0.5	36	725	2	15	2	44	2.04	65	13	369	0.5	< 2	4.07	9	22	2.91	< 10	< 1	0.78	43	1.39
1061753	< 5	< 0.2	< 0.5	63	788	< 1	18	4	68	2.34	26	10	450	0.5	< 2	4.79	14	19	3.26	< 10	< 1	0.86	54	1.91
1061754	< 5	< 0.2	< 0.5	45	817	< 1	26	4	71	2.42	26	< 10	410	0.5	< 2	4.41	15	27	3.61	< 10	< 1	0.76	52	1.91
1061755	< 5	< 0.2	< 0.5	24	1100	< 1	25	5	70	2.52	29	11	381	< 0.5	< 2	4.61	17	24	4.24	< 10	< 1	0.81	43	1.53
1061756	< 5	< 0.2	< 0.5	33	1330	< 1	39	< 2	81	2.89	48	11	382	< 0.5	< 2	4.88	19	74	4.86	< 10	< 1	0.81	29	2.06
1061757	< 5	< 0.2	< 0.5	90	1600	< 1	21	< 2	103	2.77	18	< 10	503	< 0.5	< 2	5.00	15	40	4.65	< 10	< 1	0.88	27	2.13
1061758	< 5	< 0.2	< 0.5	40	1890	< 1	22	< 2	105	2.98	12	< 10	386	< 0.5	< 2	4.54	20	40	6.10	< 10	< 1	0.62	29	2.21
1061759	< 5	< 0.2	< 0.5	38	1920	< 1	20	3	95	2.73	45	< 10	344	< 0.5	< 2	5.12	20	35	6.64	< 10	< 1	0.68	22	2.08
1061760	> 3000	1.0	1.0	149	2650	3	91	6	80	2.34	3080	< 10	24	< 0.5	< 2	2.84	25	67	8.75	< 10	< 1	0.10	< 10	2.20
1061761	< 5	< 0.2	< 0.5	46	1610	< 1	22	4	91	2.58	78	< 10	343	< 0.5	< 2	4.97	21	27	5.61	< 10	< 1	0.78	29	2.08
1061762	< 5	< 0.2	< 0.5	56	1580	< 1	19	6	79	2.54	31	< 10	521	0.5	< 2	4.95	18	40	4.96	< 10	< 1	0.81	53	2.25
1061763	< 5	< 0.2	< 0.5	58	1250	< 1	21	3	96	3.28	14	< 10	319	< 0.5	< 2	5.79	20	46	6.22	< 10	< 1	0.42	60	2.47
1061764	< 5	< 0.2	< 0.5	43	803	< 1	16	3	75	2.35	12	< 10	547	0.5	< 2	3.32	12	25	3.02	< 10	< 1	0.72	45	1.58
1061765	< 5	< 0.2	< 0.5	43	2540	< 1	29	5	84	2.39	28	< 10	291	< 0.5	< 2	4.38	24	26	6.77	< 10	< 1	0.39	49	1.84
1061766	< 5	< 0.2	< 0.5	45	2660	< 1	30	5	89	2.51	27	< 10	306	< 0.5	< 2	4.58	25	27	7.16	< 10	< 1	0.41	50	1.94
1061767	< 5	< 0.2	< 0.5	48	1150	< 1	18	6	90	2.59	24	< 10	660	0.7	< 2	4.32	15	23	4.30	< 10	< 1	0.68	70	2.26
1061768	8	< 0.2	< 0.5	49	1380	< 1	30	7	71	2.27	171	< 10	563	0.6	< 2	4.86	21	22	4.00	< 10	< 1	0.83	59	1.75
1061769	6	< 0.2	< 0.5	47	1260	2	14	5	57	2.58	232	13	582	0.6	< 2	4.75	16	23	4.02	< 10	< 1	1.00	55	1.51
1061770	17	< 0.2	< 0.5	39	1190	< 1	17	5	65	1.76	2280	< 10	186	< 0.5	< 2	3.56	14	26	4.21	< 10	< 1	0.50	25	0.92
1061771	17	< 0.2	< 0.5	40	1210	< 1	18	6	66	1.88	2300	10	169	< 0.5	< 2	3.59	15	27	4.17	< 10	< 1	0.53	25	0.93
1061772	< 5	< 0.2	< 0.5	25	1460	1	22	3	82	2.85	56	13	338	0.6	< 2	3.85	14	42	4.87	< 10	< 1	0.53	25	1.08
1061773	< 5	< 0.2	< 0.5	20	735	< 1	12	5	69	3.04	13	15	347	0.5	< 2	2.71	10	38	3.16	< 10	< 1	0.59	26	0.74
1061774	< 5	< 0.2	< 0.5	36	862	< 1	18	3	61	2.22	9	< 10	328	< 0.5	< 2	5.01	14	30	3.90	< 10	< 1	0.57	23	1.39
1061775	< 5	< 0.2	< 0.5	37	1320	< 1	26	4	65	1.87	7	< 10	531	< 0.5	< 2	6.83	19	43	5.35	< 10	< 1	0.49	22	2.06
1061776	< 5	< 0.2	< 0.5	38	1320	< 1	24	3	65	2.07	7	< 10	540	< 0.5	< 2	6.84	19	44	5.33	< 10	< 1	0.51	23	2.16
1061777	< 5	< 0.2	< 0.5	99	754	< 1	29	3	62	2.14	4	< 10	507	< 0.5	< 2	5.51	18	46	3.62	< 10	< 1	0.73	32	1.47
1061801	< 5	0.3	< 0.5	16	818	1	16	28	92	2.48	8	< 10	43	0.7	< 2	1.54	14	21	5.33	< 10	< 1	0.56	54	0.85
1061802	< 5	< 0.2	< 0.5	10	581	8	10	30	87	1.43	< 2	< 10	67	0.6	< 2	0.70	9	18	4.09	< 10	< 1	0.48	82	0.61
1061803	7	0.5	0.6	26	1280	6	18	7	82	2.19	91	< 10	17	0.7	< 2	0.26	22	24	12.0	< 10	< 1	0.50	42	1.01
1061804	28	0.3	0.8	12	851	10	10	9	146	2.25	389	< 10	42	1.2	< 2	0.31	11	11	7.20	< 10	< 1	0.71	66	0.58
1061805	34	0.8	1.1	72	1690	8	26	5	68	2.45	163	11	14	0.8	< 2	0.33	19	16	14.4	< 10	< 1	0.72	26	1.15

Activation Laboratories Ltd. Report: A11-8953

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061806	< 5	< 0.2	< 0.5	85	459	4	122	< 2	56	2.43	36	< 10	70	< 0.5	< 2	2.20	28	164	4.06	< 10	< 1	0.52	26	1.73
1061807	< 5	0.2	< 0.5	53	349	3	21	4	68	2.31	6	< 10	43	< 0.5	< 2	2.04	16	14	4.31	< 10	< 1	0.63	27	0.67
1061808	< 5	0.3	< 0.5	46	319	6	19	3	84	1.89	4	< 10	33	< 0.5	< 2	1.51	17	10	4.15	< 10	< 1	0.51	26	0.53
1061809	< 5	0.2	< 0.5	44	326	4	19	5	79	1.72	2	< 10	62	< 0.5	< 2	2.27	16	10	3.91	< 10	< 1	0.43	28	0.65
1061810	< 5	0.2	< 0.5	44	324	4	18	5	81	1.70	3	< 10	59	< 0.5	< 2	2.27	16	10	3.89	< 10	1	0.43	28	0.65
1061811	52	< 0.2	< 0.5	40	639	3	21	5	35	1.31	17	< 10	50	0.7	< 2	3.88	16	9	4.05	< 10	< 1	0.63	16	1.36
1061812	56	< 0.2	< 0.5	41	696	12	44	7	67	1.57	70	< 10	52	0.8	< 2	4.35	19	37	4.50	< 10	< 1	0.78	13	1.83
1061813	< 5	0.2	< 0.5	90	859	6	96	6	83	2.52	85	< 10	104	< 0.5	< 2	4.63	25	170	5.10	< 10	< 1	0.81	< 10	3.12
1061814	7	< 0.2	< 0.5	60	934	5	169	4	63	2.03	93	< 10	129	< 0.5	< 2	5.70	30	211	5.31	< 10	< 1	0.43	< 10	4.16
1061815	10	< 0.2	< 0.5	60	935	5	169	3	63	2.06	95	< 10	133	< 0.5	< 2	5.71	31	213	5.33	< 10	< 1	0.44	< 10	4.19
1061816	< 5	< 0.2	< 0.5	40	876	< 1	76	22	63	2.02	116	< 10	186	< 0.5	< 2	3.56	21	52	4.20	< 10	< 1	0.66	16	1.92
1061817	< 5	0.3	< 0.5	40	928	43	23	5	85	2.89	11	< 10	101	< 0.5	< 2	7.01	16	17	4.46	< 10	< 1	0.49	22	2.04
1061818	8	< 0.2	< 0.5	53	571	< 1	18	< 2	68	2.54	38	< 10	96	0.5	< 2	3.53	15	12	3.99	< 10	< 1	0.97	19	1.15
1061819	< 5	< 0.2	< 0.5	77	535	1	20	8	93	2.81	3	< 10	91	< 0.5	< 2	2.78	18	12	3.77	< 10	< 1	0.61	25	1.17
1061820	1590	0.3	0.7	61	807	< 1	115	8	72	1.34	2430	< 10	82	< 0.5	< 2	1.25	26	34	5.12	< 10	1	0.06	12	2.17
1061821	< 5	< 0.2	< 0.5	31	704	4	16	14	66	2.16	257	< 10	97	0.6	< 2	3.65	12	12	3.12	< 10	< 1	0.75	25	0.85
1061822	52	< 0.2	< 0.5	22	743	8	21	16	89	2.47	307	< 10	62	0.7	< 2	1.70	14	16	4.02	< 10	< 1	0.83	34	1.07
1061823	< 5	< 0.2	< 0.5	50	570	< 1	15	6	64	2.48	17	< 10	350	< 0.5	< 2	3.56	14	9	2.99	< 10	< 1	0.73	38	0.97
1061824	< 5	< 0.2	< 0.5	62	519	26	24	5	80	2.61	6	< 10	67	< 0.5	< 2	3.28	19	10	3.81	< 10	< 1	0.42	41	0.93
1061825	9	< 0.2	< 0.5	45	485	8	17	5	91	2.70	4	< 10	86	< 0.5	< 2	2.90	17	12	3.82	< 10	< 1	0.79	35	1.06
1061826	< 5	< 0.2	< 0.5	38	548	6	15	19	91	2.23	144	< 10	193	< 0.5	< 2	3.31	15	10	3.38	< 10	< 1	0.55	32	0.92
1061827	< 5	< 0.2	< 0.5	38	549	6	14	17	91	2.27	150	< 10	202	< 0.5	< 2	3.31	15	10	3.38	< 10	< 1	0.56	33	0.91
1061828	6	< 0.2	< 0.5	69	623	3	20	< 2	85	3.08	22	< 10	315	< 0.5	< 2	3.21	27	13	4.36	< 10	< 1	0.81	24	1.28
1061829	< 5	< 0.2	< 0.5	41	669	2	20	3	101	3.12	9	< 10	317	< 0.5	< 2	2.48	20	28	4.90	< 10	< 1	0.81	24	1.46
1061830	< 5	< 0.2	< 0.5	31	623	< 1	22	< 2	93	2.87	5	< 10	121	< 0.5	< 2	2.21	21	22	5.18	< 10	< 1	0.75	22	1.45
1061831	< 5	< 0.2	< 0.5	31	482	< 1	20	2	78	2.10	15	< 10	84	< 0.5	< 2	2.38	21	18	4.32	< 10	< 1	0.46	21	1.06
1061832	8	0.3	< 0.5	53	686	11	25	3	82	2.13	17	< 10	61	< 0.5	< 2	3.98	25	19	5.57	< 10	< 1	0.30	21	1.39
1061833	9	< 0.2	< 0.5	26	952	3	24	7	132	2.87	10	< 10	87	< 0.5	< 2	6.18	25	16	5.93	< 10	< 1	0.19	14	2.49
1061834	16	< 0.2	< 0.5	45	950	7	24	3	97	3.24	15	< 10	101	0.6	< 2	6.45	24	20	6.71	10	< 1	0.28	14	2.60
1061835	6	< 0.2	< 0.5	39	922	10	21	4	88	3.25	18	< 10	104	< 0.5	< 2	6.35	22	18	6.44	< 10	< 1	0.42	16	2.23
1061836	12	< 0.2	< 0.5	36	1060	6	17	3	49	1.74	47	< 10	127	< 0.5	< 2	6.21	19	6	5.15	< 10	< 1	0.74	< 10	2.06
1061837	11	< 0.2	< 0.5	64	831	2	16	3	98	1.98	61	< 10	143	< 0.5	< 2	5.07	19	5	4.64	< 10	< 1	0.96	11	1.54
1061838	15	< 0.2	< 0.5	54	899	1	12	6	153	1.51	66	< 10	260	0.6	< 2	4.73	16	2	3.54	< 10	< 1	0.69	22	1.44
1061839	12	< 0.2	< 0.5	58	931	1	13	6	159	1.79	74	< 10	304	0.6	< 2	4.92	16	2	3.74	< 10	< 1	0.81	24	1.51
1061840	360	< 0.2	< 0.5	49	689	3	128	< 2	68	1.73	122	< 10	143	< 0.5	< 2	1.50	29	50	5.00	< 10	< 1	0.06	14	2.40
1061841	14	< 0.2	< 0.5	92	745	13	20	5	109	0.87	84	< 10	175	< 0.5	< 2	4.10	19	3	3.06	< 10	< 1	0.40	22	1.14
1061842	6	< 0.2	< 0.5	40	768	4	20	9	93	2.04	30	< 10	116	< 0.5	< 2	5.22	16	7	3.45	< 10	< 1	0.39	28	1.42
1061843	< 5	< 0.2	< 0.5	51	473	1	19	5	78	2.10	4	< 10	112	< 0.5	< 2	2.12	15	9	2.85	< 10	< 1	0.56	33	0.93
1061844	< 5	< 0.2	< 0.5	37	490	3	16	6	73	2.06	7	< 10	131	< 0.5	< 2	1.90	16	11	3.71	< 10	< 1	0.47	35	0.95
1061845	< 5	< 0.2	< 0.5	36	475	1	13	3	94	2.08	6	< 10	154	< 0.5	< 2	1.46	15	13	4.28	< 10	< 1	0.59	37	0.87
1061846	6	< 0.2	< 0.5	51	531	< 1	11	6	71	1.68	15	< 10	148	< 0.5	< 2	2.70	13	5	2.79	< 10	< 1	0.51	37	0.78
1061847	< 5	< 0.2	< 0.5	55	411	69	18	5	86	1.79	5	< 10	109	< 0.5	< 2	2.83	15	6	2.40	< 10	< 1	0.34	42	0.43
1061848	10	< 0.2	< 0.5	70	474	5	27	3	119	1.77	65	< 10	106	< 0.5	< 2	1.95	21	7	3.28	< 10	< 1	0.43	34	0.55
1061849	8	< 0.2	< 0.5	72	470	5	27	4	143	1.72	16	< 10	107	< 0.5	< 2	1.84	21	6	3.54	< 10	< 1	0.47	35	0.47
1061850																								
1061851	< 5	< 0.2	< 0.5	49	791	3	20	6	109	2.09	16	< 10	124	< 0.5	< 2	4.95	16	6	3.55	< 10	< 1	0.41	30	1.37
1061852	6	< 0.2	< 0.5	39	705	2	13	4	85	1.99	32	< 10	150	< 0.5	< 2	4.51	13	9	3.25	< 10	< 1	0.43	33	1.20
1061853	27	< 0.2	< 0.5	47	821	6	68	30	158	2.45	98	< 10	121	< 0.5	< 2	3.43	23	93	4.44	< 10	< 1	0.39	28	1.69
1061854	5	< 0.2	< 0.5	50	634	4	17	5	272	2.16	104	< 10	137	< 0.5	< 2	2.88	18	13	4.38	< 10	< 1	0.37	36	0.97
1061855	< 5	< 0.2	< 0.5	45	600	< 1	13	4	130	2.18	20	< 10	108	< 0.5	< 2	2.85	18	11	4.27	< 10	< 1	0.40	35	1.02
1061856	< 5	< 0.2	< 0.5	45	586	< 1	11	10	113	1.99	13	< 10	68	< 0.5	< 2	3.48	17	8	4.71	< 10	< 1	0.60	33	0.97
1061857	33	< 0.2	< 0.5	38	643	< 1	12	13	110	1.40	6	< 10	49	< 0.5	< 2	3.30	19	8	4.45	< 10	< 1	0.45	30	0.73

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061858	7	0.2	< 0.5	41	593	< 1	11	6	77	1.47	29	< 10	61	< 0.5	< 2	3.92	17	6	4.22	< 10	< 1	0.55	22	0.64
1061859	9	0.3	0.9	39	633	2	12	28	475	0.91	184	< 10	74	< 0.5	< 2	4.14	15	2	4.07	< 10	< 1	0.45	20	0.61
1061860	< 5	< 0.2	< 0.5	< 1	27	< 1	1	< 2	< 2	0.03	< 2	< 10	12	< 0.5	< 2	22.7	< 1	< 1	0.05	< 10	< 1	< 0.01	< 10	1.57
1061861	24	0.5	0.6	21	458	9	12	122	158	0.57	176	< 10	108	0.5	< 2	1.88	6	6	1.90	< 10	< 1	0.25	26	0.56
1061862	23	< 0.2	< 0.5	41	740	4	10	11	128	0.99	75	< 10	51	< 0.5	< 2	4.44	17	3	4.14	< 10	< 1	0.51	14	0.74
1061863	37	0.4	1.5	55	911	< 1	10	20	736	0.91	151	< 10	59	< 0.5	< 2	4.67	16	4	4.26	< 10	< 1	0.42	13	1.05
1061864	13	0.4	0.5	40	1000	2	11	10	170	1.56	50	< 10	41	< 0.5	< 2	4.79	17	9	5.27	< 10	< 1	0.33	18	1.18
1061865	13	0.3	1.9	58	902	1	10	15	778	1.88	146	< 10	66	< 0.5	< 2	5.53	14	8	4.62	< 10	< 1	0.36	28	1.01
1061866	< 5	0.3	0.6	39	898	6	9	8	337	2.30	27	< 10	98	< 0.5	< 2	5.85	14	9	4.38	< 10	< 1	0.19	26	1.69
1061867	25	< 0.2	0.9	20	1240	1	9	6	323	1.39	46	< 10	86	< 0.5	< 2	7.39	13	5	4.88	< 10	< 1	0.15	< 10	2.70
1061868	< 5	< 0.2	1.2	35	1260	4	12	18	618	2.98	13	< 10	104	0.6	< 2	8.27	12	9	5.74	10	< 1	0.25	11	3.07
1061869	259	0.8	3.7	119	914	7	67	27	1240	1.04	341	< 10	31	< 0.5	< 2	4.28	34	6	8.65	< 10	< 1	0.31	< 10	1.58
1061870	253	2.5	8.0	359	38	13	113	38	1850	1.20	440	< 10	< 10	< 0.5	< 2	0.17	68	8	13.5	< 10	< 1	0.24	< 10	0.32
1061871	216	0.7	1.5	124	240	24	144	16	366	1.02	664	< 10	18	< 0.5	< 2	1.28	67	8	8.00	< 10	< 1	0.35	< 10	0.52
1061872	168	1.0	1.2	105	264	39	168	33	688	0.62	210	< 10	12	< 0.5	8	1.33	63	7	8.46	< 10	< 1	0.23	11	0.53
1061873	53	0.2	1.0	52	390	16	47	10	476	0.72	74	< 10	48	< 0.5	< 2	1.92	18	7	3.02	< 10	< 1	0.27	21	0.66
1061874	14	< 0.2	0.7	62	554	4	32	10	343	0.86	88	< 10	101	< 0.5	< 2	2.22	11	13	2.82	< 10	< 1	0.26	26	0.86
1061875	11	< 0.2	0.7	28	425	41	43	11	298	0.78	72	< 10	137	< 0.5	< 2	2.24	14	8	2.39	< 10	< 1	0.32	29	0.71
1061876	407	1.1	2.4	77	110	105	168	39	972	0.43	179	< 10	12	< 0.5	4	0.38	66	6	7.36	< 10	< 1	0.09	12	0.19
1061877	89	0.7	4.8	131	175	53	140	23	1600	0.40	216	< 10	16	< 0.5	4	0.87	69	6	7.66	< 10	< 1	0.15	< 10	0.34
1061878	312	0.6	3.9	235	350	19	187	16	1440	0.76	313	< 10	20	< 0.5	< 2	1.69	71	40	7.62	< 10	< 1	0.35	< 10	0.81
1061879	39	0.2	2.3	113	644	27	180	5	872	1.02	226	< 10	86	< 0.5	< 2	4.89	28	66	4.19	< 10	< 1	0.41	< 10	2.40
1061880	> 3000	1.0	< 0.5	145	2610	3	85	6	80	2.26	3030	< 10	37	< 0.5	< 2	3.13	23	65	8.46	< 10	< 1	0.10	< 10	2.24
1061881	10	< 0.2	< 0.5	36	579	6	242	3	128	1.66	235	< 10	105	< 0.5	< 2	5.21	23	100	3.68	< 10	< 1	0.38	11	3.61
1061882	21	< 0.2	0.9	16	545	7	25	7	466	0.57	183	< 10	111	< 0.5	< 2	2.31	8	9	2.21	< 10	< 1	0.24	25	0.87
1061883	18	< 0.2	< 0.5	16	522	5	23	7	155	0.54	112	< 10	98	< 0.5	< 2	1.95	8	7	2.38	< 10	< 1	0.21	27	0.69
1061884	16	< 0.2	< 0.5	28	561	6	22	7	187	0.58	116	< 10	134	< 0.5	< 2	2.27	9	8	2.23	< 10	< 1	0.25	31	0.77
1061885	8	< 0.2	< 0.5	21	599	23	17	9	193	0.54	60	< 10	118	< 0.5	< 2	2.38	8	7	2.26	< 10	< 1	0.24	27	0.81
1061886	11	< 0.2	1.5	29	632	10	22	8	730	0.78	50	< 10	107	< 0.5	< 2	2.36	8	10	2.36	< 10	< 1	0.27	34	0.88
1061887	24	< 0.2	< 0.5	19	393	18	15	7	119	0.47	34	< 10	63	< 0.5	< 2	1.54	7	4	2.12	< 10	< 1	0.14	32	0.57
1061888	100	0.3	2.7	29	523	25	94	7	1410	0.48	93	< 10	67	< 0.5	< 2	2.92	18	23	3.33	< 10	< 1	0.19	13	1.24
1061889	26	< 0.2	< 0.5	5	977	9	129	3	94	0.49	159	< 10	58	< 0.5	< 2	5.97	17	51	3.72	< 10	< 1	0.22	11	2.65
1061890	9	< 0.2	< 0.5	7	440	28	25	3	62	0.52	24	< 10	56	< 0.5	< 2	2.01	7	7	2.11	< 10	< 1	0.10	21	0.82
1061891	17	< 0.2	< 0.5	15	600	13	24	2	49	0.44	24	< 10	43	< 0.5	< 2	2.65	9	6	2.70	< 10	< 1	0.11	26	1.01
1061892	63	0.7	1.6	56	892	6	43	7	808	1.05	49	< 10	111	0.5	< 2	3.59	16	4	2.93	< 10	< 1	0.40	12	1.19
1061893	202	0.6	1.1	365	292	9	110	17	384	0.85	192	< 10	20	< 0.5	< 2	1.32	59	4	6.19	< 10	< 1	0.34	< 10	0.37
1061894	< 5	< 0.2	< 0.5	44	704	2	14	< 2	264	0.57	26	< 10	130	< 0.5	< 2	2.66	8	2	1.30	< 10	< 1	0.25	12	0.89
1061895	85	0.3	< 0.5	80	347	12	58	4	156	0.63	79	< 10	45	< 0.5	< 2	1.50	29	8	3.58	< 10	< 1	0.25	11	0.55
1061896	< 5	< 0.2	< 0.5	12	306	3	27	< 2	96	0.70	35	< 10	97	< 0.5	< 2	1.54	7	12	1.36	< 10	< 1	0.25	12	0.67
1061897	23	< 0.2	< 0.5	37	165	9	16	< 2	138	0.72	31	< 10	79	< 0.5	< 2	0.87	9	1	1.51	< 10	< 1	0.22	13	0.34
1061898	13	< 0.2	< 0.5	19	432	8	20	< 2	96	0.74	47	< 10	93	< 0.5	< 2	1.90	8	6	1.86	< 10	< 1	0.25	29	0.71
1061899	22	< 0.2	0.6	29	581	24	26	4	177	1.10	94	< 10	113	< 0.5	< 2	2.33	10	10	2.90	< 10	< 1	0.35	39	0.95
1061900	1540	0.3	< 0.5	60	790	< 1	118	8	70	1.48	2370	< 10	83	< 0.5	< 2	1.34	25	35	5.12	< 10	< 1	0.07	12	2.15
1061901	20	< 0.2	< 0.5	31	371	26	12	3	155	0.65	54	< 10	119	< 0.5	< 2	1.80	7	4	1.99	< 10	< 1	0.26	24	0.70
1061902	7	< 0.2	< 0.5	52	355	10	10	4	173	0.85	55	< 10	146	< 0.5	< 2	2.07	9	1	1.74	< 10	< 1	0.41	15	0.89
1061903	6	< 0.2	0.9	41	517	6	20	4	439	0.96	56	< 10	156	< 0.5	< 2	3.05	10	2	1.85	< 10	< 1	0.44	11	1.33
1061904	376	0.8	1.1	458	47	17	136	26	272	0.72	368	< 10	15	< 0.5	< 2	0.33	78	5	7.70	< 10	< 1	0.32	11	0.09
1061905	143	0.8	1.6	321	27	59	120	11	330	0.74	598	< 10	15	< 0.5	< 2	0.14	57	5	5.70	< 10	< 1	0.34	12	0.07
1061906	38	< 0.2	0.7	95	428	13	74	4	223	0.55	1160	< 10	79	< 0.5	< 2	1.63	23	20	3.03	< 10	< 1	0.23	18	0.69
1061907	45	0.2	0.7	89	78	6	24	2	152	0.48	586	< 10	112	< 0.5	< 2	0.26	12	5	1.77	< 10	< 1	0.16	30	0.10
1061908	12	< 0.2	1.5	26	499	< 1	13	< 2	378	0.38	880	< 10	110	< 0.5	< 2	1.97	6	5	1.81	< 10	< 1	0.16	28	0.69
1061909	15	< 0.2	0.8	27	591	< 1	17	3	416	0.51	1010	< 10	159	< 0.5	< 2	2.33	8	6	2.03	< 10	< 1	0.20	33	0.82

Activation Laboratories Ltd. Report: A11-8953

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061910	47	< 0.2	0.6	13	530	< 1	15	3	323	0.49	2020	< 10	172	< 0.5	< 2	1.99	7	6	1.83	< 10	< 1	0.19	36	0.69
1061911	12	< 0.2	1.2	17	581	< 1	15	4	463	0.54	1410	< 10	181	< 0.5	< 2	2.28	8	7	1.96	< 10	< 1	0.23	33	0.78
1061912	17	< 0.2	3.3	25	577	< 1	13	3	1520	0.56	657	< 10	179	< 0.5	< 2	1.99	8	6	1.84	< 10	< 1	0.23	34	0.68
1061913	13	< 0.2	1.5	13	463	< 1	9	< 2	617	0.37	585	< 10	116	< 0.5	< 2	1.26	5	5	1.34	< 10	< 1	0.14	27	0.42
1061914	17	< 0.2	0.6	23	586	< 1	14	5	191	0.63	3380	< 10	214	< 0.5	< 2	2.25	8	7	2.02	< 10	1	0.28	35	0.75
1061915	16	< 0.2	0.6	14	605	< 1	12	2	302	0.42	88	< 10	133	< 0.5	< 2	1.60	6	5	1.52	< 10	< 1	0.18	31	0.55
1061916	18	< 0.2	0.7	17	1150	2	18	5	163	0.55	186	< 10	151	< 0.5	< 2	1.36	7	6	1.94	< 10	< 1	0.19	36	0.49
1061917	15	< 0.2	< 0.5	17	904	2	16	4	117	0.54	154	< 10	142	< 0.5	< 2	1.75	7	5	1.99	< 10	< 1	0.20	34	0.61
1061918	22	< 0.2	< 0.5	10	289	3	17	3	121	0.67	2550	< 10	160	< 0.5	< 2	0.69	8	6	1.60	< 10	< 1	0.22	42	0.21
1061919	18	< 0.2	< 0.5	17	496	< 1	12	4	34	0.54	703	< 10	160	< 0.5	< 2	1.87	6	6	1.74	< 10	< 1	0.22	36	0.62
1061920	1590	0.3	0.7	61	807	< 1	120	8	71	1.51	2370	< 10	82	< 0.5	< 2	1.35	25	35	5.19	< 10	< 1	0.07	12	2.19
1061921	26	< 0.2	< 0.5	9	386	1	12	3	49	0.55	1700	< 10	154	< 0.5	< 2	1.38	6	6	1.73	< 10	< 1	0.22	36	0.47
1061922	7	< 0.2	< 0.5	2	385	< 1	6	< 2	19	0.29	214	< 10	82	< 0.5	< 2	1.52	3	4	1.28	< 10	< 1	0.10	21	0.53
1061923	15	< 0.2	< 0.5	3	242	6	8	< 2	21	0.17	1920	< 10	45	< 0.5	< 2	0.98	4	3	1.03	< 10	1	0.06	22	0.32
1061924	9	< 0.2	< 0.5	3	377	4	9	< 2	15	0.34	847	< 10	89	< 0.5	< 2	1.46	3	6	1.29	< 10	< 1	0.12	24	0.53
1061925	17	< 0.2	< 0.5	22	273	17	38	4	46	0.34	62	< 10	47	< 0.5	< 2	1.18	12	18	2.26	< 10	< 1	0.10	< 10	0.53
1061926	137	0.4	0.6	29	129	8	42	12	42	1.02	2710	12	28	0.6	< 2	0.76	22	5	5.81	< 10	1	0.38	17	0.19
1061927	14	< 0.2	1.1	23	951	< 1	18	3	33	0.64	630	< 10	108	< 0.5	< 2	4.65	14	5	3.66	< 10	< 1	0.25	18	1.58
1061928	11	< 0.2	< 0.5	21	783	< 1	22	2	41	0.32	388	< 10	46	< 0.5	< 2	3.75	12	2	2.66	< 10	< 1	0.09	29	1.12
1061929	< 5	< 0.2	< 0.5	22	784	< 1	25	4	87	0.43	84	< 10	74	< 0.5	< 2	3.63	11	4	2.70	< 10	< 1	0.14	30	0.96
1061930	10	< 0.2	< 0.5	30	816	< 1	20	7	66	0.50	58	< 10	126	< 0.5	< 2	4.32	12	5	3.01	< 10	< 1	0.20	44	1.31

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
1061731	0.244	0.041	1.06	2	2	225	< 0.01	1	< 2	< 10	15	< 10	7	9	
1061732	0.270	0.027	0.53	< 2	2	162	< 0.01	< 1	< 2	< 10	7	< 10	3	17	
1061733	0.199	0.057	0.79	2	3	337	< 0.01	3	< 2	< 10	17	< 10	5	5	
1061734	0.230	0.037	0.68	< 2	3	309	< 0.01	5	< 2	< 10	14	< 10	4	6	
1061735	0.261	0.033	0.52	< 2	3	240	< 0.01	5	< 2	< 10	12	< 10	3	13	
1061736	0.220	0.071	0.66	3	3	313	< 0.01	< 1	< 2	< 10	19	< 10	6	4	
1061737	0.191	0.069	0.93	4	3	355	< 0.01	4	< 2	< 10	17	< 10	5	5	
1061738	0.219	0.040	0.45	< 2	2	238	< 0.01	1	< 2	< 10	10	< 10	4	6	
1061739	0.263	0.041	0.38	< 2	3	196	< 0.01	1	< 2	< 10	12	< 10	4	5	
1061740	0.016	0.004	0.05	< 2	< 1	3500	< 0.01	< 1	2	< 10	< 1	< 10	< 1	< 1	
1061741	0.260	0.048	0.50	2	3	182	< 0.01	< 1	< 2	< 10	11	< 10	4	8	
1061742	0.237	0.058	0.79	< 2	3	226	< 0.01	< 1	< 2	< 10	14	< 10	4	4	
1061743	0.232	0.073	0.64	3	3	195	< 0.01	< 1	< 2	< 10	18	< 10	5	3	
1061744	0.222	0.076	0.68	6	3	72	< 0.01	< 1	< 2	< 10	20	< 10	5	3	
1061745	0.228	0.066	0.61	2	3	224	< 0.01	2	< 2	< 10	17	< 10	5	3	
1061746	0.248	0.048	0.75	< 2	2	229	< 0.01	3	< 2	< 10	11	< 10	4	6	
1061747	0.301	0.043	0.54	2	2	176	< 0.01	2	< 2	< 10	9	< 10	3	8	
1061748	0.297	0.040	0.55	< 2	2	121	< 0.01	3	< 2	< 10	9	< 10	3	10	
1061749	0.286	0.030	0.41	< 2	2	124	< 0.01	1	< 2	< 10	7	< 10	3	11	
1061750	0.211	0.023	0.54	< 2	4	352	< 0.01	2	< 2	< 10	13	< 10	3	16	
1061751	0.240	0.017	0.39	< 2	2	33	< 0.01	< 1	< 2	< 10	10	< 10	2	16	
1061752	0.140	0.092	0.34	3	5	495	< 0.01	1	< 2	< 10	31	< 10	6	3	
1061753	0.134	0.143	0.10	2	7	600	< 0.01	5	4	< 10	47	< 10	7	2	
1061754	0.138	0.144	0.11	4	7	448	< 0.01	< 1	< 2	< 10	51	< 10	7	3	
1061755	0.117	0.120	0.15	3	6	429	< 0.01	< 1	< 2	< 10	42	< 10	6	3	
1061756	0.107	0.107	0.02	< 2	9	518	< 0.01	1	< 2	< 10	60	< 10	5	3	
1061757	0.099	0.112	0.03	4	8	471	< 0.01	< 1	< 2	< 10	58	< 10	6	3	
1061758	0.100	0.124	0.06	4	9	544	< 0.01	3	3	< 10	74	< 10	6	3	
1061759	0.080	0.126	0.37	4	10	773	< 0.01	4	< 2	< 10	75	< 10	5	3	
1061760	0.215	0.177	2.18	9	7	91	0.12	4	< 2	< 10	82	< 10	13	12	5.50
1061761	0.079	0.128	0.38	4	8	795	< 0.01	< 1	< 2	< 10	64	< 10	6	3	
1061762	0.077	0.162	0.18	3	9	844	< 0.01	3	< 2	< 10	70	< 10	8	3	
1061763	0.058	0.156	0.02	3	12	410	< 0.01	4	< 2	< 10	102	< 10	8	4	
1061764	0.132	0.107	0.02	4	5	395	< 0.01	< 1	2	< 10	45	< 10	7	4	
1061765	0.058	0.121	0.11	3	6	810	< 0.01	2	3	< 10	51	< 10	6	4	
1061766	0.060	0.127	0.12	3	6	807	< 0.01	< 1	< 2	< 10	53	< 10	6	3	
1061767	0.133	0.183	0.12	11	9	1410	< 0.01	< 1	< 2	< 10	72	< 10	9	3	
1061768	0.125	0.148	0.13	6	8	1040	< 0.01	2	< 2	< 10	56	< 10	8	3	
1061769	0.166	0.167	0.08	10	8	864	< 0.01	< 1	< 2	< 10	62	< 10	8	2	
1061770	0.174	0.105	0.70	8	8	544	< 0.01	< 1	< 2	< 10	37	< 10	5	4	
1061771	0.186	0.106	0.72	10	8	546	< 0.01	< 1	< 2	< 10	39	< 10	5	3	
1061772	0.312	0.077	0.09	5	9	510	< 0.01	4	4	< 10	49	< 10	4	4	
1061773	0.453	0.064	0.02	6	7	442	< 0.01	7	< 2	< 10	40	< 10	4	4	
1061774	0.305	0.072	0.04	3	7	465	< 0.01	3	2	< 10	38	< 10	4	3	
1061775	0.217	0.101	0.02	5	11	494	< 0.01	2	< 2	< 10	55	< 10	5	3	
1061776	0.225	0.101	0.02	3	11	508	< 0.01	3	2	< 10	57	< 10	5	3	
1061777	0.229	0.101	0.03	3	8	391	< 0.01	4	< 2	< 10	41	< 10	6	3	
1061801	0.117	0.100	2.09	2	6	263	0.21	< 1	< 2	< 10	63	< 10	13	35	
1061802	0.234	0.107	1.27	< 2	3	148	0.16	5	< 2	< 10	41	< 10	14	15	
1061803	0.054	0.079	4.50	5	7	26	0.04	4	< 2	< 10	67	< 10	10	50	
1061804	0.216	0.103	1.73	3	3	69	0.01	7	< 2	< 10	29	< 10	13	11	
1061805	0.066	0.086	5.72	4	8	29	0.10	6	< 2	< 10	72	< 10	9	64	

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
1061806	0.141	0.136	1.23	< 2	8	309	0.30	5	< 2	< 10	80	< 10	9	15	
1061807	0.187	0.146	2.20	< 2	6	227	0.41	8	< 2	< 10	83	< 10	10	34	
1061808	0.153	0.145	2.39	< 2	4	172	0.34	6	< 2	< 10	66	< 10	8	30	
1061809	0.133	0.153	1.64	< 2	4	192	0.31	6	< 2	< 10	61	< 10	8	20	
1061810	0.132	0.151	1.62	< 2	4	194	0.31	2	< 2	< 10	62	< 10	8	19	
1061811	0.122	0.116	2.07	3	8	575	0.04	< 1	< 2	< 10	42	< 10	5	9	
1061812	0.095	0.086	2.39	< 2	8	806	0.03	< 1	< 2	< 10	53	< 10	5	13	
1061813	0.068	0.060	1.30	3	9	842	0.02	< 1	< 2	< 10	70	< 10	5	13	
1061814	0.041	0.030	0.58	3	9	1290	0.01	< 1	4	< 10	68	< 10	4	18	
1061815	0.042	0.029	0.58	5	10	1240	0.01	4	< 2	< 10	69	< 10	4	19	
1061816	0.078	0.090	0.88	< 2	7	504	0.04	< 1	< 2	< 10	51	< 10	6	15	
1061817	0.063	0.113	1.46	< 2	6	513	0.21	2	< 2	< 10	69	< 10	7	28	
1061818	0.108	0.132	0.95	< 2	6	385	0.12	1	< 2	< 10	68	< 10	7	11	
1061819	0.140	0.132	0.69	3	7	311	0.28	4	< 2	< 10	80	30	9	17	
1061820	0.263	0.118	0.73	4	2	74	0.11	9	< 2	< 10	27	< 10	12	8	
1061821	0.130	0.111	0.74	< 2	5	308	0.09	3	< 2	< 10	44	< 10	7	8	
1061822	0.147	0.126	1.23	3	6	233	0.05	3	< 2	< 10	55	< 10	8	10	
1061823	0.116	0.152	0.46	4	5	224	0.13	6	< 2	< 10	49	< 10	9	7	
1061824	0.113	0.152	1.23	< 2	6	338	0.28	7	< 2	< 10	65	< 10	10	15	
1061825	0.107	0.152	1.00	2	6	236	0.28	3	< 2	< 10	78	< 10	10	17	
1061826	0.085	0.141	0.74	< 2	5	301	0.22	6	< 2	< 10	59	< 10	9	14	
1061827	0.086	0.142	0.75	2	5	309	0.22	< 1	< 2	< 10	60	< 10	9	17	
1061828	0.094	0.148	0.50	< 2	7	201	0.22	2	< 2	< 10	78	< 10	10	19	
1061829	0.100	0.146	0.30	< 2	7	184	0.31	5	< 2	< 10	112	< 10	9	14	
1061830	0.154	0.142	0.81	< 2	9	242	0.35	9	< 2	< 10	127	< 10	9	25	
1061831	0.112	0.135	1.22	2	7	210	0.29	4	< 2	< 10	92	< 10	8	22	
1061832	0.091	0.151	1.96	3	13	218	0.27	6	< 2	< 10	114	< 10	10	21	
1061833	0.038	0.100	1.42	4	17	377	0.19	2	< 2	< 10	123	< 10	9	16	
1061834	0.048	0.127	1.70	2	16	425	0.05	< 1	< 2	< 10	136	< 10	8	16	
1061835	0.030	0.109	1.61	4	11	493	0.01	3	< 2	< 10	113	< 10	7	10	
1061836	0.039	0.117	1.36	3	6	601	< 0.01	3	< 2	< 10	41	< 10	5	5	
1061837	0.046	0.136	1.05	4	6	469	< 0.01	< 1	< 2	< 10	39	< 10	6	7	
1061838	0.048	0.145	0.26	2	4	520	< 0.01	5	3	< 10	22	< 10	7	5	
1061839	0.055	0.151	0.27	2	4	545	< 0.01	5	< 2	< 10	26	< 10	7	3	
1061840	0.377	0.117	0.22	< 2	3	92	0.21	4	< 2	< 10	34	< 10	13	4	
1061841	0.042	0.144	0.53	< 2	3	458	0.01	5	< 2	< 10	11	< 10	8	5	
1061842	0.056	0.172	0.35	< 2	6	353	0.15	4	< 2	< 10	54	< 10	9	7	
1061843	0.085	0.165	0.26	< 2	4	191	0.25	2	< 2	< 10	58	< 10	9	9	
1061844	0.104	0.170	0.30	< 2	5	181	0.24	3	< 2	< 10	80	< 10	9	9	
1061845	0.076	0.163	0.58	< 2	5	141	0.22	4	< 2	< 10	81	< 10	8	14	
1061846	0.066	0.140	0.50	< 2	3	144	0.14	< 1	< 2	< 10	43	< 10	9	11	
1061847	0.052	0.157	0.75	< 2	4	194	0.19	1	< 2	< 10	35	< 10	10	8	
1061848	0.057	0.155	1.24	< 2	4	114	0.17	6	< 2	< 10	29	< 10	9	12	
1061849	0.046	0.164	1.40	< 2	4	132	0.17	4	< 2	< 10	25	< 10	9	16	
1061850															
1061851	0.046	0.158	1.21	< 2	5	254	0.15	5	< 2	< 10	39	< 10	9	10	
1061852	0.057	0.168	0.92	2	5	227	0.18	8	< 2	< 10	49	< 10	8	10	
1061853	0.048	0.143	1.17	3	7	203	0.24	< 1	< 2	< 10	74	< 10	8	21	
1061854	0.058	0.186	1.05	3	6	228	0.24	5	< 2	< 10	68	< 10	8	16	
1061855	0.056	0.185	1.40	< 2	4	233	0.26	3	< 2	< 10	61	< 10	9	14	
1061856	0.050	0.175	2.51	< 2	6	175	0.26	4	< 2	< 10	62	< 10	8	23	
1061857	0.037	0.181	2.80	3	4	128	0.23	5	< 2	< 10	56	< 10	7	22	

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
1061858	0.035	0.169	2.51	< 2	3	314	0.07	2	< 2	< 10	36	< 10	6	13	
1061859	0.030	0.151	2.65	2	2	341	< 0.01	7	< 2	< 10	18	< 10	5	6	
1061860	0.013	0.004	0.05	< 2	< 1	3690	< 0.01	< 1	4	< 10	< 1	< 10	< 1	< 1	
1061861	0.109	0.060	0.93	2	1	273	< 0.01	< 1	< 2	< 10	7	< 10	4	6	
1061862	0.036	0.161	2.43	< 2	3	461	< 0.01	3	< 2	< 10	20	< 10	5	3	
1061863	0.040	0.195	2.20	2	4	559	< 0.01	2	< 2	< 10	22	< 10	5	3	
1061864	0.038	0.139	3.05	3	5	527	0.11	1	< 2	< 10	53	< 10	6	15	
1061865	0.037	0.152	2.45	2	5	444	0.11	< 1	< 2	< 10	56	< 10	7	12	
1061866	0.024	0.116	1.84	3	4	390	0.13	2	< 2	< 10	58	< 10	6	16	
1061867	0.026	0.112	1.39	3	3	497	< 0.01	< 1	< 2	< 10	25	< 10	5	6	
1061868	0.022	0.105	0.82	4	6	666	0.01	4	< 2	< 10	66	< 10	5	6	
1061869	0.025	0.084	5.76	7	3	335	< 0.01	4	< 2	< 10	17	< 10	5	22	
1061870	0.021	0.032	12.4	14	3	13	< 0.01	9	< 2	< 10	15	< 10	4	39	
1061871	0.026	0.044	7.16	7	4	121	< 0.01	2	< 2	< 10	13	< 10	5	42	
1061872	0.046	0.021	8.53	8	4	135	< 0.01	2	< 2	< 10	15	< 10	4	39	
1061873	0.073	0.060	1.82	< 2	2	248	< 0.01	< 1	< 2	< 10	8	< 10	6	12	
1061874	0.092	0.078	0.94	2	2	332	< 0.01	< 1	< 2	< 10	14	< 10	6	4	
1061875	0.074	0.084	0.95	< 2	2	327	< 0.01	3	< 2	< 10	8	< 10	7	4	
1061876	0.076	0.006	7.80	5	3	52	< 0.01	4	< 2	< 10	6	11	2	25	
1061877	0.058	0.020	8.67	5	3	138	< 0.01	3	< 2	< 10	10	< 10	3	23	
1061878	0.030	0.034	8.12	8	4	262	< 0.01	5	< 2	< 10	18	< 10	4	41	
1061879	0.025	0.043	2.23	20	3	676	< 0.01	1	< 2	< 10	14	< 10	4	27	
1061880	0.211	0.174	2.37	8	7	91	0.12	1	2	< 10	82	< 10	13	18	5.48
1061881	0.023	0.052	0.98	7	5	989	< 0.01	< 1	< 2	< 10	19	< 10	5	15	
1061882	0.091	0.062	1.21	< 2	2	430	< 0.01	< 1	< 2	< 10	7	< 10	4	9	
1061883	0.100	0.073	1.40	4	2	338	< 0.01	< 1	< 2	< 10	8	< 10	4	7	
1061884	0.097	0.075	1.05	< 2	2	377	< 0.01	1	< 2	< 10	8	< 10	5	7	
1061885	0.088	0.082	0.96	2	2	361	< 0.01	< 1	< 2	< 10	7	< 10	5	6	
1061886	0.097	0.084	0.80	3	2	300	< 0.01	< 1	< 2	< 10	10	< 10	6	5	
1061887	0.112	0.048	1.12	2	1	189	< 0.01	< 1	< 2	< 10	5	< 10	6	11	
1061888	0.065	0.015	1.97	3	3	484	< 0.01	1	< 2	< 10	15	< 10	4	33	
1061889	0.026	0.006	0.62	3	8	1140	< 0.01	< 1	< 2	< 10	27	< 10	3	13	
1061890	0.110	0.053	0.69	3	2	243	< 0.01	< 1	< 2	< 10	7	< 10	5	11	
1061891	0.103	0.082	1.20	3	3	310	< 0.01	2	< 2	< 10	7	< 10	4	10	
1061892	0.043	0.417	1.52	3	3	422	< 0.01	< 1	< 2	< 10	13	< 10	7	3	
1061893	0.041	0.216	6.26	12	3	147	< 0.01	5	< 2	< 10	14	< 10	4	18	
1061894	0.065	0.185	0.21	< 2	3	310	< 0.01	2	< 2	< 10	5	< 10	4	3	
1061895	0.062	0.087	2.97	3	2	171	< 0.01	2	< 2	< 10	12	< 10	4	20	
1061896	0.075	0.050	0.31	4	2	154	< 0.01	6	< 2	< 10	11	< 10	3	12	
1061897	0.087	0.080	0.69	4	2	92	< 0.01	3	< 2	< 10	6	< 10	4	8	
1061898	0.092	0.077	0.58	2	2	260	< 0.01	< 1	< 2	< 10	8	< 10	5	8	
1061899	0.071	0.099	1.00	3	2	300	< 0.01	< 1	< 2	< 10	13	< 10	6	6	
1061900	0.306	0.115	0.71	4	3	81	0.12	4	< 2	< 10	29	< 10	12	8	
1061901	0.073	0.043	0.97	2	2	261	< 0.01	< 1	< 2	< 10	6	< 10	4	17	
1061902	0.049	0.042	1.02	< 2	1	257	< 0.01	< 1	< 2	< 10	5	< 10	4	15	
1061903	0.052	0.069	0.84	< 2	2	401	< 0.01	6	< 2	< 10	9	< 10	5	11	
1061904	0.037	0.081	8.63	8	3	46	< 0.01	2	< 2	< 10	16	< 10	5	37	
1061905	0.037	0.033	5.85	6	3	21	< 0.01	< 1	< 2	< 10	10	< 10	4	52	
1061906	0.061	0.037	1.62	5	3	298	< 0.01	< 1	< 2	< 10	8	< 10	3	16	
1061907	0.098	0.045	0.95	3	2	54	< 0.01	< 1	< 2	< 10	6	< 10	3	13	
1061908	0.090	0.050	0.74	3	2	336	< 0.01	1	< 2	< 10	5	< 10	3	15	
1061909	0.090	0.073	0.78	< 2	2	387	< 0.01	< 1	< 2	< 10	6	< 10	4	13	

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
1061910	0.107	0.057	0.70	2	2	343	< 0.01	< 1	< 2	< 10	6	< 10	4	16	
1061911	0.097	0.068	0.73	2	2	382	< 0.01	4	< 2	< 10	6	< 10	4	14	
1061912	0.101	0.065	0.82	< 2	2	322	< 0.01	1	< 2	< 10	7	< 10	4	16	
1061913	0.101	0.040	0.52	< 2	2	206	< 0.01	< 1	< 2	< 10	4	< 10	3	17	
1061914	0.098	0.075	0.75	4	2	393	< 0.01	< 1	< 2	< 10	8	< 10	5	13	
1061915	0.094	0.046	0.50	< 2	2	246	< 0.01	< 1	< 2	< 10	6	< 10	3	17	
1061916	0.088	0.062	0.39	2	2	211	< 0.01	3	< 2	< 10	8	< 10	3	14	
1061917	0.086	0.066	0.46	3	2	260	< 0.01	< 1	< 2	< 10	6	< 10	4	12	
1061918	0.094	0.086	0.65	5	1	103	< 0.01	1	< 2	< 10	7	< 10	4	10	
1061919	0.099	0.069	0.66	2	2	282	< 0.01	< 1	< 2	< 10	6	< 10	4	11	
1061920	0.310	0.117	0.73	3	3	84	0.12	< 1	< 2	< 10	30	< 10	12	12	
1061921	0.093	0.063	0.67	3	2	198	< 0.01	3	< 2	< 10	7	< 10	4	12	
1061922	0.106	0.031	0.31	< 2	2	196	< 0.01	1	< 2	< 10	3	< 10	2	12	
1061923	0.056	0.048	0.28	2	1	117	< 0.01	< 1	< 2	< 10	2	< 10	2	10	
1061924	0.114	0.029	0.29	2	2	187	< 0.01	< 1	< 2	< 10	4	< 10	2	14	
1061925	0.051	0.006	1.02	4	3	167	< 0.01	4	< 2	< 10	7	< 10	1	9	
1061926	0.044	0.165	4.37	16	4	132	< 0.01	6	< 2	< 10	16	< 10	6	21	
1061927	0.045	0.096	1.03	4	4	525	< 0.01	< 1	< 2	< 10	11	< 10	4	8	
1061928	0.026	0.077	0.40	3	2	388	< 0.01	6	< 2	< 10	3	< 10	3	11	
1061929	0.038	0.071	0.37	3	2	309	< 0.01	< 1	< 2	< 10	3	< 10	3	7	
1061930	0.043	0.094	0.36	9	3	499	< 0.01	3	< 2	< 10	7	< 10	5	5	

Quality Control

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-4 Meas		3.3	0.5	6700	134	338	40	44	73	2.79	100	< 10	55	1.4	19	0.96	13	58	3.14	10	< 1	1.64	50	1.71
GXR-4 Cert		4.00	0.860	6520	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.6	64.0	3.09	20.0	0.110	4.01	64.5	1.66
GXR-4 Meas		3.3	< 0.5	6520	134	334	36	43	73	2.73	98	< 10	50	1.4	13	0.95	13	57	3.09	< 10	< 1	1.60	48	1.68
GXR-4 Cert		4.00	0.860	6520	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.6	64.0	3.09	20.0	0.110	4.01	64.5	1.66
GXR-6 Meas		0.3	< 0.5	68	991	1	20	87	123	7.10	227	< 10	1250	0.9	< 2	0.19	12	81	5.24	10	< 1	1.05	11	0.41
GXR-6 Cert		1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680	1.87	13.9	0.609
GXR-6 Meas		0.3	0.6	68	995	1	21	88	123	7.18	215	< 10	1230	0.9	< 2	0.19	12	82	5.39	10	< 1	1.06	11	0.41
GXR-6 Cert		1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680	1.87	13.9	0.609
CDN-GS-20A Meas																								
CDN-GS-20A Cert																								
OREAS 13b (4-Acid) Meas		0.8		2600		9	2430		57		53						45	450						
OREAS 13b (4-Acid) Cert		0.86		2300.000		9.0	2247		133		57						75	8650						
OREAS 13b (4-Acid) Meas		0.8		2520		9	2390		57		54						45	438						
OREAS 13b (4-Acid) Cert		0.86		2300.000		9.0	2247		133		57						75	8650						
OxG84 Meas	992																							
OxG84 Cert	922.000																							
OxG84 Meas	959																							
OxG84 Cert	922.000																							
OxG84 Meas	966																							
OxG84 Cert	922.000																							
OxG84 Meas	952																							
OxG84 Cert	922.000																							
OxG84 Meas	960																							
OxG84 Cert	922.000																							
OxG84 Meas	956																							
OxG84 Cert	922.000																							
OxG84 Meas	956																							
OxG84 Cert	922.000																							
OxJ80 Meas	2420																							
OxJ80 Cert	2331.000																							
OxJ80 Meas	2380																							
OxJ80 Cert	2331.000																							
OxJ80 Meas	2390																							
OxJ80 Cert	2331.000																							
OxJ80 Meas	2430																							
OxJ80 Cert	2331.000																							
OxJ80 Meas	2430																							
OxJ80 Cert	2331.000																							
1061741 Orig	9																							
1061741 Dup	19																							
1061743 Orig		< 0.2	0.6	20	974	2	19	5	150	1.60	133	< 10	102	0.9	< 2	1.26	7	18	2.34	< 10	< 1	0.57	38	0.47
1061743 Dup		< 0.2	0.7	20	986	2	18	5	152	1.60	135	< 10	124	1.0	< 2	1.27	8	18	2.35	< 10	< 1	0.57	38	0.47
1061750 Orig	8																							
1061750 Dup	9																							
1061757 Orig		< 0.2	< 0.5	89	1590	< 1	20	3	102	2.74	18	< 10	494	< 0.5	< 2	4.96	15	40	4.60	< 10	< 1	0.86	27	2.12
1061757 Dup		< 0.2	< 0.5	90	1610	< 1	22	< 2	104	2.80	19	10	512	< 0.5	< 2	5.05	15	41	4.71	< 10	< 1	0.89	27	2.15
1061761 Orig	< 5	< 0.2	< 0.5	46	1610	< 1	22	4	91	2.58	78	< 10	343	< 0.5	< 2	4.97	21	27	5.61	< 10	< 1	0.78	29	2.08
1061761 Split	< 5	< 0.2	< 0.5	47	1620	< 1	20	3	93	2.70	77	< 10	352	< 0.5	< 2	5.00	21	28	5.63	< 10	< 1	0.82	32	2.10
1061761 Orig	< 5																							
1061761 Dup	< 5																							
1061770 Orig		< 0.2	0.7	39	1190	< 1	16	5	66	1.70	2250	< 10	199	< 0.5	< 2	3.54	14	25	4.25	< 10	< 1	0.48	23	0.91
1061770 Dup		< 0.2	< 0.5	39	1190	< 1	18	5	64	1.83	2310	10	173	< 0.5	< 2	3.58	14	26	4.17	< 10	< 1	0.52	26	0.93
1061775 Orig	< 5																							
1061775 Dup	< 5																							

Quality Control

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061803 Orig	7	0.5	0.6	26	1280	6	18	7	82	2.19	91	< 10	17	0.7	< 2	0.26	22	24	12.0	< 10	< 1	0.50	42	1.01
1061803 Split	< 5	0.5	1.0	27	1290	6	19	7	83	2.25	83	< 10	21	0.7	< 2	0.27	21	25	11.9	< 10	< 1	0.53	43	1.02
1061807 Orig		0.2	< 0.5	53	350	3	22	4	69	2.31	6	< 10	44	< 0.5	< 2	2.04	16	14	4.30	< 10	< 1	0.63	27	0.67
1061807 Dup		0.2	< 0.5	53	348	3	20	3	68	2.32	6	< 10	42	< 0.5	< 2	2.03	16	14	4.31	< 10	< 1	0.63	27	0.68
1061808 Orig	< 5																							
1061808 Dup	< 5																							
1061813 Orig	< 5	0.2	< 0.5	90	859	6	96	6	83	2.52	85	< 10	104	< 0.5	< 2	4.63	25	170	5.10	< 10	< 1	0.81	< 10	3.12
1061813 Split	< 5	0.2	< 0.5	90	859	6	95	7	83	2.54	82	< 10	110	< 0.5	< 2	4.63	24	169	5.02	< 10	< 1	0.83	10	3.08
1061818 Orig	11																							
1061818 Dup	5																							
1061830 Orig		< 0.2	< 0.5	30	605	< 1	21	< 2	91	2.76	4	< 10	134	< 0.5	< 2	2.11	20	21	5.02	< 10	< 1	0.73	22	1.41
1061830 Dup		< 0.2	< 0.5	31	641	< 1	24	< 2	95	2.98	7	< 10	109	< 0.5	< 2	2.31	21	22	5.34	< 10	< 1	0.77	23	1.48
1061833 Orig	7																							
1061833 Dup	10																							
1061843 Orig	< 5	< 0.2	< 0.5	51	473	1	19	5	78	2.10	4	< 10	112	< 0.5	< 2	2.12	15	9	2.85	< 10	< 1	0.56	33	0.93
1061843 Split	< 5	< 0.2	< 0.5	51	476	1	19	6	80	2.16	4	< 10	116	< 0.5	< 2	2.18	15	9	2.86	< 10	< 1	0.57	34	0.94
1061844 Orig		< 0.2	< 0.5	37	486	4	16	5	72	2.04	8	< 10	131	< 0.5	< 2	1.88	16	11	3.69	< 10	< 1	0.46	34	0.94
1061844 Dup		< 0.2	< 0.5	37	495	3	16	6	74	2.08	6	< 10	131	< 0.5	< 2	1.93	16	11	3.72	< 10	< 1	0.47	35	0.96
1061853 Orig	27	< 0.2	< 0.5	47	821	6	68	30	158	2.45	98	< 10	121	< 0.5	< 2	3.43	23	93	4.44	< 10	< 1	0.39	28	1.69
1061853 Split	28	< 0.2	< 0.5	43	794	6	64	28	154	2.34	97	< 10	120	< 0.5	< 2	3.34	21	91	4.26	< 10	< 1	0.36	28	1.66
1061857 Orig		< 0.2	< 0.5	38	643	1	12	13	108	1.36	7	< 10	49	< 0.5	< 2	3.29	19	7	4.46	< 10	< 1	0.43	30	0.73
1061857 Dup		< 0.2	< 0.5	38	642	< 1	12	13	111	1.45	5	< 10	49	< 0.5	< 2	3.30	19	8	4.44	< 10	< 1	0.47	31	0.73
1061868 Orig	< 5																							
1061868 Dup	< 5																							
1061871 Orig		0.7	1.5	121	236	23	141	15	363	1.01	654	< 10	20	< 0.5	2	1.25	66	8	7.95	< 10	< 1	0.35	10	0.51
1061871 Dup		0.8	1.4	127	244	24	146	16	369	1.03	673	< 10	16	< 0.5	< 2	1.30	67	8	8.05	< 10	< 1	0.36	< 10	0.52
1061873 Orig	53	0.2	1.0	52	390	16	47	10	476	0.72	74	< 10	48	< 0.5	< 2	1.92	18	7	3.02	< 10	< 1	0.27	21	0.66
1061873 Split	61	< 0.2	1.0	52	383	16	44	10	447	0.61	71	< 10	87	< 0.5	< 2	1.89	17	6	2.92	< 10	< 1	0.24	22	0.65
1061878 Orig	322																							
1061878 Dup	301																							
1061888 Orig	102																							
1061888 Dup	97																							
1061889 Orig		< 0.2	< 0.5	5	978	9	128	2	94	0.48	156	< 10	58	< 0.5	< 2	5.95	17	51	3.68	< 10	< 1	0.22	11	2.64
1061889 Dup		< 0.2	< 0.5	5	976	10	130	3	95	0.49	163	< 10	58	< 0.5	< 2	5.98	17	51	3.77	< 10	< 1	0.22	11	2.66
1061903 Orig	6	< 0.2	0.9	41	517	6	20	4	439	0.96	56	< 10	156	< 0.5	< 2	3.05	10	2	1.85	< 10	< 1	0.44	11	1.33
1061903 Split	< 5	< 0.2	0.9	41	511	6	20	4	455	0.96	57	< 10	158	< 0.5	< 2	3.03	10	2	1.84	< 10	< 1	0.44	11	1.32
1061903 Orig	7	< 0.2	0.9	40	507	6	19	4	433	0.96	53	< 10	157	< 0.5	< 2	3.00	10	2	1.83	< 10	< 1	0.44	11	1.30
1061903 Dup	5	< 0.2	1.0	42	527	6	20	4	445	0.96	59	< 10	155	< 0.5	< 2	3.11	10	2	1.88	< 10	< 1	0.44	11	1.35
1061913 Orig	12																							
1061913 Dup	13																							
1061923 Orig	16																							
1061923 Dup	14																							
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	1	< 2	< 2	< 0.01	< 2	< 10	11	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	4	< 2	< 2	< 0.01	< 2	< 10	11	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	11	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01

Quality Control

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
GXR-4 Meas	0.129	0.130	1.76	2	7	74		1	< 2	< 10	84	13	12	11	
GXR-4 Cert	0.564	0.120	1.77	4.80	7.70	221		0.970	3.20	6.20	87.0	30.8	14.0	186	
GXR-4 Meas	0.125	0.127	1.74	4	7	72		4	< 2	< 10	83	11	12	10	
GXR-4 Cert	0.564	0.120	1.77	4.80	7.70	221		0.970	3.20	6.20	87.0	30.8	14.0	186	
GXR-6 Meas	0.091	0.033	0.01	5	23	37		< 1	< 2	< 10	173	< 10	7	17	
GXR-6 Cert	0.104	0.0350	0.0160	3.60	27.6	35.0		0.0180	2.20	1.54	186	1.90	14.0	110	
GXR-6 Meas	0.090	0.033	0.01	4	23	37		< 1	< 2	< 10	170	< 10	7	11	
GXR-6 Cert	0.104	0.0350	0.0160	3.60	27.6	35.0		0.0180	2.20	1.54	186	1.90	14.0	110	
CDN-GS-20A Meas															21.6
CDN-GS-20A Cert															21.12
OREAS 13b (4-Acid) Meas			1.21												
OREAS 13b (4-Acid) Cert			1.20												
OREAS 13b (4-Acid) Meas			1.19												
OREAS 13b (4-Acid) Cert			1.20												
OxG84 Meas															
OxG84 Cert															
OxG84 Meas															
OxG84 Cert															
OxG84 Meas															
OxG84 Cert															
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OxG84 Meas															
OxG84 Cert															
OxJ80 Meas															
OxJ80 Cert															
OxJ80 Meas															
OxJ80 Cert															
OxJ80 Meas															
OxJ80 Cert															
OxJ80 Meas															
OxJ80 Cert															
OxJ80 Meas															
OxJ80 Cert															
1061741 Orig															
1061741 Dup															
1061743 Orig	0.236	0.072	0.64	4	3	194	< 0.01	< 1	< 2	< 10	18	< 10	5	3	
1061743 Dup	0.229	0.074	0.64	3	3	197	< 0.01	< 1	< 2	< 10	18	< 10	5	4	
1061750 Orig															
1061750 Dup															
1061757 Orig	0.097	0.111	0.03	4	8	469	< 0.01	< 1	< 2	< 10	57	< 10	6	2	
1061757 Dup	0.101	0.112	0.03	5	8	472	< 0.01	3	< 2	< 10	58	< 10	6	3	
1061761 Orig	0.079	0.128	0.38	4	8	795	< 0.01	< 1	< 2	< 10	64	< 10	6	3	
1061761 Split	0.087	0.129	0.38	4	9	798	< 0.01	< 1	< 2	< 10	66	< 10	6	4	
1061761 Orig															
1061761 Dup															
1061770 Orig	0.167	0.104	0.71	8	7	543	< 0.01	< 1	< 2	< 10	36	< 10	4	4	
1061770 Dup	0.180	0.106	0.70	8	8	544	< 0.01	6	< 2	< 10	38	< 10	5	3	
1061775 Orig															
1061775 Dup															

Quality Control

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
1061803 Orig	0.054	0.079	4.50	5	7	26	0.04	4	< 2	< 10	67	< 10	10	50	
1061803 Split	0.058	0.079	4.54	5	7	28	0.04	8	< 2	< 10	68	< 10	11	60	
1061807 Orig	0.186	0.145	2.20	< 2	6	228	0.40	11	< 2	< 10	83	< 10	10	34	
1061807 Dup	0.187	0.147	2.21	2	6	227	0.41	5	< 2	< 10	82	< 10	10	34	
1061808 Orig															
1061808 Dup															
1061813 Orig	0.068	0.060	1.30	3	9	842	0.02	< 1	< 2	< 10	70	< 10	5	13	
1061813 Split	0.068	0.061	1.31	5	9	827	0.02	5	< 2	< 10	71	< 10	5	23	
1061818 Orig															
1061818 Dup															
1061830 Orig	0.148	0.139	0.79	3	8	225	0.34	8	< 2	< 10	123	< 10	8	26	
1061830 Dup	0.161	0.144	0.82	< 2	9	259	0.37	9	< 2	< 10	131	< 10	9	24	
1061833 Orig															
1061833 Dup															
1061843 Orig	0.085	0.165	0.26	< 2	4	191	0.25	2	< 2	< 10	58	< 10	9	9	
1061843 Split	0.089	0.169	0.27	< 2	4	198	0.27	4	< 2	< 10	60	< 10	10	13	
1061844 Orig	0.104	0.170	0.29	3	5	179	0.24	4	< 2	< 10	79	< 10	9	10	
1061844 Dup	0.105	0.170	0.30	< 2	5	183	0.24	1	< 2	< 10	80	< 10	9	8	
1061853 Orig	0.048	0.143	1.17	3	7	203	0.24	< 1	< 2	< 10	74	< 10	8	21	
1061853 Split	0.042	0.141	1.14	2	7	189	0.23	3	< 2	< 10	71	< 10	8	22	
1061857 Orig	0.035	0.183	2.83	3	4	127	0.22	4	< 2	< 10	54	< 10	7	22	
1061857 Dup	0.039	0.179	2.77	3	4	129	0.24	6	< 2	< 10	58	< 10	7	22	
1061868 Orig															
1061868 Dup															
1061871 Orig	0.027	0.044	7.02	7	4	120	< 0.01	3	< 2	< 10	13	< 10	5	41	
1061871 Dup	0.025	0.044	7.30	6	4	121	< 0.01	2	< 2	< 10	13	< 10	5	42	
1061873 Orig	0.073	0.060	1.82	< 2	2	248	< 0.01	< 1	< 2	< 10	8	< 10	6	12	
1061873 Split	0.066	0.060	1.71	2	2	246	< 0.01	1	< 2	< 10	6	< 10	6	19	
1061878 Orig															
1061878 Dup															
1061888 Orig															
1061888 Dup															
1061889 Orig	0.026	0.006	0.62	4	8	1130	< 0.01	< 1	< 2	< 10	27	< 10	3	13	
1061889 Dup	0.026	0.006	0.61	3	8	1140	< 0.01	< 1	< 2	< 10	27	< 10	3	13	
1061903 Orig	0.052	0.069	0.84	< 2	2	401	< 0.01	6	< 2	< 10	9	< 10	5	11	
1061903 Split	0.053	0.069	0.84	< 2	2	400	< 0.01	2	< 2	< 10	9	< 10	5	14	
1061903 Orig	0.052	0.068	0.83	2	2	390	< 0.01	4	< 2	< 10	9	< 10	5	13	
1061903 Dup	0.052	0.070	0.86	< 2	2	411	< 0.01	7	< 2	< 10	9	< 10	5	9	
1061913 Orig															
1061913 Dup															
1061923 Orig															
1061923 Dup															
Method Blank Method Blank	0.012	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.011	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.013	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 16-Aug-11
Invoice No.: A11-8844
Invoice Date: 15-Sep-11
Your Reference: 19555-Straw Lake

Mineral Mountain Resources Ltd.
411 Mowat Ave. Suite 222
Fort Frances Ontario P9A1Y8
Canada

ATTN: Project Manager Kevin Leonard

CERTIFICATE OF ANALYSIS

3 Pulp samples and 72 Rock samples were submitted for analysis.

The following analytical packages were requested:

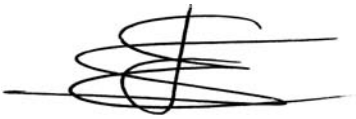
Code 1A2-Tbay Au - Fire Assay AA (QOP Fire Assay Tbay)
Code 1A3-Tbay Au - Fire Assay Gravimetric (QOP Fire Assay Tbay)
Code 1E3-Tbay Aqua Regia ICP(AQUAGEO)

REPORT **A11-8844**

Notes:
If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3
Values which exceed the upper limit should be assayed for accurate numbers.

Footnote: 1061557 missing client notifed.

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Activation Laboratories Ltd. Report: A11-8844

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061521	21	0.4	0.6	70	676	2	15	9	57	1.33	70	< 10	27	< 0.5	< 2	3.41	19	6	3.83	< 10	< 1	0.46	11	1.01
1061522	33	0.4	< 0.5	50	1190	31	16	6	74	0.57	92	< 10	39	< 0.5	< 2	4.74	21	3	4.59	< 10	< 1	0.25	< 10	1.52
1061523	21	0.5	1.3	69	970	3	14	7	452	1.29	81	< 10	62	< 0.5	< 2	4.16	19	5	4.53	< 10	1	0.35	< 10	1.44
1061524	6	0.3	0.8	87	695	4	11	11	269	0.85	146	< 10	66	< 0.5	< 2	3.11	18	1	3.17	< 10	< 1	0.25	16	1.13
1061525	5	0.6	0.6	44	1100	6	12	5	243	1.03	219	< 10	57	< 0.5	< 2	4.47	18	2	3.61	< 10	< 1	0.44	12	1.48
1061526	7	0.4	< 0.5	78	1040	12	13	6	201	0.79	137	< 10	64	< 0.5	< 2	4.52	13	3	3.33	< 10	< 1	0.31	13	1.62
1061527	9	< 0.2	< 0.5	21	543	45	14	19	42	0.72	269	< 10	47	< 0.5	< 2	1.96	8	12	2.31	< 10	< 1	0.22	27	0.82
1061528	22	< 0.2	< 0.5	14	495	60	14	16	24	0.52	212	< 10	45	< 0.5	< 2	1.82	8	10	2.24	< 10	< 1	0.20	28	0.68
1061529	13	0.8	0.8	24	539	17	17	164	190	0.58	370	< 10	48	< 0.5	5	2.02	8	10	2.25	< 10	< 1	0.19	26	0.74
1061530	< 5	0.3	0.6	40	693	45	13	8	107	1.53	140	< 10	42	< 0.5	< 2	4.03	15	5	3.48	< 10	< 1	0.37	23	1.01
1061531	< 5	0.3	< 0.5	51	505	86	15	12	157	1.61	25	< 10	49	< 0.5	< 2	2.96	18	9	3.16	< 10	< 1	0.19	38	0.65
1061532	6	0.3	0.8	49	715	48	11	10	166	1.93	7	< 10	45	< 0.5	< 2	3.49	18	10	4.15	< 10	< 1	0.31	36	0.88
1061533	6	0.4	< 0.5	43	1090	223	10	15	189	1.87	183	< 10	51	< 0.5	< 2	5.49	15	8	4.68	< 10	< 1	0.23	20	1.64
1061534	< 5	0.4	< 0.5	37	530	29	8	9	133	1.82	4	< 10	22	< 0.5	< 2	2.57	14	8	4.03	< 10	< 1	0.34	29	0.85
1061535	9	< 0.2	< 0.5	27	410	8	7	8	97	1.27	16	< 10	20	< 0.5	< 2	2.75	13	4	2.93	< 10	< 1	0.44	29	0.41
1061536	5	0.2	< 0.5	29	411	13	7	11	82	1.27	24	< 10	37	< 0.5	< 2	2.89	12	5	2.89	< 10	< 1	0.34	35	0.40
1061537	5	0.3	< 0.5	31	540	17	7	13	93	1.31	19	< 10	49	< 0.5	< 2	3.57	14	5	2.65	< 10	< 1	0.29	34	0.70
1061538	32	0.3	0.8	38	507	31	8	16	367	1.32	73	< 10	29	< 0.5	< 2	4.15	12	4	3.23	< 10	< 1	0.29	24	0.60
1061539	7	< 0.2	< 0.5	26	382	4	7	5	45	1.23	19	< 10	20	< 0.5	< 2	2.29	12	5	3.37	< 10	< 1	0.44	32	0.36
1061540	> 3000	1.0	< 0.5	142	2480	2	83	4	77	2.24	2460	< 10	10	< 0.5	< 2	2.87	24	61	7.85	< 10	< 1	0.09	< 10	1.96
1061541	< 5	0.3	< 0.5	18	264	8	8	11	69	1.17	2	< 10	18	< 0.5	< 2	1.49	15	8	3.55	< 10	< 1	0.28	33	0.27
1061542	6	0.3	< 0.5	33	913	44	6	4	90	1.38	39	< 10	25	< 0.5	< 2	4.17	13	3	3.61	< 10	< 1	0.27	27	1.19
1061543	25	0.6	< 0.5	19	445	49	6	12	66	1.20	163	< 10	21	< 0.5	< 2	3.10	11	3	3.64	< 10	< 1	0.43	20	0.46
1061544	30	0.5	0.6	61	933	92	10	12	142	1.79	259	< 10	15	< 0.5	< 2	1.70	20	7	5.51	< 10	< 1	0.34	16	1.41
1061545	24	0.5	1.0	27	1340	41	9	5	116	1.52	125	< 10	47	< 0.5	< 2	4.66	14	6	4.63	< 10	< 1	0.26	11	2.75
1061546	51	0.3	1.3	40	1130	18	7	10	110	1.15	456	< 10	15	< 0.5	< 2	2.76	16	4	4.38	< 10	< 1	0.37	14	1.26
1061547	15	0.3	1.8	39	992	15	9	30	673	1.55	360	< 10	16	< 0.5	< 2	1.78	18	5	3.60	< 10	< 1	0.37	12	1.29
1061548	10	0.4	0.7	40	1050	41	9	22	412	1.50	62	< 10	< 10	< 0.5	< 2	2.30	19	8	4.83	< 10	< 1	0.32	< 10	1.63
1061549	29	0.4	1.4	60	945	5	14	25	491	1.11	97	< 10	11	< 0.5	< 2	2.61	20	6	4.14	< 10	< 1	0.43	< 10	0.72
1061550	8	0.2	< 0.5	39	1010	3	15	3	88	1.06	102	< 10	15	< 0.5	< 2	2.76	23	5	4.90	< 10	< 1	0.46	< 10	0.90
1061551	14	< 0.2	1.2	22	513	9	34	6	352	1.25	86	< 10	20	< 0.5	< 2	1.49	18	4	3.25	< 10	< 1	0.39	18	0.48
1061552	46	0.4	1.0	31	944	3	35	5	171	0.67	245	< 10	18	< 0.5	< 2	3.32	24	4	4.76	< 10	< 1	0.25	< 10	1.15
1061553	33	0.3	0.7	26	1160	2	83	6	142	0.76	120	< 10	22	< 0.5	< 2	3.64	24	35	4.22	< 10	< 1	0.28	< 10	1.45
1061554	46	0.4	1.3	38	452	32	160	6	121	1.27	331	< 10	< 10	< 0.5	< 2	1.28	38	107	6.40	< 10	2	0.43	10	0.84
1061555	206	0.4	0.8	133	592	2	149	11	381	1.17	258	< 10	12	< 0.5	< 2	1.65	36	51	4.95	< 10	< 1	0.32	< 10	0.99
1061556	206	0.5	1.2	153	129	2	44	10	402	0.78	209	< 10	< 10	< 0.5	< 2	0.53	20	3	5.14	< 10	< 1	0.27	< 10	0.24
1061557																								
1061558	113	0.2	< 0.5	30	305	10	65	9	391	0.31	61	< 10	14	< 0.5	3	0.63	24	8	2.64	< 10	< 1	0.09	12	0.24
1061559	19	< 0.2	< 0.5	12	419	3	14	3	102	0.46	208	< 10	78	< 0.5	< 2	1.53	8	10	1.67	< 10	< 1	0.16	25	0.52
1061560	1690	0.3	< 0.5	62	817	< 1	109	8	72	1.49	1620	< 10	48	< 0.5	< 2	1.36	28	37	4.96	< 10	3	0.06	12	1.98
1061561	33	< 0.2	< 0.5	7	320	2	7	< 2	51	0.30	37	< 10	41	< 0.5	< 2	1.03	4	8	1.23	< 10	< 1	0.07	20	0.36
1061562	19	< 0.2	< 0.5	10	268	2	9	3	89	0.51	97	< 10	35	< 0.5	< 2	0.22	6	9	1.34	< 10	< 1	0.09	27	0.11
1061563	10	< 0.2	< 0.5	4	247	< 1	5	< 2	29	0.28	57	< 10	36	< 0.5	< 2	0.70	3	7	0.98	< 10	< 1	0.06	18	0.26
1061564	15	< 0.2	< 0.5	8	271	< 1	14	3	66	0.79	1380	< 10	38	< 0.5	< 2	1.02	8	12	1.87	< 10	2	0.16	31	0.57
1061565	16	< 0.2	< 0.5	8	377	< 1	9	3	18	0.36	2320	< 10	67	< 0.5	< 2	1.47	5	8	1.34	< 10	< 1	0.10	28	0.55
1061566	14	< 0.2	< 0.5	9	309	2	9	3	37	0.60	1090	< 10	46	< 0.5	< 2	0.96	6	8	1.58	< 10	< 1	0.11	23	0.46
1061567	9	< 0.2	< 0.5	3	290	< 1	6	< 2	20	0.29	463	< 10	30	< 0.5	< 2	0.87	3	7	1.14	< 10	< 1	0.05	15	0.38
1061568	49	< 0.2	< 0.5	11	218	12	17	< 2	20	0.29	2940	< 10	25	< 0.5	< 2	0.62	10	11	2.28	< 10	< 1	0.06	12	0.25
1061569	61	0.2	0.6	36	36	17	59	7	68	0.57	612	< 10	< 10	< 0.5	< 2	0.12	29	15	4.09	< 10	< 1	0.12	11	0.12
1061570	48	< 0.2	< 0.5	45	37	5	38	5	53	0.55	234	< 10	10	< 0.5	< 2	0.12	23	8	3.68	< 10	< 1	0.11	< 10	0.11
1061571	18	0.3	0.7	20	923	< 1	13	3	31	1.21	592	< 10	38	< 0.5	< 2	4.36	16	3	4.38	< 10	< 1	0.35	< 10	1.63
1061572	19	0.3	0.9	19	920	< 1	12	4	30	1.22	532	< 10	33	< 0.5	< 2	4.34	16	3	4.35	< 10	< 1	0.36	< 10	1.64

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061573	35	0.3	< 0.5	17	842	< 1	12	4	32	1.09	485	< 10	15	< 0.5	< 2	3.66	13	3	4.99	< 10	< 1	0.34	< 10	1.40
1061574	22	0.4	< 0.5	27	1620	< 1	21	< 2	31	0.96	908	< 10	68	< 0.5	< 2	5.54	19	9	4.53	< 10	2	0.33	12	1.92
1061575	9	0.2	< 0.5	54	598	2	13	3	21	0.81	216	< 10	114	< 0.5	< 2	2.86	7	9	2.11	< 10	< 1	0.27	30	0.83
1061576	< 5	< 0.2	0.6	17	820	< 1	13	3	109	0.97	49	< 10	128	< 0.5	< 2	3.83	9	10	2.62	< 10	< 1	0.31	38	1.24
1061577	5	< 0.2	< 0.5	24	876	< 1	12	< 2	39	0.90	83	< 10	108	< 0.5	< 2	4.06	11	7	2.60	< 10	< 1	0.29	40	1.39
1061578	< 5	< 0.2	< 0.5	32	692	< 1	15	4	58	1.01	23	< 10	129	< 0.5	< 2	4.02	15	8	2.65	< 10	< 1	0.34	43	1.30
1061579	< 5	0.2	0.6	51	757	< 1	13	4	64	1.00	60	< 10	139	< 0.5	< 2	4.58	14	7	2.98	< 10	< 1	0.34	53	1.65
1061580	387	< 0.2	0.6	48	651	2	112	< 2	66	1.70	76	< 10	99	< 0.5	< 2	1.51	29	49	4.55	< 10	< 1	0.06	14	2.19
1061581	< 5	< 0.2	< 0.5	44	836	< 1	12	4	74	0.96	30	< 10	205	< 0.5	< 2	4.30	11	8	2.71	< 10	< 1	0.31	58	1.47
1061582	< 5	0.2	0.7	25	1070	< 1	16	4	76	1.06	16	< 10	182	< 0.5	< 2	5.35	16	7	3.55	< 10	< 1	0.35	60	1.71
1061583	< 5	< 0.2	< 0.5	47	946	< 1	17	3	52	1.01	27	< 10	170	< 0.5	< 2	4.46	13	13	3.00	< 10	< 1	0.36	48	1.33
1061584	< 5	< 0.2	< 0.5	25	1070	< 1	17	< 2	64	1.62	49	< 10	133	< 0.5	< 2	4.13	15	16	3.98	< 10	< 1	0.32	32	1.73
1061585	< 5	< 0.2	< 0.5	51	1380	< 1	15	2	75	1.52	32	< 10	137	< 0.5	< 2	4.64	18	22	4.44	< 10	< 1	0.26	36	1.85
1061586	6	0.3	0.6	65	2350	< 1	13	6	81	1.20	141	< 10	116	< 0.5	< 2	3.84	21	13	6.42	< 10	3	0.33	39	1.59
1061587	18	0.2	< 0.5	57	1460	< 1	14	4	68	1.19	2100	< 10	133	< 0.5	< 2	4.04	23	12	4.47	< 10	4	0.37	46	1.31
1061588	46	0.3	< 0.5	60	2290	< 1	15	9	88	1.01	4770	< 10	71	< 0.5	< 2	3.77	22	14	6.28	< 10	< 1	0.30	29	1.14
1061589	8	0.2	0.8	50	2120	< 1	16	30	56	1.03	841	< 10	153	< 0.5	< 2	3.43	25	21	5.99	< 10	4	0.30	29	0.92
1061590	< 5	< 0.2	< 0.5	46	2150	< 1	17	6	91	1.15	61	< 10	225	< 0.5	< 2	3.39	26	23	6.11	< 10	< 1	0.34	34	0.92
1061591	33	< 0.2	< 0.5	55	2180	< 1	16	8	75	1.03	2640	< 10	45	< 0.5	< 2	3.33	25	19	6.15	< 10	< 1	0.30	21	0.88
1061592	< 5	< 0.2	< 0.5	55	1240	< 1	18	11	66	1.01	206	< 10	159	< 0.5	< 2	3.31	19	25	4.65	< 10	< 1	0.31	36	0.79
1061593	5	< 0.2	0.8	56	1280	< 1	19	12	72	0.99	192	< 10	155	< 0.5	< 2	3.43	20	25	4.72	< 10	< 1	0.30	38	0.82
1061594	< 5	< 0.2	< 0.5	59	1360	< 1	21	7	118	1.09	94	< 10	140	< 0.5	< 2	3.67	21	24	5.55	< 10	< 1	0.31	38	0.93
1061595	< 5	< 0.2	0.9	55	1310	< 1	17	5	73	1.08	367	< 10	138	< 0.5	< 2	4.01	17	25	4.82	< 10	< 1	0.28	28	0.94

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
1061521	0.044	0.133	1.98	2	4	333	< 0.01	< 1	4	< 10	29	< 10	5	2	
1061522	0.032	0.137	2.13	2	3	509	< 0.01	< 1	< 2	< 10	17	< 10	4	2	
1061523	0.035	0.119	1.56	4	3	336	< 0.01	< 1	5	< 10	29	< 10	6	2	
1061524	0.035	0.134	1.01	4	2	289	< 0.01	< 1	< 2	< 10	12	< 10	8	1	
1061525	0.041	0.128	1.24	4	3	397	< 0.01	< 1	4	< 10	16	< 10	5	1	
1061526	0.042	0.106	1.14	3	2	366	< 0.01	2	< 2	< 10	13	< 10	6	1	
1061527	0.082	0.068	1.12	< 2	2	262	< 0.01	2	< 2	< 10	12	< 10	5	2	
1061528	0.080	0.064	1.44	2	2	291	< 0.01	< 1	< 2	< 10	9	< 10	4	5	
1061529	0.079	0.072	1.19	2	2	301	< 0.01	< 1	< 2	< 10	9	< 10	5	3	
1061530	0.043	0.139	1.15	< 2	3	316	0.07	< 1	3	< 10	35	< 10	7	3	
1061531	0.059	0.148	1.39	< 2	4	251	0.19	3	< 2	< 10	49	< 10	8	6	
1061532	0.048	0.157	1.80	< 2	5	239	0.18	< 1	3	< 10	62	< 10	8	7	
1061533	0.038	0.109	1.87	3	5	441	0.08	< 1	< 2	< 10	73	< 10	6	6	
1061534	0.051	0.114	1.98	2	4	169	0.15	2	< 2	< 10	56	< 10	6	6	
1061535	0.053	0.178	1.78	2	3	208	0.06	< 1	< 2	< 10	29	< 10	7	3	
1061536	0.050	0.159	1.50	< 2	2	200	0.15	1	3	< 10	33	< 10	7	4	
1061537	0.049	0.162	1.32	< 2	3	230	0.14	< 1	< 2	< 10	33	< 10	7	4	
1061538	0.043	0.147	2.00	< 2	2	326	0.08	< 1	< 2	< 10	27	< 10	7	3	
1061539	0.060	0.130	1.97	< 2	3	110	0.15	1	< 2	< 10	35	< 10	6	6	
1061540	0.206	0.142	2.11	5	6	91	0.06	< 1	2	< 10	74	< 10	12	4	5.38
1061541	0.075	0.134	2.10	< 2	4	141	0.27	< 1	< 2	< 10	50	< 10	6	13	
1061542	0.040	0.127	2.06	< 2	2	309	0.07	< 1	2	< 10	22	< 10	6	2	
1061543	0.049	0.125	2.63	< 2	2	292	< 0.01	< 1	< 2	< 10	20	< 10	4	3	
1061544	0.032	0.107	2.86	< 2	5	152	< 0.01	< 1	< 2	< 10	45	< 10	4	9	
1061545	0.033	0.123	1.59	< 2	4	495	< 0.01	< 1	3	< 10	35	< 10	5	2	
1061546	0.044	0.140	3.19	< 2	3	286	< 0.01	< 1	< 2	< 10	23	< 10	5	6	
1061547	0.046	0.113	2.33	4	4	153	< 0.01	1	< 2	< 10	30	< 10	7	3	
1061548	0.039	0.119	3.13	2	4	216	< 0.01	< 1	< 2	< 10	36	< 10	5	8	
1061549	0.042	0.099	2.86	< 2	4	254	< 0.01	2	< 2	< 10	28	< 10	4	4	
1061550	0.033	0.121	3.52	2	4	210	< 0.01	< 1	2	< 10	22	< 10	4	6	
1061551	0.044	0.116	2.18	< 2	2	125	< 0.01	< 1	< 2	< 10	16	< 10	4	3	
1061552	0.053	0.050	3.41	3	3	333	< 0.01	< 1	< 2	< 10	13	< 10	3	16	
1061553	0.046	0.056	2.82	4	3	313	< 0.01	1	< 2	< 10	14	< 10	3	3	
1061554	0.024	0.065	5.51	7	4	76	< 0.01	< 1	< 2	< 10	20	< 10	3	34	
1061555	0.038	0.063	3.81	5	3	174	< 0.01	1	< 2	< 10	14	< 10	3	13	
1061556	0.050	0.050	5.40	6	< 1	54	< 0.01	< 1	< 2	< 10	6	< 10	2	20	
1061557															
1061558	0.078	0.017	2.13	< 2	2	82	< 0.01	< 1	< 2	< 10	6	< 10	2	16	
1061559	0.092	0.045	0.73	< 2	2	223	< 0.01	1	3	< 10	9	< 10	3	4	
1061560	0.313	0.087	0.68	3	2	87	0.03	< 1	< 2	< 10	26	< 10	11	2	
1061561	0.107	0.028	0.51	< 2	2	140	< 0.01	< 1	< 2	< 10	5	< 10	2	1	
1061562	0.092	0.038	0.49	< 2	1	41	< 0.01	< 1	< 2	< 10	7	< 10	2	< 1	
1061563	0.086	0.020	0.34	< 2	1	85	< 0.01	< 1	< 2	< 10	4	< 10	2	< 1	
1061564	0.102	0.053	0.64	< 2	2	118	< 0.01	< 1	< 2	< 10	10	< 10	3	< 1	
1061565	0.110	0.040	0.40	2	2	185	< 0.01	< 1	< 2	< 10	5	< 10	3	< 1	
1061566	0.099	0.038	0.52	2	2	121	0.01	< 1	< 2	< 10	11	< 10	3	1	
1061567	0.086	0.015	0.33	< 2	1	107	< 0.01	1	< 2	< 10	4	< 10	1	1	
1061568	0.079	0.018	1.42	4	2	77	< 0.01	1	< 2	< 10	5	< 10	1	11	
1061569	0.056	0.015	3.73	4	2	39	< 0.01	< 1	< 2	< 10	37	< 10	2	20	
1061570	0.078	0.024	3.10	3	2	35	< 0.01	< 1	< 2	< 10	15	< 10	2	16	
1061571	0.064	0.128	2.19	4	5	567	< 0.01	2	< 2	< 10	20	< 10	5	2	
1061572	0.067	0.127	2.08	2	5	561	< 0.01	< 1	< 2	< 10	20	< 10	4	2	

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
1061573	0.060	0.126	3.03	4	4	550	< 0.01	< 1	2	< 10	19	< 10	5	2	
1061574	0.057	0.113	1.26	4	5	839	< 0.01	2	< 2	< 10	19	< 10	5	1	
1061575	0.062	0.057	0.20	< 2	2	301	< 0.01	< 1	< 2	< 10	9	< 10	3	1	
1061576	0.058	0.071	0.36	2	3	389	< 0.01	< 1	2	< 10	12	< 10	4	1	
1061577	0.052	0.073	0.32	< 2	3	350	< 0.01	5	< 2	< 10	10	< 10	4	< 1	
1061578	0.056	0.084	0.13	< 2	3	468	< 0.01	< 1	< 2	< 10	13	< 10	5	< 1	
1061579	0.052	0.136	0.36	< 2	5	600	< 0.01	< 1	2	< 10	21	< 10	6	< 1	
1061580	0.384	0.078	0.20	< 2	3	97	0.10	4	< 2	< 10	29	< 10	12	1	
1061581	0.061	0.125	0.14	2	4	402	< 0.01	< 1	< 2	< 10	18	< 10	6	< 1	
1061582	0.057	0.141	0.10	2	4	393	< 0.01	< 1	2	< 10	20	< 10	6	< 1	
1061583	0.073	0.094	0.05	< 2	3	338	< 0.01	< 1	< 2	< 10	17	< 10	5	< 1	
1061584	0.059	0.103	0.01	< 2	5	343	< 0.01	4	< 2	< 10	31	< 10	5	1	
1061585	0.063	0.116	0.01	< 2	7	386	< 0.01	3	3	< 10	39	< 10	5	1	
1061586	0.074	0.146	0.47	9	7	716	< 0.01	< 1	< 2	< 10	38	< 10	5	2	
1061587	0.083	0.156	0.41	12	6	748	< 0.01	< 1	< 2	< 10	33	< 10	6	1	
1061588	0.101	0.139	0.81	14	8	578	< 0.01	< 1	2	< 10	31	< 10	6	2	
1061589	0.108	0.123	0.27	6	9	440	< 0.01	< 1	3	< 10	33	< 10	5	2	
1061590	0.099	0.122	0.13	3	8	451	< 0.01	3	5	< 10	36	< 10	5	2	
1061591	0.105	0.137	0.96	6	7	425	< 0.01	< 1	< 2	< 10	36	< 10	5	2	
1061592	0.103	0.134	0.22	< 2	9	407	< 0.01	< 1	3	< 10	34	< 10	5	1	
1061593	0.102	0.140	0.21	4	9	415	< 0.01	< 1	< 2	< 10	33	< 10	5	1	
1061594	0.118	0.136	0.09	3	7	367	< 0.01	< 1	3	< 10	36	< 10	6	2	
1061595	0.122	0.123	0.21	3	8	377	< 0.01	< 1	4	< 10	34	< 10	5	1	

Quality Control

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-1 Meas		< 0.2	< 0.5	< 1	11	< 1	< 1	5	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
GXR-1 Cert		31.0	3.30	1110	852	18.0	41.0	730	760	3.52	427	15.0	750	1.22	1380	0.960	8.20	12.0	23.6	13.8	3.90	0.0500	7.50	0.217
GXR-4 Meas		3.6	0.8	7580	146	289	38	40	77	2.96	88	< 10	26	1.4	5	0.96	16	59	3.26	10	< 1	1.58	46	1.75
GXR-4 Cert		4.00	0.860	6520	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.6	64.0	3.09	20.0	0.110	4.01	64.5	1.66
GXR-6 Meas		0.3	0.5	79	1110	< 1	23	99	138	7.65	187	< 10	944	0.9	< 2	0.16	14	87	5.76	20	3	1.05	13	0.43
GXR-6 Cert		1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680	1.87	13.9	0.609
CDN-GS-20A Meas																								
CDN-GS-20A Cert																								
OxG84 Meas	998																							
OxG84 Cert	922.000																							
OxG84 Meas	1010																							
OxG84 Cert	922.000																							
OxG84 Meas	994																							
OxG84 Cert	922.000																							
OxJ80 Meas	2610																							
OxJ80 Cert	2331.000																							
OxJ80 Meas	2540																							
OxJ80 Cert	2331.000																							
1061530 Orig	< 5																							
1061530 Dup	5																							
1061533 Orig		0.4	0.6	42	1080	219	10	15	183	1.83	184	< 10	49	< 0.5	< 2	5.46	15	9	4.60	< 10	< 1	0.23	19	1.61
1061533 Dup		0.4	< 0.5	43	1110	227	11	14	195	1.90	182	< 10	53	< 0.5	< 2	5.52	15	8	4.75	< 10	< 1	0.23	20	1.67
1061541 Orig	5																							
1061541 Dup	< 5																							
1061550 Orig	8	0.2	< 0.5	39	1010	3	15	3	88	1.06	102	< 10	15	< 0.5	< 2	2.76	23	5	4.90	< 10	< 1	0.46	< 10	0.90
1061550 Split	13	0.2	0.9	40	1010	3	15	4	88	1.09	102	< 10	16	< 0.5	< 2	2.66	21	6	4.95	< 10	< 1	0.47	< 10	0.90
1061550 Orig	6																							
1061550 Dup	9																							
1061556 Orig		0.5	1.4	159	133	2	46	9	402	0.83	220	< 10	< 10	< 0.5	< 2	0.62	20	3	5.35	< 10	< 1	0.27	< 10	0.25
1061556 Dup		0.5	1.0	147	125	2	42	11	402	0.73	197	< 10	< 10	< 0.5	< 2	0.45	20	3	4.94	< 10	< 1	0.26	< 10	0.23
1061565 Orig	16																							
1061565 Dup	15																							
1061570 Orig	48	< 0.2	< 0.5	45	37	5	38	5	53	0.55	234	< 10	10	< 0.5	< 2	0.12	23	8	3.68	< 10	< 1	0.11	< 10	0.11
1061570 Split	36	< 0.2	< 0.5	42	39	5	35	6	51	0.55	198	< 10	< 10	< 0.5	< 2	0.12	23	8	3.43	< 10	< 1	0.10	< 10	0.10
1061570 Orig		< 0.2	< 0.5	46	37	6	39	5	54	0.56	240	< 10	11	< 0.5	< 2	0.13	23	8	3.71	< 10	< 1	0.11	< 10	0.11
1061570 Dup		< 0.2	0.8	44	36	5	37	6	52	0.54	228	< 10	10	< 0.5	< 2	0.12	23	7	3.66	< 10	< 1	0.10	< 10	0.11
1061570 Split		< 0.2	< 0.5	42	39	5	35	6	51	0.55	198	< 10	< 10	< 0.5	< 2	0.12	23	8	3.43	< 10	< 1	0.10	< 10	0.10
1061575 Orig	10																							
1061575 Dup	9																							
1061581 Orig	< 5	< 0.2	< 0.5	44	836	< 1	12	4	74	0.96	30	< 10	205	< 0.5	< 2	4.30	11	8	2.71	< 10	< 1	0.31	58	1.47
1061581 Split	< 5	< 0.2	0.6	46	855	< 1	13	2	75	1.00	34	< 10	210	< 0.5	< 2	4.42	11	9	2.80	< 10	< 1	0.33	61	1.51
1061583 Orig		< 0.2	< 0.5	48	959	< 1	18	3	53	1.05	28	< 10	174	< 0.5	< 2	4.51	13	13	3.03	< 10	< 1	0.37	48	1.35
1061583 Dup		< 0.2	< 0.5	46	934	< 1	16	3	51	0.97	26	< 10	165	< 0.5	< 2	4.41	13	12	2.96	< 10	< 1	0.35	47	1.31
1061585 Orig	< 5																							
1061585 Dup	< 5																							
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01

Quality Control

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
GXR-1 Meas	< 0.001	< 0.001	< 0.01	< 2	< 1	< 1		5	< 2	< 10	< 1	< 10	< 1	< 1	
GXR-1 Cert	0.0520	0.0650	0.257	122	1.58	275		13.0	0.390	34.9	80.0	164	32.0	38.0	
GXR-4 Meas	0.140	0.122	1.89	< 2	7	80		< 1	< 2	< 10	76	< 10	12	6	
GXR-4 Cert	0.564	0.120	1.77	4.80	7.70	221		0.970	3.20	6.20	87.0	30.8	14.0	186	
GXR-6 Meas	0.089	0.036	0.01	3	27	36		< 1	5	< 10	54	< 10	7	2	
GXR-6 Cert	0.104	0.0350	0.0160	3.60	27.6	35.0		0.0180	2.20	1.54	186	1.90	14.0	110	
CDN-GS-20A Meas															22.0
CDN-GS-20A Cert															21.12
OxG84 Meas															
OxG84 Cert															
OxG84 Meas															
OxG84 Cert															
OxG84 Meas															
OxG84 Cert															
OxJ80 Meas															
OxJ80 Cert															
OxJ80 Meas															
OxJ80 Cert															
1061530 Orig															
1061530 Dup															
1061533 Orig	0.036	0.107	1.88	2	5	437	0.08	< 1	< 2	< 10	71	< 10	6	6	
1061533 Dup	0.040	0.112	1.85	3	5	444	0.08	4	4	< 10	74	< 10	6	6	
1061541 Orig															
1061541 Dup															
1061550 Orig	0.033	0.121	3.52	2	4	210	< 0.01	< 1	2	< 10	22	< 10	4	6	
1061550 Split	0.036	0.121	3.39	3	4	210	< 0.01	1	3	< 10	23	< 10	4	6	
1061550 Orig															
1061550 Dup															
1061556 Orig	0.050	0.052	5.57	8	1	63	< 0.01	< 1	< 2	< 10	6	< 10	3	21	
1061556 Dup	0.050	0.047	5.24	5	< 1	45	< 0.01	< 1	< 2	< 10	6	< 10	2	18	
1061565 Orig															
1061565 Dup															
1061570 Orig	0.078	0.024	3.10	3	2	35	< 0.01	< 1	< 2	< 10	15	< 10	2	16	
1061570 Split	0.083	0.023	2.86	3	2	35	< 0.01	< 1	< 2	< 10	15	< 10	2	15	
1061570 Orig	0.079	0.024	3.16	2	2	35	< 0.01	< 1	< 2	< 10	15	< 10	2	16	
1061570 Dup	0.076	0.023	3.04	3	2	35	< 0.01	< 1	< 2	< 10	15	< 10	2	16	
1061570 Split	0.083	0.023	2.86	3	2	35	< 0.01	< 1	< 2	< 10	15	< 10	2	15	
1061575 Orig															
1061575 Dup															
1061581 Orig	0.061	0.125	0.14	2	4	402	< 0.01	< 1	< 2	< 10	18	< 10	6	< 1	
1061581 Split	0.065	0.128	0.14	3	4	415	< 0.01	< 1	< 2	< 10	19	< 10	6	< 1	
1061583 Orig	0.076	0.095	0.05	2	3	341	< 0.01	3	< 2	< 10	17	< 10	5	< 1	
1061583 Dup	0.069	0.094	0.05	< 2	3	335	< 0.01	< 1	3	< 10	16	< 10	5	1	
1061585 Orig															
1061585 Dup															
Method Blank Method Blank	0.011	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.011	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.011	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.012	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.013	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 16-Aug-11
Invoice No.: A11-8843
Invoice Date: 20-Sep-11
Your Reference: 19555-Straw Lake

Mineral Mountain Resources Ltd.
411 Mowat Ave. Suite 222
Fort Frances Ontario P9A1Y8
Canada

ATTN: Project Manager Kevin Leonard

CERTIFICATE OF ANALYSIS

1 Pulp sample and 39 Rock samples were submitted for analysis.

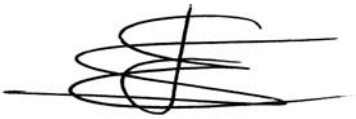
The following analytical packages were requested:

Code 1A2-Tbay Au - Fire Assay AA (QOP Fire Assay Tbay)
Code 1A3-Tbay Au - Fire Assay Gravimetric (QOP Fire Assay Tbay)
Code 1E3-Tbay Aqua Regia ICP(AQUAGEO)

REPORT **A11-8843**

Notes:
If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3
Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

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Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061651	< 5	0.7	0.6	44	634	2	28	< 2	87	1.98	7	< 10	10	< 0.5	< 2	1.50	23	33	6.76	< 10	2	0.22	16	0.71
1061652	< 5	0.4	0.7	82	970	2	30	< 2	95	2.29	10	< 10	< 10	< 0.5	< 2	0.90	18	30	11.2	< 10	3	0.22	16	1.09
1061653	35	0.9	0.6	59	1710	7	26	< 2	102	2.28	19	< 10	< 10	< 0.5	< 2	0.73	38	32	11.9	< 10	2	0.20	18	1.25
1061654	5	0.2	< 0.5	25	496	3	14	< 2	87	1.84	2	< 10	41	< 0.5	< 2	1.71	14	37	3.94	< 10	< 1	0.30	36	0.70
1061655	< 5	< 0.2	< 0.5	26	591	2	53	< 2	70	2.16	< 2	< 10	124	< 0.5	< 2	1.80	17	134	4.11	< 10	< 1	0.32	31	1.57
1061656	< 5	< 0.2	< 0.5	59	516	5	87	2	76	1.89	16	< 10	92	< 0.5	< 2	1.86	21	224	3.60	< 10	< 1	0.19	27	1.82
1061657	< 5	0.3	< 0.5	43	280	4	16	4	48	1.39	3	< 10	44	< 0.5	< 2	2.14	18	26	3.42	< 10	< 1	0.15	33	0.40
1061658	< 5	0.4	0.6	47	335	11	17	25	107	1.77	16	< 10	62	< 0.5	< 2	2.05	18	31	3.52	< 10	< 1	0.32	29	0.71
1061659	< 5	< 0.2	< 0.5	22	580	1	18	2	61	2.25	13	< 10	97	< 0.5	< 2	1.66	18	30	4.02	< 10	< 1	0.51	28	1.10
1061660	< 5	2.3	< 0.5	1	21	< 1	< 1	< 2	< 2	0.02	< 2	< 10	14	< 0.5	< 2	20.9	< 1	< 1	0.04	< 10	< 1	< 0.01	< 10	1.70
1061661	< 5	< 0.2	0.7	47	422	< 1	16	4	87	1.99	17	< 10	134	< 0.5	< 2	2.07	19	30	3.41	< 10	< 1	0.65	26	0.90
1061662	< 5	< 0.2	< 0.5	29	533	< 1	14	4	76	1.82	2	< 10	148	< 0.5	< 2	2.51	16	40	3.01	< 10	< 1	0.49	32	0.87
1061663	5	< 0.2	< 0.5	29	584	< 1	19	18	103	1.98	50	< 10	47	< 0.5	< 2	3.45	16	27	3.71	< 10	< 1	0.33	34	1.02
1061664	< 5	0.2	< 0.5	28	570	17	17	13	102	2.13	32	< 10	90	< 0.5	< 2	3.26	16	27	3.35	< 10	< 1	0.36	42	1.07
1061665	< 5	0.4	< 0.5	51	866	< 1	23	93	201	2.59	16	< 10	55	< 0.5	< 2	5.22	21	18	5.98	< 10	5	0.22	20	2.05
1061666	20	0.6	< 0.5	21	943	14	75	< 2	52	0.66	56	< 10	98	< 0.5	< 2	5.53	22	42	4.55	< 10	< 1	0.27	12	2.46
1061667	11	0.6	< 0.5	6	1030	17	99	3	82	1.03	77	< 10	96	0.9	< 2	5.99	29	105	4.55	< 10	< 1	0.50	< 10	3.08
1061668	< 5	0.3	0.7	5	867	6	153	< 2	85	3.15	5	< 10	28	< 0.5	< 2	4.25	35	338	5.32	10	1	0.17	< 10	4.24
1061669	< 5	0.4	< 0.5	73	791	11	179	7	63	3.47	27	< 10	59	< 0.5	< 2	5.32	32	297	5.27	10	2	0.24	< 10	3.81
1061670	2530	0.5	0.6	166	777	2	18	2	53	2.53	17	< 10	26	< 0.5	< 2	4.74	20	14	5.08	< 10	< 1	0.57	27	1.46
1061671	13	0.3	< 0.5	78	764	7	17	21	89	2.58	83	< 10	50	< 0.5	< 2	4.15	22	10	4.10	< 10	< 1	0.44	28	1.13
1061672	8	0.2	< 0.5	47	522	4	16	21	42	1.65	148	< 10	15	0.6	< 2	2.14	18	12	2.89	< 10	< 1	0.61	24	0.88
1061673	< 5	< 0.2	< 0.5	46	744	< 1	17	10	127	2.95	9	< 10	244	< 0.5	< 2	3.15	22	13	4.73	< 10	< 1	0.73	22	1.41
1061674	< 5	0.3	0.7	40	995	< 1	18	11	147	2.52	423	< 10	71	0.6	< 2	3.36	21	12	5.03	< 10	< 1	0.83	17	1.49
1061675	6	0.2	< 0.5	16	555	13	13	31	62	1.24	216	< 10	57	0.8	< 2	1.75	7	20	2.07	< 10	< 1	0.46	33	0.63
1061676	< 5	0.3	< 0.5	30	742	22	16	32	37	1.38	156	< 10	31	0.8	< 2	1.50	10	20	2.72	< 10	< 1	0.49	34	0.63
1061677	< 5	0.2	< 0.5	44	527	2	20	4	61	2.02	120	< 10	37	< 0.5	< 2	2.33	26	12	3.92	< 10	< 1	0.26	19	0.85
1061678	< 5	0.6	0.6	68	359	32	28	9	114	1.85	10	< 10	29	< 0.5	< 2	2.50	32	9	4.91	< 10	< 1	0.14	17	0.52
1061679	< 5	0.3	< 0.5	55	352	52	25	5	58	1.90	9	< 10	30	< 0.5	< 2	2.67	31	13	4.55	< 10	< 1	0.22	21	0.54
1061680	> 3000	1.1	< 0.5	144	2500	2	82	5	77	2.21	2190	< 10	11	< 0.5	< 2	2.84	24	61	8.08	< 10	< 1	0.09	< 10	2.01
1061681	< 5	0.2	< 0.5	79	435	1	23	3	57	2.42	13	< 10	41	< 0.5	< 2	1.89	27	12	4.56	< 10	< 1	0.44	23	0.94
1061682	< 5	0.4	0.6	62	450	7	20	3	75	2.87	42	< 10	26	< 0.5	< 2	2.99	23	9	3.85	< 10	< 1	0.48	20	0.74
1061683	< 5	< 0.2	< 0.5	58	664	1	12	11	91	3.01	14	< 10	212	< 0.5	< 2	3.33	18	7	3.17	< 10	< 1	0.66	27	1.23
1061684	10	< 0.2	< 0.5	43	616	3	14	2	62	2.63	97	< 10	103	0.5	< 2	4.34	17	7	2.84	< 10	< 1	0.81	27	1.06
1061685	7	< 0.2	< 0.5	41	521	6	14	< 2	67	2.53	< 2	< 10	123	< 0.5	< 2	2.78	17	10	3.46	< 10	< 1	0.69	35	0.98
1061686	25	< 0.2	< 0.5	48	536	3	11	6	110	2.35	87	< 10	46	< 0.5	< 2	3.16	13	9	4.21	< 10	< 1	0.72	34	0.83
1061687	< 5	< 0.2	< 0.5	47	508	< 1	10	9	108	2.60	4	< 10	60	0.6	< 2	3.34	14	7	2.81	< 10	< 1	0.58	38	0.71
1061688	12	< 0.2	< 0.5	51	707	3	11	6	144	2.25	88	< 10	49	0.7	< 2	3.70	14	4	2.48	< 10	< 1	1.01	26	0.84
1061689	21	0.2	0.9	51	898	3	18	10	115	1.74	62	< 10	37	0.7	< 2	4.11	15	6	3.17	< 10	< 1	0.78	18	1.08
1061690	28	< 0.2	< 0.5	94	629	3	22	10	126	2.26	112	< 10	17	0.6	< 2	2.58	21	6	3.23	< 10	< 1	1.04	24	0.54

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
1061651	0.049	0.094	4.12	< 2	6	208	0.24	4	< 2	< 10	63	< 10	8	23	
1061652	0.022	0.089	6.96	4	7	134	0.16	< 1	< 2	< 10	65	< 10	8	29	
1061653	0.025	0.071	5.48	6	7	96	0.15	7	< 2	< 10	67	< 10	8	30	
1061654	0.062	0.124	1.27	< 2	4	198	0.27	1	< 2	< 10	62	< 10	8	9	
1061655	0.099	0.128	0.33	< 2	8	226	0.26	< 1	< 2	< 10	94	< 10	7	6	
1061656	0.103	0.117	0.54	< 2	8	173	0.23	1	< 2	< 10	79	< 10	7	6	
1061657	0.095	0.130	1.39	< 2	3	269	0.27	< 1	< 2	< 10	52	< 10	8	11	
1061658	0.082	0.128	0.98	< 2	4	286	0.25	< 1	< 2	< 10	63	< 10	7	8	
1061659	0.107	0.132	0.56	< 2	7	209	0.33	3	< 2	< 10	107	< 10	8	8	
1061660	0.014	0.003	0.06	< 2	< 1	2690	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
1061661	0.096	0.122	0.44	< 2	6	202	0.26	< 1	3	< 10	78	< 10	8	6	
1061662	0.075	0.118	0.34	< 2	5	229	0.22	< 1	2	< 10	57	< 10	8	4	
1061663	0.058	0.127	1.17	< 2	5	325	0.16	< 1	< 2	< 10	58	< 10	8	7	
1061664	0.068	0.129	0.69	< 2	5	395	0.20	1	< 2	< 10	64	< 10	8	6	
1061665	0.035	0.115	1.93	3	6	428	0.01	< 1	3	< 10	70	< 10	5	4	
1061666	0.046	0.046	1.16	< 2	8	964	0.01	< 1	< 2	< 10	30	< 10	4	6	
1061667	0.063	0.012	0.78	< 2	12	1170	0.01	< 1	< 2	< 10	63	< 10	4	12	
1061668	0.045	0.029	0.26	2	20	601	0.03	< 1	4	< 10	129	< 10	3	5	
1061669	0.038	0.043	0.58	< 2	14	627	0.02	< 1	2	< 10	100	< 10	4	6	
1061670	0.066	0.122	1.69	< 2	8	457	0.12	< 1	2	< 10	76	68	8	9	
1061671	0.098	0.116	1.17	< 2	8	450	0.14	1	< 2	< 10	68	< 10	9	9	
1061672	0.152	0.083	0.96	< 2	4	396	0.04	< 1	< 2	< 10	32	< 10	6	4	
1061673	0.089	0.123	0.21	< 2	7	315	0.09	< 1	< 2	< 10	79	< 10	7	5	
1061674	0.076	0.122	0.56	< 2	8	407	0.06	< 1	< 2	< 10	77	< 10	5	3	
1061675	0.201	0.063	0.86	< 2	3	360	< 0.01	2	< 2	< 10	22	< 10	5	6	
1061676	0.208	0.086	1.04	< 2	4	269	0.03	3	< 2	< 10	32	< 10	6	6	
1061677	0.126	0.075	1.55	3	6	300	0.11	< 1	< 2	< 10	72	< 10	8	2	
1061678	0.122	0.076	2.30	< 2	9	353	0.17	< 1	< 2	< 10	71	< 10	10	4	
1061679	0.119	0.075	2.22	< 2	8	339	0.18	2	< 2	< 10	74	< 10	10	4	
1061680	0.196	0.139	2.18	7	7	89	0.03	< 1	< 2	< 10	74	< 10	12	3	5.57
1061681	0.108	0.109	1.42	< 2	7	214	0.09	< 1	< 2	< 10	50	< 10	8	4	
1061682	0.079	0.128	1.54	< 2	7	381	0.26	2	< 2	< 10	75	< 10	10	12	
1061683	0.069	0.140	0.24	< 2	7	257	0.21	< 1	< 2	< 10	61	< 10	10	6	
1061684	0.081	0.136	0.51	< 2	5	303	0.12	< 1	< 2	< 10	47	< 10	9	4	
1061685	0.100	0.138	0.50	< 2	6	220	0.22	< 1	< 2	< 10	70	< 10	9	6	
1061686	0.091	0.147	1.17	< 2	7	246	0.14	< 1	< 2	< 10	68	< 10	8	6	
1061687	0.085	0.123	0.73	< 2	4	244	0.17	< 1	< 2	< 10	41	< 10	9	7	
1061688	0.066	0.137	0.76	< 2	4	309	0.03	< 1	< 2	< 10	32	< 10	8	3	
1061689	0.069	0.129	1.11	2	6	444	0.03	< 1	< 2	< 10	32	< 10	6	2	
1061690	0.080	0.148	1.24	2	4	266	0.02	< 1	< 2	< 10	34	< 10	8	2	

Quality Control

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-1 Meas		< 0.2	< 0.5	< 1	11	< 1	< 1	5	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
GXR-1 Cert		31.0	3.30	1110	852	18.0	41.0	730	760	3.52	427	15.0	750	1.22	1380	0.960	8.20	12.0	23.6	13.8	3.90	0.0500	7.50	0.217
GXR-4 Meas		3.6	0.8	7580	146	289	38	40	77	2.96	88	< 10	26	1.4	5	0.96	16	59	3.26	10	< 1	1.58	46	1.75
GXR-4 Cert		4.00	0.860	6520	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.6	64.0	3.09	20.0	0.110	4.01	64.5	1.66
GXR-6 Meas		0.3	0.5	79	1110	< 1	23	99	138	7.65	187	< 10	944	0.9	< 2	0.16	14	87	5.76	20	3	1.05	13	0.43
GXR-6 Cert		1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680	1.87	13.9	0.609
CDN-GS-20A Meas																								
CDN-GS-20A Cert																								
OxG84 Meas	982																							
OxG84 Cert	922.000																							
OxG84 Meas	989																							
OxG84 Cert	922.000																							
OxJ80 Meas	2370																							
OxJ80 Cert	2331.000																							
OxJ80 Meas	2370																							
OxJ80 Cert	2331.000																							
1061661 Orig	< 5																							
1061661 Dup	< 5																							
1061663 Orig		< 0.2	< 0.5	29	588	1	19	18	104	2.01	49	< 10	51	< 0.5	< 2	3.50	16	28	3.77	< 10	< 1	0.33	35	1.04
1061663 Dup		0.2	0.7	29	580	< 1	19	18	103	1.96	50	< 10	43	< 0.5	< 2	3.40	16	27	3.65	< 10	< 1	0.33	34	1.01
1061677 Orig		0.2	0.6	44	534	2	22	3	61	2.02	120	< 10	36	< 0.5	< 2	2.35	27	12	3.93	< 10	< 1	0.26	19	0.86
1061677 Dup		0.2	< 0.5	43	520	1	19	4	61	2.02	119	< 10	37	< 0.5	< 2	2.32	25	12	3.92	< 10	< 1	0.26	19	0.84
1061681 Orig	< 5	0.2	< 0.5	79	435	1	23	3	57	2.42	13	< 10	41	< 0.5	< 2	1.89	27	12	4.56	< 10	< 1	0.44	23	0.94
1061681 Split	9	0.3	< 0.5	78	438	4	21	3	54	2.72	19	< 10	25	< 0.5	< 2	2.29	26	13	4.61	< 10	< 1	0.49	24	0.93
1061681 Orig	< 5																							
1061681 Dup	< 5																							
1061690 Orig		0.2	< 0.5	95	643	3	23	10	129	2.30	115	< 10	13	0.6	< 2	2.64	21	6	3.28	< 10	< 1	1.06	21	0.55
1061690 Dup		< 0.2	0.9	92	616	3	22	11	123	2.23	109	11	20	0.6	3	2.51	21	6	3.17	< 10	< 1	1.03	26	0.52
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01

Quality Control

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
GXR-1 Meas	< 0.001	< 0.001	< 0.01	< 2	< 1	< 1		5	< 2	< 10	< 1	< 10	< 1	< 1	
GXR-1 Cert	0.0520	0.0650	0.257	122	1.58	275		13.0	0.390	34.9	80.0	164	32.0	38.0	
GXR-4 Meas	0.140	0.122	1.89	< 2	7	80		< 1	< 2	< 10	76	< 10	12	6	
GXR-4 Cert	0.564	0.120	1.77	4.80	7.70	221		0.970	3.20	6.20	87.0	30.8	14.0	186	
GXR-6 Meas	0.089	0.036	0.01	3	27	36		< 1	5	< 10	54	< 10	7	2	
GXR-6 Cert	0.104	0.0350	0.0160	3.60	27.6	35.0		0.0180	2.20	1.54	186	1.90	14.0	110	
CDN-GS-20A Meas															22.0
CDN-GS-20A Cert															21.12
OxG84 Meas															
OxG84 Cert															
OxG84 Meas															
OxG84 Cert															
OxJ80 Meas															
OxJ80 Cert															
OxJ80 Meas															
OxJ80 Cert															
1061661 Orig															
1061661 Dup															
1061663 Orig	0.057	0.131	1.18	< 2	5	332	0.17	< 1	2	< 10	59	< 10	8	7	
1061663 Dup	0.058	0.124	1.15	< 2	5	317	0.16	1	< 2	< 10	57	< 10	8	6	
1061677 Orig	0.128	0.075	1.57	2	6	299	0.10	< 1	< 2	< 10	72	< 10	8	2	
1061677 Dup	0.124	0.075	1.52	4	6	301	0.11	< 1	< 2	< 10	73	< 10	8	2	
1061681 Orig	0.108	0.109	1.42	< 2	7	214	0.09	< 1	< 2	< 10	50	< 10	8	4	
1061681 Split	0.104	0.130	1.53	< 2	9	281	0.26	2	< 2	< 10	89	< 10	10	14	
1061681 Orig															
1061681 Dup															
1061690 Orig	0.082	0.151	1.25	2	4	265	0.02	< 1	< 2	< 10	34	< 10	8	3	
1061690 Dup	0.078	0.146	1.23	2	4	266	0.02	< 1	< 2	< 10	34	< 10	7	2	
Method Blank Method Blank	0.011	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.011	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.011	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.012	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.013	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 16-Aug-11
Invoice No.: A11-8842
Invoice Date: 22-Sep-11
Your Reference: 19555-Straw Lake

Mineral Mountain Resources Ltd.
411 Mowat Ave. Suite 222
Fort Frances Ontario P9A1Y8
Canada

ATTN: Project Manager Kevin Leonard

CERTIFICATE OF ANALYSIS

3 Pulp samples and 54 Rock samples were submitted for analysis.

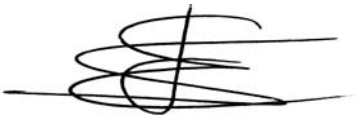
The following analytical packages were requested: Code 1A2-Tbay Au - Fire Assay AA (QOP Fire Assay Tbay)
Code 1E3-Tbay Aqua Regia ICP(AQUAGEO)

REPORT **A11-8842**

Notes:
If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3
Values which exceed the upper limit should be assayed for accurate numbers.

Footnote: Sample 1061706 missing.

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
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LAB 266
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Accrédité CCN

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Activation Laboratories Ltd. Report: A11-8842

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061596	6	< 0.2	< 0.5	64	1240	< 1	41	3	86	1.09	694	< 10	97	< 0.5	< 2	6.49	24	34	5.77	< 10	< 1	0.19	11	1.61
1061597	< 5	< 0.2	< 0.5	140	1270	< 1	97	8	95	1.20	174	< 10	62	< 0.5	< 2	5.81	39	46	6.40	< 10	< 1	0.13	< 10	1.88
1061598	< 5	< 0.2	< 0.5	148	1190	< 1	129	< 2	70	0.83	245	< 10	47	< 0.5	< 2	6.38	43	35	4.86	< 10	< 1	0.10	< 10	1.60
1061599	< 5	< 0.2	0.7	144	1290	< 1	134	< 2	77	0.85	253	< 10	42	< 0.5	< 2	6.37	46	36	5.01	< 10	< 1	0.10	< 10	1.60
1061600	351	< 0.2	< 0.5	48	637	2	127	< 2	65	1.77	93	< 10	103	< 0.5	< 2	1.53	29	48	4.53	< 10	< 1	0.06	14	2.16
1061601	< 5	< 0.2	< 0.5	128	1290	< 1	121	< 2	78	0.82	216	< 10	38	< 0.5	< 2	6.44	41	36	5.17	< 10	2	0.09	< 10	1.64
1061602	< 5	< 0.2	0.5	140	1180	< 1	129	< 2	57	0.84	189	< 10	34	< 0.5	< 2	5.77	44	35	4.64	< 10	< 1	0.09	< 10	1.51
1061603	< 5	< 0.2	0.7	126	1280	< 1	126	< 2	84	0.90	202	< 10	37	< 0.5	< 2	6.03	42	40	5.28	< 10	< 1	0.10	< 10	1.65
1061604	< 5	< 0.2	< 0.5	66	853	< 1	66	3	73	1.23	132	< 10	70	< 0.5	< 2	4.51	25	41	3.79	< 10	< 1	0.17	21	1.36
1061605	< 5	< 0.2	< 0.5	97	1080	< 1	92	4	104	1.51	231	< 10	49	< 0.5	< 2	4.93	30	68	5.83	< 10	< 1	0.12	< 10	1.64
1061606	< 5	0.2	< 0.5	115	1320	< 1	110	< 2	67	1.00	178	< 10	37	< 0.5	< 2	6.37	35	47	6.05	< 10	< 1	0.10	< 10	1.84
1061607	< 5	< 0.2	0.5	116	1560	< 1	105	< 2	71	1.00	166	< 10	37	< 0.5	< 2	6.02	38	46	6.75	< 10	< 1	0.10	< 10	1.78
1061608	< 5	< 0.2	< 0.5	90	1430	< 1	79	< 2	124	1.41	153	< 10	53	< 0.5	< 2	5.36	32	47	6.13	< 10	< 1	0.14	< 10	1.77
1061609	< 5	< 0.2	< 0.5	80	1170	< 1	71	< 2	125	1.64	305	< 10	53	< 0.5	< 2	4.70	26	52	5.42	< 10	< 1	0.13	< 10	1.64
1061610	< 5	< 0.2	0.5	46	1500	< 1	69	2	80	1.62	235	< 10	50	< 0.5	< 2	4.45	23	37	6.08	< 10	< 1	0.14	< 10	1.73
1061611	< 5	0.2	0.6	37	943	< 1	104	< 2	63	1.76	170	< 10	50	< 0.5	< 2	5.08	22	102	4.61	< 10	< 1	0.14	10	2.47
1061612	< 5	0.4	< 0.5	37	667	< 1	219	5	64	2.54	271	< 10	43	< 0.5	< 2	4.50	25	183	4.26	< 10	< 1	0.13	< 10	3.36
1061691	62	0.3	9.7	117	895	7	20	19	4470	0.82	292	< 10	51	< 0.5	< 2	3.63	20	16	3.13	< 10	< 1	0.37	27	1.04
1061692	< 5	< 0.2	< 0.5	44	752	2	14	13	128	2.34	26	< 10	123	< 0.5	< 2	4.25	17	14	3.04	< 10	< 1	0.39	35	1.20
1061693	< 5	< 0.2	0.8	39	820	2	13	11	156	2.47	9	< 10	115	< 0.5	< 2	4.59	16	14	4.07	< 10	< 1	0.37	34	1.33
1061694	14	< 0.2	< 0.5	29	862	7	12	5	138	1.40	141	< 10	64	< 0.5	< 2	3.43	17	14	4.09	< 10	< 1	0.39	21	1.06
1061695	6	0.2	< 0.5	40	744	1	13	3	96	1.70	79	< 10	111	< 0.5	< 2	3.91	16	13	4.17	< 10	< 1	0.50	29	0.96
1061696	< 5	< 0.2	< 0.5	47	667	3	16	4	290	2.53	45	< 10	71	< 0.5	< 2	2.81	21	20	4.28	< 10	< 1	0.33	38	1.08
1061697	11	0.3	0.7	34	615	2	13	5	106	2.25	8	< 10	41	< 0.5	< 2	2.71	19	10	4.01	< 10	< 1	0.43	33	0.76
1061698	6	0.3	0.7	46	575	< 1	14	12	175	1.57	65	< 10	34	< 0.5	< 2	2.36	19	7	4.50	< 10	< 1	0.41	27	0.59
1061699	20	0.4	< 0.5	49	356	7	13	13	123	1.79	569	< 10	14	< 0.5	< 2	0.77	22	9	5.20	< 10	< 1	0.52	26	0.74
1061700	1650	0.3	< 0.5	60	784	< 1	122	6	69	1.63	1920	< 10	40	< 0.5	< 2	1.44	28	36	4.75	< 10	< 1	0.06	12	1.94
1061701	7	0.2	< 0.5	35	447	2	13	6	105	1.80	121	< 10	30	< 0.5	< 2	1.49	21	11	4.78	< 10	< 1	0.44	27	0.41
1061702	< 5	0.5	0.9	44	552	2	11	7	379	1.97	2	< 10	33	< 0.5	< 2	2.75	20	12	3.88	< 10	< 1	0.22	27	0.80
1061703	21	0.5	0.5	42	825	1	12	4	339	2.51	41	< 10	35	0.6	< 2	4.41	18	9	4.58	< 10	< 1	0.28	< 10	1.88
1061704	< 5	0.4	1.1	49	558	53	8	4	395	2.15	3	< 10	86	< 0.5	< 2	3.91	15	10	2.89	< 10	< 1	0.15	27	0.99
1061705	65	0.3	1.8	59	571	8	13	6	552	1.79	54	< 10	40	< 0.5	< 2	3.92	20	6	3.32	< 10	< 1	0.40	23	0.77
1061706																								
1061707	141	0.7	1.6	209	122	145	336	41	1260	1.05	442	< 10	< 10	0.6	< 2	0.56	89	18	5.97	< 10	< 1	0.48	14	0.43
1061708	217	0.8	2.2	145	146	40	208	29	1120	0.45	174	< 10	< 10	< 0.5	< 2	0.89	72	8	7.03	< 10	< 1	0.15	12	0.44
1061709	391	0.9	2.9	155	197	67	176	23	1190	0.26	90	< 10	< 10	< 0.5	< 2	1.24	55	6	4.26	< 10	< 1	0.06	< 10	0.74
1061710	407	1.0	2.3	109	263	75	180	31	944	0.22	106	< 10	< 10	< 0.5	< 2	0.83	64	7	5.85	< 10	< 1	0.03	< 10	0.50
1061711	30	0.5	1.2	64	433	25	241	12	483	1.05	105	< 10	23	< 0.5	< 2	2.04	39	91	3.85	< 10	< 1	0.42	< 10	2.48
1061712	39	0.5	1.5	115	391	18	256	12	607	0.97	255	< 10	29	< 0.5	< 2	2.28	49	59	4.42	< 10	< 1	0.46	< 10	2.21
1061713	95	0.5	1.4	198	166	58	194	47	639	0.89	316	< 10	17	< 0.5	< 2	0.93	67	10	4.66	< 10	< 1	0.44	18	0.36
1061714	286	0.5	2.2	103	224	42	128	17	1050	0.68	168	< 10	25	< 0.5	< 2	0.98	37	9	3.24	< 10	< 1	0.29	20	0.31
1061715	116	0.4	1.4	166	318	43	107	16	604	0.95	271	< 10	20	0.5	< 2	1.15	51	9	4.48	< 10	< 1	0.39	20	0.48
1061716	12	< 0.2	0.8	38	446	43	24	6	331	0.74	89	< 10	31	< 0.5	< 2	1.72	9	9	2.28	< 10	< 1	0.29	35	0.63
1061717	289	0.7	1.1	457	222	983	140	13	333	1.06	222	< 10	< 10	< 0.5	< 2	0.56	90	10	6.58	< 10	< 1	0.40	< 10	0.32
1061718	37	0.2	1.2	138	540	519	61	12	634	1.04	108	< 10	32	< 0.5	< 2	1.54	25	10	3.42	< 10	< 1	0.41	24	0.65
1061719	132	0.7	0.9	401	377	215	73	9	345	0.75	226	< 10	< 10	< 0.5	< 2	1.28	32	7	7.13	< 10	< 1	0.33	11	0.56
1061720	361	< 0.2	< 0.5	51	682	3	139	< 2	69	1.92	92	< 10	105	< 0.5	< 2	1.65	30	52	4.87	< 10	< 1	0.06	15	2.33
1061721	80	0.4	1.3	120	499	376	80	7	564	0.57	130	< 10	22	< 0.5	< 2	1.58	27	10	4.83	< 10	< 1	0.25	18	0.75
1061722	10	< 0.2	< 0.5	24	356	146	19	3	156	0.37	50	< 10	67	< 0.5	< 2	1.48	6	6	1.45	< 10	< 1	0.14	26	0.50
1061723	15	< 0.2	0.5	47	468	254	19	5	162	0.76	99	< 10	28	< 0.5	< 2	1.81	8	9	2.02	< 10	< 1	0.28	33	0.63
1061724	20	0.4	< 0.5	61	507	58	19	6	131	0.77	195	< 10	40	< 0.5	2	1.88	8	9	2.07	< 10	< 1	0.29	33	0.65
1061725	27	0.3	1.0	58	322	51	21	5	209	0.89	147	< 10	27	< 0.5	< 2	1.06	9	9	2.07	< 10	< 1	0.28	36	0.37

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061726	17	< 0.2	1.2	70	505	42	24	7	193	0.92	307	< 10	23	< 0.5	< 2	1.40	10	9	2.52	< 10	< 1	0.29	34	0.55
1061727	17	< 0.2	< 0.5	47	251	180	40	7	327	1.12	255	< 10	31	0.5	< 2	0.83	15	10	2.79	< 10	< 1	0.33	38	0.29
1061728	89	0.3	0.7	137	353	140	85	11	172	0.72	327	< 10	16	< 0.5	< 2	0.81	31	9	3.64	< 10	< 1	0.27	16	0.42
1061729	36	< 0.2	< 0.5	49	534	19	29	6	177	0.84	1160	< 10	36	< 0.5	< 2	1.38	12	8	2.54	< 10	2	0.30	31	0.48
1061730	11	< 0.2	0.9	38	512	5	20	3	205	0.77	109	< 10	41	< 0.5	< 2	1.51	6	8	2.09	< 10	< 1	0.27	36	0.54

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061596	0.195	0.075	0.43	8	10	359	< 0.01	< 1	2	< 10	31	< 10	4	2
1061597	0.205	0.024	0.58	14	14	216	< 0.01	< 1	< 2	< 10	46	< 10	2	4
1061598	0.194	0.019	0.03	4	13	157	< 0.01	< 1	2	< 10	32	< 10	2	2
1061599	0.201	0.019	0.03	3	14	157	< 0.01	< 1	5	< 10	32	< 10	2	2
1061600	0.396	0.085	0.21	< 2	3	101	0.14	6	< 2	< 10	31	< 10	12	3
1061601	0.196	0.019	0.04	6	12	153	< 0.01	4	< 2	< 10	31	< 10	2	2
1061602	0.191	0.018	0.13	10	12	137	< 0.01	< 1	< 2	< 10	30	< 10	1	2
1061603	0.195	0.017	0.39	6	13	145	< 0.01	< 1	< 2	< 10	35	< 10	1	2
1061604	0.191	0.052	0.16	3	8	175	< 0.01	< 1	< 2	< 10	28	< 10	3	1
1061605	0.197	0.030	0.60	4	10	161	< 0.01	< 1	< 2	< 10	39	< 10	3	3
1061606	0.193	0.017	0.32	6	13	160	< 0.01	< 1	< 2	< 10	36	< 10	2	2
1061607	0.198	0.024	0.30	6	13	148	< 0.01	< 1	8	< 10	38	< 10	2	3
1061608	0.191	0.042	0.49	6	12	196	< 0.01	< 1	< 2	< 10	40	< 10	3	2
1061609	0.190	0.060	0.41	5	9	189	< 0.01	< 1	< 2	< 10	42	< 10	3	2
1061610	0.184	0.053	0.47	4	6	179	< 0.01	< 1	3	< 10	35	< 10	3	3
1061611	0.149	0.060	0.01	11	7	228	< 0.01	< 1	< 2	< 10	37	< 10	5	2
1061612	0.158	0.038	0.02	21	8	177	< 0.01	< 1	< 2	< 10	44	< 10	4	2
1061691	0.050	0.153	1.44	4	3	447	< 0.01	2	< 2	< 10	19	< 10	6	1
1061692	0.045	0.137	0.50	3	4	303	0.13	1	< 2	< 10	46	< 10	8	3
1061693	0.047	0.127	0.37	< 2	5	315	0.09	< 1	< 2	< 10	51	< 10	8	3
1061694	0.054	0.142	0.75	< 2	5	431	0.05	1	< 2	< 10	35	< 10	7	3
1061695	0.049	0.138	0.47	< 2	4	354	0.06	2	< 2	< 10	40	< 10	8	2
1061696	0.052	0.117	0.73	< 2	6	257	0.14	3	3	< 10	70	< 10	9	3
1061697	0.053	0.147	1.55	< 2	5	308	0.25	3	< 2	< 10	63	< 10	9	12
1061698	0.048	0.119	2.05	< 2	5	228	0.16	2	3	< 10	56	< 10	8	10
1061699	0.056	0.147	3.45	4	5	48	0.11	1	< 2	< 10	61	< 10	7	9
1061700	0.342	0.091	0.67	3	3	92	0.07	2	< 2	< 10	28	< 10	11	3
1061701	0.053	0.092	2.51	< 2	5	247	0.20	3	< 2	< 10	80	< 10	8	11
1061702	0.055	0.099	1.25	< 2	6	307	0.21	4	< 2	< 10	79	< 10	8	11
1061703	0.034	0.116	1.19	< 2	6	299	0.09	< 1	< 2	< 10	58	< 10	6	10
1061704	0.039	0.094	0.67	< 2	4	395	0.18	2	< 2	< 10	55	< 10	6	9
1061705	0.047	0.152	1.40	< 2	4	324	0.06	< 1	< 2	< 10	40	27	7	5
1061706														
1061707	0.048	0.023	4.67	5	6	86	< 0.01	4	< 2	< 10	26	< 10	5	62
1061708	0.053	0.004	7.36	2	4	116	< 0.01	2	< 2	< 10	11	13	3	43
1061709	0.113	0.005	4.01	4	7	235	< 0.01	2	< 2	< 10	7	14	2	23
1061710	0.136	0.003	6.24	4	5	154	< 0.01	4	< 2	< 10	4	12	2	26
1061711	0.046	0.033	1.61	5	5	319	< 0.01	< 1	< 2	< 10	21	< 10	2	3
1061712	0.035	0.032	1.98	7	5	444	< 0.01	3	< 2	< 10	23	< 10	4	4
1061713	0.048	0.034	3.40	5	5	102	< 0.01	< 1	< 2	< 10	16	< 10	5	41
1061714	0.096	0.041	2.93	22	4	124	< 0.01	< 1	< 2	< 10	13	11	5	21
1061715	0.070	0.053	3.51	10	4	181	< 0.01	1	< 2	< 10	15	< 10	6	26
1061716	0.072	0.061	1.00	3	2	271	< 0.01	< 1	< 2	< 10	10	< 10	4	2
1061717	0.050	0.028	6.03	18	4	56	< 0.01	< 1	< 2	< 10	20	< 10	4	35
1061718	0.061	0.074	1.59	5	2	251	< 0.01	< 1	< 2	< 10	20	< 10	7	3
1061719	0.051	0.043	7.04	5	3	206	< 0.01	2	< 2	< 10	18	< 10	4	47
1061720	0.434	0.084	0.22	< 2	3	109	0.13	2	< 2	< 10	33	< 10	13	2
1061721	0.060	0.048	4.00	4	3	315	< 0.01	2	< 2	< 10	12	< 10	4	28
1061722	0.103	0.023	0.49	3	2	240	< 0.01	< 1	< 2	< 10	6	< 10	3	5
1061723	0.091	0.054	0.88	2	2	313	< 0.01	< 1	< 2	< 10	9	< 10	5	1
1061724	0.085	0.060	1.04	8	2	336	< 0.01	< 1	< 2	< 10	10	< 10	5	2
1061725	0.081	0.070	0.90	6	2	164	< 0.01	3	< 2	< 10	10	< 10	4	1

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061726	0.088	0.068	0.77	3	2	262	< 0.01	< 1	< 2	< 10	10	< 10	4	< 1
1061727	0.071	0.070	0.76	4	2	118	< 0.01	< 1	< 2	< 10	12	< 10	5	1
1061728	0.075	0.030	1.91	4	3	152	< 0.01	< 1	< 2	< 10	13	< 10	4	7
1061729	0.079	0.058	0.90	5	2	214	< 0.01	4	< 2	< 10	13	< 10	4	2
1061730	0.098	0.058	0.63	3	2	226	< 0.01	< 1	< 2	< 10	12	< 10	4	1

Quality Control

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
OxG84 Meas	998																							
OxG84 Cert	922.000																							
OxJ80 Meas	2500																							
OxJ80 Cert	2331.000																							
OxJ80 Meas	2570																							
OxJ80 Cert	2331.000																							
1061605 Orig	< 5																							
1061605 Dup	< 5																							
1061608 Orig		< 0.2	< 0.5	90	1420	< 1	79	< 2	124	1.40	149	< 10	53	< 0.5	< 2	5.28	32	47	6.12	< 10	< 1	0.13	< 10	1.77
1061608 Dup		< 0.2	0.6	90	1440	< 1	79	< 2	123	1.42	157	< 10	53	< 0.5	< 2	5.43	32	47	6.14	< 10	< 1	0.14	< 10	1.77
1061693 Orig	< 5																							
1061693 Dup	< 5																							
1061700 Orig		0.3	< 0.5	62	799	1	125	6	70	1.66	1960	< 10	35	< 0.5	< 2	1.45	28	36	4.84	< 10	2	0.06	12	1.96
1061700 Dup		0.2	< 0.5	59	769	< 1	119	5	68	1.59	1880	< 10	45	< 0.5	< 2	1.42	28	35	4.66	< 10	< 1	0.06	12	1.92
1061703 Orig	21	0.5	0.5	42	825	1	12	4	339	2.51	41	< 10	35	0.6	< 2	4.41	18	9	4.58	< 10	< 1	0.28	< 10	1.88
1061703 Split	22	0.5	1.0	42	857	2	10	5	346	2.50	41	< 10	39	0.6	< 2	5.29	19	9	4.69	< 10	< 1	0.28	15	1.96
1061703 Orig	19																							
1061703 Dup	23																							
1061713 Orig		0.5	1.2	197	165	58	192	47	635	0.88	314	< 10	16	< 0.5	< 2	0.93	67	10	4.63	< 10	< 1	0.43	18	0.36
1061713 Dup		0.5	1.6	199	167	59	195	47	643	0.89	317	< 10	17	0.5	< 2	0.93	67	10	4.69	< 10	< 1	0.45	18	0.36
1061718 Orig	36																							
1061718 Dup	37																							
1061723 Orig	15	< 0.2	0.5	47	468	254	19	5	162	0.76	99	< 10	28	< 0.5	< 2	1.81	8	9	2.02	< 10	< 1	0.28	33	0.63
1061723 Split	13	< 0.2	< 0.5	49	458	238	17	4	159	0.73	102	< 10	28	< 0.5	< 2	1.79	7	8	1.98	< 10	< 1	0.27	32	0.62
1061727 Orig		< 0.2	0.5	47	249	178	40	7	326	1.12	258	< 10	30	0.5	< 2	0.83	15	11	2.77	< 10	< 1	0.34	39	0.29
1061727 Dup		< 0.2	< 0.5	48	252	182	39	8	328	1.12	252	< 10	32	0.5	< 2	0.83	14	9	2.82	< 10	< 1	0.33	38	0.29
1061728 Orig	91																							
1061728 Dup	87																							
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01

Quality Control

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
OxG84 Meas														
OxG84 Cert														
OxJ80 Meas														
OxJ80 Cert														
OxJ80 Meas														
OxJ80 Cert														
1061605 Orig														
1061605 Dup														
1061608 Orig	0.189	0.042	0.45	6	11	195	< 0.01	< 1	< 2	< 10	39	< 10	3	2
1061608 Dup	0.193	0.042	0.53	6	12	198	< 0.01	< 1	< 2	< 10	40	< 10	3	2
1061693 Orig														
1061693 Dup														
1061700 Orig	0.346	0.091	0.69	3	3	93	0.06	2	< 2	< 10	28	< 10	11	3
1061700 Dup	0.337	0.092	0.65	2	2	90	0.07	3	< 2	< 10	27	< 10	11	3
1061703 Orig	0.034	0.116	1.19	< 2	6	299	0.09	< 1	< 2	< 10	58	< 10	6	10
1061703 Split	0.034	0.109	1.87	< 2	5	428	0.07	< 1	4	< 10	57	< 10	6	7
1061703 Orig														
1061703 Dup														
1061713 Orig	0.048	0.034	3.45	5	5	102	< 0.01	< 1	< 2	< 10	16	< 10	5	41
1061713 Dup	0.049	0.035	3.36	5	5	102	< 0.01	3	< 2	< 10	16	< 10	5	41
1061718 Orig														
1061718 Dup														
1061723 Orig	0.091	0.054	0.88	2	2	313	< 0.01	< 1	< 2	< 10	9	< 10	5	1
1061723 Split	0.085	0.053	0.86	< 2	2	296	< 0.01	2	< 2	< 10	9	< 10	5	1
1061727 Orig	0.071	0.070	0.76	5	2	117	< 0.01	< 1	< 2	< 10	12	< 10	5	1
1061727 Dup	0.071	0.070	0.77	4	2	118	< 0.01	< 1	< 2	< 10	12	< 10	5	1
1061728 Orig														
1061728 Dup														
Method Blank Method Blank	0.012	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1
Method Blank Method Blank	0.014	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1
Method Blank Method Blank	0.013	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1
Method Blank Method Blank	0.011	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1

Quality Analysis ... *Innovative Technologies*

Date Submitted: 12-Aug-11
Invoice No.: A11-8748
Invoice Date: 13-Sep-11
Your Reference: 19555-Straw Lake

Mineral Mountain Resources Ltd.
411 Mowat Ave. Suite 222
Fort Frances Ontario P9A1Y8
Canada

ATTN: Project Manager Kevin Leonard

CERTIFICATE OF ANALYSIS

3 Pulp samples and 122 Rock samples were submitted for analysis.

The following analytical packages were requested:

Code 1A2-Tbay Au - Fire Assay AA (QOP Fire Assay Tbay)
Code 1A3-Tbay Au - Fire Assay Gravimetric (QOP Fire Assay Tbay)
Code 1E3-Tbay Aqua Regia ICP(AQUAGEO)

REPORT **A11-8748**

Notes:
If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3
Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

ACTIVATION LABORATORIES LTD.

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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061351	20	0.3	< 0.5	24	636	19	19	7	118	2.00	351	< 10	30	0.5	< 2	3.43	14	7	3.41	< 10	< 1	0.93	23	0.90
1061352	20	0.2	< 0.5	35	475	3	18	5	167	2.08	63	11	19	0.6	< 2	2.85	16	6	2.98	< 10	< 1	0.95	22	0.68
1061353	9	0.4	< 0.5	38	880	1	21	4	86	2.19	40	11	56	0.5	< 2	5.03	15	8	4.17	< 10	< 1	0.97	24	1.05
1061354	6	< 0.2	< 0.5	54	370	1	16	5	68	2.53	35	< 10	23	< 0.5	< 2	2.52	17	5	2.73	< 10	< 1	0.96	42	0.69
1061355	< 5	0.3	0.5	52	654	24	29	16	84	2.90	4	< 10	30	< 0.5	< 2	2.86	21	14	4.78	< 10	2	0.50	32	1.15
1061356	16	< 0.2	< 0.5	64	492	3	25	7	82	2.77	23	< 10	30	< 0.5	< 2	2.20	23	12	3.60	< 10	< 1	0.73	30	1.08
1061357	7	0.3	< 0.5	60	773	18	25	2	95	2.92	14	< 10	37	< 0.5	< 2	2.79	27	18	5.43	< 10	< 1	0.34	22	1.69
1061358	7	0.3	0.6	60	788	18	25	2	90	2.82	23	< 10	37	< 0.5	< 2	3.36	27	17	5.37	< 10	< 1	0.34	22	1.66
1061359	< 5	0.5	< 0.5	58	548	54	27	< 2	138	2.63	3	< 10	44	< 0.5	< 2	2.46	27	15	4.59	< 10	1	0.21	19	0.94
1061360	390	< 0.2	< 0.5	43	576	2	116	< 2	61	1.42	95	< 10	97	< 0.5	< 2	1.27	27	42	4.01	< 10	< 1	0.05	12	1.98
1061361	13	0.4	1.0	61	827	66	21	5	124	2.31	37	< 10	59	< 0.5	< 2	4.70	20	11	4.15	< 10	< 1	0.40	15	1.48
1061362	12	0.4	< 0.5	59	809	65	21	3	121	2.33	36	< 10	52	< 0.5	< 2	4.84	21	11	4.10	< 10	2	0.40	15	1.45
1061363	39	0.5	< 0.5	112	900	5	20	3	118	1.55	143	< 10	58	0.6	< 2	3.96	23	5	4.67	< 10	< 1	0.63	13	1.55
1061364	40	0.4	0.6	111	883	4	20	3	119	1.56	146	< 10	44	0.6	< 2	4.00	23	6	4.57	< 10	< 1	0.63	11	1.52
1061365	< 5	< 0.2	< 0.5	85	602	5	18	7	91	3.52	4	< 10	47	0.5	< 2	3.22	19	6	3.58	< 10	< 1	0.94	25	1.26
1061366	< 5	< 0.2	0.6	57	750	4	16	11	102	3.14	64	< 10	66	< 0.5	< 2	4.29	18	5	3.50	< 10	1	0.86	26	1.30
1061367	7	0.3	< 0.5	48	900	63	32	12	126	2.76	75	< 10	59	< 0.5	< 2	5.17	20	6	3.68	< 10	< 1	0.64	23	1.52
1061368	21	0.4	< 0.5	42	856	148	17	4	91	2.25	199	< 10	47	0.7	2	4.21	15	5	3.62	< 10	< 1	0.95	35	1.43
1061369	7	0.4	< 0.5	33	878	25	30	10	105	2.68	108	< 10	69	< 0.5	< 2	5.81	14	24	3.56	< 10	< 1	0.67	23	1.27
1061370	32	0.3	0.6	64	664	11	14	5	88	2.10	123	< 10	38	0.7	< 2	3.22	17	4	3.58	< 10	2	0.94	24	1.06
1061371	12	0.2	< 0.5	40	708	8	10	12	140	2.26	309	10	60	0.7	< 2	3.87	11	3	2.51	< 10	< 1	1.00	30	0.91
1061372	< 5	0.3	< 0.5	58	827	19	23	21	124	2.56	61	< 10	47	< 0.5	< 2	4.10	18	7	3.27	< 10	< 1	0.88	22	1.14
1061373	9	0.4	< 0.5	46	528	228	12	42	91	2.21	168	< 10	54	0.6	< 2	3.19	13	6	2.76	< 10	< 1	0.80	28	0.77
1061374	35	0.6	< 0.5	59	522	39	14	6	94	2.55	901	< 10	26	0.6	< 2	2.64	19	10	4.71	< 10	< 1	1.09	17	0.95
1061375	6	0.4	0.5	49	784	69	11	9	117	2.04	58	< 10	36	< 0.5	< 2	3.39	12	5	3.72	< 10	< 1	0.82	16	1.04
1061376	< 5	0.2	< 0.5	41	719	10	9	13	104	2.17	109	< 10	33	< 0.5	< 2	3.57	11	5	3.39	< 10	< 1	0.61	32	0.96
1061377	12	0.4	< 0.5	45	833	192	8	12	196	2.29	300	< 10	72	0.8	< 2	6.11	10	4	3.10	< 10	< 1	1.01	18	0.81
1061378	34	0.3	0.9	34	467	50	9	12	175	2.26	174	< 10	18	0.9	< 2	1.95	9	6	2.96	< 10	< 1	0.98	23	0.65
1061379	53	0.4	0.9	31	481	155	9	22	392	1.77	265	10	20	0.8	< 2	2.31	9	6	2.89	< 10	< 1	0.75	28	0.65
1061380	1510	0.3	< 0.5	58	766	< 1	121	8	67	1.33	1940	< 10	41	< 0.5	< 2	1.23	27	32	4.51	< 10	2	0.06	12	1.85
1061381	11	0.4	< 0.5	25	386	148	7	31	92	1.70	414	< 10	44	0.6	< 2	2.73	7	5	1.71	< 10	< 1	0.70	37	0.50
1061382	12	0.6	< 0.5	29	637	77	9	61	118	1.79	747	< 10	26	0.8	< 2	2.95	11	4	3.09	< 10	< 1	0.78	24	0.88
1061383	5	0.9	< 0.5	30	515	17	18	163	132	1.50	352	< 10	23	0.8	< 2	2.10	8	17	2.16	< 10	< 1	0.57	31	0.74
1061384	7	0.3	< 0.5	25	566	21	20	31	142	1.61	203	< 10	47	1.0	< 2	2.17	9	21	2.27	< 10	< 1	0.61	39	0.83
1061385	9	0.8	< 0.5	39	583	19	22	113	205	1.62	252	< 10	28	1.0	< 2	2.23	9	22	2.19	< 10	< 1	0.60	37	0.82
1061386	6	0.5	0.7	43	711	18	20	62	426	1.72	380	< 10	19	0.9	< 2	1.65	11	17	2.43	< 10	< 1	0.61	27	0.81
1061387	< 5	0.5	0.6	54	1230	23	17	21	246	3.57	280	< 10	16	0.7	3	1.65	26	15	5.52	< 10	1	0.84	11	2.80
1061388	8	0.4	< 0.5	44	1030	22	10	13	129	1.96	214	< 10	17	< 0.5	< 2	2.07	16	10	4.11	< 10	2	0.84	10	1.10
1061389	8	0.5	< 0.5	44	1040	23	10	10	131	1.95	221	< 10	17	< 0.5	< 2	2.35	16	10	4.17	< 10	3	0.84	11	1.11
1061390	9	0.3	2.8	48	897	17	16	18	1220	2.65	77	13	20	0.5	< 2	3.60	19	12	4.23	< 10	1	1.15	< 10	1.45
1061391	8	0.3	0.7	36	589	26	23	34	467	3.35	144	< 10	21	0.7	< 2	1.45	12	10	3.12	10	< 1	0.74	25	1.23
1061392	42	0.4	1.1	51	991	50	35	12	409	2.28	104	10	17	0.8	< 2	2.06	20	7	4.63	< 10	2	0.87	15	1.03
1061393	15	0.7	0.7	11	1700	8	227	6	66	1.76	210	< 10	70	1.1	< 2	5.28	25	190	3.35	< 10	< 1	0.79	17	2.96
1061394	10	0.4	< 0.5	36	1210	18	198	4	74	2.45	153	11	48	0.7	< 2	3.51	28	170	3.37	< 10	< 1	1.07	18	2.35
1061395	297	0.6	1.8	124	26	10	61	18	54	1.65	255	12	< 10	0.5	< 2	0.08	71	21	16.9	< 10	< 1	0.62	< 10	0.10
1061396	< 5	0.2	0.7	19	656	5	234	6	126	3.00	465	13	34	0.8	2	1.48	30	238	4.10	< 10	2	1.29	17	0.96
1061397	76	0.6	< 0.5	38	962	17	175	2	81	2.43	264	11	48	0.6	< 2	2.89	27	173	3.96	< 10	< 1	1.05	10	1.96
1061398	34	0.2	0.7	30	216	13	257	8	364	2.90	557	14	13	1.7	< 2	0.30	34	218	6.20	< 10	< 1	1.21	17	0.49
1061418	22	< 0.2	< 0.5	10	269	2	15	3	41	1.03	128	< 10	69	< 0.5	< 2	0.76	5	13	1.72	< 10	< 1	0.23	29	0.32
1061419	13	< 0.2	< 0.5	7	288	1	8	< 2	27	0.48	148	< 10	51	< 0.5	< 2	0.87	3	6	1.14	< 10	< 1	0.09	17	0.35
1061420	> 3000	1.0	< 0.5	146	2570	2	98	5	79	2.20	2800	< 10	13	< 0.5	< 2	2.39	27	62	7.97	< 10	< 1	0.09	< 10	2.03
1061421	37	< 0.2	< 0.5	9	334	2	12	2	28	0.96	67	< 10	60	0.5	< 2	1.18	5	12	1.64	< 10	< 1	0.25	31	0.54

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061422	29	< 0.2	< 0.5	5	408	< 1	22	< 2	74	1.09	52	< 10	44	< 0.5	< 2	1.44	7	11	1.94	< 10	< 1	0.21	28	0.86
1061423	34	< 0.2	< 0.5	7	443	< 1	17	3	38	1.02	48	< 10	25	0.6	< 2	1.55	6	12	1.70	< 10	< 1	0.27	32	0.71
1061424	52	< 0.2	< 0.5	12	477	< 1	12	< 2	24	0.92	47	< 10	45	0.6	< 2	1.78	6	12	1.70	< 10	< 1	0.28	35	0.70
1061425	26	0.2	< 0.5	18	449	< 1	13	< 2	37	1.00	58	< 10	37	0.6	< 2	1.61	6	12	1.62	< 10	< 1	0.28	34	0.67
1061426	55	< 0.2	< 0.5	8	398	2	13	< 2	33	0.74	51	< 10	69	< 0.5	< 2	1.30	5	10	1.47	< 10	< 1	0.18	30	0.53
1061427	26	< 0.2	< 0.5	15	372	< 1	11	2	19	0.62	54	< 10	62	< 0.5	< 2	1.40	5	10	1.44	< 10	< 1	0.19	28	0.58
1061428	35	< 0.2	< 0.5	14	370	< 1	10	< 2	19	0.61	55	< 10	38	< 0.5	< 2	1.39	5	9	1.42	< 10	< 1	0.19	27	0.57
1061429	66	< 0.2	< 0.5	17	426	< 1	12	2	22	1.15	35	< 10	37	0.7	< 2	1.65	6	13	1.73	< 10	< 1	0.38	35	0.61
1061430	31	< 0.2	< 0.5	14	401	< 1	13	< 2	20	0.99	28	< 10	24	0.6	< 2	1.48	6	13	1.67	< 10	< 1	0.29	29	0.62
1061431	36	< 0.2	< 0.5	7	380	< 1	13	< 2	18	0.95	24	< 10	37	0.6	< 2	1.47	6	12	1.73	< 10	< 1	0.27	30	0.64
1061432	18	< 0.2	< 0.5	6	305	< 1	9	< 2	11	0.61	12	< 10	55	< 0.5	< 2	1.09	3	8	1.20	< 10	< 1	0.14	20	0.44
1061433	33	< 0.2	< 0.5	7	363	< 1	11	< 2	13	0.61	25	< 10	50	< 0.5	< 2	1.33	4	9	1.40	< 10	< 1	0.16	22	0.53
1061434	20	< 0.2	< 0.5	7	358	< 1	12	< 2	13	0.62	24	< 10	62	< 0.5	< 2	1.32	4	9	1.38	< 10	< 1	0.17	23	0.52
1061435	20	< 0.2	< 0.5	12	390	< 1	11	< 2	14	0.86	113	< 10	30	0.5	< 2	1.45	5	11	1.41	< 10	< 1	0.25	26	0.53
1061436	13	< 0.2	< 0.5	9	355	12	16	< 2	12	0.56	37	< 10	55	< 0.5	< 2	1.29	5	13	1.49	< 10	< 1	0.16	18	0.48
1061437	79	0.3	< 0.5	26	158	35	49	< 2	13	0.43	108	< 10	12	< 0.5	< 2	0.47	14	27	3.64	< 10	< 1	0.12	< 10	0.20
1061438	43	< 0.2	< 0.5	25	71	13	75	3	18	0.67	76	< 10	< 10	< 0.5	< 2	0.03	20	34	3.58	< 10	< 1	0.19	< 10	0.08
1061439	58	< 0.2	< 0.5	16	78	14	29	2	15	0.58	1600	< 10	26	< 0.5	< 2	0.03	10	12	2.30	< 10	< 1	0.14	< 10	0.04
1061440	< 5	1.7	< 0.5	3	22	< 1	< 1	< 2	< 2	0.03	3	< 10	13	< 0.5	< 2	22.6	< 1	< 1	0.06	< 10	< 1	< 0.01	< 10	1.45
1061441	88	0.2	< 0.5	11	102	3	24	2	17	0.88	1040	< 10	22	< 0.5	< 2	0.34	10	11	2.71	< 10	1	0.26	< 10	0.11
1061442	171	0.5	< 0.5	24	71	2	49	5	56	3.37	2750	22	14	0.7	< 2	0.46	28	12	6.57	< 10	< 1	0.86	23	0.54
1061443	6	0.2	< 0.5	6	734	< 1	16	< 2	18	2.55	439	19	49	0.5	< 2	2.30	10	27	2.42	< 10	< 1	0.85	29	0.84
1061444	11	0.3	< 0.5	7	1110	< 1	19	< 2	27	2.15	205	17	191	0.5	< 2	4.44	11	19	2.99	< 10	< 1	0.78	48	1.58
1061445	< 5	0.2	< 0.5	9	981	< 1	10	< 2	21	2.17	61	18	179	0.5	< 2	4.68	6	19	2.92	< 10	< 1	0.78	46	1.72
1061446	< 5	0.3	< 0.5	29	982	< 1	15	< 2	31	1.96	54	16	241	< 0.5	< 2	4.96	11	20	3.08	< 10	< 1	0.72	56	1.72
1061447	5	0.3	< 0.5	24	880	< 1	19	2	39	2.14	37	15	329	0.5	3	4.58	14	20	3.00	< 10	< 1	0.81	60	1.51
1061448	< 5	0.3	< 0.5	22	1130	< 1	25	< 2	31	2.18	131	16	193	0.5	< 2	5.47	15	20	3.76	< 10	1	0.83	47	1.73
1061449	< 5	0.3	< 0.5	89	1330	< 1	19	< 2	43	2.51	76	16	304	0.5	< 2	5.44	19	23	4.17	< 10	1	0.77	31	1.84
1061450	< 5	0.3	0.7	95	1330	< 1	16	< 2	53	2.27	155	14	351	< 0.5	2	5.10	19	25	4.11	< 10	1	0.63	29	1.79
1061451	< 5	0.3	< 0.5	44	1100	< 1	26	< 2	69	1.82	60	< 10	141	< 0.5	< 2	4.03	21	33	4.42	< 10	1	0.31	33	1.81
1061452	< 5	< 0.2	< 0.5	7	1420	< 1	24	< 2	62	1.81	219	< 10	108	< 0.5	< 2	4.25	20	34	4.56	< 10	< 1	0.33	31	1.79
1061453	< 5	< 0.2	< 0.5	9	1380	< 1	17	< 2	73	2.17	4	< 10	125	< 0.5	2	3.50	17	33	5.06	< 10	< 1	0.29	31	1.92
1061454	8	0.2	< 0.5	43	1660	< 1	23	< 2	75	2.12	19	< 10	200	< 0.5	3	3.91	21	32	4.92	< 10	< 1	0.35	57	2.05
1061455	< 5	< 0.2	< 0.5	128	1750	< 1	13	< 2	84	2.16	32	< 10	294	< 0.5	< 2	3.98	15	20	4.59	< 10	2	0.44	73	1.76
1061456	< 5	0.2	0.6	35	1150	< 1	25	< 2	81	2.44	44	< 10	238	< 0.5	< 2	4.28	21	50	4.49	< 10	2	0.31	55	1.76
1061457	< 5	0.2	< 0.5	43	1040	< 1	23	3	60	1.48	23	< 10	265	< 0.5	2	5.34	18	18	2.89	< 10	< 1	0.47	87	1.70
1061458	< 5	0.3	< 0.5	88	1360	< 1	25	2	93	1.85	24	< 10	258	< 0.5	3	5.19	18	32	3.89	< 10	< 1	0.48	65	1.64
1061459	< 5	< 0.2	< 0.5	103	1030	< 1	31	< 2	81	2.01	26	< 10	648	< 0.5	< 2	4.41	24	29	3.90	< 10	< 1	0.32	81	1.89
1061460	< 5	0.4	< 0.5	74	1030	< 1	11	3	67	1.42	32	< 10	314	< 0.5	< 2	4.69	18	16	3.34	< 10	< 1	0.42	89	1.72
1061461	< 5	0.3	< 0.5	57	1080	< 1	17	< 2	87	1.32	29	< 10	150	< 0.5	< 2	4.10	16	29	3.89	< 10	< 1	0.34	46	1.23
1061462	32	0.4	< 0.5	38	1280	< 1	16	3	62	1.19	3850	< 10	58	< 0.5	< 2	3.46	15	32	3.73	< 10	< 1	0.40	25	0.97
1061463	150	0.6	< 0.5	58	2470	< 1	22	12	171	0.95	> 10000	< 10	32	< 0.5	< 2	3.58	23	38	6.33	< 10	< 1	0.36	11	1.28
1061464	70	0.5	< 0.5	61	1490	< 1	17	5	80	1.31	7820	< 10	48	< 0.5	< 2	3.29	20	40	5.01	< 10	< 1	0.43	26	1.05
1061465	44	0.5	< 0.5	52	1570	< 1	16	10	77	1.05	2290	< 10	52	< 0.5	< 2	3.90	17	59	4.25	< 10	< 1	0.36	25	1.07
1061466	< 5	0.4	< 0.5	67	1350	< 1	19	4	77	1.80	23	< 10	259	< 0.5	< 2	3.79	21	33	4.28	< 10	1	0.44	70	1.34
1061467	< 5	0.4	0.7	53	1740	< 1	18	< 2	90	2.02	24	< 10	208	< 0.5	< 2	4.02	21	41	5.56	< 10	1	0.38	55	1.54
1061468	< 5	0.4	< 0.5	69	1020	1	18	2	77	1.31	15	< 10	298	< 0.5	< 2	4.30	20	25	3.40	< 10	< 1	0.42	57	1.30
1061469	< 5	0.4	0.5	67	1300	< 1	17	4	75	1.14	48	< 10	208	< 0.5	< 2	3.93	21	23	4.05	< 10	< 1	0.38	65	1.18
1061470	< 5	0.4	< 0.5	44	1750	< 1	15	4	65	1.18	46	< 10	202	< 0.5	< 2	4.14	19	21	4.74	< 10	2	0.39	60	1.23
1061471	22	0.4	< 0.5	51	2450	< 1	23	8	73	1.13	3130	< 10	42	< 0.5	< 2	3.22	26	34	6.53	< 10	< 1	0.35	30	0.96
1061472	16	0.3	< 0.5	62	1690	< 1	26	20	126	0.98	2030	< 10	90	< 0.5	< 2	3.49	23	38	5.92	< 10	< 1	0.30	32	0.99
1061473	< 5	< 0.2	0.5	53	1330	< 1	21	2	95	1.44	76	< 10	160	< 0.5	2	3.47	19	41	4.68	< 10	< 1	0.35	36	0.83

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061474	< 5	< 0.2	< 0.5	62	717	< 1	12	3	64	1.23	16	< 10	176	< 0.5	< 2	3.53	13	35	2.98	< 10	< 1	0.40	43	0.75
1061501	20	< 0.2	0.6	22	595	< 1	22	6	73	1.95	78	< 10	40	< 0.5	< 2	2.77	14	34	4.01	< 10	1	0.30	22	1.11
1061502	5	< 0.2	< 0.5	19	621	< 1	19	7	96	2.04	24	< 10	47	< 0.5	< 2	3.22	14	20	4.38	< 10	2	0.33	29	1.27
1061503	< 5	0.2	< 0.5	28	550	4	23	8	78	2.03	10	< 10	39	< 0.5	< 2	2.62	17	22	4.18	< 10	2	0.25	29	1.06
1061504	< 5	< 0.2	< 0.5	31	471	2	15	< 2	86	1.67	13	< 10	45	< 0.5	< 2	2.11	13	25	3.11	< 10	< 1	0.30	31	0.87
1061505	12	0.3	< 0.5	38	747	2	16	13	114	1.67	54	< 10	71	< 0.5	< 2	4.18	16	14	3.41	< 10	< 1	0.32	22	1.28
1061506	25	0.4	< 0.5	35	923	6	19	6	165	0.88	89	< 10	36	< 0.5	< 2	3.88	16	20	3.99	< 10	< 1	0.39	13	1.40
1061507	9	0.4	0.5	25	1290	< 1	20	4	163	1.32	76	< 10	53	< 0.5	< 2	5.69	15	9	4.14	< 10	< 1	0.41	14	1.88
1061508	9	0.3	< 0.5	39	634	5	20	8	82	1.41	43	< 10	39	< 0.5	< 2	3.56	16	20	3.74	< 10	< 1	0.40	12	0.72
1061509	8	0.5	0.8	49	821	< 1	28	4	93	1.56	96	< 10	34	< 0.5	< 2	4.02	20	18	4.28	< 10	< 1	0.33	12	0.99
1061510	12	0.3	0.5	51	456	< 1	27	15	135	1.25	71	< 10	17	< 0.5	< 2	1.86	17	38	4.49	< 10	< 1	0.39	27	0.35
1061511	12	0.3	< 0.5	52	488	6	26	12	99	1.45	66	< 10	17	< 0.5	< 2	1.57	19	32	4.15	< 10	1	0.38	28	0.60
1061512	29	0.6	0.5	73	729	9	32	38	115	1.45	142	< 10	26	< 0.5	< 2	2.00	24	37	5.47	< 10	3	0.22	15	0.93
1061513	< 5	0.5	< 0.5	50	714	5	27	465	199	2.04	17	< 10	14	< 0.5	< 2	1.99	22	24	5.92	< 10	1	0.45	27	1.06
1061514	22	0.5	< 0.5	87	801	7	25	10	66	1.87	77	< 10	36	< 0.5	< 2	3.43	26	14	4.46	< 10	2	0.43	18	1.13
1061515	< 5	0.8	0.7	62	757	13	25	8	80	1.93	17	< 10	36	< 0.5	< 2	3.00	21	15	5.54	< 10	< 1	0.48	14	1.27
1061516	55	1.1	0.7	61	982	41	23	18	188	1.18	99	< 10	35	< 0.5	< 2	3.42	21	14	5.02	< 10	2	0.51	11	1.32
1061517	36	1.0	0.9	78	1160	16	27	17	268	0.88	90	< 10	36	< 0.5	< 2	4.14	26	9	5.66	< 10	1	0.40	< 10	1.72
1061518	< 5	0.7	0.9	74	1090	71	28	32	125	2.21	10	< 10	34	< 0.5	< 2	5.72	27	19	6.04	< 10	< 1	0.20	< 10	2.07
1061519	< 5	0.6	0.7	68	803	15	26	10	84	2.25	9	< 10	39	< 0.5	< 2	3.93	27	22	5.44	< 10	1	0.20	15	1.61
1061520	< 5	1.6	< 0.5	3	21	< 1	< 1	< 2	< 2	0.02	< 2	< 10	13	< 0.5	< 2	22.0	< 1	< 1	0.04	< 10	< 1	< 0.01	< 10	1.46

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
1061351	0.075	0.140	1.31	< 2	5	397	0.03	< 1	2	< 10	37	< 10	7	3	
1061352	0.078	0.128	1.61	2	4	295	0.02	< 1	< 2	< 10	38	< 10	6	2	
1061353	0.077	0.133	1.05	< 2	6	523	0.01	< 1	< 2	< 10	48	< 10	6	2	
1061354	0.102	0.150	0.92	< 2	5	195	0.02	< 1	< 2	< 10	39	< 10	9	1	
1061355	0.079	0.059	1.28	< 2	7	292	0.13	< 1	< 2	< 10	77	< 10	9	2	
1061356	0.104	0.061	0.82	< 2	7	201	0.08	< 1	< 2	< 10	69	< 10	9	2	
1061357	0.057	0.076	1.16	3	10	223	0.19	3	< 2	< 10	100	< 10	9	6	
1061358	0.052	0.124	1.64	3	10	226	0.27	2	< 2	< 10	97	< 10	9	24	
1061359	0.092	0.085	1.36	< 2	11	411	0.26	2	< 2	< 10	99	< 10	10	10	
1061360	0.324	0.087	0.19	< 2	2	82	0.15	< 1	< 2	< 10	27	< 10	11	3	
1061361	0.040	0.112	0.79	< 2	9	450	0.11	1	< 2	< 10	78	< 10	8	12	
1061362	0.038	0.112	0.94	2	9	443	0.12	3	< 2	< 10	75	< 10	8	12	
1061363	0.061	0.128	1.13	2	6	548	0.03	< 1	< 2	< 10	46	< 10	6	3	
1061364	0.060	0.126	1.16	< 2	6	500	0.03	< 1	< 2	< 10	46	< 10	6	3	
1061365	0.083	0.109	0.51	3	7	252	0.12	2	< 2	< 10	61	< 10	11	4	
1061366	0.065	0.128	0.64	< 2	5	314	0.11	< 1	< 2	< 10	52	< 10	10	5	
1061367	0.065	0.117	0.97	3	6	443	0.05	2	< 2	< 10	59	< 10	7	4	
1061368	0.073	0.132	1.00	3	5	458	0.01	< 1	< 2	< 10	40	< 10	6	2	
1061369	0.061	0.106	0.84	4	5	552	0.02	< 1	3	< 10	50	< 10	6	2	
1061370	0.076	0.134	1.05	2	5	422	0.02	< 1	< 2	< 10	38	< 10	7	3	
1061371	0.083	0.124	0.89	< 2	4	384	0.01	< 1	< 2	< 10	31	< 10	8	2	
1061372	0.070	0.115	1.18	2	4	313	0.02	4	< 2	< 10	36	< 10	6	2	
1061373	0.104	0.108	1.10	< 2	4	263	0.01	3	2	< 10	35	< 10	6	5	
1061374	0.104	0.144	1.70	3	7	342	0.02	< 1	< 2	< 10	64	< 10	6	4	
1061375	0.089	0.143	1.27	3	4	254	0.02	< 1	< 2	< 10	42	< 10	5	3	
1061376	0.088	0.154	1.65	2	3	216	0.10	< 1	< 2	< 10	47	< 10	7	6	
1061377	0.076	0.143	1.03	4	3	479	0.01	< 1	2	< 10	48	< 10	6	2	
1061378	0.141	0.115	1.73	3	4	198	0.01	< 1	< 2	< 10	36	< 10	5	3	
1061379	0.138	0.118	1.80	3	4	277	< 0.01	2	< 2	< 10	36	< 10	5	3	
1061380	0.277	0.091	0.64	3	2	76	0.07	4	< 2	< 10	25	< 10	10	3	
1061381	0.158	0.070	0.80	3	2	281	< 0.01	3	< 2	< 10	26	< 10	6	6	
1061382	0.095	0.124	1.18	3	3	382	< 0.01	< 1	< 2	< 10	31	< 10	5	2	
1061383	0.164	0.076	0.87	3	3	341	< 0.01	< 1	< 2	< 10	21	< 10	6	3	
1061384	0.165	0.079	0.74	3	3	376	< 0.01	< 1	< 2	< 10	22	< 10	6	4	
1061385	0.191	0.077	0.83	4	3	387	< 0.01	< 1	< 2	< 10	23	< 10	6	3	
1061386	0.193	0.078	0.80	5	4	305	< 0.01	1	< 2	< 10	27	< 10	6	2	
1061387	0.056	0.093	1.67	6	10	133	0.01	< 1	< 2	< 10	80	< 10	6	5	
1061388	0.059	0.097	1.98	4	7	213	< 0.01	< 1	< 2	< 10	54	< 10	4	3	
1061389	0.059	0.099	2.25	4	7	232	< 0.01	3	< 2	< 10	53	< 10	4	3	
1061390	0.085	0.095	2.17	5	8	297	< 0.01	< 1	3	< 10	51	< 10	6	2	
1061391	0.127	0.114	1.12	3	5	244	0.06	< 1	2	< 10	45	< 10	7	5	
1061392	0.130	0.126	2.41	4	5	293	< 0.01	< 1	< 2	< 10	42	< 10	5	4	
1061393	0.085	0.062	1.05	5	8	992	0.01	< 1	< 2	< 10	54	< 10	4	2	
1061394	0.056	0.072	1.30	11	6	532	0.01	1	< 2	< 10	40	< 10	4	2	
1061395	0.034	0.022	14.3	51	5	21	< 0.01	< 1	< 2	< 10	26	< 10	3	43	
1061396	0.050	0.065	1.28	18	8	183	< 0.01	< 1	4	< 10	45	< 10	4	3	
1061397	0.043	0.052	1.61	9	6	418	< 0.01	< 1	< 2	< 10	36	< 10	4	3	
1061398	0.068	0.043	1.94	28	9	47	0.02	< 1	3	< 10	61	< 10	5	24	
1061418	0.353	0.030	0.46	3	2	133	< 0.01	< 1	< 2	< 10	12	< 10	3	2	
1061419	0.231	0.017	0.32	< 2	2	120	< 0.01	3	< 2	< 10	5	< 10	2	< 1	
1061420	0.202	0.156	1.80	6	6	86	0.10	< 1	< 2	< 10	76	< 10	12	11	5.42
1061421	0.260	0.046	0.75	< 2	2	150	< 0.01	3	< 2	< 10	12	< 10	4	2	

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
1061422	0.240	0.037	0.72	< 2	3	126	< 0.01	< 1	< 2	< 10	11	< 10	3	2	
1061423	0.259	0.045	0.82	< 2	3	176	< 0.01	< 1	< 2	< 10	14	< 10	4	2	
1061424	0.217	0.053	0.74	< 2	3	255	< 0.01	< 1	< 2	< 10	14	< 10	4	2	
1061425	0.234	0.048	0.52	< 2	3	219	< 0.01	< 1	< 2	< 10	13	< 10	4	1	
1061426	0.254	0.034	0.59	< 2	2	189	< 0.01	3	< 2	< 10	10	< 10	3	2	
1061427	0.160	0.042	0.58	< 2	2	176	< 0.01	3	< 2	< 10	10	< 10	3	1	
1061428	0.157	0.041	0.58	< 2	2	175	< 0.01	< 1	< 2	< 10	9	< 10	3	1	
1061429	0.235	0.059	0.77	< 2	3	249	< 0.01	< 1	< 2	< 10	17	< 10	5	2	
1061430	0.242	0.042	0.73	< 2	3	197	< 0.01	1	< 2	< 10	14	< 10	4	2	
1061431	0.214	0.044	0.78	< 2	2	201	< 0.01	< 1	< 2	< 10	13	< 10	4	2	
1061432	0.273	0.026	0.49	< 2	2	147	< 0.01	< 1	< 2	< 10	7	< 10	2	1	
1061433	0.207	0.031	0.57	< 2	3	181	< 0.01	< 1	< 2	< 10	9	< 10	3	2	
1061434	0.210	0.030	0.57	< 2	3	183	< 0.01	< 1	< 2	< 10	9	< 10	3	2	
1061435	0.274	0.038	0.62	< 2	3	209	< 0.01	< 1	< 2	< 10	12	< 10	3	2	
1061436	0.203	0.025	0.81	< 2	3	173	< 0.01	< 1	< 2	< 10	9	< 10	2	5	
1061437	0.115	0.004	3.21	2	3	65	< 0.01	< 1	< 2	< 10	13	< 10	< 1	11	
1061438	0.099	0.003	2.68	2	3	20	< 0.01	3	< 2	< 10	22	< 10	2	23	
1061439	0.087	0.003	1.05	4	1	22	< 0.01	< 1	< 2	< 10	10	< 10	1	13	
1061440	0.015	0.003	0.05	< 2	< 1	2740	< 0.01	< 1	< 2	< 10	2	< 10	< 1	< 1	
1061441	0.042	0.017	0.85	5	2	58	< 0.01	< 1	< 2	< 10	14	< 10	2	12	
1061442	0.091	0.125	2.17	12	8	171	< 0.01	< 1	< 2	< 10	41	< 10	5	4	
1061443	0.143	0.072	0.81	7	4	241	< 0.01	< 1	< 2	< 10	25	< 10	5	1	
1061444	0.116	0.094	0.38	3	5	413	< 0.01	2	< 2	< 10	28	< 10	6	1	
1061445	0.117	0.107	0.36	3	6	436	< 0.01	< 1	3	< 10	38	< 10	6	< 1	
1061446	0.119	0.125	0.35	3	7	642	< 0.01	< 1	< 2	< 10	45	< 10	7	1	
1061447	0.132	0.126	0.26	2	6	641	< 0.01	2	< 2	< 10	41	< 10	7	1	
1061448	0.121	0.122	0.32	3	6	590	< 0.01	2	< 2	< 10	43	< 10	8	1	
1061449	0.178	0.119	0.10	3	10	574	< 0.01	< 1	< 2	< 10	58	< 10	6	1	
1061450	0.174	0.116	0.05	3	10	590	< 0.01	< 1	3	< 10	61	< 10	5	1	
1061451	0.063	0.117	0.02	4	6	462	< 0.01	< 1	3	< 10	35	< 10	5	1	
1061452	0.053	0.108	0.02	2	6	355	< 0.01	< 1	4	< 10	34	< 10	5	1	
1061453	0.048	0.121	0.02	3	7	275	< 0.01	< 1	2	< 10	46	< 10	6	2	
1061454	0.050	0.163	0.04	3	8	408	< 0.01	< 1	< 2	< 10	58	< 10	7	1	
1061455	0.056	0.194	0.02	2	7	438	< 0.01	< 1	< 2	< 10	56	< 10	9	1	
1061456	0.060	0.157	0.03	< 2	9	504	< 0.01	< 1	< 2	< 10	77	< 10	7	1	
1061457	0.057	0.189	0.03	2	6	617	< 0.01	< 1	< 2	< 10	37	< 10	10	< 1	
1061458	0.052	0.161	0.03	8	6	555	< 0.01	< 1	2	< 10	42	< 10	8	1	
1061459	0.089	0.180	0.03	3	8	565	< 0.01	< 1	2	< 10	64	< 10	9	1	
1061460	0.076	0.187	0.04	9	6	747	< 0.01	< 1	< 2	< 10	38	< 10	10	< 1	
1061461	0.053	0.136	0.03	4	6	536	< 0.01	< 1	< 2	< 10	31	< 10	6	1	
1061462	0.062	0.095	1.00	18	5	510	< 0.01	< 1	3	< 10	24	< 10	4	2	
1061463	0.055	0.116	2.20	42	7	560	< 0.01	< 1	< 2	< 10	30	< 10	5	2	
1061464	0.067	0.167	1.64	33	10	594	< 0.01	< 1	< 2	< 10	49	< 10	6	2	
1061465	0.057	0.142	1.13	23	7	695	< 0.01	< 1	< 2	< 10	36	< 10	6	1	
1061466	0.074	0.187	0.08	3	8	782	< 0.01	< 1	< 2	< 10	59	< 10	8	1	
1061467	0.072	0.141	0.05	3	8	820	< 0.01	< 1	< 2	< 10	54	< 10	6	2	
1061468	0.077	0.151	0.07	2	7	751	< 0.01	< 1	< 2	< 10	38	< 10	7	2	
1061469	0.079	0.181	0.07	6	6	677	< 0.01	< 1	< 2	< 10	34	< 10	7	1	
1061470	0.097	0.160	0.04	7	6	670	< 0.01	< 1	3	< 10	30	< 10	7	1	
1061471	0.104	0.144	0.96	12	8	507	< 0.01	< 1	5	< 10	37	< 10	5	2	
1061472	0.098	0.139	0.65	8	8	459	< 0.01	< 1	< 2	< 10	31	< 10	5	2	
1061473	0.113	0.141	0.19	3	9	435	< 0.01	< 1	< 2	< 10	45	< 10	5	1	

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
1061474	0.093	0.156	0.09	3	9	389	< 0.01	< 1	< 2	< 10	45	< 10	5	< 1	
1061501	0.065	0.094	0.75	< 2	6	284	0.09	< 1	< 2	< 10	61	< 10	6	7	
1061502	0.049	0.096	1.09	< 2	5	213	0.16	< 1	< 2	< 10	67	< 10	8	6	
1061503	0.053	0.101	1.58	< 2	5	271	0.19	1	< 2	< 10	65	< 10	8	7	
1061504	0.069	0.131	0.98	2	4	163	0.20	< 1	2	< 10	50	< 10	7	8	
1061505	0.045	0.119	1.38	3	3	291	0.08	1	< 2	< 10	36	< 10	6	10	
1061506	0.047	0.139	1.83	< 2	3	379	< 0.01	1	< 2	< 10	19	< 10	5	1	
1061507	0.038	0.124	1.35	3	3	369	< 0.01	< 1	< 2	< 10	22	< 10	7	2	
1061508	0.054	0.094	1.87	< 2	3	306	0.01	< 1	< 2	< 10	22	< 10	6	2	
1061509	0.054	0.069	2.17	< 2	3	248	0.07	3	3	< 10	35	< 10	6	12	
1061510	0.055	0.069	2.39	2	4	114	0.15	5	< 2	< 10	49	< 10	7	6	
1061511	0.076	0.113	2.28	< 2	5	135	0.23	< 1	< 2	< 10	55	< 10	9	22	
1061512	0.065	0.071	2.27	2	5	116	0.27	1	< 2	< 10	63	< 10	7	27	
1061513	0.049	0.099	2.45	3	8	87	0.18	2	< 2	< 10	78	< 10	10	14	
1061514	0.040	0.132	1.81	3	3	264	0.01	< 1	< 2	< 10	39	< 10	7	2	
1061515	0.032	0.125	1.90	3	4	269	< 0.01	< 1	2	< 10	46	< 10	6	2	
1061516	0.038	0.117	2.16	4	5	410	< 0.01	< 1	< 2	< 10	31	< 10	4	2	
1061517	0.033	0.117	2.02	4	6	440	< 0.01	< 1	< 2	< 10	28	< 10	3	2	
1061518	0.031	0.099	1.66	3	10	408	0.07	< 1	3	< 10	86	< 10	6	14	
1061519	0.026	0.104	1.94	5	9	328	0.19	< 1	< 2	< 10	89	< 10	8	19	
1061520	0.013	0.003	0.05	< 2	< 1	2640	< 0.01	< 1	< 2	< 10	2	< 10	< 1	< 1	

Quality Control

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-1 Meas		27.0	3.3	1110	796	14	35	627	686	0.32	350	13	267	0.7	1370	0.75	11	6	20.8	< 10	3	0.02	< 10	0.13
GXR-1 Cert		31.0	3.30	1110	852	18.0	41.0	730	760	3.52	427	15.0	750	1.22	1380	0.960	8.20	12.0	23.6	13.8	3.90	0.0500	7.50	0.217
GXR-4 Meas		3.1	0.8	6190	121	266	36	38	66	2.36	84	< 10	20	1.1	14	0.82	14	47	2.57	< 10	< 1	1.35	41	1.43
GXR-4 Cert		4.00	0.860	6520	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.6	64.0	3.09	20.0	0.110	4.01	64.5	1.66
GXR-6 Meas		0.3	< 0.5	68	997	2	24	92	127	6.61	196	< 10	837	0.8	< 2	0.14	15	76	5.00	20	1	0.96	11	0.38
GXR-6 Cert		1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680	1.87	13.9	0.609
OREAS 13P Meas				2280			2010												3.93					
OREAS 13P Cert				2500			2260												7.58					
CDN-GS-20A Meas																								
CDN-GS-20A Cert																								
OxG84 Meas	993																							
OxG84 Cert	922.000																							
OxG84 Meas	999																							
OxG84 Cert	922.000																							
OxG84 Meas	975																							
OxG84 Cert	922.000																							
OxJ80 Meas	2470																							
OxJ80 Cert	2331.000																							
OxJ80 Meas	2480																							
OxJ80 Cert	2331.000																							
OxJ80 Meas	2450																							
OxJ80 Cert	2331.000																							
OxJ80 Meas	2490																							
OxJ80 Cert	2331.000																							
OxJ80 Meas	2460																							
OxJ80 Cert	2331.000																							
1061361 Orig	10																							
1061361 Dup	15																							
1061364 Orig		0.4	0.5	111	878	4	19	2	119	1.57	147	< 10	46	0.6	< 2	3.79	23	6	4.58	< 10	< 1	0.64	10	1.52
1061364 Dup		0.4	0.8	111	888	4	20	3	120	1.54	146	< 10	42	0.6	< 2	4.21	23	6	4.56	< 10	< 1	0.62	12	1.52
1061371 Orig	13																							
1061371 Dup	11																							
1061378 Orig		0.3	0.9	34	463	50	9	12	173	2.25	175	11	18	0.9	< 2	2.01	9	5	2.94	< 10	< 1	0.97	24	0.65
1061378 Dup		0.3	0.9	34	470	50	9	12	177	2.27	174	< 10	18	0.9	< 2	1.89	9	6	2.97	< 10	< 1	0.98	23	0.65
1061381 Orig	11	0.4	< 0.5	25	386	148	7	31	92	1.70	414	< 10	44	0.6	< 2	2.73	7	5	1.71	< 10	< 1	0.70	37	0.50
1061381 Split	12	0.3	< 0.5	25	383	143	7	28	88	1.61	411	< 10	52	0.6	< 2	2.73	7	6	1.70	< 10	< 1	0.67	35	0.49
1061382 Orig	11																							
1061382 Dup	14																							
1061392 Orig		0.4	0.9	51	993	50	36	12	410	2.32	105	10	15	0.8	< 2	2.16	20	7	4.67	< 10	3	0.89	15	1.05
1061392 Dup		0.4	1.2	50	988	50	35	11	408	2.24	104	10	20	0.8	< 2	1.97	20	7	4.58	< 10	2	0.86	16	1.02
1061397 Orig	74																							
1061397 Dup	79																							
1061419 Orig	13	< 0.2	< 0.5	7	288	1	8	< 2	27	0.48	148	< 10	51	< 0.5	< 2	0.87	3	6	1.14	< 10	< 1	0.09	17	0.35
1061419 Split	11	< 0.2	< 0.5	8	287	3	8	< 2	25	0.47	149	< 10	55	< 0.5	< 2	0.86	3	7	1.16	< 10	< 1	0.09	17	0.34
1061426 Orig		< 0.2	< 0.5	8	411	2	14	2	35	0.77	52	< 10	47	< 0.5	< 2	1.35	5	10	1.51	< 10	< 1	0.19	30	0.55
1061426 Dup		0.7	< 0.5	7	384	2	13	< 2	32	0.72	50	< 10	91	< 0.5	< 2	1.26	5	9	1.43	< 10	< 1	0.18	30	0.52
1061427 Orig	23																							
1061427 Dup	29																							
1061429 Orig	66	< 0.2	< 0.5	17	426	< 1	12	2	22	1.15	35	< 10	37	0.7	< 2	1.65	6	13	1.73	< 10	< 1	0.38	35	0.61
1061429 Split	58	< 0.2	< 0.5	19	427	< 1	12	3	22	1.12	34	< 10	52	0.7	< 2	1.66	6	13	1.74	< 10	< 1	0.37	34	0.61
1061437 Orig	81																							
1061437 Dup	78																							
1061449 Orig		0.4	< 0.5	88	1320	< 1	19	< 2	43	2.45	74	15	298	0.5	< 2	5.42	19	23	4.13	< 10	1	0.76	31	1.82
1061449 Dup		0.3	0.5	90	1350	< 1	19	< 2	43	2.56	77	17	311	0.5	< 2	5.46	19	23	4.21	< 10	1	0.78	32	1.86
1061452 Orig	< 5																							
1061452 Dup	< 5																							
1061459 Orig	< 5	< 0.2	< 0.5	103	1030	< 1	31	< 2	81	2.01	26	< 10	648	< 0.5	< 2	4.41	24	29	3.90	< 10	< 1	0.32	81	1.89

Quality Control

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061459 Split	< 5	0.2	< 0.5	104	1030	< 1	31	< 2	82	2.03	27	< 10	646	< 0.5	< 2	4.45	24	29	3.91	< 10	< 1	0.32	81	1.90
1061462 Orig	32																							
1061462 Dup	32																							
1061463 Orig		0.6	< 0.5	58	2480	< 1	22	12	171	0.96	> 10000	< 10	36	< 0.5	< 2	3.44	23	39	6.30	< 10	< 1	0.36	11	1.27
1061463 Dup		0.6	< 0.5	58	2460	< 1	22	11	171	0.95	> 10000	< 10	29	< 0.5	< 2	3.71	24	37	6.36	< 10	< 1	0.36	10	1.28
1061469 Orig	< 5	0.4	0.5	67	1300	< 1	17	4	75	1.14	48	< 10	208	< 0.5	< 2	3.93	21	23	4.05	< 10	< 1	0.38	65	1.18
1061469 Split	< 5	0.4	0.5	64	1260	< 1	17	3	72	1.23	46	< 10	230	< 0.5	< 2	3.98	21	21	4.02	< 10	< 1	0.41	64	1.17
1061472 Orig	17																							
1061472 Dup	16																							
1061502 Orig		< 0.2	< 0.5	20	627	< 1	19	8	97	2.05	18	< 10	37	< 0.5	< 2	2.97	14	20	4.39	< 10	2	0.33	29	1.27
1061502 Dup		< 0.2	0.6	19	615	< 1	19	6	95	2.03	30	< 10	57	< 0.5	< 2	3.48	15	19	4.37	< 10	1	0.32	30	1.26
1061513 Orig	5																							
1061513 Dup	< 5																							
1061515 Orig	< 5	0.8	0.7	62	757	13	25	8	80	1.93	17	< 10	36	< 0.5	< 2	3.00	21	15	5.54	< 10	< 1	0.48	14	1.27
1061515 Split	8	0.7	0.5	60	743	13	23	7	78	1.95	14	< 10	30	< 0.5	< 2	3.99	20	15	5.42	< 10	2	0.50	17	1.24
1061516 Orig		1.2	0.8	62	1010	42	24	18	193	1.20	104	< 10	32	< 0.5	< 2	3.43	21	14	5.17	< 10	2	0.52	11	1.36
1061516 Dup		1.0	0.7	59	957	40	23	17	184	1.16	94	< 10	38	< 0.5	2	3.41	21	13	4.86	< 10	2	0.50	12	1.28
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	2	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01

Quality Control

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
GXR-1 Meas	0.045	0.040	0.20	66	1	182		16	< 2	33	71	153	22	13	
GXR-1 Cert	0.0520	0.0650	0.257	122	1.58	275		13.0	0.390	34.9	80.0	164	32.0	38.0	
GXR-4 Meas	0.113	0.101	1.59	< 2	6	66		< 1	< 2	< 10	68	< 10	10	8	
GXR-4 Cert	0.564	0.120	1.77	4.80	7.70	221		0.970	3.20	6.20	87.0	30.8	14.0	186	
GXR-6 Meas	0.077	0.030	0.01	3	23	32		< 1	< 2	< 10	153	< 10	6	8	
GXR-6 Cert	0.104	0.0350	0.0160	3.60	27.6	35.0		0.0180	2.20	1.54	186	1.90	14.0	110	
OREAS 13P Meas															
OREAS 13P Cert															
CDN-GS-20A Meas															22.1
CDN-GS-20A Cert															21.12
OxG84 Meas															
OxG84 Cert															
OxG84 Meas															
OxG84 Cert															
OxG84 Meas															
OxG84 Cert															
OxJ80 Meas															
OxJ80 Cert															
OxJ80 Meas															
OxJ80 Cert															
OxJ80 Meas															
OxJ80 Cert															
OxJ80 Meas															
OxJ80 Cert															
OxJ80 Meas															
OxJ80 Cert															
1061361 Orig															
1061361 Dup															
1061364 Orig	0.061	0.125	1.02	< 2	6	472	0.03	< 1	< 2	< 10	47	< 10	6	2	
1061364 Dup	0.060	0.128	1.31	< 2	6	528	0.03	< 1	< 2	< 10	46	< 10	6	3	
1061371 Orig															
1061371 Dup															
1061378 Orig	0.141	0.115	1.79	3	4	201	0.01	< 1	< 2	< 10	36	< 10	5	3	
1061378 Dup	0.141	0.116	1.66	4	4	196	0.01	2	< 2	< 10	36	< 10	5	3	
1061381 Orig	0.158	0.070	0.80	3	2	281	< 0.01	3	< 2	< 10	26	< 10	6	6	
1061381 Split	0.155	0.068	0.79	3	2	282	< 0.01	2	3	< 10	24	< 10	5	7	
1061382 Orig															
1061382 Dup															
1061392 Orig	0.132	0.126	2.49	4	5	293	< 0.01	< 1	< 2	< 10	43	< 10	5	4	
1061392 Dup	0.128	0.125	2.33	4	5	292	< 0.01	< 1	< 2	< 10	42	< 10	5	3	
1061397 Orig															
1061397 Dup															
1061419 Orig	0.231	0.017	0.32	< 2	2	120	< 0.01	3	< 2	< 10	5	< 10	2	< 1	
1061419 Split	0.227	0.018	0.32	< 2	2	119	< 0.01	3	< 2	< 10	5	< 10	2	7	
1061426 Orig	0.258	0.035	0.60	< 2	3	193	< 0.01	4	< 2	< 10	10	< 10	3	1	
1061426 Dup	0.249	0.033	0.58	< 2	2	185	< 0.01	2	< 2	< 10	9	< 10	3	2	
1061427 Orig															
1061427 Dup															
1061429 Orig	0.235	0.059	0.77	< 2	3	249	< 0.01	< 1	< 2	< 10	17	< 10	5	2	
1061429 Split	0.236	0.059	0.78	< 2	3	254	< 0.01	< 1	< 2	< 10	16	< 10	5	3	
1061437 Orig															
1061437 Dup															
1061449 Orig	0.174	0.119	0.10	3	9	564	< 0.01	< 1	< 2	< 10	57	< 10	6	1	
1061449 Dup	0.183	0.120	0.10	3	10	583	< 0.01	< 1	4	< 10	59	< 10	6	1	
1061452 Orig															
1061452 Dup															
1061459 Orig	0.089	0.180	0.03	3	8	565	< 0.01	< 1	2	< 10	64	< 10	9	1	

Quality Control

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA
1061459 Split	0.090	0.180	0.03	3	8	568	< 0.01	< 1	< 2	< 10	64	< 10	9	2	
1061462 Orig															
1061462 Dup															
1061463 Orig	0.056	0.115	2.09	42	7	532	< 0.01	7	3	< 10	30	< 10	5	2	
1061463 Dup	0.054	0.117	2.31	41	7	589	< 0.01	< 1	< 2	< 10	30	< 10	5	2	
1061469 Orig	0.079	0.181	0.07	6	6	677	< 0.01	< 1	< 2	< 10	34	< 10	7	1	
1061469 Split	0.085	0.175	0.09	8	6	728	< 0.01	< 1	3	< 10	35	< 10	7	1	
1061472 Orig															
1061472 Dup															
1061502 Orig	0.051	0.067	0.88	3	5	208	0.11	< 1	< 2	< 10	68	< 10	8	2	
1061502 Dup	0.048	0.126	1.30	< 2	5	219	0.21	< 1	< 2	< 10	67	< 10	8	11	
1061513 Orig															
1061513 Dup															
1061515 Orig	0.032	0.125	1.90	3	4	269	< 0.01	< 1	2	< 10	46	< 10	6	2	
1061515 Split	0.032	0.125	2.71	2	4	283	< 0.01	< 1	< 2	< 10	46	< 10	6	8	
1061516 Orig	0.038	0.120	2.13	3	5	420	< 0.01	< 1	< 2	< 10	32	< 10	4	2	
1061516 Dup	0.039	0.113	2.19	4	4	399	< 0.01	3	< 2	< 10	31	< 10	4	3	
Method Blank Method Blank	0.012	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.011	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.010	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.012	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.011	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.011	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	
Method Blank Method Blank	0.008	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 05-Aug-11
Invoice No.: A11-8180
Invoice Date: 12-Aug-11
Your Reference: 19555-Straw Lake

Mineral Mountain Resources Ltd.
411 Mowat Ave. Suite 222
Fort Frances Ontario P9A1Y8
Canada

ATTN: Project Manager Kevin Leonard

CERTIFICATE OF ANALYSIS

1 Pulp sample and 18 Rock samples were submitted for analysis.

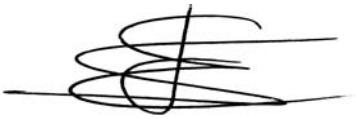
The following analytical packages were requested: Code 1A2-Tbay Au - Fire Assay AA (QOP Fire Assay Tbay)
Code 1E3-Tbay Aqua Regia ICP(AQUAGEO)

REPORT **A11-8180**

Notes:
If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3
Values which exceed the upper limit should be assayed for accurate numbers.

1A3>10G/T

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

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Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061399	169	0.5	< 0.5	74	47	98	135	17	166	1.40	143	< 10	16	0.6	4	0.10	37	22	4.58	< 10	< 1	0.44	14	0.14
1061400	1580	0.3	< 0.5	59	891	2	115	6	73	1.51	2160	< 10	60	< 0.5	< 2	1.37	29	35	5.25	< 10	< 1	0.06	13	2.09
1061401	80	0.6	1.2	73	52	3110	132	18	198	1.32	172	< 10	11	0.6	< 2	0.13	41	20	5.17	< 10	4	0.42	15	0.12
1061402	114	0.5	< 0.5	96	247	260	212	12	205	0.96	479	< 10	10	0.6	< 2	0.77	70	18	5.42	< 10	3	0.35	13	0.33
1061403	31	0.3	< 0.5	27	234	128	65	7	61	0.70	277	< 10	37	< 0.5	< 2	0.53	17	5	1.95	< 10	< 1	0.15	< 10	0.19
1061404	111	1.0	2.6	191	188	1120	222	23	1030	1.23	2600	< 10	12	0.7	4	0.78	81	18	5.29	< 10	1	0.49	15	0.30
1061405	329	1.1	1.0	306	200	879	274	23	228	1.16	520	< 10	< 10	0.6	< 2	0.68	104	23	7.48	< 10	2	0.45	13	0.29
1061406	380	0.8	0.9	282	173	1470	232	18	166	1.15	336	< 10	< 10	0.6	< 2	0.54	119	18	8.22	< 10	3	0.48	< 10	0.24
1061407	186	0.7	1.1	169	302	1370	228	16	188	1.12	229	< 10	10	0.7	< 2	1.17	77	19	6.77	< 10	2	0.44	13	0.49
1061408	594	0.9	< 0.5	275	249	1860	264	21	154	1.21	416	< 10	< 10	0.8	< 2	0.72	86	38	7.32	< 10	4	0.52	12	0.29
1061409	356	0.8	1.5	282	55	2360	282	16	198	1.52	612	11	< 10	1.1	< 2	0.20	118	43	9.79	< 10	3	0.61	13	0.13
1061410	337	0.7	0.9	423	165	1200	274	14	110	1.34	354	< 10	< 10	0.8	< 2	0.25	103	29	10.3	< 10	1	0.53	11	0.15
1061411	24	< 0.2	< 0.5	42	1120	52	28	4	92	1.81	190	11	39	1.1	< 2	2.10	12	21	2.60	< 10	< 1	0.66	45	0.77
1061412	15	0.3	< 0.5	38	877	34	30	6	90	1.78	310	10	61	0.9	< 2	2.12	11	20	2.47	< 10	< 1	0.65	42	0.75
1061413	32	0.5	< 0.5	97	768	37	19	7	94	1.07	1220	< 10	65	0.6	< 2	1.92	7	14	1.97	< 10	< 1	0.37	35	0.67
1061414	54	< 0.2	< 0.5	97	615	76	53	10	189	2.78	797	15	36	1.7	< 2	0.63	21	43	4.51	10	< 1	0.87	91	0.38
1061415	12	< 0.2	< 0.5	18	376	32	14	2	32	0.66	277	< 10	104	< 0.5	< 2	1.18	7	10	1.59	< 10	< 1	0.16	26	0.45
1061416	17	< 0.2	< 0.5	6	226	3	7	< 2	17	0.51	201	< 10	49	< 0.5	< 2	0.76	3	6	1.18	< 10	< 1	0.08	16	0.27
1061417	17	< 0.2	< 0.5	8	219	2	6	2	14	0.44	118	< 10	49	< 0.5	< 2	0.69	3	6	1.17	< 10	< 1	0.08	15	0.25

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1061399	0.193	0.011	4.21	6	5	40	< 0.01	< 1	< 2	< 10	32	< 10	4	46
1061400	0.317	0.110	0.73	3	3	92	0.08	2	< 2	< 10	29	< 10	12	3
1061401	0.184	0.032	4.82	5	6	42	< 0.01	1	< 2	< 10	23	< 10	6	52
1061402	0.167	0.013	5.49	4	8	119	< 0.01	< 1	5	< 10	29	< 10	4	42
1061403	0.361	0.007	1.41	2	2	90	< 0.01	< 1	< 2	< 10	6	< 10	5	51
1061404	0.166	0.034	5.48	9	8	131	< 0.01	3	3	< 10	33	14	8	50
1061405	0.144	0.021	8.13	10	9	105	< 0.01	< 1	< 2	< 10	42	< 10	7	45
1061406	0.098	0.016	9.38	9	7	68	< 0.01	< 1	< 2	< 10	42	< 10	6	38
1061407	0.134	0.019	7.18	11	10	182	< 0.01	< 1	2	< 10	40	< 10	6	54
1061408	0.103	0.022	7.96	9	7	93	< 0.01	1	< 2	< 10	43	< 10	5	58
1061409	0.093	0.059	8.07	12	14	33	< 0.01	< 1	< 2	< 10	61	10	7	35
1061410	0.092	0.015	10.9	8	10	35	< 0.01	< 1	< 2	< 10	44	< 10	5	43
1061411	0.213	0.084	0.86	3	4	348	< 0.01	< 1	< 2	< 10	26	< 10	6	2
1061412	0.213	0.084	0.67	4	4	337	< 0.01	< 1	< 2	< 10	27	< 10	6	2
1061413	0.183	0.065	0.82	10	3	319	< 0.01	< 1	< 2	< 10	16	< 10	5	2
1061414	0.193	0.121	1.40	8	7	137	0.01	< 1	3	< 10	54	< 10	8	5
1061415	0.242	0.026	0.70	< 2	2	196	< 0.01	< 1	< 2	< 10	10	< 10	3	14
1061416	0.288	0.018	0.34	< 2	2	113	< 0.01	< 1	< 2	< 10	4	< 10	2	9
1061417	0.257	0.015	0.37	< 2	1	106	< 0.01	< 1	< 2	< 10	4	< 10	2	7

Quality Control

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-1 Meas		27.0	3.1	1050	784	14	36	587	665	0.33	356	16	231	0.7	1240	0.73	6	6	21.0	< 10	4	0.02	< 10	0.13
GXR-1 Cert		31.0	3.30	1110	852	18.0	41.0	730	760	3.52	427	15.0	750	1.22	1380	0.960	8.20	12.0	23.6	13.8	3.90	0.0500	7.50	0.217
GXR-4 Meas		3.5	0.5	5840	140	300	37	39	71	2.58	98	< 10	32	1.3	20	0.87	13	52	3.00	10	< 1	1.42	47	1.60
GXR-4 Cert		4.00	0.860	6520	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.6	64.0	3.09	20.0	0.110	4.01	64.5	1.66
GXR-6 Meas		0.3	< 0.5	63	1020	2	23	87	123	6.95	182	< 10	1140	0.9	3	0.20	13	78	5.43	20	4	0.98	11	0.41
GXR-6 Cert		1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680	1.87	13.9	0.609
OREAS 13P Meas				2390			1970												5.08					
OREAS 13P Cert				2500			2260												7.58					
OxG84 Meas	953																							
OxG84 Cert	922.000																							
1061408 Orig	624																							
1061408 Dup	564																							
1061411 Orig		< 0.2	< 0.5	42	1120	54	28	4	92	1.81	191	11	37	1.1	< 2	2.10	11	21	2.62	< 10	< 1	0.66	44	0.77
1061411 Dup		< 0.2	< 0.5	42	1120	49	28	5	92	1.80	189	11	40	1.1	< 2	2.10	12	22	2.58	< 10	< 1	0.66	45	0.77
1061417 Orig	17	< 0.2	< 0.5	8	219	2	6	2	14	0.44	118	< 10	49	< 0.5	< 2	0.69	3	6	1.17	< 10	< 1	0.08	15	0.25
1061417 Split	21	< 0.2	< 0.5	7	220	1	6	< 2	15	0.44	121	< 10	50	< 0.5	< 2	0.69	3	6	1.16	< 10	< 1	0.08	16	0.26
Method Blank Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01

Quality Control

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-1 Meas	0.053	0.042	0.18	68	1	187		5	< 2	36	73	146	23	11
GXR-1 Cert	0.0520	0.0650	0.257	122	1.58	275		13.0	0.390	34.9	80.0	164	32.0	38.0
GXR-4 Meas	0.121	0.119	1.68	4	7	76		< 1	< 2	< 10	79	12	12	9
GXR-4 Cert	0.564	0.120	1.77	4.80	7.70	221		0.970	3.20	6.20	87.0	30.8	14.0	186
GXR-6 Meas	0.128	0.031	0.01	3	24	43		4	2	< 10	155	< 10	6	3
GXR-6 Cert	0.104	0.0350	0.0160	3.60	27.6	35.0		0.0180	2.20	1.54	186	1.90	14.0	110
OREAS 13P Meas														
OREAS 13P Cert														
OxG84 Meas														
OxG84 Cert														
1061408 Orig														
1061408 Dup														
1061411 Orig	0.212	0.083	0.87	3	4	345	< 0.01	< 1	3	< 10	26	< 10	6	2
1061411 Dup	0.214	0.084	0.85	2	4	351	< 0.01	3	< 2	< 10	26	< 10	6	2
1061417 Orig	0.257	0.015	0.37	< 2	1	106	< 0.01	< 1	< 2	< 10	4	< 10	2	7
1061417 Split	0.261	0.015	0.37	< 2	1	107	< 0.01	< 1	< 2	< 10	5	< 10	2	8
Method Blank Method Blank	0.013	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1

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CERTIFICATE OF ANALYSIS FOR

GOLD ORE REFERENCE MATERIAL

OREAS 19a

SUMMARY STATISTICS

Constituent	Certified Value	1SD
Gold, Au (ppm)	5.49	0.10

Prepared by:
Ore Research & Exploration Pty Ltd
November 2009

REPORT 09-801-19a

INTRODUCTION

OREAS reference materials (RM's) are intended to provide a low cost method of evaluating and improving the quality of precious and base metal analysis of geological samples. To the explorationist, they provide an important control in analytical data sets related to exploration from the grass roots level through to resource definition. To the mine geologist, they provide a tool for grade control in routine mining operations. To the analyst, they provide an effective means of calibrating analytical equipment, assessing new techniques and routinely monitoring in-house procedures.

SOURCE MATERIALS

Reference material OREAS 19a was prepared from a blend of barren alkali olivine basalt from Epping, Victoria, Australia and gold-bearing Magdala ore from the Stawell Gold Mine, west-central Victoria, Australia. The Magdala lode is intimately associated with an intensely deformed package of volcanogenic sedimentary rocks. Mineralisation in the ore consists of a quartz-sericite-carbonate schist assemblage containing the sulphides pyrite and arsenopyrite. The major constituents of the alkali olivine basalt are feldspar, augite, olivine and titanomagnetite.

The approximate major and trace element composition of this sulphide-bearing gold ore material OREAS 19a is given in Table 1. The constituents SiO_2 to LOI are the means of duplicate XRF analyses determined using a borate fusion method, S and C are means of duplicate IR combustion furnace analyses, while the remaining constituents, Ag to Zr, are means of duplicate analyses determined by 4-acid digestion with ICP-MS finish.

Gold homogeneity has been evaluated and confirmed by INAA on twenty 0.5 gram sample portions and by a nested ANOVA program using conventional fire assay. The tolerance interval is determined from the INAA data while the certified value and confidence interval are based on a round robin program incorporating a total of 128 analyses at 19 laboratories.

COMMINUTION AND HOMOGENISATION PROCEDURES

The materials comprising OREAS 19a were prepared in the following manner:

a) jaw crushing to minus 3mm
b) drying to constant mass at 105° C
c) milling of the barren material to 98% minus 75 micron
d) milling of the gold–bearing material to 100% minus 20 microns
e) blending in appropriate proportions to achieve the desired grade
f) bagging into 25kg sublots
g) packaging into 60g units in laminated foil pouches and 1kg units in plastic jars

ANALYSIS OF OREAS 19a

Nineteen laboratories participated in the analytical program and are listed in the section headed 'Participating Laboratories'. To maintain anonymity laboratories have been randomly designated the letter codes A through S. Each laboratory received two scoop-split 110 gram subsamples from each of three 1kg test units taken at regular intervals during the bagging stage. They were instructed to dry the six samples at 105° C to constant mass and perform one 25-30 gram fire assay gold determination on each sample with new pots. The nested

design of the interlaboratory programme is amenable to analysis of variance (ANOVA) and enables a comparative assessment of within- and between-unit homogeneity (see 'ANOVA study' section).

Table 1. Approximate major and trace element composition of gold-bearing reference material OREAS 19a; wt.% - weight percent; ppm - parts per million.

Constituent	wt.%	Constituent	ppm	Constituent	ppm	Constituent	ppm
SiO_2	47.4	Ag	1.5	Gd	4.8	Sb	7.5
TiO_2	1.17	As	3410	Hf	2.5	Sc	20
Al_2O_3	11.9	Ba	469	Ho	0.8	Sm	4.68
Fe_2O_3	15.9	Be	1.0	In	0.05	Sn	1
MnO	0.45	Bi	0.2	La	17.7	Sr	279
MgO	5.94	Cd	<0.5	Li	13.0	Ta	0.65
CaO	8.29	Ce	29.6	Lu	0.27	Tb	0.7
Na_2O	1.96	Co	40.5	Mo	4.0	Te	0.2
K_2O	0.68	Cs	2	Nb	10	Th	3.7
P_2O_5	0.47	Cu	163	Nd	19.8	U	1.3
LOI	4.70	Dy	4	Ni	106	W	3.5
C	0.81	Er	2.1	Pb	10.5	Y	19.9
S	2.54	Eu	1.5	Pr	4.78	Yb	1.75
		Ga	17	Rb	19.5	Zn	128
						Zr	99

For the determination of a statistical tolerance interval, a 10 gram scoop split was taken from each of the twenty test units and submitted to 'Lab S' for gold assay via instrumental neutron activation analysis on a reduced analytical subsample weight of 0.5 gram.
Individual assay results for the fire assay and INAA methods are presented in Tables 2 and 3 together with the mean, median, standard deviations (absolute and relative) and percent deviation of the lab mean from the corrected mean of means for each data set (PDM[3]). Interlaboratory agreement of the means is excellent with all labs but one lying within 3% relative of the corrected mean of means of 5.49 ppm Au.

STATISTICAL EVALUATION OF ANALYTICAL DATA FOR OREAS 19a

Certified Value and Confidence Limits

The certified value was determined from the mean of means of accepted replicate values of accepted laboratory data sets A to S according to the formulae

$$\overline{x}_i = \frac{1}{n_i} \sum_{j=1}^{n_i} x_{ij}$$

$$\dot{x}^{\cdot} = \frac{1}{p} \sum_{i=1}^{p} \overline{x}_i$$

where

x_{ij} *is the jth result reported by laboratory i;*

p *is the number of participating laboratories;*

n_i *is the number of results reported by laboratory i;*

$\bar{x}_i$ *is the mean for laboratory i;*

$\ddot{x}$ *is the mean of means.*

The confidence limits were obtained by calculation of the variance of the consensus value (mean of means) and reference to Student's-*t* distribution with degrees of freedom (*p*-1):

$$\hat{V}(\ddot{x}) = \frac{1}{p(p-1)} \sum_{i=1}^{p} (\bar{x}_i - \ddot{x})^2$$

$$\text{Confidence limits} = \ddot{x} \pm t_{1-x/2}(p-1)\left(\hat{V}(\ddot{x})\right)^{1/2}$$

where $t_{1-x/2}(p-1)$ *is the 1-x/2 fractile of the t-distribution with (p-1) degrees of freedom.*

The distribution of the values is assumed to be symmetrical about the mean in the calculation of the confidence limits.

The test for rejection of individual outliers from each laboratory data set was based on *z* scores (rejected if $|z_i| > 2.5$) computed from the robust estimators of location and scale, *T* and *S*, respectively, according to the formulae

$$S = 1.483 \underset{j=1.....n}{\text{median}} / x_j - \underset{i=1.....n}{\text{median}} (x_i) /$$

$$z_i = \frac{x_i - T}{S}$$

where

T is the median value in a data set;

S is the median of all absolute deviations from the sample median multiplied by 1.483, a correction factor to make the estimator consistent with the usual parameter of a normal distribution.

Table 2. Results for gold in OREAS 19a (FA - fire assay; AAS - flame atomic absorption spectrometry; OES - inductively coupled plasma optical emission spectrometry; GRAV - gravimetry; Std.Dev. - one sigma standard deviation; Rel.Std.Dev. - one sigma relative standard deviation; PDM[3] - percent deviation of lab mean from corrected mean of means; outliers in bold and left justified; sample charge weights shown in row 3; values in ppm).

Replicate No.	Lab A FA*GRAV 30g	Lab B FA*AAS 30g	Lab C FA*AAS 30g	Lab D FA*AAS 25g	Lab E FA*AAS 30g	Lab F FA*AAS 30g	Lab G FA*OES 30g	Lab H FA*AAS 30g	Lab I FA*OES 40g
1	5.51	6.13	5.53	5.48	5.42	5.43	5.49	5.44	5.64
2	5.56	6.12	5.51	5.48	5.47	5.49	5.38	5.64	5.57
3	5.63	6.17	5.58	5.50	5.37	5.36	5.42	5.58	5.62
4	5.52	6.10	5.41	5.39	5.40	5.52	5.44	5.56	5.54
5	5.57	6.15	5.45	5.42	5.35	5.36	5.54	5.45	5.59
6	5.61	6.20	5.34	5.44	5.41	5.50	5.44	5.50	5.66
Mean	5.57	**6.14**	5.47	5.45	5.40	5.44	5.45	5.53	5.60
Median	5.57	6.14	5.48	5.46	5.41	5.46	5.44	5.53	5.61
Std.Dev.	0.05	0.04	0.09	0.04	0.04	0.07	0.06	0.08	0.05
Rel.Std.Dev.	0.86%	0.58%	1.60%	0.77%	0.77%	1.31%	1.03%	1.41%	0.80%
PDM[3]	1.38%	11.88%	-0.38%	-0.72%	-1.60%	-0.87%	-0.72%	0.71%	2.04%

Table 2 continued.

Replicate No.	Lab J FA*AAS 30g	Lab K FA*AAS 30g	Lab L FA*AAS 30g	Lab M FA*AAS 30g	Lab N FA*AAS 30g	Lab O FA*AAS 30g	Lab P FA*AAS 40g	Lab Q FA*AAS 30g	Lab R FA*AAS 30g
1	5.66	5.68	5.55	5.50	5.45	4.69	**5.21**	5.43	4.96
2	5.57	5.55	5.65	5.48	5.44	5.26	5.39	5.42	4.82
3	5.40	5.66	5.45	5.45	5.50	5.14	5.32	5.43	4.99
4	5.23	5.69	5.49	5.46	5.56	5.07	5.36	5.38	4.87
5	5.56	5.67	5.66	5.44	5.45	4.68	5.39	5.49	4.98
6	5.45	5.76	**5.88**	5.45	5.47	5.18	5.38	**5.26**	4.95
Mean	5.48	5.67	5.61	5.46	5.48	**5.00**	5.34	5.40	**4.93**
Median	5.51	5.68	5.60	5.46	5.46	5.11	5.37	5.43	4.95
Std.Dev.	0.15	0.07	0.16	0.02	0.05	0.25	0.07	0.08	0.07
Rel.Std.Dev.	2.79%	1.20%	2.77%	0.41%	0.83%	5.08%	1.30%	1.44%	1.40%
PDM[3]	-0.23%	3.23%	2.23%	-0.51%	-0.23%	-8.88%	-2.72%	-1.63%	-10.28%

The z-score test is used in combination with a second method of individual outlier detection that determines the percent deviation of the individual value from the median. Outliers in general are selected on the basis of z-scores > 2.5 and with percent deviations > 1.5%. In certain instances statistician's prerogative has been employed in discriminating outliers.
Each laboratory data set is tested for outlying status based on z-score discrimination and rejected if $|z_i| > 2.5$. After individual and lab data set outliers have been eliminated a non-iterative 3 standard deviation filter is applied, with those values lying outside this window also relegated to outlying status.

Table 3. Analytical results for gold in OREAS 19a by INAA (instrumental neutron activation analysis on 0.5 gram analytical subsample weights; other abbreviations as for Table 2).

Replicate No.	Lab S INAA 0.5g
1	5.66
2	5.55
3	5.90
4	5.75
5	5.83
6	5.74
7	5.80
8	5.90
9	5.70
10	5.65
11	5.89
12	5.97
13	5.83
14	5.81
15	5.81
16	5.70
17	5.70
18	5.81
19	5.57
20	5.79
Mean	**5.77**
Median	5.80
Std.Dev.	0.11
Rel.Std.Dev.	1.92%
PDM[3]	5.04%

Individual outliers and, more rarely, laboratory means deemed to be outlying are shown left justified and in bold in the tabulated results (Tables 2 and 3) and have been omitted in the determination of the certified value.
The magnitude of the confidence interval is inversely proportional to the number of participating laboratories and interlaboratory agreement. It is a measure of the reliability of the certified value, i.e. the narrower the confidence interval the greater the certainty in the certified value.

Table 4. Certified Value and 95% Confidence Interval

Constituent	Certified Value	95% Confidence Interval	
		Low	High
Gold, Au (ppm)	5.49	5.45	5.54

Note: intervals may appear asymmetric due to rounding

Statement of Homogeneity
The variability of replicate assays from each laboratory is a result of both measurement and subsampling errors. In the determination of a statistical tolerance interval it is therefore necessary to eliminate, or at least substantially minimise, those errors attributable to measurement. One way of achieving this is by substantially reducing the analytical subsample weight to a point where most of the variability in replicate assays is due to inhomogeneity of the reference material and measurement error becomes negligible. This approach was adopted in the INAA data set (Table 3) where a 0.5 gram subsample weight was employed. The homogeneity was determined from tables of factors for two-sided tolerance limits for normal distributions (ISO Guide 3207) in which

$$\textit{Lower limit is } \ddot{x} - k_2'(n, p, 1-\alpha)s$$
$$\textit{Upper limit is } \ddot{x} + k_2'(n, p, 1-\alpha)s$$

where

n is the number of results reported by laboratory Q;
$1-\alpha$ is the confidence level;
p is the proportion of results expected within the tolerance limits;
k_2' is the factor for two-sided tolerance limits (m, σ unknown);

and *s* is computed according to the formula

$$s = \left[\frac{\sum_{j=1}^{n} \left(x_j - \bar{x} \right)^2}{n-1} \right]^{1/2}$$

No individual outliers were removed from the results prior to the calculation of tolerance intervals.

Table 5. Certified Value and Tolerance Interval.

Constituent	Certified Value	Tolerance Interval 1-α=0.99, ρ=0.95	
		Low	High
Gold, Au (ppm)	5.49	5.45	5.53

Note: intervals may appear asymmetric due to rounding

From the INAA data set an estimated tolerance interval of ±0.04 ppm at an analytical subsample weight of 30 gram was obtained (using the sampling constant relationship of Ingamells and Switzer, 1973) and is considered to reflect the actual homogeneity of the material under test. The meaning of this tolerance interval may be illustrated for gold (refer Table 5), where 99% of the time at least 95% of 30g-sized subsamples will have concentrations lying between 5.45 and 5.53 ppm. Put more precisely, this means that if the same number of subsamples were taken and analysed in the same manner repeatedly, 99% of the tolerance intervals so constructed would cover at least 95% of the total population, and 1% of the tolerance intervals would cover less than 95% of the total population (IS0 Guide 35).

ANOVA Study

The sampling format for OREAS 19a was structured to enable nested ANOVA treatment of the round robin results. During the bagging stage immediately following final homogenization, samples were taken at 20 intervals representative of the entire batch of OREAS 19a. The data from eighteen labs were used in the ANOVA study (all data except the INAA data from Lab S) where each received paired samples of three different, non-adjacent, sampling units. For example, the six samples that any one of the sixteen participating labs could have received is:

- Sample 1 (from sampling interval 1)
- Sample 2 (from sampling interval 6)
- Sample 3 (from sampling interval 11)
- Sample 4 (from sampling interval 1)
- Sample 5 (from sampling interval 6)
- Sample 6 (from sampling interval 11)

The purpose of the ANOVA investigation was to compare the within-unit variance with that of the between-unit variance. This approach permitted an assessment of homogeneity across the entire batch of OREAS 19a. The test was performed using the following parameters:

- Significance Level α = P (type I error) = 0.05
- Null Hypothesis, H_0: Between-unit variance is no greater than within-unit variance (reject H_0 if p-value < 0.05)
- Alternative Hypothesis, H_1: Between-unit variance is greater than within-unit variance

P-values are a measure of probability whereby values less than 0.05 indicate a greater than 95% probability that the observed differences in within-unit and between-unit variances are real. The dataset was filtered for both individual and laboratory outliers prior to calculation of the p-value. This derived a p-value of 0.998 and indicates no evidence that between-unit variance is greater than within-unit variance. Conclusion: do not reject H_0. Note that ANOVA is not an absolute measure of homogeneity. Rather, it establishes that gold is uniformly

distributed throughout OREAS 19a and that the variance between two subsamples from the same unit is identical to the variance from two subsamples taken from any two separate units.

Performance Gates

Performance gates provide an indication of a level of performance that might reasonably be expected for a particular analyte from a laboratory being monitored by this standard in a QA/QC program. They incorporate errors attributable to measurement (analytical bias and precision) and standard variability. For an effective standard the contribution of the latter should be negligible in comparison to measurement errors. Two methods have been employed to calculate performance gates. The first method uses the standard deviation of the pooled individual analyses generated from the certification program after removal of all individual and lab dataset (batch) outliers as well as application of a non-iterative 3 standard deviation filter. These outliers can only be removed if they can be confidently deemed to be analytical rather than arising from inhomogeneity of the CRM. Performance gates have been calculated for one, two and three standard deviations of the accepted pool of certification data and are presented in Table 6. As a guide these intervals may be regarded as informational (1SD), warning or rejection for multiple outliers (2SD), or rejection for individual outliers (3SD) in QC monitoring although their precise application should be at the discretion of the QC manager concerned. It is important to note that performance gates calculated from a single submission round robin, as in the present case, do not take reproducibility errors (batch-to-batch bias) into consideration and will accordingly be more constrained than those incorporating a temporal dimension.

For the second method a simple ±5% error bar on the certified value is used as the window of acceptability (refer Table 6). Both methods should be used with caution when concentration levels approach lower limits of detection of the analytical methods employed, as performance gates calculated from standard deviations tend to be excessively wide whereas those determined by the 5% method are too narrow.

Table 6. Performance Gates for OREAS 19a

Constituent	Certified Value	Absolute Standard Deviations					Relative Standard Deviations			5% window	
		1SD	2SD Low	2SD High	3SD Low	3SD High	1RSD	2RSD	3RSD	Low	High
Au (ppm)	5.49	0.10	5.29	5.69	5.19	5.79	1.82%	3.64%	5.46%	5.22	5.77

Note: intervals may appear asymmetric due to rounding

PARTICIPATING LABORATORIES

Accurassay Laboratories, Thunder Bay, ON, Canada
Acme Analytical Laboratories, Vancouver, BC, Canada
Activation Laboratories, Ancaster, ON, Canada
Amdel Laboratories, Adelaide, SA, Australia
Alaska Assay Laboratories, Fairbanks, AK, United States of America
ALS Chemex, Perth, WA, Australia
ALS Chemex, Townsville, QLD, Australia
ALS Chemex, La Serena, Chile, South America
ALS Chemex, Sparks, Nevada, USA
ALS Chemex, Val-d'or, Quebec, Canada
ALS Chemex, Vancouver, BC, Canada
Genalysis Laboratory Services, Perth, WA, Australia

Intertek Testing Services, Jakarta, Indonesia
OMAC Laboratories, Loughrea, County Galway, Ireland
SGS Lakefield Research, Lakefield, ON, Canada
SGS, Townsville, QLD, Australia
SGS Australia, Perth, WA, Australia
Ultra Trace, Perth, WA, Australia

PREPARER AND SUPPLIER OF THE REFERENCE MATERIAL

The gold ore reference material, OREAS 19a has been prepared and certified and is supplied by:

Ore Research & Exploration Pty Ltd
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It is available in unit sizes of 60g foil packets and 1kg plastic jars.

INTENDED USE

OREAS 19a is a reference material intended for the following:

i) for the monitoring of laboratory performance in the analysis of gold in geological samples;
ii) for the calibration of instruments used in the determination of the concentration of gold;
iii) for the verification of analytical methods for gold;
iv) for the preparation of secondary reference materials of similar composition;

STABILITY AND STORAGE INSTRUCTIONS

OREAS 19a has been prepared from gold ore diluted with barren alkali olivine basalt. The CRM is considered to have long-term stability under normal storage conditions.

INSTRUCTIONS FOR THE CORRECT USE OF THE REFERENCE MATERIAL

The certified value for OREAS 19a refers to the concentration level of Au after removal of hygroscopic moisture by drying in air to constant mass at 105° C. If the reference material is not dried by the user prior to analysis, the certified value should be corrected to the moisture-bearing basis.

LEGAL NOTICE

Ore Research & Exploration Pty Ltd has prepared and statistically evaluated the property values of this reference material to the best of its ability. The Purchaser by receipt hereof releases and indemnifies Ore Research & Exploration Pty Ltd from and against all liability and costs arising from the use of this material and information.

CERTIFYING OFFICER

Craig Hamlyn (B.Sc. Hons.), Geology

REFERENCES

Ingamells, C. O. and Switzer, P. (1973), Talanta 20, 547-568.

ISO Guide 35 (1985), Certification of reference materials - General and statistical principals.

ISO Guide 35 (2006), Rference materials - General and statistical principals for certification.

ISO Guide 3207 (1975), Statistical interpretation of data - Determination of a statistical tolerance interval.