BC Geological Survey
Assessment Report
34737

ASSESSMENT REPORT

on a DIAMOND DRILLING PROGRAM

on the

BEN PROPERTY

Completed on Mineral Tenures 833498 and 833754

MTO Events # 5477632, 5492465, and 5503336

CARIBOO MINING DIVISION,
British Columbia
Latitude 52°35' N, Longitude 122°03' W
NTS map sheet 093B09 and BCGS map sheets 093B060 and 093B070
Cariboo Mining Division

Prepared for Operator:

WESTHAVEN VENTURES INC.
1103 – 475 Howe Street
Vancouver, B.C., Canada V6C 2B3

By:

L. John Peters,
B.Sc., P .Geo.

4 May 2014
Vancouver, B.C.

Table of Contents

page

1. Summary 1
2. Property Location, Size, Access and Physiography 2
3. History 5
4. Geological Setting 7
    4.1 Regional Setting 7
    4.2 Property Geology 8
    4.3 Mineralization 10
5. 2013 Diamond Drilling Program 11
    5.1 Survey Description, Core and Sample QAQC, and Security 11
    5.2 Results 12
    5.3 Susceptibility Survey on Drillcore 17
    5.4 Core Geochemistry 18
    5.5 Analytical QAQC 20
    5.6 Recovery 23
    5.7 Petrographics and Special Studies 23
6. Interpretation and Conclusions 25
7. Recommendations 25
8. Statement of Expenditures 26
9. References 27
10. Authors Statement of Qualifications 29

List of Tables

1. Ben Claims 4
2. Historical Exploration Summary 7
3. Diamond Drill Collar Locations 12
4. Notable Grade Intersections 13
5. Summary of Correlation Coefficients 18
6. Average Core Recoveries 23
7. Analytical Summary Table 24
8. Comparison between Aqua Regia and Ammonia Citrate Leach Digests for Nickel 24
9. Quantitative Phase Analyses 24
10. Recommended Budget 26
11. Statement of Costs 26

List of Figures

1. Location Map 2
2. Ben Property Tenure Map 3
3. Regional Geology 8
4. Property Geology 9
5. Drillhole Location and Local Geology 13
6. Main Zone Drillhole Location 14
7. X-Section A (Holes BN13-01+02) 15
8. Skelton Zone Drillhole Location 16
9. X-Section B (Holes BN13-03) 17
10. Drillcore Analytical Correlation Coefficients 18
11. Scatter Plots of Occurrences in Core 19
12. Sample Contamination 20
13. Nickel and Gold Standards Comparison 21
14. Repeatability of Pulp and Prep Duplicates 22
15. Comparison between ICP and FA Analytical Results for Gold 22
16. Core Recovery 23

Appendices

Appendix A: Drill Logs
Appendix B: Laboratory Certificates
Appendix C: Analytical Procedures
Appendix D: Petrographic Reports

1. SUMMARY

This report covers MTO Events #5477632, 5492465, and 5503336.

From 16 to 30 October 2013 a program of diamond drilling was completed on the Ben Property. Drilling was contracted to Dorado Drilling of Vernon, B.C. under the supervision of the author. The total cost of the program was $109,976.31.

The property is road accessible and situated approximately 15 km northeast of the Gibraltar Mine of Taseko Mines Ltd. and 28 km west of the Mount Polley Mine of Imperial Metals Corp. The Ben property is composed of 35 mineral tenures encompassing 15,227 ha. The property is underlain by rock units of the Permian to Triassic aged Cache Creek Complex of the Cache Creek Terrane. The structural geology of the claims is not well understood or documented. The fabric of the underlying sediments and volcanics of the Cache Creek Complex trends north-northwest. Gold mineralization is associated with north-west trending quartz-carbonate-mariposite alteration zones along the structural fabric. Nickel mineralization is associated with ultramafic rocks that may or may not contain magnetite.

A total of 3 diamond drillholes were drilled on the property totaling 424.0 metres. Holes BN13-01 and BN13-02 were drilled in a fence pattern across the Main Zone to test for gold occurrences at depth. Hole BN13-03 was collared to test a strong IP chargeability anomaly in the Skelton Creek Zone, located approximately 3.5 kilometres to the south of the Main Zone.

Drilling in the Main Zone intersected interbedded marine sequences of mudstones and volcanic breccias apparently shallowly dipping to the southwest. Zones of intense silicification and quartz stockwork were evident mostly within the volcanics. Zones of gold mineralization, associated with silicified and quartz stockwork intervals, were intersected grading 0.28 g/t Au over 3.5 m, 0.59 g/t Au over 1.5 m and 0.57 g/t Au over 2.8 m. In hole BN12-02, from bedrock surface to 19.0 metres depth, a zone of clay-anhydrite-chlorite alteration in a pentlandite-rich ultramafic shale graded 0.18% Ni over 15.0 metres.

Drilling in the Skelton Creek Zone intersected magnetite-rich (10%) sheared millerite-bravoite-rich serpentinite-altered ultramafic rocks from bedrock surface to 87 metres averaging 0.31% Ni and 120.3 ppm Co over 70.6 metres. No gold mineralization was intersected.

A program consisting of Airborne Magnetics, Induced Polarization surveys, and soil sampling is recommended for the next phase of exploration. The next phase of exploration is estimated to cost $210,000.

2.0 PROPERTY LOCATION, SIZE, ACCESS AND PHYSIOGRAPHY

The Ben property lies in the eastern Cariboo region of central British Columbia, approximately 52 km north of Williams Lake and 54 km south-southeast of Quesnel in the Cariboo Mining Division. Williams Lake is the nearest major center where all facilities and materials for exploration activities can be found.

The property is situated about 15 km northeast of the Gibraltar Mine of Taseko Mines Ltd. and about 28 km west of the Mount Polley Mine of Imperial Metals Corp. (Figure 1). The claims lie on the low-lying hills west of the Beaver Ck. valley and east of the Ben Lake – Skelton Lake valley (Figure 2), centered approximately at 52° 35’ N and 122° 03’ W within NTS map sheet 093B09 and BCGS map sheets 093B060 and 093B070 in the Cariboo Mining Division.

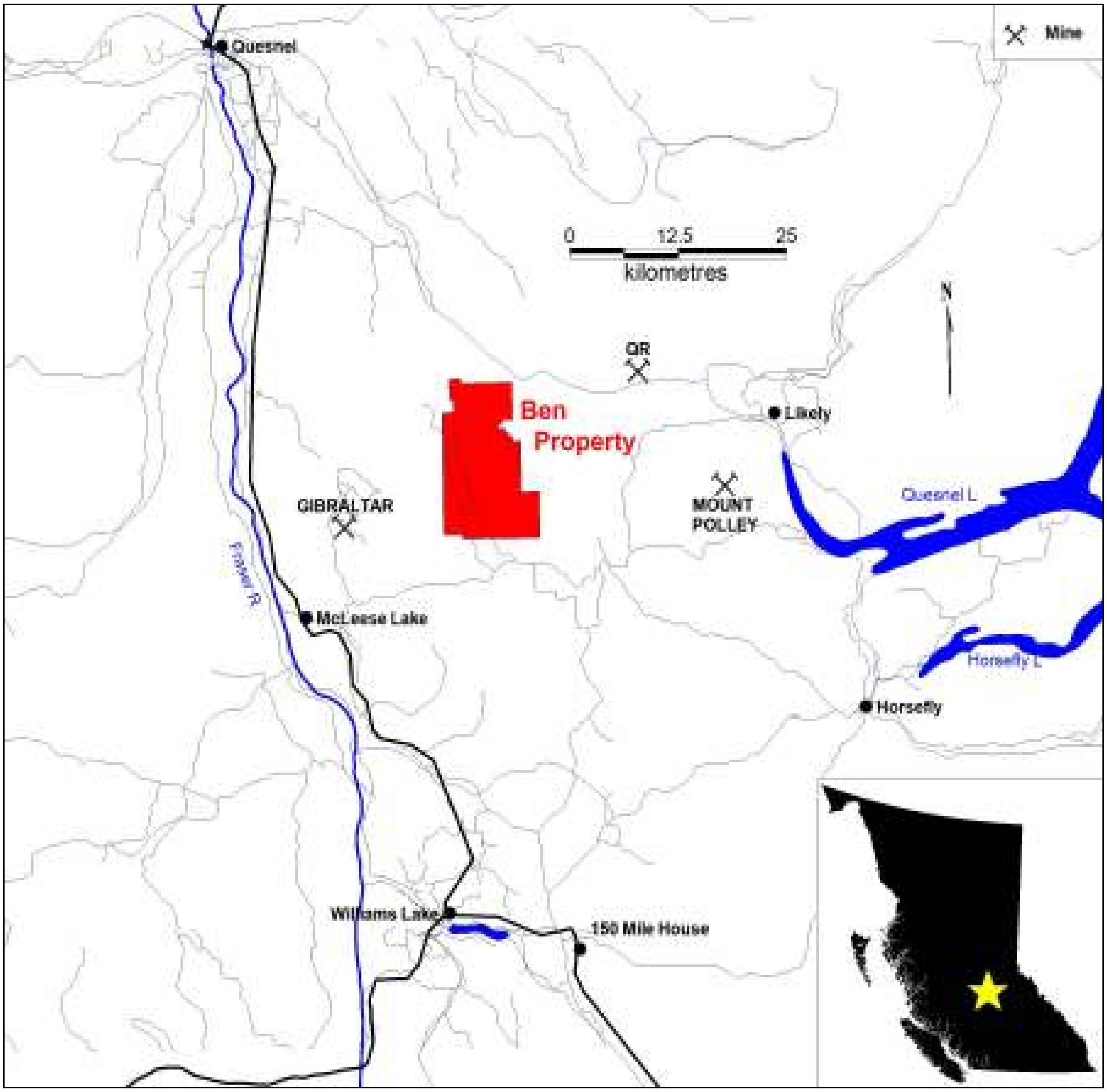


Figure 1: Location Map

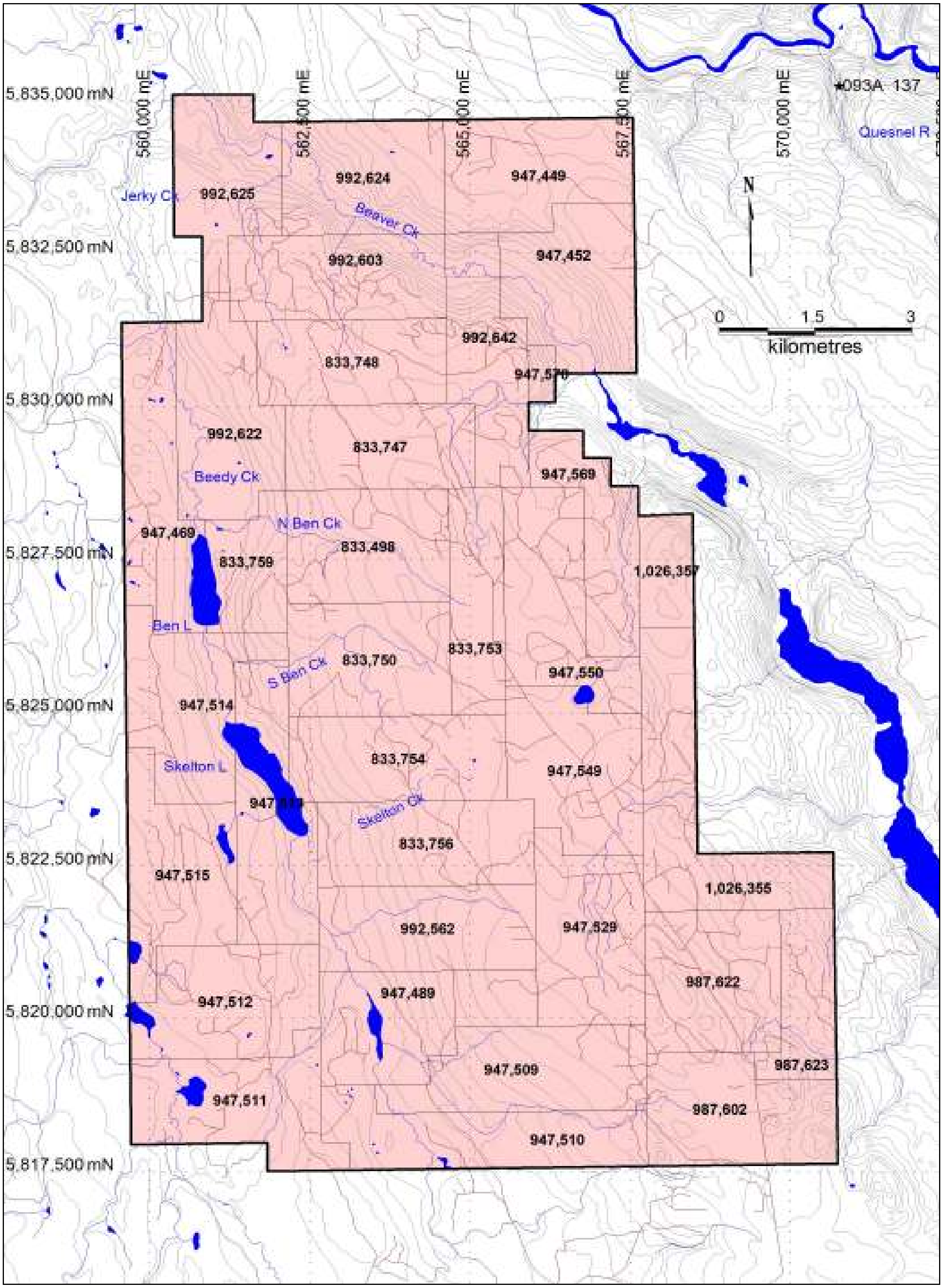


Figure 2: Ben Property Tenure Map

The west side of the property can be accessed via highway 97 from either McLeese Lake or 150 Mile House. From McCleese Lake one follows the Beaver Lake Road about 25 km east toward Likely, turning north onto the Ben Lake road then about 14 km to Ben Lake. Access from 150 Mile House is via the paved highway towards Likely, turning west onto the Beaver Lake Road at about 48 km east of 150 Mile House and then north onto the Ben Lake road after 12 km. The east side of the property can be accessed along BCFS 8300 road along the height of land between the Beaver Creek and Beedy Creek valleys, also reached either from McLeese Lake or 150 Mile House.

At the time of this report the Ben Property is composed of 35 mineral tenures encompassing 15,227 ha as shown in Figure 2 and listed in Table 1. Anniversary dates are as of the date of this report contingent on the acceptance of the report. Claims listed as owned by G. Thomas are 100% owned by Westhaven and claims listed as owned by B. Kalhert are currently under option to Westhaven.

TENURE	TYPE1	ISSUED	GOOD_TO	NAME	AREA	Owner
833498	Mineral	09/14/2010	09/14/2015	BEN	471.3	B.H. Kalhert
833747	Mineral	09/16/2010	09/14/2015	CORTEZ	412.3	B.H. Kalhert
833748	Mineral	09/16/2010	09/14/2015	CORTEZ	412.1	B.H. Kalhert
833750	Mineral	09/16/2010	09/14/2015		471.5	B.H. Kalhert
833753	Mineral	09/16/2010	09/14/2015		314.3	B.H. Kalhert
833754	Mineral	09/16/2010	09/14/2015		471.7	B.H. Kalhert
833756	Mineral	09/16/2010	09/14/2015		471.8	B.H. Kalhert
833759	Mineral	09/16/2010	09/14/2015		255.3	B.H. Kalhert
947449	Mineral	02/09/2012	09/14/2015	CTZ 15	490.3	Gareth Thomas
947452	Mineral	02/09/2012	09/14/2015	CTZ 16	490.5	Gareth Thomas
947469	Mineral	02/09/2012	09/14/2015	CTZ 17	490.8	Gareth Thomas
947489	Mineral	02/09/2012	09/14/2015	CTZ 18	491.7	Gareth Thomas
947509	Mineral	02/09/2012	09/14/2015	CTZ 19	491.8	Gareth Thomas
947510	Mineral	02/09/2012	09/14/2015	CTZ 20	491.9	Gareth Thomas
947511	Mineral	02/09/2012	09/14/2015	CTZ 21	491.8	Gareth Thomas
947512	Mineral	02/09/2012	09/14/2015	CTZ 21	491.7	Gareth Thomas
947513	Mineral	02/09/2012	09/14/2015	CTZ 22	491.4	Gareth Thomas
947514	Mineral	02/09/2012	09/14/2015	CTZ 22	491.2	Gareth Thomas
947515	Mineral	02/09/2012	09/14/2015	CTZ 23	471.8	Gareth Thomas
947529	Mineral	02/09/2012	09/14/2015	CTZ 24	491.6	Gareth Thomas
947549	Mineral	02/09/2012	09/14/2015	CTZ 25	491.3	Gareth Thomas
947550	Mineral	02/09/2012	09/14/2015	CTZ 26	491.1	Gareth Thomas
947569	Mineral	02/09/2012	09/14/2015	CTZ 27	333.9	Gareth Thomas
947570	Mineral	02/09/2012	09/14/2015	CTZ 28	39.3	Gareth Thomas
987602	Mineral	05/18/2012	09/14/2015	CTZ30	491.9	B.H. Kalhert
987622	Mineral	05/18/2012	09/14/2015	CTZ31	491.7	B.H. Kalhert
987623	Mineral	05/18/2012	09/14/2015	CTZ32	255.7	B.H. Kalhert
992562	Mineral	06/01/2012	09/14/2015		471.9	B.H. Kalhert
992603	Mineral	06/01/2012	09/14/2015		470.9	B.H. Kalhert
992622	Mineral	06/01/2012	09/14/2015		490.7	B.H. Kalhert
992624	Mineral	06/01/2012	09/14/2015		470.7	B.H. Kalhert
992625	Mineral	06/01/2012	09/14/2015		411.9	B.H. Kalhert
992642	Mineral	06/01/2012	09/14/2015		412.2	B.H. Kalhert
1026355		2/28/2014	2/28/2015	CTZ33	589.6	Gareth Thomas
1026357		2/28/2014	2/28/2015	CTZ34	157.1	Gareth Thomas

Table 1: Ben Claims

Much of the upland area on the property has been logged. Vehicle access to the Property is limited to a sparse network of BCFS roads (Figure 2).

Local climate is typical of the central interior of British Columbia. Average temperatures are -7°C for December and January and 14°C for July and August. Average annual rainfall is 336 mm and average annual snowfall is 172 cm. In most years conditions for exploration are suitable from late April to mid-November.

The property lies on the Fraser Plateau, a flat and gently rolling area with large areas of undissected upland between 1,200 and 1,500m elevation. Much of the plateau is covered by glacial drift which on the Ben claims is generally 1 to 30m thick. The claims lie on a northwesterly trending height of land between the Beedy Ck. and Beaver Ck. valleys, two prominent topographic lineaments considered to mark significant faults. Elevations on the Ben claims range from 800m in the Beedy Creek valley to 1,068 m on the highest knoll.

The drainage pattern between the Beedy Creek and Beaver Creek valleys is distinguished by the prevalence of north-northwesterly trending alignments, interpreted to be the result of bedrock structures. Three main creeks drain westward across the claims into the Beedy Ck. valley; Skelton Ck, South Ben Ck. and North Ben Ck. An unnamed creek drains to the northwest in the northern part of the property. These larger streams have cut gullies up to 15m deep through the glacial drift and in some cases into bedrock.

3.0 HISTORY

Attention to the Ben Claims was first drawn by Amoco Minerals in 1983-84 when they undertook a large, regional silt sampling program over the Quesnellia belt of rocks. Strong heavy mineral results for gold, arsenic and antimony were received from the North and South Ben Creeks as well as Skelton Creek. These drainages covered a north-south strike extent of close to 5 km proximal to the boundary of the Quesnel and Cache Creek terranes.

Amoco staked the 5-claim, 100-unit Ben Claims in 1984, but completed little work before ceasing exploration in 1985. In 1987, B.H. Kahlert staked the 1 – 5 Ben Claims covering 100 units. These claims were optioned to Circle Resources ("Circle"), a private company, who completed extensive soil and silt geochemistry, mapping and rock sampling in creek beds. A wide, altered deformation zone with anomalous gold, arsenic, antimony and mercury was outlined in North Ben Creek, referred to as the "Main Zone".

Circle decided to drill 2 core holes into the Main Zone in late 1988, however, the collars were located 300 to 500 meters southwest of the deformation zone as there was no road access. Anomalous gold, arsenic, antimony and mercury values were encountered in highly altered rocks in the 2 holes. In 1989, the Option was terminated and the property returned to B. H. Kahlert.

A limited ground magnetic and VLF-EM survey was completed in 1997 (Kahlert, 1998). Four grid lines spaced 200m apart were established over the 6 Ben claims that were then current. One of these lines crossed the area of the Main Zone. The magnetic profiles show generally flat magnetic gradients with positive or negative disturbances of less than 100 nT. No obvious trends are apparent although higher total counts were recorded on the line crossing the Main Zone. This could be due to less overburden relative to the remainder of the grid. The line spacing is considered to be too coarse for adequate analysis and interpretation.

The VLF-EM profiles were prepared for both Seattle and Cutler frequencies. The Cutler signal was considered too weak to interpret. A number of conductors were interpreted for the Seattle frequency profile by Orequest Consultants of Vancouver, however, these have not been geologically evaluated.

Kahlert maintained the Ben Claims until 2001 by completing detailed geological mapping, petrographic studies and geophysical surveys. The property was reduced from 100 units to 6 staked claims. The claims lapsed in 2001 and were re-staked by Kahlert in 2002. The claims expired again in 2003 and were staked by a contractor on behalf of Kahlert in 2004.

In 2005, map staking was introduced to British Columbia and claim holders were encouraged to transfer “Legend” claims to the new “Map” staked system. Kahlert changed the claims to the new tenure system in early 2005 and has retained them to 2010 via various geochemical and geological surveys.

In 2010, Kahlert applied PAC account credits to hold claims, which was disallowed 5 months later as the claims were said to expire during the transfer from “Legend” to “Map Staked” process.

Kahlert re-staked the “Ben” claims in mid September 2010. A total of 8 claims covering 3,277.9 ha were recorded by Kahlert at that time. In May of 2011 Mr. Kahlert recorded an additional 6 claims covering an additional 2,824.32 ha.

In October 2010 Kahlert, in the company of Mssrs. C. Andrup and G. Read of OHG Resources Inc. who at that time were contemplating an property option arrangement, collected a number of rock samples on the then named Cortez Property.

On February 27, 2012 Westhaven Ventures Inc. optioned to purchase 100% interest in the Property from Kahlert. The property size was increased by staking an additional 16 claims adjacent to Mr. Kahlert’s Cortez 1 to 14 claims bringing the total area of the Ben property to 13,329.23 ha. An additional 2 claims were staked on 28 February 2014 east of the claim block.

In 2012 a program composed of prospecting and rock sampling was completed over numerous showings on the property. A follow-up program of 12 line-kilometres (6 lines) of reconnaissance-scaled ground geophysical IP chargeability, resistivity and ground magnetic surveys was subsequently completed.

Table 2 provides a tabulated summary of exploration activities completed on the Ben property.

Year Performed	Operator	Activity	Details	Reference	ARIS
1983-1984	Amoco Minerals	regional silt geochemistry	-3 heavy mineral samples analysed for Au, Ag, As and Ni.	- Fraser and Kahlert, 1988	
1987	Circle Resources	soils grid, rock analyses, petrography	-378 soils analysed for Ag, As, Au, Cu, Pb, Sb and Zn, 3 heavy mineral silt samples - 13 petrographic descriptions, 5 XRD analyses, 5 whole rock analyses	- Fraser and Kahlert, 1988 - Campbell, 1988	
1987	Circle Resources	soils grid, silt sampling	- 556 soils analysed for Ag, As, Au, Co, Cu, Ni, Pb, Sb and Zn - 16 soils analysed for Ag, As, Au, Cu, Pb, Sb and Zn - 112 silts analysed for Ag, As, Au, Cu, Pb, Sb and Zn	- Kahlert, 1988 (includes Campbell's 1988 report)	17481
1988	Circle Resources	summary analysis, results of rock sampling	- includes analyses of soils reported earlier and 76 rock samples analysed for Ag, As, Au, Co, Cu, Ni, Pb, Sb and Zn	- Fraser, 1989	18674
1990	Circle Resources	diamond drilling	- 2 vertical NQ holes totaling 107.9m, 19 rock samples analysed for multielements plus Au	- Graham, 1991	21309
1991	B.H. Kahlert	summary	- compilation sketch of geology	- Campbell, 1991	
1997	B.H. Kahlert	geophysics	- 5.45 line km of ground magnetics	- Kahlert, 1998	25512
1999	B.H. Kahlert	petrography	- petrographic description of 8 rocks	- Kahlert, 1999	25914
2001	B.H. Kahlert	GPS	- determined coordinates of 2-post Ben claims	- Dunlop, 2001	
2002	B.H. Kahlert	rock analyses	- 8 rock samples analysed for multielements plus Au	- Kahlert, 2002	26870
2005	B.H. Kahlert	rock analyses	- 11 rock samples analysed for multielements plus Au	- Kahlert, 2005	27812
2007	B.H. Kahlert	rock analyses	- 13 rock samples analysed for multielements plus gold	- Kahlert, 2008	29876
2010	B..H. Kahlert	rock analyses	- 24 rock samples analysed for multielements plus gold, 1 whole rock analysis	- Campbell, 2011	32732
2012	Westhaven	IP, prospecting	- 67 rock samples analysed for multi-elements plus gold/pgms. - 12 line-km IP in 6 lines	- Peters, 2012	-

Table 2: Historical Exploration Summary

4.0 GEOLOGICAL SETTING

4.1 Regional Setting

The regional geology is shown in Figure 3, based on the GSB digital data by Massey et. al, 2005. The Ben property is underlain by rock units of the Permian to Triassic Cache Creek Complex of the Cache Creek Terrane. Undivided phyllite, siliceous phyllite, ribbon and massive chert, argillite, tuff, mafic volcanic rocks, serpentinite, limestone, sandstone (unit PTrCsv) are mapped over most of the area. Limestone, marble and calcareous sedimentary rocks (unit PTrClm) are mapped in the northeast corner of the claims. Basaltic volcanic rocks (unit PTrCvb) may extend into the northwest corner of the claims. A Jurassic stock of granodioritic composition may extend onto the northeast corner of the property.

The boundary with the Quesnel (Quesnellia) Terrane lies along the Beaver valley lineament and faults mapped on the west side of Beaver Ck. valley.

One fault has been mapped on the claims, lying along the western margin of the calcareous rocks in the northeast corner of the property.

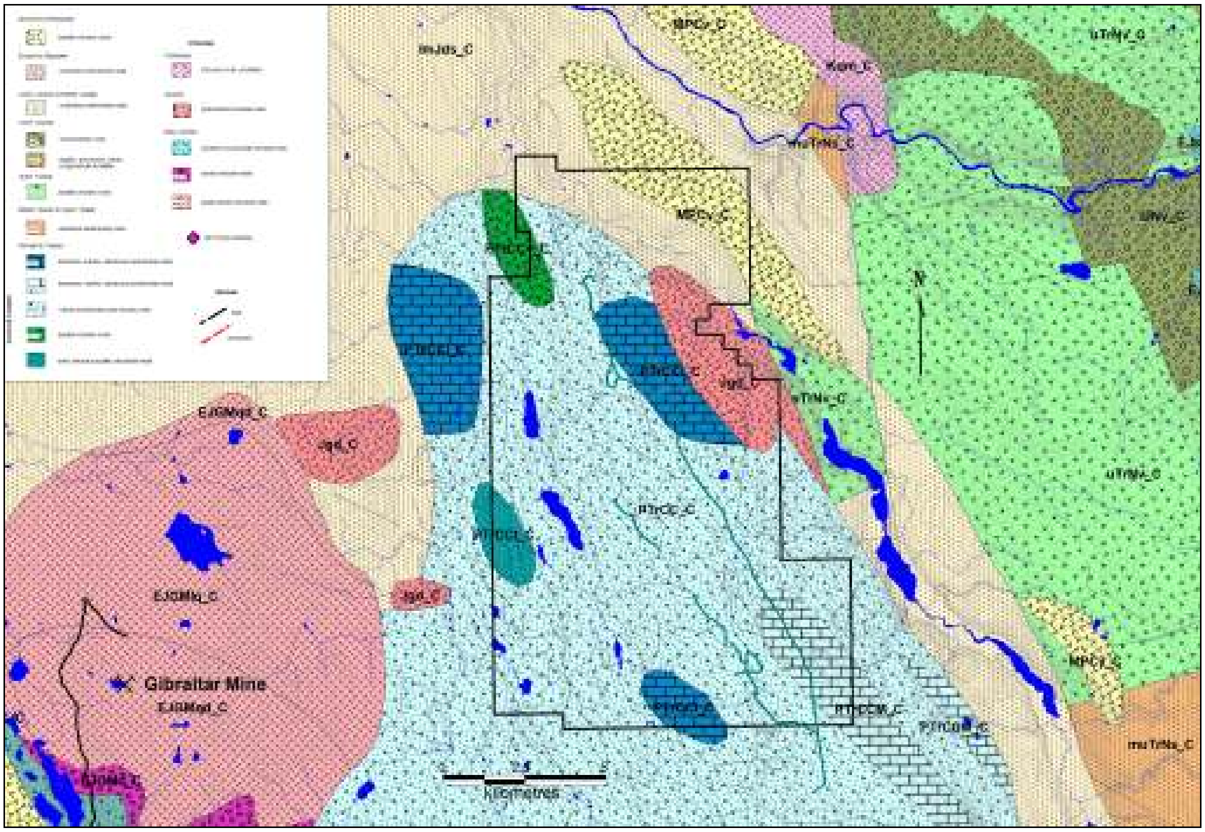


Figure 3: Regional Geology (Massey et al, 2005)

4.2 Property Geology

The bedrock geology on the property scale is poorly understood and has not been mapped adequately. Rock exposures are largely confined to stream gullies. Mapping by Circle Resources identified a sequence of interbedded black pyritic shales and cherts with minor sections of chloritized basalt in the three west-draining creeks; Skelton, South Ben and North Ben Creeks. A resistant dolomitic unit (PTrClm) occurs along the north-northwest trending hill in the northeast corner of the property and a small exposure of dioritic rock occurs in south Ben Creek (Fraser, 1989), Figure 4.

Exploration work focused on the Main Zone on North Ben Ck., located in Figure 6. Sayer (1988) in a detailed inset map for Circle Resources and accompanying notes (Fraser, 1989) describes gold mineralization associated with a north-east trending quartz-carbonate-mariposite alteration zone some 25m wide and at least 50m long (Sayer, 1988). This zone is mapped as altered shale sub-parallel to a shale-basalt contact. In contrast, Kahlert (1999), describes a north-south deformation and alteration zone about 60m wide with fine grained granodiorite and altered andesite on the west and altered mafic volcanics and minor carbonate on the east.

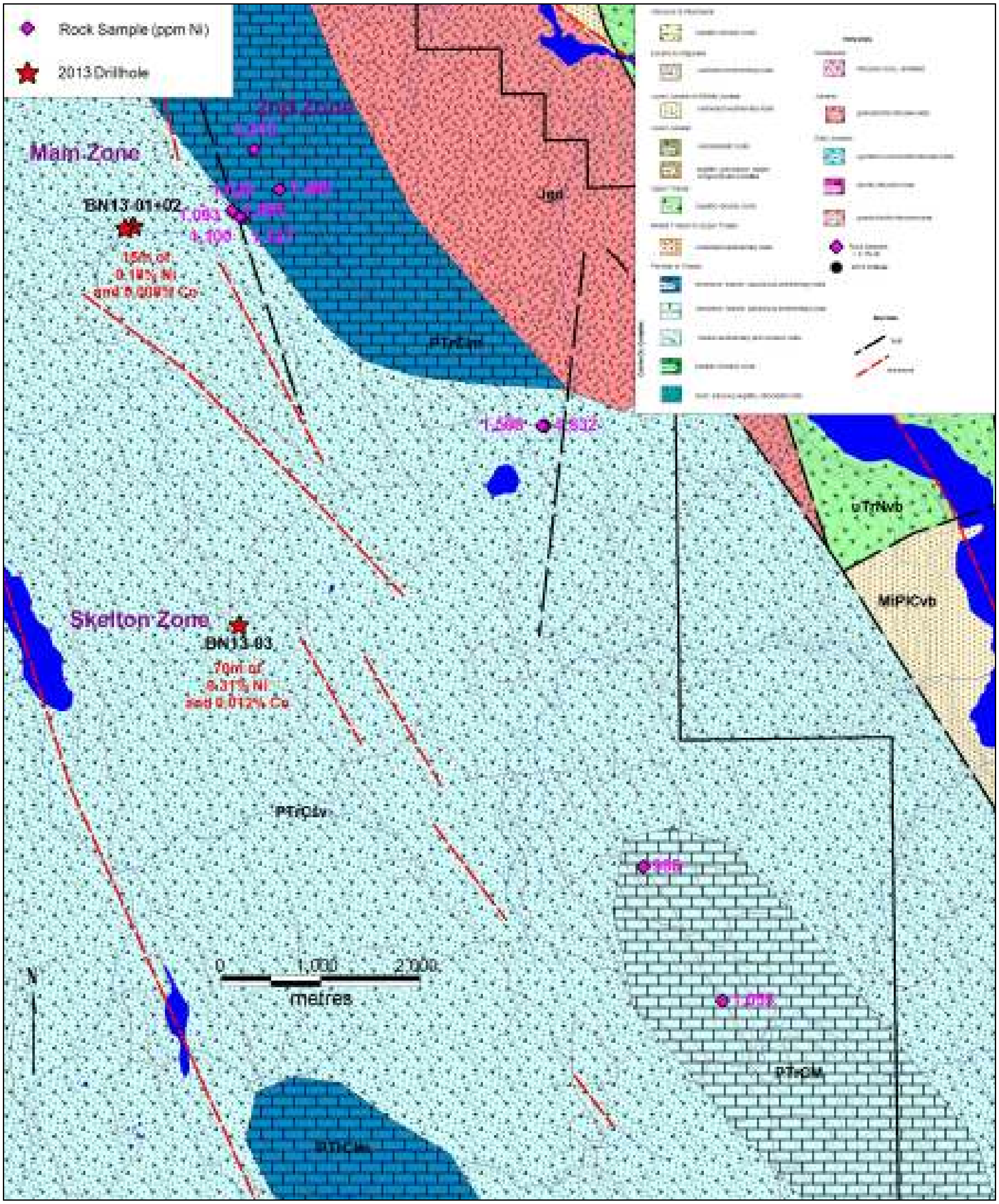


Figure 4: Property Geology (B.C. Ministry of Energy and Mines (Massey et al, 2005)

The paragenesis is hypothesized as follows: 1) episode of quartz veining due to regional metamorphism or intrusive activity, 2) major regional deformation with accompanying brecciation and mylonitization, 3) metasomatism; silicification followed by magnesitization both affecting groundmass. Later both quartz and magnesite filled fractures, magnesite remaining mobile after quartz. 4) youngest silicification; deposition of chalcedonic quartz and fine crystalline silica in open spaces.

The structural geology of the claims is not well understood or documented. The fabric of the underlying sediments and volcanics of the Cache Creek Complex trends north-northwest as evidenced by the consistent drainage alignments. The Main Zone band of alteration and deformation appears to trend north-south but this observation is restricted by the limited rock exposures. The east side of the Main Zone is described as a shallow east-dipping thrust fault (Fraser and Kahlert, 1988). Sayer's 1988 map of the main showing on North Ben Ck. includes a vertical foliation symbol in the shale package striking 335° and a fault symbol striking 225° and dipping 78° northwest near the middle of the zone on the south side of the creek.

At least five prominent, north-northwest trending drainage lineaments cross the property. All of these are interpreted as marking bedrock fracture zones. This gives rise to the possibility that they represent horsetail splays of strike-slip faults at the end of a major strike-slip fault, possibly the Pinchi Fault which is considered to end at latitudes in the vicinity of the claims (Gabrielse and Yorath, 1992). As such, they are prime sites for hydrothermal activity.

Massey et al (2005) map a north-northwest striking fault on the eastern side of the property (Figure 4). It is possible that this fault lies along the linear contact mapped between the carbonate unit (PTrClm) and the sediments and volcanic unit (PTrCsv). Alternatively, the contact is in error and lies along the fault.

4.3 Mineralization

There are no MINFILE occurrences or other historically documented mineralization on the property to date. Several zones of silicification and/or gold or nickel mineralization have been discovered to date.

Main Zone: Metasediments outcrop along the creek in close proximity to fault bounded magnesite blocks and listwanite silicified metavolcanics. The latter are highly silicified (possibly trace pyrite) and located near subvertical faults. Minor mariposite breccia occurs fault bounded exhibiting slickenside textures. The basal fault is a low angle shear, out of sync with outcrops across the creek, however, both sides are cut by near vertical fracture zones (previously sampled).

Gold mineralization is associated with a north-west trending quartz-carbonate-mariposite alteration zone some 25m wide and at least 50m long (Sayer, 1988 and Fraser, 1989) referred to as the Main Zone. 2014 drilling intersected interbedded sequences of mudstones and volcanic breccias. Zones of intense silicification and quartz stockwork contained 3.5 m grading 0.3 g/t Au (BN13-01) and 0.6 g/t Au over 1.5 m and 0.6 g/t Au over 2.8 m (BN13-02). In addition to gold, significant values of arsenic, antimony, mercury, nickel, vanadium, chromium are reported in several rocks collected from the Main Zone. This suite of elements suggests both an epithermal component and a deep-seated ultramafic component. Drilling in 2013 also intersected significant levels of nickel and cobalt in ultramafic shale from hole BN13-02 grading 0.17% Ni and 80.3 ppm Co over 15.0 m.

Zone 2: The lithologies in Zone 2 include silicified listwanite hosted metavolcanics, highly magnetic sheared serpentinite and an intrusive basalt/andesite outcropping. The latter intrudes silicified metavolcanics, however predates the listwanite and quartz veining. The quartz veins contain selvedges of carbonate alteration with minor to trace pyrite. The regional 150°-170° faulting trend is apparent in Zone 2 (163°/68°W). This trend is cut by a displacement fault striking 110° to 130° and dipping 57°. Mariposite is variable in outcrop with local patchy intense areas. Silicification varies from the above grey-white (+/- black patches) a second later episode.

Local trace amounts of pyrite appears associated with mariposite.

Skelton Creek Zone: The Skelton Creek showing includes chlorite altered metavolcanics in a mylonite shear zone. A possible fault observed in outcrop appears parallel to the creek. Small outcrops of metasediments and silicified metavolcanics occur northeast of the road. These outcrops exhibit minor orange listwanite coatings with minor pyrite. Mariposite is limited to silicified outcrops. Drillhole BN13-03 intersected highly serpentinized and magnetite rich ultramafic rocks grading 0.31% Ni and 120.3 ppm Co over 70.6 metres.

5.0 2013 DIAMOND DRILLING PROGRAM

Between 16 and 30 October 2013, a diamond drilling program was completed on the Ben Property. During the drill program there was nearby active forest harvesting operations ongoing throughout the entire program.

Drilling was contracted to Dorado Drilling of Vernon, B.C. under the supervision of the author. Geological logging, interpretation and sampling of core was completed by the author. Geotechnical measuring and core splitting was completed by Mark Ralph and Gail Lamothe of McLeese Lake, BC. Bulk water hauling to supply the diamond drill rig was contracted to ILJ Ventures Ltd of McLeese Lake. Randy Tallen of Williams Lake was contracted as a tree faller for trail construction.

5.1 Survey Description, Core and Sample QAQC, and Security

Drilling of NQ sized (47.6 mm diameter) core was completed using a Hydracore 2000 skid mounted diamond drill. Drill collar locations, fore-sights/backsight markers aligned to direction of drilling, drill pad construction and drill dips at collars were selected and supervised by the author. Locations of drill holes were recorded using a Garmin 62sc GPS. Drill pads, sumps and trails were constructed and the drill was moved between holes by the drilling contractor using a John Deere 650 dozer. Photographs of collar locations were taken prior to disturbance and after reclamation.

Handling of core prior to sampling consisted of representatives of Driftwood moving the core from the property at the end of each shift to a leased secure core logging facility located at Cuisson Lake at geographic coordinates UTM (Nad83 Z10) 546970E, 5814430N. The core was then logged, split, and is currently being stored at the facility.

All core handling was done by or under the supervision of the author. Care was taken to eliminate sampling biases that could impact the analytical results. All jewelry was removed prior to handling core and the work area was kept clean during splitting and sampling.

The core was measured for recovery and RQD, photographed at macroscopic and microscopic (50x at 1m intervals) levels, measured by Susceptibility Meter at 1 metre intervals, and geologically logged. Boxes were labeled with metal tags and catalogued.

All of the core from the 2013 drill program was split and sampled. A total of 195 intervals from the 394.6 metres of core obtained were split into halves lengthwise using a conventional manual core splitter, one half placed into plastic sample bags with identifying tag and closed using plastic strap closures. The remaining drill core half was left in labeled core boxes at the core logging facility with a copy of the sample tag affixed to the box.

Samples were selected at approximately 1.5 to 3.0 metre downhole (dh) intervals depending on geology and mineralization. Field geostandard samples, obtained from WCM Minerals of Burnaby, B.C., were inserted at 25 sample intervals as an analytical check for laboratory batches.

No sample preparation was conducted by an employee, officer, director or associate of Fjordland prior to delivery to the laboratory for analyses. Samples were sealed and inserted into large rice sacks, labeled with the sample range and company name prior to shipping. Samples were personally delivered by the author to Acme Analytical Laboratories Ltd (Acme) at their Vancouver facilities. Acme is currently registered with ISO 9001:2000 and ISO/IEC 17025:2005 accreditations.

Core samples were analyzed for a 36-element suite of elements using (1DX2) ICP-MS aqua regia analyses. Preparation at Acme involves crushing each sample to 80% passing a 10 mesh (2 mm) screen. A 250 g split is then pulverized to 85% passing a 200 mesh (74 µm) screen and a 15g sample split from the prepared pulp was used for the analysis. All results greater than 100 ppb gold were re-analyzed by Acme using their (G6) Fire Assay with an AAS finish for gold. A select suite of samples were analyzed for platinum group metals. Additional analyses, including petrographics, whole rock analyses, nickel sulphide digestion analyses, 4-acid digestion analyses, Davis Tube magnetic separation, and QEMSCAN analyses were completed on selected samples.

Drill logs, analytical results, geotechnical information, susceptibility readings, and detailed cross-sections showing grade distributions for gold and nickel are located in Appendix A. Analytical certificates are located in Appendix B. Preparation and analytical methodology as well as certificates for all standards used are presented in Appendix C. Petrographic reports and special studies are located in Appendix D.

5.2 Results

The 2013 drill program was initially designed to test for gold mineralization associated with a north-west trending quartz-carbonate-mariposite alteration area in the Main Zone. A total of 3 diamond drillholes were drilled on the property totaling 424.0 metres. Holes BN13-01 and BN13-02 were drilled in a fence pattern across the Main Zone to test for gold occurrences at depth. Hole BN13-03 was collared to test a strong IP chargeability anomaly in the Skelton Creek Zone, located approximately 3.5 kilometres to the south of the Main Zone.

Hole collar locations are shown on Figure 5 and collar descriptions are listed on Table 3. All geographic coordinates are on datum Nad83 Zone10.

Collar	Easting	Northing	Elev (m)	Bearing	Dip	Depth (m)
BN13-01	**563081**	**5827850**	**954.0**	**225°**	**-50°**	**148**
BN13-02	**562997**	**5827826**	**946.9**	**180¯**	**-65°**	**174**
BN13-03	**564139**	**5823853**	**972.2**	**120°**	**-45°**	**102**

Table 3: Diamond Drill Collar Locations

A summary of notable weight-averaged grade intersections is presented in Table 4. No effort at this time has been made to correct for true thickness on drill intersections.

Hole	From (m)	To (m)	Int (m)	%Ni	Co (ppm)	Au (g/t)
BN13-01	50.5	54.0	3.5			0.28
BN13-02	4.0	19.0	15.0	0.18	80	
BN13-02	46.5	48.0	1.5			0.59
BN13-02	57.2	60.0	2.8			0.57
BN13-03	16.4	87.0	70.6	0.31	120	
including	48.0	78.0	30.0	0.38	127	
BN13-03	87.0	102.0	15.0	0.03	40	

Table 4: Notable Grade Intersections

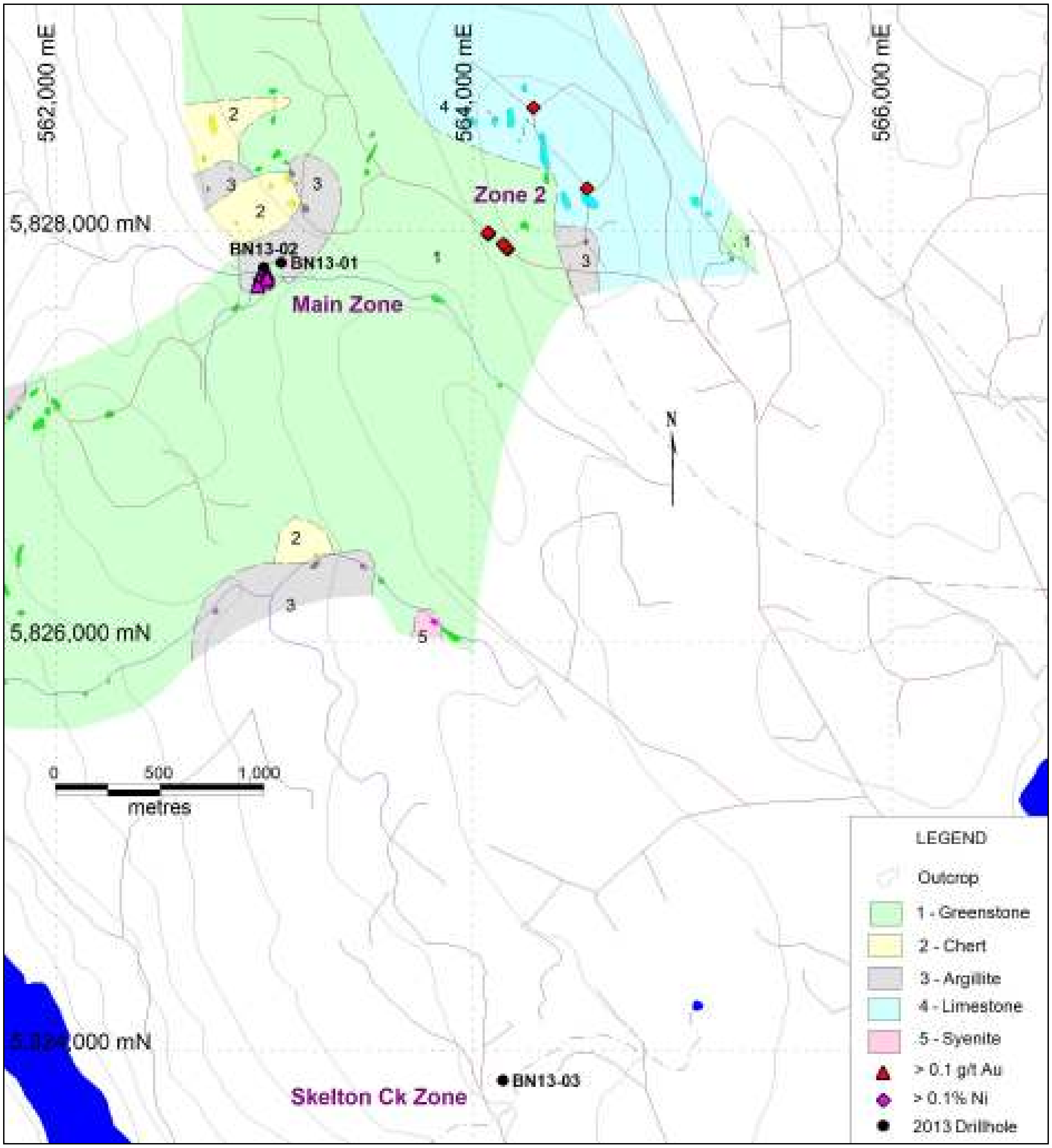


Figure 5: Drillhole Location and Local Geology

Main Zone

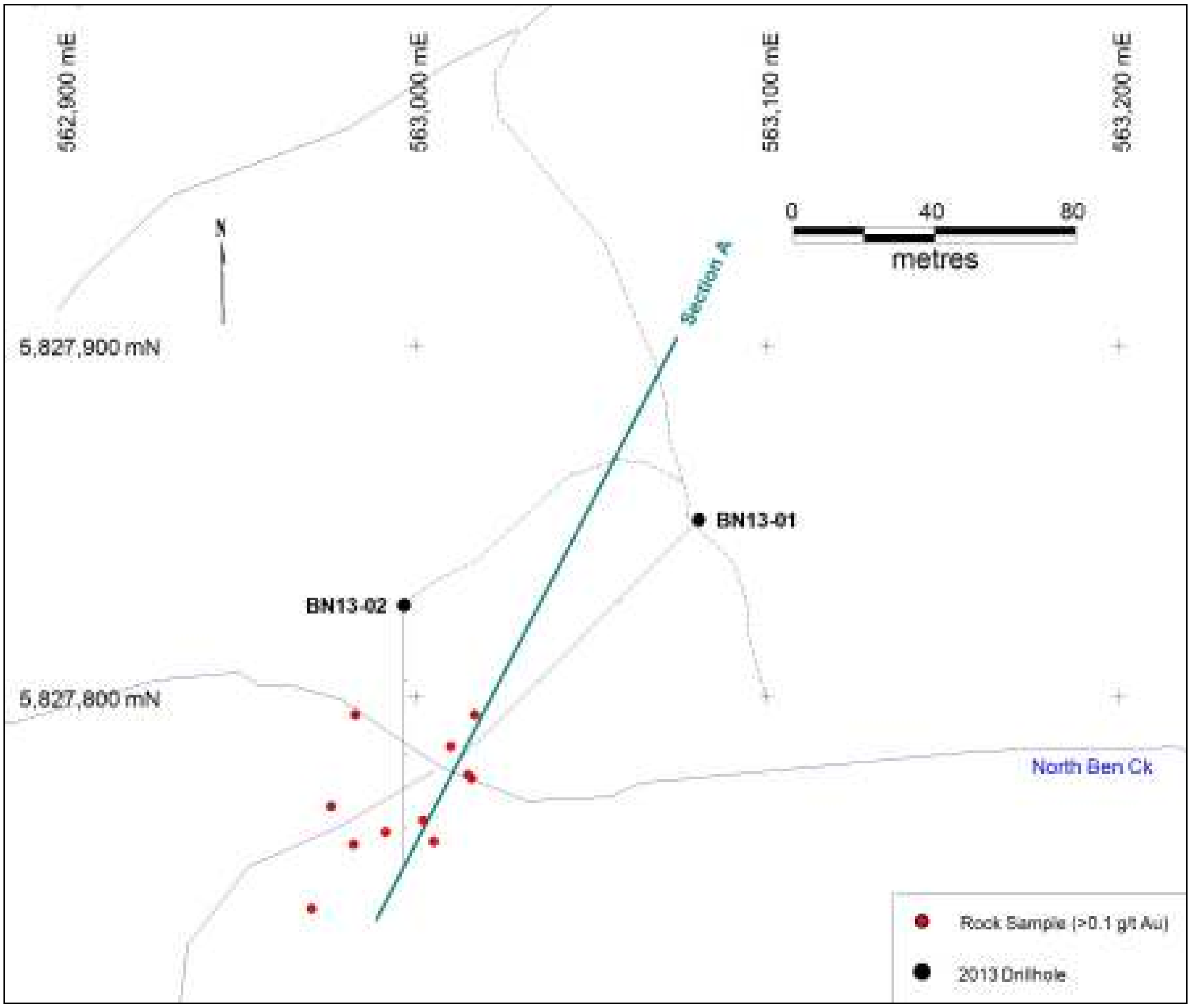


Figure 6: Main Zone Drillhole Location

Drillhole BN13-01 was collared to intersect a north-west trending quartz-carbonate-mariposite alteration zone traced on surface for 25m wide and 50m long. A number of grab samples, taken from outcrop during the 2012 prospecting program, graded in excess of 0.1 g/t Au and were targeted by drilling (Figure 6). The target area was coincident with the northern flank of a weak IP chargeability, a strong magnetic anomaly, and a weak arsenic-in-soils anomaly as well as the southeastern flank of a strong resistivity anomaly.

Drilling intersected interbedded marine sequences of mudstones and volcanic breccias apparently shallowly dipping to the southwest (Figure 7). Dark black very fine-grained mudstones were often graphitic containing abundant local pyrite and quartz-calcite veining. Volcanic sequences consisted of often siliceous, very fine to medium grained, pale green-grey bleached mafic rocks in a shear zone extending to 72 metres depth. Zones of intense silicification and quartz stockwork were more prevalent in the volcanics. A zone of gold mineralization, associated with a silicified and quartz stockwork interval, was intersected grading 0.28 g/t Au over 3.5 m. The hole was lost at 148.0 metre depth in graphic mudstone gouge.

Hole BN13-02 was collared to continue BN13-01 in a fence-like pattern. Similar to hole BN-13-01, drilling intersected typical successions of mudstones and volcanics of the Cache Creek Complex. Two intervals of gold mineralization grading 0.59 g/t Au over 1.5 m and 0.57 g/t Au over 2.8 m were intersected in siliceous volcanic units.

From bedrock surface to 19.0 metres depth, a zone of clay-anhydrite-chlorite alteration in an ultramafic shale graded 0.18% Ni over 15.0 metres.

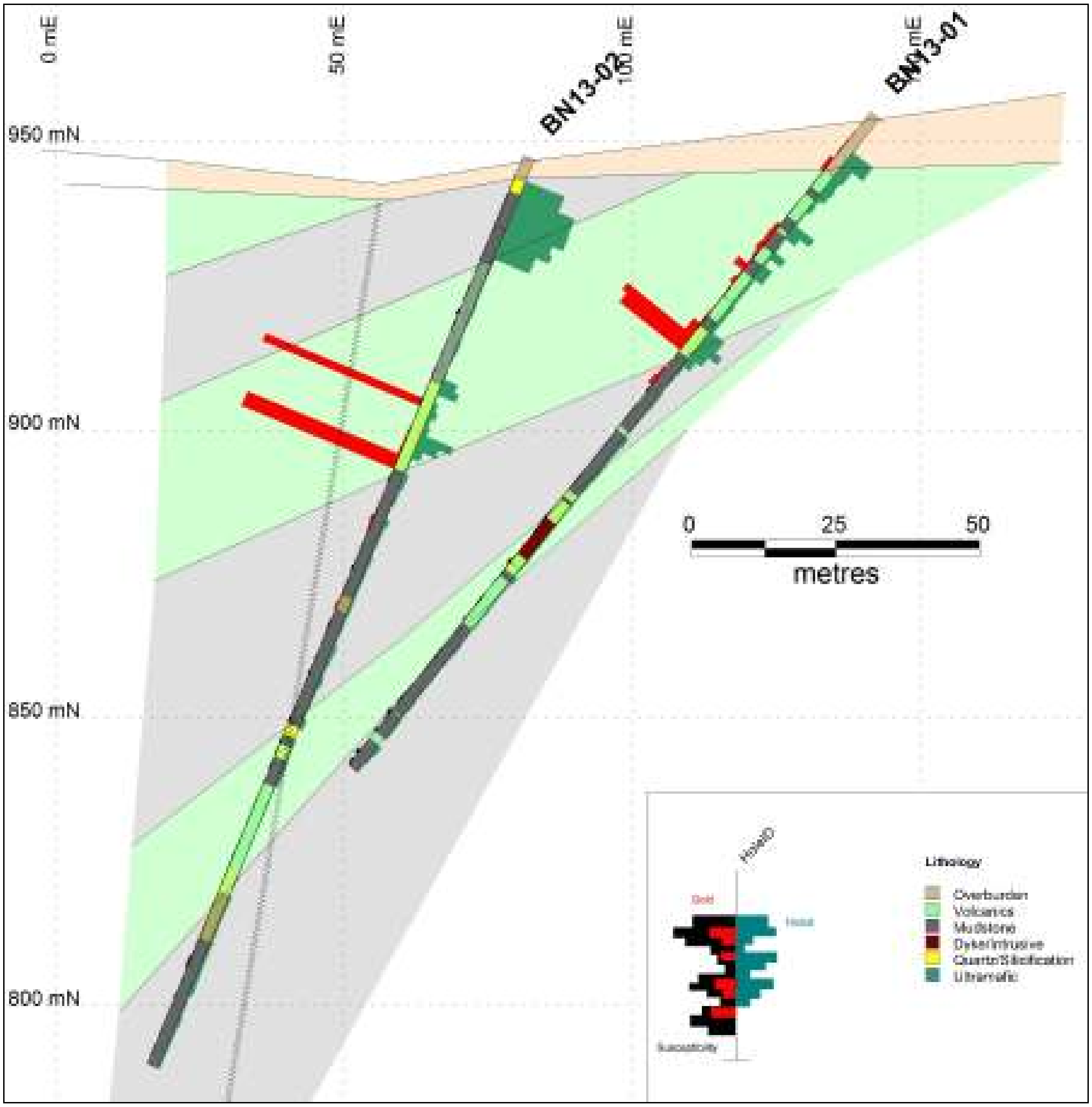


Figure 7: X-Section A (Holes BN-13-01 + 02) Looking Northwest

Skelton Zone

Drillhole BN13-03 was collared to test a coincident high chargeability and moderate resistivity target delineated by the 2012 IP survey (Figure 8). Drilling intersected sheared serpentinite-altered ultramafic rocks (dunite) from bedrock surface to 87 metres and clay and minor serpentinite altered volcanic rocks from 87.0 metres to the end of hole at 102.0 metres depth (Figure 9). The ultramafics contain approximately 10% magnetite overall with very fine grained Ni-sulphides composed mainly of millerite with lesser bravoite. No sulphides were observed in the volcanics at the bottom of the hole.

The ultramafics averaged 0.31% Ni and 120.3 ppm Co over 70.6 metres. The volcanics contained elevated levels of nickel averaging 0.03% Ni and 40 ppm Co over 15.0 metres. Although one 2.0 metre zone of intense silicification was noted in the ultramafics, no significant gold mineralization was noted.

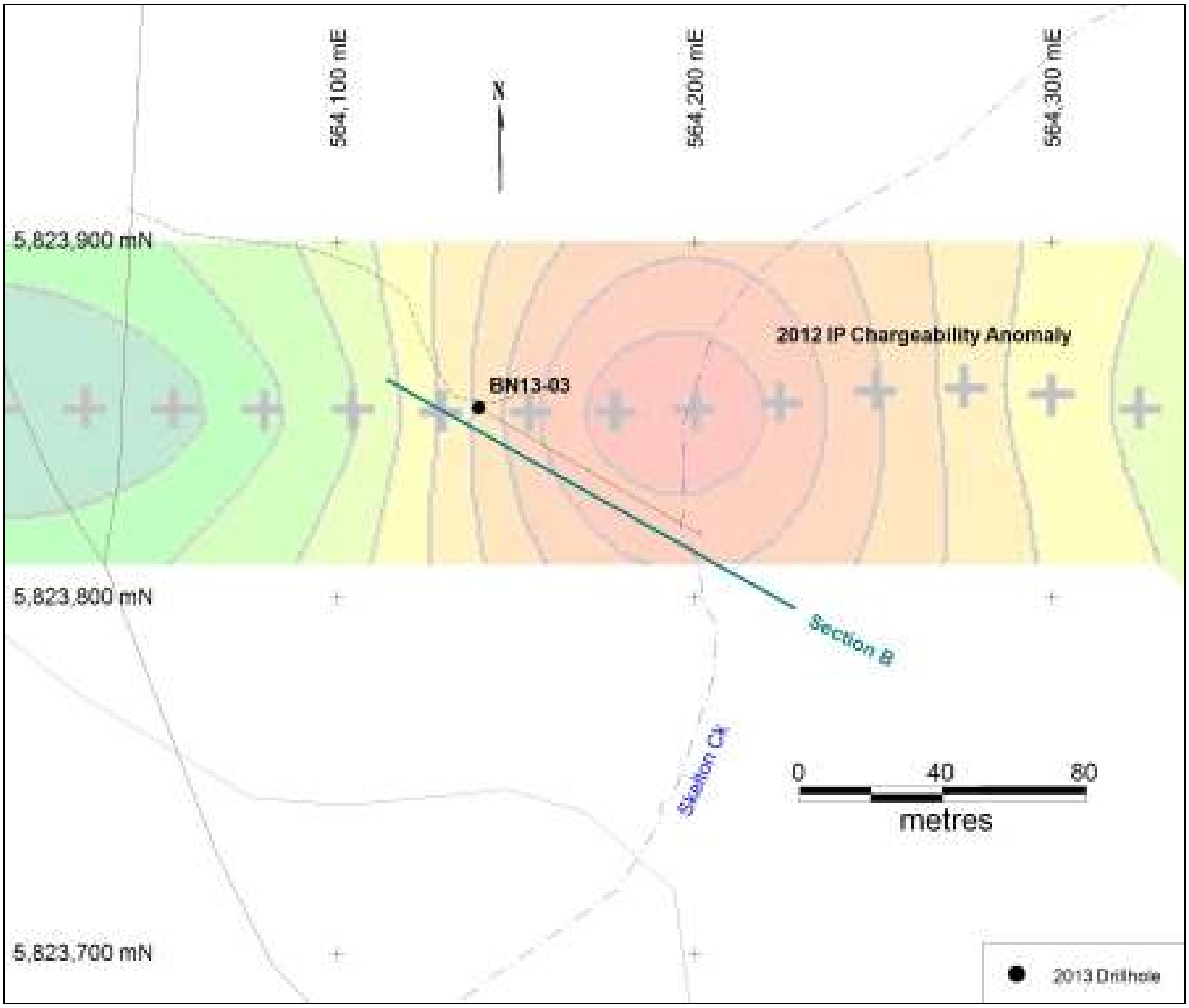


Figure 8: Skelton Zone Drillhole Location

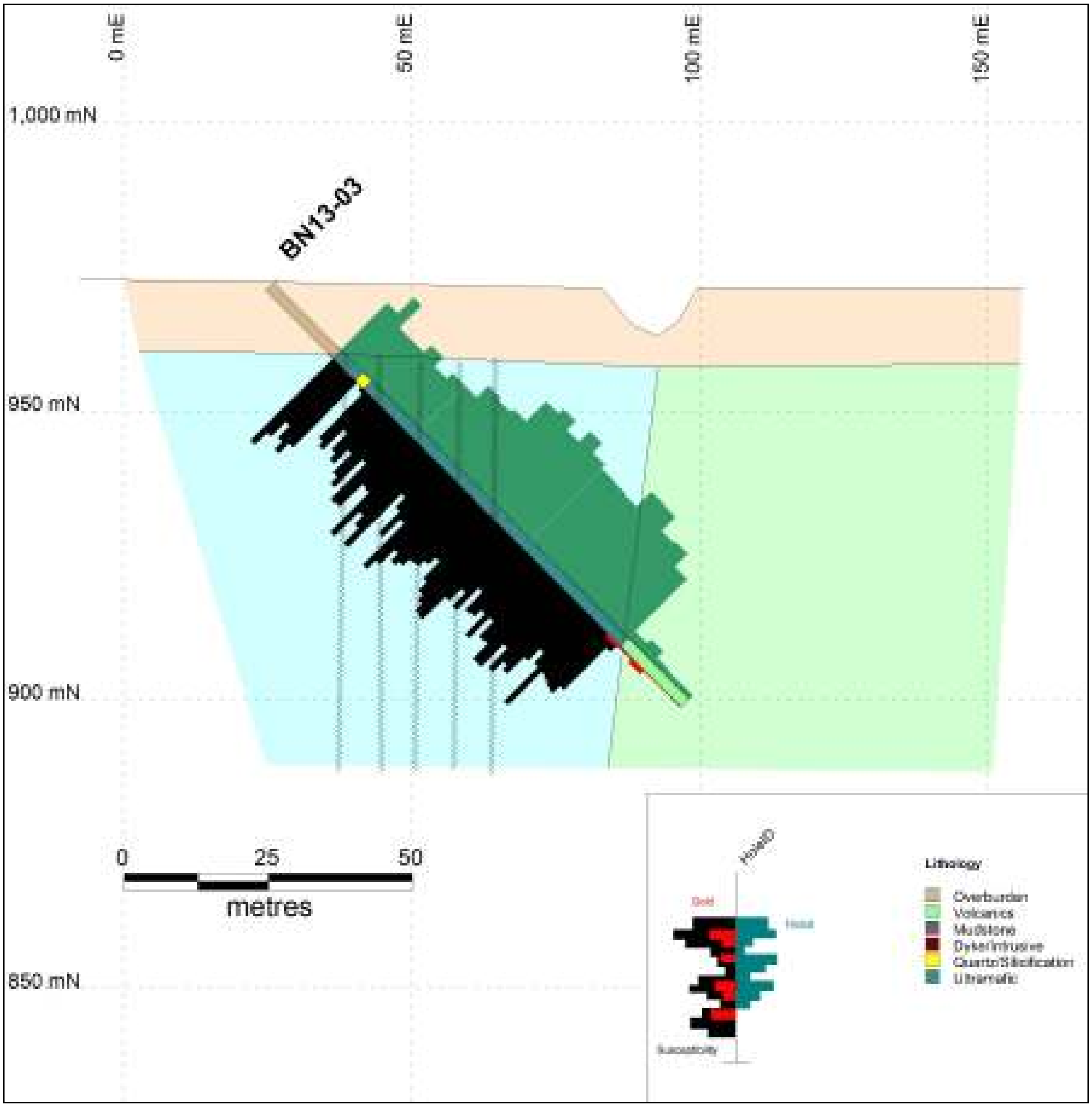


Figure 9: X-Section B (Holes BN-13-03) Looking Northeast

5.3 Susceptibility Survey on Drillcore

Magnetic susceptibility is defined as the degree to which a substance can be magnetized. All drill core from the current drill program was measured for susceptibility during the core logging. Readings were taken at 1 metre intervals down the entire length of core in each hole using an Exploranium KT-9 Kappameter and are presented in Appendix A. Results are illustrated as downhole histograms with nickel and gold on Figures 7 + 9.

Magnetite occurs in trace amounts in holes BN13-01 + 02, usually associated with the mudstones. In hole BN13-03, magnetite concentrations averaged greater than 10% within the ultramafics, dropping off in the adjacent volcanics.

5.4 Core Geochemistry

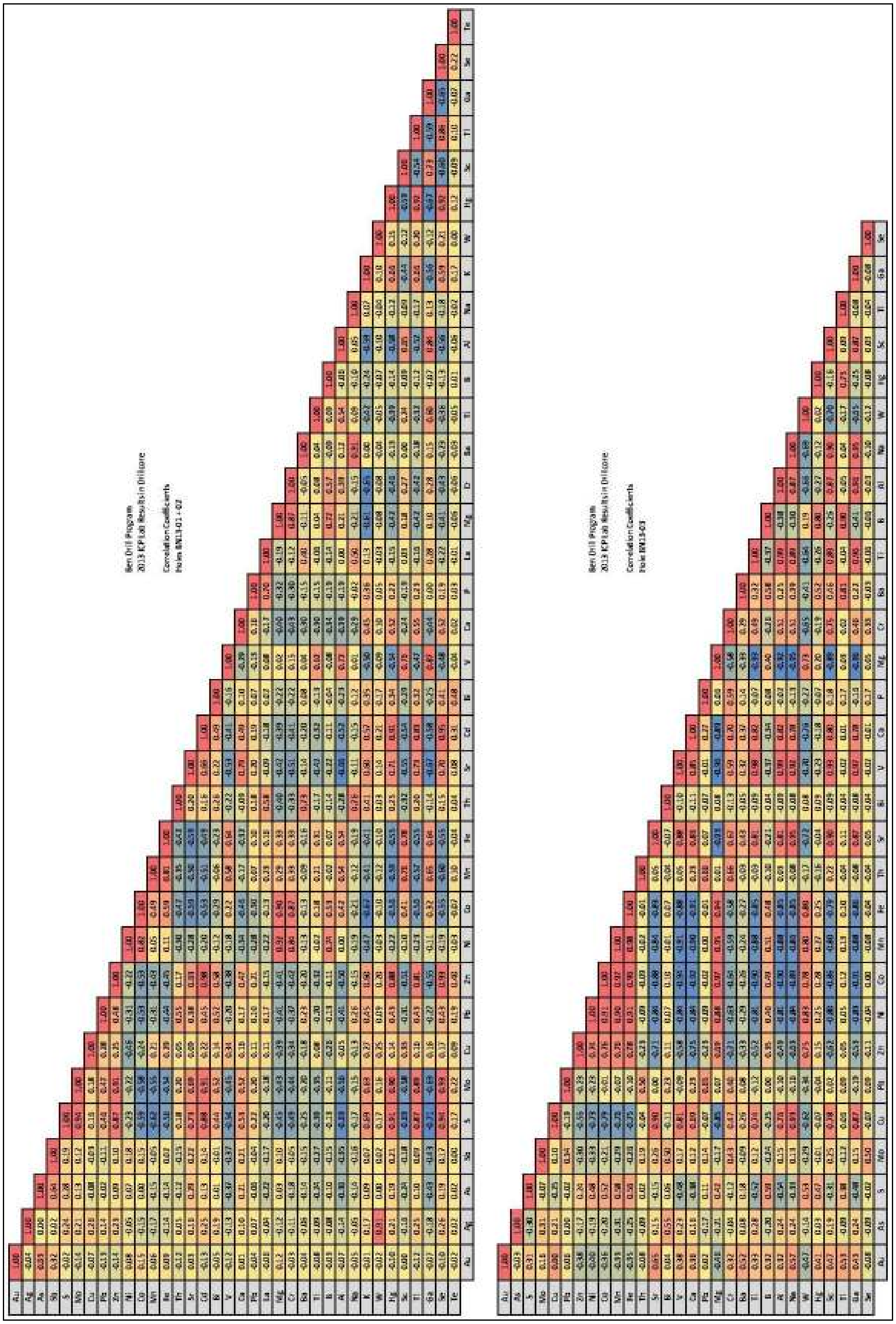


Figure 10: Drillcore Analytical Correlation Coefficients

Correlation coefficients were calculated for all results for the multi-element ICP analyses (Figure 10) for both the Main and Skelton Zones. Grade histograms for selected elements are presented in Appendix A. A summary of correlation coefficients for geochemical relationships calculated on each of the zones is presented in Table 5.

Zone	Au-As	Ni-Co	Ni-Mg	Ni-Cr	Ni-B	Ni-Fe	Ni-S	Mg-Co
Main	0.63	0.82	0.92	0.87	0.74	0.11	-0.23	0.90
Skelton	-0.03	0.91	0.88	-0.63	0.40	0.91	0.48	0.97

Table 5: Summary of Correlation Coefficients

Scatter Plots showing distribution relationships for each hole are illustrated on Figure 11. Gold occurs in the Main Zone as narrow, epithermal-style silicified and quartz-stockwork zones. The only element with a correlation with gold is arsenic. In the Au vs As scatter plot most of the samples form a linear correlation trend at lower concentrations of Au. The four samples from holes BN13-01 and 02 containing higher levels of Au does not appear to be wholly dependent on elevated levels of As. Gold is absent from core in the Skelton Zone.

The volcanics in the Main Zone are characterized as elevated in Fe-Mn-Cr-Co whereas the mudstones are elevated in Pb-Zn-Mo-Cd-Sr-Sb-S. Nickel occurs in hole BN13-02 associated with magnetite-poor, graphitic orthopyroxenite shale with elevated Co-Mg-Cr-B and depleted base metals and sulphur. In BN13-03, nickel occurs in ultramafics with elevated Co-Mg-Mn-Fe and depleted base metals and sulphur.

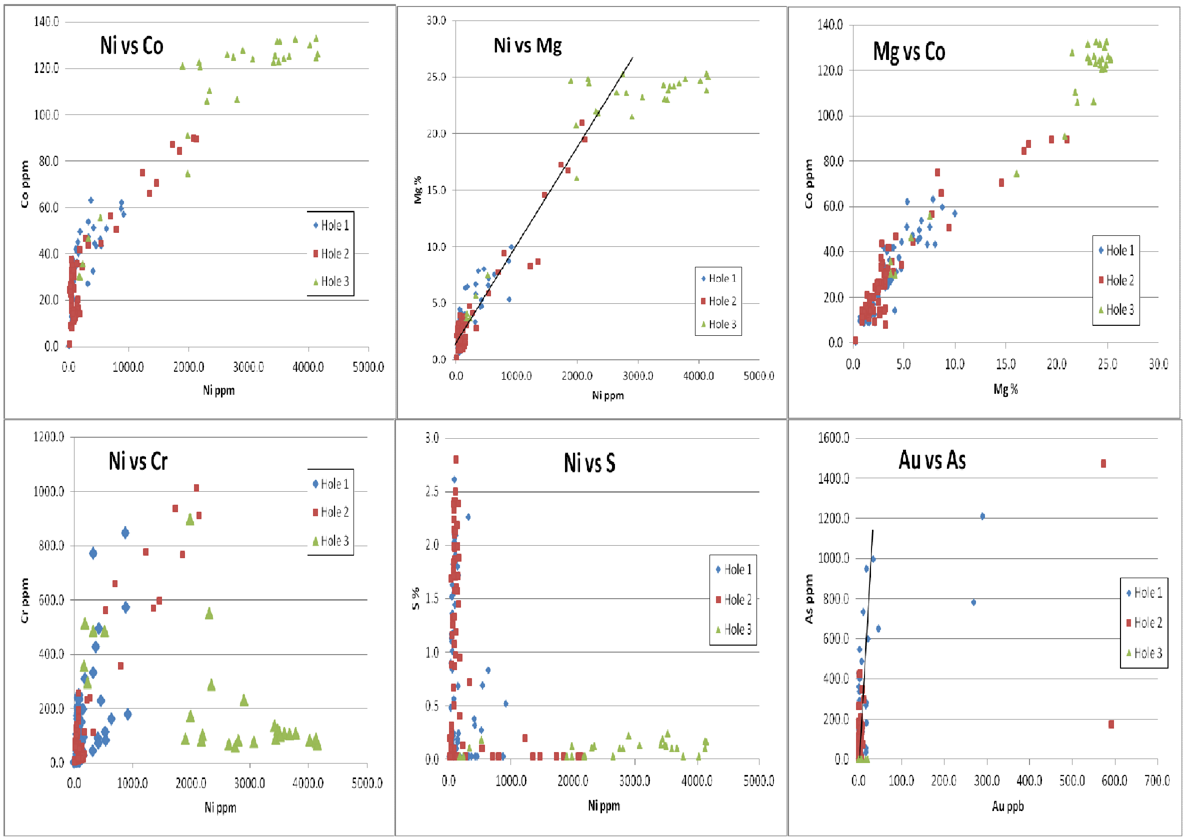


Figure 11: Scatter Plots of Occurrences in Core

In the Ni vs Co plots hole BN13-02 shows a large population elevated in Co with little or no Ni present, hole BN13-01 shows elevated Co with proportionately elevated Ni and hole BN13-03 shows highly elevated Ni with a spectrum of elevated Co. A similar distribution is seen in the Ni vs Mg plots. In the Mg vs Co plots a distinct trend is observed between Mg and Co. In the Ni vs Cr plot all samples from holes BN13-01 and 02 as well as samples from the volcanics in hole BN13-03 correlate well. Ni in the ultramafics occur independent of Cr. In the Ni vs S plot, holes BN13-01 and 02 show a large distribution low in Ni indicative of pyrite distribution. Ni-rich samples from hole BN13-02 and 03 are all uniformly low in S.

5.5 Analytical QAQC

Sampling quality assurance/quality control (QA/QC) for the 2013 drill program consisted of inserting field standards into the core sample streams at a frequency of 1 standard per ~ 25 samples. As well, Acme laboratory's QAQC procedures consisted of introducing a variety of standards, pulp duplicates, preparation duplicates, blanks, and prep wash blanks. A discussion of lab procedures and standards certification documentation is located in Appendix C.

A total of 16 laboratory blanks (inert material) were inserted during analyses. Results were generally below detection for Ni, Co and Au in ICP with 1 sample grading 2.1 ppb Au and another sample grading 0.9 ppm Ni. 2 blanks were contaminated in the FA process grading 7 and 8 ppb Au.

A total of 2 "Prep Wash" samples were analyzed to detect contamination during preparation. The upper limit of contamination noted was 0.9 ppb Au, 3.0 ppm Ni and 4.1 ppm Co. Results for both are illustrated in Figure 12.

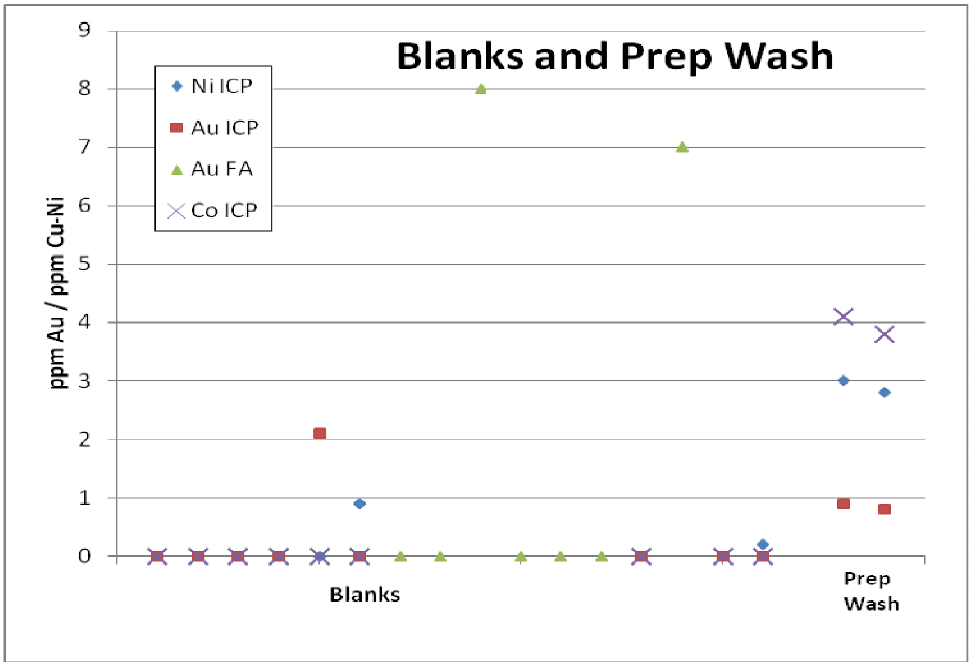


Figure 12: Sample Contamination

Field gold standards (PM457), pre-packaged 60 g sealed foil patches, were purchased from WCM Minerals of Burnaby, BC. and used to assess laboratory precision and accuracy. These standards represent homogenized material that contains known concentrations of gold (0.64 g/t Au).

The entire program was analyzed in one batch at the laboratory. A total of 47 standards (including 8 field standards) were compared with certified standard values (Figure 13) to test for contamination during the analytical process. A total of 3 different standards certified in Au and 1 standard certified in Ni were used. Samples falling between 2SD (standard deviations) of their certified values are deemed within acceptable statistical error. No large outliers were detected and no reruns were requested.

All standards analyzed were with acceptable limits. It was noted, however, that the ICP analyses for gold were much lower than expected at higher grading materials. The same standards, when analyzed using fire assay, returned expected results. As all samples were routinely analyzed using Fire Assay at a 100 ppb threshold this is not a concern at this time.

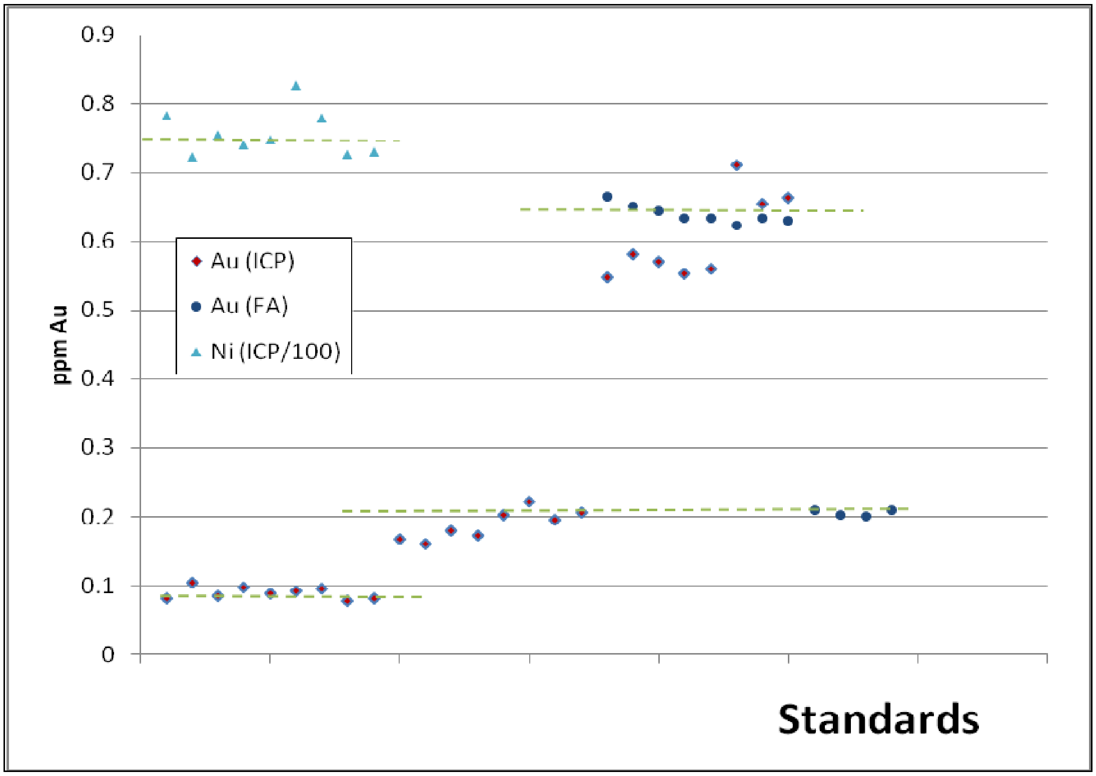


Figure 13: Nickel and Gold Standards Comparison

A total of 11 laboratory pulps were rerun by Acme during the regular runs (pulp duplicates). As well, 4 laboratory rejects were re-split to create duplicate pulps (prep duplicates). Results for pulp duplicates were plotted and are illustrated in Figure 14. All duplicates were found to have a high degree of repeatability with an average correlation coefficient of 0.9999 for nickel, 0.9991 for cobalt and 0.9988 for gold (ICP). No outliers were noted.

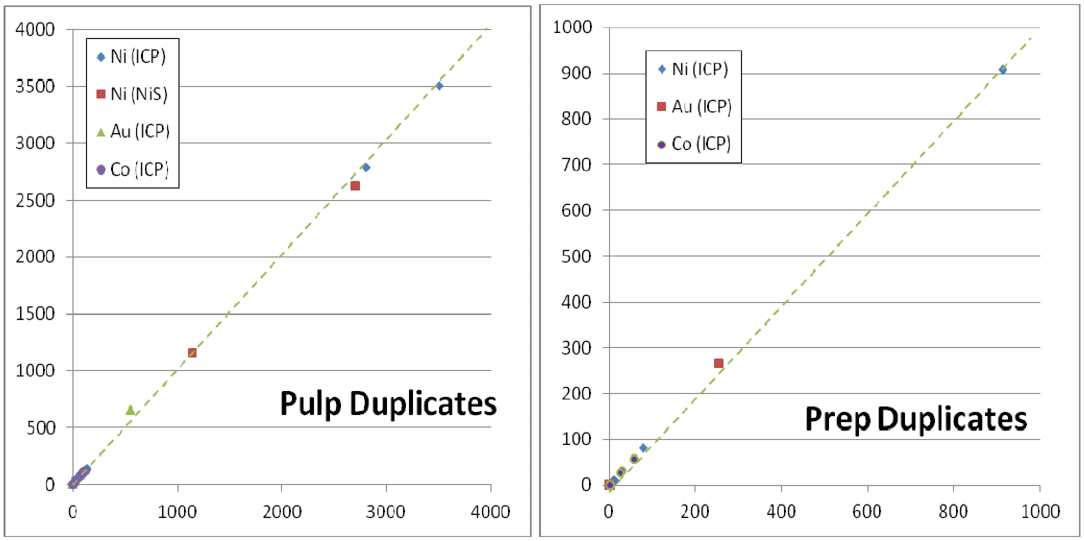


Figure 14: Repeatability of Pulp and Prep Duplicates

Gold analyses of all samples was initially completed using Acme Lab's ICP method. All samples with results greater than 100 ppb Au (a total of 12) were reanalyzed using Fire Assay method. A comparison between the two methods is illustrated in Figure 15.

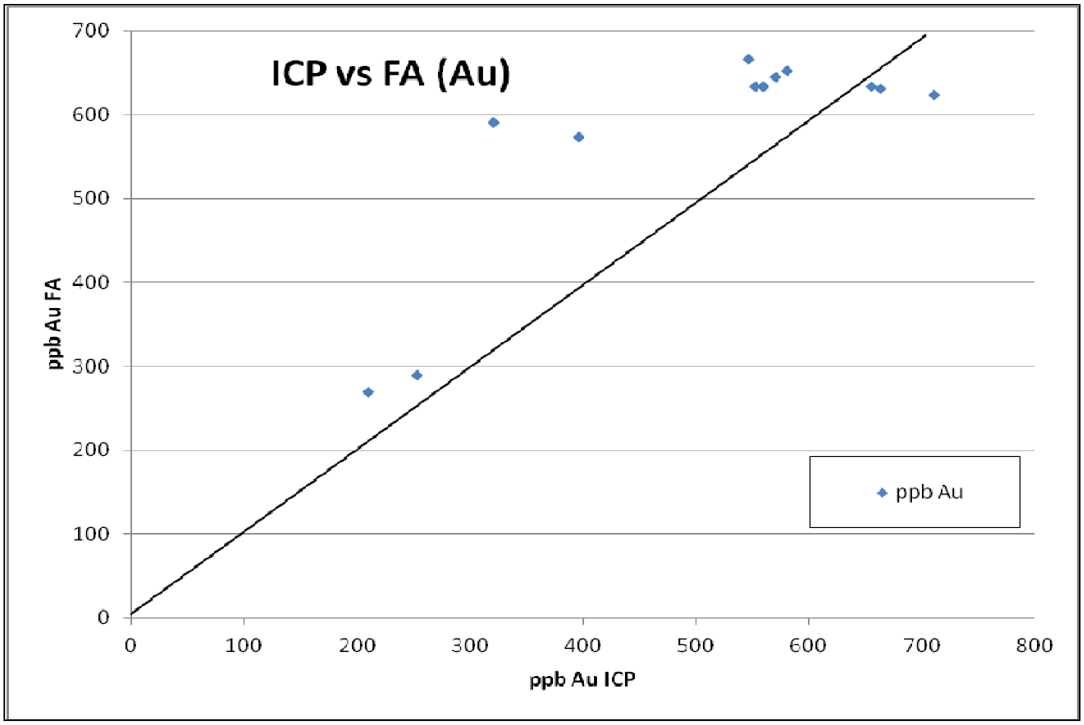


Figure 15: Comparison between ICP and FA Analytical Results for Gold

No exaggerated differences were noted, however, samples tended to have higher gold grades from the Fire Assay method except for 3 samples which were close to the norm . The average correlation coefficient for gold from both methods was calculated to be 0.821.

5.6 Core Recovery

The core from the drilling program was moderately competent averaging 75% recovery overall. Table 6 lists average core recoveries and RQD's for each individual hole. Detailed recoveries are presented in Appendix A.

Hole	*Recovery*	*RQD*
BN13-01	*79%*	*38%*
BN13-02	*66%*	*24%*
BN13-03	*85%*	*62%*

Table 6: Average Core Recoveries

Recovery losses in holes BN13-01 + 02 are due mainly to the inconsistent nature of the mudstones. A graphical representation of recoveries is illustrated in Figure 16.

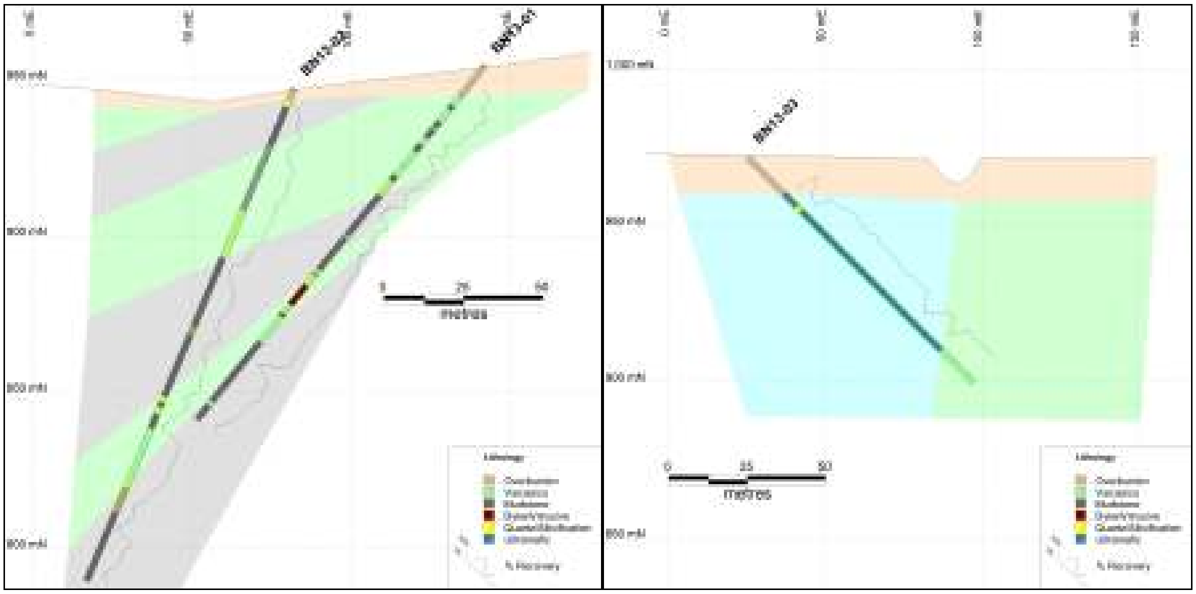


Figure 16: Core Recovery

5.7 Petrographics and Special Studies

With the high concentrations of magnetite associated with the nickel mineralization in hole BN13-03 it was initially theorized that awaruite (FeNi), a naturally occurring nickel-alloy may be present similar to First Point Minerals' Decar Nickel Project. First Point analyzes for awaruite with their own proprietary analytical technique. Two samples (2596088; BN13-03 - 57-60 m and 2596093; BN13-03 - 72-75m), both grading over 0.4% nickel, were analyzed using Acme's Ni-S technique which separates sulphide from silicate nickel by limited acid digestion. As well, the samples were reanalyzed using multi-acid digestion (bromine / methanol digestion). Whole rock analyses was completed on the samples to better ascertain sulphide and magnesium quantities. Finally, a Davis Tube separation was completed on the samples separating the magnetic and nonmagnetic fractions. Both fractions were analyzed for nickel via multi-acid and Ni-S analytical techniques. Results are summarized on Table 7.

	Davis Tube Mag Sep				Entire Sample				
Method Sample	% Split Fraction	4-Acid Ni %	NiS Ni %	4-Acid Fe %	ICP Ni %	Whole Rock Ni %	4-Acid Ni %	NiS Avg Ni %	Whole Rock S %
2596088		0.411	0.116	6.277	0.413	0.351	0.390	0.118	0.13
Magnetic	12.1	0.420	0.077	29.440					
Non-magnetic	87.9	0.410	0.121	3.080					
2596093		0.407	0.293	5.713	0.415	0.343	0.370	0.265	0.19
Magnetic	12.8	0.32	0.203	25.93					
Non-magnetic	87.2	0.42	0.306	2.72					

Note: Red denotes calculated grade from combining both magnetic and nonmagnetic fractions.

Table 7: Analytical Summary Table

Thirty samples, comprising the nickel rich areas of holes BN13-02 + 03 were reanalyzed using a H2O2/NH4 Citrate leach digestion. Results are tabulated in Appendix D and summarized on Table 8. It was noted that the amount of nickel detected in the ammonium citrate leach method in hole BN13-02 averaged 15.3% of total nickel and in hole BN13-03 averaged 42% of total nickel.

				% Ni		
Hole	From (m)	To (m)	Int (m)	ICP	Am-Cit	%
BN13-02	4.00	19.00	15.00	0.18	0.03	15.3%
BN13-03	16.40	78.00	30.00	0.38	0.16	41.7%
BN13-03	16.40	87.00	70.60	0.31	0.13	42.4%

Table 8: Comparison between Aqua Regia and Ammonium Citrate Leach Digestions for Nickel

Quantitative X-ray diffraction analyses was also completed on samples 2596088 and 2596093 from BN13-03. Table 9 lists the results from the analyses. The report is located in Appendix D.

Mineral	Ideal Formula	2596088	2596093
Brucite	Mg(OH)2	18%	17%
Magnetite	Fe3O4	11%	10%
Serpentine	Mg3Si2O5(OH)4	70%	72%
Pyroaurite	Mg6Fe23+(CO3)(OH)16 4H2O	1%	1%

Table 9: Quantitative Phase Analyses

A polished thin section taken from sample 2596093 (BN13-03; 73m) grading 0.42% Ni was sent to McLeod Geological of Vancouver, B.C. for petrographic analyses. Minute sulphide grains only a few microns in size (initially thought to be awaruite) were instead determined to be millerite in a dunite host rock. The petrographic report is located in Appendix D.

Three polished thin sections, sample 2596093 (Hole BN13-03; 73m) grading 0.42% Ni, 2596351 (Hole BN13-02; 9-9.04m) grading 0.21% Ni, and 2596353 (Hole BN13-03; 21-21.1m) grading 0.20% Ni were sent to Renaud Geological Consulting Ltd of London, Ont for petrographic analyses. It was determined that the Ni-sulphides in BN13-02 (Main Zone) consist mainly of pentlandite in an orthopyroxenite host rock. The Ni-sulphides in BN13-03 (Skelton Zone) occur as millerite (70%) and bravoite (30%). It was also noted that a very minor component of nickel resides in the silicate structure of the serpentines and chlorite. The petrographic report is located in Appendix D.

Three polished samples from the Ni-mineralized portion of hole BN13-03 were sent to the mineralogy department of SGS Canada Ltd at Lakefield, Ontario for QEMSCAN analyses. Descriptions and results are located in Appendix D. Sample 259-6351 was taken from hole BN13-02; 9-9.04m, 259-6353 was taken from hole BN13-03; 21-21.1m, and 3-373 was taken from hole BN13-03; 73-73.1m. The samples were found to be dominated by serpentine (>95%) with accessory magnetite and chlorite. Fine grained sulphides were reported to be comprised of millerite (NiS), hazelwoodite (Ni_3S_2), and cobaltiferous pentlandite ($(Fe,Ni,Co)_9S_8$) and/or linnaeite ($(Co^{+2}Co^{+3})_2S_4$). Descriptions and results are located in Appendix D.

6.0 INTERPRETATION AND CONCLUSIONS

The 2012 prospecting program identified a number of areas prospective in gold mineralization. Foremost is the Main Zone, where 11 grab rock samples taken from outcrop in a 45x70 m area graded > 0.1 g/t Au, the highest of which graded 0.17 g/t Au. Drilling of this zone in 2013 resulted in the intersection of gold mineralization in both holes BN13-01 and 02 as much as 6 times greater concentrations of gold than rock samples found on surface.

Substantial low-grade nickel mineralization was intersected in ultramafic rocks in holes BN13-02 and 03. The two zones exhibit very different chemistries. Whereas nickel mineralization (0.18% Ni over 15.0m) in hole BN13-02 occurs mainly as pentlandite in a orthopyroxene host, nickel mineralization (0.31% Ni over 30.0 m) in hole BN13-03 occurs as mainly millerite and bravoite (possibly hazelwoodite) in a mainly serpentinite host with up to 10% magnetite present.

Several analytical techniques and acid digestions were utilized in an attempt to differentiate nickel occurrences in silicates versus sulphides. As well, petrographic studies were completed on several samples on both zones.

7.0 RECOMMENDATIONS

The 2012 rock sampling/prospecting program discovered the presence of anomalous Ni in rocks over several areas in the property (Figure 4). These areas should be the focus of additional Ni exploration activities including airborne magnetics, IP and soil sampling followed by additional drilling.

A program consisting of property-wide Airborne Magnetics should be completed. Selective soil sampling should be completed on prospective areas defined by magnetics and anomalous nickel in rocks from previous prospecting. Induced Polarization surveys should be completed over the Skelton Zone (Hole SN13-03) and other selected areas as defined by the soil geochemistry. The next phase of exploration is estimated to cost $210,000.

A budget is itemized in Table 10.

Item	Cost (Est)
Airborne Magnetics	$100,000.00
Induced Polarization	$ 80,000.00
Soil Sampling	$ 30,000.00
Total	$210,000.00

Table 10: Recommended Budget

8.0 STATEMENT OF EXPENDITURES

Payee	Item	Rate/diem	Mandays	Total	Dates
John Peters	Geologist/Project Manager	$500.00	34	$17,014.50	5 Oct-5 Nov
J Mark Ralph	Core Splitter	$250.00	21	$5,143.32	12 Oct-2 Nov
Gail Lamothe	Assistant	$175.00	12	$2,116.00	18 Oct-30 Oct
Gareth Thomas	Supervision	$420.00	3	$1,256.28	28 Oct-30 Oct
Randy Talllen	Faller		1	$475.00	
Dorado Drilling	Drill Contractor		68	$51,689.01	
ILJ Ventures	Water Truck		5	$2,875.00	
Analytical Labs	Analytical/Petrographics			$12,408.91	
Deakin Equipment	Supplies			$475.44	
Mark Ralph	Coreshack Rental			$1,800.00	
John Peters	Report Writing	$525.00	9	$4,725.00	25 Apr-4 May
Management Fees (10%)				$9,997.85	
Total			153	$109,976.31	

MTO Event	Date	Amount	PAC credit
5477632	19-Nov-13	$14,000.00	$994.14
5492465	28-Feb-13	$76,966.98	-$2,528.12
		$19,009.33	-$2,864.62
Total		$109,976.31	-$4,398.60

Table 11: Statement of Costs

9.0 REFERENCES

Campbell, K.V., 1988; Petrographic report on rock sample suite from Dragon and Ben Claims, unpublished report for Bema International Resources Inc., dated February, 1988.

Campbell, K.V., 1988; Appraisal of mineral properties, Cariboo Project; unpublished report for Invernia West PLC dated August 15, 1988, 9pp.

Campbell, K.V., 1991; unpublished petrographic report on samples collected from Ben property for B.H. Kahlert, 6 pp.

Campbell, K.V., 2011; Compilation and review of the Cortez property, Cariboo Mining Division, B.C., unpublished report for OHG Resources Inc., dated March 3, 2011, 24pp. Same report filed by B.K. Kahlert as B.C. Assessment Report 32732.

Dunlop, D., 2001; GPS survey of BEN 1-6 mineral claims, Cariboo Mining Division, B.C., by Paragon Resource Mapping Inc. for B.H. Kahlert & Associates Ltd., dated March 12, 2001, 4 pp.

Fraser, B.M., 1989; Geochemical and geological report on the Ben Property, Cariboo Mining Division, B.C.;, ARIS 18674, dated April 20, 1989, 49 pp.

Fraser, B.M. and Kahlert, B.H., 1988; Results of field exploration program, August – November 1987; unpublished report for Circle Resources Ltd., 58 pp. plus appendices and maps.

Gabrielse, H. and Yorath, C.J., 1992; Geology of the Cordilleran orogeny in Canada; Geological Survey of Canada, Geology of Canada, no.4, p.652.

Campbell, K.V., 2012; Compilation and Review of the Ben Property, Cariboo Mining Division, B.C. for Westhaven Ventures Inc., 39 pp.

Chisholm, E.O., 1970; Geochemical Report on Alm 1-24 and Ram 1-36 Claims for Ramton Mining Crop Ltd. ARIS Report 3175.

Graham, R.F., 1991; Drilling and geochemical report on the Ben property, Cariboo Mining Division, B.C., for Circle Resources Ltd, ARIS 21309, dated January 1991, 37 pp.

Kahlert, B.H., 1988; Geochemical report, Ben 1-5 Claims, Cariboo Mining Division, B.C.; ARIS 17481, dated June 3, 1988, 14 pp. plus appendices.

Kahlert, B.H., 1998; Ben Property (Ben 1-6 Claims), Assessment report on grid construction and magnetic and VLF electromagnetic surveys; ARIS 25512, dated May 26, 1998, 28 pp.

Kahlert, B.H., 1999; Ben Property (Ben 1-6 Claims), Assessment report on petrographic study; ARIS 25914, dated May 27, 1999; 21 pp.

Kahlert, B.H., 2002; Ben Property (Ben 1-6 Claims), Assessment report on rock geochemical survey; ARIS 26870, dated June 8, 2002, 16 pp.

Kahlert, B.H., 2005; Ben Property (Ben 1-6 Claims), Assessment report on prospecting, sampling and petrographic study; ARIS 27812, 27 pp.

Kahlert, B.H., 2008; Ben Claim, Assessment report on lithogeochemical sampling; ARIS 29876, dated March 31, 2008, 22 pp.

Massey, N.W.D, MacIntyre, D.G., Desjardins, P.J. and Cooney, R.T., 2005; Digital geology map of British Columbia; B.C. Ministry of Energy and Mines, Geological Survey Branch, Open File 2005-2.

Peters, L.J., 2012; Assessment Report on the Ben Property.

Ramani, S.V., 1970; Geochemical and Geophysical Report on Dolly, Linda + Carol Group of Claims, Ardo Mines Ltd; ARIS Report 02696.

Sayer, C., 1988; inset map of “Ben Main Showing, Detail Geology” in Plan A-1, in Fraser, 1988, ARIS 18,674.

10.0 AUTHOR'S STATEMENT OF QUALIFICATIONS – L. John Peters

I, **L. John Peters, P.Geo** do hereby certify that:

a. I am a consulting geologist with addresses at 6549 Portland Street, Burnaby, BC, Canada, V5E 1A1.

b. I graduated with a Bachelor of Science degree (Geology) from the University of Western Ontario in 1984.

c. I am a Professional Geoscientist (P.Geo.) in good standing with the Association of Professional Engineers and Geoscientists of British Columbia (#19010).

d. I have worked as a geologist for a total of 28 years since my graduation from university.

e. I am responsible for the preparation of all sections of the technical report titled " Assessment Report on a Diamond Drilling Program on the Ben Property" and dated 4 April 2014 relating to the Ben Property.

f. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

Dated this 4th day of May 2014.

"Lawrence John Peters"

Appendix A:
Drill Logs

2013 Ben Property Drill Program
Collar Locations

Collar	Easting	Northing	Elev	Az	Dip	Depth
BN13-01	563081	5827850	954.0	225	-50	148.0
BN13-02	562997	5827826	946.9	180	-65	174.0
BN13-03	564139	5823853	972.2	120	-45	102.0
					Total	424.0

Datum: Nad83 Z10
Units in metres

Core Library - 2013 Drill Program
Ben Property

CORE BOX			
HOLE ID	BOX #	FROM	TO
BN13-01	1	4.0	4.8
BN13-01	2	4.8	8.2
BN13-01	3	8.2	10.5
BN13-01	4	10.5	13.5
BN13-01	5	13.5	17.5
BN13-01	6	17.5	21.4
BN13-01	7	21.4	25.4
BN13-01	8	25.4	30.2
BN13-01	9	30.2	36.3
BN13-01	10	36.3	41.0
BN13-01	11	41.0	45.0
BN13-01	12	45.0	50.6
BN13-01	13	50.6	54.5
BN13-01	14	54.5	61.3
BN13-01	15	61.3	66.8
BN13-01	16	66.8	71.1
BN13-01	17	71.1	76.3
BN13-01	18	76.3	81.2
BN13-01	19	81.2	85.6
BN13-01	20	85.6	90.0
BN13-01	21	90.0	94.3
BN13-01	22	94.3	98.8
BN13-01	23	98.8	102.9
BN13-01	24	102.9	107.0
BN13-01	25	107.0	111.3
BN13-01	26	111.3	114.5
BN13-01	27	114.5	119.5
BN13-01	28	119.5	125.7
BN13-01	29	125.7	129.3
BN13-01	30	129.3	132.9
BN13-01	31	132.9	136.4
BN13-01	32	136.4	140.7
BN13-01	33	140.7	145.8
BN13-01	34	145.8	148.0
BN13-01	35	sluff extra	
			eoh

CORE BOX			
HOLE ID	BOX #	FROM	TO
BN13-02	1	4.0	7.8
BN13-02	2	7.8	13.1
BN13-02	3	13.1	15.9
BN13-02	4	15.9	19.0
BN13-02	5	19.0	24.4
BN13-02	6	24.4	28.5
BN13-02	7	28.5	32.9
BN13-02	8	32.9	37.1
BN13-02	9	37.1	41.2
BN13-02	10	41.2	46.1
BN13-02	11	46.1	50.9
BN13-02	12	50.9	55.7
BN13-02	13	55.7	61.0
BN13-02	14	61.0	69.5
BN13-02	15	69.5	74.5
BN13-02	16	74.5	78.9
BN13-02	17	78.9	85.3
BN13-02	18	85.3	90.0
BN13-02	19	90.0	95.8
BN13-02	20	95.8	100.3
BN13-02	21	100.3	104.9
BN13-02	22	104.9	110.6
BN13-02	23	110.6	117.1
BN13-02	24	117.1	123.2
BN13-02	25	123.2	127.6
BN13-02	26	127.6	132.0
BN13-02	27	132.0	136.3
BN13-02	28	136.3	141.0
BN13-02	29	141.0	147.0
BN13-02	30	147.0	156.0
BN13-02	31	156.0	160.2
BN13-02	32	160.2	165.5
BN13-02	33	165.5	171.9
BN13-02	34	171.9	174.0
			eoh

CORE BOX			
HOLE ID	BOX #	FROM	TO
BN13-03	1	OB	
BN13-03	2	OB	
BN13-03	3	13.0	19.0
BN13-03	4	19.0	20.5
BN13-03	5	20.5	24.0
BN13-03	6	24.0	30.6
BN13-03	7	30.6	35.5
BN13-03	8	35.5	39.7
BN13-03	9	39.7	44.2
BN13-03	10	44.2	48.6
BN13-03	11	48.6	52.6
BN13-03	12	52.6	57.1
BN13-03	13	57.1	61.6
BN13-03	14	61.6	66.0
BN13-03	15	66.0	70.2
BN13-03	16	70.2	74.6
BN13-03	17	74.6	79.6
BN13-03	18	79.6	84.0
BN13-03	19	84.0	90.0
BN13-03	20	90.0	91.2
BN13-03	21	91.2	98.7
BN13-03	22	98.7	102.0
			eoh

2013 Drill Results - Ben Property
Drill Grade Summary

⬜	Mudstone
🟩	Volcanics (Silicified)
⬛	Ultramafics
🟫	Volcanics (Clay Alt)
🟨	Dyke

Hole	Sample #	From (m)	To (m)	Int (m)	Ni	Co	Au (ppb)	%Ni (Am-Cit)	Geo	%Ni	Co (ppm)	Au (g/t)	Int (m)
BN13-01	2595901	7.50	10.50	3.00	879.3	62.3	0.7		🟩				
BN13-01	2595902	10.50	13.50	3.00	424.7	44.5	15.6		🟩				
BN13-01	2595903	13.50	15.00	1.50	321.5	47.3	1.6		🟩				
BN13-01	2595904	15.00	16.50	1.50	365.8	63.2	<0.5		🟩				
BN13-01	2595905	16.50	18.00	1.50	323.8	53.8	1.1		🟩				
BN13-01	2595906	18.00	19.50	1.50	151.0	45.0	1.2		⬜				
BN13-01	2595907	19.50	21.00	1.50	184.1	49.6	<0.5		🟩				
BN13-01	2595908	21.00	24.00	3.00	63.6	37.6	<0.5		🟩				
BN13-01	2595909	24.00	25.50	1.50	870.2	59.6	<0.5		⬜				
BN13-01	2595910	25.50	27.00	1.50	458.8	43.4	15.3		⬜				
BN13-01	2595911	27.00	28.50	1.50	51.1	13.1	17.4		⬜				
BN13-01	2595912	28.50	30.00	1.50	84.0	14.1	16.5		⬜				
BN13-01	2595913	30.00	31.50	1.50	527.6	46.3	20.9		🟩				
BN13-01	2595914	31.50	33.00	1.50	75.9	31.3	11.4		🟩				
BN13-01	2595915	33.00	34.50	1.50	402.4	32.7	6.5		⬜				
BN13-01	2595916	34.50	36.00	1.50	415.5	51.2	45.2		⬜				
BN13-01	2595917	36.00	37.50	1.50	115.8	42.1	6.6		🟩				
BN13-01	2595918	37.50	39.00	1.50	122.4	41.8	15.5		🟩				
BN13-01	2595919	39.00	40.50	1.50	118.5	42.0	6.0		🟩				
BN13-01	2595920	40.50	42.00	1.50	110.9	34.1	<0.5		🟩				
BN13-01	2595921	42.00	43.50	1.50	159.6	40.4	0.7		🟩				
BN13-01	2595922	43.50	45.00	1.50	142.8	42.1	3.6		🟩				
BN13-01	2595923	45.00	48.00	1.50	135.5	36.6	6.8		⬜				
BN13-01	2595924	48.00	50.50	2.50	630.9	50.9	33.3		🟩	**0.035**	**43.9**	**0.03**	**45.00**
BN13-01	2595926	50.50	52.00	1.50	914.5	56.9	289.0		🟩				
BN13-01	2595927	52.00	54.00	2.00	537.4	43.5	269.0		🟩	**0.070**	**49.2**	**0.28**	**3.50**
BN13-01	2595928	54.00	56.00	2.00	315.2	27.0	1.6		⬜				
BN13-01	2595929	56.00	58.00	2.00	93.2	12.3	1.7		⬜				
BN13-01	2595930	58.00	60.00	2.00	63.2	9.8	9.8		⬜				
BN13-01	2595931	60.00	62.00	2.00	37.1	15.0	17.5		⬜				
BN13-01	2595932	62.00	64.00	2.00	86.4	12.4	1.6		⬜				
BN13-01	2595933	64.00	66.00	2.00	86.3	12.3	<0.5		⬜				
BN13-01	2595934	66.00	68.00	2.00	57.7	14.4	<0.5		⬜				
BN13-01	2595935	68.00	70.00	2.00	42.8	13.0	<0.5		⬜				
BN13-01	2595936	70.00	72.00	2.00	28.7	8.6	0.8		🟩				
BN13-01	2595937	72.00	74.00	2.00	155.2	16.9	<0.5		⬜				
BN13-01	2595938	74.00	76.00	2.00	109.4	13.4	<0.5		⬜				
BN13-01	2595939	76.00	78.00	2.00	89.7	14.3	<0.5		⬜				
BN13-01	2595940	78.00	80.00	2.00	113.8	12.5	<0.5		⬜				
BN13-01	2595941	80.00	82.00	2.00	110.4	13.0	<0.5		⬜				
BN13-01	2595942	82.00	84.00	2.00	72.4	11.4	<0.5		⬜				
BN13-01	2595943	84.00	85.50	1.50	59.8	12.6	<0.5		⬜				
BN13-01	2595944	85.50	87.00	1.50	66.2	25.0	<0.5		🟩				
BN13-01	2595945	87.00	88.50	1.50	69.8	20.8	<0.5		🟩				
BN13-01	2595946	88.50	90.00	1.50	63.7	25.6	0.9		🟩				
BN13-01	2595947	90.00	91.50	1.50	67.6	27.2	<0.5		🟩				
BN13-01	2595948	91.50	93.00	1.50	71.5	30.1	3.2		🟩				
BN13-01	2595949	93.00	94.50	1.50	71.0	28.9	1.5		🟩				
BN13-01	2595951	94.50	96.00	1.50	74.4	28.9	<0.5		🟩				
BN13-01	2595952	96.00	97.50	1.50	68.9	28.2	<0.5		🟩				
BN13-01	2595953	97.50	99.00	1.50	71.7	30.1	<0.5		🟩				
BN13-01	2595954	99.00	100.50	1.50	77.3	31.1	<0.5		🟩				
BN13-01	2595955	100.50	102.00	1.50	69.1	29.4	3.2		🟩				
BN13-01	2595956	102.00	103.50	1.50	49.6	24.4	<0.5		🟩				
BN13-01	2595957	103.50	105.00	1.50	144.3	14.2	<0.5		⬜				
BN13-01	2595958	105.00	106.50	1.50	61.6	27.0	<0.5		🟩				
BN13-01	2595959	106.50	108.00	1.50	73.9	28.8	<0.5		🟩				
BN13-01	2595960	108.00	109.50	1.50	71.4	28.2	<0.5		🟩				
BN13-01	2595961	109.50	111.00	1.50	73.3	27.9	1.0		🟩				
BN13-01	2595962	111.00	112.50	1.50	79.8	30.6	1.4		🟩				

Hole	Sample #	From (m)	To (m)	Int (m)	Ni	Co	Au (ppb)	%Ni (Am-Cit)	Geo	%Ni	Co (ppm)	Au (g/t)	Int (m)
BN13-01	2595963	112.50	114.00	1.50	74.3	29.8	<0.5		🟩				
BN13-01	2595964	114.00	115.50	1.50	79.3	30.4	<0.5		🟩				
BN13-01	2595965	115.50	117.00	1.50	52.2	13.8	<0.5		▨				
BN13-01	2595966	117.00	119.00	2.00	62.9	12.6	<0.5		▨				
BN13-01	2595967	119.00	121.50	2.50	94.8	12.6	<0.5		▨				
BN13-01	2595968	121.50	124.00	2.50	63.6	10.7	2.3		▨				
BN13-01	2595969	124.00	126.00	2.00	37.4	9.0	<0.5		▨				
BN13-01	2595970	126.00	128.00	2.00	57.2	9.1	<0.5		▨				
BN13-01	2595971	128.00	130.00	2.00	44.9	9.3	<0.5		▨				
BN13-01	2595972	130.00	132.00	2.00	52.8	11.4	<0.5		▨				
BN13-01	2595973	132.00	134.00	2.00	81.5	13.1	1.8		▨				
BN13-01	2595974	134.00	136.00	2.00	52.8	20.0	<0.5		▨				
BN13-01	2595976	136.00	138.00	2.00	92.9	11.6	1.1		▨				
BN13-01	2595977	138.00	140.30	2.30	96.7	12.2	1.5		▨				
BN13-01	2595978	140.30	142.03	1.73	2.0	0.4	<0.5		🟩				
BN13-01	2595979	142.03	144.00	1.97	141.8	14.1	0.6		▨				
BN13-01	2595980	144.00	146.00	2.00	85.7	12.0	1.7		▨				
BN13-01	2595981	146.00	148.00	2.00	31.2	9.3	1.4		▨				
BN13-02	2595982	4.00	7.00	3.00	1457.4	70.4	<0.5	0.02	■				
BN13-02	2595983	7.00	10.00	3.00	2081.6	89.8	<0.5	0.02	■				
BN13-02	2595984	10.00	13.00	3.00	2124.3	89.5	<0.5	0.03	■				
BN13-02	2595985	13.00	14.50	1.50	1729.5	87.4	0.7	0.09	■				
BN13-02	2595986	14.50	16.00	1.50	1849.2	84.3	1.5	0.02	■				
BN13-02	2595987	16.00	19.00	3.00	1350.0	66.1	<0.5	0.01	■	**0.176**	**80.3**	**0.00**	**15.00**
BN13-02	2595988	19.00	20.50	1.50	75.4	33.6	<0.5		▨				
BN13-02	2595989	20.50	22.00	1.50	56.9	35.1	<0.5		🟩				
BN13-02	2595990	22.00	24.00	2.00	42.1	21.2	<0.5		🟩				
BN13-02	2595991	24.00	25.50	1.50	47.8	30.3	<0.5		🟩				
BN13-02	2595992	25.50	27.00	1.50	55.4	26.1	<0.5		🟩				
BN13-02	2595993	27.00	28.50	1.50	75.8	25.6	<0.5		🟩				
BN13-02	2595994	28.50	30.00	1.50	82.0	25.0	<0.5		🟩				
BN13-02	2595995	30.00	31.50	1.50	66.1	25.0	<0.5		🟩				
BN13-02	2595996	31.50	33.00	1.50	35.9	32.9	4.8		🟩				
BN13-02	2595997	33.00	34.50	1.50	39.8	37.5	<0.5		🟩				
BN13-02	2595998	34.50	36.00	1.50	80.5	31.4	<0.5		🟩				
BN13-02	2595999	36.00	37.50	1.50	77.9	30.3	<0.5		🟩				
BN13-02	2596001	37.50	39.00	1.50	36.6	24.2	<0.5		🟩				
BN13-02	2596002	39.00	40.50	1.50	9.7	24.5	<0.5		🟩				
BN13-02	2596003	40.50	42.00	1.50	35.4	15.6	5.3		🟩				
BN13-02	2596004	42.00	43.50	1.50	535.9	44.6	1.6		🟩				
BN13-02	2596005	43.50	45.00	1.50	699.4	56.5	1.6		🟩				
BN13-02	2596006	45.00	46.50	1.50	41.2	17.9	<0.5		🟩				
BN13-02	2596007	46.50	48.00	1.50	175.6	42.0	591.0		🟩	**0.018**	**42.0**	**0.59**	**1.50**
BN13-02	2596008	48.00	49.50	1.50	274.5	46.9	<0.5		🟩				
BN13-02	2596009	49.50	51.00	1.50	131.5	35.9	<0.5		🟩				
BN13-02	2596010	51.00	52.50	1.50	218.9	34.5	<0.5		🟩				
BN13-02	2596011	52.50	54.00	1.50	1226.6	75.2	6.1		🟩				
BN13-02	2596012	54.00	55.50	1.50	795.9	50.7	7.1		🟩				
BN13-02	2596013	55.50	57.20	1.70	329.0	43.7	9.2		🟩				
BN13-02	2596014	57.20	60.00	2.80	56.9	31.2	573.0		🟩	**0.006**	**31.2**	**0.57**	**2.80**
BN13-02	2596015	60.00	63.00	3.00	163.1	15.4	2.1		▨				
BN13-02	2596016	63.00	66.00	3.00	95.7	11.9	<0.5		▨				
BN13-02	2596017	66.00	68.80	2.80	33.8	9.2	2.1		▨				
BN13-02	2596018	68.80	70.20	1.40	174.4	14.2	10.7		▨				
BN13-02	2596019	70.20	72.00	1.80	108.5	12.9	5.3		▨				
BN13-02	2596020	72.00	74.00	2.00	91.7	11.7	2.5		▨				
BN13-02	2596021	74.00	76.00	2.00	59.6	9.4	0.6		▨				
BN13-02	2596022	76.00	78.00	2.00	110.9	14.3	1.2		▨				
BN13-02	2596023	78.00	80.00	2.00	99.9	11.9	0.8		▨				
BN13-02	2596024	80.00	82.00	2.00	99.0	13.6	<0.5		▨				
BN13-02	2596026	82.00	84.00	2.00	80.2	12.4	<0.5		▨				
BN13-02	2596027	84.00	85.50	1.50	105.6	12.9	3.6		▨				
BN13-02	2596028	85.50	87.00	1.50	109.7	15.2	7.8		▨				
BN13-02	2596029	87.00	89.00	2.00	86.3	16.0	0.6		▨				
BN13-02	2596030	89.00	91.00	2.00	79.8	12.9	4.9		▨				

Hole	Sample #	From (m)	To (m)	Int (m)	Ni	Co	Au (ppb)	%Ni (Am-Cit)	Geo	%Ni	Co (ppm)	Au (g/t)	Int (m)
BN13-02	2596031	91.00	93.00	2.00	70.6	12.4	1.5						
BN13-02	2596032	93.00	95.00	2.00	156.1	16.4	1.0						
BN13-02	2596033	95.00	97.00	2.00	131.1	14.1	<0.5						
BN13-02	2596034	97.00	99.00	2.00	81.3	11.0	<0.5						
BN13-02	2596035	99.00	101.00	2.00	138.8	16.2	<0.5						
BN13-02	2596036	101.00	103.00	2.00	80.9	12.6	<0.5						
BN13-02	2596037	103.00	105.00	2.00	71.0	14.1	<0.5						
BN13-02	2596038	105.00	107.00	2.00	49.5	8.0	<0.5						
BN13-02	2596039	107.00	109.00	2.00	152.8	14.4	1.8						
BN13-02	2596040	109.00	111.00	2.00	9.4	1.1	1.4						
BN13-02	2596041	111.00	113.00	2.00	79.7	25.6	1.0						
BN13-02	2596042	113.00	115.00	2.00	81.5	33.0	2.6						
BN13-02	2596043	115.00	120.00	5.00	118.2	14.0	<0.5						
BN13-02	2596044	120.00	121.50	1.50	39.0	26.6	<0.5						
BN13-02	2596045	121.50	123.00	1.50	33.0	26.1	2.3						
BN13-02	2596046	123.00	124.50	1.50	38.1	27.0	2.8						
BN13-02	2596047	124.50	126.00	1.50	40.1	30.3	0.8						
BN13-02	2596048	126.00	127.50	1.50	30.1	25.4	0.8						
BN13-02	2596049	127.50	129.00	1.50	26.5	22.6	<0.5						
BN13-02	2596051	129.00	130.50	1.50	28.4	25.1	0.8						
BN13-02	2596052	130.50	132.00	1.50	27.2	24.6	0.8						
BN13-02	2596053	132.00	133.50	1.50	29.0	26.4	2.8						
BN13-02	2596054	133.50	135.00	1.50	28.7	26.7	2.4						
BN13-02	2596055	135.00	136.50	1.50	30.1	26.0	3.1						
BN13-02	2596056	136.50	138.00	1.50	30.1	26.0	2.9						
BN13-02	2596057	138.00	139.50	1.50	41.4	20.0	3.1						
BN13-02	2596058	139.50	141.00	1.50	26.9	23.5	1.6						
BN13-02	2596059	141.00	142.50	1.50	104.6	15.0	0.5						
BN13-02	2596060	142.50	144.00	1.50	95.5	14.5	<0.5						
BN13-02	2596061	144.00	147.00	3.00	85.8	13.6	<0.5						
BN13-02	2596062	147.00	150.00	3.00	96.0	14.9	3.0						
BN13-02	2596063	150.00	153.00	3.00	109.2	12.7	<0.5						
BN13-02	2596064	153.00	156.00	3.00	104.9	13.7	3.6						
BN13-02	2596065	156.00	158.00	2.00	137.3	18.7	0.6						
BN13-02	2596066	158.00	160.00	2.00	148.1	20.3	0.6						
BN13-02	2596067	160.00	162.00	2.00	60.9	14.4	<0.5						
BN13-02	2596068	162.00	164.00	2.00	72.0	11.4	0.8						
BN13-02	2596069	164.00	166.00	2.00	120.8	14.3	<0.5						
BN13-02	2596070	166.00	168.00	2.00	91.0	12.6	<0.5						
BN13-02	2596071	168.00	171.00	3.00	84.1	15.7	<0.5						
BN13-02	2596072	171.00	174.00	3.00	68.8	14.2	<0.5						
BN13-03	2596073	16.40	19.00	2.60	2302.4	106.1	<0.5	0.09					
BN13-03	2596074	19.00	21.00	2.00	3066.2	124.1	2.9	0.11					
BN13-03	2596076	21.00	24.00	3.00	1982.9	74.8	<0.5	0.1					
BN13-03	2596077	24.00	27.00	3.00	1980.4	91.0	<0.5	0.12					
BN13-03	2596078	27.00	30.00	3.00	2341.5	110.4	1.0	0.15					
BN13-03	2596079	30.00	33.00	3.00	1895.7	121.1	<0.5	0.05					
BN13-03	2596080	33.00	36.00	3.00	2188.0	120.7	<0.5	0.06					
BN13-03	2596081	36.00	39.00	3.00	2170.9	122.7	<0.5	0.05					
BN13-03	2596082	39.00	42.00	3.00	2746.5	124.9	<0.5	0.07					
BN13-03	2596083	42.00	45.00	3.00	2642.2	126.0	<0.5	0.06					
BN13-03	2596084	45.00	48.00	3.00	2802.3	106.5	<0.5	0.07					
BN13-03	2596085	48.00	51.00	3.00	3775.5	132.8	<0.5	0.09					
BN13-03	2596086	51.00	54.00	3.00	4020.5	130.2	2.5	0.09					
BN13-03	2596087	54.00	57.00	3.00	3589.3	124.3	0.8	0.09					
BN13-03	2596088	57.00	60.00	3.00	4125.3	124.6	<0.5	0.12					
BN13-03	2596089	60.00	63.00	3.00	3672.5	125.1	<0.5	0.13					
BN13-03	2596090	63.00	66.00	3.00	3497.3	123.1	<0.5	0.16					
BN13-03	2596091	66.00	69.00	3.00	3474.3	131.7	<0.5	0.19					
BN13-03	2596092	69.00	72.00	3.00	3415.5	122.8	<0.5	0.21					
BN13-03	2596093	72.00	75.00	3.00	4151.6	126.3	<0.5	0.24					
BN13-03	2596094	75.00	78.00	3.00	4125.1	132.9	<0.5	0.26		**0.378**	**127.4**	**0.00**	**30.00**
BN13-03	2596095	78.00	81.00	3.00	3435.5	125.7	<0.5	0.22					
BN13-03	2596096	81.00	84.00	3.00	3516.5	131.7	0.7	0.23					
BN13-03	2596097	84.00	87.00	3.00	2896.1	127.8	14.5	0.18		**0.308**	**120.3**	**0.00**	**70.60**

Hole	Sample #	From (m)	To (m)	Int (m)	Ni	Co	Au (ppb)	%Ni (Am-Cit)	Geo	%Ni	Co (ppm)	Au (g/t)	Int (m)
BN13-03	2596098	87.00	90.00	3.00	328.0	46.7	6.4						
BN13-03	2596099	90.00	93.00	3.00	522.5	55.9	20.1						
BN13-03	2596101	93.00	96.00	3.00	228.8	35.9	3.8						
BN13-03	2596102	96.00	99.00	3.00	169.6	30.4	2.3						
BN13-03	2596103	99.00	102.00	3.00	182.5	29.9	1.9			**0.029**	**39.760**	**0.007**	15.00

BEN Property - 2013 Drilling

Hole: BN13-01

							Alteration Type		Veins			Alteration Minerals																		Weathering /Alt		
From (m)	To (m)	Interval (m)	Rock Type	Color Code	Texture	Notes/Description	Alt Type 1	Alt Type 2	Primary Veins	Other Veins	Vein Density	Graphite	Magnesite	Magnetite	Tourmaline	Silica/Quartz	Sericite	Chlorite	Epidote	Carbonate	Hematite	Fuchsite	Clay Alteration	Mariposite	Cpy (%)	Bn (%)	Py (%)	Po (%)	Silver metallics	Fe-Ox	Limonite	% CuOx
0.00	13.00	13.00	OB	🟨	f,fol	Rubble, subcrop, clay/till.																										
13.00	17.00	4.00	Vol	🟩	bx, vf, fol, claS, myl	Fine grained highly foliated bx. Pale green-tan highly altered country rock, fine dark grey-black matrix filling. Occasional high FeOx altered/sil clastic (to 10cm) @ 16m. Rare mylonitic texture with qtz grains. Foliation 60°-90°CA. Minor kaolinite.	FeOx	Qtz	qz	cb	15					2				1										3		
17.00	18.46	1.46	Sh	⬜	bx,vf, claS	v fine black silicified mudstone. Contains clasts of pale green (sil) volcanics and grades from volc at top and bottom. 10% qtz bx/fracture filling. 18.0 - 3cm gouge.			qz		30					3				1												
18.46	23.63	5.17	Vol	🟩	f, fol, bx	Sheared and broken (welded) pale green grey (bleached) volcanics. Dark grey-black silicified fracture filling. Foliation 30°-75°CA. Late stage white cb veining (to 1cm) x-cutting textures. 19.76 - 22c gouge seam ~ 90°CA.	Qz		qz	cb	4					1				2	Tr		1				Tr (0,10)			1		
23.63	26.00	2.37	Sh	⬜	bx, vf, fol, claS	v fine black silicified mudstone. Contains slump blocks; x-bedded. Narrow (to 3mm) qtz and cb veinlets 10° to 90°CA. Contains clasts of pale green to tan (sil) volcanics to 10cm. 24.05 - 6cm gouge; 25.08 - 2cm gouge; 25.6 - 13 cm pale green volc (sil+mar)			qtz	cb	2					1				1	1			1			0.1 (3,7)			Tr		
26.00	26.85	0.85	Vol	🟩	f, fol	V fine pale green-grey bleached volcanics. Highly foliated (to chevron) 45°-90°CA. Dark grey qtz+fragmentary matrix fracture filling.	Clay		qtz	cb	20					2	1			1			1				Tr					
26.85	30.38	3.53	Sh	⬜	vf, fol	Dark black-grey sil mudstone. Intense white quartz veining and clots (15%) to 2cm 10°-90°CA. Tr vf diss sulphides.			qtz		10					3											Tr					
30.38	33.30	2.92	Vol	🟩	f, fol, bx	Pale green-grey bleached vol. Dark black fracture filling. Mariposite and magnesite alt and veining.	Fu									1				Tr		1	1	3								
33.30	36.00	2.70	Sh	⬜	vf	Dark black graphitic mudstone.			Qtz		6	2				1								1								
36.00	41.60	5.60	Vol	🟩	f, fol	Pale grey-green volcanics. Mainly fine black fracture filling x-cut by qtz and cb veinlets to 1cm.	qz		qz	cb	18					1				1	Tr	Tr	2	Tr			Tr					

							Alteration Type		Veins			Alteration Minerals																		Weathering /Alt		
From (m)	To (m)	Interval (m)	Rock Type	Color Code	Texture	Notes/Description	Alt Type 1	Alt Type 2	Primary Veins	Other Veins	Vein Density	Graphite	Magnesite	Magnetite	Tourmaline	Silica/Quartz	Sericite	Chlorite	Epidote	Carbonate	Hematite	Fuchsite	Clay Alteration	Mariposite	Cpy (%)	Bn (%)	Py (%)	Po (%)	Silver metallics	Fe-Ox	Limonite	% CuOx
41.60	46.17	4.57	Vol	🟩	f, por, bx	Pale grey hornblende-feldspar porphyry. Hornblende to 0.5cm long elongated with shearing, feldspar <1mm. Bx zones infilled with black matrix. 45.4 - 30cm zone of high alteration (hnbl alt to chlorite) with 10cm gouge at base.	Cl		qz	cb	11					1				1			1				Tr					
46.17	48.35	2.18	Sh	⬜	f, fol claS	Dark black mudstones with volc clasts to 10cm. 10% qv. 46.2 - 12cm gouge; 47.8 - 20cm gouge. Volc clasts to 8cm; 48 - 30 cm zone highly foliated with 10% vf sulphides.	Qz		qz	cb	7					2	1			1							1 (7,3)					
48.35	54.40	6.05	vol	🟩	f, fol	Pale green-grey-tan volcanics. Light grey to white quartz (50%) to 0.5cm in veins, clots and laths.	qz		qz	cb	50		1			4				1		1	1	Tr			1 (8,2)					
54.40	71.00	16.60	Sh	⬜	vf, fol	Dark black graphitic mudstone. 61 to 31.3 - bleached and sil volc bx; 66.35 to 66.65 - pale grey bleache and sil fol volc; 68 - 12cm cb stockwork	cb		cb		5									2							Tr					
71.00	72.00	1.00	Vol	🟩	f, bx	Pale grey highly silicified volcanics. Minor vf black fracture filling. Late stage light grey qv. Dark and light grey silicification, fracture filling and breccia welding.	qz		qz		15					4				Tr			1				2 (7,3)					
72.00	85.50	13.50	Sh	⬜	vf	Graphitic black mudstone. Abundant cb veining and clotting to 2cm. Fine euhedral sulphides. Core fairly broken, slightly foliated.	cb		cb		6	3								3							<0.2 (0,10)					
85.50	87.09	1.59	Vol	🟩	f-m	Highly silicified pale grey-green volcanics. Sugary quartz texture. Late stage white to light grey quartz veining 20°-70°CA	qz		qz		16					3				Tr		1	1	2			Tr					
87.09	87.73	0.64	Sh	⬜	vf	Dark black mudstones. Carbonate splotches and veinlets, often associated with vf sulphides along bedding planes/foliation?			cb		7	1								2							3 (7,3)					
87.73	91.94	4.21	Vol	🟩	f-m	Pale grey bleached/silicified; 90.23 to 90.75- intense silicification and veining (stockwork).	qz		qz	cb	6					3		1		1			3	Tr			Tr					
91.94	100.00	8.06	Int	🟩	m	As above grey green; coarser equivalent. Pyroxene (30%) - horneblende (5%) - feldspar (60%). Moderate clay alteration (light hornfelsing); pyroxenes altered to clay. Occasional narrow qv. Cb veining/clot @ 94.36-1cm, 96.8-4cm, 99.3-1cm, 99.7-cb/qv 1cm.	Clay		cb	qz	4					1				2			2				<1 (1,9)					

							Alteration Type		Veins			Alteration Minerals																		Weathering /Alt		
From (m)	To (m)	Interval (m)	Rock Type	Color Code	Texture	Notes/Description	Alt Type 1	Alt Type 2	Primary Veins	Other Veins	Vein Density	Graphite	Magnesite	Magnetite	Tourmaline	Silica/Quartz	Sericite	Chlorite	Epidote	Carbonate	Hematite	Fuchsite	Clay Alteration	Mariposite	Cpy (%)	Bn (%)	Py (%)	Po (%)	Silver metallics	Fe-Ox	Limonite	% CuOx
100.00	102.00	2.00	Vol	🟩	f-m	As above pale grey; intense silicification. Black matrix filling in bx x-cut by qv. 101.8 - 20cm gouge (fault).	clay		qz		3					1				1			2				Tr					
102.00	103.70	1.70	Vol	🟩	f-m, bx	As above pale grey; intense silicification. Black matrix (vfg sulphides?) filling in bx x-cut by qv. 101.8 - 20cm gouge (fault).	qz				16					4				Tr		1	1	1			Tr					
103.70	105.00	1.30	Sh	▨	vf	Black graphitic mudstone. Vfg sulphides. Gouge top 8cm. Qv 20°-80°CA.			qz		8	2				2				Tr							<0.5 (0,10)					
105.00	115.76	10.76	Vol	🟩	f-m	Fine to med grained volcanics as above. Pervasive clay alt (50%) of mainly pyroxenes and lessor feldspars. Minor chlorite in veinlets. Qv @ 105.04-0.7cm, 106.18-7cm, 106.8-1cm, 107.4-2cm, 108-1cm, 109-2.5cm, 112.3-2cm, additional smaller veinlets; (avg 45°) dip 30°-90°. rare vf cb veinlets.	clay		qz		4					1	Tr	1		Tr			3				Tr					
115.76	135.52	19.76	Sh	▨	vf	Dark black graphitic mudstone (contact @ 45° to volc). Bedding resembling turbidite. X-cutting veins (mainly cb) to 2cm. 135.4 - 12cm gouge.			cb	qv	9	3				1				2							Tr					
135.52	135.83	0.31	Vol	🟩	f, fol	Pale grey-green silicified volcanics.	qz		qz		14									Tr			1	2								
135.83	140.30	4.47	Sh	▨	vf	Dark black graphitic mudstone. Areas of intense x-cutting cb veinlets to 1cm avg 45°CA. Minor qv			cb	qv	20	2				Tr				3							Tr					
140.30	142.03	1.73	Vol	🟩	f, por	Olive green to pale grey feldspar porphyry. Groundmass completely altered to clay/silica/fuchsite. Trace arsenopyrite? 141 to 142.03 - fracture 10°CA; highly silicified and clays (illite).	clay, qz		clay							3						3	4						Tr			
142.03	148.00 eoh	5.97	Sh	▨	vf	Dark black graphitic mudstone. Extremely broken with mainly gouge (Shear Zone). X-cutting qtz-cb veining In competent intervals.			qz	cb	5	2				2				1							Tr					

BEN Property - 2013 Drilling

Hole: BN13-02

							Alteration Type		Veins			Alteration Minerals																		Weathering /Alt		
From (m)	To (m)	Interval (m)	Rock Type	Color Code	Texture	Notes/Description	Alt Type 1	Alt Type 2	Primary Veins	Other Veins	Vein Density	Graphite	Magnesite	Magnetite	Tourmaline	Silica/Quartz	Sericite	Chlorite	Epidote	Carbonate	Hematite	Fuchsite	Clay Alteration	Mariposite	Cpy (%)	Bn (%)	Py (%)	Po (%)	Silver metallics	Fe-Ox	Limonite	% CuOx
0.00	4.00	4.00	OB	🟨		Casing																										
4.00	6.80	2.80	Fau	🟥	f, bx, fol	Fault Zone; mainly gouge, 9cm highly silicified rock (original textures obliterated). Qtz stockwork.	Qz		qz		5					3							3									
6.80	13.50	6.70	Sh	⬜	f, fol	Dark black, highly foliated brittle shale. Possible origin from ultramafic. Conchoidial fracturing (graphitic planes). Clay-anhydrite-carbonate-chlorite alt in veining 60°-90³CA. Gouge seams at 7.8-30cm, 10.1-10cm, 12.8-10cm, 13.3-20cm, 14-10cm	Clay		Anhydrite		6					1		1		1	1		1							1		
13.50	20.00	6.50	Sh	⬜	f, fol, clal	As above. Dark black to olive green-tan. Highly foliated, intense fine anhyrite veining. 16.2-20cm gouge. Narrow intervals containing oriented highly clay altered brecciated clastic fragments to 2cm. 20-2cm cb vein.			Anhydrite	qz,cb	11					1	1	2	1	1	1		2							3		
20.00	43.00	23.00	Sh/Vol	🟩	f, fol, clal, bx	Dark grey to pale and olive green. Interbedded mudstone-volcanic ash containing large volcanic fragments (60% volcanics). Highly foliated with breccia zones. Mudstone exhibits small and large slump block characteristics and x-bedding. High degree of alteration and siliification in both volcanics and mudstones. 23.8-20cm sil bx zone, 31.25-1cm cb vein 15°CA, 32-30cm zone of bx with cb-kspar-qtz veining (high clay alt), 33-1cm cb vein 5°CA, 34.3-1cm cb-clay vein 80°CA, 35.2-2x1cm cb-clay vein 80°CA rimmed by black fg material, 36.5-1cm cb 15°CA.	Clay		Cb	qz	4					2	1	2	1	2	1		3				Tr			2		
43.00	60.00	17.00	Sh/Vol	🟩	f, fol, clal, bx	As above. Dark black mudstones interbedded with highly altered pale green-grey-tan brecciated volcanic clasts and fragments (30% volcanics). Highly clay altered (mainly In volcanics with clay disseminations in mudstone. 45.1-3cm vuggy qtz vein 45°CA + limonite, 47 to 51m- mod silicified; 47.5-1cm qv 75°CA48.65-2cm qtz-clay vein 10°CA, 48.9-20cm zone of multiple qv to 3cm, 49.6-30cm intense sil + qv, 50.35 50cm bx+ intense sil + qv, 54.15-30cm qz-bx, 54.8-10cm qtz-mariposite-sil, 56.5 - 20cm gouge followed by 50 cm pyritic mudstone (locally to 5%), 57.2to 60- fault: 60% gouge, brecciated, highly silicified and clay altered, 3% sulpides.	QZ,clay		qz		7					3	1			Tr				1			Tr (2,8)					

							Alteration Type		Veins			Alteration Minerals																		Weathering /Alt		
From (m)	To (m)	Interval (m)	Rock Type	Color Code	Texture	Notes/Description	Alt Type 1	Alt Type 2	Primary Veins	Other Veins	Vein Density	Graphite	Magnesite	Magnetite	Tourmaline	Silica/Quartz	Sericite	Chlorite	Epidote	Carbonate	Hematite	Fuchsite	Clay Alteration	Mariposite	Cpy (%)	Bn (%)	Py (%)	Po (%)	Silver metallics	Fe-Ox	Limonite	% CuOx
60.00	84.00	24.00	Sh	⬜	vf, fol	Dark black mudstone (slightly graphitic). Bedding highly folded. Foliation changes from 0-90°CA. 60.5 to 66.2-gouge; 68 to 68.8-gouge; 68.8 to 70.2- highly silicified-clay altered, intense qtz veining (45°CA) (3% sulphides). Mainly cb veining and clotting (avg 60°CA) with qz veining in silicified zones. 82-83: fault gouge			cb	qz	7	1				1				2				Tr			<1 (5,5)					
84.00	87.00	3.00	Sh	⬜	vf bx	As above, pale grey, highly silicified. Qtz stockwork	qz		qz		16					3							1	Tr			5 (2,8)					
87.00	108.75	21.75	Sh	⬜	vf, fol	Dark black mudstone (slightly graphitic). Slightly foliated avg 45°. Mainly qz veining at top decreasing with depth to 90m (sulphides ~1% decreasing to 90m) then increasing from 98.5m to end, cb veining increasing with depth. Local py clots to 10% @ 98.5 + 102m. Bedding 40° to 80°. fault and gouge 100-101, 102.3, 103.5, 105.5.	qz		cb		8	1				1				1							1 (1,9)					
108.75	110.85	2.10	Dk	🟧	f	Pale olive green highly silicified zone (dyke?). Mainly quartz with elongated tourmaline? xtles (3%). Vf qv.	qz				5				1	4			1								<0.5% (0,10)		Tr			
110.85	112.50	1.65	Sh	⬜	vf, goug	Fault Zone; mudstone gouge, 9cm highly silicified rock (original textures obliterated). Qtz stockwork.																										
112.50	115.20	2.70	Vol	🟩	f,bx	Pale green volcanics. Strongly brecciated. Highly clay altered and silicified. 114.2 to 115.2 - fault gouge.	qz, clay		qz		10					3							3									
115.20	120.10	4.90	Sh	⬜	vf, fol	Black mudstone. 115.35 to 120.1 - fault zone: completely broken and gouge.			cb		3	1								2												
120.10	141.00	20.90	Vol	🟩	m	Volcanic tuff. Clay alteration in mineral margins and fractures. Silicified. Cb veinlets to 2cm avg 45° (20-90°) @ 121.15, 122.34, 123.15, 125.4, 126.8, 127.8, 129, 131, 133.1, 135.4, 137.8, 138.15, 138.6, 139, 140.6. 137.2 to 141 - highly silicified zone; 3-4cm qv and stockwork @ 137.75, 140.15, 140.65.	Clay, qz		cb	qz	7					2		1	1	3			3	Tr			Tr					
141.00	150.00	9.00	Sh	⬜	vf	Dark black mudstone. Highly silicified from 141 to 143.6m; including pale grey-white qv and stockwork extending to 150m, cb veining to end. Py clots to 148m. 146.5 fault.			cb	qv	9					1				1							1 (1,9)					

							Alteration Type		Veins			Alteration Minerals																		Weathering /Alt		
From (m)	To (m)	Interval (m)	Rock Type	Color Code	Texture	Notes/Description	Alt Type 1	Alt Type 2	Primary Veins	Other Veins	Vein Density	Graphite	Magnesite	Magnetite	Tourmaline	Silica/Quartz	Sericite	Chlorite	Epidote	Carbonate	Hematite	Fuchsite	Clay Alteration	Mariposite	Cpy (%)	Bn (%)	Py (%)	Po (%)	Silver metallics	Fe-Ox	Limonite	% CuOx
150.00	174.00 eoh	24.00	Sh	▨	vf, fol	Dark black mudstone. Highly faulted to gouge 150-157, 158.5, 161-162, 164, 166, 167-173. Narrow silicified zones @ 156 + 170, qv halo ~ 1m around silicified zones.			cb	qz	2	2				1				1							Tr					

BEN Property - 2013 Drilling

Hole: BN13-03

							Alteration Type		Veins			Alteration Minerals																			Weathering /Alt		
From (m)	To (m)	Interval (m)	Rock Type	Color Code	Texture	Notes/Description	Alt Type 1	Alt Type 2	Primary Veins	Other Veins	Vein Density	Graphite	Magnesite	Magnetite	Tourmaline	Silica/Quartz	Sericite	Chlorite	Serpentinite	Epidote	Carbonate	Hematite	Fuchsite	Clay Alteration	Mariposite	Cpy (%)	Bn (%)	Py (%)	Po (%)	Silver metallics	Fe-Ox	Limonite	% CuOx
0.00	16.50	16.50	OB	🟨		Overburden, till + boulders.																											
16.50	22.00	5.50	Fau	🟩	f, fol, bx	Shear Zone. Pale to olive green volcanic tuff. Highly sheared, brecciated and highly altered. Clay-serpentinite-magnetite veining. Gouge from 16.5 to 19, 19.4 to 20, 21.2 to 22.	Clay		Mg,serp, chl, clay		50			2				3	3	Tr	Tr			2				Tr		0.1 (0,10)	Tr		
22.00	24.00	2.00	UM	🟩	f,bx	Silicifed zone 22 to 24 including qz stockwork.	Qz		qz, serp		24			1				1	2														
24.00	55.55	31.55	Fau	🟩	f, fol, bx	Shear Zone. Pale to olive green volcanic tuff/flow. Highly sheared, brecciated and highly altered. Clay-serpentinite-magnetite veining. Silicifed zone 22 to 24 including qz stockwork. Gouge from 24 to 27, 28.2-20cm, 32.6 - 40cm, 34.45, 5cm, 43-15cm, 48.3-40cm. foliation 30°-90°CA; avg 45°. Very fine-grained sulphides disseminated.	Clay		Mg,serp, chl, clay		50			2		1		3	3	Tr	Tr			1				Tr		0.3 (1,9)	Tr		
55.55	87.00	31.45	UM	🟩	f, fol	Dark green ultramafic flow. less sheared. Strong magnetite veining, serpentinite fracture filling. Early stage magnetite x-cut by serpentinite fracture filling. Foliation avg 45°. Strongly foliated at 63 to 64.5, 77.6 to 78.5, 81.6 to 84.5, 86.8 to 87. Fault at 87. Very fine-grained sulphides disseminated.	Clay		Mg, serp		10			3				3	2					1				Tr		0.5 (2,8)			
87.00	102.00 eoh	15.00	Vol	🟩	m, fol, clal?	Pale grey-green highly (illite) clay altered. Highly fractured with strong pale grey pervasive alteration as well as dark coloured clay minerals to 1mm. Minor serpenite. Local clasts?/lower alteration zones suggest volcanic flow origin. Avg fracture orientation 50°CA.	Clay		clay		6							2	1					4				<0.1 (0,10)					

2013 Drill Results - Ben Property

⬜ Mudstone
🟩 Volcanics (Silicified)
🟩 Ultramafics
🟩 Volcanics (Clay Alt)
🟨 Dyke

Hole	Sample #	From (m)	To (m)	Int (m)	Geo	Au (ppb)	As (ppm)	Cu	Ni	Co	Cr	Mg	Sr	Sb	S	Pb	Zn	Mo	Cd	Fe	Mn	Ni/S
BN13-01	2595901	7.50	10.50	3.00	🟩	0.7	5.4	41.5	879.3	62.3	574.0	5.3	140.0	8.4	<0.05	1.1	43.0	0.8	<0.1	4.8	978.0	3.5
BN13-01	2595902	10.50	13.50	3.00	🟩	15.6	55.0	67.7	424.7	44.5	494.0	4.7	138.0	139.7	<0.05	0.8	61.0	1.5	0.1	6.4	1252.0	1.7
BN13-01	2595903	13.50	15.00	1.50	🟩	1.6	2.7	61.1	321.5	47.3	334.0	5.8	48.0	6.0	<0.05	0.4	64.0	0.4	0.1	6.5	1253.0	1.3
BN13-01	2595904	15.00	16.50	1.50	🟩	<0.5	2.4	64.3	365.8	63.2	429.0	7.9	37.0	3.6	<0.05	<0.1	42.0	0.2	<0.1	5.5	1075.0	1.5
BN13-01	2595905	16.50	18.00	1.50	🟩	1.1	5.2	57.4	323.8	53.8	773.0	6.7	39.0	2.3	<0.05	0.1	46.0	0.1	<0.1	5.6	1004.0	1.3
BN13-01	2595906	18.00	19.50	1.50	⬜	1.2	25.8	39.1	151.0	45.0	199.0	6.3	60.0	5.9	<0.05	0.2	47.0	0.1	<0.1	6.1	1175.0	0.6
BN13-01	2595907	19.50	21.00	1.50	🟩	<0.5	6.9	64.8	184.1	49.6	312.0	6.5	56.0	2.4	0.1	<0.1	40.0	0.5	<0.1	5.4	1086.0	0.7
BN13-01	2595908	21.00	24.00	3.00	🟩	<0.5	4.6	51.1	63.6	37.6	162.0	4.5	54.0	1.9	0.1	0.2	32.0	<0.1	<0.1	4.6	814.0	0.3
BN13-01	2595909	24.00	25.50	1.50	⬜	<0.5	48.9	34.4	870.2	59.6	848.0	8.8	79.0	29.8	<0.05	0.2	30.0	0.4	<0.1	4.0	923.0	3.5
BN13-01	2595910	25.50	27.00	1.50	⬜	15.3	271.8	64.5	458.8	43.4	229.0	8.1	186.0	56.5	0.1	0.9	50.0	0.1	<0.1	4.8	967.0	1.8
BN13-01	2595911	27.00	28.50	1.50	⬜	17.4	181.7	46.1	51.1	13.1	22.0	1.6	73.0	25.8	0.2	3.6	44.0	0.7	<0.1	2.4	377.0	0.0
BN13-01	2595912	28.50	30.00	1.50	⬜	16.5	281.8	55.2	84.0	14.1	17.0	1.1	48.0	46.9	0.6	6.9	59.0	0.7	<0.1	2.5	266.0	0.0
BN13-01	2595913	30.00	31.50	1.50	🟩	20.9	601.2	40.4	527.6	46.3	116.0	6.6	178.0	106.7	0.3	0.9	47.0	0.7	0.1	4.5	997.0	0.2
BN13-01	2595914	31.50	33.00	1.50	🟩	11.4	72.4	57.3	75.9	31.3	25.0	4.2	107.0	32.0	0.3	0.6	49.0	0.2	<0.1	5.4	1086.0	0.0
BN13-01	2595915	33.00	34.50	1.50	⬜	6.5	489.8	49.9	402.4	32.7	92.0	4.7	199.0	100.0	0.4	1.7	37.0	1.1	0.1	3.3	649.0	0.1
BN13-01	2595916	34.50	36.00	1.50	⬜	45.2	650.2	70.1	415.5	51.2	73.0	5.3	335.0	246.8	0.3	1.3	76.0	0.7	0.1	6.2	1176.0	0.1
BN13-01	2595917	36.00	37.50	1.50	🟩	6.6	81.5	106.2	115.8	42.1	40.0	3.0	79.0	80.6	0.1	0.5	116.0	0.4	<0.1	7.9	1314.0	0.1
BN13-01	2595918	37.50	39.00	1.50	🟩	15.5	36.5	77.2	122.4	41.8	97.0	3.6	106.0	71.6	0.1	1.0	91.0	0.3	0.1	7.4	1366.0	0.1
BN13-01	2595919	39.00	40.50	1.50	🟩	6.0	23.5	130.9	118.5	42.0	151.0	3.8	97.0	27.4	0.1	1.2	81.0	0.4	0.1	6.8	1264.0	0.1
BN13-01	2595920	40.50	42.00	1.50	🟩	<0.5	4.2	103.1	110.9	34.1	114.0	3.1	108.0	10.2	0.1	0.7	94.0	0.3	<0.1	6.7	1368.0	0.4
BN13-01	2595921	42.00	43.50	1.50	🟩	0.7	147.5	47.3	159.6	40.4	96.0	3.3	124.0	23.6	0.2	0.9	103.0	1.0	0.2	6.8	1156.0	0.1
BN13-01	2595922	43.50	45.00	1.50	🟩	3.6	214.6	84.3	142.8	42.1	46.0	4.0	215.0	64.3	0.2	0.8	93.0	0.3	<0.1	7.5	1110.0	0.1
BN13-01	2595923	45.00	48.00	1.50	⬜	6.8	139.5	89.0	135.5	36.6	79.0	3.6	133.0	82.5	0.2	0.7	68.0	1.0	0.1	6.2	849.0	0.1
BN13-01	2595924	48.00	50.50	2.50	🟩	33.3	995.7	71.6	630.9	50.9	162.0	7.5	251.0	83.3	0.8	1.7	57.0	0.9	0.2	5.2	890.0	0.1
BN13-01	2595926	50.50	52.00	1.50	🟩	289.0	1211.7	29.7	914.5	56.9	180.0	10.0	541.0	181.1	0.5	3.0	14.0	<0.1	<0.1	3.2	648.0	0.2
BN13-01	2595927	52.00	54.00	2.00	🟩	269.0	782.5	36.9	537.4	43.5	84.0	7.3	554.0	118.5	0.7	3.1	36.0	0.6	0.2	3.6	598.0	0.1
BN13-01	2595928	54.00	56.00	2.00	⬜	1.6	399.0	74.7	315.2	27.0	44.0	3.3	531.0	145.7	2.3	9.9	900.0	35.9	13.3	3.7	524.0	0.0
BN13-01	2595929	56.00	58.00	2.00	⬜	1.7	295.0	75.7	93.2	12.3	11.0	1.4	364.0	81.6	2.1	10.0	715.0	45.8	9.1	3.3	483.0	0.0
BN13-01	2595930	58.00	60.00	2.00	⬜	9.8	735.1	50.4	63.2	9.8	12.0	0.6	437.0	53.0	1.8	12.9	247.0	22.4	2.5	2.3	816.0	0.0
BN13-01	2595931	60.00	62.00	2.00	⬜	17.5	949.9	47.5	37.1	15.0	20.0	1.5	534.0	38.6	1.1	6.5	141.0	11.8	1.3	3.4	804.0	0.0
BN13-01	2595932	62.00	64.00	2.00	⬜	1.6	338.5	74.6	86.4	12.4	11.0	2.1	614.0	61.9	2.1	9.5	694.0	41.4	8.4	3.2	546.0	0.0
BN13-01	2595933	64.00	66.00	2.00	⬜	<0.5	360.1	76.3	86.3	12.3	7.0	1.2	483.0	45.4	2.0	9.1	850.0	35.6	9.1	3.1	461.0	0.0
BN13-01	2595934	66.00	68.00	2.00	⬜	<0.5	91.5	65.2	57.7	14.4	22.0	1.5	507.0	31.1	1.4	7.0	401.0	22.5	4.8	3.3	540.0	0.0
BN13-01	2595935	68.00	70.00	2.00	⬜	<0.5	75.1	91.3	42.8	13.0	13.0	1.3	315.0	39.5	1.1	8.6	184.0	10.2	1.5	3.4	603.0	0.0
BN13-01	2595936	70.00	72.00	2.00	🟩	0.8	79.1	77.2	28.7	8.6	11.0	1.0	218.0	20.8	0.5	10.3	161.0	9.3	1.0	2.7	572.0	0.0
BN13-01	2595937	72.00	74.00	2.00	⬜	<0.5	430.6	71.7	155.2	16.9	29.0	2.0	481.0	36.3	1.7	9.6	713.0	31.3	9.2	3.3	532.0	0.0
BN13-01	2595938	74.00	76.00	2.00	⬜	<0.5	128.2	128.5	109.4	13.4	13.0	1.2	402.0	28.5	1.9	11.3	540.0	24.5	6.2	3.2	471.0	0.0
BN13-01	2595939	76.00	78.00	2.00	⬜	<0.5	60.6	74.7	89.7	14.3	15.0	1.5	491.0	16.1	2.6	11.8	636.0	35.1	6.3	3.9	435.0	0.0
BN13-01	2595940	78.00	80.00	2.00	⬜	<0.5	95.4	107.2	113.8	12.5	10.0	1.2	625.0	27.3	2.1	9.5	1041.0	46.0	11.8	3.1	466.0	0.0
BN13-01	2595941	80.00	82.00	2.00	⬜	<0.5	95.3	77.8	110.4	13.0	11.0	1.7	721.0	27.2	1.9	10.2	829.0	41.2	9.4	3.2	526.0	0.0
BN13-01	2595942	82.00	84.00	2.00	⬜	<0.5	123.5	64.9	72.4	11.4	12.0	1.1	759.0	24.6	1.7	7.0	648.0	34.1	7.6	2.8	519.0	0.0

Hole	Sample #	From (m)	To (m)	Int (m)	Ge	Au (ppb)	As (ppm)	Cu	Ni	Co	Cr	Mg	Sr	Sb	S	Pb	Zn	Mo	Cd	Fe	Mn	Ni/S
BN13-01	2595943	84.00	85.50	1.50	⬜	<0.5	61.3	54.1	59.8	12.6	16.0	1.8	655.0	26.9	1.3	6.2	297.0	17.3	2.9	3.0	608.0	0.0
BN13-01	2595944	85.50	87.00	1.50	🟩	<0.5	104.3	68.3	66.2	25.0	47.0	3.4	694.0	25.1	0.2	4.8	96.0	3.1	0.6	4.5	847.0	0.0
BN13-01	2595945	87.00	88.50	1.50	🟩	<0.5	47.3	76.9	69.8	20.8	68.0	2.5	390.0	18.0	1.2	8.6	262.0	12.8	2.4	4.1	758.0	0.0
BN13-01	2595946	88.50	90.00	1.50	🟩	0.9	10.3	78.1	63.7	25.6	177.0	3.2	239.0	2.0	0.1	6.2	78.0	0.9	0.3	4.8	1004.0	0.3
BN13-01	2595947	90.00	91.50	1.50	🟩	<0.5	45.3	91.7	67.6	27.2	132.0	3.6	331.0	6.7	0.2	28.8	114.0	1.1	0.4	4.8	1003.0	0.0
BN13-01	2595948	91.50	93.00	1.50	🟩	3.2	12.1	93.2	71.5	30.1	206.0	3.4	119.0	1.5	0.1	7.0	89.0	1.2	0.2	5.1	992.0	0.1
BN13-01	2595949	93.00	94.50	1.50	🟩	1.5	17.7	95.9	71.0	28.9	209.0	3.4	143.0	1.2	0.2	45.3	115.0	1.2	0.5	5.0	1000.0	0.0
BN13-01	2595951	94.50	96.00	1.50	🟩	<0.5	10.7	92.6	74.4	28.9	162.0	3.2	111.0	1.1	<0.05	5.9	69.0	1.0	<0.1	4.8	947.0	0.3
BN13-01	2595952	96.00	97.50	1.50	🟩	<0.5	5.7	85.5	68.9	28.2	186.0	3.5	278.0	1.2	<0.05	6.2	69.0	0.8	<0.1	5.0	1237.0	0.3
BN13-01	2595953	97.50	99.00	1.50	🟩	<0.5	8.7	105.7	71.7	30.1	197.0	3.2	135.0	1.6	0.1	18.8	148.0	1.2	0.4	5.0	1036.0	0.3
BN13-01	2595954	99.00	100.50	1.50	🟩	<0.5	8.3	88.5	77.3	31.1	252.0	3.9	180.0	1.9	0.1	7.1	72.0	1.1	<0.1	5.3	1077.0	0.3
BN13-01	2595955	100.50	102.00	1.50	🟩	3.2	5.1	90.1	69.1	29.4	242.0	3.7	144.0	1.5	0.1	9.2	83.0	1.4	0.2	5.2	1112.0	0.3
BN13-01	2595956	102.00	103.50	1.50	🟩	<0.5	26.1	79.6	49.6	24.4	107.0	3.2	307.0	5.1	0.1	6.0	62.0	1.0	0.1	4.5	967.0	0.2
BN13-01	2595957	103.50	105.00	1.50	⬜	<0.5	180.5	53.9	144.3	14.2	36.0	4.1	447.0	28.0	0.7	7.4	362.0	19.0	4.0	2.6	563.0	0.0
BN13-01	2595958	105.00	106.50	1.50	🟩	<0.5	29.1	88.3	61.6	27.0	175.0	3.7	306.0	4.5	0.1	13.9	100.0	1.2	0.4	4.7	1049.0	0.1
BN13-01	2595959	106.50	108.00	1.50	🟩	<0.5	6.4	85.0	73.9	28.8	207.0	3.6	165.0	1.6	0.1	8.4	71.0	1.1	<0.1	5.1	1047.0	0.3
BN13-01	2595960	108.00	109.50	1.50	🟩	<0.5	10.4	73.3	71.4	28.2	186.0	3.7	185.0	1.2	0.1	5.2	86.0	1.0	0.3	4.9	1022.0	0.3
BN13-01	2595961	109.50	111.00	1.50	🟩	1.0	5.9	75.7	73.3	27.9	205.0	3.7	103.0	0.4	<0.05	5.1	76.0	1.0	0.3	4.8	1002.0	0.3
BN13-01	2595962	111.00	112.50	1.50	🟩	1.4	5.2	86.2	79.8	30.6	250.0	3.9	174.0	0.5	<0.05	6.7	107.0	1.0	0.4	5.1	1100.0	0.3
BN13-01	2595963	112.50	114.00	1.50	🟩	<0.5	2.4	84.2	74.3	29.8	239.0	4.0	145.0	0.4	<0.05	5.0	67.0	0.9	<0.1	5.0	1107.0	0.3
BN13-01	2595964	114.00	115.50	1.50	🟩	<0.5	3.2	85.2	79.3	30.4	231.0	4.0	156.0	0.7	<0.05	4.9	66.0	0.9	<0.1	5.1	1050.0	0.3
BN13-01	2595965	115.50	117.00	1.50	⬜	<0.5	25.1	49.9	52.2	13.8	35.0	1.2	562.0	9.3	1.0	10.2	314.0	11.3	3.2	2.6	561.0	0.0
BN13-01	2595966	117.00	119.00	2.00	⬜	<0.5	38.0	64.5	62.9	12.6	13.0	1.3	508.0	15.8	1.5	8.8	426.0	21.6	4.1	3.1	470.0	0.0
BN13-01	2595967	119.00	121.50	2.50	⬜	<0.5	144.8	69.1	94.8	12.6	9.0	1.1	514.0	27.7	2.0	9.8	465.0	46.5	4.7	3.2	455.0	0.0
BN13-01	2595968	121.50	124.00	2.50	⬜	2.3	71.3	66.6	63.6	10.7	8.0	1.2	787.0	20.7	1.5	9.2	671.0	30.5	7.1	3.1	507.0	0.0
BN13-01	2595969	124.00	126.00	2.00	⬜	<0.5	36.8	41.5	37.4	9.0	7.0	1.6	595.0	14.7	1.2	6.7	369.0	20.6	3.6	2.7	626.0	0.0
BN13-01	2595970	126.00	128.00	2.00	⬜	<0.5	31.6	50.9	57.2	9.1	6.0	2.1	493.0	10.2	1.6	8.9	557.0	34.3	6.0	3.0	710.0	0.0
BN13-01	2595971	128.00	130.00	2.00	⬜	<0.5	22.5	46.8	44.9	9.3	6.0	1.4	464.0	7.3	1.5	7.5	389.0	21.9	4.0	2.9	726.0	0.0
BN13-01	2595972	130.00	132.00	2.00	⬜	<0.5	52.5	57.1	52.8	11.4	10.0	0.7	564.0	11.6	1.4	9.1	545.0	24.9	5.4	2.7	400.0	0.0
BN13-01	2595973	132.00	134.00	2.00	⬜	1.8	55.8	60.1	81.5	13.1	12.0	0.9	617.0	12.8	1.7	9.0	375.0	35.0	3.7	3.0	497.0	0.0
BN13-01	2595974	134.00	136.00	2.00	⬜	<0.5	41.8	48.5	52.8	20.0	45.0	1.4	567.0	4.3	0.8	6.0	111.0	7.4	0.8	3.1	588.0	0.0
BN13-01	2595976	136.00	138.00	2.00	⬜	1.1	177.4	52.0	92.9	11.6	14.0	1.2	480.0	24.6	1.4	8.3	596.0	24.0	7.3	2.6	473.0	0.0
BN13-01	2595977	138.00	140.30	2.30	⬜	1.5	548.4	68.4	96.7	12.2	14.0	1.2	392.0	30.0	2.1	10.5	609.0	42.2	6.6	3.2	547.0	0.0
BN13-01	2595978	140.30	142.03	1.73	🟩	<0.5	5.2	2.7	2.0	0.4	2.0	0.2	217.0	1.2	0.1	19.8	34.0	3.2	<0.1	0.7	155.0	0.0
BN13-01	2595979	142.03	144.00	1.97	⬜	0.6	130.5	61.7	141.8	14.1	23.0	1.9	430.0	11.5	1.8	12.4	426.0	38.2	3.6	3.5	738.0	0.0
BN13-01	2595980	144.00	146.00	2.00	⬜	1.7	66.2	68.3	85.7	12.0	13.0	1.4	309.0	17.3	2.0	9.5	534.0	36.0	5.5	3.5	503.0	0.0
BN13-01	2595981	146.00	148.00	2.00	⬜	1.4	25.4	52.5	31.2	9.3	7.0	0.9	245.0	8.3	0.9	8.6	156.0	9.6	1.0	2.7	548.0	0.0
BN13-02	2595982	4.00	7.00	3.00	⬛	<0.5	5.8	28.5	1457.4	70.4	600.0	14.6	32.0	0.5	<0.05	1.5	39.0	0.5	0.1	4.5	847.0	5.8
BN13-02	2595983	7.00	10.00	3.00	⬛	<0.5	<0.5	7.8	2081.6	89.8	1014.0	21.0	32.0	<0.1	<0.05	0.4	21.0	0.2	<0.1	4.7	653.0	8.3
BN13-02	2595984	10.00	13.00	3.00	⬛	<0.5	<0.5	10.8	2124.3	89.5	913.0	19.5	16.0	<0.1	<0.05	0.3	18.0	<0.1	<0.1	4.4	565.0	8.5
BN13-02	2595985	13.00	14.50	1.50	⬛	0.7	1.0	19.5	1729.5	87.4	938.0	17.2	16.0	<0.1	0.1	0.9	36.0	0.4	<0.1	4.6	829.0	6.9
BN13-02	2595986	14.50	16.00	1.50	⬛	1.5	<0.5	19.3	1849.2	84.3	768.0	16.8	61.0	<0.1	<0.05	0.5	32.0	0.3	<0.1	4.3	751.0	7.4
BN13-02	2595987	16.00	19.00	3.00	⬛	<0.5	0.8	24.6	1350.0	66.1	570.0	8.7	64.0	<0.1	<0.05	0.5	42.0	0.2	0.1	4.6	724.0	5.4
BN13-02	2595988	19.00	20.50	1.50	⬜	<0.5	1.3	105.0	75.4	33.6	70.0	2.8	94.0	0.4	<0.05	0.7	66.0	0.4	0.4	5.9	951.0	0.3

Hole	Sample #	From (m)	To (m)	Int (m)	Ge	Au (ppb)	As (ppm)	Cu	Ni	Co	Cr	Mg	Sr	Sb	S	Pb	Zn	Mo	Cd	Fe	Mn	Ni/S
BN13-02	2595989	20.50	22.00	1.50	🟩	<0.5	<0.5	113.5	56.9	35.1	114.0	2.8	127.0	0.2	<0.05	0.6	54.0	0.2	<0.1	5.7	1077.0	0.2
BN13-02	2595990	22.00	24.00	2.00	🟩	<0.5	1.4	72.1	42.1	21.2	48.0	1.4	55.0	0.6	<0.05	4.7	53.0	0.2	<0.1	3.4	976.0	0.2
BN13-02	2595991	24.00	25.50	1.50	🟩	<0.5	1.0	42.2	47.8	30.3	102.0	3.1	124.0	0.6	<0.05	0.3	47.0	0.2	<0.1	4.6	859.0	0.2
BN13-02	2595992	25.50	27.00	1.50	🟩	<0.5	<0.5	22.2	55.4	26.1	110.0	2.7	61.0	0.9	<0.05	0.4	63.0	0.1	<0.1	5.0	896.0	0.2
BN13-02	2595993	27.00	28.50	1.50	🟩	<0.5	<0.5	60.6	75.8	25.6	154.0	3.1	76.0	1.0	<0.05	0.8	96.0	0.1	0.1	4.7	1269.0	0.3
BN13-02	2595994	28.50	30.00	1.50	🟩	<0.5	0.6	27.4	82.0	25.0	167.0	3.1	58.0	1.1	<0.05	0.5	68.0	0.2	<0.1	4.1	970.0	0.3
BN13-02	2595995	30.00	31.50	1.50	🟩	<0.5	<0.5	23.9	66.1	25.0	115.0	2.7	73.0	1.0	<0.05	0.5	47.0	0.2	0.1	3.8	889.0	0.3
BN13-02	2595996	31.50	33.00	1.50	🟩	4.8	6.4	54.8	35.9	32.9	60.0	2.7	79.0	1.3	0.1	0.3	69.0	0.1	<0.1	6.7	1025.0	0.0
BN13-02	2595997	33.00	34.50	1.50	🟩	<0.5	0.7	71.5	39.8	37.5	86.0	2.8	46.0	1.5	0.3	0.4	62.0	<0.1	<0.1	7.2	753.0	0.0
BN13-02	2595998	34.50	36.00	1.50	🟩	<0.5	<0.5	46.8	80.5	31.4	190.0	3.2	42.0	0.4	0.1	0.3	38.0	0.1	<0.1	4.0	696.0	0.1
BN13-02	2595999	36.00	37.50	1.50	🟩	<0.5	1.0	47.0	77.9	30.3	195.0	3.1	58.0	0.3	<0.05	0.4	36.0	<0.1	<0.1	3.8	677.0	0.3
BN13-02	2596001	37.50	39.00	1.50	🟩	<0.5	3.0	29.8	36.6	24.2	89.0	2.2	58.0	0.5	<0.05	0.3	40.0	0.1	<0.1	4.4	732.0	0.1
BN13-02	2596002	39.00	40.50	1.50	🟩	<0.5	3.7	30.7	9.7	24.5	12.0	2.2	36.0	0.7	0.2	0.5	66.0	0.2	0.2	6.6	881.0	0.0
BN13-02	2596003	40.50	42.00	1.50	🟩	5.3	0.6	27.9	35.4	15.6	100.0	1.5	26.0	0.4	<0.05	0.5	26.0	<0.1	<0.1	2.3	502.0	0.1
BN13-02	2596004	42.00	43.50	1.50	🟩	1.6	0.6	38.6	535.9	44.6	563.0	5.9	66.0	0.3	0.1	0.4	44.0	0.5	<0.1	4.5	956.0	0.5
BN13-02	2596005	43.50	45.00	1.50	🟩	1.6	3.1	57.4	699.4	56.5	660.0	7.7	127.0	4.0	0.1	0.8	60.0	0.6	<0.1	5.7	1215.0	2.8
BN13-02	2596006	45.00	46.50	1.50	🟩	<0.5	1.1	17.9	41.2	17.9	48.0	2.5	157.0	3.6	0.1	1.8	103.0	1.5	0.1	5.8	1184.0	0.0
BN13-02	2596007	46.50	48.00	1.50	🟩	591.0	175.0	80.2	175.6	42.0	116.0	3.5	160.0	22.8	0.4	1.3	91.0	0.7	0.1	6.1	1036.0	0.0
BN13-02	2596008	48.00	49.50	1.50	🟩	<0.5	8.3	81.8	274.5	46.9	242.0	4.2	145.0	12.6	<0.05	1.0	80.0	0.5	0.1	6.6	1116.0	1.1
BN13-02	2596009	49.50	51.00	1.50	🟩	<0.5	9.6	80.1	131.5	35.9	61.0	3.8	148.0	13.9	0.1	1.2	68.0	0.8	0.1	6.1	1012.0	0.5
BN13-02	2596010	51.00	52.50	1.50	🟩	<0.5	0.7	21.6	218.9	34.5	232.0	4.8	162.0	4.7	0.1	1.6	89.0	1.3	0.2	6.7	1198.0	0.2
BN13-02	2596011	52.50	54.00	1.50	🟩	6.1	143.4	30.9	1226.6	75.2	777.0	8.3	152.0	144.3	0.2	1.5	45.0	1.0	<0.1	4.4	826.0	0.6
BN13-02	2596012	54.00	55.50	1.50	🟩	7.1	168.0	28.4	795.9	50.7	358.0	9.4	114.0	92.1	0.1	0.5	39.0	0.6	<0.1	4.9	1061.0	3.2
BN13-02	2596013	55.50	57.20	1.70	🟩	9.2	73.3	59.5	329.0	43.7	111.0	2.8	189.0	51.4	0.7	1.6	73.0	2.1	0.1	5.6	931.0	0.0
BN13-02	2596014	57.20	60.00	2.80	🟩	573.0	1474.3	58.2	56.9	31.2	31.0	4.0	246.0	42.6	1.2	2.1	29.0	0.1	<0.1	5.5	963.0	0.0
BN13-02	2596015	60.00	63.00	3.00	▨	2.1	430.5	58.4	163.1	15.4	20.0	3.2	755.0	63.4	1.9	8.1	703.0	23.7	9.9	3.2	602.0	0.0
BN13-02	2596016	63.00	66.00	3.00	▨	<0.5	120.2	70.9	95.7	11.9	10.0	1.3	329.0	35.6	1.9	9.7	798.0	45.2	8.6	3.1	424.0	0.0
BN13-02	2596017	66.00	68.80	2.80	▨	2.1	169.3	35.8	33.8	9.2	6.0	0.8	642.0	24.0	1.7	6.1	208.0	13.6	2.0	2.5	636.0	0.0
BN13-02	2596018	68.80	70.20	1.40	▨	10.7	297.7	60.0	174.4	14.2	35.0	3.1	554.0	45.1	1.0	3.2	48.0	34.2	0.3	3.0	352.0	0.0
BN13-02	2596019	70.20	72.00	1.80	▨	5.3	114.0	91.0	108.5	12.9	11.0	0.9	506.0	46.7	2.4	11.2	1057.0	51.4	11.9	3.2	388.0	0.0
BN13-02	2596020	72.00	74.00	2.00	▨	2.5	143.9	73.3	91.7	11.7	11.0	1.0	616.0	30.1	2.4	9.9	761.0	53.4	9.0	3.3	458.0	0.0
BN13-02	2596021	74.00	76.00	2.00	▨	0.6	49.7	48.2	59.6	9.4	11.0	2.1	785.0	21.2	1.3	6.3	439.0	23.3	4.5	2.9	721.0	0.0
BN13-02	2596022	76.00	78.00	2.00	▨	1.2	424.1	79.2	110.9	14.3	11.0	1.2	488.0	50.2	2.8	10.0	703.0	48.9	7.5	3.7	504.0	0.0
BN13-02	2596023	78.00	80.00	2.00	▨	0.8	129.3	63.2	99.9	11.9	10.0	1.5	397.0	45.2	2.0	9.1	507.0	49.1	5.5	3.2	446.0	0.0
BN13-02	2596024	80.00	82.00	2.00	▨	<0.5	168.8	82.0	99.0	13.6	10.0	1.1	397.0	43.2	2.1	10.8	976.0	50.9	10.6	3.5	521.0	0.0
BN13-02	2596026	82.00	84.00	2.00	▨	<0.5	184.9	76.6	80.2	12.4	16.0	1.4	399.0	29.5	2.0	8.4	590.0	34.2	6.4	3.5	424.0	0.0
BN13-02	2596027	84.00	85.50	1.50	▨	3.6	210.4	83.1	105.6	12.9	25.0	1.2	349.0	31.6	2.5	6.8	671.0	31.0	7.8	3.7	440.0	0.0
BN13-02	2596028	85.50	87.00	1.50	▨	7.8	349.3	68.1	109.7	15.2	60.0	1.5	437.0	21.8	1.2	6.1	352.0	14.6	3.3	3.0	547.0	0.0
BN13-02	2596029	87.00	89.00	2.00	▨	0.6	174.1	79.6	86.3	16.0	14.0	1.4	362.0	34.6	2.1	8.9	367.0	25.8	3.0	3.8	428.0	0.0
BN13-02	2596030	89.00	91.00	2.00	▨	4.9	173.5	76.5	79.8	12.9	10.0	1.2	432.0	29.9	2.2	10.0	567.0	31.7	5.9	3.5	446.0	0.0
BN13-02	2596031	91.00	93.00	2.00	▨	1.5	54.8	79.8	70.6	12.4	12.0	0.9	460.0	16.3	1.8	8.4	1148.0	27.7	11.6	3.1	456.0	0.0
BN13-02	2596032	93.00	95.00	2.00	▨	1.0	177.0	81.3	156.1	16.4	16.0	1.5	396.0	33.6	2.4	10.5	634.0	33.7	5.7	3.7	517.0	0.0
BN13-02	2596033	95.00	97.00	2.00	▨	<0.5	75.8	76.3	131.1	14.1	14.0	1.9	596.0	28.1	2.2	10.7	752.0	45.0	7.8	3.6	558.0	0.0
BN13-02	2596034	97.00	99.00	2.00	▨	<0.5	61.9	65.9	81.3	11.0	13.0	1.6	484.0	21.0	1.7	9.2	777.0	29.4	7.9	2.9	516.0	0.0

Hole	Sample #	From (m)	To (m)	Int (m)	Ge	Au (ppb)	As (ppm)	Cu	Ni	Co	Cr	Mg	Sr	Sb	S	Pb	Zn	Mo	Cd	Fe	Mn	Ni/S
BN13-02	2596035	99.00	101.00	2.00	⬜	<0.5	265.8	82.0	138.8	16.2	18.0	1.2	500.0	36.8	2.0	11.1	1217.0	36.8	12.6	3.3	464.0	0.0
BN13-02	2596036	101.00	103.00	2.00	⬜	<0.5	176.6	72.6	80.9	12.6	9.0	1.3	465.0	29.8	2.3	9.0	597.0	38.7	6.2	3.3	434.0	0.0
BN13-02	2596037	103.00	105.00	2.00	⬜	<0.5	30.4	71.9	71.0	14.1	10.0	0.9	424.0	10.0	1.8	9.9	551.0	26.6	5.7	2.8	444.0	0.0
BN13-02	2596038	105.00	107.00	2.00	⬜	<0.5	44.4	35.9	49.5	8.0	10.0	3.2	644.0	7.0	0.9	5.4	262.0	13.4	2.5	2.5	637.0	0.0
BN13-02	2596039	107.00	109.00	2.00	⬜	1.8	155.8	43.8	152.8	14.4	29.0	2.0	395.0	16.1	1.5	10.2	433.0	22.4	4.8	2.7	598.0	0.0
BN13-02	2596040	109.00	111.00	2.00	🟨	1.4	11.6	5.4	9.4	1.1	3.0	0.2	192.0	1.7	0.1	20.7	66.0	3.5	0.5	0.7	159.0	0.0
BN13-02	2596041	111.00	113.00	2.00	⬜	1.0	24.8	69.4	79.7	25.6	194.0	3.1	242.0	3.6	0.5	8.2	179.0	9.4	1.4	4.4	908.0	0.0
BN13-02	2596042	113.00	115.00	2.00	🟩	2.6	7.9	74.9	81.5	33.0	257.0	3.4	226.0	1.0	0.1	6.6	76.0	1.0	0.2	5.2	1031.0	0.1
BN13-02	2596043	115.00	120.00	5.00	⬜	<0.5	53.0	66.0	118.2	14.0	15.0	1.5	362.0	14.2	1.6	9.0	588.0	40.4	6.4	3.8	567.0	0.0
BN13-02	2596044	120.00	121.50	1.50	🟩	<0.5	14.1	86.7	39.0	26.6	98.0	2.4	220.0	3.9	0.3	5.3	96.0	2.4	0.4	4.8	930.0	0.0
BN13-02	2596045	121.50	123.00	1.50	🟩	2.3	4.6	76.8	33.0	26.1	100.0	2.8	300.0	1.1	0.1	5.7	59.0	1.0	<0.1	5.1	1066.0	0.0
BN13-02	2596046	123.00	124.50	1.50	🟩	2.8	2.8	87.0	38.1	27.0	128.0	3.1	167.0	0.4	0.1	4.9	64.0	0.7	<0.1	5.3	1021.0	0.2
BN13-02	2596047	124.50	126.00	1.50	🟩	0.8	4.4	91.1	40.1	30.3	139.0	3.2	147.0	0.5	<0.05	5.2	69.0	0.9	<0.1	5.4	1069.0	0.2
BN13-02	2596048	126.00	127.50	1.50	🟩	0.8	6.3	85.9	30.1	25.4	80.0	2.5	220.0	0.5	0.1	5.6	61.0	1.0	<0.1	4.6	885.0	0.1
BN13-02	2596049	127.50	129.00	1.50	🟩	<0.5	3.0	83.8	26.5	22.6	66.0	2.4	151.0	0.5	<0.05	6.2	55.0	1.0	<0.1	4.4	764.0	0.1
BN13-02	2596051	129.00	130.50	1.50	🟩	0.8	5.7	87.2	28.4	25.1	78.0	2.7	192.0	0.7	<0.05	5.4	65.0	0.9	<0.1	4.8	895.0	0.1
BN13-02	2596052	130.50	132.00	1.50	🟩	0.8	5.3	99.5	27.2	24.6	59.0	2.4	116.0	0.6	<0.05	6.6	67.0	1.0	0.1	4.7	692.0	0.1
BN13-02	2596053	132.00	133.50	1.50	🟩	2.8	6.2	93.8	29.0	26.4	80.0	2.8	217.0	0.4	<0.05	6.6	69.0	0.8	<0.1	4.9	930.0	0.1
BN13-02	2596054	133.50	135.00	1.50	🟩	2.4	4.2	96.4	28.7	26.7	76.0	2.6	184.0	0.6	0.1	6.6	68.0	1.0	<0.1	5.0	931.0	0.1
BN13-02	2596055	135.00	136.50	1.50	🟩	3.1	13.5	88.8	30.1	26.0	77.0	2.3	326.0	1.6	0.2	5.3	64.0	1.0	<0.1	4.8	967.0	0.0
BN13-02	2596056	136.50	138.00	1.50	🟩	2.9	11.6	88.7	30.1	26.0	69.0	2.3	213.0	1.2	0.1	5.7	66.0	1.0	<0.1	5.4	1037.0	0.1
BN13-02	2596057	138.00	139.50	1.50	🟩	3.1	18.2	86.4	41.4	20.0	66.0	2.0	341.0	3.8	0.2	6.4	261.0	9.4	2.6	4.1	918.0	0.0
BN13-02	2596058	139.50	141.00	1.50	🟩	1.6	31.3	73.8	26.9	23.5	59.0	2.5	338.0	5.6	<0.05	4.6	61.0	1.0	0.2	4.7	990.0	0.1
BN13-02	2596059	141.00	142.50	1.50	⬜	0.5	111.1	57.0	104.6	15.0	38.0	1.6	191.0	14.0	1.0	10.5	354.0	12.6	3.3	3.3	409.0	0.0
BN13-02	2596060	142.50	144.00	1.50	⬜	<0.5	57.5	61.8	95.5	14.5	53.0	1.6	174.0	8.2	0.9	10.9	483.0	17.3	5.2	3.5	459.0	0.0
BN13-02	2596061	144.00	147.00	3.00	⬜	<0.5	100.8	57.1	85.8	13.6	28.0	1.6	226.0	11.2	1.1	8.4	413.0	14.0	4.2	3.3	482.0	0.0
BN13-02	2596062	147.00	150.00	3.00	⬜	3.0	47.5	65.8	96.0	14.9	18.0	1.4	402.0	13.2	1.6	12.8	308.0	30.6	2.3	3.5	476.0	0.0
BN13-02	2596063	150.00	153.00	3.00	⬜	<0.5	111.1	77.6	109.2	12.7	13.0	1.1	390.0	21.3	2.1	9.7	874.0	48.5	10.0	3.3	493.0	0.0
BN13-02	2596064	153.00	156.00	3.00	⬜	3.6	55.8	57.7	104.9	13.7	13.0	1.1	289.0	9.9	1.7	10.9	383.0	24.4	4.0	2.9	398.0	0.0
BN13-02	2596065	156.00	158.00	2.00	⬜	0.6	75.8	74.6	137.3	18.7	29.0	1.6	214.0	18.9	1.6	11.5	385.0	20.9	3.7	4.1	431.0	0.0
BN13-02	2596066	158.00	160.00	2.00	⬜	0.6	50.8	91.4	148.1	20.3	28.0	1.6	159.0	10.9	1.7	16.6	530.0	21.0	5.0	4.4	367.0	0.0
BN13-02	2596067	160.00	162.00	2.00	⬜	<0.5	74.3	58.0	60.9	14.4	23.0	1.8	337.0	8.0	1.3	9.2	308.0	13.8	2.5	3.7	618.0	0.0
BN13-02	2596068	162.00	164.00	2.00	⬜	0.8	16.1	26.4	72.0	11.4	19.0	0.9	440.0	3.3	0.7	6.2	87.0	4.3	0.5	2.3	493.0	0.0
BN13-02	2596069	164.00	166.00	2.00	⬜	<0.5	26.4	75.2	120.8	14.3	18.0	2.7	409.0	6.1	1.6	8.6	783.0	30.2	7.2	3.4	726.0	0.0
BN13-02	2596070	166.00	168.00	2.00	⬜	<0.5	21.4	59.6	91.0	12.6	15.0	2.6	499.0	4.1	1.3	8.9	441.0	21.0	4.6	3.2	720.0	0.0
BN13-02	2596071	168.00	171.00	3.00	⬜	<0.5	71.1	79.0	84.1	15.7	18.0	1.9	271.0	14.1	1.7	10.9	904.0	24.3	10.0	4.0	842.0	0.0
BN13-02	2596072	171.00	174.00	3.00	⬜	<0.5	28.7	91.4	68.8	14.2	18.0	1.7	350.0	6.5	2.4	24.7	1680.0	62.6	13.1	4.5	1911.0	0.0
BN13-03	2596073	16.40	19.00	2.60	⬛	<0.5	<0.5	5.0	2302.4	106.1	552.0	22.0	20.0	<0.1	0.1	0.2	24.0	0.2	<0.1	5.1	687.0	2.1
BN13-03	2596074	19.00	21.00	2.00	⬛	2.9	1.0	1.5	3066.2	124.1	78.0	23.2	7.0	<0.1	0.1	0.3	31.0	0.2	<0.1	5.9	771.0	2.4
BN13-03	2596076	21.00	24.00	3.00	🟨	<0.5	<0.5	4.3	1982.9	74.8	175.0	16.0	10.0	<0.1	0.1	0.3	19.0	<0.1	<0.1	3.3	499.0	7.9
BN13-03	2596077	24.00	27.00	3.00	⬛	<0.5	<0.5	9.1	1980.4	91.0	899.0	20.8	20.0	<0.1	0.1	0.5	20.0	0.1	<0.1	5.3	761.0	1.7
BN13-03	2596078	27.00	30.00	3.00	⬛	1.0	<0.5	5.9	2341.5	110.4	288.0	21.8	14.0	<0.1	0.1	0.4	25.0	<0.1	<0.1	5.2	780.0	2.0
BN13-03	2596079	30.00	33.00	3.00	⬛	<0.5	<0.5	2.8	1895.7	121.1	89.0	24.7	2.0	<0.1	0.1	0.3	27.0	0.1	<0.1	5.0	839.0	7.6
BN13-03	2596080	33.00	36.00	3.00	⬛	<0.5	0.7	1.1	2188.0	120.7	105.0	24.4	3.0	<0.1	0.1	0.2	24.0	0.1	<0.1	5.8	859.0	8.8

Hole	Sample #	From (m)	To (m)	Int (m)	Ge	Au (ppb)	As (ppm)	Cu	Ni	Co	Cr	Mg	Sr	Sb	S	Pb	Zn	Mo	Cd	Fe	Mn	Ni/S
BN13-03	2596081	36.00	39.00	3.00		<0.5	<0.5	1.8	2170.9	122.7	85.0	24.8	<1	<0.1	0.1	0.3	32.0	<0.1	<0.1	5.9	867.0	8.7
BN13-03	2596082	39.00	42.00	3.00		<0.5	<0.5	2.9	2746.5	124.9	63.0	25.3	<1	<0.1	0.1	<0.1	35.0	<0.1	<0.1	6.2	958.0	2.7
BN13-03	2596083	42.00	45.00	3.00		<0.5	<0.5	1.8	2642.2	126.0	71.0	23.6	<1	<0.1	0.1	0.2	34.0	<0.1	<0.1	6.7	958.0	10.6
BN13-03	2596084	45.00	48.00	3.00		<0.5	<0.5	1.2	2802.3	106.5	83.0	23.6	<1	<0.1	0.1	<0.1	21.0	<0.1	<0.1	5.9	834.0	2.8
BN13-03	2596085	48.00	51.00	3.00		<0.5	<0.5	4.7	3775.5	132.8	108.0	24.9	<1	<0.1	0.1	0.2	35.0	<0.1	<0.1	6.3	969.0	15.1
BN13-03	2596086	51.00	54.00	3.00		2.5	<0.5	5.0	4020.5	130.2	83.0	24.7	<1	<0.1	0.1	<0.1	31.0	<0.1	<0.1	6.1	939.0	16.1
BN13-03	2596087	54.00	57.00	3.00		0.8	<0.5	4.5	3589.3	124.3	110.0	24.2	<1	<0.1	0.1	0.1	33.0	<0.1	<0.1	6.6	926.0	3.6
BN13-03	2596088	57.00	60.00	3.00		<0.5	<0.5	6.9	4125.3	124.6	78.0	25.3	<1	<0.1	0.1	<0.1	32.0	<0.1	<0.1	6.7	945.0	4.1
BN13-03	2596089	60.00	63.00	3.00		<0.5	0.6	5.6	3672.5	125.1	106.0	24.4	<1	<0.1	0.1	0.1	29.0	<0.1	<0.1	6.1	881.0	3.7
BN13-03	2596090	63.00	66.00	3.00		<0.5	0.5	3.8	3497.3	123.1	116.0	23.8	1.0	<0.1	0.1	<0.1	29.0	0.1	<0.1	5.8	864.0	2.9
BN13-03	2596091	66.00	69.00	3.00		<0.5	<0.5	5.3	3474.3	131.7	122.0	23.0	2.0	<0.1	0.1	0.1	29.0	<0.1	<0.1	6.5	898.0	2.5
BN13-03	2596092	69.00	72.00	3.00		<0.5	<0.5	6.9	3415.5	122.8	136.0	24.3	<1	<0.1	0.1	<0.1	30.0	<0.1	<0.1	6.3	909.0	2.4
BN13-03	2596093	72.00	75.00	3.00		<0.5	<0.5	4.4	4151.6	126.3	71.0	25.0	1.0	<0.1	0.2	<0.1	32.0	<0.1	<0.1	6.5	970.0	2.6
BN13-03	2596094	75.00	78.00	3.00		<0.5	<0.5	3.3	4125.1	132.9	90.0	23.8	1.0	<0.1	0.2	<0.1	31.0	<0.1	<0.1	6.4	976.0	2.4
BN13-03	2596095	78.00	81.00	3.00		<0.5	<0.5	3.1	3435.5	125.7	89.0	23.0	3.0	<0.1	0.2	<0.1	36.0	<0.1	<0.1	6.9	981.0	1.8
BN13-03	2596096	81.00	84.00	3.00		0.7	<0.5	4.1	3516.5	131.7	100.0	24.2	19.0	<0.1	0.2	0.1	32.0	<0.1	<0.1	6.8	1048.0	1.5
BN13-03	2596097	84.00	87.00	3.00		14.5	<0.5	19.1	2896.1	127.8	232.0	21.5	27.0	<0.1	0.2	0.2	29.0	<0.1	<0.1	6.2	940.0	1.3
BN13-03	2596098	87.00	90.00	3.00		6.4	<0.5	65.2	328.0	46.7	486.0	5.7	67.0	<0.1	0.1	<0.1	16.0	0.1	<0.1	3.0	429.0	0.3
BN13-03	2596099	90.00	93.00	3.00		20.1	<0.5	57.8	522.5	55.9	487.0	7.5	66.0	<0.1	0.2	0.2	16.0	0.1	<0.1	3.4	458.0	0.3
BN13-03	2596101	93.00	96.00	3.00		3.8	0.8	82.0	228.8	35.9	297.0	3.7	56.0	<0.1	<0.05	<0.1	24.0	<0.1	<0.1	2.2	230.0	0.9
BN13-03	2596102	96.00	99.00	3.00		2.3	<0.5	25.0	169.6	30.4	359.0	3.7	43.0	<0.1	<0.05	0.1	27.0	0.1	<0.1	2.5	274.0	0.7
BN13-03	2596103	99.00	102.00	3.00		1.9	0.6	30.0	182.5	29.9	516.0	4.1	53.0	<0.1	0.1	0.1	13.0	<0.1	<0.1	2.3	275.0	0.7

Susceptibility

SUSCEPTIBILITY		
HOLE ID	READING	DEPTH
BN13-01	0.2	5
BN13-01	0.3	6
BN13-01	0.3	7
BN13-01	0.4	8
BN13-01	0.4	9
BN13-01	0.2	10
BN13-01	0.1	11
BN13-01	0.3	12
BN13-01	0.4	13
BN13-01	0.4	14
BN13-01	0.2	15
BN13-01	0.5	16
BN13-01	0.3	17
BN13-01	0.1	18
BN13-01	0.1	19
BN13-01	0.1	20
BN13-01	0.3	21
BN13-01	0.5	22
BN13-01	0.4	23
BN13-01	0.2	24
BN13-01	0.2	25
BN13-01	0.3	26
BN13-01	0.1	27
BN13-01	0.1	28
BN13-01		29
BN13-01	0.2	30
BN13-01	0.3	31
BN13-01	0.7	32
BN13-01	0.5	33
BN13-01	0.2	34
BN13-01		35
BN13-01	0.1	36
BN13-01	0.3	37
BN13-01	0.4	38
BN13-01	0.1	39
BN13-01	0.3	40
BN13-01	0.4	41
BN13-01	0.3	42
BN13-01	0.2	43
BN13-01	0.3	44
BN13-01	0.2	45
BN13-01	0.3	46
BN13-01	0.8	47

SUSCEPTIBILITY		
HOLE ID	READING	DEPTH
BN13-02	0.3	4
BN13-02	0.2	5
BN13-02	0.4	6
BN13-02	0.1	7
BN13-02	0.3	8
BN13-02	0.4	9
BN13-02	0.3	10
BN13-02	0.2	11
BN13-02	0.3	12
BN13-02	0.2	13
BN13-02	0.2	14
BN13-02	0.2	15
BN13-02	0.1	16
BN13-02	0.2	17
BN13-02	0.2	18
BN13-02	0.3	19
BN13-02	0.2	20
BN13-02	0.2	21
BN13-02	0.3	22
BN13-02	0.2	23
BN13-02	0.1	24
BN13-02	0.5	25
BN13-02	0.3	26
BN13-02	0.5	27
BN13-02	0.2	28
BN13-02	0.2	29
BN13-02	1.3	30
BN13-02	0.1	31
BN13-02	0.3	32
BN13-02	0.5	33
BN13-02	0.2	34
BN13-02	0.2	35
BN13-02	0.2	36
BN13-02	0.2	37
BN13-02	0.4	38
BN13-02	0.3	39
BN13-02	0.2	40
BN13-02	0.2	41
BN13-02	0.2	42
BN13-02	0.3	43
BN13-02	0.2	44
BN13-02	0.3	45
BN13-02	0.4	46

SUSCEPTIBILITY		
HOLE ID	READING	DEPTH
BN13-03	0.3	16
BN13-03	67.3	17
BN13-03	57.1	18
BN13-03	45.0	19
BN13-03	54.8	20
BN13-03	60.9	21
BN13-03	52.7	22
BN13-03	0.2	23
BN13-03	2.6	24
BN13-03	38.0	25
BN13-03	41.3	26
BN13-03	24.5	27
BN13-03	37.7	28
BN13-03	42.4	29
BN13-03	31.3	30
BN13-03	46.5	31
BN13-03	51.8	32
BN13-03	29.3	33
BN13-03	58.5	34
BN13-03	57.8	35
BN13-03	39.2	36
BN13-03	40.0	37
BN13-03	72.0	38
BN13-03	51.8	39
BN13-03	58.7	40
BN13-03	71.0	41
BN13-03	27.3	42
BN13-03	35.1	43
BN13-03	52.3	44
BN13-03	38.1	45
BN13-03	71.9	46
BN13-03	64.8	47
BN13-03	52.9	48
BN13-03	59.0	49
BN13-03	56.0	50
BN13-03	50.6	51
BN13-03	49.8	52
BN13-03	45.1	53
BN13-03	39.4	54
BN13-03	52.8	55
BN13-03	59.8	56
BN13-03	63.8	57
BN13-03	68.8	58

SUSCEPTIBILITY		
HOLE ID	READING	DEPTH
BN13-01	0.4	48
BN13-01	0.8	49
BN13-01		50
BN13-01	0.5	51
BN13-01	0.3	52
BN13-01	0.1	53
BN13-01	0.2	54
BN13-01	0.1	55
BN13-01		56
BN13-01	0.1	57
BN13-01	0.2	58
BN13-01		59
BN13-01	0.1	60
BN13-01	0.1	61
BN13-01	0.1	62
BN13-01	0.9	63
BN13-01	0.1	64
BN13-01	0.1	65
BN13-01	0.1	66
BN13-01	0.4	67
BN13-01	0.4	68
BN13-01	0.2	69
BN13-01	0.2	70
BN13-01	0.2	71
BN13-01	0.3	72
BN13-01	0.0	73
BN13-01	0.2	74
BN13-01	0.1	75
BN13-01	0.1	76
BN13-01	0.2	77
BN13-01	0.1	78
BN13-01	0.1	79
BN13-01	0.0	80
BN13-01	0.2	81
BN13-01	0.2	82
BN13-01	0.4	83
BN13-01	0.2	84
BN13-01	0.2	85
BN13-01	0.2	86
BN13-01	0.2	87
BN13-01	0.4	88
BN13-01	0.4	89
BN13-01	0.3	90
BN13-01	0.9	91
BN13-01	1.0	92

SUSCEPTIBILITY		
HOLE ID	READING	DEPTH
BN13-02	0.8	47
BN13-02	0.2	48
BN13-02	0.3	49
BN13-02	0.3	50
BN13-02	0.2	51
BN13-02	0.4	52
BN13-02	0.1	53
BN13-02	0.4	54
BN13-02	0.2	55
BN13-02	0.4	56
BN13-02	0.2	57
BN13-02	0.4	58
BN13-02	0.6	59
BN13-02	0.2	60
BN13-02	0.4	61
BN13-02	0.7	62
BN13-02	0.2	63
BN13-02	0.1	64
BN13-02	0.1	65
BN13-02	0.1	66
BN13-02	0.1	67
BN13-02	0.3	68
BN13-02	0.4	69
BN13-02	0.2	70
BN13-02	0.2	71
BN13-02	0.1	72
BN13-02	0.1	73
BN13-02	0.3	74
BN13-02	0.2	75
BN13-02	0.1	76
BN13-02	0.1	77
BN13-02	0.2	78
BN13-02	0.9	79
BN13-02	0.1	80
BN13-02	0.2	81
BN13-02	0.1	82
BN13-02	0.3	83
BN13-02	0.1	84
BN13-02	0.3	85
BN13-02	0.1	86
BN13-02	0.1	87
BN13-02	0.1	88
BN13-02	0.3	89
BN13-02	0.8	90
BN13-02	0.2	91

SUSCEPTIBILITY		
HOLE ID	READING	DEPTH
BN13-03	70.0	59
BN13-03	51.4	60
BN13-03	41.5	61
BN13-03	52.2	62
BN13-03	34.1	63
BN13-03	48.3	64
BN13-03	47.5	65
BN13-03	41.9	66
BN13-03	58.4	67
BN13-03	41.5	68
BN13-03	53.5	69
BN13-03	53.0	70
BN13-03	65.2	71
BN13-03	65.1	72
BN13-03	47.0	73
BN13-03	62.5	74
BN13-03	53.9	75
BN13-03	57.4	76
BN13-03	43.7	77
BN13-03	33.9	78
BN13-03	41.8	79
BN13-03	69.9	80
BN13-03	42.7	81
BN13-03	44.1	82
BN13-03	45.8	83
BN13-03	46.8	84
BN13-03	40.9	85
BN13-03	6.5	86
BN13-03	0.4	87
BN13-03	0.7	88
BN13-03	0.5	89
BN13-03	1.1	90
BN13-03	0.4	91
BN13-03	0.6	92
BN13-03	0.2	93
BN13-03	0.4	94
BN13-03	0.3	95
BN13-03	0.4	96
BN13-03	0.4	97
BN13-03	0.3	98
BN13-03	0.3	99
BN13-03	0.5	100
BN13-03	0.5	101
BN13-03	0.2	102

SUSCEPTIBILITY		
HOLE ID	READING	DEPTH
BN13-01	0.7	93
BN13-01	0.5	94
BN13-01	0.6	95
BN13-01	0.1	96
BN13-01	0.1	97
BN13-01	0.3	98
BN13-01	0.2	99
BN13-01	0.2	100
BN13-01	0.3	101
BN13-01	1.7	102
BN13-01	0.3	103
BN13-01	0.2	104
BN13-01	0.3	105
BN13-01	0.6	106
BN13-01	0.3	107
BN13-01	0.2	108
BN13-01	0.3	109
BN13-01	0.6	110
BN13-01	0.7	111
BN13-01	0.4	112
BN13-01	0.3	113
BN13-01	0.5	114
BN13-01	0.8	115
BN13-01	0.2	116
BN13-01	0.4	117
BN13-01	0.1	118
BN13-01	0.1	119
BN13-01	0.0	120
BN13-01	0.1	121
BN13-01	0.4	122
BN13-01	0.4	123
BN13-01	0.2	124
BN13-01	0.3	125
BN13-01	0.2	126
BN13-01	0.0	127
BN13-01	0.1	128
BN13-01	0.1	129
BN13-01	0.1	130
BN13-01	0.1	131
BN13-01	0.3	132
BN13-01	1.1	133
BN13-01	0.3	134
BN13-01	0.2	135
BN13-01	1.8	136
BN13-01	0.5	137

SUSCEPTIBILITY		
HOLE ID	READING	DEPTH
BN13-02	0.2	92
BN13-02	0.2	93
BN13-02	0.1	94
BN13-02	0.1	95
BN13-02	0.4	96
BN13-02	0.2	97
BN13-02	0.2	98
BN13-02	0.7	99
BN13-02	0.0	100
BN13-02	0.3	101
BN13-02	0.1	102
BN13-02	0.1	103
BN13-02	0.1	104
BN13-02	0.1	105
BN13-02	0.2	106
BN13-02	0.1	107
BN13-02	0.9	108
BN13-02	0.0	109
BN13-02	0.1	110
BN13-02	0.2	111
BN13-02	0.8	112
BN13-02	0.3	113
BN13-02	0.6	114
BN13-02	0.1	115
BN13-02	0.2	116
BN13-02	0.6	117
BN13-02	0.1	118
BN13-02	0.1	119
BN13-02	0.2	120
BN13-02	0.2	121
BN13-02	0.2	122
BN13-02	0.2	123
BN13-02	0.4	124
BN13-02	0.3	125
BN13-02	0.2	126
BN13-02	0.3	127
BN13-02	0.3	128
BN13-02	0.1	129
BN13-02	0.3	130
BN13-02	0.3	131
BN13-02	0.3	132
BN13-02	0.3	133
BN13-02	0.5	134
BN13-02	0.3	135
BN13-02	0.2	136

SUSCEPTIBILITY		
HOLE ID	READING	DEPTH

SUSCEPTIBILITY		
HOLE ID	READING	DEPTH
BN13-01	0.1	138
BN13-01	0.1	139
BN13-01	0.7	140
BN13-01	0.1	141
BN13-01	0.1	142
BN13-01	0.1	143
BN13-01	0.1	144
BN13-01	1.5	145
BN13-01	0.1	146
BN13-01	1.0	147
BN13-01	0.0	148

SUSCEPTIBILITY		
HOLE ID	READING	DEPTH
BN13-02	0.2	137
BN13-02	0.3	138
BN13-02	0.2	139
BN13-02	0.3	140
BN13-02	0.1	141
BN13-02	0.2	142
BN13-02	0.1	143
BN13-02	0.4	144
BN13-02	0.0	145
BN13-02	0.3	146
BN13-02	0.1	147
BN13-02	0.2	148
BN13-02	0.2	149
BN13-02	0.1	150
BN13-02	0.4	151
BN13-02	0.1	152
BN13-02	0.3	153
BN13-02	1.1	154
BN13-02	1.2	155
BN13-02	0.1	156
BN13-02	0.1	157
BN13-02	0.2	158
BN13-02	0.1	159
BN13-02	0.1	160
BN13-02	0.5	161
BN13-02	0.1	162
BN13-02	0.2	163
BN13-02	0.1	164
BN13-02	0.1	165
BN13-02	0.1	166
BN13-02	0.1	167
BN13-02	0.2	168
BN13-02	0.0	169
BN13-02	0.1	170
BN13-02	0.1	171
BN13-02	0.3	172
BN13-02	0.0	173
BN13-02	0.0	174

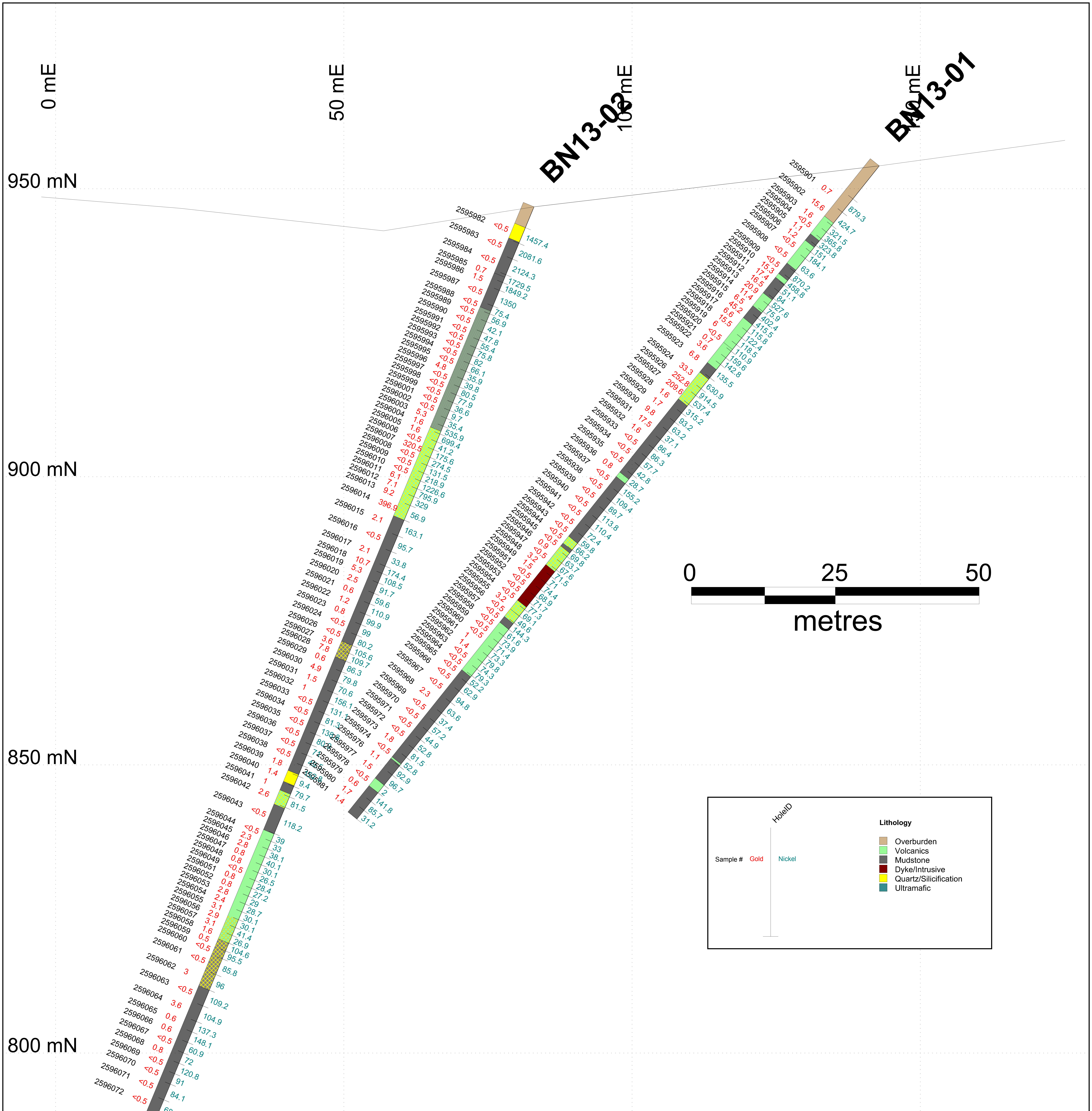
SUSCEPTIBILITY		
HOLE ID	READING	DEPTH

Recoveries and RQD

Hole ID	FROM (m)	TO (m)	LENGTH (m)	RECOVERY (m)	RQD (m)	#PIECES	% Recovery	% RQD
BN13-01	4.5	7.5	3	1.09	0.00	0	36.3%	0.0%
BN13-01	7.5	10.5	3	2.16	1.16	7	72.0%	38.7%
BN13-01	10.5	13.5	3	2.00	1.26	10	66.7%	42.0%
BN13-01	13.5	15	1.5	1.66	0.68	4	110.7%	45.3%
BN13-01	15	18	3	2.63	1.41	11	87.7%	47.0%
BN13-01	18	21	3	2.90	1.42	11	96.7%	47.3%
BN13-01	21	24	3	2.52	1.95	12	84.0%	65.0%
BN13-01	24	27	3	2.60	1.12	9	86.7%	37.3%
BN13-01	27	30	3	1.42	0.22	2	47.3%	7.3%
BN13-01	30	33	3	2.33	1.30	10	77.7%	43.3%
BN13-01	33	36	3	1.00	0.30	3	33.3%	10.0%
BN13-01	36	39	3	2.40	1.70	10	80.0%	56.7%
BN13-01	39	42	3	2.54	1.60	12	84.7%	53.3%
BN13-01	42	45	3	2.60	1.00	8	86.7%	33.3%
BN13-01	45	48	3	1.87	0.53	5	62.3%	17.7%
BN13-01	48	51	3	1.70	0.59	5	56.7%	19.7%
BN13-01	51	54	3	2.30	0.90	7	76.7%	30.0%
BN13-01	54	57	3	1.20	0.70	5	40.0%	23.3%
BN13-01	57	60	3	0.90	0.10	1	30.0%	3.3%
BN13-01	60	63	3	2.30	0.80	7	76.7%	26.7%
BN13-01	63	66	3	1.60	0.50	4	53.3%	16.7%
BN13-01	66	69	3	1.90	1.10	9	63.3%	36.7%
BN13-01	69	72	3	2.63	0.88	8	87.7%	29.3%
BN13-01	72	75	3	1.80	0.44	4	60.0%	14.7%
BN13-01	75	78	3	2.38	0.10	1	79.3%	3.3%
BN13-01	78	81	3	2.86	0.72	5	95.3%	24.0%
BN13-01	81	84	3	2.66	0.49	5	88.7%	16.3%
BN13-01	84	87	3	2.77	0.45	3	92.3%	15.0%
BN13-01	87	90	3	3.10	1.90	16	103.3%	63.3%
BN13-01	90	93	3	3.10	2.50	15	103.3%	83.3%
BN13-01	93	96	3	2.97	2.75	7	99.0%	91.7%
BN13-01	96	99	3	3.00	2.70	9	100.0%	90.0%
BN13-01	99	102	3	2.97	2.50	14	99.0%	83.3%
BN13-01	102	105	3	2.88	1.50	10	96.0%	50.0%
BN13-01	105	108	3	2.98	2.60	10	99.3%	86.7%
BN13-01	108	111	3	3.00	2.70	10	100.0%	90.0%
BN13-01	111	114	3	3.10	2.70	7	103.3%	90.0%
BN13-01	114	117	3	3.40	1.87	14	113.3%	62.3%
BN13-01	117	120	3	2.68	1.30	11	89.3%	43.3%
BN13-01	120	123	3	0.90	0.09	1	30.0%	3.0%
BN13-01	123	126	3	2.66	0.80	8	88.7%	26.7%
BN13-01	126	129	3	2.88	1.20	10	96.0%	40.0%
BN13-01	129	132	3	3.14	1.65	13	104.7%	55.0%
BN13-01	132	135	3	2.64	1.30	6	88.0%	43.3%
BN13-01	135	138	3	2.60	0.85	7	86.7%	28.3%
BN13-01	138	141	3	2.50	1.09	8	83.3%	36.3%
BN13-01	141	144	3	2.30	0.38	4	76.7%	12.7%
BN13-01	144	147	3	1.56	0.00	0	52.0%	0.0%

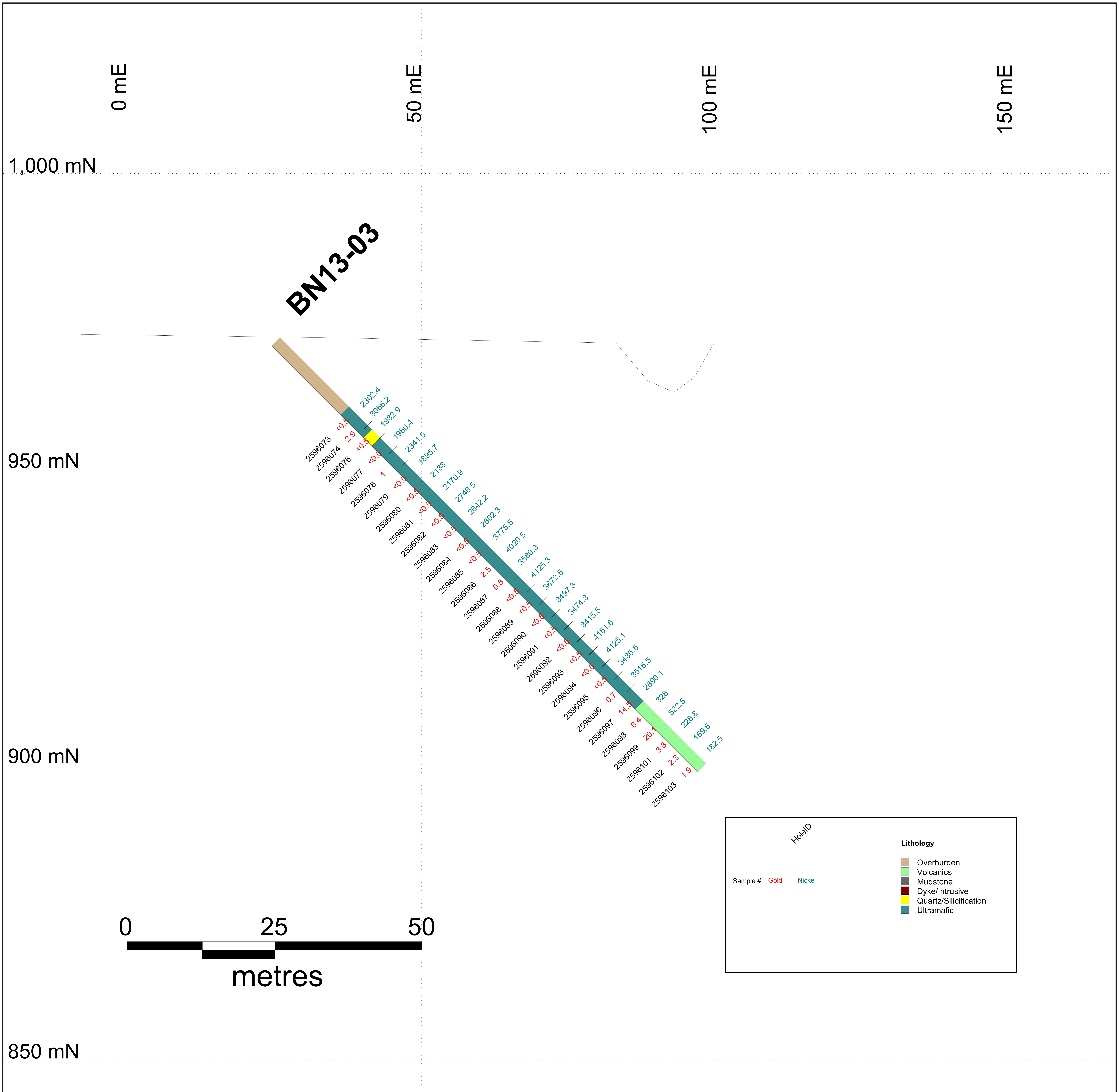
Hole ID	FROM (m)	TO (m)	LENGTH (m)	RECOVERY (m)	RQD (m)	#PIECES	% Recovery	% RQD
BN13-01	147	148	1	0.56	0.00	0	56.0%	0.0%
BN13-02	4	7	3	0.56	0.27	3	18.7%	9.0%
BN13-02	7	10	3	1.32	0.11	1	44.0%	3.7%
BN13-02	10	13	3	1.37	0.20	2	45.7%	6.7%
BN13-02	13	16	3	2.37	1.30	8	79.0%	43.3%
BN13-02	16	19	3	1.80	0.47	4	60.0%	15.7%
BN13-02	19	21	2	1.08	0.15	1	54.0%	7.5%
BN13-02	21	24	3	1.73	0.53	4	57.7%	17.7%
BN13-02	24	27	3	2.86	0.65	6	95.3%	21.7%
BN13-02	27	30	3	2.54	0.65	5	84.7%	21.7%
BN13-02	30	33	3	2.86	1.73	13	95.3%	57.7%
BN13-02	33	36	3	2.98	1.80	13	99.3%	60.0%
BN13-02	36	39	3	2.44	0.70	6	81.3%	23.3%
BN13-02	39	42	3	2.64	0.34	3	88.0%	11.3%
BN13-02	42	45	3	2.73	0.79	7	91.0%	26.3%
BN13-02	45	48	3	2.37	1.02	8	79.0%	34.0%
BN13-02	48	51	3	2.79	1.84	13	93.0%	61.3%
BN13-02	51	54	3	2.00	0.73	7	66.7%	24.3%
BN13-02	54	57	3	1.93	0.52	4	64.3%	17.3%
BN13-02	57	60	3	2.11	0.26	3	70.3%	8.7%
BN13-02	60	63	3	0.84	0.42	3	28.0%	14.0%
BN13-02	63	66	3	0.90	0.00	0	30.0%	0.0%
BN13-02	66	69	3	1.70	0.38	3	56.7%	12.7%
BN13-02	69	72	3	2.13	1.17	9	71.0%	39.0%
BN13-02	72	75	3	2.30	0.31	4	76.7%	10.3%
BN13-02	75	78	3	2.20	0.29	2	73.3%	9.7%
BN13-02	78	81	3	1.66	0.34	3	55.3%	11.3%
BN13-02	81	84	3	1.90	0.21	2	63.3%	7.0%
BN13-02	84	87	3	2.44	0.81	7	81.3%	27.0%
BN13-02	87	90	3	1.50	1.31	9	50.0%	43.7%
BN13-02	90	93	3	1.60	0.36	4	53.3%	12.0%
BN13-02	93	96	3	2.30	0.32	6	76.7%	10.7%
BN13-02	96	99	3	2.16	0.67	6	72.0%	22.3%
BN13-02	99	102	3	2.26	1.02	8	75.3%	34.0%
BN13-02	102	105	3	2.60	0.88	6	86.7%	29.3%
BN13-02	105	108	3	1.50	0.22	1	50.0%	7.3%
BN13-02	108	111	3	2.20	0.96	7	73.3%	32.0%
BN13-02	111	114	3	1.70	0.41	3	56.7%	13.7%
BN13-02	114	117	3	1.15	0.20	2	38.3%	6.7%
BN13-02	117	120	3	0.54	0.00	0	18.0%	0.0%
BN13-02	120	123	3	2.86	1.97	10	95.3%	65.7%
BN13-02	123	126	3	2.94	2.42	10	98.0%	80.7%
BN13-02	126	129	3	2.97	2.62	10	99.0%	87.3%
BN13-02	129	132	3	2.88	2.50	10	96.0%	83.3%
BN13-02	132	135	3	3.00	2.83	9	100.0%	94.3%
BN13-02	135	138	3	2.70	2.00	12	90.0%	66.7%
BN13-02	138	141	3	2.11	0.62	5	70.3%	20.7%
BN13-02	141	144	3	1.97	0.38	3	65.7%	12.7%
BN13-02	144	147	3	1.13	0.17	1	37.7%	5.7%
BN13-02	147	150	3	1.50	0.22	2	50.0%	7.3%

Hole ID	FROM (m)	TO (m)	LENGTH (m)	RECOVERY (m)	RQD (m)	#PIECES	% Recovery	% RQD
BN13-02	150	153	3	1.12	0.00	0	37.3%	0.0%
BN13-02	153	156	3	0.49	0.00	0	16.3%	0.0%
BN13-02	156	159	3	2.40	0.53	3	80.0%	17.7%
BN13-02	159	162	3	1.77	0.10	1	59.0%	3.3%
BN13-02	162	165	3	1.95	0.00	0	65.0%	0.0%
BN13-02	165	168	3	1.55	0.00	0	51.7%	0.0%
BN13-02	168	171	3	0.90	0.00	0	30.0%	0.0%
BN13-02	171	174	3	1.63	0.33	3	54.3%	11.0%
BN13-03	16	19	3	0.87	0.10	1	29.0%	3.3%
BN13-03	19	21	2	2.10	0.40	3	105.0%	20.0%
BN13-03	21	24	3	1.63	0.75	5	54.3%	25.0%
BN13-03	24	27	3	1.00	0.37	2	33.3%	12.3%
BN13-03	27	30	3	2.50	1.60	7	83.3%	53.3%
BN13-03	30	33	3	2.52	1.50	8	84.0%	50.0%
BN13-03	33	36	3	2.93	2.24	8	97.7%	74.7%
BN13-03	36	39	3	3.20	2.77	11	106.7%	92.3%
BN13-03	39	42	3	2.91	2.23	11	97.0%	74.3%
BN13-03	42	45	3	2.67	2.00	10	89.0%	66.7%
BN13-03	45	48	3	3.20	2.57	8	106.7%	85.7%
BN13-03	48	51	3	2.74	1.80	9	91.3%	60.0%
BN13-03	51	54	3	2.85	2.50	8	95.0%	83.3%
BN13-03	54	57	3	2.90	2.39	7	96.7%	79.7%
BN13-03	57	60	3	2.70	2.17	10	90.0%	72.3%
BN13-03	60	63	3	2.54	1.83	6	84.7%	61.0%
BN13-03	63	66	3	2.84	2.18	10	94.7%	72.7%
BN13-03	66	69	3	2.87	2.00	9	95.7%	66.7%
BN13-03	69	72	3	2.86	2.26	7	95.3%	75.3%
BN13-03	72	78	6	2.23	1.60	6	37.2%	26.7%
BN13-03	78	81	3	2.70	2.37	11	90.0%	79.0%
BN13-03	81	84	3	2.94	2.74	9	98.0%	91.3%
BN13-03	84	87	3	1.24	0.41	3	41.3%	13.7%
BN13-03	87	90	3	2.87	2.68	7	95.7%	89.3%
BN13-03	90	93	3	2.83	2.17	8	94.3%	72.3%
BN13-03	93	96	3	2.95	2.62	7	98.3%	87.3%
BN13-03	96	99	3	2.88	2.30	9	96.0%	76.7%
BN13-03	99	102	3	2.91	2.38	9	97.0%	79.3%



BEN PROPERTY
SECTION A (Holes BN13-01 + 02)
Looking Northwest

GRADE DISTRIBUTION AND LITHOLOGY



BEN PROPERTY
SECTION B (Holes BN13-03)
Looking Northeast

GRADE DISTRIBUTION AND LITHOLOGY

Appendix B:
Laboratory Certificates

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Submitted By: Gareth Thomas & John Peters
Receiving Lab: Canada-Vancouver
Received: October 30, 2013
Report Date: April 30, 2014
Page: 1 of 8

CERTIFICATE OF ANALYSIS VAN13004618.5

CLIENT JOB INFORMATION

Project: BEN
Shipment ID:
P.O. Number
Number of Samples: 204

SAMPLE DISPOSAL

STOR-PLP	Store After 90 days Invoice for Storage
DISP-RJT	Dispose of Reject After 90 days

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
R200-250	196	Crush, split and pulverize 250 g rock to 200 mesh			VAN
1DX2	204	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN
G601	12	Lead Collection Fire - Assay Fusion - AAS Finish	30	Completed	VAN
G810	31	Sulphide Ni Extraction	1	Completed	VAN
4A02	2	LiBO2/Li2B4O7 fusion ICP-ES analysis	0.2	Completed	VAN
7TD1	2	4-acid Digestion ICP-ES Finish	0.5	Completed	VAN
8NiS	2	NiS by bromine & methanol method	1	Completed	VAN
G606	7	Fire Assay fusion Au, Pt, Pd by ICP-ES	30	Completed	VAN

ADDITIONAL COMMENTS

Version 5 : GC410 for samples 2596080-87, 2596089-93 & 2596095-97 included.

Invoice To: Westhaven Ventures Inc.
1103 - 475 Howe Street
Vancouver BC V6C 2B3
CANADA

CC:

Marcus Lau
MARCUS LAU
Geochemical Laboratory Manager

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

Page: 2 of 8 Part: 1 of 4

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	WGHT	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
2595901a	Drill Core	6.10	0.8	41.5	1.1	43	<0.1	879.3	62.3	978	4.83	5.4	0.7	0.3	140	<0.1	8.4	<0.1	108	4.92	0.041
2595901b	Drill Core	4.31	0.8	41.4	0.9	45	<0.1	906.2	62.4	983	4.84	5.5	<0.5	0.3	141	<0.1	9.9	<0.1	104	5.09	0.037
2595902	Drill Core	7.33	1.5	67.7	0.8	61	<0.1	424.7	44.5	1252	6.43	55.0	15.6	<0.1	138	0.1	139.7	<0.1	135	5.82	0.038
2595903	Drill Core	3.41	0.4	61.1	0.4	64	<0.1	321.5	47.3	1253	6.48	2.7	1.6	0.1	48	0.1	6.0	<0.1	203	4.09	0.046
2595904	Drill Core	2.48	0.2	64.3	<0.1	42	<0.1	365.8	63.2	1075	5.45	2.4	<0.5	<0.1	37	<0.1	3.6	<0.1	100	3.29	0.011
2595905	Drill Core	2.90	0.1	57.4	0.1	46	<0.1	323.8	53.8	1004	5.59	5.2	1.1	<0.1	39	<0.1	2.3	<0.1	129	4.01	0.010
2595906	Drill Core	3.93	0.1	39.1	0.2	47	<0.1	151.0	45.0	1175	6.07	25.8	1.2	<0.1	60	<0.1	5.9	<0.1	159	3.75	0.017
2595907	Drill Core	3.26	0.5	64.8	<0.1	40	<0.1	184.1	49.6	1086	5.36	6.9	<0.5	<0.1	56	<0.1	2.4	<0.1	132	4.69	0.006
2595908	Drill Core	6.66	<0.1	51.1	0.2	32	<0.1	63.6	37.6	814	4.61	4.6	<0.5	<0.1	54	<0.1	1.9	<0.1	134	4.71	0.002
2595909	Drill Core	3.61	0.4	34.4	0.2	30	<0.1	870.2	59.6	923	3.99	48.9	<0.5	0.1	79	<0.1	29.8	<0.1	70	5.08	0.009
2595910	Drill Core	3.73	0.1	64.5	0.9	50	<0.1	458.8	43.4	967	4.81	271.8	15.3	0.3	186	<0.1	56.5	<0.1	54	4.38	0.030
2595911	Drill Core	2.23	0.7	46.1	3.6	44	0.1	51.1	13.1	377	2.42	181.7	17.4	0.5	73	<0.1	25.8	<0.1	14	2.27	0.037
2595912	Drill Core	1.88	0.7	55.2	6.9	59	0.4	84.0	14.1	266	2.46	281.8	16.5	0.9	48	<0.1	46.9	<0.1	11	1.43	0.019
2595913	Drill Core	2.79	0.7	40.4	0.9	47	<0.1	527.6	46.3	997	4.48	601.2	20.9	0.2	178	0.1	106.7	<0.1	57	6.44	0.079
2595914	Drill Core	2.94	0.2	57.3	0.6	49	<0.1	75.9	31.3	1086	5.40	72.4	11.4	<0.1	107	<0.1	32.0	<0.1	60	4.11	0.014
2595915	Drill Core	2.02	1.1	49.9	1.7	37	0.1	402.4	32.7	649	3.31	489.8	6.5	0.4	199	0.1	100.0	<0.1	30	4.66	0.005
2595916	Drill Core	2.45	0.7	70.1	1.3	76	<0.1	415.5	51.2	1176	6.17	650.2	45.2	0.1	335	0.1	246.8	<0.1	53	7.18	0.024
2595917	Drill Core	2.94	0.4	106.2	0.5	116	<0.1	115.8	42.1	1314	7.90	81.5	6.6	0.6	79	<0.1	80.6	<0.1	93	3.21	0.107
2595918	Drill Core	3.50	0.3	77.2	1.0	91	<0.1	122.4	41.8	1366	7.40	36.5	15.5	1.7	106	0.1	71.6	<0.1	106	3.95	0.146
2595919	Drill Core	2.72	0.4	130.9	1.2	81	0.1	118.5	42.0	1264	6.83	23.5	6.0	2.0	97	0.1	27.4	<0.1	114	3.88	0.154
2595920	Drill Core	2.79	0.3	103.1	0.7	94	<0.1	110.9	34.1	1368	6.70	4.2	<0.5	0.5	108	<0.1	10.2	<0.1	132	3.64	0.123
2595921	Drill Core	3.17	1.0	47.3	0.9	103	<0.1	159.6	40.4	1156	6.75	147.5	0.7	0.6	124	0.2	23.6	<0.1	87	3.62	0.088
2595922	Drill Core	2.65	0.3	84.3	0.8	93	<0.1	142.8	42.1	1110	7.45	214.6	3.6	0.3	215	<0.1	64.3	<0.1	60	4.35	0.066
2595923	Drill Core	2.13	1.0	89.0	0.7	68	<0.1	135.5	36.6	849	6.15	139.5	6.8	0.3	133	0.1	82.5	<0.1	67	3.91	0.077
2595924	Drill Core	2.93	0.9	71.6	1.7	57	<0.1	630.9	50.9	890	5.16	995.7	33.3	0.2	251	0.2	83.3	<0.1	37	3.57	0.057
2595925	Rock Pulp	0.05	6.4	162.4	24.2	88	0.7	27.3	92.1	1356	3.79	3134.7	547.0	1.6	134	0.4	7.1	28.3	38	8.86	0.140
2595926	Drill Core	2.40	<0.1	29.7	3.0	14	<0.1	914.5	56.9	648	3.24	1211.7	252.8	<0.1	541	<0.1	181.1	0.1	14	4.42	0.004
2595927	Drill Core	3.89	0.6	36.9	3.1	36	<0.1	537.4	43.5	598	3.58	782.5	209.6	1.0	554	0.2	118.5	<0.1	20	4.13	0.029
2595928	Drill Core	2.12	35.9	74.7	9.9	900	0.3	315.2	27.0	524	3.68	399.0	1.6	1.0	531	13.3	145.7	0.1	50	5.32	0.073
2595929	Drill Core	1.64	45.8	75.7	10.0	715	0.3	93.2	12.3	483	3.27	295.0	1.7	1.5	364	9.1	81.6	0.1	51	5.16	0.108

AcmeLabs™
A Bureau Veritas Group Company

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

www.acmelab.com

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS   VAN13004618.5

	Method	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**FA430**	**GC410**	**LF300**
	Analyte	**La**	**Cr**	**Mg**	**Ba**	**Ti**	**B**	**Al**	**Na**	**K**	**W**	**Hg**	**Sc**	**Tl**	**S**	**Ga**	**Se**	**Te**	**Au**	**Ni/S**	**SiO2**
	Unit	**ppm**	**ppm**	**%**	**ppm**	**%**	**ppm**	**%**	**%**	**%**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**%**
	MDL	**1**	**1**	**0.01**	**1**	**0.001**	**1**	**0.01**	**0.001**	**0.01**	**0.1**	**0.01**	**0.1**	**0.1**	**0.05**	**1**	**0.5**	**0.2**	**0.005**	**0.01**	**0.01**
2595901a	Drill Core	4	574	5.33	235	0.117	11	1.87	0.011	0.06	<0.1	0.04	14.5	<0.1	<0.05	5	<0.5	<0.2			
2595901b	Drill Core	4	585	5.27	231	0.096	10	1.78	0.010	0.06	<0.1	0.04	14.9	<0.1	<0.05	5	0.6	<0.2			
2595902	Drill Core	2	494	4.74	664	0.002	10	2.38	0.013	0.15	<0.1	0.04	25.5	<0.1	<0.05	6	<0.5	<0.2			
2595903	Drill Core	3	334	5.81	183	0.021	12	4.10	0.011	0.06	<0.1	0.05	27.3	<0.1	<0.05	10	<0.5	<0.2			
2595904	Drill Core	<1	429	7.85	418	0.002	6	5.56	0.002	0.05	<0.1	0.11	22.1	0.1	<0.05	7	<0.5	<0.2			
2595905	Drill Core	<1	773	6.69	205	0.036	8	5.95	0.013	0.05	<0.1	0.09	22.7	<0.1	<0.05	9	0.5	<0.2			
2595906	Drill Core	<1	199	6.34	879	0.004	11	4.93	0.005	0.14	<0.1	0.10	29.3	<0.1	<0.05	8	0.8	<0.2			
2595907	Drill Core	<1	312	6.48	495	0.012	12	5.53	0.007	0.09	<0.1	0.05	25.0	<0.1	0.06	8	0.9	<0.2			
2595908	Drill Core	<1	162	4.47	207	0.041	10	4.98	0.026	0.04	<0.1	0.07	26.5	<0.1	0.09	8	0.5	<0.2			
2595909	Drill Core	2	848	8.75	59	0.002	7	2.75	<0.001	0.06	<0.1	0.04	15.2	<0.1	<0.05	5	0.7	<0.2			
2595910	Drill Core	4	229	8.05	150	0.001	9	0.69	0.006	0.13	<0.1	0.11	13.0	<0.1	0.08	2	0.9	<0.2			
2595911	Drill Core	5	22	1.57	71	<0.001	6	0.22	0.006	0.11	0.2	0.12	4.8	<0.1	0.21	<1	0.9	<0.2			
2595912	Drill Core	3	17	1.05	103	<0.001	5	0.22	0.005	0.16	1.0	0.18	3.9	<0.1	0.56	<1	0.9	<0.2			
2595913	Drill Core	2	116	6.56	117	<0.001	7	0.56	0.008	0.16	<0.1	0.11	16.2	<0.1	0.27	1	0.8	<0.2			
2595914	Drill Core	<1	25	4.22	159	<0.001	11	0.42	0.013	0.24	<0.1	0.14	24.5	<0.1	0.25	<1	<0.5	<0.2			
2595915	Drill Core	1	92	4.69	82	<0.001	10	0.27	0.006	0.17	0.1	0.18	9.7	<0.1	0.38	<1	1.0	<0.2			
2595916	Drill Core	1	73	5.28	141	<0.001	10	0.28	0.010	0.14	0.1	0.16	13.8	<0.1	0.32	<1	0.5	<0.2			
2595917	Drill Core	9	40	3.01	176	0.002	11	0.94	0.033	0.17	<0.1	0.32	24.5	<0.1	0.11	4	<0.5	<0.2			
2595918	Drill Core	19	97	3.59	223	0.015	12	1.77	0.033	0.18	<0.1	0.15	21.3	<0.1	0.10	6	0.6	<0.2			
2595919	Drill Core	25	151	3.82	213	0.008	10	2.34	0.031	0.21	<0.1	0.12	21.7	<0.1	0.10	8	<0.5	<0.2			
2595920	Drill Core	12	114	3.06	307	0.003	7	2.24	0.041	0.16	<0.1	0.05	21.9	<0.1	0.07	9	<0.5	<0.2			
2595921	Drill Core	8	96	3.31	224	0.002	10	1.08	0.025	0.21	<0.1	0.10	20.9	<0.1	0.24	4	0.5	<0.2			
2595922	Drill Core	2	46	3.98	315	<0.001	10	0.46	0.021	0.18	<0.1	0.17	21.5	<0.1	0.16	1	<0.5	<0.2			
2595923	Drill Core	6	79	3.57	199	0.001	8	0.62	0.027	0.14	<0.1	0.15	19.5	<0.1	0.19	2	<0.5	<0.2			
2595924	Drill Core	1	162	7.54	197	0.001	10	0.28	0.008	0.13	0.3	0.22	11.2	<0.1	0.83	<1	0.7	<0.2			
2595925	Rock Pulp	14	27	0.41	49	0.076	63	1.71	0.135	0.12	7.5	<0.01	3.7	<0.1	0.32	5	4.3	4.1	0.666		
2595926	Drill Core	<1	180	9.98	42	<0.001	3	0.04	0.004	0.02	0.3	0.13	4.4	<0.1	0.52	<1	1.1	<0.2	0.289		
2595927	Drill Core	6	84	7.25	166	<0.001	8	0.23	0.010	0.13	0.2	0.20	6.8	<0.1	0.69	<1	1.0	<0.2	0.269		
2595928	Drill Core	2	44	3.34	85	<0.001	9	0.31	0.009	0.14	0.1	1.13	8.2	1.2	2.26	<1	11.7	<0.2			
2595929	Drill Core	3	11	1.37	107	<0.001	9	0.38	0.012	0.16	<0.1	1.12	8.6	1.5	2.10	<1	8.1	<0.2			

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	TC000
	Analyte	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	Sum	TOT/C
	Unit	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
	MDL	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	5	20	2	5	3	5	1	-5.1	0.01	0.02
2595901a	Drill Core																				
2595901b	Drill Core																				
2595902	Drill Core																				
2595903	Drill Core																				
2595904	Drill Core																				
2595905	Drill Core																				
2595906	Drill Core																				
2595907	Drill Core																				
2595908	Drill Core																				
2595909	Drill Core																				
2595910	Drill Core																				
2595911	Drill Core																				
2595912	Drill Core																				
2595913	Drill Core																				
2595914	Drill Core																				
2595915	Drill Core																				
2595916	Drill Core																				
2595917	Drill Core																				
2595918	Drill Core																				
2595919	Drill Core																				
2595920	Drill Core																				
2595921	Drill Core																				
2595922	Drill Core																				
2595923	Drill Core																				
2595924	Drill Core																				
2595925	Rock Pulp																				
2595926	Drill Core																				
2595927	Drill Core																				
2595928	Drill Core																				
2595929	Drill Core																				

AcmeLabs™
A Bureau Veritas Group Company
www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	TC000	MA370	GC311	FA330	FA330
	Analyte	TOT/S	Ni	Ni	Pt	Pd
	Unit	%	%	%	gm/t	gm/t
	MDL	0.02	0.001	0.001	0.01	0.01
2595901a	Drill Core					
2595901b	Drill Core					
2595902	Drill Core					
2595903	Drill Core					
2595904	Drill Core					
2595905	Drill Core					
2595906	Drill Core					
2595907	Drill Core					
2595908	Drill Core					
2595909	Drill Core					
2595910	Drill Core					
2595911	Drill Core					
2595912	Drill Core					
2595913	Drill Core					
2595914	Drill Core					
2595915	Drill Core					
2595916	Drill Core					
2595917	Drill Core					
2595918	Drill Core					
2595919	Drill Core					
2595920	Drill Core					
2595921	Drill Core					
2595922	Drill Core					
2595923	Drill Core					
2595924	Drill Core					
2595925	Rock Pulp					
2595926	Drill Core					
2595927	Drill Core					
2595928	Drill Core					
2595929	Drill Core					

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

Page: 3 of 8
Part: 1 of 4

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	**WGHT**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**
	Analyte	**Wgt**	**Mo**	**Cu**	**Pb**	**Zn**	**Ag**	**Ni**	**Co**	**Mn**	**Fe**	**As**	**Au**	**Th**	**Sr**	**Cd**	**Sb**	**Bi**	**V**	**Ca**	**P**
	Unit	**kg**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**ppm**	**ppb**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**%**
	MDL	**0.01**	**0.1**	**0.1**	**0.1**	**1**	**0.1**	**0.1**	**0.1**	**1**	**0.01**	**0.5**	**0.5**	**0.1**	**1**	**0.1**	**0.1**	**0.1**	**2**	**0.01**	**0.001**
2595930	Drill Core	0.84	22.4	50.4	12.9	247	0.2	63.2	9.8	816	2.25	735.1	9.8	1.6	437	2.5	53.0	<0.1	24	6.62	0.109
2595931	Drill Core	3.06	11.8	47.5	6.5	141	<0.1	37.1	15.0	804	3.41	949.9	17.5	1.2	534	1.3	38.6	<0.1	39	6.02	0.086
2595932	Drill Core	2.78	41.4	74.6	9.5	694	0.3	86.4	12.4	546	3.24	338.5	1.6	1.6	614	8.4	61.9	0.1	45	8.38	0.095
2595933	Drill Core	2.12	35.6	76.3	9.1	850	0.3	86.3	12.3	461	3.10	360.1	<0.5	1.3	483	9.1	45.4	0.1	39	6.29	0.098
2595934	Drill Core	3.24	22.5	65.2	7.0	401	0.2	57.7	14.4	540	3.27	91.5	<0.5	1.2	507	4.8	31.1	<0.1	46	6.11	0.092
2595935	Drill Core	2.98	10.2	91.3	8.6	184	0.1	42.8	13.0	603	3.38	75.1	<0.5	1.5	315	1.5	39.5	<0.1	39	4.54	0.117
2595936	Drill Core	4.48	9.3	77.2	10.3	161	<0.1	28.7	8.6	572	2.68	79.1	0.8	2.9	218	1.0	20.8	<0.1	29	2.81	0.111
2595937	Drill Core	2.90	31.3	71.7	9.6	713	0.3	155.2	16.9	532	3.31	430.6	<0.5	0.9	481	9.2	36.3	0.2	77	5.91	0.071
2595938	Drill Core	3.07	24.5	128.5	11.3	540	15.7	109.4	13.4	471	3.24	128.2	<0.5	1.4	402	6.2	28.5	0.2	44	4.56	0.101
2595939	Drill Core	2.47	35.1	74.7	11.8	636	0.5	89.7	14.3	435	3.94	60.6	<0.5	1.6	491	6.3	16.1	0.2	50	5.68	0.090
2595940	Drill Core	4.04	46.0	107.2	9.5	1041	7.0	113.8	12.5	466	3.08	95.4	<0.5	1.4	625	11.8	27.3	0.2	50	7.51	0.090
2595941	Drill Core	2.35	41.2	77.8	10.2	829	0.5	110.4	13.0	526	3.19	95.3	<0.5	1.5	721	9.4	27.2	0.1	53	9.77	0.101
2595942	Drill Core	3.99	34.1	64.9	7.0	648	0.3	72.4	11.4	519	2.79	123.5	<0.5	1.1	759	7.6	24.6	<0.1	47	9.13	0.073
2595943	Drill Core	2.79	17.3	54.1	6.2	297	0.2	59.8	12.6	608	3.01	61.3	<0.5	1.1	655	2.9	26.9	<0.1	35	8.73	0.089
2595944	Drill Core	2.47	3.1	68.3	4.8	96	<0.1	66.2	25.0	847	4.48	104.3	<0.5	0.8	694	0.6	25.1	<0.1	50	5.84	0.037
2595945	Drill Core	3.66	12.8	76.9	8.6	262	0.2	69.8	20.8	758	4.07	47.3	<0.5	1.2	390	2.4	18.0	<0.1	66	5.07	0.078
2595946	Drill Core	3.40	0.9	78.1	6.2	78	<0.1	63.7	25.6	1004	4.79	10.3	0.9	1.3	239	0.3	2.0	<0.1	130	3.56	0.063
2595947	Drill Core	3.37	1.1	91.7	28.8	114	0.2	67.6	27.2	1003	4.83	45.3	<0.5	1.1	331	0.4	6.7	<0.1	95	4.09	0.044
2595948	Drill Core	3.89	1.2	93.2	7.0	89	0.2	71.5	30.1	992	5.08	12.1	3.2	1.7	119	0.2	1.5	0.1	156	2.75	0.070
2595949	Drill Core	3.52	1.2	95.9	45.3	115	0.2	71.0	28.9	1000	4.99	17.7	1.5	1.6	143	0.5	1.2	0.2	169	3.69	0.069
2595950	Rock Pulp	0.05	6.6	160.1	25.8	88	0.7	29.1	90.0	1296	3.67	2968.8	581.2	1.7	131	0.5	7.5	30.0	35	8.49	0.139
2595951	Drill Core	3.74	1.0	92.6	5.9	69	<0.1	74.4	28.9	947	4.80	10.7	<0.5	1.5	111	<0.1	1.1	0.2	150	2.55	0.070
2595952	Drill Core	3.59	0.8	85.5	6.2	69	<0.1	68.9	28.2	1237	4.96	5.7	<0.5	1.4	278	<0.1	1.2	<0.1	152	5.29	0.062
2595953	Drill Core	3.67	1.2	105.7	18.8	148	0.2	71.7	30.1	1036	5.01	8.7	<0.5	1.8	135	0.4	1.6	<0.1	173	3.20	0.076
2595954	Drill Core	3.04	1.1	88.5	7.1	72	0.1	77.3	31.1	1077	5.31	8.3	<0.5	1.8	180	<0.1	1.9	<0.1	168	3.43	0.071
2595955	Drill Core	3.59	1.4	90.1	9.2	83	0.1	69.1	29.4	1112	5.18	5.1	3.2	1.7	144	0.2	1.5	<0.1	169	2.96	0.072
2595956	Drill Core	4.07	1.0	79.6	6.0	62	<0.1	49.6	24.4	967	4.47	26.1	<0.5	1.0	307	0.1	5.1	<0.1	115	4.90	0.041
2595957	Drill Core	2.58	19.0	53.9	7.4	362	0.2	144.3	14.2	563	2.55	180.5	<0.5	0.6	447	4.0	28.0	<0.1	55	10.24	0.029
2595958	Drill Core	3.15	1.2	88.3	13.9	100	0.1	61.6	27.0	1049	4.73	29.1	<0.5	1.4	306	0.4	4.5	<0.1	147	4.52	0.063
2595959	Drill Core	3.78	1.1	85.0	8.4	71	<0.1	73.9	28.8	1047	5.06	6.4	<0.5	1.5	165	<0.1	1.6	<0.1	162	3.63	0.064

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	FA430	GC410	LF300
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au	Ni/S	SiO2
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%
	MDL	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005	0.01	0.01
2595930	Drill Core	7	12	0.63	66	0.001	9	0.31	0.020	0.16	0.1	0.59	4.7	1.1	1.82	<1	4.7	<0.2			
2595931	Drill Core	6	20	1.54	147	<0.001	10	0.32	0.026	0.15	0.1	0.32	11.1	0.3	1.13	<1	2.4	<0.2			
2595932	Drill Core	5	11	2.06	106	<0.001	9	0.34	0.011	0.18	0.1	1.00	8.2	1.6	2.10	<1	7.2	<0.2			
2595933	Drill Core	4	7	1.17	63	<0.001	8	0.35	0.012	0.18	<0.1	1.15	6.2	1.5	2.03	<1	7.3	<0.2			
2595934	Drill Core	5	22	1.48	144	0.001	7	0.38	0.018	0.19	<0.1	0.57	8.8	1.1	1.36	1	6.3	<0.2			
2595935	Drill Core	7	13	1.27	152	0.001	8	0.35	0.033	0.19	<0.1	0.26	5.7	0.4	1.10	<1	4.2	<0.2			
2595936	Drill Core	10	11	1.03	228	0.001	11	0.34	0.039	0.19	0.1	0.15	3.6	0.2	0.48	1	2.8	<0.2			
2595937	Drill Core	2	29	1.99	76	<0.001	5	0.39	0.019	0.19	0.1	0.72	8.0	1.1	1.72	<1	8.4	<0.2			
2595938	Drill Core	5	13	1.23	87	<0.001	5	0.41	0.016	0.24	34.5	0.58	6.9	1.3	1.91	<1	7.2	<0.2			
2595939	Drill Core	6	15	1.54	74	<0.001	5	0.40	0.016	0.21	1.6	0.59	8.3	1.2	2.61	1	9.8	<0.2			
2595940	Drill Core	5	10	1.20	88	<0.001	3	0.36	0.014	0.20	37.7	0.90	7.0	1.9	2.09	<1	10.2	<0.2			
2595941	Drill Core	6	11	1.73	114	0.008	6	0.37	0.011	0.22	0.6	0.93	7.9	1.8	1.85	<1	8.8	<0.2			
2595942	Drill Core	5	12	1.10	111	<0.001	7	0.32	0.011	0.18	0.2	0.87	8.1	1.6	1.71	<1	10.5	<0.2			
2595943	Drill Core	5	16	1.81	172	0.001	7	0.36	0.013	0.21	0.6	0.38	8.6	0.9	1.27	<1	3.9	<0.2			
2595944	Drill Core	5	47	3.36	235	<0.001	7	0.27	0.026	0.13	0.1	0.15	15.0	0.3	0.18	<1	<0.5	<0.2			
2595945	Drill Core	6	68	2.46	159	0.002	7	0.64	0.027	0.15	0.9	0.23	14.0	0.6	1.18	2	2.6	<0.2			
2595946	Drill Core	10	177	3.18	401	0.005	<1	1.56	0.034	0.10	<0.1	0.02	20.4	0.2	0.07	7	<0.5	<0.2			
2595947	Drill Core	7	132	3.57	340	0.003	7	0.91	0.040	0.11	<0.1	0.06	20.9	0.2	0.24	5	<0.5	<0.2			
2595948	Drill Core	10	206	3.36	477	0.058	6	1.82	0.040	0.09	0.1	0.06	22.5	0.4	0.13	9	<0.5	<0.2			
2595949	Drill Core	10	209	3.43	547	0.143	15	2.02	0.048	0.10	0.2	0.07	18.5	0.4	0.22	10	0.9	<0.2			
2595950	Rock Pulp	13	27	0.40	46	0.068	57	1.65	0.112	0.09	7.4	<0.01	3.5	<0.1	0.29	5	4.9	3.6	0.652		
2595951	Drill Core	10	162	3.21	644	0.103	10	2.09	0.038	0.13	<0.1	0.07	16.2	0.3	<0.05	9	<0.5	<0.2			
2595952	Drill Core	10	186	3.47	601	0.045	10	1.89	0.039	0.09	<0.1	0.07	18.2	0.2	<0.05	9	<0.5	<0.2			
2595953	Drill Core	12	197	3.17	523	0.061	12	2.00	0.035	0.09	0.1	0.13	22.0	0.2	0.09	10	<0.5	<0.2			
2595954	Drill Core	12	252	3.87	866	0.011	8	1.90	0.038	0.11	<0.1	0.04	26.6	<0.1	0.07	8	<0.5	<0.2			
2595955	Drill Core	12	242	3.74	873	0.013	5	1.90	0.036	0.11	<0.1	0.04	25.8	<0.1	0.07	9	<0.5	<0.2			
2595956	Drill Core	8	107	3.16	512	0.001	7	0.72	0.041	0.09	<0.1	0.05	22.0	<0.1	0.07	3	<0.5	<0.2			
2595957	Drill Core	4	36	4.07	320	<0.001	3	0.31	0.029	0.13	0.1	0.27	7.2	0.3	0.68	<1	2.9	<0.2			
2595958	Drill Core	10	175	3.65	594	0.004	6	1.32	0.038	0.09	<0.1	0.06	23.6	<0.1	0.11	7	<0.5	<0.2			
2595959	Drill Core	11	207	3.59	536	0.025	15	1.77	0.035	0.10	<0.1	0.10	22.3	0.1	0.07	8	<0.5	<0.2			

A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	TC000
	Analyte	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	Sum	TOT/C
	Unit	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
	MDL	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	5	20	2	5	3	5	1	-5.1	0.01	0.02
2595930	Drill Core																				
2595931	Drill Core																				
2595932	Drill Core																				
2595933	Drill Core																				
2595934	Drill Core																				
2595935	Drill Core																				
2595936	Drill Core																				
2595937	Drill Core																				
2595938	Drill Core																				
2595939	Drill Core																				
2595940	Drill Core																				
2595941	Drill Core																				
2595942	Drill Core																				
2595943	Drill Core																				
2595944	Drill Core																				
2595945	Drill Core																				
2595946	Drill Core																				
2595947	Drill Core																				
2595948	Drill Core																				
2595949	Drill Core																				
2595950	Rock Pulp																				
2595951	Drill Core																				
2595952	Drill Core																				
2595953	Drill Core																				
2595954	Drill Core																				
2595955	Drill Core																				
2595956	Drill Core																				
2595957	Drill Core																				
2595958	Drill Core																				
2595959	Drill Core																				

A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	TC000	MA370	GC311	FA330	FA330
	Analyte	TOT/S	Ni	Ni	Pt	Pd
	Unit	%	%	%	gm/t	gm/t
	MDL	0.02	0.001	0.001	0.01	0.01
2595930	Drill Core					
2595931	Drill Core					
2595932	Drill Core					
2595933	Drill Core					
2595934	Drill Core					
2595935	Drill Core					
2595936	Drill Core					
2595937	Drill Core					
2595938	Drill Core					
2595939	Drill Core					
2595940	Drill Core					
2595941	Drill Core					
2595942	Drill Core					
2595943	Drill Core					
2595944	Drill Core					
2595945	Drill Core					
2595946	Drill Core					
2595947	Drill Core					
2595948	Drill Core					
2595949	Drill Core					
2595950	Rock Pulp					
2595951	Drill Core					
2595952	Drill Core					
2595953	Drill Core					
2595954	Drill Core					
2595955	Drill Core					
2595956	Drill Core					
2595957	Drill Core					
2595958	Drill Core					
2595959	Drill Core					

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS   VAN13004618.5

	Method	WGHT	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
2595960	Drill Core	3.64	1.0	73.3	5.2	86	<0.1	71.4	28.2	1022	4.85	10.4	<0.5	1.4	185	0.3	1.2	<0.1	133	3.68	0.062
2595961	Drill Core	3.67	1.0	75.7	5.1	76	<0.1	73.3	27.9	1002	4.81	5.9	1.0	1.3	103	0.3	0.4	<0.1	154	2.65	0.065
2595962	Drill Core	3.85	1.0	86.2	6.7	107	0.1	79.8	30.6	1100	5.06	5.2	1.4	1.3	174	0.4	0.5	<0.1	153	3.58	0.065
2595963	Drill Core	3.79	0.9	84.2	5.0	67	<0.1	74.3	29.8	1107	5.04	2.4	<0.5	1.5	145	<0.1	0.4	<0.1	151	3.02	0.067
2595964	Drill Core	3.69	0.9	85.2	4.9	66	<0.1	79.3	30.4	1050	5.06	3.2	<0.5	1.5	156	<0.1	0.7	<0.1	152	2.53	0.070
2595965	Drill Core	3.51	11.3	49.9	10.2	314	0.3	52.2	13.8	561	2.58	25.1	<0.5	1.3	562	3.2	9.3	<0.1	54	9.53	0.105
2595966	Drill Core	3.17	21.6	64.5	8.8	426	0.3	62.9	12.6	470	3.13	38.0	<0.5	1.5	508	4.1	15.8	0.1	54	6.49	0.111
2595967	Drill Core	3.10	46.5	69.1	9.8	465	0.2	94.8	12.6	455	3.22	144.8	<0.5	1.6	514	4.7	27.7	0.1	48	6.39	0.104
2595968	Drill Core	3.13	30.5	66.6	9.2	671	0.2	63.6	10.7	507	3.05	71.3	2.3	1.2	787	7.1	20.7	0.2	46	7.92	0.069
2595969	Drill Core	3.68	20.6	41.5	6.7	369	0.2	37.4	9.0	626	2.65	36.8	<0.5	1.4	595	3.6	14.7	0.1	35	6.81	0.102
2595970	Drill Core	3.51	34.3	50.9	8.9	557	0.2	57.2	9.1	710	3.04	31.6	<0.5	1.7	493	6.0	10.2	0.1	55	7.20	0.092
2595971	Drill Core	5.32	21.9	46.8	7.5	389	0.2	44.9	9.3	726	2.85	22.5	<0.5	1.8	464	4.0	7.3	0.1	45	6.23	0.108
2595972	Drill Core	4.48	24.9	57.1	9.1	545	0.3	52.8	11.4	400	2.69	52.5	<0.5	1.6	564	5.4	11.6	0.1	46	5.07	0.140
2595973	Drill Core	4.29	35.0	60.1	9.0	375	0.3	81.5	13.1	497	3.01	55.8	1.8	1.5	617	3.7	12.8	0.1	46	7.16	0.104
2595974	Drill Core	3.48	7.4	48.5	6.0	111	0.2	52.8	20.0	588	3.05	41.8	<0.5	1.2	567	0.8	4.3	<0.1	40	6.81	0.121
2595975	Rock Pulp	0.05	6.4	151.4	26.3	94	0.8	29.2	92.5	1319	3.67	3057.9	570.9	1.7	140	0.4	8.9	34.7	37	8.14	0.139
2595976	Drill Core	3.42	24.0	52.0	8.3	596	0.2	92.9	11.6	473	2.55	177.4	1.1	1.4	480	7.3	24.6	0.1	33	5.22	0.077
2595977	Drill Core	3.84	42.2	68.4	10.5	609	0.2	96.7	12.2	547	3.22	548.4	1.5	1.4	392	6.6	30.0	0.1	60	4.94	0.068
2595978	Drill Core	2.66	3.2	2.7	19.8	34	<0.1	2.0	0.4	155	0.67	5.2	<0.5	9.4	217	<0.1	1.2	0.2	<2	0.46	0.005
2595979	Drill Core	3.01	38.2	61.7	12.4	426	0.3	141.8	14.1	738	3.47	130.5	0.6	1.1	430	3.6	11.5	0.2	88	6.62	0.041
2595980	Drill Core	2.95	36.0	68.3	9.5	534	0.3	85.7	12.0	503	3.50	66.2	1.7	1.1	309	5.5	17.3	0.2	75	5.28	0.064
2595981	Drill Core	2.43	9.6	52.5	8.6	156	0.5	31.2	9.3	548	2.71	25.4	1.4	2.2	245	1.0	8.3	<0.1	32	4.18	0.101
2595982	Drill Core	2.38	0.5	28.5	1.5	39	<0.1	1457.4	70.4	847	4.48	5.8	<0.5	0.5	32	0.1	0.5	<0.1	82	0.83	0.019
2595983	Drill Core	4.99	0.2	7.8	0.4	21	<0.1	2081.6	89.8	653	4.65	<0.5	<0.5	<0.1	32	<0.1	<0.1	<0.1	28	0.72	0.001
2595984	Drill Core	5.60	<0.1	10.8	0.3	18	<0.1	2124.3	89.5	565	4.41	<0.5	<0.5	<0.1	16	<0.1	<0.1	<0.1	23	0.60	<0.001
2595985	Drill Core	5.58	0.4	19.5	0.9	36	<0.1	1729.5	87.4	829	4.63	1.0	0.7	0.3	16	<0.1	<0.1	<0.1	55	0.72	0.012
2595986	Drill Core	5.14	0.3	19.3	0.5	32	<0.1	1849.2	84.3	751	4.32	<0.5	1.5	0.1	61	<0.1	<0.1	<0.1	52	1.53	0.010
2595987	Drill Core	6.72	0.2	24.6	0.5	42	<0.1	1350.0	66.1	724	4.56	0.8	<0.5	<0.1	64	0.1	<0.1	<0.1	114	1.97	0.021
2595988	Drill Core	1.63	0.4	105.0	0.7	66	<0.1	75.4	33.6	951	5.88	1.3	<0.5	0.2	94	0.4	0.4	<0.1	244	3.18	0.044
2595989	Drill Core	3.08	0.2	113.5	0.6	54	<0.1	56.9	35.1	1077	5.70	<0.5	<0.5	0.2	127	<0.1	0.2	<0.1	196	5.04	0.037

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

Page: 4 of 8   Part: 2 of 4

CERTIFICATE OF ANALYSIS   VAN13004618.5

	Method	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**FA430**	**GC410**	**LF300**
	Analyte	**La**	**Cr**	**Mg**	**Ba**	**Ti**	**B**	**Al**	**Na**	**K**	**W**	**Hg**	**Sc**	**Tl**	**S**	**Ga**	**Se**	**Te**	**Au**	**Ni/S**	**SiO2**
	Unit	**ppm**	**ppm**	**%**	**ppm**	**%**	**ppm**	**%**	**%**	**%**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**%**
	MDL	**1**	**1**	**0.01**	**1**	**0.001**	**1**	**0.01**	**0.001**	**0.01**	**0.1**	**0.01**	**0.1**	**0.1**	**0.05**	**1**	**0.5**	**0.2**	**0.005**	**0.01**	**0.01**
2595960	Drill Core	10	186	3.73	378	0.028	10	1.55	0.041	0.12	<0.1	0.09	20.8	0.2	0.06	7	<0.5	<0.2			
2595961	Drill Core	9	205	3.71	396	0.046	6	1.95	0.046	0.14	<0.1	0.05	20.6	0.4	<0.05	8	<0.5	<0.2			
2595962	Drill Core	10	250	3.91	457	0.032	6	2.13	0.039	0.14	<0.1	0.06	22.9	0.2	<0.05	9	<0.5	<0.2			
2595963	Drill Core	11	239	3.95	603	0.019	5	1.97	0.035	0.12	<0.1	0.04	23.1	0.2	<0.05	9	<0.5	<0.2			
2595964	Drill Core	12	231	3.97	500	0.010	7	1.92	0.039	0.13	<0.1	0.03	23.9	0.1	<0.05	8	<0.5	<0.2			
2595965	Drill Core	8	35	1.24	157	0.001	7	0.51	0.030	0.18	<0.1	0.48	9.9	0.7	1.01	2	4.1	<0.2			
2595966	Drill Core	7	13	1.31	80	<0.001	6	0.44	0.023	0.23	<0.1	0.61	8.9	1.2	1.53	1	5.7	<0.2			
2595967	Drill Core	5	9	1.10	83	<0.001	5	0.37	0.016	0.21	<0.1	0.82	9.2	1.9	2.01	<1	6.2	<0.2			
2595968	Drill Core	4	8	1.23	109	<0.001	13	0.41	0.013	0.23	<0.1	0.62	7.6	1.2	1.53	1	5.4	<0.2			
2595969	Drill Core	6	7	1.58	180	0.001	13	0.40	0.019	0.25	<0.1	0.41	7.2	1.2	1.17	1	1.6	<0.2			
2595970	Drill Core	6	6	2.12	113	0.002	17	0.48	0.021	0.26	<0.1	0.92	7.5	2.1	1.63	1	6.1	<0.2			
2595971	Drill Core	7	6	1.42	138	0.001	12	0.48	0.023	0.27	<0.1	0.78	7.6	1.8	1.52	1	4.3	<0.2			
2595972	Drill Core	7	10	0.67	148	0.002	12	0.57	0.030	0.30	<0.1	0.50	7.9	1.4	1.36	2	4.8	<0.2			
2595973	Drill Core	6	12	0.86	102	<0.001	7	0.44	0.017	0.26	<0.1	0.59	8.6	1.4	1.72	1	4.3	<0.2			
2595974	Drill Core	7	45	1.44	214	<0.001	9	0.54	0.031	0.28	<0.1	0.27	14.7	0.5	0.84	1	1.6	<0.2			
2595975	Rock Pulp	13	28	0.41	51	0.067	60	1.68	0.119	0.10	7.4	<0.01	3.2	<0.1	0.30	5	4.2	4.3	0.645		
2595976	Drill Core	4	14	1.17	119	<0.001	10	0.34	0.018	0.21	<0.1	0.49	5.8	1.0	1.44	1	6.4	<0.2			
2595977	Drill Core	4	14	1.24	79	0.001	13	0.55	0.021	0.25	0.1	0.63	7.9	1.2	2.06	1	6.9	<0.2			
2595978	Drill Core	25	2	0.24	5339	0.001	3	1.27	0.276	0.18	<0.1	0.52	0.6	<0.1	0.07	2	<0.5	<0.2			
2595979	Drill Core	4	23	1.90	78	<0.001	12	0.41	0.026	0.19	0.4	0.33	10.3	0.5	1.80	<1	7.6	<0.2			
2595980	Drill Core	2	13	1.38	93	<0.001	10	0.48	0.021	0.19	0.2	0.69	9.7	1.2	1.98	1	4.1	<0.2			
2595981	Drill Core	7	7	0.93	222	0.001	12	0.60	0.033	0.29	0.6	0.30	7.5	0.9	0.90	1	2.1	<0.2			
2595982	Drill Core	3	600	14.58	54	0.094	51	1.96	0.006	0.01	0.1	0.04	11.0	<0.1	<0.05	4	<0.5	<0.2		0.02	
2595983	Drill Core	<1	1014	20.97	21	0.007	106	0.37	0.002	<0.01	<0.1	0.03	9.3	<0.1	<0.05	<1	<0.5	<0.2		0.02	
2595984	Drill Core	<1	913	19.51	7	0.002	94	0.23	0.002	<0.01	<0.1	0.03	7.9	<0.1	<0.05	<1	0.8	<0.2		0.03	
2595985	Drill Core	2	938	17.23	13	0.063	74	1.71	<0.001	<0.01	<0.1	0.02	9.8	<0.1	0.10	3	<0.5	<0.2		0.09	
2595986	Drill Core	1	768	16.77	57	0.056	59	1.21	0.001	<0.01	<0.1	0.02	8.4	<0.1	<0.05	3	<0.5	<0.2		0.02	
2595987	Drill Core	1	570	8.67	238	0.110	27	1.90	0.012	0.01	<0.1	0.02	9.0	<0.1	<0.05	5	<0.5	<0.2		0.01	
2595988	Drill Core	2	70	2.75	242	0.360	10	3.39	0.024	0.07	0.2	0.02	18.3	<0.1	<0.05	11	<0.5	<0.2			
2595989	Drill Core	3	114	2.84	126	0.401	11	3.87	0.028	0.07	0.3	0.01	19.2	<0.1	<0.05	11	<0.5	<0.2			

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS   VAN13004618.5

	Method	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	TC000
	Analyte	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	Sum	TOT/C
	Unit	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
	MDL	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	5	20	2	5	3	5	1	-5.1	0.01	0.02
2595960	Drill Core																				
2595961	Drill Core																				
2595962	Drill Core																				
2595963	Drill Core																				
2595964	Drill Core																				
2595965	Drill Core																				
2595966	Drill Core																				
2595967	Drill Core																				
2595968	Drill Core																				
2595969	Drill Core																				
2595970	Drill Core																				
2595971	Drill Core																				
2595972	Drill Core																				
2595973	Drill Core																				
2595974	Drill Core																				
2595975	Rock Pulp																				
2595976	Drill Core																				
2595977	Drill Core																				
2595978	Drill Core																				
2595979	Drill Core																				
2595980	Drill Core																				
2595981	Drill Core																				
2595982	Drill Core																				
2595983	Drill Core																				
2595984	Drill Core																				
2595985	Drill Core																				
2595986	Drill Core																				
2595987	Drill Core																				
2595988	Drill Core																				
2595989	Drill Core																				

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	TC000	MA370	GC311	FA330	FA330
	Analyte	TOT/S	Ni	Ni	Pt	Pd
	Unit	%	%	%	gm/t	gm/t
	MDL	0.02	0.001	0.001	0.01	0.01
2595960	Drill Core					
2595961	Drill Core					
2595962	Drill Core					
2595963	Drill Core					
2595964	Drill Core					
2595965	Drill Core					
2595966	Drill Core					
2595967	Drill Core					
2595968	Drill Core					
2595969	Drill Core					
2595970	Drill Core					
2595971	Drill Core					
2595972	Drill Core					
2595973	Drill Core					
2595974	Drill Core					
2595975	Rock Pulp					
2595976	Drill Core					
2595977	Drill Core					
2595978	Drill Core					
2595979	Drill Core					
2595980	Drill Core					
2595981	Drill Core					
2595982	Drill Core					
2595983	Drill Core					
2595984	Drill Core				<0.01	<0.01
2595985	Drill Core					
2595986	Drill Core					
2595987	Drill Core					
2595988	Drill Core					
2595989	Drill Core					

A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	WGHT	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
2595990	Drill Core	2.21	0.2	72.1	4.7	53	<0.1	42.1	21.2	976	3.41	1.4	<0.5	1.1	55	<0.1	0.6	<0.1	111	3.26	0.023
2595991	Drill Core	2.98	0.2	42.2	0.3	47	<0.1	47.8	30.3	859	4.57	1.0	<0.5	<0.1	124	<0.1	0.6	<0.1	173	3.47	0.016
2595992	Drill Core	3.01	0.1	22.2	0.4	63	<0.1	55.4	26.1	896	5.00	<0.5	<0.5	0.2	61	<0.1	0.9	<0.1	131	2.78	0.127
2595993	Drill Core	3.32	0.1	60.6	0.8	96	<0.1	75.8	25.6	1269	4.65	<0.5	<0.5	0.2	76	0.1	1.0	<0.1	121	3.67	0.072
2595994	Drill Core	2.41	0.2	27.4	0.5	68	<0.1	82.0	25.0	970	4.12	0.6	<0.5	0.2	58	<0.1	1.1	<0.1	133	3.07	0.033
2595995	Drill Core	2.52	0.2	23.9	0.5	47	<0.1	66.1	25.0	889	3.80	<0.5	<0.5	0.3	73	0.1	1.0	<0.1	123	4.09	0.022
2595996	Drill Core	4.03	0.1	54.8	0.3	69	<0.1	35.9	32.9	1025	6.69	6.4	4.8	0.2	79	<0.1	1.3	<0.1	235	4.50	0.022
2595997	Drill Core	3.74	<0.1	71.5	0.4	62	<0.1	39.8	37.5	753	7.21	0.7	<0.5	<0.1	46	<0.1	1.5	<0.1	314	2.52	0.009
2595998	Drill Core	3.62	0.1	46.8	0.3	38	<0.1	80.5	31.4	696	3.97	<0.5	<0.5	<0.1	42	<0.1	0.4	<0.1	99	3.39	0.016
2595999	Drill Core	2.96	<0.1	47.0	0.4	36	<0.1	77.9	30.3	677	3.83	1.0	<0.5	<0.1	58	<0.1	0.3	<0.1	92	3.06	0.015
2596000	Rock Pulp	0.05	5.9	156.9	26.1	86	0.6	29.3	92.6	1298	3.62	2978.9	553.1	1.7	144	0.5	8.4	33.9	36	8.02	0.146
2596001	Drill Core	2.39	0.1	29.8	0.3	40	<0.1	36.6	24.2	732	4.39	3.0	<0.5	<0.1	58	<0.1	0.5	<0.1	151	2.39	0.039
2596002	Drill Core	3.16	0.2	30.7	0.5	66	<0.1	9.7	24.5	881	6.57	3.7	<0.5	<0.1	36	0.2	0.7	<0.1	252	2.53	0.081
2596003	Drill Core	2.37	<0.1	27.9	0.5	26	<0.1	35.4	15.6	502	2.34	0.6	5.3	<0.1	26	<0.1	0.4	<0.1	73	2.56	0.029
2596004	Drill Core	3.04	0.5	38.6	0.4	44	<0.1	535.9	44.6	956	4.48	0.6	1.6	0.2	66	<0.1	0.3	<0.1	129	3.76	0.022
2596005	Drill Core	2.47	0.6	57.4	0.8	60	<0.1	699.4	56.5	1215	5.73	3.1	1.6	0.5	127	<0.1	4.0	<0.1	129	3.89	0.065
2596006	Drill Core	2.42	1.5	17.9	1.8	103	<0.1	41.2	17.9	1184	5.83	1.1	<0.5	1.7	157	0.1	3.6	<0.1	69	3.25	0.506
2596007	Drill Core	3.02	0.7	80.2	1.3	91	<0.1	175.6	42.0	1036	6.12	175.0	320.5	0.8	160	0.1	22.8	<0.1	76	4.11	0.134
2596008	Drill Core	3.50	0.5	81.8	1.0	80	<0.1	274.5	46.9	1116	6.55	8.3	<0.5	0.6	145	0.1	12.6	<0.1	89	4.35	0.113
2596009	Drill Core	3.80	0.8	80.1	1.2	68	<0.1	131.5	35.9	1012	6.10	9.6	<0.5	0.7	148	0.1	13.9	<0.1	95	5.22	0.095
2596010	Drill Core	2.50	1.3	21.6	1.6	89	<0.1	218.9	34.5	1198	6.65	0.7	<0.5	1.2	162	0.2	4.7	<0.1	85	3.78	0.418
2596011	Drill Core	2.18	1.0	30.9	1.5	45	<0.1	1226.6	75.2	826	4.38	143.4	6.1	1.0	152	<0.1	144.3	<0.1	59	3.55	0.052
2596012	Drill Core	3.14	0.6	28.4	0.5	39	<0.1	795.9	50.7	1061	4.89	168.0	7.1	0.2	114	<0.1	92.1	<0.1	86	3.49	0.030
2596013	Drill Core	1.22	2.1	59.5	1.6	73	<0.1	329.0	43.7	931	5.56	73.3	9.2	2.4	189	0.1	51.4	<0.1	73	2.55	0.150
2596014	Drill Core	3.97	0.1	58.2	2.1	29	<0.1	56.9	31.2	963	5.53	1474.3	396.9	0.1	246	<0.1	42.6	<0.1	81	5.64	0.056
2596015	Drill Core	1.97	23.7	58.4	8.1	703	0.3	163.1	15.4	602	3.22	430.5	2.1	0.8	755	9.9	63.4	<0.1	46	6.12	0.083
2596016	Drill Core	1.84	45.2	70.9	9.7	798	0.3	95.7	11.9	424	3.10	120.2	<0.5	1.5	329	8.6	35.6	0.1	53	4.44	0.086
2596017	Drill Core	3.57	13.6	35.8	6.1	208	0.2	33.8	9.2	636	2.45	169.3	2.1	1.3	642	2.0	24.0	<0.1	30	8.01	0.098
2596018	Drill Core	1.96	34.2	60.0	3.2	48	0.2	174.4	14.2	352	3.02	297.7	10.7	0.8	554	0.3	45.1	<0.1	101	3.62	0.022
2596019	Drill Core	3.25	51.4	91.0	11.2	1057	0.4	108.5	12.9	388	3.22	114.0	5.3	1.9	506	11.9	46.7	0.1	69	5.21	0.098

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	FA430	GC410	LF300
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au	Ni/S	SiO2
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%
	MDL	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005	0.01	0.01
2595990	Drill Core	6	48	1.37	104	0.221	12	2.05	0.026	0.07	0.2	0.02	11.5	<0.1	<0.05	7	<0.5	<0.2			
2595991	Drill Core	<1	102	3.07	497	0.118	3	4.82	0.027	0.07	<0.1	<0.01	17.5	<0.1	<0.05	10	<0.5	<0.2			
2595992	Drill Core	2	110	2.73	197	0.161	10	3.31	0.041	0.06	<0.1	0.04	17.9	<0.1	<0.05	11	<0.5	<0.2			
2595993	Drill Core	3	154	3.05	126	0.091	11	3.27	0.039	0.05	<0.1	0.07	15.8	<0.1	<0.05	11	<0.5	<0.2			
2595994	Drill Core	3	167	3.07	113	0.072	8	3.16	0.036	0.09	<0.1	0.09	17.6	<0.1	<0.05	9	<0.5	<0.2			
2595995	Drill Core	2	115	2.69	312	0.067	9	3.07	0.041	0.05	<0.1	0.09	17.4	<0.1	<0.05	9	1.0	<0.2			
2595996	Drill Core	2	60	2.74	371	0.116	13	3.88	0.020	0.08	<0.1	0.07	24.3	<0.1	0.10	11	<0.5	<0.2			
2595997	Drill Core	<1	86	2.76	544	0.255	9	4.17	0.021	0.04	<0.1	0.03	19.3	<0.1	0.32	11	<0.5	<0.2			
2595998	Drill Core	<1	190	3.22	237	0.118	8	3.87	0.017	0.06	<0.1	<0.01	12.0	<0.1	0.10	7	<0.5	<0.2			
2595999	Drill Core	<1	195	3.12	427	0.093	7	3.92	0.024	0.09	<0.1	<0.01	13.8	<0.1	<0.05	7	0.7	<0.2			
2596000	Rock Pulp	13	25	0.40	47	0.067	67	1.64	0.116	0.10	7.1	<0.01	3.1	<0.1	0.30	4	2.2	4.1	0.634		
2596001	Drill Core	<1	89	2.19	611	0.129	6	3.22	0.038	0.03	<0.1	0.01	13.5	<0.1	<0.05	9	<0.5	<0.2			
2596002	Drill Core	1	12	2.19	571	0.278	4	3.94	0.031	0.03	<0.1	0.02	20.2	<0.1	0.20	11	0.5	<0.2			
2596003	Drill Core	<1	100	1.46	293	0.058	4	2.37	0.037	0.03	<0.1	0.01	11.6	<0.1	<0.05	7	1.3	<0.2			
2596004	Drill Core	2	563	5.86	73	0.046	4	3.49	0.017	0.02	<0.1	0.03	15.0	<0.1	0.10	9	0.7	<0.2			
2596005	Drill Core	10	660	7.74	346	0.008	5	3.55	0.006	0.03	<0.1	0.03	17.2	<0.1	0.06	10	<0.5	<0.2			
2596006	Drill Core	47	48	2.50	177	0.017	4	2.08	0.041	0.13	0.3	0.15	4.8	<0.1	0.11	10	<0.5	<0.2			
2596007	Drill Core	12	116	3.45	203	0.004	10	1.65	0.025	0.22	0.1	0.11	13.6	<0.1	0.41	7	0.6	<0.2	0.591		
2596008	Drill Core	15	242	4.17	118	0.003	9	1.87	0.019	0.15	<0.1	0.06	14.9	<0.1	<0.05	9	0.6	<0.2			
2596009	Drill Core	9	61	3.82	137	0.002	12	0.74	0.020	0.16	<0.1	0.12	14.8	<0.1	0.09	3	<0.5	<0.2			
2596010	Drill Core	36	232	4.77	202	0.007	7	2.19	0.025	0.15	<0.1	0.11	10.0	<0.1	0.13	8	0.6	<0.2			
2596011	Drill Core	10	777	8.29	64	0.002	7	1.13	0.007	0.06	<0.1	0.09	10.8	<0.1	0.20	3	0.8	<0.2			
2596012	Drill Core	3	358	9.42	98	0.002	8	1.83	0.005	0.07	<0.1	0.05	14.2	0.1	0.08	4	<0.5	<0.2			
2596013	Drill Core	23	111	2.79	199	0.140	12	2.15	0.211	0.18	<0.1	0.05	9.2	<0.1	0.72	6	<0.5	<0.2			
2596014	Drill Core	1	31	3.95	133	<0.001	18	1.45	0.024	0.20	0.1	0.10	20.7	0.2	1.16	3	1.0	<0.2	0.573		
2596015	Drill Core	2	20	3.17	101	<0.001	10	0.36	0.012	0.15	0.3	0.71	6.2	0.7	1.88	<1	8.6	<0.2			
2596016	Drill Core	4	10	1.26	108	<0.001	11	0.45	0.013	0.22	0.1	0.80	7.4	1.8	1.87	<1	8.4	<0.2			
2596017	Drill Core	7	6	0.83	144	0.001	13	0.42	0.020	0.25	<0.1	0.46	6.8	1.1	1.69	<1	3.9	<0.2			
2596018	Drill Core	2	35	3.07	190	0.001	7	0.24	0.045	0.10	0.2	0.21	7.9	0.2	0.95	<1	4.5	<0.2			
2596019	Drill Core	5	11	0.93	95	0.001	11	0.43	0.018	0.25	0.2	1.16	8.4	2.3	2.41	1	12.0	<0.2			

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	TC000
	Analyte	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	Sum	TOT/C
	Unit	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
	MDL	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	5	20	2	5	3	5	1	-5.1	0.01	0.02
2595990	Drill Core																				
2595991	Drill Core																				
2595992	Drill Core																				
2595993	Drill Core																				
2595994	Drill Core																				
2595995	Drill Core																				
2595996	Drill Core																				
2595997	Drill Core																				
2595998	Drill Core																				
2595999	Drill Core																				
2596000	Rock Pulp																				
2596001	Drill Core																				
2596002	Drill Core																				
2596003	Drill Core																				
2596004	Drill Core																				
2596005	Drill Core																				
2596006	Drill Core																				
2596007	Drill Core																				
2596008	Drill Core																				
2596009	Drill Core																				
2596010	Drill Core																				
2596011	Drill Core																				
2596012	Drill Core																				
2596013	Drill Core																				
2596014	Drill Core																				
2596015	Drill Core																				
2596016	Drill Core																				
2596017	Drill Core																				
2596018	Drill Core																				
2596019	Drill Core																				

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	TC000	MA370	GC311	FA330	FA330
	Analyte	TOT/S	Ni	Ni	Pt	Pd
	Unit	%	%	%	gm/t	gm/t
	MDL	0.02	0.001	0.001	0.01	0.01
2595990	Drill Core					
2595991	Drill Core					
2595992	Drill Core					
2595993	Drill Core					
2595994	Drill Core					
2595995	Drill Core					
2595996	Drill Core					
2595997	Drill Core					
2595998	Drill Core					
2595999	Drill Core					
2596000	Rock Pulp					
2596001	Drill Core					
2596002	Drill Core					
2596003	Drill Core					
2596004	Drill Core					
2596005	Drill Core					
2596006	Drill Core					
2596007	Drill Core					
2596008	Drill Core					
2596009	Drill Core					
2596010	Drill Core					
2596011	Drill Core					
2596012	Drill Core					
2596013	Drill Core					
2596014	Drill Core					
2596015	Drill Core					
2596016	Drill Core					
2596017	Drill Core					
2596018	Drill Core					
2596019	Drill Core					

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	WGHT	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
2596020	Drill Core	2.87	53.4	73.3	9.9	761	0.4	91.7	11.7	458	3.30	143.9	2.5	1.4	616	9.0	30.1	0.1	52	6.37	0.089
2596021	Drill Core	3.28	23.3	48.2	6.3	439	0.2	59.6	9.4	721	2.86	49.7	0.6	1.0	785	4.5	21.2	<0.1	46	9.29	0.075
2596022	Drill Core	2.90	48.9	79.2	10.0	703	0.3	110.9	14.3	504	3.65	424.1	1.2	1.6	488	7.5	50.2	0.1	52	6.63	0.100
2596023	Drill Core	2.22	49.1	63.2	9.1	507	0.3	99.9	11.9	446	3.15	129.3	0.8	1.5	397	5.5	45.2	0.1	57	4.81	0.104
2596024	Drill Core	2.49	50.9	82.0	10.8	976	0.3	99.0	13.6	521	3.49	168.8	<0.5	1.7	397	10.6	43.2	0.1	67	4.81	0.114
2596025	Rock Pulp	0.05	6.1	161.0	26.6	90	0.7	28.4	92.6	1290	3.71	2994.4	559.7	1.7	137	0.5	7.7	29.7	35	7.97	0.135
2596026	Drill Core	2.01	34.2	76.6	8.4	590	0.2	80.2	12.4	424	3.51	184.9	<0.5	1.3	399	6.4	29.5	0.2	84	4.76	0.089
2596027	Drill Core	3.30	31.0	83.1	6.8	671	0.2	105.6	12.9	440	3.72	210.4	3.6	1.3	349	7.8	31.6	<0.1	105	5.40	0.081
2596028	Drill Core	2.07	14.6	68.1	6.1	352	<0.1	109.7	15.2	547	2.97	349.3	7.8	1.1	437	3.3	21.8	<0.1	100	5.76	0.078
2596029	Drill Core	4.08	25.8	79.6	8.9	367	0.3	86.3	16.0	428	3.80	174.1	0.6	1.3	362	3.0	34.6	0.1	43	3.99	0.103
2596030	Drill Core	3.18	31.7	76.5	10.0	567	0.3	79.8	12.9	446	3.51	173.5	4.9	1.3	432	5.9	29.9	0.1	42	4.79	0.086
2596031	Drill Core	2.11	27.7	79.8	8.4	1148	0.5	70.6	12.4	456	3.11	54.8	1.5	1.4	460	11.6	16.3	<0.1	48	4.72	0.097
2596032	Drill Core	2.78	33.7	81.3	10.5	634	0.4	156.1	16.4	517	3.71	177.0	1.0	1.3	396	5.7	33.6	0.1	48	5.17	0.076
2596033	Drill Core	3.57	45.0	76.3	10.7	752	0.3	131.1	14.1	558	3.55	75.8	<0.5	1.3	596	7.8	28.1	0.1	63	6.93	0.077
2596034	Drill Core	3.31	29.4	65.9	9.2	777	0.4	81.3	11.0	516	2.91	61.9	<0.5	1.3	484	7.9	21.0	<0.1	50	4.91	0.076
2596035	Drill Core	3.75	36.8	82.0	11.1	1217	0.4	138.8	16.2	464	3.30	265.8	<0.5	1.7	500	12.6	36.8	0.1	54	4.55	0.081
2596036	Drill Core	4.84	38.7	72.6	9.0	597	0.3	80.9	12.6	434	3.34	176.6	<0.5	1.3	465	6.2	29.8	0.1	46	5.21	0.083
2596037	Drill Core	3.19	26.6	71.9	9.9	551	0.4	71.0	14.1	444	2.84	30.4	<0.5	1.4	424	5.7	10.0	<0.1	43	4.59	0.097
2596038	Drill Core	2.18	13.4	35.9	5.4	262	0.2	49.5	8.0	637	2.48	44.4	<0.5	1.0	644	2.5	7.0	<0.1	40	8.33	0.063
2596039	Drill Core	2.12	22.4	43.8	10.2	433	0.2	152.8	14.4	598	2.70	155.8	1.8	0.9	395	4.8	16.1	0.1	43	5.29	0.056
2596040	Drill Core	3.44	3.5	5.4	20.7	66	<0.1	9.4	1.1	159	0.67	11.6	1.4	8.1	192	0.5	1.7	0.2	6	0.52	0.013
2596041	Drill Core	2.90	9.4	69.4	8.2	179	0.1	79.7	25.6	908	4.43	24.8	1.0	1.0	242	1.4	3.6	<0.1	138	4.43	0.055
2596042	Drill Core	2.84	1.0	74.9	6.6	76	<0.1	81.5	33.0	1031	5.22	7.9	2.6	1.3	226	0.2	1.0	<0.1	158	4.53	0.064
2596043	Drill Core	1.99	40.4	66.0	9.0	588	0.3	118.2	14.0	567	3.76	53.0	<0.5	1.4	362	6.4	14.2	0.1	56	6.29	0.079
2596044	Drill Core	4.16	2.4	86.7	5.3	96	<0.1	39.0	26.6	930	4.79	14.1	<0.5	1.4	220	0.4	3.9	<0.1	153	3.79	0.075
2596045	Drill Core	2.49	1.0	76.8	5.7	59	<0.1	33.0	26.1	1066	5.11	4.6	2.3	1.3	300	<0.1	1.1	<0.1	165	5.66	0.065
2596046	Drill Core	4.14	0.7	87.0	4.9	64	<0.1	38.1	27.0	1021	5.28	2.8	2.8	1.4	167	<0.1	0.4	<0.1	187	3.23	0.069
2596047	Drill Core	3.34	0.9	91.1	5.2	69	<0.1	40.1	30.3	1069	5.44	4.4	0.8	1.5	147	<0.1	0.5	<0.1	186	3.19	0.071
2596048	Drill Core	3.82	1.0	85.9	5.6	61	<0.1	30.1	25.4	885	4.55	6.3	0.8	1.5	220	<0.1	0.5	<0.1	162	4.88	0.072
2596049	Drill Core	3.41	1.0	83.8	6.2	55	<0.1	26.5	22.6	764	4.38	3.0	<0.5	1.6	151	<0.1	0.5	<0.1	168	4.17	0.070

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

Page: 6 of 8   Part: 2 of 4

CERTIFICATE OF ANALYSIS   VAN13004618.5

	Method	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**FA430**	**GC410**	**LF300**
	Analyte	**La**	**Cr**	**Mg**	**Ba**	**Ti**	**B**	**Al**	**Na**	**K**	**W**	**Hg**	**Sc**	**Tl**	**S**	**Ga**	**Se**	**Te**	**Au**	**Ni/S**	**SiO2**
	Unit	**ppm**	**ppm**	**%**	**ppm**	**%**	**ppm**	**%**	**%**	**%**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**%**
	MDL	**1**	**1**	**0.01**	**1**	**0.001**	**1**	**0.01**	**0.001**	**0.01**	**0.1**	**0.01**	**0.1**	**0.1**	**0.05**	**1**	**0.5**	**0.2**	**0.005**	**0.01**	**0.01**
2596020	Drill Core	6	11	0.99	77	0.001	12	0.41	0.013	0.25	0.1	1.08	6.8	2.2	2.41	1	10.5	<0.2			
2596021	Drill Core	5	11	2.14	143	0.001	11	0.34	0.019	0.19	<0.1	0.52	6.0	1.0	1.32	1	4.2	<0.2			
2596022	Drill Core	6	11	1.15	92	0.001	12	0.47	0.013	0.26	0.1	0.97	8.5	1.9	2.80	1	9.5	<0.2			
2596023	Drill Core	5	10	1.54	118	0.001	12	0.43	0.014	0.23	0.1	0.73	7.6	1.9	1.97	1	5.8	<0.2			
2596024	Drill Core	5	10	1.11	103	0.001	16	0.48	0.013	0.27	0.1	1.09	8.7	2.2	2.10	1	9.5	<0.2			
2596025	Rock Pulp	13	27	0.40	46	0.070	60	1.65	0.119	0.10	7.3	<0.01	3.5	0.2	0.30	5	4.1	4.1	0.633		
2596026	Drill Core	6	16	1.38	116	0.001	10	0.33	0.031	0.16	0.1	0.52	8.7	0.8	1.99	1	6.3	<0.2			
2596027	Drill Core	7	25	1.24	83	0.002	7	0.24	0.049	0.09	<0.1	0.44	10.4	0.3	2.50	1	9.1	<0.2			
2596028	Drill Core	7	60	1.46	167	0.002	12	0.61	0.037	0.19	0.1	0.28	8.9	0.3	1.19	2	3.8	<0.2			
2596029	Drill Core	5	14	1.42	89	0.001	16	0.61	0.016	0.32	0.1	0.58	8.0	1.2	2.14	1	4.1	<0.2			
2596030	Drill Core	4	10	1.17	117	0.001	13	0.42	0.013	0.24	0.1	0.69	7.7	1.4	2.24	1	5.5	<0.2			
2596031	Drill Core	5	12	0.87	132	0.002	12	0.46	0.019	0.26	<0.1	0.99	7.4	1.4	1.84	1	10.2	<0.2			
2596032	Drill Core	4	16	1.46	71	0.002	10	0.41	0.017	0.24	<0.1	0.78	9.1	1.4	2.39	1	7.2	<0.2			
2596033	Drill Core	4	14	1.89	72	0.001	11	0.41	0.017	0.24	0.1	0.86	8.6	1.4	2.19	1	7.5	<0.2			
2596034	Drill Core	4	13	1.56	93	0.001	10	0.40	0.021	0.24	<0.1	0.67	6.1	1.2	1.71	1	7.8	<0.2			
2596035	Drill Core	5	18	1.21	114	0.001	12	0.45	0.013	0.27	0.1	0.75	6.4	1.3	1.99	1	10.4	0.3			
2596036	Drill Core	4	9	1.34	66	0.001	10	0.40	0.014	0.24	0.1	0.68	8.2	1.6	2.33	1	6.5	<0.2			
2596037	Drill Core	5	10	0.86	109	0.001	13	0.54	0.020	0.30	<0.1	0.86	7.2	1.5	1.76	1	6.8	<0.2			
2596038	Drill Core	4	10	3.15	235	0.001	9	0.32	0.026	0.21	<0.1	0.41	5.3	0.8	0.88	<1	3.9	<0.2			
2596039	Drill Core	3	29	1.98	71	<0.001	11	0.37	0.030	0.21	<0.1	0.51	6.2	0.6	1.45	<1	4.6	<0.2			
2596040	Drill Core	28	3	0.21	8679	0.010	5	1.18	0.547	0.24	<0.1	0.24	1.1	0.2	0.06	3	<0.5	<0.2			
2596041	Drill Core	7	194	3.10	350	0.002	11	1.54	0.040	0.16	<0.1	0.20	21.2	0.3	0.50	6	1.4	<0.2			
2596042	Drill Core	10	257	3.39	644	0.008	8	2.26	0.035	0.10	<0.1	0.04	24.7	<0.1	0.10	8	<0.5	<0.2			
2596043	Drill Core	5	15	1.49	83	<0.001	10	0.49	0.020	0.21	<0.1	0.59	7.7	0.6	1.61	1	5.6	<0.2			
2596044	Drill Core	11	98	2.44	486	0.004	11	1.84	0.041	0.13	<0.1	0.06	19.8	0.1	0.26	8	<0.5	<0.2			
2596045	Drill Core	10	100	2.76	558	0.005	10	1.95	0.046	0.12	<0.1	0.05	20.5	<0.1	0.10	8	<0.5	<0.2			
2596046	Drill Core	11	128	3.08	1023	0.015	13	2.54	0.044	0.15	<0.1	0.02	21.9	<0.1	0.06	10	<0.5	<0.2			
2596047	Drill Core	12	139	3.19	618	0.046	12	2.58	0.079	0.14	<0.1	0.03	24.6	<0.1	<0.05	10	<0.5	<0.2			
2596048	Drill Core	11	80	2.54	772	0.151	33	2.26	0.052	0.14	0.2	0.02	14.3	<0.1	0.06	9	<0.5	<0.2			
2596049	Drill Core	10	66	2.40	530	0.216	20	2.19	0.069	0.15	0.5	0.02	11.4	<0.1	<0.05	9	<0.5	<0.2			

A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**LF300**	**TC000**
	Analyte	**Al2O3**	**Fe2O3**	**MgO**	**CaO**	**Na2O**	**K2O**	**TiO2**	**P2O5**	**MnO**	**Cr2O3**	**Ba**	**Ni**	**Sr**	**Zr**	**Y**	**Nb**	**Sc**	**LOI**	**Sum**	**TOT/C**
	Unit	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**%**	**%**
	MDL	**0.01**	**0.04**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.002**	**5**	**20**	**2**	**5**	**3**	**5**	**1**	**-5.1**	**0.01**	**0.02**
2596020	Drill Core																				
2596021	Drill Core																				
2596022	Drill Core																				
2596023	Drill Core																				
2596024	Drill Core																				
2596025	Rock Pulp																				
2596026	Drill Core																				
2596027	Drill Core																				
2596028	Drill Core																				
2596029	Drill Core																				
2596030	Drill Core																				
2596031	Drill Core																				
2596032	Drill Core																				
2596033	Drill Core																				
2596034	Drill Core																				
2596035	Drill Core																				
2596036	Drill Core																				
2596037	Drill Core																				
2596038	Drill Core																				
2596039	Drill Core																				
2596040	Drill Core																				
2596041	Drill Core																				
2596042	Drill Core																				
2596043	Drill Core																				
2596044	Drill Core																				
2596045	Drill Core																				
2596046	Drill Core																				
2596047	Drill Core																				
2596048	Drill Core																				
2596049	Drill Core																				

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

Page: 6 of 8
Part: 4 of 4

CERTIFICATE OF ANALYSIS

VAN13004618.5

	Method	TC000	MA370	GC311	FA330	FA330
	Analyte	TOT/S	Ni	Ni	Pt	Pd
	Unit	%	%	%	gm/t	gm/t
	MDL	0.02	0.001	0.001	0.01	0.01
2596020	Drill Core					
2596021	Drill Core					
2596022	Drill Core					
2596023	Drill Core					
2596024	Drill Core					
2596025	Rock Pulp					
2596026	Drill Core					
2596027	Drill Core					
2596028	Drill Core					
2596029	Drill Core					
2596030	Drill Core					
2596031	Drill Core					
2596032	Drill Core					
2596033	Drill Core					
2596034	Drill Core					
2596035	Drill Core					
2596036	Drill Core					
2596037	Drill Core					
2596038	Drill Core					
2596039	Drill Core					
2596040	Drill Core					
2596041	Drill Core					
2596042	Drill Core					
2596043	Drill Core					
2596044	Drill Core					
2596045	Drill Core					
2596046	Drill Core					
2596047	Drill Core					
2596048	Drill Core					
2596049	Drill Core					

A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	WGHT	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
2596050	Rock Pulp	0.05	6.7	166.8	27.5	91	0.8	29.2	93.6	1276	3.72	3081.8	711.0	1.7	138	0.5	8.2	31.0	33	10.21	0.143
2596051	Drill Core	4.12	0.9	87.2	5.4	65	<0.1	28.4	25.1	895	4.76	5.7	0.8	1.7	192	<0.1	0.7	<0.1	165	4.37	0.070
2596052	Drill Core	3.12	1.0	99.5	6.6	67	<0.1	27.2	24.6	692	4.69	5.3	0.8	1.8	116	0.1	0.6	0.1	175	2.78	0.075
2596053	Drill Core	3.95	0.8	93.8	6.6	69	<0.1	29.0	26.4	930	4.93	6.2	2.8	1.7	217	<0.1	0.4	<0.1	173	4.32	0.071
2596054	Drill Core	3.55	1.0	96.4	6.6	68	<0.1	28.7	26.7	931	5.04	4.2	2.4	1.9	184	<0.1	0.6	<0.1	171	3.55	0.074
2596055	Drill Core	3.39	1.0	88.8	5.3	64	<0.1	30.1	26.0	967	4.81	13.5	3.1	1.4	326	<0.1	1.6	<0.1	138	5.34	0.070
2596056	Drill Core	3.61	1.0	88.7	5.7	66	<0.1	30.1	26.0	1037	5.35	11.6	2.9	1.7	213	<0.1	1.2	<0.1	146	3.74	0.071
2596057	Drill Core	2.89	9.4	86.4	6.4	261	0.1	41.4	20.0	918	4.09	18.2	3.1	1.7	341	2.6	3.8	<0.1	159	6.21	0.075
2596058	Drill Core	2.24	1.0	73.8	4.6	61	<0.1	26.9	23.5	990	4.74	31.3	1.6	1.3	338	0.2	5.6	<0.1	109	5.80	0.063
2596059	Drill Core	2.61	12.6	57.0	10.5	354	0.2	104.6	15.0	409	3.28	111.1	0.5	2.0	191	3.3	14.0	0.1	79	3.38	0.074
2596060	Drill Core	1.85	17.3	61.8	10.9	483	0.2	95.5	14.5	459	3.49	57.5	<0.5	1.9	174	5.2	8.2	0.2	147	3.10	0.080
2596061	Drill Core	2.87	14.0	57.1	8.4	413	0.2	85.8	13.6	482	3.34	100.8	<0.5	1.3	226	4.2	11.2	0.2	61	3.19	0.075
2596062	Drill Core	3.56	30.6	65.8	12.8	308	0.3	96.0	14.9	476	3.53	47.5	3.0	1.9	402	2.3	13.2	0.1	39	4.54	0.077
2596063	Drill Core	2.71	48.5	77.6	9.7	874	0.4	109.2	12.7	493	3.27	111.1	<0.5	1.6	390	10.0	21.3	0.1	68	5.79	0.089
2596064	Drill Core	1.18	24.4	57.7	10.9	383	0.3	104.9	13.7	398	2.93	55.8	3.6	1.6	289	4.0	9.9	<0.1	36	3.28	0.073
2596065	Drill Core	3.16	20.9	74.6	11.5	385	0.3	137.3	18.7	431	4.08	75.8	0.6	1.6	214	3.7	18.9	0.1	66	3.66	0.093
2596066	Drill Core	3.60	21.0	91.4	16.6	530	0.3	148.1	20.3	367	4.41	50.8	0.6	2.7	159	5.0	10.9	0.2	65	2.61	0.079
2596067	Drill Core	2.86	13.8	58.0	9.2	308	0.2	60.9	14.4	618	3.72	74.3	<0.5	1.6	337	2.5	8.0	0.1	50	4.30	0.097
2596068	Drill Core	2.77	4.3	26.4	6.2	87	0.1	72.0	11.4	493	2.33	16.1	0.8	1.0	440	0.5	3.3	<0.1	17	5.72	0.070
2596069	Drill Core	2.41	30.2	75.2	8.6	783	0.3	120.8	14.3	726	3.44	26.4	<0.5	1.2	409	7.2	6.1	<0.1	69	6.42	0.081
2596070	Drill Core	2.49	21.0	59.6	8.9	441	0.2	91.0	12.6	720	3.16	21.4	<0.5	1.2	499	4.6	4.1	<0.1	55	7.00	0.089
2596071	Drill Core	2.06	24.3	79.0	10.9	904	0.4	84.1	15.7	842	3.99	71.1	<0.5	0.7	271	10.0	14.1	<0.1	82	4.78	0.055
2596072	Drill Core	4.15	62.6	91.4	24.7	1680	0.6	68.8	14.2	1911	4.47	28.7	<0.5	1.2	350	13.1	6.5	1.2	98	5.47	0.098
2596073	Drill Core	2.62	0.2	5.0	0.2	24	<0.1	2302.4	106.1	687	5.13	<0.5	<0.5	<0.1	20	<0.1	<0.1	<0.1	14	0.32	0.001
2596074	Drill Core	8.61	0.2	1.5	0.3	31	<0.1	3066.2	124.1	771	5.92	1.0	2.9	<0.1	7	<0.1	<0.1	0.1	2	0.09	<0.001
2596075	Rock Pulp	0.05	6.0	158.2	25.2	90	0.7	27.3	94.2	1288	3.76	3053.1	655.3	1.6	142	0.6	7.7	28.4	35	8.65	0.148
2596076	Drill Core	6.16	<0.1	4.3	0.3	19	<0.1	1982.9	74.8	499	3.29	<0.5	<0.5	<0.1	10	<0.1	<0.1	<0.1	8	1.07	<0.001
2596077	Drill Core	2.41	0.1	9.1	0.5	20	<0.1	1980.4	91.0	761	5.29	<0.5	<0.5	0.2	20	<0.1	<0.1	<0.1	25	0.88	0.003
2596078	Drill Core	5.44	<0.1	5.9	0.4	25	<0.1	2341.5	110.4	780	5.23	<0.5	1.0	<0.1	14	<0.1	<0.1	<0.1	9	0.69	0.003
2596079	Drill Core	5.25	0.1	2.8	0.3	27	<0.1	1895.7	121.1	839	5.01	<0.5	<0.5	<0.1	2	<0.1	<0.1	<0.1	<2	0.11	<0.001

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

Page: 7 of 8 Part: 2 of 4

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**FA430**	**GC410**	**LF300**
	Analyte	**La**	**Cr**	**Mg**	**Ba**	**Ti**	**B**	**Al**	**Na**	**K**	**W**	**Hg**	**Sc**	**Tl**	**S**	**Ga**	**Se**	**Te**	**Au**	**Ni/S**	**SiO2**
	Unit	**ppm**	**ppm**	**%**	**ppm**	**%**	**ppm**	**%**	**%**	**%**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**%**
	MDL	**1**	**1**	**0.01**	**1**	**0.001**	**1**	**0.01**	**0.001**	**0.01**	**0.1**	**0.01**	**0.1**	**0.1**	**0.05**	**1**	**0.5**	**0.2**	**0.005**	**0.01**	**0.01**
2596050	Rock Pulp	13	27	0.41	53	0.067	58	1.61	0.119	0.09	7.7	<0.01	3.2	<0.1	0.28	5	3.9	4.5	0.623		
2596051	Drill Core	11	78	2.70	448	0.097	18	2.22	0.045	0.12	0.1	0.03	18.3	0.1	<0.05	10	<0.5	<0.2			
2596052	Drill Core	11	59	2.44	675	0.223	26	2.31	0.080	0.19	0.4	0.01	12.4	<0.1	<0.05	9	<0.5	<0.2			
2596053	Drill Core	12	80	2.81	439	0.128	15	2.35	0.053	0.11	0.2	0.02	17.3	<0.1	<0.05	11	<0.5	<0.2			
2596054	Drill Core	12	76	2.59	718	0.156	23	2.29	0.061	0.15	0.2	0.03	19.2	0.1	0.07	10	<0.5	<0.2			
2596055	Drill Core	11	77	2.33	539	0.007	14	1.73	0.049	0.14	<0.1	0.02	19.8	<0.1	0.17	7	<0.5	<0.2			
2596056	Drill Core	12	69	2.32	1383	0.023	28	1.60	0.056	0.18	<0.1	0.05	22.6	<0.1	0.06	7	<0.5	<0.2			
2596057	Drill Core	11	66	2.00	658	0.005	10	1.38	0.043	0.13	<0.1	0.09	16.3	<0.1	0.23	6	1.0	<0.2			
2596058	Drill Core	10	59	2.51	540	0.003	13	1.26	0.042	0.19	<0.1	0.05	18.3	<0.1	<0.05	5	<0.5	<0.2			
2596059	Drill Core	7	38	1.61	142	0.002	12	0.56	0.059	0.14	0.2	0.20	7.8	<0.1	0.97	3	4.2	<0.2			
2596060	Drill Core	8	53	1.62	149	0.003	12	0.73	0.062	0.12	0.2	0.21	9.0	<0.1	0.87	4	4.2	<0.2			
2596061	Drill Core	6	28	1.63	67	0.001	15	0.40	0.042	0.18	0.1	0.22	7.9	0.2	1.08	1	3.4	<0.2			
2596062	Drill Core	5	18	1.40	108	0.001	13	0.49	0.015	0.29	<0.1	0.51	7.0	0.5	1.58	1	4.2	<0.2			
2596063	Drill Core	4	13	1.12	54	0.001	12	0.43	0.020	0.20	<0.1	0.90	9.3	1.2	2.13	1	9.6	<0.2			
2596064	Drill Core	6	13	1.11	87	<0.001	13	0.54	0.018	0.29	0.2	0.52	5.8	0.8	1.70	1	4.6	<0.2			
2596065	Drill Core	6	29	1.64	82	0.001	13	0.46	0.029	0.23	<0.1	0.38	8.9	0.4	1.57	1	4.7	<0.2			
2596066	Drill Core	7	28	1.62	85	0.001	16	0.65	0.020	0.35	<0.1	0.57	10.9	0.6	1.71	2	5.1	<0.2			
2596067	Drill Core	6	23	1.78	115	0.001	11	0.48	0.030	0.22	<0.1	0.28	9.1	0.4	1.26	1	3.8	<0.2			
2596068	Drill Core	4	19	0.91	215	<0.001	13	0.54	0.023	0.27	<0.1	0.18	5.3	0.3	0.67	1	1.3	<0.2			
2596069	Drill Core	4	18	2.65	102	0.002	11	0.46	0.025	0.26	<0.1	0.62	7.7	0.9	1.58	2	6.0	<0.2			
2596070	Drill Core	4	15	2.60	79	0.001	12	0.46	0.026	0.26	<0.1	0.50	6.9	0.9	1.33	1	4.8	<0.2			
2596071	Drill Core	3	18	1.85	95	<0.001	10	0.46	0.025	0.22	0.3	1.07	10.9	0.9	1.71	1	7.9	<0.2			
2596072	Drill Core	8	18	1.69	42	0.001	15	0.89	0.034	0.29	1.1	0.53	9.8	0.7	2.38	2	8.2	0.2			
2596073	Drill Core	<1	552	21.99	8	0.003	244	0.18	0.001	<0.01	0.3	0.01	6.7	<0.1	0.11	<1	0.7	<0.2		0.12	
2596074	Drill Core	<1	78	23.23	4	0.001	276	0.02	0.002	<0.01	0.7	0.03	5.0	<0.1	0.13	<1	<0.5	<0.2		0.15	
2596075	Rock Pulp	14	27	0.40	49	0.071	31	1.68	0.115	0.10	7.7	<0.01	3.6	<0.1	0.30	5	4.3	4.5	0.634	<0.01	
2596076	Drill Core	<1	175	16.04	9	0.001	148	0.07	0.002	<0.01	0.2	0.03	3.1	<0.1	0.07	<1	<0.5	<0.2		0.09	
2596077	Drill Core	<1	899	20.76	8	0.005	169	0.31	0.002	<0.01	0.2	<0.01	9.3	<0.1	0.12	<1	<0.5	<0.2		0.11	
2596078	Drill Core	<1	288	21.82	9	0.004	253	0.15	0.002	<0.01	0.3	<0.01	6.2	<0.1	0.12	<1	<0.5	<0.2		0.10	
2596079	Drill Core	<1	89	24.69	4	0.001	306	0.01	0.002	<0.01	0.6	0.01	4.9	<0.1	0.09	<1	<0.5	<0.2		0.05	

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	TC000
	Analyte	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	Sum	TOT/C
	Unit	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
	MDL	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	5	20	2	5	3	5	1	-5.1	0.01	0.02
2596050	Rock Pulp																				
2596051	Drill Core																				
2596052	Drill Core																				
2596053	Drill Core																				
2596054	Drill Core																				
2596055	Drill Core																				
2596056	Drill Core																				
2596057	Drill Core																				
2596058	Drill Core																				
2596059	Drill Core																				
2596060	Drill Core																				
2596061	Drill Core																				
2596062	Drill Core																				
2596063	Drill Core																				
2596064	Drill Core																				
2596065	Drill Core																				
2596066	Drill Core																				
2596067	Drill Core																				
2596068	Drill Core																				
2596069	Drill Core																				
2596070	Drill Core																				
2596071	Drill Core																				
2596072	Drill Core																				
2596073	Drill Core																				
2596074	Drill Core																				
2596075	Rock Pulp																				
2596076	Drill Core																				
2596077	Drill Core																				
2596078	Drill Core																				
2596079	Drill Core																				

A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	TC000	MA370	GC311	FA330	FA330
	Analyte	TOT/S	Ni	Ni	Pt	Pd
	Unit	%	%	%	gm/t	gm/t
	MDL	0.02	0.001	0.001	0.01	0.01
2596050	Rock Pulp					
2596051	Drill Core					
2596052	Drill Core					
2596053	Drill Core					
2596054	Drill Core					
2596055	Drill Core					
2596056	Drill Core					
2596057	Drill Core					
2596058	Drill Core					
2596059	Drill Core					
2596060	Drill Core					
2596061	Drill Core					
2596062	Drill Core					
2596063	Drill Core					
2596064	Drill Core					
2596065	Drill Core					
2596066	Drill Core					
2596067	Drill Core					
2596068	Drill Core					
2596069	Drill Core					
2596070	Drill Core					
2596071	Drill Core					
2596072	Drill Core					
2596073	Drill Core					
2596074	Drill Core				<0.01	<0.01
2596075	Rock Pulp					
2596076	Drill Core					
2596077	Drill Core					
2596078	Drill Core					
2596079	Drill Core					

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

CERTIFICATE OF ANALYSIS VAN13004618.5

Method		**WGHT**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**	**AQ201**
Analyte		**Wgt**	**Mo**	**Cu**	**Pb**	**Zn**	**Ag**	**Ni**	**Co**	**Mn**	**Fe**	**As**	**Au**	**Th**	**Sr**	**Cd**	**Sb**	**Bi**	**V**	**Ca**	**P**
Unit		**kg**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**ppm**	**ppb**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**%**
MDL		**0.01**	**0.1**	**0.1**	**0.1**	**1**	**0.1**	**0.1**	**0.1**	**1**	**0.01**	**0.5**	**0.5**	**0.1**	**1**	**0.1**	**0.1**	**0.1**	**2**	**0.01**	**0.001**
2596080	Drill Core	6.44	0.1	1.1	0.2	24	<0.1	2188.0	120.7	859	5.77	0.7	<0.5	<0.1	3	<0.1	<0.1	<0.1	2	0.14	<0.001
2596081	Drill Core	6.66	<0.1	1.8	0.3	32	<0.1	2170.9	122.7	867	5.85	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	0.02	<0.001
2596082	Drill Core	6.30	<0.1	2.9	<0.1	35	<0.1	2746.5	124.9	958	6.22	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	0.03	<0.001
2596083	Drill Core	6.05	<0.1	1.8	0.2	34	<0.1	2642.2	126.0	958	6.70	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	3	0.03	<0.001
2596084	Drill Core	5.89	<0.1	1.2	<0.1	21	<0.1	2802.3	106.5	834	5.85	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	0.04	<0.001
2596085	Drill Core	5.66	<0.1	4.7	0.2	35	<0.1	3775.5	132.8	969	6.28	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	2	0.05	<0.001
2596086	Drill Core	6.14	<0.1	5.0	<0.1	31	<0.1	4020.5	130.2	939	6.08	<0.5	2.5	<0.1	<1	<0.1	<0.1	<0.1	3	0.04	<0.001
2596087	Drill Core	6.31	<0.1	4.5	0.1	33	<0.1	3589.3	124.3	926	6.59	<0.5	0.8	<0.1	<1	<0.1	<0.1	<0.1	4	0.02	<0.001
2596088	Drill Core	6.21	<0.1	6.9	<0.1	32	<0.1	4125.3	124.6	945	6.65	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	3	0.02	<0.001
2596089	Drill Core	5.89	<0.1	5.6	0.1	29	<0.1	3672.5	125.1	881	6.05	0.6	<0.5	<0.1	<1	<0.1	<0.1	<0.1	3	0.01	<0.001
2596090	Drill Core	6.05	0.1	3.8	<0.1	29	<0.1	3497.3	123.1	864	5.83	0.5	<0.5	<0.1	1	<0.1	<0.1	<0.1	3	0.02	<0.001
2596091	Drill Core	7.00	<0.1	5.3	0.1	29	<0.1	3474.3	131.7	898	6.46	<0.5	<0.5	<0.1	2	<0.1	<0.1	<0.1	3	0.05	<0.001
2596092	Drill Core	6.21	<0.1	6.9	<0.1	30	<0.1	3415.5	122.8	909	6.34	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	3	0.04	<0.001
2596093	Drill Core	6.05	<0.1	4.4	<0.1	32	<0.1	4151.6	126.3	970	6.50	<0.5	<0.5	<0.1	1	<0.1	<0.1	<0.1	2	0.08	<0.001
2596094	Drill Core	4.77	<0.1	3.3	<0.1	31	<0.1	4125.1	132.9	976	6.41	<0.5	<0.5	<0.1	1	<0.1	<0.1	<0.1	2	0.05	<0.001
2596095	Drill Core	6.87	<0.1	3.1	<0.1	36	<0.1	3435.5	125.7	981	6.87	<0.5	<0.5	<0.1	3	<0.1	<0.1	<0.1	3	0.07	<0.001
2596096	Drill Core	6.73	<0.1	4.1	0.1	32	<0.1	3516.5	131.7	1048	6.75	<0.5	0.7	<0.1	19	<0.1	<0.1	<0.1	4	0.32	<0.001
2596097	Drill Core	2.87	<0.1	19.1	0.2	29	<0.1	2896.1	127.8	940	6.17	<0.5	14.5	<0.1	27	<0.1	<0.1	<0.1	14	0.38	0.001
2596098	Drill Core	7.26	0.1	65.2	<0.1	16	<0.1	328.0	46.7	429	3.03	<0.5	6.4	<0.1	67	<0.1	<0.1	<0.1	57	0.78	<0.001
2596099	Drill Core	7.47	0.1	57.8	0.2	16	<0.1	522.5	55.9	458	3.38	<0.5	20.1	<0.1	66	<0.1	<0.1	<0.1	52	0.90	<0.001
2596100	Rock Pulp	0.05	6.0	160.8	27.0	87	0.7	29.6	92.8	1292	3.67	2991.6	663.5	1.7	134	0.6	7.6	31.0	34	8.53	0.139
2596101	Drill Core	7.47	<0.1	82.0	<0.1	24	<0.1	228.8	35.9	230	2.21	0.8	3.8	<0.1	56	<0.1	<0.1	<0.1	88	1.29	<0.001
2596102	Drill Core	7.64	0.1	25.0	0.1	27	<0.1	169.6	30.4	274	2.51	<0.5	2.3	<0.1	43	<0.1	<0.1	<0.1	100	1.11	<0.001
2596103	Drill Core	7.09	<0.1	30.0	0.1	13	<0.1	182.5	29.9	275	2.26	0.6	1.9	<0.1	53	<0.1	<0.1	<0.1	80	1.38	<0.001

A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

Page: 8 of 8   Part: 2 of 4

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	FA430	GC410	LF300
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au	Ni/S	SiO2
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%
	MDL	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005	0.01	0.01
2596080	Drill Core	<1	105	24.44	3	0.001	335	0.02	0.002	<0.01	0.4	0.02	4.7	<0.1	0.09	<1	<0.5	<0.2		0.06	
2596081	Drill Core	<1	85	24.83	3	0.001	359	0.02	0.002	<0.01	0.6	0.01	4.5	<0.1	0.09	<1	<0.5	<0.2		0.05	
2596082	Drill Core	<1	63	25.25	2	<0.001	393	0.01	0.002	<0.01	0.7	0.01	4.6	<0.1	0.10	<1	<0.5	<0.2		0.07	
2596083	Drill Core	<1	71	23.64	2	0.001	357	0.01	0.002	<0.01	0.6	0.01	5.3	<0.1	0.09	<1	<0.5	<0.2		0.06	
2596084	Drill Core	<1	83	23.61	<1	<0.001	429	0.02	<0.001	<0.01	0.4	0.01	3.6	<0.1	0.10	<1	<0.5	<0.2		0.07	
2596085	Drill Core	<1	108	24.86	2	0.001	415	0.02	0.002	<0.01	0.6	0.02	5.0	<0.1	0.09	<1	<0.5	<0.2		0.09	
2596086	Drill Core	<1	83	24.68	1	<0.001	389	0.01	0.002	<0.01	0.6	0.02	5.3	<0.1	0.09	<1	<0.5	<0.2		0.09	
2596087	Drill Core	<1	110	24.18	1	0.001	413	0.02	0.002	<0.01	0.6	0.03	5.2	<0.1	0.10	<1	<0.5	<0.2		0.09	
2596088	Drill Core	<1	78	25.31	1	0.001	385	0.01	0.001	<0.01	0.6	0.03	4.7	<0.1	0.10	<1	<0.5	<0.2		0.12	36.77
2596089	Drill Core	<1	106	24.44	1	0.001	348	0.02	0.002	<0.01	0.7	0.02	4.9	<0.1	0.10	<1	<0.5	<0.2		0.13	
2596090	Drill Core	<1	116	23.82	1	0.002	368	0.02	0.002	<0.01	0.8	0.06	5.3	<0.1	0.12	<1	<0.5	<0.2		0.16	
2596091	Drill Core	<1	122	23.02	<1	0.001	373	0.02	0.002	<0.01	0.8	<0.01	4.3	<0.1	0.14	<1	<0.5	<0.2		0.19	
2596092	Drill Core	<1	136	24.29	<1	0.001	316	0.02	0.001	<0.01	0.9	0.03	4.9	<0.1	0.14	<1	<0.5	<0.2		0.21	
2596093	Drill Core	<1	71	25.02	<1	0.001	363	0.01	0.001	<0.01	1.2	<0.01	4.7	<0.1	0.16	<1	<0.5	<0.2		0.24	37.01
2596094	Drill Core	<1	90	23.84	<1	0.001	374	0.02	0.001	<0.01	1.2	<0.01	5.4	<0.1	0.17	<1	<0.5	<0.2		0.26	
2596095	Drill Core	<1	89	23.04	<1	0.001	387	0.02	0.001	<0.01	1.2	0.01	4.8	<0.1	0.19	<1	<0.5	<0.2		0.22	
2596096	Drill Core	<1	100	24.21	1	0.001	752	0.02	0.002	<0.01	1.1	0.05	4.6	<0.1	0.24	<1	<0.5	<0.2		0.23	
2596097	Drill Core	<1	232	21.51	166	0.004	>2000	0.13	0.009	<0.01	0.2	0.11	7.5	0.3	0.22	<1	<0.5	<0.2		0.18	
2596098	Drill Core	<1	486	5.69	29	0.017	63	0.65	0.033	<0.01	<0.1	0.02	11.2	<0.1	0.11	2	<0.5	<0.2			
2596099	Drill Core	<1	487	7.52	16	0.021	130	0.73	0.030	<0.01	<0.1	0.02	10.1	<0.1	0.18	2	<0.5	<0.2			
2596100	Rock Pulp	14	26	0.40	51	0.070	46	1.66	0.114	0.10	7.6	<0.01	3.5	<0.1	0.30	5	4.4	4.2	0.631		
2596101	Drill Core	<1	297	3.67	9	0.039	3	1.58	0.034	<0.01	<0.1	<0.01	10.9	<0.1	<0.05	3	<0.5	<0.2			
2596102	Drill Core	<1	359	3.68	9	0.046	33	1.80	0.024	<0.01	<0.1	<0.01	11.6	<0.1	<0.05	3	<0.5	<0.2			
2596103	Drill Core	<1	516	4.12	115	0.040	11	1.14	0.031	<0.01	<0.1	<0.01	13.1	<0.1	0.06	2	<0.5	<0.2			

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	TC000
	Analyte	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	Sum	TOT/C
	Unit	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
	MDL	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	5	20	2	5	3	5	1	-5.1	0.01	0.02
2596080	Drill Core																				
2596081	Drill Core																				
2596082	Drill Core																				
2596083	Drill Core																				
2596084	Drill Core																				
2596085	Drill Core																				
2596086	Drill Core																				
2596087	Drill Core																				
2596088	Drill Core	0.20	9.02	36.94	0.01	<0.01	<0.01	<0.01	<0.01	0.11	0.299	<5	3508	<2	<5	<3	6	3	15.6	99.37	0.14
2596089	Drill Core																				
2596090	Drill Core																				
2596091	Drill Core																				
2596092	Drill Core																				
2596093	Drill Core	0.21	8.73	37.00	0.10	<0.01	<0.01	<0.01	<0.01	0.11	0.321	<5	3429	<2	<5	<3	<5	3	15.4	99.38	0.16
2596094	Drill Core																				
2596095	Drill Core																				
2596096	Drill Core																				
2596097	Drill Core																				
2596098	Drill Core																				
2596099	Drill Core																				
2596100	Rock Pulp																				
2596101	Drill Core																				
2596102	Drill Core																				
2596103	Drill Core																				

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.

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

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

Page: 8 of 8 Part: 4 of 4

CERTIFICATE OF ANALYSIS VAN13004618.5

	Method	**TC000**	**MA370**	**GC311**	**FA330**	**FA330**
	Analyte	**TOT/S**	**Ni**	**Ni**	**Pt**	**Pd**
	Unit	**%**	**%**	**%**	**gm/t**	**gm/t**
	MDL	**0.02**	**0.001**	**0.001**	**0.01**	**0.01**
2596080	Drill Core					
2596081	Drill Core					
2596082	Drill Core				<0.01	0.01
2596083	Drill Core					
2596084	Drill Core					
2596085	Drill Core					
2596086	Drill Core					
2596087	Drill Core					
2596088	Drill Core	0.13	0.390	0.115	0.01	<0.01
2596089	Drill Core					
2596090	Drill Core					
2596091	Drill Core					
2596092	Drill Core					
2596093	Drill Core	0.19	0.370	0.270	<0.01	<0.01
2596094	Drill Core				0.02	<0.01
2596095	Drill Core					
2596096	Drill Core					
2596097	Drill Core				<0.01	0.01
2596098	Drill Core					
2596099	Drill Core					
2596100	Rock Pulp					
2596101	Drill Core					
2596102	Drill Core					
2596103	Drill Core					

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

Page: 1 of 5   Part: 1 of 4

QUALITY CONTROL REPORT   VAN13004618.5

	Method	WGHT	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
Pulp Duplicates																					
2595925	Rock Pulp	0.05	6.4	162.4	24.2	88	0.7	27.3	92.1	1356	3.79	3134.7	547.0	1.6	134	0.4	7.1	28.3	38	8.86	0.140
REP 2595925	QC		6.7	164.9	24.7	93	0.7	28.9	95.5	1323	3.82	3172.4	653.5	1.6	132	0.6	7.6	28.6	37	8.68	0.141
REP 2595926	QC																				
2595960	Drill Core	3.64	1.0	73.3	5.2	86	<0.1	71.4	28.2	1022	4.85	10.4	<0.5	1.4	185	0.3	1.2	<0.1	133	3.68	0.062
REP 2595960	QC		0.9	77.1	5.1	81	<0.1	76.5	28.1	1035	4.88	11.4	<0.5	1.4	177	0.3	1.2	<0.1	134	3.72	0.064
2595978	Drill Core	2.66	3.2	2.7	19.8	34	<0.1	2.0	0.4	155	0.67	5.2	<0.5	9.4	217	<0.1	1.2	0.2	<2	0.46	0.005
REP 2595978	QC		3.1	3.0	18.3	34	<0.1	2.1	0.4	152	0.68	4.7	<0.5	9.1	209	<0.1	1.2	0.2	<2	0.45	0.006
2595995	Drill Core	2.52	0.2	23.9	0.5	47	<0.1	66.1	25.0	889	3.80	<0.5	<0.5	0.3	73	0.1	1.0	<0.1	123	4.09	0.022
REP 2595995	QC		0.1	22.2	0.5	42	<0.1	68.1	23.4	880	3.77	<0.5	<0.5	0.3	70	<0.1	1.1	<0.1	121	4.03	0.023
2596030	Drill Core	3.18	31.7	76.5	10.0	567	0.3	79.8	12.9	446	3.51	173.5	4.9	1.3	432	5.9	29.9	0.1	42	4.79	0.086
REP 2596030	QC		32.3	78.5	9.8	593	0.3	81.4	13.7	454	3.59	174.2	2.3	1.4	416	5.9	29.6	0.1	43	4.81	0.082
2596065	Drill Core	3.16	20.9	74.6	11.5	385	0.3	137.3	18.7	431	4.08	75.8	0.6	1.6	214	3.7	18.9	0.1	66	3.66	0.093
REP 2596065	QC		20.0	76.2	11.3	394	0.3	138.4	18.5	430	4.06	76.4	0.7	1.5	209	3.8	18.1	0.1	68	3.64	0.089
2596079	Drill Core	5.25	0.1	2.8	0.3	27	<0.1	1895.7	121.1	839	5.01	<0.5	<0.5	<0.1	2	<0.1	<0.1	<0.1	<2	0.11	<0.001
REP 2596079	QC																				
2596084	Drill Core	5.89	<0.1	1.2	<0.1	21	<0.1	2802.3	106.5	834	5.85	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	0.04	<0.001
REP 2596084	QC		<0.1	1.2	<0.1	20	<0.1	2786.3	106.9	828	5.83	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	0.04	<0.001
2596088	Drill Core	6.21	<0.1	6.9	<0.1	32	<0.1	4125.3	124.6	945	6.65	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	3	0.02	<0.001
REP 2596088	QC																				
2596090	Drill Core	6.05	0.1	3.8	<0.1	29	<0.1	3497.3	123.1	864	5.83	0.5	<0.5	<0.1	1	<0.1	<0.1	<0.1	3	0.02	<0.001
REP 2596090	QC		<0.1	4.0	<0.1	28	<0.1	3504.5	119.1	873	5.84	<0.5	<0.5	<0.1	1	<0.1	<0.1	<0.1	4	0.02	<0.001
2596093	Drill Core	6.05	<0.1	4.4	<0.1	32	<0.1	4151.6	126.3	970	6.50	<0.5	<0.5	<0.1	1	<0.1	<0.1	<0.1	2	0.08	<0.001
REP 2596093	QC																				
2596094	Drill Core	4.77	<0.1	3.3	<0.1	31	<0.1	4125.1	132.9	976	6.41	<0.5	<0.5	<0.1	1	<0.1	<0.1	<0.1	2	0.05	<0.001
REP 2596094	QC																				
2596097	Drill Core	2.87	<0.1	19.1	0.2	29	<0.1	2896.1	127.8	940	6.17	<0.5	14.5	<0.1	27	<0.1	<0.1	<0.1	14	0.38	0.001
REP 2596097	QC																				
Core Reject Duplicates																					

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

Page: 1 of 5   Part: 2 of 4

QUALITY CONTROL REPORT   VAN13004618.5

	Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	FA430	GC410	LF300
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au	Ni/S	SiO2
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%
	MDL	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005	0.01	0.01
Pulp Duplicates																					
2595925	Rock Pulp	14	27	0.41	49	0.076	63	1.71	0.135	0.12	7.5	<0.01	3.7	<0.1	0.32	5	4.3	4.1	0.666		
REP 2595925	QC	13	28	0.43	47	0.075	51	1.64	0.132	0.11	7.8	<0.01	3.9	<0.1	0.31	5	4.3	4.4			
REP 2595926	QC																		0.295		
2595960	Drill Core	10	186	3.73	378	0.028	10	1.55	0.041	0.12	<0.1	0.09	20.8	0.2	0.06	7	<0.5	<0.2			
REP 2595960	QC	10	189	3.77	374	0.029	10	1.53	0.042	0.12	<0.1	0.08	21.4	0.2	0.06	7	<0.5	<0.2			
2595978	Drill Core	25	2	0.24	5339	0.001	3	1.27	0.276	0.18	<0.1	0.52	0.6	<0.1	0.07	2	<0.5	<0.2			
REP 2595978	QC	23	2	0.23	5161	0.001	3	1.22	0.261	0.18	<0.1	0.54	0.7	<0.1	0.08	2	<0.5	<0.2			
2595995	Drill Core	2	115	2.69	312	0.067	9	3.07	0.041	0.05	<0.1	0.09	17.4	<0.1	<0.05	9	1.0	<0.2			
REP 2595995	QC	2	108	2.62	303	0.064	7	2.98	0.040	0.05	<0.1	0.08	15.9	<0.1	<0.05	8	<0.5	<0.2			
2596030	Drill Core	4	10	1.17	117	0.001	13	0.42	0.013	0.24	0.1	0.69	7.7	1.4	2.24	1	5.5	<0.2			
REP 2596030	QC	5	9	1.19	104	0.001	11	0.42	0.014	0.25	0.1	0.73	7.7	1.4	2.28	1	5.9	<0.2			
2596065	Drill Core	6	29	1.64	82	0.001	13	0.46	0.029	0.23	<0.1	0.38	8.9	0.4	1.57	1	4.7	<0.2			
REP 2596065	QC	6	28	1.63	76	0.001	11	0.47	0.029	0.23	<0.1	0.36	9.1	0.3	1.57	1	3.2	<0.2			
2596079	Drill Core	<1	89	24.69	4	0.001	306	0.01	0.002	<0.01	0.6	0.01	4.9	<0.1	0.09	<1	<0.5	<0.2		0.05	
REP 2596079	QC																			0.06	
2596084	Drill Core	<1	83	23.61	<1	<0.001	429	0.02	<0.001	<0.01	0.4	0.01	3.6	<0.1	0.10	<1	<0.5	<0.2		0.07	
REP 2596084	QC	<1	84	24.17	1	<0.001	476	0.02	<0.001	<0.01	0.3	0.01	3.7	<0.1	0.10	<1	<0.5	<0.2			
2596088	Drill Core	<1	78	25.31	1	0.001	385	0.01	0.001	<0.01	0.6	0.03	4.7	<0.1	0.10	<1	<0.5	<0.2		0.12	36.77
REP 2596088	QC																				
2596090	Drill Core	<1	116	23.82	1	0.002	368	0.02	0.002	<0.01	0.8	0.06	5.3	<0.1	0.12	<1	<0.5	<0.2		0.16	
REP 2596090	QC	<1	115	24.29	1	0.001	413	0.02	0.002	<0.01	0.8	0.06	5.4	<0.1	0.12	<1	<0.5	<0.2			
2596093	Drill Core	<1	71	25.02	<1	0.001	363	0.01	0.001	<0.01	1.2	<0.01	4.7	<0.1	0.16	<1	<0.5	<0.2		0.24	37.01
REP 2596093	QC																				36.90
2596094	Drill Core	<1	90	23.84	<1	0.001	374	0.02	0.001	<0.01	1.2	<0.01	5.4	<0.1	0.17	<1	<0.5	<0.2		0.26	
REP 2596094	QC																			0.26	
2596097	Drill Core	<1	232	21.51	166	0.004	>2000	0.13	0.009	<0.01	0.2	0.11	7.5	0.3	0.22	<1	<0.5	<0.2		0.18	
REP 2596097	QC																			0.19	
Core Reject Duplicates																					

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

QUALITY CONTROL REPORT VAN13004618.5

	Method	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	TC000
	Analyte	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	Sum	TOT/C
	Unit	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
	MDL	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	5	20	2	5	3	5	1	-5.1	0.01	0.02
Pulp Duplicates																					
2595925	Rock Pulp																				
REP 2595925	QC																				
REP 2595926	QC																				
2595960	Drill Core																				
REP 2595960	QC																				
2595978	Drill Core																				
REP 2595978	QC																				
2595995	Drill Core																				
REP 2595995	QC																				
2596030	Drill Core																				
REP 2596030	QC																				
2596065	Drill Core																				
REP 2596065	QC																				
2596079	Drill Core																				
REP 2596079	QC																				
2596084	Drill Core																				
REP 2596084	QC																				
2596088	Drill Core	0.20	9.02	36.94	0.01	<0.01	<0.01	<0.01	<0.01	0.11	0.299	<5	3508	<2	<5	<3	6	3	15.6	99.37	0.14
REP 2596088	QC																				
2596090	Drill Core																				
REP 2596090	QC																				
2596093	Drill Core	0.21	8.73	37.00	0.10	<0.01	<0.01	<0.01	<0.01	0.11	0.321	<5	3429	<2	<5	<3	<5	3	15.4	99.38	0.16
REP 2596093	QC	0.22	8.66	37.16	0.10	<0.01	<0.01	<0.01	<0.01	0.11	0.343	<5	3405	<2	<5	<3	<5	3	15.4	99.38	0.15
2596094	Drill Core																				
REP 2596094	QC																				
2596097	Drill Core																				
REP 2596097	QC																				
Core Reject Duplicates																					

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

QUALITY CONTROL REPORT   VAN13004618.5

	Method	TC000	MA370	GC311	FA330	FA330
	Analyte	TOT/S	Ni	Ni	Pt	Pd
	Unit	%	%	%	gm/t	gm/t
	MDL	0.02	0.001	0.001	0.01	0.01
Pulp Duplicates						
2595925	Rock Pulp					
REP 2595925	QC					
REP 2595926	QC					
2595960	Drill Core					
REP 2595960	QC					
2595978	Drill Core					
REP 2595978	QC					
2595995	Drill Core					
REP 2595995	QC					
2596030	Drill Core					
REP 2596030	QC					
2596065	Drill Core					
REP 2596065	QC					
2596079	Drill Core					
REP 2596079	QC					
2596084	Drill Core					
REP 2596084	QC					
2596088	Drill Core	0.13	0.390	0.115	0.01	<0.01
REP 2596088	QC			0.116	0.01	<0.01
2596090	Drill Core					
REP 2596090	QC		0.332			
2596093	Drill Core	0.19	0.370	0.270	<0.01	<0.01
REP 2596093	QC	0.17		0.263		
2596094	Drill Core				0.02	<0.01
REP 2596094	QC					
2596097	Drill Core				<0.01	0.01
REP 2596097	QC					
Core Reject Duplicates						

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

QUALITY CONTROL REPORT   VAN13004618.5

		WGHT	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
2595926	Drill Core	2.40	<0.1	29.7	3.0	14	<0.1	914.5	56.9	648	3.24	1211.7	252.8	<0.1	541	<0.1	181.1	0.1	14	4.42	0.004
DUP 2595926	QC		0.1	28.7	3.2	14	<0.1	908.4	56.1	651	3.23	1213.7	266.3	<0.1	582	<0.1	187.7	<0.1	14	4.38	0.005
2595964	Drill Core	3.69	0.9	85.2	4.9	66	<0.1	79.3	30.4	1050	5.06	3.2	<0.5	1.5	156	<0.1	0.7	<0.1	152	2.53	0.070
DUP 2595964	QC		1.0	88.1	5.0	68	<0.1	81.0	31.0	1035	5.16	3.3	<0.5	1.4	161	<0.1	0.7	<0.1	154	2.63	0.065
2596002	Drill Core	3.16	0.2	30.7	0.5	66	<0.1	9.7	24.5	881	6.57	3.7	<0.5	<0.1	36	0.2	0.7	<0.1	252	2.53	0.081
DUP 2596002	QC		0.2	31.5	0.5	72	<0.1	9.8	25.8	927	6.89	2.8	<0.5	<0.1	38	<0.1	0.7	<0.1	257	2.69	0.087
2596040	Drill Core	3.44	3.5	5.4	20.7	66	<0.1	9.4	1.1	159	0.67	11.6	1.4	8.1	192	0.5	1.7	0.2	6	0.52	0.013
DUP 2596040	QC		3.6	5.1	20.8	67	0.1	9.7	1.1	170	0.67	12.1	0.5	8.0	201	0.6	1.9	0.2	6	0.57	0.014
2596078	Drill Core	5.44	<0.1	5.9	0.4	25	<0.1	2341.5	110.4	780	5.23	<0.5	1.0	<0.1	14	<0.1	<0.1	<0.1	9	0.69	0.003
DUP 2596078	QC		<0.1	4.9	0.3	27	<0.1	2363.0	109.7	780	5.22	<0.5	0.6	<0.1	11	<0.1	<0.1	<0.1	8	0.53	0.002
Reference Materials																					
STD CDN-ME-14	Standard																				
STD CDN-ME-9	Standard																				
STD DS10	Standard		15.1	159.8	139.5	365	2.1	78.2	13.4	903	2.84	45.8	81.8	7.1	65	2.4	8.4	11.2	45	1.10	0.075
STD DS10	Standard		15.5	150.7	134.3	360	2.0	72.3	12.5	887	2.80	44.7	104.1	7.0	65	2.5	8.6	10.4	45	1.07	0.074
STD DS10	Standard		14.1	152.2	137.4	366	2.0	75.4	12.7	880	2.68	46.8	84.9	6.9	69	2.7	8.7	10.7	44	1.06	0.070
STD DS10	Standard		14.3	148.9	152.1	367	1.9	74.0	14.0	906	2.81	47.0	98.0	7.6	71	2.8	10.1	13.1	47	1.09	0.078
STD DS10	Standard		14.6	154.3	131.5	341	2.0	74.8	13.3	889	2.83	42.6	87.9	6.8	66	2.5	7.4	10.0	46	1.10	0.071
STD DS10	Standard		15.3	165.6	156.8	363	2.1	82.7	13.7	892	2.79	46.4	91.9	8.1	71	2.8	9.1	12.7	44	1.09	0.073
STD DS10	Standard		15.8	156.6	158.1	358	2.2	77.9	13.3	870	2.77	46.0	96.0	7.7	69	2.5	9.0	12.1	42	1.07	0.074
STD DS10	Standard		15.3	153.8	144.5	336	1.9	72.7	12.9	865	2.77	43.4	77.4	7.8	70	2.7	9.5	12.4	40	1.06	0.067
STD DS10	Standard		13.0	144.0	139.4	346	1.9	73.0	12.6	870	2.76	44.3	82.2	6.9	61	2.5	8.5	10.5	46	1.08	0.076
STD GS311-1	Standard																				
STD GS910-4	Standard																				
STD OXC109	Standard		1.4	34.3	10.4	40	<0.1	69.4	18.7	398	2.84	2.7	167.8	1.4	136	<0.1	<0.1	<0.1	49	0.68	0.097
STD OXC109	Standard		1.5	34.2	10.1	40	<0.1	68.4	18.5	390	2.81	0.5	160.2	1.3	132	<0.1	<0.1	<0.1	48	0.65	0.096
STD OXC109	Standard		1.4	35.9	9.9	40	<0.1	69.6	18.3	402	2.74	0.8	179.1	1.4	136	<0.1	<0.1	<0.1	46	0.66	0.101
STD OXC109	Standard		1.7	34.6	10.8	43	<0.1	80.3	19.7	415	2.87	<0.5	172.8	1.5	147	<0.1	<0.1	<0.1	50	0.69	0.111
STD OXC109	Standard		1.6	38.8	12.4	42	<0.1	80.0	19.8	414	2.85	1.1	201.7	1.6	152	<0.1	<0.1	<0.1	48	0.69	0.106

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

QUALITY CONTROL REPORT   VAN13004618.5

		AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	FA430	GC410	LF300
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au	Ni/S	SiO2
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%
		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005	0.01	0.01
2595926	Drill Core	<1	180	9.98	42	<0.001	3	0.04	0.004	0.02	0.3	0.13	4.4	<0.1	0.52	<1	1.1	<0.2	0.289		
DUP 2595926	QC	<1	178	9.90	45	<0.001	4	0.04	0.004	0.02	0.3	0.14	4.2	<0.1	0.52	<1	1.0	<0.2	0.295		
2595964	Drill Core	12	231	3.97	500	0.010	7	1.92	0.039	0.13	<0.1	0.03	23.9	0.1	<0.05	8	<0.5	<0.2			
DUP 2595964	QC	12	233	3.94	507	0.010	7	1.92	0.040	0.13	<0.1	0.04	24.6	0.1	<0.05	8	<0.5	<0.2			
2596002	Drill Core	1	12	2.19	571	0.278	4	3.94	0.031	0.03	<0.1	0.02	20.2	<0.1	0.20	11	0.5	<0.2			
DUP 2596002	QC	2	13	2.25	643	0.305	8	4.09	0.033	0.03	<0.1	0.03	22.0	<0.1	0.20	12	<0.5	<0.2			
2596040	Drill Core	28	3	0.21	8679	0.010	5	1.18	0.547	0.24	<0.1	0.24	1.1	0.2	0.06	3	<0.5	<0.2			
DUP 2596040	QC	29	3	0.23	8965	0.010	5	1.22	0.557	0.25	<0.1	0.24	1.1	0.2	0.06	3	0.6	<0.2			
2596078	Drill Core	<1	288	21.82	9	0.004	253	0.15	0.002	<0.01	0.3	<0.01	6.2	<0.1	0.12	<1	<0.5	<0.2		0.10	
DUP 2596078	QC	<1	321	22.42	7	0.003	250	0.12	0.002	<0.01	0.4	0.02	6.2	<0.1	0.12	<1	<0.5	<0.2		0.10	
Reference Materials																					
STD CDN-ME-14	Standard																				
STD CDN-ME-9	Standard																				
STD DS10	Standard	18	57	0.79	363	0.083	6	1.09	0.072	0.36	3.3	0.28	3.1	4.7	0.30	4	2.7	4.9			
STD DS10	Standard	18	56	0.77	356	0.084	7	1.06	0.068	0.34	3.2	0.29	2.9	4.7	0.29	4	3.3	4.6			
STD DS10	Standard	17	56	0.77	345	0.076	6	1.04	0.069	0.34	3.2	0.31	2.9	4.8	0.28	4	2.7	5.3			
STD DS10	Standard	17	56	0.79	373	0.080	10	1.09	0.068	0.34	3.2	0.29	2.9	4.9	0.29	4	2.2	4.7			
STD DS10	Standard	18	58	0.79	344	0.086	7	1.12	0.072	0.35	3.1	0.26	3.0	4.3	0.28	4	2.1	5.0			
STD DS10	Standard	18	60	0.79	376	0.083	<1	1.05	0.069	0.35	3.4	0.35	2.8	5.1	0.29	5	2.4	5.6			
STD DS10	Standard	19	56	0.77	372	0.081	8	1.06	0.069	0.34	3.4	0.33	2.9	5.3	0.28	4	2.8	5.2			
STD DS10	Standard	18	57	0.77	364	0.089	7	1.07	0.067	0.34	3.1	0.29	2.9	4.9	0.26	4	2.1	4.8			
STD DS10	Standard	17	53	0.77	330	0.077	7	1.08	0.070	0.34	2.9	0.31	2.8	4.4	0.29	5	2.1	4.5			
STD GS311-1	Standard																				
STD GS910-4	Standard																				
STD OXC109	Standard	12	58	1.43	56	0.380	<1	1.55	0.706	0.44	0.2	<0.01	1.3	<0.1	<0.05	5	<0.5	<0.2			
STD OXC109	Standard	11	57	1.39	52	0.371	2	1.51	0.681	0.43	0.1	<0.01	0.9	0.1	<0.05	5	<0.5	<0.2			
STD OXC109	Standard	12	54	1.38	54	0.348	<1	1.48	0.682	0.41	0.2	<0.01	1.0	0.1	<0.05	5	<0.5	<0.2			
STD OXC109	Standard	12	60	1.44	59	0.379	3	1.56	0.686	0.42	0.2	<0.01	1.1	<0.1	<0.05	5	0.5	<0.2			
STD OXC109	Standard	14	60	1.45	61	0.386	<1	1.56	0.678	0.43	0.2	<0.01	1.2	<0.1	<0.05	6	<0.5	<0.2			

A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

Page: 2 of 5 Part: 3 of 4

QUALITY CONTROL REPORT VAN13004618.5

		LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	TC000
		Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	Sum	TOT/C
		%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
		0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	5	20	2	5	3	5	1	-5.1	0.01	0.02
2595926	Drill Core																				
DUP 2595926	QC																				
2595964	Drill Core																				
DUP 2595964	QC																				
2596002	Drill Core																				
DUP 2596002	QC																				
2596040	Drill Core																				
DUP 2596040	QC																				
2596078	Drill Core																				
DUP 2596078	QC																				
Reference Materials																					
STD CDN-ME-14	Standard																				
STD CDN-ME-9	Standard																				
STD DS10	Standard																				
STD DS10	Standard																				
STD DS10	Standard																				
STD DS10	Standard																				
STD DS10	Standard																				
STD DS10	Standard																				
STD DS10	Standard																				
STD DS10	Standard																				
STD DS10	Standard																				
STD GS311-1	Standard																				1.00
STD GS910-4	Standard																				2.50
STD OXC109	Standard																				
STD OXC109	Standard																				
STD OXC109	Standard																				
STD OXC109	Standard																				
STD OXC109	Standard																				

QUALITY CONTROL REPORT   VAN13004618.5

		TC000	MA370	GC311	FA330	FA330
		TOT/S	Ni	Ni	Pt	Pd
		%	%	%	gm/t	gm/t
		0.02	0.001	0.001	0.01	0.01
2595926	Drill Core					
DUP 2595926	QC					
2595964	Drill Core					
DUP 2595964	QC					
2596002	Drill Core					
DUP 2596002	QC					
2596040	Drill Core					
DUP 2596040	QC					
2596078	Drill Core					
DUP 2596078	QC					
Reference Materials						
STD CDN-ME-14	Standard		0.002			
STD CDN-ME-9	Standard		0.899			
STD DS10	Standard					
STD DS10	Standard					
STD DS10	Standard					
STD DS10	Standard					
STD DS10	Standard					
STD DS10	Standard					
STD DS10	Standard					
STD DS10	Standard					
STD DS10	Standard					
STD GS311-1	Standard	2.36				
STD GS910-4	Standard	7.95				
STD OXC109	Standard					
STD OXC109	Standard					
STD OXC109	Standard					
STD OXC109	Standard					
STD OXC109	Standard					

QUALITY CONTROL REPORT VAN13004618.5

		WGHT	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
STD OXC109	Standard																				
STD OXC109	Standard																				
STD OXC109	Standard																				
STD OXC109	Standard		1.5	35.9	11.4	40	<0.1	73.4	19.2	407	2.86	0.7	221.9	1.4	134	<0.1	<0.1	<0.1	46	0.64	0.104
STD OXC109	Standard																				
STD OXC109	Standard		1.5	36.1	10.6	39	<0.1	71.6	19.2	389	2.84	1.0	195.9	1.5	137	<0.1	<0.1	<0.1	45	0.68	0.101
STD OXC109	Standard		1.5	32.9	10.9	37	<0.1	69.5	18.8	400	2.81	0.8	206.7	1.4	141	<0.1	<0.1	<0.1	50	0.67	0.101
STD OXI96	Standard																				
STD OXI96	Standard																				
STD OXI96	Standard																				
STD OXI96	Standard																				
STD OXL93	Standard																				
STD OXL93	Standard																				
STD OXL93	Standard																				
STD OXL93	Standard																				
STD PD1	Standard																				
STD SO-18	Standard																				
STD SO-18	Standard																				
STD UM-2	Standard																				
STD UM-4	Standard																				
STD UM-4	Standard																				
STD UM-4	Standard																				
STD UM-4	Standard																				
STD UM-4	Standard																				
STD UM-4	Standard																				
STD OXI96 Expected																					
STD OXL93 Expected																					
STD DS10 Expected			14.69	154.61	150.55	370	2.02	74.6	12.9	875	2.7188	43.7	91.9	7.5	67.1	2.49	8.23	11.65	43	1.0625	0.073
STD OXC109 Expected													201								

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

Page: 3 of 5 Part: 2 of 4

QUALITY CONTROL REPORT VAN13004618.5

		AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	FA430	GC410	LF300
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au	Ni/S	SiO2
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%
		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005	0.01	0.01
STD OXC109	Standard																		0.209		
STD OXC109	Standard																		0.203		
STD OXC109	Standard																		0.200		
STD OXC109	Standard	13	59	1.45	57	0.370	1	1.50	0.680	0.41	0.2	<0.01	1.0	<0.1	<0.05	5	<0.5	<0.2			
STD OXC109	Standard																		0.209		
STD OXC109	Standard	12	59	1.41	55	0.378	2	1.52	0.686	0.42	0.2	<0.01	1.0	<0.1	<0.05	5	<0.5	<0.2			
STD OXC109	Standard	13	56	1.44	58	0.350	<1	1.50	0.672	0.41	0.2	<0.01	0.9	<0.1	<0.05	5	<0.5	<0.2			
STD OXI96	Standard																		1.792		
STD OXI96	Standard																		1.787		
STD OXI96	Standard																		1.793		
STD OXI96	Standard																		1.786		
STD OXL93	Standard																		5.794		
STD OXL93	Standard																		5.806		
STD OXL93	Standard																		5.766		
STD OXL93	Standard																		5.655		
STD PD1	Standard																				
STD SO-18	Standard																				58.41
STD SO-18	Standard																				58.34
STD UM-2	Standard																				
STD UM-4	Standard																			0.16	
STD UM-4	Standard																			0.16	
STD UM-4	Standard																			0.16	
STD UM-4	Standard																			0.16	
STD UM-4	Standard																			0.16	
STD UM-4	Standard																			0.16	
STD OXI96 Expected																			1.802		
STD OXL93 Expected																			5.841		
STD DS10 Expected		17.5	54.6	0.775	359	0.0817		1.0259	0.067	0.338	3.32	0.3	2.8	5.1	0.29	4.3	2.3	5.01			
STD OXC109 Expected																			0.201		

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

QUALITY CONTROL REPORT VAN13004618.5

		LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	TC000
		Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	Sum	TOT/C
		%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
		0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	5	20	2	5	3	5	1	-5.1	0.01	0.02
STD OXC109	Standard																				
STD OXC109	Standard																				
STD OXC109	Standard																				
STD OXC109	Standard																				
STD OXC109	Standard																				
STD OXC109	Standard																				
STD OXC109	Standard																				
STD OXI96	Standard																				
STD OXI96	Standard																				
STD OXI96	Standard																				
STD OXI96	Standard																				
STD OXL93	Standard																				
STD OXL93	Standard																				
STD OXL93	Standard																				
STD OXL93	Standard																				
STD PD1	Standard																				
STD SO-18	Standard	14.01	7.58	3.42	6.23	3.65	2.13	0.68	0.78	0.40	0.545	478	50	379	298	29	22	24	1.9	99.90	
STD SO-18	Standard	13.98	7.58	3.36	6.28	3.73	2.16	0.68	0.78	0.39	0.544	481	47	376	298	30	21	24	1.9	99.89	
STD UM-2	Standard																				
STD UM-4	Standard																				
STD UM-4	Standard																				
STD UM-4	Standard																				
STD UM-4	Standard																				
STD UM-4	Standard																				
STD UM-4	Standard																				
STD OXI96 Expected																					
STD OXL93 Expected																					
STD DS10 Expected																					
STD OXC109 Expected																					

AcmeLabs™
A Bureau Veritas Group Company
www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

QUALITY CONTROL REPORT VAN13004618.5

		TC000	MA370	GC311	FA330	FA330
		TOT/S	Ni	Ni	Pt	Pd
		%	%	%	gm/t	gm/t
		0.02	0.001	0.001	0.01	0.01
STD OXC109	Standard					
STD OXC109	Standard					
STD OXC109	Standard					
STD OXC109	Standard					
STD OXC109	Standard					
STD OXC109	Standard					
STD OXC109	Standard					
STD OXI96	Standard					
STD OXI96	Standard					
STD OXI96	Standard					
STD OXI96	Standard					
STD OXL93	Standard					
STD OXL93	Standard					
STD OXL93	Standard					
STD OXL93	Standard					
STD PD1	Standard				0.45	0.57
STD SO-18	Standard					
STD SO-18	Standard					
STD UM-2	Standard			0.227		
STD UM-4	Standard					
STD UM-4	Standard					
STD UM-4	Standard					
STD UM-4	Standard					
STD UM-4	Standard					
STD UM-4	Standard					
STD OXI96 Expected						
STD OXL93 Expected						
STD DS10 Expected						
STD OXC109 Expected						

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

QUALITY CONTROL REPORT   VAN13004618.5

		WGHT	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
STD CDN-ME-14 Expected																					
STD CDN-ME-9 Expected																					
STD GS311-1 Expected																					
STD GS910-4 Expected																					
STD SO-18 Expected																					
STD PD1 Expected																					
STD UM-2 Expected																					
STD UM-4 Expected																					
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	1	<0.1	<0.1	<0.1	<2	0.01	<0.001
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank		<0.1	0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	2.1	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	0.9	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank																				
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank		<0.1	<0.1	<0.1	<1	<0.1	0.2	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				

QUALITY CONTROL REPORT VAN13004618.5

		AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	FA430	GC410	LF300
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au	Ni/S	SiO2
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%
		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005	0.01	0.01
STD CDN-ME-14 Expected																					
STD CDN-ME-9 Expected																					
STD GS311-1 Expected																					
STD GS910-4 Expected																					
STD SO-18 Expected																					58.47
STD PD1 Expected																					
STD UM-2 Expected																					
STD UM-4 Expected																				0.18	
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2			
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2			
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2			
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2			
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2			
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2			
BLK	Blank																		<0.005		
BLK	Blank																		<0.005		
BLK	Blank																		0.008		
BLK	Blank																		<0.005		
BLK	Blank																		<0.005		
BLK	Blank																		<0.005		
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2			
BLK	Blank																		0.007		
BLK	Blank	<1	<1	<0.01	5	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2			
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2			
BLK	Blank																			<0.01	
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				0.02
BLK	Blank																				

A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

QUALITY CONTROL REPORT   VAN13004618.5

		LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	TC000
		Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	Sum	TOT/C
		%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
		0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	5	20	2	5	3	5	1	-5.1	0.01	0.02
STD CDN-ME-14 Expected																					
STD CDN-ME-9 Expected																					
STD GS311-1 Expected																					1.02
STD GS910-4 Expected																					2.65
STD SO-18 Expected		14.23	7.67	3.35	6.42	3.71	2.17	0.69	0.83	0.39	0.55	515	44	402	290	29	21	25			
STD PD1 Expected																					
STD UM-2 Expected																					
STD UM-4 Expected																					
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				<0.02
BLK	Blank	<0.01	<0.04	0.04	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.002	<5	<20	<2	<5	<3	<5	<1	0.0	0.10	
BLK	Blank																				

AcmeLabs™
A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

QUALITY CONTROL REPORT

VAN13004618.5

		TC000	MA370	GC311	FA330	FA330
		TOT/S	Ni	Ni	Pt	Pd
		%	%	%	gm/t	gm/t
		0.02	0.001	0.001	0.01	0.01
STD CDN-ME-14 Expected			0.002			
STD CDN-ME-9 Expected			0.912			
STD GS311-1 Expected		2.35				
STD GS910-4 Expected		8.27				
STD SO-18 Expected						
STD PD1 Expected					0.456	0.563
STD UM-2 Expected				0.29		
STD UM-4 Expected						
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank					
BLK	Blank		<0.001			
BLK	Blank	<0.02				
BLK	Blank					
BLK	Blank				<0.01	<0.01

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

QUALITY CONTROL REPORT   VAN13004618.5

		WGHT	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
Prep Wash																					
G1	Prep Blank		<0.1	3.3	5.2	46	<0.1	3.0	4.1	568	1.91	<0.5	0.9	5.9	61	<0.1	<0.1	0.1	35	0.53	0.072
G1	Prep Blank		<0.1	2.6	3.0	46	<0.1	2.8	3.8	569	1.88	<0.5	0.8	5.7	53	<0.1	<0.1	0.1	36	0.42	0.074

A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

Project: BEN
Report Date: April 30, 2014

QUALITY CONTROL REPORT VAN13004618.5

		AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	FA430	GC410	LF300
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	Au	Ni/S	SiO2
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%
		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	0.005	0.01	0.01
BLK	Blank																				
BLK	Blank																			<0.01	
BLK	Blank																			<0.01	
Prep Wash																					
G1	Prep Blank	12	8	0.49	176	0.105	<1	1.07	0.121	0.52	<0.1	<0.01	2.5	0.3	<0.05	5	<0.5	<0.2			
G1	Prep Blank	13	6	0.48	168	0.095	1	0.86	0.067	0.46	<0.1	<0.01	2.4	0.3	<0.05	4	<0.5	<0.2			

QUALITY CONTROL REPORT

VAN13004618.5

		LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	LF300	TC000
		Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	Sum	TOT/C
		%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
		0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	5	20	2	5	3	5	1	-5.1	0.01	0.02
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
Prep Wash																					
G1	Prep Blank																				
G1	Prep Blank																				

Client: **Westhaven Ventures Inc.**
1103 - 475 Howe Street
Vancouver BC V6C 2B3 CANADA

A Bureau Veritas Group Company

www.acmelab.com

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Project: BEN
Report Date: April 30, 2014

QUALITY CONTROL REPORT VAN13004618.5

		TC000	**MA370**	**GC311**	**FA330**	**FA330**
		TOT/S	**Ni**	**Ni**	**Pt**	**Pd**
		%	**%**	**%**	**gm/t**	**gm/t**
		0.02	**0.001**	**0.001**	**0.01**	**0.01**
BLK	Blank			<0.001		
BLK	Blank					
BLK	Blank					
Prep Wash						
G1	Prep Blank					
G1	Prep Blank					

Appendix C:
Analytical Procedures

QUALITY CONTROL: DEFINITIONS AND GUIDELINES FOR INTERPRETATION

Acme Analytical Laboratories core product is analytical data. Therefore Acme has invested heavily into proprietary software and professional staff to ensure we produce the highest quality data. Acme uses a detailed and comprehensive quality system to minimize errors and maximize the reliability of our analytical results. This system applies a tiered approach to the application of quality systems in our laboratories. These tiers are layered in the following manner;

1. ISO 9001 and 17025 documentation, training and standard operating procedures. This forms the framework of the application of each specific method in the laboratory.
2. The use of instrument calibration standards. These solutions are analyzed before any other solutions to establish the factors required to convert raw instrument data into concentration values.
3. QC validation solutions. These solutions are analyzed with client samples to validate each run and to confirm that each analytical run has been performed correctly. These are typically inserted immediately before and immediately after client sample solutions.
4. Reference materials, replicates and blanks. These samples are inserted into randomly assigned positions within each rack as generated by our proprietary LIMS system so that they are analyzed with the client solutions. Their purpose is to provide a final verification of the entire sample handling process. These samples are made up of the following categories:
    - Sample preparation blank;
    - Sample preparation replicate;
    - Analytical blank;
    - Analytical replicate;
    - Certified Reference Material (CRM);
    - Internal Reference Material (IRM).
5. Data review and validation. This is the final layer that is made up of sophisticated proprietary software and professional personnel reviewing the data. The following steps are applied;
    a. Software validation. Proprietary software is used to review the data for specific problems and to perform a series of rational checks upon the data. Data values are flagged and given specific colors, red for fail and amber for warning. Operators must take action on failures and log their actions.
    b. Rack level validation is performed by the instrument operator that analyzed the samples. At Acme, this person is a Chemist or other person with substantial and equivalent experience. This can only occur when the data has passed the software validation. The operator reviews the rack QC and validates the rack of samples if all QC samples pass.
    c. Method level validation. This validation is performed by the senior department Chemist. This review examines all racks analyzed by a specific method. Its purpose is to identify any trends or unusual results that are not apparent when only looking at a single rack of data.
    d. Final Job validation. This is performed by a Certified Assayer or equivalent senior person. This person has access to all the data from multiple analytical methods to check and compare. This is the person that ultimately signs the final certificate.

This document provides a detailed description of Acme's application of Reference materials, Replicates and Blanks.

The Use of Analytical Blanks and Preparation Blanks

Acme uses two types of blanks in the sample analysis stream for drill and rock samples. The first is a preparation blank that is collected from the cleaning sand or rock used between each and every job to clean the crushing and pulverizing equipment prior to starting another client's samples. It also separates different jobs from the same client that may have been separated due to large differences in composition or grade. This blank appears as the first sample in each job, with results reported in the QC section of the certificate under the heading Prep Wash. The analytical results from this blank are used to monitor contamination during the preparation process. The second blank is an analytical blank which is inserted during analysis to monitor reagent contamination and is reported in the QC section of the certificate as BLK.

If the Client chooses to insert blank material, they must be previously certified by a minimum of 4 ISO 9001 accredited laboratories. The nominal maximum value for acceptance will be up to 1% of the preceding sample up to a maximum of 15ppb (preceding sample of 1,500ppb). For preceding samples above this range, additional cleaning rock must be run through equipment prior to these samples and repeat analysis will be at the cost of the client. In some cases, higher rates of contamination can occur. This is typically due to mineral types that contain higher levels of water of hydration (clay minerals). Our operators are trained to recognize this and use cleaning sand between such samples. Since this additional cleaning step carries an added cost, we do our best to contact the client to confirm these actions.

The Use of Replicates

Acme uses analytical and preparation replicates on drill samples to track reproducibility of the analytical and preparation processes. Data for both types of replicates is provided with each certificate at no charge. Replicate precision varies with concentration from 100% or greater error at or near the detection limit for the method, down to the method precision at concentrations greater than 10 times the detection limit.

If clients choose to submit blind replicates please note that replicates on drill samples may not meet the same reproducibility criteria as CRM's/IRM's because the drill samples may not be as homogeneous as an aggressively prepared and mixed standard.

The presence of native gold can also cause serious reproducibility problems. Where the presence of coarse gold is suspected, the parties should discuss more appropriate analytical and preparation techniques that can mitigate these problems.

The Use of Certified Standard Reference Materials (CRM's)

Acme uses CRM's whenever possible to track analytical accuracy and precision for each method. If a CRM is not available or of such high cost that they are not practical, Acme uses internal reference materials (IRM's) that are either synthetically made or certified by performing round robin analyses by several laboratories. If an IRM is used, Acme routinely validates their concentrations using CRM's when they are available.

For concentrations above 10 times the detection limit expected geochemical exploration sample precision is 15% for methods such as 1D and 1E. Ore grade expected precision is 7% at levels greater than 10 times the detection limit for methods such as 7AR and 7TD. Exact precision is method, element and standard quality dependent, so acceptance criteria for individual standard and method combinations are determined on a minimum of 30 replicates measured during the course of routine analyses at a single laboratory. It should be noted that the expected precision for gold in methods such as Group 3 and Group 6 are difficult to predict due to the heterogeneous distribution of gold in many materials.

Client Field Replicates

Field replicate precision is a measure of the sampling process and natural variability within the sample media; they are not suited for determining analytical precision.

Client's Use of Blind or Hidden Internal Standards

Acme encourages and strongly recommends the use of blind client standards and we recognize that their use is an important component of project data evaluation and acceptance. It is Acme's policy to reanalyze any sample batch that contains a failed customer standard, free of charge, under the following conditions;

- The client supplies Acme with the certification documentation for the standard or proof of certification parameters such as, but not limited to; method of analysis, number of participating laboratories, range of data in the round robin.
- Standards must come from an accredited manufacturer such as CANMET, CDN Labs, Ore Research, Rocklabs or WCM. Certification criteria/method of analysis should be considered before determining if a standard is applicable to a method.
- The analytical result falls outside 3 standard deviations of a population of no less than 30 values determined using a single analytical method (good laboratory practice indicates that 1 value between 2 and 3 SD's is acceptable, while 2 consecutive values will call for reanalysis. In the above description, Acme refers to the standard deviation of values determined over the course of these minimum 30 routine analytical measurements at a single lab, and not the value quoted in the certification sheet for the standard. This definition includes error associated with both the analytical technique, as well as error in the certified value, and is therefore a robust measure of a CRMs performance under a particular set of analytical conditions. In addition, individual standard values that fall outside 3 standard deviations but still lie within the certified error of the material will not be considered to have failed QC validation and costs for requested repeat analyses will be borne by client.
- The failed standard is brought to our attention within 90 days of the initial reporting of the analytical results.

If the reanalysis of a batch or rack is requested by the client due to a Standard failure and the only analytical result that changes significantly is the result for the Standard, the client will be charged for the reanalysis of the rack or batch as this indicates heterogeneity of the Standard itself. In addition, if both samples AND standards are unchanged upon reanalysis, the client will bear the cost of said reanalysis.

Some additional considerations should be noted;

- Variability of a standard material is additive to the analytical method error. Therefore, a poorly prepared standard will increase the total standard deviation realized.
- Selection of an appropriate standard that is both mineralogically and compositionally similar to the samples it is to be analyzed with is of critical importance.

    - If the standard has a different matrix then it would not be unusual if the only sample failing the performance criteria is the standard itself.
    - If the standard has a concentration that is not in a useful concentration range, then unexpected results can occur. For instance, if the concentration of the standard is too high, the laboratory may consistently reanalyze this standard under the assumption that the result is highly anomalous and therefore requires another check. This will waste money and time.

Determination of Method Confidence Limits to be Used for Pass/Fail Criteria

When referring to the Standard Certificate, neither the 95% confidence interval nor the standard deviation quoted in the certificate should be used to calculate control limits or to fail a batch of samples. The 95% confidence interval (normally appearing on the front page of a certificate) is a measure of the certainty of the accuracy of the recommended value. It does not relate to the expected precision during routine use. In addition, it does not account for variations controlled by the limitations imposed by a particular digestion method.

The control limits used to determine the passing or failing of batch data should be calculated from the data that is generated by the laboratory itself (see section "Client use of Blind or Hidden Internal Standards" above for details). Each laboratory provides Standards analyzed with each batch, for this purpose.

Whenever possible, the client should discuss their quality program with the laboratory prior to the start of the project. In this way, any difference in interpretation may be discussed and agreed to in advance.

METHOD SPECIFICATIONS
GENERAL SAMPLE PREPARATION METHODS

Receiving: Samples arrive via courier, post or by client drop-off; shipment inspected for completeness.

Sorting and Inspection: Samples sorted and inspected for quality of use (quantity and condition). Pulp samples inspected for homogeneity and fineness.

SOILS

SS80, S230, SSXX Drying and Sieving: Wet or damp soil samples are dried at 60°C (Air dried or 40°C if specified by the client). Soil and sediment sieved to -80 mesh (SS80) or -230 mesh (S230), unless client specifies otherwise (SSXX). Sieves cleaned by brush and compressed air between samples.

SP100, SCP100 Pulverizing: Soils are pulverized to -100 mesh ASTM with an option of using a mild-steel pulverizer (SP100) or a ceramic pulverizer (SCP100), per 100g.

ROCKS AND DRILL CORE

R200-250, R200-500, R200-1000: Rock and Drill Core crushed to 80% passing 10 mesh (2 mm), homogenized, riffle split (250g, 500g, or 1000g subsample) and pulverized to 85% passing 200 mesh (75 microns). Crusher and pulverizer are cleaned by brush and compressed air between routine samples. Granite/Quartz wash scours equipment after high-grade samples, between changes in rock colour and at end of each file. Granite/Quartz is crushed and pulverized as first sample in sequence and carried through to analysis.

P200, PSCB: Samples requiring pulverizing only are dried at 60°C and pulverized to 85% passing 200 mesh (75 microns), using a mild-steel pulverizer (P200), per 250g or a ceramic pulverizer (PSCB), per 100g.

M150, M200s: Rock and Drill Core are crushed, pulverized and sieved, save +150 and -150 mesh fractions (M150) or +200 and -200 mesh fractions (M200) for metallic Au or Cu analysis. Typically 500g samples are sieved.

HPUL: Rock and Drill Core are pulverized by using a mortar and pestle.

VEGETATION

PM1: Plant material is dried then milled to 1mm

VA475: Up to 0.1 kg of wet vegetation is ashed by heating to 475°C.

WWSH: Plant samples are washed with Type-1 water then dried at 60°C prior to analysis, per 100g.

METHOD SPECIFICATIONS

GROUP 1D AND 1F – GEOCHEMICAL AQUA REGIA DIGESTION

Package Codes: **1D01 to 1D03, 1DX1 to 1DX3, 1F01 to 1F07**
Sample Digestion: **HNO3-HCl acid digestion**
Instrumentation Method: **ICP-ES (1D), ICP-MS (1DX, 1F)**
Applicability: **Sediment, Soil, Non-mineralized Rock and Drill Core**

Method Description:

Prepared sample is digested with a modified Aqua Regia solution of equal parts concentrated HCl, HNO3 and DI H2O for one hour in a heating block of hot water bath. Sample is made up to volume with dilute HCl. Sample splits of 0.5g, 15g or 30g can be analyzed.

For 1F07, Lead isotopes (Pb_{204}, Pb_{206}, Pb_{207}, Pb_{208}) are suitable for geochemical exploration of U and other commodities where gross differences in natural to radiogenic Pb ratios, is a benefit. Isotope values can be reported in both concentrations and intensities. Sample splits of 0.25g, 0.5g, 15g or 30g can be analyzed.

Element	Group 1D Detection	Group 1DX Detection	Group 1F Detection	Upper Limit
Ag	0.3 ppm	0.1 ppm	2 ppb	100 ppm
Al*	0.01%	0.01%	0.01%	10%
As	2 ppm	0.5 ppm	0.1 ppm	10000 ppm
Au	2 ppm	0.5 ppb	0.2 ppb	100 ppm
B*^	20 ppm	20 ppm	20 ppm	2000 ppm
Ba*	1 ppm	1 ppm	0.5 ppm	10000 ppm
Bi	3 ppm	0.1 ppm	0.02 ppm	2000 ppm
Ca*	0.01%	0.01%	0.01%	40%
Cd	0.5 ppm	0.1 ppm	0.01 ppm	2000 ppm
Co	1 ppm	0.1 ppm	0.1 ppm	2000 ppm
Cr*	1 ppm	1 ppm	0.5 ppm	10000 ppm
Cu	1 ppm	0.1 ppm	0.01 ppm	10000 ppm
Fe*	0.01%	0.01%	0.01%	40%
Ga*	-	1 ppm	0.1 ppm	1000 ppm
Hg	1 ppm	0.01 ppm	5 ppb	50 ppm
K*	0.01%	0.01%	0.01%	10%
La*	1 ppm	1 ppm	0.5 ppm	10000 ppm
Mg*	0.01%	0.01%	0.01%	30%
Mn*	2 ppm	1 ppm	1 ppm	10000 ppm
Mo	1 ppm	0.1 ppm	0.01 ppm	2000 ppm

Element	Group 1D Detection	Group 1DX Detection	Group 1F Detection	Upper Limit
Na*	0.01%	0.001%	0.001%	5%
Ni	1 ppm	0.1 ppm	0.1 ppm	10000 ppm
P*	0.001%	0.001%	0.001%	5%
Pb	3 ppm	0.1 ppm	0.01 ppm	10000 ppm
S	0.05%	0.05%	0.02%	10%
Sb	3 ppm	0.1 ppm	0.02 ppm	2000 ppm
Sc	-	0.1 ppm	0.1 ppm	100 ppm
Se	-	0.5 ppm	0.1 ppm	100 ppm
Sr*	1 ppm	1 ppm	0.5 ppm	10000 ppm
Te	-	0.2 ppm	0.02 ppm	1000 ppm
Th*	2 ppm	0.1 ppm	0.1 ppm	2000 ppm
Ti*	0.01%	0.001%	0.001%	5%
Tl	5 ppm	0.1 ppm	0.02 ppm	1000 ppm
U*	8 ppm	0.1 ppm	0.05 ppm	2000 ppm
V*	1 ppm	2 ppm	2 ppm	10000 ppm
W*	2 ppm	0.1 ppm	0.05 ppm	100 ppm
Zn	1 ppm	1 ppm	0.1 ppm	10000 ppm
Be*	-	-	0.1 ppm	1000 ppm
Ce*	-	-	0.1 ppm	2000 ppm
Cs*	-	-	0.02 ppm	2000 ppm
Ge*	-	-	0.1 ppm	100 ppm
Hf*	-	-	0.02 ppm	1000 ppm
In	-	-	0.02 ppm	1000 ppm
Li*	-	-	0.1 ppm	2000 ppm
Nb*	-	-	0.02 ppm	2000 ppm
Rb*	-	-	0.1 ppm	2000 ppm
Re	-	-	1 ppb	1000 ppb
Sn*	-	-	0.1 ppm	100 ppm
Ta*	-	-	0.05 ppm	2000 ppm
Y*	-	-	0.01 ppm	2000 ppm
Zr*	-	-	0.1 ppm	2000 ppm
Pt*	-	-	2 ppb	100 ppm
Pd*	-	-	10 ppb	100 ppm
Pb$_{204}$	-	-	0.01 ppm	10000 ppm
Pb$_{206}$	-	-	0.01 ppm	10000 ppm
Pb$_{207}$	-	-	0.01 ppm	10000 ppm
Pb$_{208}$	-	-	0.01 ppm	10000 ppm

* Solubility of some elements will be limited by mineral species present.
^Detection limit = 1 ppm for 15g / 30g analysis.

Limitations:

Au solubility can be limited by refractory and graphitic samples.

METHOD SPECIFICATIONS

GROUP 3B AND G6 – PRECIOUS METALS BY FIRE ASSAY FUSION

Package Codes:	**3B01 to 3B04, G601 to G614**
Sample Digestion:	**Lead-collection fire assay fusion**
Instrumentation Method:	**ICP-ES (3B, G6), ICP-MS (3B-MS), AA (3B, G6), Gravimetric (G6)**
Applicability:	**Rock, Drill Core**

Method Description:

Prepared sample is custom-blended with fire-assay fluxes, PbO litharge and a Ag inquart. Firing the charge at 1050 ^{o}C liberates Ag ± Au ± PGEs that report to the molten Pb-metal phase. After cooling the Pb button is recovered, placed in a cupel and fired at 950 ^{o}C to render a Ag ± Au ± PGEs dore bead. The bead is digested for ICP analysis or weighed and parted in ACS grade HNO_3 to dissolve Ag leaving a Au sponge. Au is weighed for Gravimetric determination; ACS grade HCl is added dissolving the Au ± PGE sponge for Instrument determination.

Element	3B Detection	3B Upper Limit	3B-MS Detection	3B-MS Upper Limit
Au	2 ppb	10000 ppb	1 ppb	10000 ppb
Pt	3 ppb	10000 ppb	0.1 ppb	10000 ppb
Pd	2 ppb	10000 ppb	0.5 ppb	10000 ppb

Element	G6 (Inst) Detection	G6 (Inst) Upper Limit	G6 (Grav) Detection	G6 (Grav) Upper Limit
Ag	--	--	50 g/t	1 ton
Au	0.005 g/t	10 g/t	0.9 g/t	1 ton
Pt	0.01 g/t	100 g/t	--	--
Pd	0.01 g/t	100 g/t	--	--

Note:

*Sulphide-rich samples require a 15g or smaller sample for proper fusion.

AcmeLabs®
A Bureau Veritas Group Company
INSPECTORATE

TC000

Package Description	Carbon and Sulphur Analysis by Leco
Sample Digestion	Combustion
Instrumentation Method	LECO Carbon-Sulphur analyser
Legacy Codes	2A Leco
Applicability	Sediment, Soil, Rock and Drill Core

METHOD DESCRIPTION

TC001 Total C, TC002 Total S and TC003 C & S: Induction flux is added to the prepared sample then ignited in an induction furnace. A carrier gas sweeps up released carbon to be measured by adsorption in an infrared spectrometric cell. Results are total and attributed to the presence of carbon and sulphur in all forms.

TC005 Graphite C: Graphite carbon is determined by leaching samples with concentrated nitric acid followed by KOH and finally dilute HCl then analyzing the residue by Leco.

TC006 Inorganic C: Inorganic carbon is determined by directly measuring the CO2 gas evolved into the LECO analyzer when a prepared sample split is leached with perchloric acid.

TC008 Sulphate: Sulphate sulphur is determined by pre-igniting the prepared sample at 550°C, then analyzing the residue by Leco.

By calculation the following are determined:

TC009 Sulphide: Sulphide Sulphur is determined by difference wherein: Sulphide S = Total Sulphur (TOT/S) – Sulphate Sulphur (IGN/S).

TC007 Organic C: Organic carbon content is determined by difference wherein: Organic Carbon = Total C – Inorganic (CO_2) Carbon – Graphite Carbon.

Code	Element	Detection Limit
TC001	Total C	0.02 %
TC005	Graphite C	0.02 %
TC007	Organic C	0.02 %
TC006	Inorganic C	0.02 %
TC002	Total S	0.02 %
TC008	Sulphate	0.05 %
TC009	Sulphide	0.05 %

Limitations:
The pyrolysis residual sulphur (2A14 - 550 °C) may be the best estimate of sulphate in the presence of minerals such as barite, alunite, and jarosite which are not dissolved in sodium carbonate and in the presence of orpiment and realgar, since these sulfide minerals are soluble in sodium carbonate.

Calculation determinations for the sulphide sulfur do not provide for the presence of elemental forms of sulphur.

LF100, LF200, LF300

Package Description	Lithogeochemical Whole Rock Fusion
Sample Digestion	Lithium metaborate/tetraborate fusion
Instrumentation Method	ICP-ES (LF300, LF200), ICP-MS (LF200, LF100)
Legacy Code	4A, 4B and 4A4B
Applicability	Non-mineralized Rock and Drill Core

METHOD DESCRIPTION

Prepared sample is mixed with $LiBO_2/Li_2B_4O_7$ flux. Crucibles are fused in a furnace. The cooled bead is dissolved in ACS grade nitric acid and analyzed by ICP and/or ICP-MS. Loss on ignition (LOI) is determined by igniting a sample split then measuring the weight loss. Total Carbon and Sulphur may be included and is determined by the Leco method (TC003). The LF202 package includes an additional 14 elements from an aqua regia digestion AQ200 to provide Au and volatile elements which do not report as part of the LF200 package.

Element	LF300/LF200 Detection	Upper Limit
SiO_2	0.01 %	100 %
Al_2O_3	0.01 %	100 %
Fe_2O_3	0.04 %	100 %
CaO	0.01 %	100 %
MgO	0.01 %	100 %
Na_2O	0.01 %	100 %
K_2O	0.04 %	100 %
MnO	0.01 %	100 %
TiO_2	0.01 %	100 %
P_2O_5	0.01 %	100 %
Cr_2O_3	0.002%	100 %
Ba	5 ppm	5 %
LOI	0.1 %	100%
	LF300-EXT	
Ce	30 ppm	50000 ppm
Co	20 ppm	10000 ppm
Cu	5 ppm	10000 ppm
Zn	5 ppm	10000 ppm

Revision 2014.1 Feb 24, 2014

LF100/LF200 Elements by ICPMS

Element	Detection Limit	Upper Limit
Be	1 ppm	10000 ppm
Ce	0.1 ppm	50000 ppm
Co	0.2 ppm	10000 ppm
Cs	0.1 ppm	10000 ppm
Dy	0.05 ppm	10000 ppm
Er	0.03 ppm	10000 ppm
Eu	0.02 ppm	10000 ppm
Ga	0.5 ppm	10000 ppm
Gd	0.05 ppm	10000 ppm
Hf	0.1 ppm	10000 ppm
Ho	0.02 ppm	10000 ppm
La	0.1 ppm	50000 ppm
Lu	0.01 ppm	10000 ppm
Nb	0.1 ppm	50000 ppm
Nd	0.3 ppm	10000 ppm
Ni	20 ppm	10000 ppm
Pr	0.02 ppm	10000 ppm
Rb	0.1 ppm	10000 ppm
Sc	1 ppm	10000 ppm
Sm	0.05 ppm	10000 ppm
Sn	1 ppm	10000 ppm
Sr	0.5 ppm	50000 ppm
Ta	0.1 ppm	50000 ppm
Tb	0.01 ppm	10000 ppm
Th	0.2 ppm	10000 ppm
Tm	0.01 ppm	10000 ppm
U	0.1 ppm	10000 ppm
V	8 ppm	10000 ppm
W	0.5 ppm	10000 ppm
Y	0.1 ppm	50000 ppm
Yb	0.05 ppm	10000 ppm
Zr	0.1 ppm	50000 ppm

AQ200 Add on Elements for LF202

Element	Detection Limit	Upper Limit
Ag	0.1 ppm	100 ppm
As	0.5 ppm	10000 ppm
Au	0.5 ppb	100000 ppb
Bi	0.1 ppm	2000 ppm
Cd	0.1 ppm	2000 ppm
Cu	0.1 ppm	10000 ppm
Hg	0.01 ppm	50 ppm
Mo	0.1 ppm	2000 ppm
Ni	0.1 ppm	10000 ppm
Pb	0.1 ppm	10000 ppm
Sb	0.1 ppm	2000 ppm
Se	0.5 ppm	100 ppm
Tl	0.1 ppm	1000 ppm
Zn	1 ppm	10000 ppm

Revision 2014.1   Feb 24, 2014

AcmeLabs®
A Bureau Veritas Group Company

INSPECTORATE

MA370 & MA270

Package Description	Multi acid digestion
Sample Digestion	HF-HNO$_3$-HClO$_4$ acid digestion
Instrumentation Method	ICP-ES (MA370, MA270), ICP-MS (MA270)
Legacy Code	7TD, 7TX
Applicability	Rock and Drill Core

METHOD DESCRIPTION

0.5g sample split is digested to complete dryness with an acid solution of H2O-HF-HClO4-HNO3. 50% HCl is added to the residue and heated using a mixing hot block. After cooling the solutions are made up to volume with dilute HCl in class A volumetric flasks. Sample split of 0.1g may be necessary for very high-grade samples to accommodate analysis up to 100% upper limit.

Element	MA370 Detection	MA270 Detection	Upper Limits	Element	MA370 Detection	MA270 Detection	Upper Limits
Ag	2 g/t	0.5 ppm	300 g/t	**P**	0.01%	0.01%	
Al*	0.01%	0.01%		**Pb**	0.02%	0.5 ppm	10%
As	0.02%	5 ppm		**Rb**	-	0.5 ppm	
Ba*	-	5 ppm		**S***	0.05%	0.05%	
Be	-	5 ppm		**Sb**	0.01%	0.5 ppm	
Bi	0.01%	0.5 ppm		**Sc**	-	1 ppm	
Ca*	0.01%	0.01%		**Sn***	-	0.5 ppm	
Cd	0.001%	0.5 ppm		**Sr**	0.01%	5 ppm	
Ce	-	5 ppm		**Ta***	-	0.5 ppm	
Co	0.001%	1 ppm		**Th**	-	0.5 ppm	
Cr*	0.001%	1 ppm		**Ti***	-	0.001%	
Cu	0.001%	0.5 ppm		**U**	-	0.5 ppm	
Fe*	0.01%	0.01%		**V**	-	10 ppm	
Hf*	-	0.5 ppm		**W***	0.01%	0.5 ppm	
K	0.01%	0.01%		**Y**	-	0.5 ppm	
La	-	0.5 ppm		**Zn**	0.01%	5 ppm	
Li	-	0.5 ppm		**Zr***	-	0.5 ppm	40%
Mg	0.01%	0.01%					
Mn*	0.01%	5 ppm					
Mo	0.001%	0.5 ppm					
Na	0.01%	0.01%					
Nb*	-	0.5 ppm					
Ni	0.001%	0.5 ppm					

Limitations:

*This digestion is only partial for some Cr and Ba minerals and some oxides of Al, Fe, Hf, Mn, Nb, S, Sn, Ta, Ti, W and Zr if refractory minerals are present.

Revision 2014.1 Feb 24, 2014

MA400

Package Description	Multi acid digestion ore grade samples, AA finish
Sample Digestion	HF-HNO3-HClO$_4$-HCl acid digestion
Determination Method	AAS
Legacy Code	8TD
Applicability	Ore Grade Rock and Drill Core

METHOD DESCRIPTION:

A prepared sample is cold digested with HNO_3 solution, then heated in the digestion block with an acid solution of HCl-HF-$HClO_4$. After cooling, the solutions are brought to volume using dilute HCl. Sample splits of 0.25-1 g are analyzed.
For Mo analysis, $AlCl_3$ is added.

Element	Detection Limit	Upper Limit
Ag	1 ppm	1000 ppm
As	0.01 %	10 %
Cu	0.001 %	10 %
Fe	0.01 %	30 %
Mo	0.001 %	10 %
Pb	0.01 %	10 %
Zn	0.01 %	10 %

Not all elements may be possible from the same digestion – different weight /volumes may be required.

Last digits of the procedure code represent the weight volume ratio of digestion.

MA401 = 1g / 100ml – 100 fold dilution
MA404 = 0.5 / 200ml - 400 fold dilution
MA410 = 0.25g / 250ml – 1000 fold dilution

Revision 2014.1 Feb 24, 2014

GC410

Package Description	Nickel Sulphide
Sample Digestion	Ammonium Citrate Leach
Legacy Code	G810
Applicability	Rock, Drill Core

METHOD DESCRIPTION:

A prepared sample is cold-leached with a mixture of ammonium citrate and hydrogen peroxide that is agitated in a mechanical shaker for two hours. Solution is filtered; the residue is rinsed with deionized water then digested with HCl in hot plate. After cooling, solution is made up to volume with demineralized water then analyzed by ICP-ES. This method requires a minimum of 1g of sample pulp.

Note: This method assumes that there is little or no sulphate nickel present in the rock. If present, sulphate nickel will report to the sulphide phase.

CERTIFICATE OF ANALYSIS

WCM MINERALS

PM 457

Gold Reference Material

LAB	LAB 1	LAB 1	LAB 2	LAB 2	LAB 3	LAB 3	LAB 4	LAB 4	LAB 5	LAB 5	LAB 6	LAB 6
No.	Au oz/t	Au g/t	Au oz/t	Au g/t	Au oz/t	Au g/t	Au oz/t	Au g/t	Au oz/t	Au g/t	Au oz/t	Au g/t
1	0.019	0.66	0.020	0.673	0.019	0.644	0.018	0.63	0.020	0.670	0.017	0.582
2	0.019	0.66	0.019	0.653	0.019	0.642	0.018	0.63	0.020	0.698	0.017	0.593
3	0.019	0.65	0.019	0.652	0.018	0.633	0.018	0.62	0.020	0.680	0.017	0.593
4	0.018	0.63	0.019	0.657	0.018	0.603	0.018	0.61	0.021	0.710	0.017	0.586
5	0.019	0.64	0.020	0.671	0.019	0.642	0.018	0.63	0.020	0.675	0.017	0.596
6	0.018	0.63	0.019	0.643	0.019	0.638	0.019	0.64	0.020	0.676	0.017	0.588
7	0.020	0.67	0.020	0.669								
8			0.019	0.644								
Average	0.0189	0.6486	0.0192	0.6578	0.0185	0.6337	0.0183	0.6267	0.0200	0.6848	0.0172	0.5897
Std Dev.	0.0005	0.0157	0.0003	0.0119	0.0005	0.0155	0.0003	0.0103	0.0005	0.0157	0.0002	0.0052
Average T	0.019	0.641										
Std Dev. T	0.0009	0.0313										
Report	**Au oz/t**	**Au g/t**										
	0.019	**0.64**										

Country of Origin - Canada

Lloyd Twaites Glen Armanini
Registered Assayers, Province of British Columbia

WCM Sales Ltd. 7729 Patterson Avenue Burnaby, BC, Canada, V5J 3P4
Phone: 604-437-0280
E-mail: WCMminerals@telus.net Web-site: www.WCMminerals.ca

A Bureau Veritas Group Company

CERTIFICATE OF ANALYSIS

DS10

Internal Reference Material for Geochem Aqua Regia Digestion

ELEMENT	Expected Value (ppm)	1D Tolerance ± (%)	1DX Tolerance ± (%)	1F Tolerance ± (%)
Au	0.0919	BDL	90	65
Ag	1.964	35	30	23
Al	10259	15	15	15
As	43.7	20	20	20
B	7	BDL		
Ba[†]	349	15	15	15
Bi	11.65	50	30	30
Ca	10355	15	15	15
Cd	2.48	35	25	20
Co	12.9	50	20	18
Cr	54.6	15	15	15
Cu	154.61	20	15	15
Fe	27188	11	11	11
Ga	4.3	250	20	20
Hg	0.289	200	45	35
K	3245	15	15	15
La	17.5	30	30	30
Mg	7651	12	12	12
Mn	861	15	15	15
Mo	14.69	25	25	25
Na	638	20	20	20
Ni	74.6	15	15	15
P	730	15	15	15
Pb	150.55	17	17	17
S	2743	15	15	15
Sb	9.51	85	40	30
Sc	2.8	BDL	24	23
Se	2.3	-	30	18
Sr	67.1	30	30	30
Te	4.89	-	20	17
Th	7.5	35	26	26
Ti	817	30	28	28
Tl	4.79	BDL	20	20
U	2.59	-	35	30
V	43	15	15	15
W	3.34	175	30	26
Zn	352.9	15	15	13

ELEMENT	Expected Value	1F Tolerance ± (%)
Optional Elements		
Be	0.6	80
Ce	36	30
Cs	2.63	30
Ge	0.08	170
Hf	0.05	75
In	0.22	40
Li	19.1	30
Nb[†]	1.52	30
Rb	27.7	16
Re	0.050	40
Sn	1.6	25
Ta	BDL	-
Y	7.77	30
Zr	2.3	30
Pt	0.188	20
Pd	0.11	30
Dy	1.53	35
Er	0.79	40
Eu	0.48	50
Gd	1.97	40
Ho	0.29	40
Lu	0.11	40
Nd	14.07	30
Pr	3.89	30
Sm	2.51	30
Tb	0.29	40
Tm	0.12	45
Yb	0.74	35

Note: All units are reported in ppm. Values are subject to change upon additional testing. Any one element in a run reporting outside tolerance limits does not constitute failure of the standard.

[†] Values dependent on sample size selected. First number represents mean for 0.5g digestions, second number for 15 and 30g digestions.

P.O Box 18-142, Glen Innes 1743
Auckland, New Zealand.
P 64 9 634 7696
F 64 9 634 6896
E sales@rocklabs.com
www.rocklabs.com

ROCKLABS
A Division of SCOTT www.scott.co.nz

Certificate of Analysis

Reference Material OxL93

Recommended Gold Concentration: 5.841 µg/g
95% Confidence Interval: +/- 0.053 µg/g

The above values apply only to product in jars or sachets which have an identification number within the following range: ***248 364 – 250 944.***

Prepared and Certified By:

Malcolm Smith BSc, FNZIC
Rocklabs Reference Materials
40 Oakford Park Crescent, Greenhithe
Auckland 0632
NEW ZEALAND
Email: Malcolm@MSRML.co.nz
Telephone: +64 9 444 3534

Date of Certification:

19 August 2011

Certificate Status:

Original

Available Packaging:

This reference material has been packed in wide-mouthed jars that contain 2.5 kg of product. The contents of some jars may be subsequently repacked into sealed polyethylene sachets.

Origin of Reference Material:

Basalt and feldspar minerals with minor quantities of finely divided gold-containing minerals that have been screened to ensure there is no gold nugget effect.

Supplier of Reference Material:

ROCKLABS Ltd
P O Box 18 142
Glen Innes
Auckland 1743
NEW ZEALAND
Email: sales@rocklabs.com
Website: www.rocklabs.com

Description:

The reference material is a light grey powder that has been well mixed and a homogeneity test carried out after the entire batch was packaged into wide-mouthed jars. There is no soil component. The product contains crystalline quartz and therefore dust from it should not be inhaled.

The approximate chemical composition is:
(Uncertified Values)

	%
SiO_2	58.70
Al_2O_3	17.16
Na_2O	4.92
K_2O	5.25
CaO	3.67
MgO	3.34
TiO_2	0.95
MnO	0.06
P_2O_5	0.25
Fe_2O_3	4.89
L O I	0.35

Intended Use:

This reference material is designed to be included with every batch of samples analysed and the results plotted for quality monitoring and assessment purposes.

Stability:

The container (jar or sachet) and its contents should not be heated to temperatures higher than 50 °C. The reference material is stable, with weight changes of less than 0.5 % at extremes of naturally occurring temperature and humidity conditions.

Method of Preparation:

Pulverized basalt rock and feldspar minerals were blended with finely pulverized and screened, gold-containing minerals. Once the powders were uniformly mixed the composite was placed into 2581 wide-mouthed jars, each bearing a unique number. 54 jars were randomly selected from the packaging run and material from these jars was used for both homogeneity and consensus testing.

Homogeneity Assessment:

An independent laboratory carried out gold analysis by fire assay of 30 g portions, using a gravimetric finish. Steps were taken to minimize laboratory method variation in order to better detect any variation in the candidate reference material.
The contents of six randomly selected jars were compacted by vibration (to simulate the effect of freighting) and five samples removed successively from top to bottom from each jar. In addition, five samples were removed from the last jar in the series. A sample was also removed from the top of each of the 54 jars randomly selected from the 2581 jars in the batch. The results of analysis of the 89 samples (randomly ordered and then consecutively numbered before being sent to the laboratory) produced a relative standard deviation of 0.6 %.

Analytical Methodology:

Once homogeneity had been established, two sub-samples were submitted to a number of well-recognized laboratories in order to assign a gold value by consensus testing. The sub-samples were drawn from the 54 randomly selected jars and each laboratory received samples from two different jars. Indicative concentration ranges were given. All laboratories used fire assay for the gold analysis, with most using an instrument finish and 14 using a gravimetric finish.

Calculation of Certified Value:

Results for gold were returned from 44 laboratories. Statistical analysis to identify outliers was carried out using the principles detailed in sections 7.3.2 – 7.3.4, ISO 5725-2: 1994. Assessment of each laboratory's performance was carried out on the basis of z-scores, partly based on the concept described in ISO/IEC Guide 43-1. Details of the criteria used in these examinations are available on request. As a result of these statistical analyses, five sets of results were excluded for the purpose of assigning a gold concentration value to this reference material. A recommended value was thus calculated from the average of the remaining n = 39 sets of replicate results. The 95 % confidence interval was estimated using the formula:-

$$X \pm ts/\sqrt{n}$$

(where X is the estimated average, s is the estimated standard deviation of the laboratory averages, and t is the 0.025 tail-value from Student's t-distribution with n-1 degrees of freedom). The recommended value is provided at the beginning of the certificate in µg/g (ppm) units. A summary of the results used to calculate the recommended value is listed on page 4 and the names of the laboratories that submitted results are listed on page 5. The results are listed in increasing order of the individual laboratory averages.

Statistical analysis of the consensus test results has been carried out by independent statistician, Tim Ball.

Summary of Results Used to Calculate Gold Value

(Listed in increasing order of individual laboratory averages)

Gold (ppm)		
Sample 1	**Sample 2**	**Average**
5.289	5.744	5.517
5.506	5.589	5.548
5.68	5.43	5.555
5.54	5.60	5.570
5.66	5.62	5.640
5.727	5.649	5.688
5.54	5.86	5.700
5.73	5.68	5.705
5.78	5.64	5.710
5.642	5.840	5.741
5.79	5.73	5.760
5.726	5.811	5.769
5.743	5.800	5.772
5.73	5.82	5.775
5.66	5.94	5.800
5.850	5.811	5.831
5.815	5.850	5.833
5.85	5.83	5.840
5.850	5.833	5.842
5.884	5.801	5.843
5.84	5.86	5.850
5.885	5.825	5.855
5.87	5.84	5.855
5.83	5.89	5.860
5.87	5.88	5.875
5.94	5.89	5.915
5.91	5.92	5.915
5.947	5.884	5.916
5.93	5.96	5.945
5.940	5.99	5.965
5.94	6.00	5.970
5.94	6.00	5.970
5.965	5.990	5.978
5.95	6.09	6.020
6.04	6.00	6.020
6.025	6.020	6.023
6.02	6.03	6.025
6.04	6.06	6.050
6.49	6.19	6.340

Average of 39 sets = 5.841 ppm
Standard deviation of 39 sets = 0.164 ppm

Note: this standard deviation should not be used as a basis to set control limits when plotting results from an individual laboratory.

Relative standard deviation = 2.8 %
95% Confidence interval for average = 0.053 ppm

Participating Laboratories

Australia	ALS Minerals, Kalgoorlie ALS Minerals, Orange ALS Minerals, Perth ALS Minerals, Townsville Amdel – Bureau Veritas, Adelaide Amdel – Bureau Veritas, Kalgoorlie Genalysis Laboratory Services, Perth Independent Assay Laboratories, Perth SGS Minerals Services, Perth Standard and Reference, Perth Ultra Trace – Bureau Veritas, Perth
Burkina Faso	ALS Minerals, Burkina Faso Semafo Burkina Faso S.A.
Canada	Acme Analytical Laboratories, Vancouver ALS Minerals, Val d'Or ALS Minerals, Vancouver Bourlamaque Assay Laboratories, Quebec Loring Laboratories (Alberta) Ltd, Calgary SGS Minerals Services, Vancouver SGS Minerals Services, Lakefield Techni-Lab S.G.B., Québec TSL Laboratories Inc, Saskatoon
Chile	Acme Analytical Laboratories, Santiago ALS Minerals, La Serena
Côte d'Ivoire	Bureau Veritas Mineral Laboratories, Abidjan
Ireland	OMAC Laboratories
Kyrgyz Republic	Stewart Assay and Environmental Laboratories LLC, Kara-Balta
Mali	ALS Minerals, Bamako
New Zealand	SGS Minerals Services, Otago SGS Minerals Services, Waihi
Peru	ALS Minerals, Lima Inspectorate Services Perú S.A.C., Callao Minera Yanacocha SRL – Newmont, Lima
Russia	Irgiredmet Analytical Centre, Irkutsk
South Africa	ALS Minerals, Johannesburg AngloGold Ashanti, Vaal River Chemical Laboratory Goldfields West Wits Analytical Laboratory Performance Laboratories, Randfontein SGS South Africa (Pty) Ltd, Johannesburg
United Kingdom	Inspectorate International, Essex
USA	ALS Minerals, Reno Barrick Goldstrike – Met Services Newmont Mining Corporation, Carlin Laboratory
Zimbabwe	Performance Laboratories, Harare

Instructions and Recommendations for Use:

Weigh out quantity usually used for analysis and analyze for total gold by normal procedure. Homogeneity testing has shown that consistent results are obtainable for gold when 30g portions are taken for analysis.

We quote a 95% confidence interval for our estimate of the declared value. This confidence interval reflects our uncertainty in estimating the true value for the gold content of the reference material. The interval is chosen such that, if the same procedure as used here to estimate the declared value were used again and again, then 95% of the trials would give intervals that contained the true value. It is a reflection of how precise the trial has been in estimating the declared value. It **does not** reflect the variability any particular laboratory will experience in its own repetitive testing.

Some users in the past have misinterpreted this confidence interval as a guide as to how different an individual test result should be from the declared value. Some mistakenly use this interval, or the standard deviation from the consensus test, to set limits for control charts on their own routine test results using the reference material. Such use inevitably leads to many apparent out-of-control points, leading to doubts about the laboratory's testing, or of the reference material itself.

A much better way of determining the laboratory performance when analysing the reference material is to accumulate a history of the test results obtained, and plot them on a control chart. The appropriate centre line and control limits for this chart should be based on the average level and variability exhibited in the laboratory's **own** data. This chart will provide a clear picture of the long-term stability or otherwise of the laboratory testing process, providing good clues as to the causes of any problems. To help our customers do this, we can provide a free Excel template that will produce sensible graphs, with intelligently chosen limits, from the customer's own data.

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However ROCKLABS Ltd, Scott Technology Ltd and Tim Ball Ltd accept no liability for any decisions or actions taken following the use of the reference material.

References:

For further information on the preparation and validation of this reference material please contact Malcolm Smith.

Certifying Officer

M. G. Smith

M G Smith BSc, FNZIC

Independent Statistician

Tim Ball

Tim Ball BSc (Hons)

P.O Box 18-142, Glen Innes 1743
Auckland, New Zealand.
P 64 9 634 7696
F 64 9 634 6896
E sales@rocklabs.com
www.rocklabs.com

Certificate of Analysis

Reference Material Oxi96

Recommended Gold Concentration: 1.802 µg/g
95% Confidence Interval: +/- 0.012 µg/g

The above values apply only to product in jars or sachets which have an identification number within the following range: ***263 230 – 265 718.***

Prepared and Certified By:	Malcolm Smith BSc, FNZIC Rocklabs Reference Materials 40 Oakford Park Crescent, Greenhithe Auckland 0632 **NEW ZEALAND** Email: Malcolm@MSRML.co.nz Telephone: +64 9 444 3534
Date of Certification:	7 March 2012
Certificate Status:	Original
Available Packaging:	This reference material has been packed in wide-mouthed jars that contain 2.5 kg of product. The contents of some jars may be subsequently repacked into sealed polyethylene sachets.
Origin of Reference Material:	Basalt and feldspar minerals with minor quantities of finely divided gold-containing minerals that have been screened to ensure there is no gold nugget effect.
Supplier of Reference Material:	ROCKLABS P O Box 18 142 Glen Innes Auckland 1743 **NEW ZEALAND** Email: reference-materials@rocklabs.com Website: www.rocklabs.com

Description:

The reference material is a light grey powder that has been well mixed and a homogeneity test carried out after the entire batch was packaged into wide-mouthed jars. There is no soil component. The product contains crystalline quartz and therefore dust from it should not be inhaled.

The approximate chemical composition is:
(Uncertified Values)

	%
SiO_2	59.04
Al_2O_3	17.28
Na_2O	5.19
K_2O	4.91
CaO	3.61
MgO	3.35
TiO_2	0.94
MnO	0.06
P_2O_5	0.23
Fe_2O_3	4.92
L O I	0.46

Intended Use:

This reference material is designed to be included with every batch of samples analysed and the results plotted for quality monitoring and assessment purposes.

Stability:

The container (jar or sachet) should not be heated to temperatures higher than 50 °C. The reference material is stable, with weight changes of less than 0.5 % at extremes of naturally occurring temperature and humidity conditions.

Method of Preparation:

Pulverized basalt rock and feldspar minerals were blended with finely pulverized and screened, gold-containing minerals. Once the powders were uniformly mixed the composite was placed into 2489 wide-mouthed jars, each bearing a unique number. 54 jars were randomly selected from the packaging run and material from these jars was used for both homogeneity and consensus testing.

Homogeneity Assessment:

Two independent laboratories carried out gold analysis by fire assay of 30 g portions, using an AAS finish. Steps were taken to minimize laboratory method variation in order to better detect any variation in the candidate reference material.

The contents of six randomly selected jars were compacted by vibration (to simulate the effect of freighting) and five samples removed successively from top to bottom from each jar. In addition, five samples were removed from the last jar in the series. These 35 samples were sent to one laboratory. The results of analysis produced a relative standard deviation of 0.8 %. A sample was also removed from the top of each of the 54 jars randomly selected from the 2489 jars in the batch and these 54 samples sent to a different laboratory. The results of analysis of these 54 samples produced a relative standard deviation of 1.0 %.

Analytical Methodology:

Once homogeneity had been established, two sub-samples were submitted to a number of well-recognized laboratories in order to assign a gold value by consensus testing. The sub-samples were drawn from the 54 randomly selected jars and each laboratory received samples from two different jars. Indicative concentration ranges were given. All laboratories used fire assay for the gold analysis, with most using an instrument finish and 3 using a gravimetric finish.

Calculation of Certified Value:

Results for gold were returned from 50 laboratories. Statistical analysis to identify outliers was carried out using the principles detailed in sections 7.3.2 – 7.3.4, ISO 5725-2: 1994. Assessment of each laboratory's performance was carried out on the basis of z-scores, partly based on the concept described in ISO/IEC Guide 43-1. Details of the criteria used in these examinations are available on request. As a result of these statistical analyses, nine sets of results were excluded for the purpose of assigning a gold concentration value to this reference material. A recommended value was thus calculated from the average of the remaining n = 41 sets of replicate results. The 95 % confidence interval was estimated using the formula:-

$$X \pm ts/\sqrt{n}$$

(where X is the estimated average, s is the estimated standard deviation of the laboratory averages, and t is the 0.025 tail-value from Student's t-distribution with n-1 degrees of freedom). The recommended value is provided at the beginning of the certificate in µg/g (ppm) units. A summary of the results used to calculate the recommended value is listed on page 4 and the names of the laboratories that submitted results are listed on page 5. The results are listed in increasing order of the individual laboratory averages.

Statistical analysis of the consensus test results has been carried out by independent statistician, Tim Ball.

Summary of Results Used to Calculate Gold Value

(Listed in increasing order of individual laboratory averages)

Gold (ppm)		
Sample 1	**Sample 2**	**Average**
1.72	1.65	1.685
1.706	1.706	1.706
1.680	1.7460	1.713
1.741	1.758	1.750
1.768	1.747	1.757
1.754	1.777	1.766
1.805	1.730	1.768
1.745	1.790	1.768
1.78	1.77	1.775
1.78	1.78	1.780
1.79	1.77	1.780
1.785	1.781	1.783
1.850	1.729	1.790
1.770	1.813	1.792
1.79	1.80	1.795
1.800	1.800	1.800
1.780	1.821	1.800
1.792	1.825	1.809
1.84	1.78	1.810
1.830	1.795	1.813
1.81	1.82	1.815
1.840	1.800	1.820
1.86	1.78	1.820
1.825	1.82	1.823
1.779	1.870	1.825
1.825	1.825	1.825
1.82	1.83	1.825
1.85	1.80	1.825
1.83	1.82	1.825
1.84	1.82	1.830
1.800	1.860	1.830
1.810	1.850	1.830
1.84	1.82	1.830
1.840	1.830	1.835
1.810	1.860	1.835
1.84	1.83	1.835
1.802	1.870	1.836
1.836	1.842	1.839
1.81	1.87	1.840
1.84	1.85	1.845
1.860	1.875	1.868

Average of 41 sets = 1.802 ppm

Standard deviation of 41 sets = 0.039 ppm

Note: this standard deviation should not be used as a basis to set control limits when plotting results from an individual laboratory.

Relative standard deviation = 2.2 %

95% Confidence interval for average = 0.012 ppm

Participating Laboratories

Australia	ALS Minerals, Kalgoorlie ALS Minerals, Perth ALS Minerals, Townsville Bureau Veritas Amdel, Adelaide Bureau Veritas Amdel, Kalgoorlie Intertek Genalysis Laboratory Services, Perth SGS Minerals Services, Perth Ultra Trace – Bureau Veritas, Perth
Burkina Faso	ALS Minerals, Burkina Faso Semafo Burkina Faso S.A.
Canada	Acme Analytical Laboratories, Vancouver ALS Minerals, Val d'Or ALS Minerals, Vancouver Loring Laboratories (Alberta) Ltd, Calgary SGS Minerals Services, Lakefield SGS Minerals Services, Vancouver Techni-Lab S.G.B. Abitibi Inc/Actlabs, Québec TSL Laboratories Inc, Saskatoon
Chile	Acme Analytical Laboratories, Santiago ALS Minerals, La Serena
Côte d'Ivoire	Bureau Veritas Mineral Laboratories, Abidjan
Ireland	OMAC Laboratories Ltd
Kyrgyz Republic	Stewart Assay and Environmental Laboratories LLC, Kara-Balta
Mali	ALS Minerals, Bamako
Namibia	Bureau Veritas- Mineral Laboratories, Swakopmund
New Zealand	SGS New Zealand Ltd, Otago SGS New Zealand Ltd, Reefton SGS New Zealand Ltd, Waihi
Peru	ALS Minerals, Lima Inspectorate Services Perú S.A.C., Callao Minera Yanacocha SRL – Newmont, Lima
Romania	ALS Minerals, Rosia Montana
Russia	Irgiredmet Analytical Centre, Irkutsk
South Africa	AB Analytical Laboratory Services, Boksburg ALS Minerals, Modderfontein AngloGold Ashanti, Vaal River Chemical Laboratory - Metallurgy Gold Fields West Wits Analytical Laboratory Performance Laboratories, Allanridge Performance Laboratories, Barberton Performance Laboratories, Randfontein SGS South Africa (Pty) Ltd, Johannesburg
Turkey	Acme Analitik Laboratuar Hizmetleri Ltd, Sirketi ALS Minerals, Izmir
United Kingdom	Inspectorate International, Essex
USA	Acme Analytical Laboratories, Alaska ALS Minerals, Reno Barrick Goldstrike – Met Services Inspectorate, Sparks Newmont Mining Corporation, Carlin Laboratory
Zimbabwe	Performance Laboratories, Ruwa

Instructions and Recommendations for Use:

Weigh out quantity usually used for analysis and analyze for total gold by normal procedure. Homogeneity testing has shown that consistent results are obtainable for gold when 30g portions are taken for analysis.

We quote a 95% confidence interval for our estimate of the declared value. This confidence interval reflects our uncertainty in estimating the true value for the gold content of the reference material. The interval is chosen such that, if the same procedure as used here to estimate the declared value were used again and again, then 95% of the trials would give intervals that contained the true value. It is a reflection of how precise the trial has been in estimating the declared value. It **does not** reflect the variability any particular laboratory will experience in its own repetitive testing.

Some users in the past have misinterpreted this confidence interval as a guide as to how different an individual test result should be from the declared value. Some mistakenly use this interval, or the standard deviation from the consensus test, to set limits for control charts on their own routine test results using the reference material. Such use inevitably leads to many apparent out-of-control points, leading to doubts about the laboratory's testing, or of the reference material itself.
A much better way of determining the laboratory performance when analysing the reference material is to accumulate a history of the test results obtained, and plot them on a control chart. The appropriate centre line and control limits for this chart should be based on the average level and variability exhibited in the laboratory's **own** data. This chart will provide a clear picture of the long-term stability or otherwise of the laboratory testing process, providing good clues as to the causes of any problems. To help our customers do this, we can provide a free Excel template that will produce sensible graphs, with intelligently chosen limits, from the customer's own data.

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However ROCKLABS Ltd, Scott Technology Ltd and Tim Ball Ltd accept no liability for any decisions or actions taken following the use of the reference material.

References:

For further information on the preparation and validation of this reference material please contact Malcolm Smith.

Certifying Officer

M. G. Smith

M G Smith BSc, FNZIC

Independent Statistician

Tim Ball

Tim Ball BSc (Hons)

P.O Box 18-142, Glen Innes 1743
Auckland, New Zealand.
P 64 9 634 7696
F 64 9 634 6896
E sales@rocklabs.com
www.rocklabs.com

ROCKLABS
A Division of SCOTT www.scott.co.nz

Certificate of Analysis

Reference Material OxC109

Recommended Gold Concentration: 0.201 µg/g
95% Confidence Interval: +/- 0.002 µg/g

The above values apply only to product in jars or sachets which have an identification number within the following range: ***302 257 – 305 616.***

Prepared and Certified By:	Malcolm Smith BSc, FNZIC Rocklabs Reference Materials 40 Oakford Park Crescent, Greenhithe Auckland 0632 **NEW ZEALAND** Email: Malcolm@MSRML.co.nz Telephone: +64 9 444 3534
Date of Certification:	24 August 2012
Certificate Status:	Original
Available Packaging:	This reference material has been packed in wide-mouthed jars that contain 2.5 kg of product. The contents of some jars may be subsequently repacked into sealed polyethylene sachets.
Origin of Reference Material:	Basalt and feldspar minerals with minor quantities of finely divided gold-containing minerals that have been screened to ensure there is no gold nugget effect.
Supplier of Reference Material:	ROCKLABS P O Box 18 142 Glen Innes Auckland 1743 **NEW ZEALAND** Email: reference-materials@rocklabs.com Website: www.rocklabs.com

Description: The reference material is a light grey powder that has been well mixed and a homogeneity test carried out after the entire batch was packaged into wide-mouthed jars. There is no soil component. The product contains crystalline quartz and therefore dust from it should not be inhaled.

The approximate chemical composition is:
(Uncertified Values)

	%
SiO_2	58.12
Al_2O_3	16.71
Na_2O	4.62
K_2O	5.48
CaO	3.80
MgO	3.67
TiO_2	1.02
MnO	0.07
P_2O_5	0.27
Fe_2O_3	5.39
L O I	0.33

Intended Use: This reference material is designed to be included with every batch of samples analysed and the results plotted for quality monitoring and assessment purposes.

Stability: The container (jar or sachet) should not be heated to temperatures higher than 50 °C. The reference material is stable, with weight changes of less than 0.5 % at extremes of naturally occurring temperature and humidity conditions.

Method of Preparation: Pulverized basalt rock and feldspar minerals were blended with finely pulverized and screened gold-containing minerals. Once the powders were uniformly mixed the composite was placed into 3360 wide-mouthed jars, each bearing a unique number. 60 jars were randomly selected from the packaging run and material from these jars was used for both homogeneity and consensus testing.

Homogeneity Assessment:

An independent laboratory carried out gold analysis by fire assay of 30 g portions, using an ICP finish. Steps were taken to minimize laboratory method variation in order to better detect any variation in the candidate reference material.
The contents of six randomly selected jars were compacted by vibration (to simulate the effect of freighting) and five samples removed successively from top to bottom from each jar. In addition, five samples were removed from the last jar in the series. A sample was also removed from the top of each of the 60 jars randomly selected from the 3360 jars in the batch. The results of analysis of the 95 samples (randomly ordered and then consecutively numbered before being sent to the laboratory) produced a relative standard deviation of 1.4 %.

Analytical Methodology:

Once homogeneity had been established, two sub-samples were submitted to a number of well-recognized laboratories in order to assign a gold value by consensus testing. The sub-samples were drawn from the 60 randomly selected jars and each laboratory received samples from two different jars. Indicative concentration ranges were given. All laboratories used fire assay for the gold analysis, with most using an instrument finish and three using a gravimetric finish.

Calculation of Certified Value:

Results for gold were returned from 53 laboratories, with one laboratory returning one set of results with an AAS finish and another with a gravimetric finish. Both sets were included thus making a total of 54 sets of results received. Statistical analysis to identify outliers was carried out using the principles detailed in sections 7.3.2 – 7.3.4, ISO 5725-2: 1994. Assessment of each laboratory's performance was carried out on the basis of z-scores, partly based on the concept described in ISO/IEC Guide 43-1. Details of the criteria used in these examinations are available on request. As a result of these statistical analyses, six sets of results were excluded for the purpose of assigning a gold concentration value to this reference material. A recommended value was thus calculated from the average of the remaining n = 48 sets of replicate results. The 95% confidence interval was estimated using the formula:-

$$X \pm ts/\sqrt{n}$$

(where X is the estimated average, s is the estimated standard deviation of the laboratory averages, and t is the 0.025 tail-value from Student's t-distribution with n-1 degrees of freedom). The recommended value is provided at the beginning of the certificate in μg/g (ppm) units. A summary of the results used to calculate the recommended value is listed on page 4 and the names of the laboratories that submitted results are listed on page 5. The results are listed in increasing order of the individual laboratory averages.

Statistical analysis of the consensus test results has been carried out by independent statistician, Tim Ball.

Summary of Results Used to Calculate Gold Value

(Listed in increasing order of individual laboratory averages)

Gold (ppm)		
Sample 1	**Sample 2**	**Average**
0.17	0.19	0.180
0.18	0.19	0.185
0.199	0.175	0.187
0.190	0.190	0.190
0.19	0.19	0.191
0.195	0.189	0.192
0.20	0.19	0.195
0.20	0.19	0.195
0.193	0.197	0.195
0.20	0.19	0.195
0.20	0.19	0.195
0.193	0.197	0.195
0.194	0.197	0.196
0.195	0.196	0.196
0.194	0.199	0.197
0.205	0.19	0.198
0.200	0.197	0.199
0.196	0.203	0.200
0.199	0.201	0.200
0.195	0.205	0.200
0.199	0.201	0.200
0.20	0.20	0.200
0.202	0.199	0.200
0.20	0.20	0.201
0.198	0.205	0.202
0.205	0.201	0.203
0.204	0.203	0.203
0.204	0.205	0.205
0.206	0.204	0.205
0.21	0.20	0.205
0.21	0.20	0.205
0.205	0.206	0.206
0.22	0.20	0.206
0.207	0.205	0.206
0.213	0.200	0.207
0.212	0.201	0.207
0.211	0.203	0.207
0.204	0.211	0.207
0.204	0.211	0.208
0.205	0.210	0.208
0.217	0.200	0.209
0.21	0.21	0.210
0.21	0.21	0.210
0.21	0.21	0.210
0.210	0.210	0.210
0.210	0.215	0.213
0.223	0.221	0.222
0.230	0.216	0.223

Average of 48 sets = 0.201 ppm
Standard Deviation of 48 sets = 0.008 ppm

Note: this standard deviation should not be used as a basis to set control limits when plotting results from an individual laboratory.

Relative standard deviation = 4.2 %
95% Confidence interval for average: +/- 0.002 ppm

Participating Laboratories

Australia	ALS Minerals, Kalgoorlie ALS Minerals, Orange ALS Minerals, Perth ALS Minerals, Townsville Bureau Veritas Amdel, Adelaide Bureau Veritas Amdel, Kalgoorlie Intertek Genalysis Laboratory Services, Perth SGS Minerals Services, Perth Ultra Trace – Bureau Veritas, Perth
Burkina Faso	ALS Minerals, Burkina Faso SEMAFO Burkina Faso S.A.
Canada	Acme Analytical Laboratories, Vancouver ALS Minerals, Val-d'Or ALS Minerals, Vancouver Bourlamaque, Quebec Loring Laboratories (Alberta) Ltd, Calgary SGS Minerals Services, Lakefield SGS Minerals Services, Vancouver Techni-Lab S.G.B. Abitibi Inc/Actlabs, Québec TSL Laboratories Inc, Saskatoon
Chile	Acme Analytical Laboratories, Santiago ALS Minerals, La Serena
Côte d'Ivoire	Bureau Veritas Mineral Laboratories, Abidjan
Ghana	ALS Minerals, Kumasi
Ireland	OMAC Laboratories Ltd
Kyrgyz Republic	Stewart Assay and Environmental Laboratories LLC, Kara-Balta
Mali	ALS Minerals, Bamako
Namibia	Bureau Veritas- Mineral Laboratories, Swakopmund
New Zealand	SGS New Zealand Ltd, Otago SGS New Zealand Ltd, Reefton SGS New Zealand Ltd, Waihi
Peru	ALS Minerals, Lima Inspectorate Services Perú S.A.C., Callao Minera Yanacocha SRL – Newmont, Lima
Romania	ALS Minerals, Rosia Montana
Russia	Irgiredmet Analytical Centre, Irkutsk
South Africa	AB Analytical Laboratory Services, Boksburg ALS Minerals, Modderfontein Gold Fields West Wits Analytical Laboratory, Carletonville Intertek, Johannesburg Performance Laboratories, Barberton Performance Laboratories, Randfontein SGS South Africa (Pty) Ltd, Johannesburg
Turkey	Acme Analitik Laboratuar Hizmetleri Ltd, Sirketi ALS Minerals, Izmir
United Kingdom	Inspectorate International, Essex
USA	Acme Analytical Laboratories, Alaska ALS Minerals, Reno Barrick Goldstrike – Met Services, Nevada Inspectorate, Sparks Newmont Mining Corporation, Carlin Laboratory Newmont Mining Corporation, Lone Tree Laboratory
Zimbabwe	Performance Laboratories, Ruwa

Instructions and Recommendations for Use:

Weigh out quantity usually used for analysis and analyse for total gold by normal procedure. Homogeneity testing has shown that consistent results are obtainable for gold when 30g portions are taken for analysis.

We quote a 95% confidence interval for our estimate of the declared value. This confidence interval reflects our uncertainty in estimating the true value for the gold content of the reference material. The interval is chosen such that, if the same procedure as used here to estimate the declared value were used again and again, then 95% of the trials would give intervals that contained the true value. It is a reflection of how precise the trial has been in estimating the declared value. It **does not** reflect the variability any particular laboratory will experience in its own repetitive testing.

Some users in the past have misinterpreted this confidence interval as a guide as to how different an individual test result should be from the declared value. Some mistakenly use this interval, or the standard deviation from the consensus test, to set limits for control charts on their own routine test results using the reference material. Such use inevitably leads to many apparent out-of-control points, leading to doubts about the laboratory's testing, or of the reference material itself.

A much better way of determining the laboratory performance when analyzing the reference material is to accumulate a history of the test results obtained, and plot them on a control chart. The appropriate centre line and control limits for this chart should be based on the average level and variability exhibited in the laboratory's **own** data. This chart will provide a clear picture of the long-term stability or otherwise of the laboratory testing process, providing good clues as to the causes of any problems. To help our customers do this, we can provide a free Excel template that will produce sensible graphs, with intelligently chosen limits, from the customer's own data.

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However ROCKLABS Ltd, Scott Technology Ltd and Tim Ball Ltd accept no liability for any decisions or actions taken following the use of the reference material.

References:

For further information on the preparation and validation of this reference material please contact Malcolm Smith.

Certifying Officer	**Independent Statistician**
M. G. Smith	Tim Ball
M G Smith BSc, FNZIC	Tim Ball BSc (Hons)

Materials with Provisional Values for Selected Elements

Sulphide-Bearing Ultramafic Rocks UM-1, UM-2 and UM-4

UM-1 is a sulphide-bearing ultramafic rock from the Giant Mascot mine at Hope, British Columbia. UM-2 and UM-4 are from the Werner Lake - Gordon Lake district of northwestern Ontario. These rock samples are intended as reference materials for the determination of ascorbic acid/hydrogen peroxide-soluble copper, nickel, and cobalt in ultramafic rocks to evaluate their ore potential.

Details of the mineralogy of UM-1, UM-2, and UM-4 are given in Geological Survey of Canada Paper 71-35 "Three geochemical standards of sulphide-bearing ultramafic rock: UM.1, UM.2 and UM.4". The following table by E.M. Cameron provides values for the major and minor elements; they are intended for information purposes only.

Approximate chemical composition

Constituent	UM-1	UM-2	UM-4
		wt %	
SiO_2	37.6	39.2	39.35
MgO	36.05	25.45	22.5
Fe (total) as FeO	17.2	12.95	12.8
S	3.53	0.94	0.44
CaO	2.34	4.68	6.27
Al_2O_3	1.00	7.23	8.98
Cr_2O_3	0.45	1.51	2.59
CO_2	0.26	0.10	0.26
MnO	0.16	0.08	0.15
TiO_2	0.10	0.24	0.35
Na_2O	0.08	0.32	0.45
K_2O	0.03	0.11	0.18
ZnO	0.012	0.004	0.008
P_2O_5	-	0.02	0.02
H_2O	0.42	6.27	4.86

GSC VALUES FOR COPPER, NICKEL, AND COBALT BY ASCORBIC ACID/HYDROGEN PEROXIDE METHOD (wt %)

Sample	Cu	Ni	Co
UM-1	0.41	0.83	0.029
UM-2	0.095	0.29	0.012
UM-4	0.054	0.19	0.007

AcmeLabs

BSI
ISO 9001:2000
FM 63007
Vancouver

CERTIFICATE OF ANALYSIS

SO-18

Internal Reference Material for Whole Rock Analysis

Element	Group 4A Detection Limit	Unit	SO-18 Expected Value	SO-18 Upper Limit	SO-18 Lower Limit
SiO_2	0.04	%	58.47	60.22	56.72
Al_2O_3	0.03	%	14.23	14.66	13.80
Fe_2O_3	0.04	%	7.67	7.90	7.44
MgO	0.01	%	3.35	3.45	3.25
CaO	0.01	%	6.42	6.61	6.23
Na_2O	0.01	%	3.71	3.82	3.60
K_2O	0.04	%	2.17	2.28	2.06
TiO_2	0.01	%	0.69	0.73	0.65
P_2O_5	0.01	%	0.83	0.87	0.79
MnO	0.01	%	0.39	0.42	0.36
Cr_2O_3	0.001	%	0.550	0.567	0.534
Ba	5	ppm	515	541	489
Ni	30	ppm	44	52	20
Sr	10	ppm	402	442	362
Zr	10	ppm	280	308	252
Y	10	ppm	33	35	25
Sc	1	ppm	25	28	20
LOI	0.1	%	1.9	2.1	1.7
Ce	20	ppm	27	40	<20
Co	20	ppm	26	40	<20
Cu	20	ppm	66	73	59
Nb	20	ppm	21	40	<20
Ta	20	ppm	<20		
Zn	20	ppm	80	60	100

Element	Group 4B Detection Limit	Unit	SO-18 Official Value	SO-18 Upper Limit	SO-18 Lower Limit
Ba	0.5	ppm	514.0	565.4	462.6
Be	1	ppm	1.0	3.0	<1
Co	0.5	ppm	26.2	28.8	23.6
Cs	0.1	ppm	7.1	7.9	6.3
Ga	0.5	ppm	17.6	19.4	15.8
Hf	0.5	ppm	9.8	10.8	8.8
Nb	0.5	ppm	20.9	23.0	18.8
Rb	0.5	ppm	28.7	31.6	25.8
Sn	1	ppm	15	20.0	12.0
Sr	0.5	ppm	407.4	448.1	366.7
Ta	0.1	ppm	7.4	8.1	6.7
Th	0.1	ppm	9.9	10.9	8.9
U	0.1	ppm	16.4	18.0	14.8
V	5	ppm	200	220	180
W	0.1	ppm	15.1	17.4	12.8
Zr	0.5	ppm	280.0	308.0	252.0
Y	0.1	ppm	33.0	36.3	29.7
La	0.5	ppm	12.3	14.1	10.5
Ce	0.5	ppm	27.1	29.8	24.4
Pr	0.02	ppm	3.45	3.8	3.1
Nd	0.4	ppm	14.0	15.4	12.6
Sm	0.1	ppm	3.0	3.4	2.6
Eu	0.05	ppm	0.89	0.98	0.80
Gd	0.05	ppm	2.93	3.22	2.64
Tb	0.01	ppm	0.53	0.58	0.48
Dy	0.05	ppm	3.00	3.30	2.70
Ho	0.05	ppm	0.62	0.68	0.56
Er	0.05	ppm	1.84	2.02	1.66
Tm	0.05	ppm	0.29	0.32	0.26
Yb	0.05	ppm	1.79	1.97	1.61
Lu	0.01	ppm	0.27	0.30	0.24

This certificate lists the expected values as monitored by AcmeLabs for Group 4A 4B analysis. Values are subject to change based on additional testing. Upper and lower limits represent 3 SD limits. Any one element in a run reporting outside the upper and lower limit does not constitute failure of the standard.

1020 Cordova Street East, Vancouver, BC Canada V6A 4A3
Phone (604) 253 3158   Fax (604) 253 1716   E-mail: acmeinfo@acmelab.com

SO18 COAv1.5   First Issued: April 19, 2005   Revision Date of this Certificate: March 6, 2009

Internal Reference Materials for Nickel Sulfide by Ammonium Citrate / Hydrogen Peroxide Leach - Group G810 analysis

UM-4

Element	Recommended Value	Tolerance Interval – 3SD	
		Low	High
Ni	0.18	0.14	0.22

UM-4 is a CANMET reference material. Values provided by CANMET are only provisional and not certified. Method of analysis used was ascorbic acid / hydrogen peroxide leach yielding a Ni result of 0.19%. UM-4 analyzed by the literature method referenced below yields an average Ni result of 0.13%.

Values are subject to change upon further testing.

R4-Ni

Element	Recommended Value	Tolerance Interval – 3SD	
		Low	High
Ni	0.26	0.20	0.33

Note: R4 material when analyzed by this method provided highly variable results due in part to its tendency to pass through the filter paper during filtration resulting in leaching of Ni from other forms. R4 material when analyzed by literature method using less concentrated ammonium citrate and hydrogen peroxide yields a value of 0.23%. R4 material which contains 0.344% total Ni underwent flotation to separate sulfide from non sulfide fractions. Based on analysis of the fractions calculated NiS content was determined to be 0.15-0.19%. Use of R4Ni as a reference material for this method was discontinued on May 30, 2011 but remained in use to provide data continuity while UM-4 was first used.
Ammonium Citrate Method Ref: Young, R.S., (1974) *Chemical Phase Analysis,* Charles Griffin & Company Limited p 83

R4Ni UM-4 COAv1.0.doc Revision Date of this Certificate: June 22, 2011

Certificate of Analysis

Reference Material PD1

Recommended Values and 95% Confidence Intervals
Platinum concentration: 0.456 (± 0.009) µg/g
Palladium concentration: 0.563 (± 0.011) µg/g
Gold concentration: 0.542 (± 0.014) µg/g

The above values apply only to product in jars or sachets that have an identification number within the following Range: ***185 926*** to ***186 506***.

Prepared and Certified By:	Malcolm Smith BSc, FNZIC Malcolm Smith Reference Materials Ltd 40 Oakford Park Crescent Greenhithe, North Shore City 0632 **NEW ZEALAND** Email: Malcolm@MSRML.co.nz
Date of Certification:	15 December 2008
Certificate Status:	Original
Available Packaging:	This reference material has been packed in wide-mouthed jars that contain 2.5 kg of product. The contents of some jars may be subsequently repacked into sealed polyethylene sachets.
Origin of Reference Material:	Concentrates containing platinum, palladium and gold that have been screened very finely in order to remove any nuggets and then blended with an appropriate matrix of barren minerals.
Supplier of Reference Material:	ROCKLABS Ltd P O Box 18 142 Auckland 1743 **NEW ZEALAND** Email: sales@rocklabs.com

Description: The component minerals have been well mixed and a homogeneity test carried out after the entire batch was packaged into the jars to ascertain that homogeneity has been achieved. There is no soil component. The product contains crystalline quartz and therefore dust from it should not be inhaled.

The approximate chemical composition is**:**

(Uncertified Values)

	%
SiO_2	49.11
Al_2O_3	10.90
Na_2O	3.51
Fe_2O_3	8.08
K_2O	1.54
CaO	4.01
MgO	18.95
TiO_2	1.08
MnO	0.13
P_2O_5	0.26
LOI	2.28

Intended Use: This reference material is designed to be included with every batch of samples analysed and the results plotted for quality monitoring purposes.

Stability: The container (jar or sachet) and its contents should not be heated to temperatures higher than 50 °C. The reference material is stable, with weight changes of not more than 0.5 % at extremes of naturally occurring temperature and humidity conditions.

Instructions for Use: Weigh out quantity usually used for analysis and analyze by normal procedure. Do not dry before weighing.

Method of Preparation: Finely screened concentrates containing platinum, palladium and gold were blended with an appropriate matrix of barren minerals. Once the powders were uniformly mixed, the composite was placed into 581 wide-mouthed jars, each bearing a unique number. 16 jars were selected randomly from the packaging run and material from these jars was used for both homogeneity assessment and consensus analysis for the assignment of platinum, palladium and gold values.

Homogeneity Assessment for Platinum, Palladium and Gold:

An independent laboratory carried out all analyses by fire assay of 40g portions, followed by inductively coupled plasma optical emission spectrometry.

The homogeneity assessment was carried out after the material had been packaged into jars.

The contents of two randomly selected jars were compacted by vibration (to simulate the effect of freighting) and five samples removed successively from top to bottom from each jar. One sample was also removed from the top of 16 jars randomly selected from the 581 jars in the batch. The results of analysis of the 26 samples produced a coefficient of variation of 4.2% for platinum, 2.9% for palladium and 3.1% for gold.

Analytical Methodology:

Once homogeneity had been established, sub-samples were submitted to a number of well-recognized laboratories in order to assign platinum, palladium and gold values by consensus testing. The sub-samples were drawn from the 16 randomly selected jars and each laboratory received samples from two different jars. Indicative concentration ranges were given. Most laboratories used a lead based fire assay fusion followed by an ICP determination. Some laboratories performed more than one analysis on each sub-sample and where this occurred the average of the results for each sub-sample was used in the statistical analysis.

Calculation of Certified Value:

21 laboratories returned results for all 3 elements. Statistical analysis to identify outliers was carried out using Cochran's and Grubbs' tests. As a result of this examination one set of laboratory results was excluded for platinum, two sets for palladium and three sets for gold. Recommended values for each element were calculated from the average of the individual results from all the other laboratories. The 95 % confidence interval was estimated using the formula:-

$$X \pm ts/\sqrt{n}$$

(where X is the estimated average, s is the estimated standard deviation of the n laboratory averages, and t is the 0.025 tail-value from Student's t-distribution with n-1 degrees of freedom). The recommended values are provided at the beginning of the certificate in μg/g (ppm) units. A summary of the results used to calculate the recommended values are listed on page 4 and the names of the laboratories that submitted results are listed on page 5.

Summary of Results Used to Calculate Platinum, Palladium and Gold Values

(not related to order of laboratories listed on page 5)

Platinum (ppm)			Palladium (ppm)			Gold (ppm)		
Sample 1	**Sample 2**	**Average**	**Sample 1**	**Sample 2**	**Average**	**Sample 1**	**Sample 2**	**Average**
0.403	0.450	0.4265	0.520	0.524	0.5220	0.5067	0.4971	0.5019
0.405	0.460	0.4325	0.510	0.545	0.5275	0.500	0.505	0.5025
0.438	0.428	0.4334	0.532	0.552	0.5420	0.508	0.511	0.5093
0.434	0.444	0.4390	0.540	0.545	0.5425	0.52	0.52	0.520
0.43	0.45	0.440	0.54	0.56	0.550	0.524	0.522	0.5230
0.435	0.450	0.4425	0.550	0.553	0.5515	0.530	0.527	0.5283
0.45	0.45	0.450	0.550	0.565	0.5575	0.524	0.533	0.5285
0.441	0.461	0.4510	0.562	0.558	0.5600	0.531	0.529	0.5300
0.444	0.458	0.4510	0.5663	0.5560	0.5612	0.54	0.53	0.535
0.453	0.450	0.4515	0.566	0.560	0.5630	0.544	0.541	0.5425
0.4570	0.448	0.4525	0.5565	0.570	0.5633	0.5515	0.542	0.5468
0.46	0.45	0.455	0.5715	0.563	0.5673	0.555	0.550	0.5525
0.4665	0.4540	0.4603	0.5700	0.5675	0.5688	0.551	0.555	0.5530
0.46	0.47	0.465	0.57	0.58	0.575	0.55	0.56	0.555
0.46	0.47	0.465	0.58	0.57	0.575	0.573	0.550	0.5613
0.460	0.475	0.4675	0.569	0.581	0.5750	0.565	0.563	0.5640
0.4550	0.4825	0.4688	0.5785	0.5850	0.5818	0.591	0.592	0.5915
0.468	0.494	0.4810	0.584	0.586	0.5850	0.610	0.614	0.6120
0.510	0.465	0.4875	0.615	0.630	0.6225			
0.5085	0.4850	0.4968						

Platinum	Palladium	Gold
Average of 20 sets = 0.456 ppm	Average of 19 sets = 0.563 ppm	Average of 18 sets = 0.542 ppm
Standard deviation of 20 sets = 0.019 ppm	Standard deviation of 19 sets = 0.022 ppm	Standard deviation of 18 sets = 0.029 ppm

Note: As a general rule, these standard deviations should not be used as a basis to set control limits when plotting results from an individual laboratory.

Platinum	Palladium	Gold
Coefficient of variation = 4.1 %	Coefficient of variation = 4.0 %	Coefficient of variation = 5.3 %
95% Confidence interval for average = 0.009 ppm	95% Confidence interval for average = 0.011 ppm	95% Confidence interval for average = 0.014 ppm

Statistical analysis of consensus test results has been carried out by independent statistician, Tim Ball.

Participating Laboratories

Australia
ALS Chemex, Perth
Genalysis Laboratory Services Pty Ltd, Perth
SGS Minerals Services, Perth
Ultra Trace Analytical Laboratories, Perth

Canada
Accurassay Laboratories, Ontario,
Acme Analytical Laboratories Ltd, British Columbia
ALS Chemex, British Columbia
Assayers Canada, British Columbia,
Bourlamaque Assay Laboratories Ltd, Quebec
SGS Minerals Services, Lakefield, Ontario
SGS Minerals Services, Toronto, Ontario
TSL Laboratories Inc, Saskatchewan

Ireland
OMAC Laboratories Ltd

Peru
ALS Chemex, Lima

South Africa
ALS Chemex, Johannesburg
Anglo Research
MINTEK: Analytical Services Division
Northam Platinum Ltd
Set Point Laboratories
SGS Lakefield Research, Johannesburg

United States of America
Stillwater Mining Company

Instructions and Recommendations for Use:

Weigh out quantity usually used for analysis and analyze for total platinum, palladium and gold by normal procedure. All component concentrates have been very finely screened in order to remove any nuggets of mineral that could produce a high result on a 30g portion.

We quote a 95% confidence interval for our estimates of the declared values. This confidence interval reflects our uncertainty in estimating the true values for the platinum, palladium and gold content of the reference material. The interval is chosen such that, if

Instructions and Recommendations for Use (*cont..*):

the same procedure as used here to estimate the declared value were used again and again, then 95% of the trials would give intervals that contained the true value. It is a reflection of how precise the trial has been in estimating the declared value. It **does not** reflect the variability any particular laboratory will experience in its own repetitive testing.

Some users in the past have misinterpreted this confidence interval as a guide as to how different an individual test result should be from the declared value. Some mistakenly use this interval, or the standard deviation from the consensus test, to calculate limits for control charts on their own routine test results using the reference material. Such use may lead to many apparent out-of-control points, leading to doubts about the laboratory's testing, or of the reference material itself.

A much better way of determining the laboratory performance when analysing the reference material is to accumulate a history of the test results obtained, and plot them on a control chart. The appropriate centre line and control limits for this chart should be based on the average level and variability exhibited in the laboratory's **own** data. This chart will provide a clear picture of the long-term stability or otherwise of the laboratory testing process, providing good clues as to the causes of any problems. To help our customers do this more simply for themselves, we can provide a free Excel template that will produce sensible graphs, with intelligently chosen limits, from the customer's own data.

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However ROCKLABS Ltd, Malcolm Smith Reference Materials Ltd and Tim Ball Ltd accept no liability for any decisions or actions taken following the use of the reference material.

References:

For further information on the preparation and validation of this reference material please contact Malcolm Smith.

Certifying Officer	**Independent Statistician**
M. G. Smith	Tim Ball
M G Smith BSc, FNZIC	Tim Ball BSc (Hons)

CDN Resource Laboratories Ltd.

#2, 20148 – 102nd Ave, Langley, B.C., Canada, V1M 4B4, 604-882-8422, Fax: 604-882-8466 (www.cdnlabs.com)

REFERENCE MATERIAL: CDN-ME-14

Recommended values and the "Between Lab" Two Standard Deviations

Gold	*0.100 g/t ± 0.020 g/t*	*provisional value (RSD = 10.4%)*
Silver	***42.3 g/t ± 4.2 g/t***	***Certified value***
Copper	***1.221 % ± 0.078 %***	***Certified value***
Lead	***0.495 % ± 0.030 %***	***Certified value***
Zinc	***3.10 % ± 0.28 %***	***Certified value***

Note: Standards with an RSD of near or less than 5% are certified; RSD's of between 5% and 15% are Provisional; RSD's over 15% are Indicated. Provisional and Indicated values cannot be used to monitor accuracy with a high degree of certainty.

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.
DATE OF CERTIFICATION: February 4, 2011

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone mixer. Splits were taken and sent to 15 laboratories for round robin assaying.

ORIGIN OF REFERENCE MATERIAL:

The ore is described as massive to semi-massive sulphides from the Izok Lake orebody, an archean aged VMS deposit in the Slave structural province of Canada. It consists of pyrite, pyrhotite, chalcopyrite, sphalerite and minor galena. Gangue minerals include quartz, chlorite, feldspar, cordierite, biotite, magnetite, anthophyllite and grunerite.

Approximate chemical composition (from whole rock analysis) is as follows:

	Percent			Percent
SiO2	44.9		MgO	2.1
Al2O3	8.2		K2O	1.8
Fe2O3	25.7		TiO2	0.1
CaO	1.1		LOI	11.3
Na2O	0.7		S	16.6
C	0.1			

Statistical Procedures:

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

Assay Procedures:

Au: Fire assay pre-concentration, AA or ICP finish (30g sub-sample).
Ag, Cu, Pb, Zn: 4-acid digestion, AA or ICP finish.

REFERENCE MATERIAL   CDN-ME-14

Results from round-robin assaying:

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
ME-14-1	0.102	0.094	0.112	0.105	0.12	0.095	0.101	0.062	0.080	0.100	0.09	0.10	0.111	0.10	0.11
ME-14-2	0.111	0.094	0.099	0.102	0.10	0.090	0.099	0.052	0.091	0.111	0.10	0.10	0.093	0.09	0.11
ME-14-3	0.106	0.091	0.118	0.084	0.12	0.095	0.101	0.079	0.089	0.098	0.10	0.10	0.096	0.09	0.10
ME-14-4	0.122	0.084	0.126	0.092	0.12	0.085	0.104	0.062	0.090	0.113	0.10	0.09	0.121	0.10	0.12
ME-14-5	0.107	0.098	0.106	0.090	0.12	0.095	0.101	0.090	0.075	0.108	0.10	0.11	0.084	0.09	0.11
ME-14-6	0.115	0.091	0.100	0.130	0.12	0.090	0.099	0.088	0.100	0.103	0.09	0.10	0.090	0.09	0.11
ME-14-7	0.101	0.106	0.117	0.106	0.12	0.095	0.103	0.079	0.083	0.103	0.09	0.09	0.118	0.11	0.10
ME-14-8	0.124	0.100	0.111	0.086	0.10	0.095	0.101	0.072	0.091	0.111	0.10	0.11	0.100	0.10	0.10
ME-14-9	0.118	0.088	0.106	0.084	0.10	0.100	0.099	0.057	0.097	0.105	0.09	0.09	0.103	0.08	0.10
ME-14-10	0.097	0.088	0.097	0.095	0.14	0.090	0.107	0.070	0.094	0.098	0.09	0.10	0.085	0.10	0.10
Mean	0.110	0.093	0.109	0.097	0.116	0.093	0.102	0.071	0.089	0.105	0.095	0.098	0.100	0.094	0.106
Std. Devn.	0.0092	0.0065	0.0094	0.0141	0.0126	0.0042	0.0025	0.0129	0.0077	0.0055	0.0053	0.0082	0.0131	0.0076	0.0070
% RSD	8.38	6.98	8.58	14.50	10.90	4.53	2.51	18.15	8.64	5.27	5.55	8.31	13.07	8.06	6.60
	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t
ME-14-1	43	45	40.7	38.6	41.4	41.6	43.7	41	43	40.2	44.0	45	46	41.5	39.5
ME-14-2	44	43	40.2	38.5	41.0	42.3	43.2	42	45	38.8	45.0	44	46	44.8	39.6
ME-14-3	44	42	40.8	38.8	41.6	42.7	44.7	43	43	41.8	46.0	42	46	43.1	39.5
ME-14-4	45	43	41.3	38.2	43.0	41.0	42.9	42	42	38.6	46.5	42	45	42.6	39.1
ME-14-5	43	43	41.6	38.9	41.3	41.5	42.2	44	43	40.7	45.5	45	45	42.0	40.1
ME-14-6	44	43	40.0	37.2	41.7	42.3	42.7	43	43	39.5	46.5	43	45	42.5	40.4
ME-14-7	43	41	40.9	39.0	41.8	43.0	42.8	43	42	38.8	46.0	42	45	42.6	39.7
ME-14-8	43	42	39.5	38.4	41.6	42.1	42.5	42	43	39.0	44.5	44	46	42.8	40.0
ME-14-9	42	42	39.0	38.4	40.6	43.3	43.3	43	42	38.4	48.0	43	46	43.9	40.2
ME-14-10	46	44	39.8	38.5	41.6	42.8	43.9	42	47	39.1	45.5	43	46	42.6	39.6
Mean	43.7	42.8	40.4	38.5	41.6	42.3	43.2	42.5	43.3	39.5	45.8	43.2	45.7	42.8	39.8
Std. Devn.	1.1595	1.1353	0.8217	0.5039	0.6222	0.7260	0.7445	0.8498	1.5670	1.0867	1.1365	1.1195	0.4581	0.9261	0.3945
% RSD	2.65	2.65	2.03	1.31	1.50	1.72	1.72	2.00	3.62	2.75	2.48	2.59	1.00	2.16	0.99

Note: **Au results from Laboratory 8 were removed for failing the “t” test.**

REFERENCE MATERIAL   CDN-ME-14

Results from round-robin assaying:

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu
ME-14-1	1.278	1.235	1.19	1.15	1.240	1.16	1.267	1.21	1.20	1.05	1.20	1.32	1.28	1.225	1.19
ME-14-2	1.281	1.245	1.22	1.13	1.236	1.16	1.256	1.24	1.24	1.04	1.21	1.33	1.28	1.228	1.20
ME-14-3	1.267	1.235	1.22	1.17	1.217	1.15	1.264	1.21	1.21	1.07	1.21	1.28	1.27	1.239	1.20
ME-14-4	1.281	1.240	1.19	1.16	1.271	1.16	1.268	1.20	1.25	1.07	1.17	1.28	1.26	1.235	1.19
ME-14-5	1.271	1.235	1.23	1.17	1.215	1.15	1.247	1.24	1.22	1.06	1.22	1.31	1.27	1.223	1.19
ME-14-6	1.292	1.240	1.22	1.12	1.233	1.17	1.243	1.27	1.19	1.07	1.21	1.31	1.26	1.237	1.20
ME-14-7	1.264	1.170	1.19	1.16	1.246	1.18	1.263	1.21	1.23	1.10	1.22	1.25	1.27	1.236	1.20
ME-14-8	1.266	1.260	1.21	1.13	1.229	1.18	1.258	1.20	1.16	1.09	1.19	1.30	1.26	1.232	1.20
ME-14-9	1.255	1.240	1.19	1.13	1.188	1.16	1.266	1.21	1.18	1.06	1.22	1.30	1.26	1.239	1.21
ME-14-10	1.267	1.265	1.21	1.16	1.221	1.21	1.255	1.24	1.20	1.10	1.22	1.27	1.27	1.226	1.20
Mean	1.272	1.237	1.207	1.148	1.230	1.168	1.259	1.223	1.208	1.071	1.207	1.295	1.268	1.232	1.198
Std. Devn.	0.0107	0.0256	0.0157	0.0187	0.0221	0.0181	0.0086	0.0231	0.0278	0.0202	0.0164	0.0246	0.0077	0.0059	0.0063
% RSD	0.84	2.07	1.30	1.63	1.79	1.55	0.68	1.89	2.30	1.89	1.36	1.90	0.61	0.48	0.53
	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb	% Pb
ME-14-1	0.52	0.494	0.46	0.44	0.488	0.47	0.505	0.482	0.481	0.491	0.503	0.496	0.504	0.509	0.51
ME-14-2	0.52	0.494	0.46	0.42	0.489	0.47	0.502	0.492	0.49	0.501	0.495	0.499	0.500	0.508	0.52
ME-14-3	0.51	0.494	0.49	0.44	0.487	0.47	0.504	0.504	0.479	0.511	0.504	0.475	0.502	0.518	0.51
ME-14-4	0.52	0.496	0.47	0.43	0.497	0.47	0.504	0.489	0.483	0.506	0.489	0.481	0.496	0.505	0.51
ME-14-5	0.52	0.488	0.48	0.45	0.483	0.47	0.496	0.501	0.481	0.497	0.513	0.482	0.503	0.510	0.51
ME-14-6	0.52	0.491	0.47	0.44	0.489	0.47	0.501	0.505	0.471	0.501	0.511	0.485	0.496	0.506	0.51
ME-14-7	0.52	0.469	0.47	0.44	0.484	0.47	0.498	0.508	0.481	0.517	0.492	0.464	0.505	0.515	0.51
ME-14-8	0.52	0.498	0.46	0.44	0.477	0.47	0.499	0.492	0.473	0.511	0.507	0.481	0.501	0.509	0.51
ME-14-9	0.51	0.491	0.45	0.44	0.478	0.47	0.502	0.495	0.474	0.504	0.481	0.475	0.500	0.519	0.51
ME-14-10	0.52	0.504	0.46	0.44	0.491	0.47	0.496	0.494	0.475	0.519	0.490	0.465	0.499	0.509	0.51
Mean	0.518	0.492	0.467	0.438	0.486	0.470	0.501	0.496	0.479	0.506	0.499	0.480	0.501	0.511	0.511
Std. Devn.	0.0042	0.0092	0.0116	0.0079	0.0059	0.0000	0.0033	0.0081	0.0057	0.0088	0.0106	0.0114	0.0031	0.0048	0.0032
% RSD	0.81	1.86	2.48	1.80	1.22	0.00	0.66	1.64	1.18	1.74	2.13	2.38	0.62	0.93	0.62
	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn	% Zn
ME-14-1	3.31	3.17	3.09	2.84	3.25	2.83	3.16	3.11	3.08	2.76	2.97	3.18	3.13	3.24	3.19
ME-14-2	3.30	3.20	3.05	2.82	3.28	2.81	3.15	3.17	3.18	2.82	3.01	3.19	3.10	3.23	3.19
ME-14-3	3.30	3.17	3.06	2.89	3.08	2.78	3.15	3.19	3.12	2.85	3.04	3.07	3.10	3.22	3.17
ME-14-4	3.36	3.19	3.03	2.89	3.31	2.88	3.14	3.17	3.14	2.84	2.94	3.08	3.10	3.19	3.17
ME-14-5	3.33	3.17	3.05	2.94	3.28	2.86	3.09	3.20	3.14	2.81	3.08	3.13	3.11	3.20	3.17
ME-14-6	3.34	3.17	3.08	2.8	3.26	2.82	3.12	3.21	3.08	2.81	3.03	3.12	3.08	3.20	3.16
ME-14-7	3.30	3.01	3.05	2.92	3.41	2.88	3.11	3.21	3.07	2.88	3.07	2.98	3.13	3.22	3.15
ME-14-8	3.31	3.21	3.04	2.82	3.32	2.84	3.11	3.16	3.07	2.87	3.06	3.11	3.12	3.17	3.17
ME-14-9	3.23	3.17	2.96	2.89	3.15	2.86	3.15	3.19	3.11	2.85	3.08	3.09	3.10	3.20	3.15
ME-14-10	3.30	3.25	3.02	2.92	3.34	2.87	3.11	3.17	3.10	2.9	3.12	3.04	3.11	3.12	3.18
Mean	3.31	3.17	3.04	2.87	3.27	2.84	3.13	3.18	3.11	2.84	3.04	3.10	3.11	3.20	3.17
Std. Devn.	0.0343	0.0623	0.0359	0.0492	0.0943	0.0330	0.0247	0.0297	0.0363	0.0407	0.0546	0.0626	0.0171	0.0350	0.0141
% RSD	1.04	1.96	1.18	1.71	2.88	1.16	0.79	0.94	1.17	1.43	1.80	2.02	0.55	1.09	0.45

Note: **Pb data from Laboratory 4 was removed for failing the “t” test.**

REFERENCE MATERIAL CDN-ME-14

Participating Laboratories:
(not in same order as listed in table of results)

- Acme Analytical Laboratories Ltd., Vancouver
- Actlabs-Ancaster, Ontario, Canada
- Actlabs-Thunder Bay, Ontario, Canada
- AGAT Laboratories, Ontario, Canada
- AHK Geochem, Alaska, USA
- ALS Chemex Laboratories, North Vancouver
- Genalysis Laboratory, Australia
- Labtium, Finland
- Omac Laboratories Ltd., Ireland
- Skyline Assayers and Laboratories, Arizona, USA
- SGS – Vancouver, B.C., Canada
- Stewart Group, Kamloops, B.C., Canada
- Alex Stewart Argentina SA
- TSL Laboratories Ltd., Saskatoon
- Ultra Trace Analytical Laboratories, Australia

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. or Barry Smee accept no liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by Duncan Sanderson
Duncan Sanderson, Certified Assayer of B.C.

Geochemist BW Smee
Dr. Barry Smee, Ph.D., P. Geo.

CDN Resource Laboratories Ltd.

#2, 20148 – 102nd Ave, Langley, B.C., Canada, V1M 4B4, 604-882-8422, Fax: 604-882-8466 (www.cdnlabs.com)

REFERENCE MATERIAL: CDN-ME-9

Recommended values and the “Between Lab” Two Standard Deviations

Gold	*0.154 g/t*	±	*0.042 g/t*	*(Au: provisional value only, RSD = 13.9%)*
Platinum	***0.664 g/t***	±	***0.058 g/t***	
Palladium	***1.286 g/t***	±	***0.102 g/t***	
Copper	***0.654 %***	±	***0.036%***	
Cobalt	***0.017 %***	±	***0.002%***	
Nickel	***0.912%***	±	***0.062%***	

Note: **Standards with an RSD of near or less than 5% are certified, RSD’s of between 5% and 15% are Provisional, and RSD’s over 15% are Indicated. Provisional and Indicated values cannot be used to monitor accuracy with a high degree of certainty.**

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.
DATE OF CERTIFICATION: February 20, 2010

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone mixer. Splits were taken and sent to fifteen laboratories for round robin assaying.

ORIGIN OF REFERENCE MATERIAL:

This standard is made from a mixture of several ores: 385 kg from Teck’s Mesaba property in Minnesota, 245 kg of FNX Mining ore from the Sudbury Basin and 70 kg from Xstrata’s Raglan mine in Quebec.

Approximate chemical composition is as follows:

	Percent			Percent
SiO2	47.3		MgO	7.2
Al2O3	12.3		K2O	0.9
Fe2O3	19.0		TiO2	0.6
CaO	5.9		LOI	2.5
Na2O	2.4		S	3.4

Statistical Procedures:

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual “between-laboratory” standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

Assay Procedures:

Au, Pt, Pd: Fire assay pre-concentration, AA or ICP finish (30g sub-sample).
Cu, Co, Ni: 4-acid digestion, AA or ICP finish.

REFERENCE MATERIAL   CDN-ME-9

Results from round-robin assaying:

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
ME-9-1	0.124	0.150	0.16	0.14	0.102	0.131	0.151	0.197	0.151	0.124	0.157	0.14	0.167	0.129	0.203
ME-9-2	0.119	0.168	0.21	0.17	0.145	0.127	0.176	0.184	0.238	0.143	0.151	0.16	0.146	0.176	0.170
ME-9-3	0.168	0.180	0.15	0.16	0.138	0.169	0.143	0.247	0.116	0.195	0.151	0.15	0.129	0.122	0.182
ME-9-4	0.130	0.173	0.15	0.16	0.148	0.125	0.120	0.192	0.133	0.140	0.159	0.14	0.134	0.141	0.185
ME-9-5	0.128	0.140	0.19	0.15	0.146	0.164	0.184	0.234	0.182	0.142	0.150	0.14	0.115	0.162	0.174
ME-9-6	0.140	0.160	0.17	0.20	0.121	0.138	0.187	0.193	0.170	0.160	0.158	0.15	0.121	0.162	0.190
ME-9-7	0.118	0.158	0.20	0.18	0.153	0.192	0.196	0.195	0.173	0.127	0.156	0.16	0.130	0.133	0.172
ME-9-8	0.144	0.119	0.16	0.19	0.190	0.160	0.135	0.189	0.192	0.166	0.167	0.16	0.204	0.138	0.185
ME-9-9	0.140	0.196	0.15	0.17	0.121	0.165	0.191	0.182	0.159	0.156	0.150	0.14	0.150	0.144	0.178
ME-9-10	0.122	0.156	0.16	0.16	0.147	0.171	0.122	0.209	0.122	0.145	0.154	0.16	0.156	0.174	0.172
Mean	0.133	0.160	0.170	0.168	0.141	0.154	0.161	0.202	0.164	0.150	0.155	0.150	0.145	0.148	0.181
Std. Devn.	0.0153	0.0214	0.0221	0.0190	0.0236	0.0225	0.0295	0.0217	0.0364	0.0207	0.0053	0.0094	0.0261	0.0191	0.0102
% RSD	11.46	13.39	13.01	11.37	16.71	14.61	18.41	10.74	22.25	13.82	3.43	6.29	18.00	12.89	5.64
	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t	Pt g/t
ME-9-1	0.653	0.744	0.63	0.66	0.639	0.617	0.639	0.670	0.706	0.622		0.67	0.665	0.590	0.763
ME-9-2	0.666	0.680	0.65	0.70	0.661	0.723	0.637	0.730	0.688	0.653		0.68	0.715	0.587	0.712
ME-9-3	0.650	0.709	0.67	0.64	0.607	0.675	0.660	0.700	0.691	0.648		0.67	0.654	0.586	0.745
ME-9-4	0.686	0.691	0.67	0.65	0.639	0.681	0.614	0.640	0.670	0.593		0.67	0.659	0.571	0.794
ME-9-5	0.637	0.713	0.64	0.66	0.640	0.667	0.714	0.700	0.673	0.660		0.65	0.672	0.594	0.683
ME-9-6	0.631	0.667	0.67	0.68	0.641	0.683	0.682	0.800	0.660	0.627		0.69	0.647	0.595	0.676
ME-9-7	0.622	0.668	0.71	0.67	0.615	0.683	0.603	0.720	0.703	0.613		0.65	0.641	0.585	0.746
ME-9-8	0.581	0.656	0.68	0.62	0.688	0.699	0.610	0.720	0.693	0.670		0.67	0.673	0.599	0.794
ME-9-9	0.601	0.680	0.62	0.67	0.657	0.673	0.668	0.730	0.697	0.648		0.66	0.626	0.595	0.781
ME-9-10	0.625	0.684	0.66	0.67	0.634	0.691	0.670	0.690	0.667	0.633		0.69	0.645	0.576	0.755
Mean	0.635	0.689	0.660	0.663	0.642	0.679	0.650	0.710	0.685	0.637		0.670	0.660	0.588	0.745
Std. Devn.	0.0307	0.0263	0.0262	0.0219	0.0230	0.0270	0.0355	0.0424	0.0161	0.0235		0.0141	0.0242	0.0089	0.0424
% RSD	4.83	3.81	3.98	3.30	3.58	3.97	5.46	5.98	2.35	3.69		2.11	3.67	1.51	5.70
	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t	Pd g/t
ME-9-1	1.35	1.35	1.24	1.25	1.23	1.27	1.20	1.32	1.34	1.26		1.32	1.29	1.19	1.11
ME-9-2	1.36	1.34	1.29	1.28	1.26	1.37	1.21	1.35	1.30	1.27		1.31	1.31	1.24	1.28
ME-9-3	1.26	1.38	1.35	1.20	1.19	1.36	1.24	1.33	1.33	1.26		1.33	1.28	1.18	1.23
ME-9-4	1.26	1.36	1.34	1.27	1.24	1.39	1.25	1.30	1.31	1.25		1.30	1.27	1.22	1.26
ME-9-5	1.30	1.33	1.26	1.31	1.28	1.30	1.30	1.34	1.37	1.27		1.30	1.29	1.22	1.25
ME-9-6	1.28	1.36	1.30	1.32	1.23	1.36	1.31	1.41	1.33	1.26		1.34	1.26	1.21	1.31
ME-9-7	1.28	1.31	1.29	1.28	1.20	1.37	1.15	1.36	1.34	1.22		1.29	1.28	1.21	1.33
ME-9-8	1.17	1.33	1.27	1.30	1.28	1.37	1.27	1.35	1.32	1.28		1.34	1.28	1.22	1.23
ME-9-9	1.26	1.34	1.26	1.34	1.27	1.33	1.30	1.42	1.34	1.25		1.30	1.24	1.22	1.24
ME-9-10	1.25	1.33	1.23	1.20	1.24	1.38	1.27	1.36	1.33	1.26		1.30	1.27	1.21	1.18
Mean	1.28	1.34	1.28	1.28	1.24	1.35	1.25	1.35	1.33	1.26		1.31	1.27	1.21	1.24
Std. Devn.	0.0536	0.0188	0.0395	0.0472	0.0312	0.0383	0.0521	0.0372	0.0191	0.0162		0.0183	0.0184	0.0169	0.0638
% RSD	4.20	1.40	3.08	3.70	2.51	2.84	4.17	2.75	1.44	1.29		1.39	1.45	1.39	5.14

NOTE: **Au data from Lab. 8 was excluded for failing the “t” test.**
Pt data from Labs 14 and 15 was excluded for failing the “t” test.

REFERENCE MATERIAL   CDN-ME-9

Results from round-robin assaying:

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu	% Cu
ME-9-1	0.647	0.65	0.662	0.649	0.652	0.648	0.677	0.65	0.679	0.649	0.642	0.617	0.672	0.678	0.773
ME-9-2	0.659	0.65	0.673	0.646	0.646	0.631	0.694	0.68	0.677	0.630	0.648	0.626	0.673	0.674	0.800
ME-9-3	0.639	0.66	0.700	0.646	0.637	0.618	0.694	0.63	0.678	0.646	0.678	0.642	0.661	0.671	0.691
ME-9-4	0.660	0.65	0.660	0.645	0.640	0.658	0.683	0.63	0.678	0.635	0.649	0.620	0.663	0.670	0.654
ME-9-5	0.647	0.66	0.660	0.659	0.639	0.616	0.681	0.63	0.662	0.628	0.652	0.635	0.669	0.676	0.877
ME-9-6	0.655	0.64	0.677	0.655	0.640	0.650	0.686	0.66	0.667	0.624	0.655	0.626	0.666	0.675	0.849
ME-9-7	0.657	0.66	0.671	0.653	0.645	0.643	0.669	0.63	0.674	0.646	0.646	0.642	0.668	0.674	0.775
ME-9-8	0.656	0.66	0.674	0.651	0.644	0.634	0.665	0.64	0.660	0.619	0.657	0.625	0.657	0.681	0.701
ME-9-9	0.645	0.64	0.678	0.654	0.628	0.656	0.678	0.60	0.671	0.658	0.651	0.637	0.664	0.676	0.732
ME-9-10	0.647	0.67	0.673	0.652	0.638	0.623	0.684	0.59	0.666	0.621	0.658	0.616	0.662	0.671	0.824
Mean	0.651	0.652	0.673	0.651	0.641	0.638	0.681	0.634	0.671	0.636	0.654	0.629	0.665	0.675	0.768
Std. Devn.	0.0071	0.0105	0.0117	0.0045	0.0064	0.0155	0.0094	0.0263	0.0070	0.0134	0.0099	0.0098	0.0050	0.0034	0.0726
% RSD	1.09	1.60	1.74	0.69	1.00	2.43	1.39	4.15	1.05	2.10	1.51	1.56	0.75	0.50	9.45
	% Co	% Co	% Co	% Co	% Co	% Co	% Co	% Co	% Co	% Co	% Co	% Co	% Co	% Co	% Co
ME-9-1	0.018	0.016	0.020	0.017	0.015	0.015	0.022	0.017	0.017	0.017	0.016	0.017	0.017	0.019	0.018
ME-9-2	0.018	0.016	0.020	0.017	0.016	0.015	0.021	0.017	0.018	0.016	0.016	0.016	0.017	0.019	0.018
ME-9-3	0.017	0.016	0.020	0.017	0.016	0.016	0.021	0.017	0.017	0.017	0.017	0.017	0.017	0.019	0.018
ME-9-4	0.018	0.016	0.019	0.018	0.015	0.016	0.020	0.017	0.017	0.017	0.016	0.016	0.017	0.019	0.018
ME-9-5	0.018	0.016	0.019	0.017	0.016	0.015	0.020	0.017	0.017	0.016	0.016	0.016	0.017	0.019	0.017
ME-9-6	0.018	0.016	0.019	0.017	0.015	0.016	0.020	0.017	0.017	0.016	0.016	0.017	0.017	0.019	0.018
ME-9-7	0.018	0.016	0.019	0.017	0.016	0.015	0.020	0.017	0.017	0.017	0.016	0.016	0.017	0.019	0.017
ME-9-8	0.018	0.016	0.020	0.017	0.015	0.016	0.019	0.017	0.017	0.016	0.016	0.016	0.017	0.019	0.018
ME-9-9	0.017	0.016	0.020	0.017	0.016	0.015	0.020	0.017	0.017	0.017	0.016	0.017	0.017	0.019	0.018
ME-9-10	0.018	0.016	0.020	0.017	0.016	0.016	0.018	0.017	0.017	0.017	0.016	0.017	0.017	0.019	0.017
Mean	0.018	0.016	0.020	0.017	0.015	0.016	0.020	0.017	0.017	0.017	0.016	0.016	0.017	0.019	0.018
Std. Devn.	0.0004	0.0002	0.0005	0.0002	0.0003	0.0004	0.0011	0.0002	0.0002	0.0002	0.0003	0.0003	0.0001	0.0002	0.0003
% RSD	2.18	1.20	2.63	1.36	2.03	2.68	5.48	1.05	1.04	1.31	1.96	1.62	0.82	1.15	1.62
	% Ni	% Ni	% Ni	% Ni	% Ni	% Ni	% Ni	% Ni	% Ni	% Ni	% Ni	% Ni	% Ni	% Ni	% Ni
ME-9-1	0.915	0.900	0.903	0.895	0.962	0.949	0.926	0.88	0.895	0.902	0.960	0.945	0.887	0.866	0.918
ME-9-2	0.945	0.913	0.929	0.895	0.957	0.933	0.933	0.85	0.938	0.878	0.965	0.881	0.887	0.852	1.040
ME-9-3	0.894	0.908	0.926	0.886	0.947	0.922	0.970	0.86	0.923	0.901	0.956	0.909	0.888	0.865	0.901
ME-9-4	0.921	0.903	0.889	0.903	0.947	1.050	0.927	0.86	0.943	0.889	0.956	0.942	0.885	0.859	0.982
ME-9-5	0.910	0.922	0.886	0.881	0.942	0.934	0.927	0.86	0.937	0.904	0.962	0.950	0.893	0.862	1.048
ME-9-6	0.914	0.873	0.875	0.885	0.940	0.963	0.933	0.85	0.910	0.883	0.965	0.890	0.896	0.859	0.900
ME-9-7	0.909	0.903	0.902	0.892	0.958	0.937	0.927	0.85	0.919	0.934	0.963	0.931	0.889	0.854	0.914
ME-9-8	0.919	0.904	0.913	0.887	0.948	0.946	0.912	0.88	0.913	0.888	0.968	0.923	0.890	0.892	1.045
ME-9-9	0.912	0.882	0.996	0.879	0.955	0.938	0.923	0.81	0.914	0.908	0.958	0.927	0.887	0.872	0.914
ME-9-10	0.920	0.930	0.908	0.897	0.956	0.925	0.920	0.82	0.919	0.882	0.967	0.893	0.894	0.863	1.012
Mean	0.916	0.904	0.913	0.890	0.951	0.950	0.930	0.852	0.921	0.897	0.962	0.919	0.890	0.864	0.967
Std. Devn.	0.0128	0.0169	0.0338	0.0076	0.0074	0.0372	0.0154	0.0225	0.0146	0.0167	0.0044	0.0246	0.0037	0.0113	0.0642
% RSD	1.40	1.87	3.71	0.86	0.78	3.92	1.66	2.64	1.59	1.86	0.45	2.68	0.41	1.31	6.64

NOTE: Cu data from Lab 15 was excluded for failing the “t” test.
Co data from Lab 7 was excluded for failing the “t” test.

REFERENCE MATERIAL   CDN-ME-9

Participating Laboratories:
(not in same order as listed in table of results)

- Acme Analytical Laboratories Ltd., Vancouver
- Accurassay, Ontario, Canada
- Actlabs-Ancaster, Ontario, Canada
- Actlabs-Thunder Bay, Ontario, Canada
- ALS Chemex Laboratories, North Vancouver
- Assayers Canada Ltd., Vancouver
- CIMM, Lima, Peru
- Eco Tech, B.C., Canada
- Genalysis Laboratory, Australia
- Inspectorate, Lima, Peru
- Labtium Laboratory, Finland
- Omac Laboratories Ltd., Ireland
- SGS Toronto, Ontario, Canada
- TSL Laboratories Ltd., Saskatoon
- Ultra Trace Analytical Laboratories, Australia

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. or Barry Smee accept no liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by Duncan Sanderson
Duncan Sanderson, Certified Assayer of B.C.

Geochemist BW Smee
Dr. Barry Smee, Ph.D., P. Geo.

GEOSTATS PTY LTD
Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Sulphur Reference Material Product Code

GS910-4

Certified Control Values

Sulphur Analyses

Sulphur Grade	8.27 %
Standard Deviation	0.38 %
Confidence Interval	+/- 0.063 %

Carbon Analyses

Carbon Grade	2.65 %
Standard Deviation	0.13 %
Confidence Interval	+/- 0.028 %

A.C.N. 072 971 272

CRM Details

Control Statistic Details

Control statsitics were produced from results accumulated in the :

April-2011	Geostats Pty Ltd Laboratory Round Robin Program.
141	laboratories tested this material for sulphur content.
91	laboratories tested this material for carbon content.

Source Material

Prior to homogenisation and testing, this material was sourced from
Nickel Sulphide ore

Usage

This product is for use in the mining industry as reference materials for monitoring and testing the accuracy of laboratory assaying.

Preparation and Packaging

All standards are dried in an oven for a minimum of 12 hours at 110°C. The dry material is then pulverised to better than 75 micron (nominal mean of 45 micron) using an air classifier. The material is then homogenised and stored in a sealed, stable container ready for final packaging.

Materials are statistically sampled from stores, then packaged into heat sealed, air tight, plastic pulp packets ready for distribution. All packaging has been specifically chosen to ensure minimal contamination from outside sources during shipment, use and storage.

Assay Testwork

All standards are tested thoroughly in the Geostats bi-annual laboratory survey. This involves assaying by a minimum of 30 reputable laboratories selected from across the world. Results are compiled into a comprehensive report detailing statistics for each standard. Assay distributions are checked and processed statistically, producing monitoring statistics for these standards. Materials are tested regularly to ensure stability and homogeneity.

10A Marsh Close, O'Connor, Western Australia 6163
Phone : +61 8 9314 2566, Fax : +61 8 9314 3699
e-mail : pjh@geostats.com.au, srr@geostats.com.au
Website http://www.geostats.com.au

Geostats Pty Ltd, Certified Sulphur Reference Material, Product Code : GS910-4

GEOSTATS PTY LTD

Mining Industry Consultants
Reference Material Manufacture and Sales

Certified Sulphur Reference Material Product Code

GS311-1

Certified Control Values

Sulphur Analyses

Sulphur Grade	2.35 %
Standard Deviation	0.11 %
Confidence Interval	+/- 0.018 %

Carbon Analyses

Carbon Grade	1.02 %
Standard Deviation	0.05 %
Confidence Interval	+/- 0.01 %

A.C.N. 072 971 272

CRM Details

Control Statistic Details

Control statsitics were produced from results accumulated in the :

October-2011	Geostats Pty Ltd Laboratory Round Robin Program.
136	laboratories tested this material for sulphur content.
93	laboratories tested this material for carbon content.

Source Material

Prior to homogenisation and testing, this material was sourced from
Copper Gold ore

Usage

This product is for use in the mining industry as reference materials for monitoring and testing the accuracy of laboratory assaying.

Preparation and Packaging

All standards are dried in an oven for a minimum of 12 hours at 110°C. The dry material is then pulverised to better than 75 micron (nominal mean of 45 micron) using an air classifier. The material is then homogenised and stored in a sealed, stable container ready for final packaging.

Materials are statistically sampled from stores, then packaged into heat sealed, air tight, plastic pulp packets ready for distribution. All packaging has been specifically chosen to ensure minimal contamination from outside sources during shipment, use and storage.

Assay Testwork

All standards are tested thoroughly in the Geostats bi-annual laboratory survey. This involves assaying by a minimum of 30 reputable laboratories selected from across the world. Results are compiled into a comprehensive report detailing statistics for each standard. Assay distributions are checked and processed statistically, producing monitoring statistics for these standards. Materials are tested regularly to ensure stability and homogeneity.

10A Marsh Close, O'Connor, Western Australia 6163
Phone : +61 8 9314 2566, Fax : +61 8 9314 3699
e-mail : pjh@geostats.com.au, srr@geostats.com.au
Website http://www.geostats.com.au

Geostats Pty Ltd, Certified Sulphur Reference Material, Product Code : GS311-1

Appendix D:
Petrographic Reports

MICROSCOPIC STUDY

(1 Section)

FOR

Gareth Thomas, Director
Victor Tanaka, Director

WESTHAVEN VENTURES
1103 – 475 Howe Street
Vancouver, B.C. V6C 2B3

Authored By:

McLeod Geological
J.A. McLeod, M.A.Sc., P.Eng.
1314 Phillips Avenue
Burnaby, B.C.
V5A 2Z3
Cell: 604-505-0311
Email: burnabymcleods@shaw.ca

20 January, 2014

INTRODUCTION:

A rush polished thin section was requested from Vancouver Petrographics. In fact they produced a polished section and a polished thin section. The polished section proved to be of little use whereas the polished thin section was useful.

MICROSCOPIC DESCRIPTIONS:

In reflected light the sample is seen to contain veinlets of hematite, 0.5 mm in width and grains of magnetite, 0.5 mm in size. Minute grains of a bright white mineral are seen to be identified in serpentine and magnetite. These grains are generally only a few microns in size.

SEM WORK:

The reflected light minerals hematite and magnetite are confirmed. The bright white mineral initially believed to be awaruite proved to be millerite, a nickel sulfide.

The amount of this millerite does not explain the high nickel content of the sample. However, serpentine rich samples often contain significant nickel in their crystal lattice.

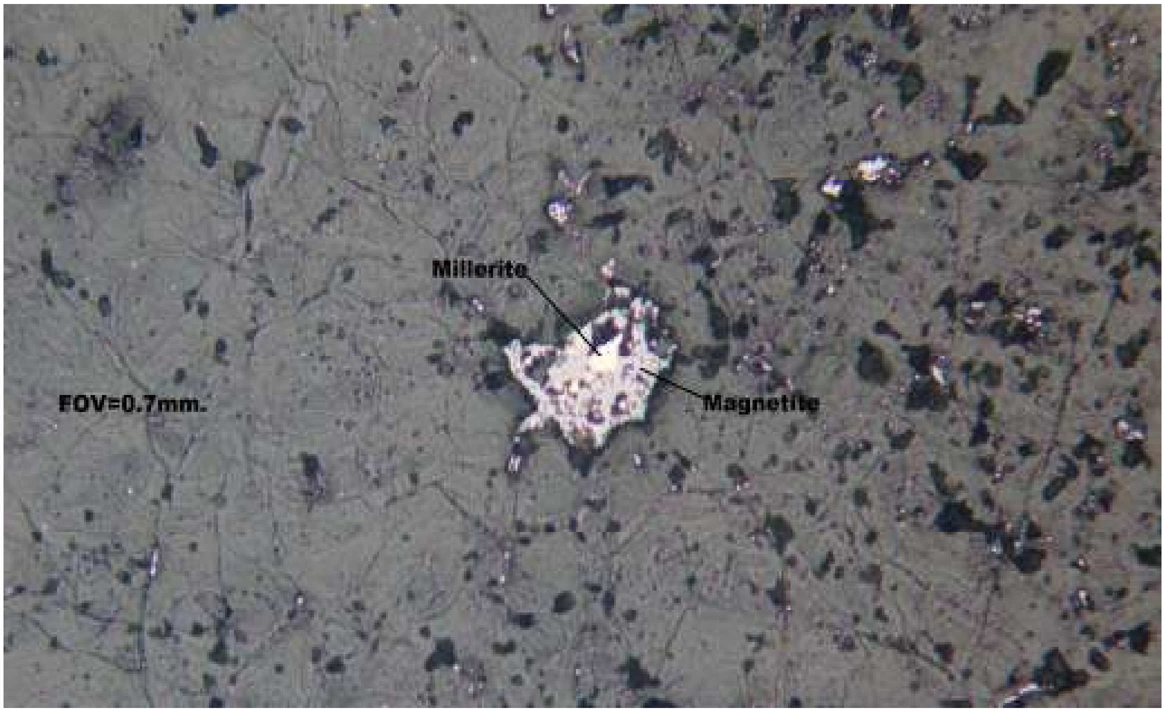
Attached are photomicrographs and some SEM work.

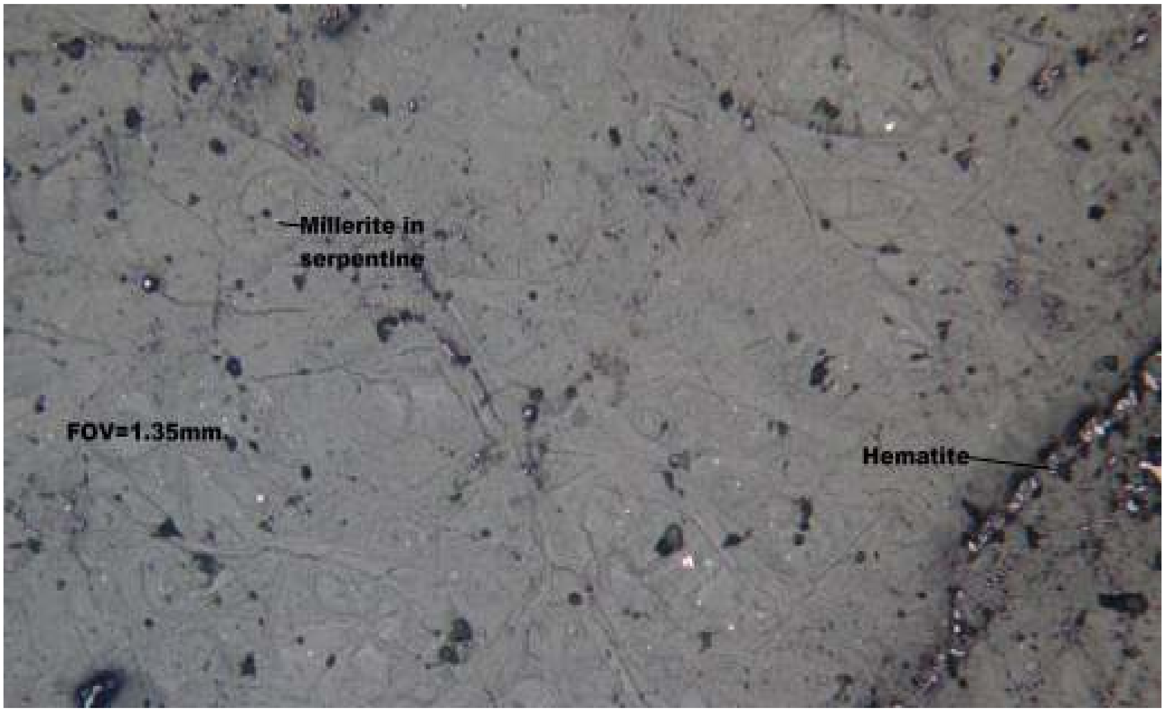
Yours truly,

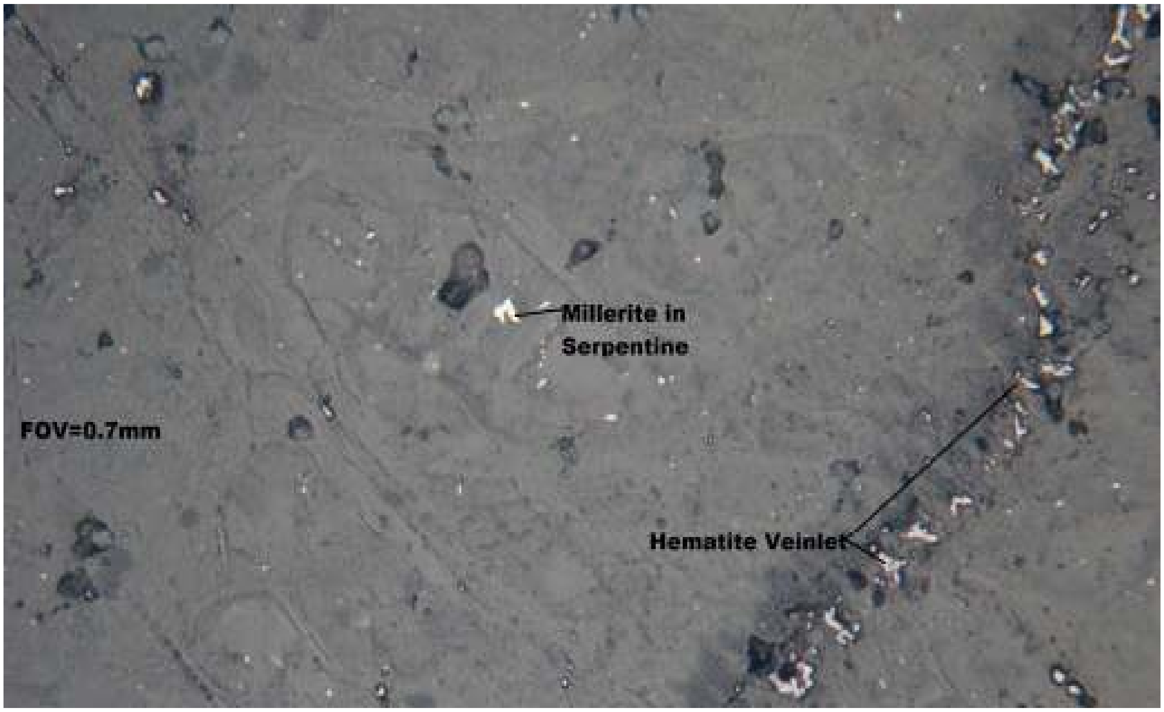
J.A. McLeod, M.A.Sc., P.Eng.

JAM/skw
App. (photomicrographs/SEM work)

PHOTOMICROGRAPHS: WESTHAVEN VENTURES INC.

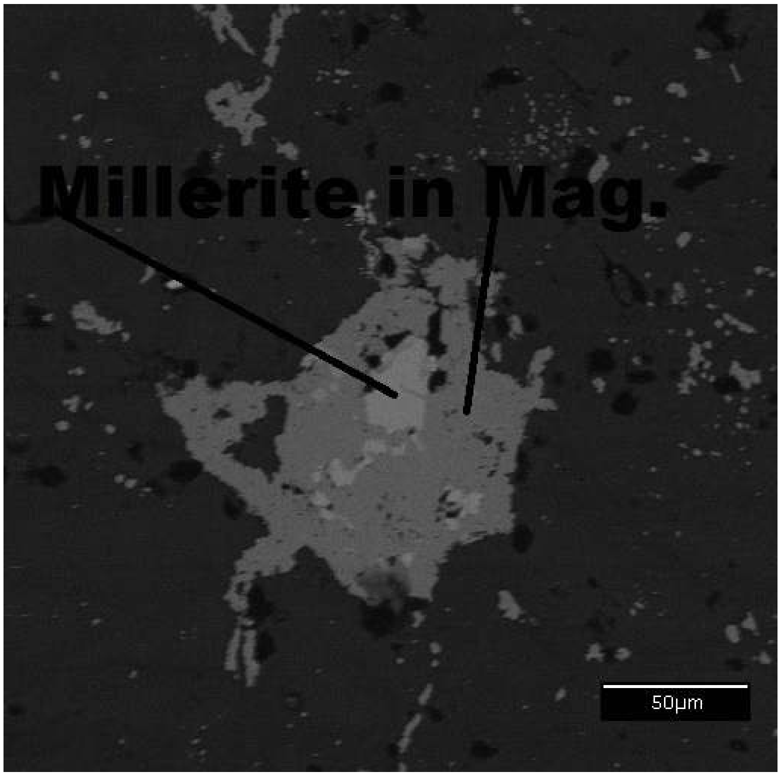


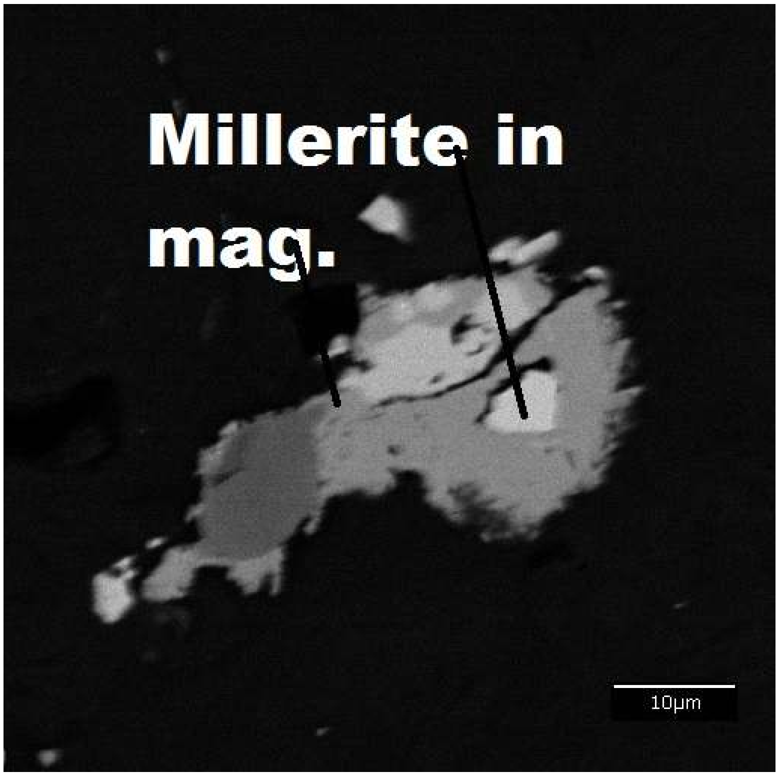


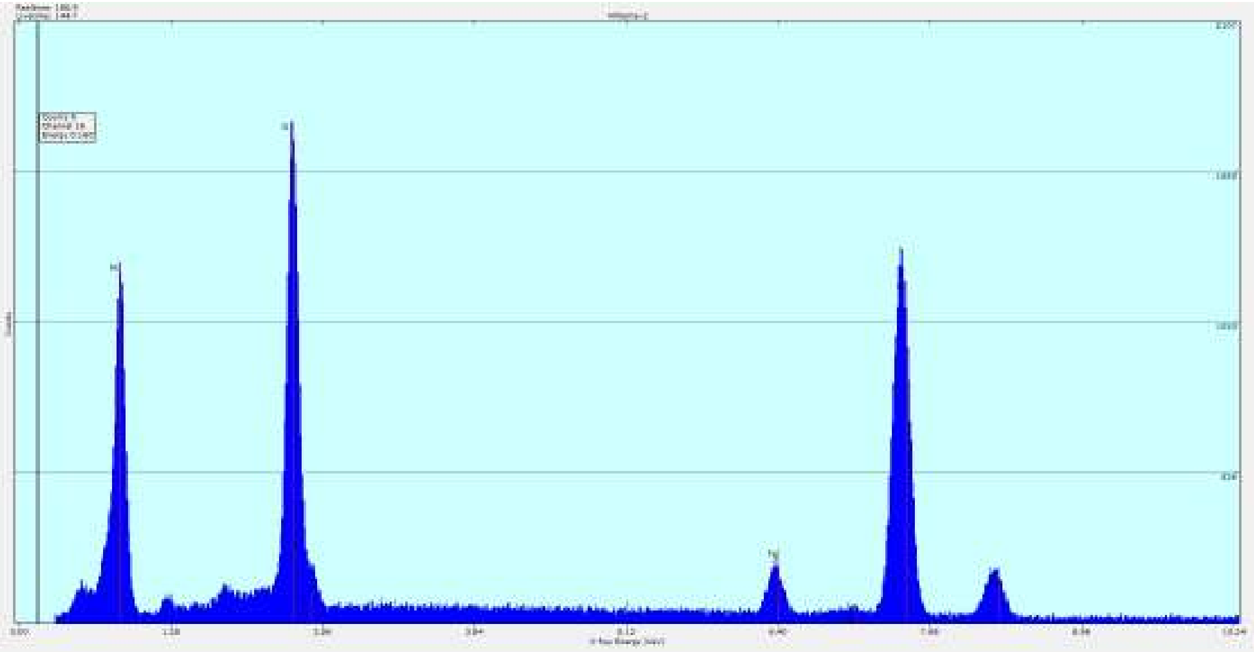

Millerite in Serpentine
FOV=0.7mm
Hematite Veinlet

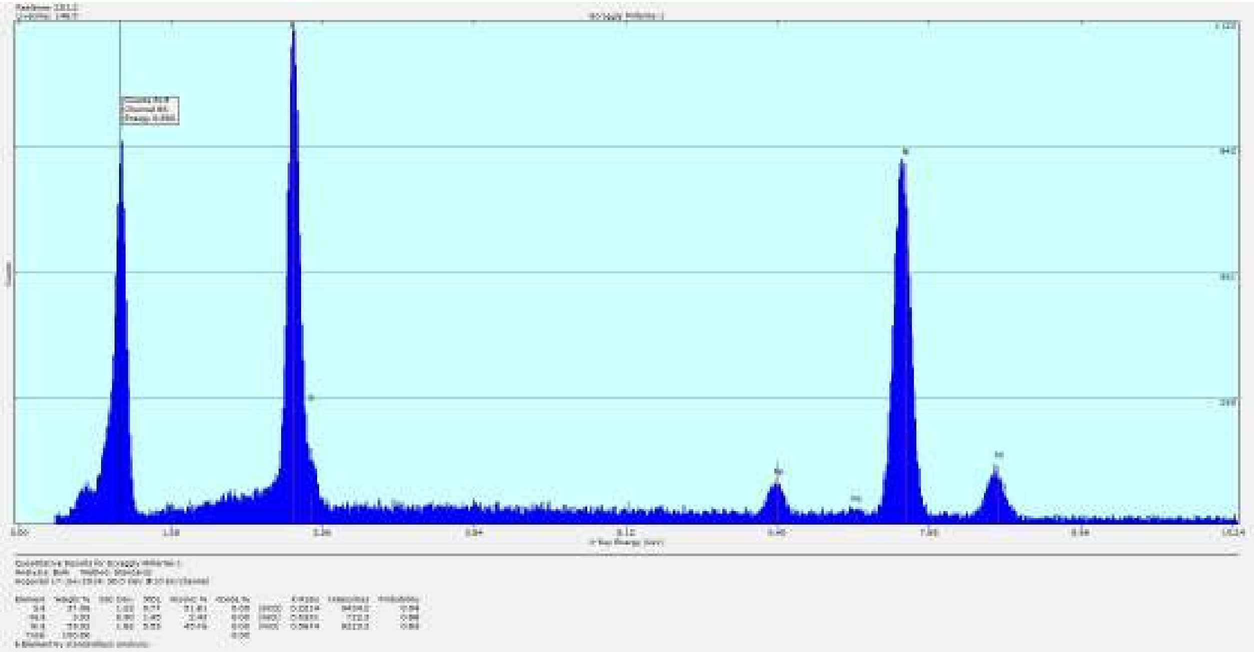

Mag.
FOV=0.7mm.
Millerite in Magnetite

SEM WORK: WESTHAVEN VENTURES INC.






0.00
1.28
2.56
3.84
5.12
6.40
7.68
8.96
10.24
X-Ray Energy (keV)


0.00
1.28
2.56
3.84
5.12
6.40
7.68
8.96
10.24
X-Ray Energy (keV)

Dear Gareth,

Two polished thin sections were made of each of the three samples you submitted for investigation of Ni-bearing phases. These sections were investigated petrographically and with the EDS system on the electron microprobe. All three samples appeared to be altered ultramafic rocks now dominated by serpentine replacing olivine and orthopyroxene. There is magnetite scattered evenly throughout the samples considered to be a by-product of the serpentinization process. All three samples contain 5% chromite grains which from the EDS spectra appear to be primary chromite from the original unaltered rock. These chromite grains are consistently mantled by Cr-Ti-magnetite and magnetite. A single grain of fresh olivine was noted at the center of one chromite grain within sample 259-6353b.

Review of the geochemical analyses you sent indicates these samples are enriched in Ni with elevated Co and very minor amounts of sulphur. The bottom line is there is an abundance of Ni-sulphide species in all three samples which is consistent with there low but persistent sulphur contents. There are sulphide mineral species within all three samples although there are some minor differences in the species present.

The first sample (3-73A,B) with the most elevated nickel (~4151 ppm Ni) and cobalt (~126 ppm Co) was found to contain an abundance of two dominant nickel-sulphide mineral species, millerite (NiS) and bravoite $(Fe,Ni,Co)S_2$. These are present in the rock as relative sulphide proportions 70% and 30%, respectively. The millerite occurs disseminated throughout the rock as angular grains intimately intergrown with serpentine. The bravoite occurs as larger grains commonly replaced by magnetite. Occasional grains of bravoite are intergrown with an iron-bearing nickel sulphide (Ni,Fe)S. Based on EDS peak heights, there is variation in the Co content of the bravoite from grain to grain. A detailed WDS electron microprobe study could be undertaken to establish these compositional variations.

The second sample (259-6351 A,B) contained 2081 ppm Ni and 89 ppm Co. This sample contains a modest amount of magnetite. The interpretation is that this rock was likely an orthopyroxenite. The Ni anomaly in this sample is represented by a pervasive distribution of pentlandite that has a minor but variable Co content. There are occasional grains of relatively coarse pyrite throughout as isolated grains and less commonly intergrown with pentlandite. Occasional narrow fractures are sealed by Sr-barite.

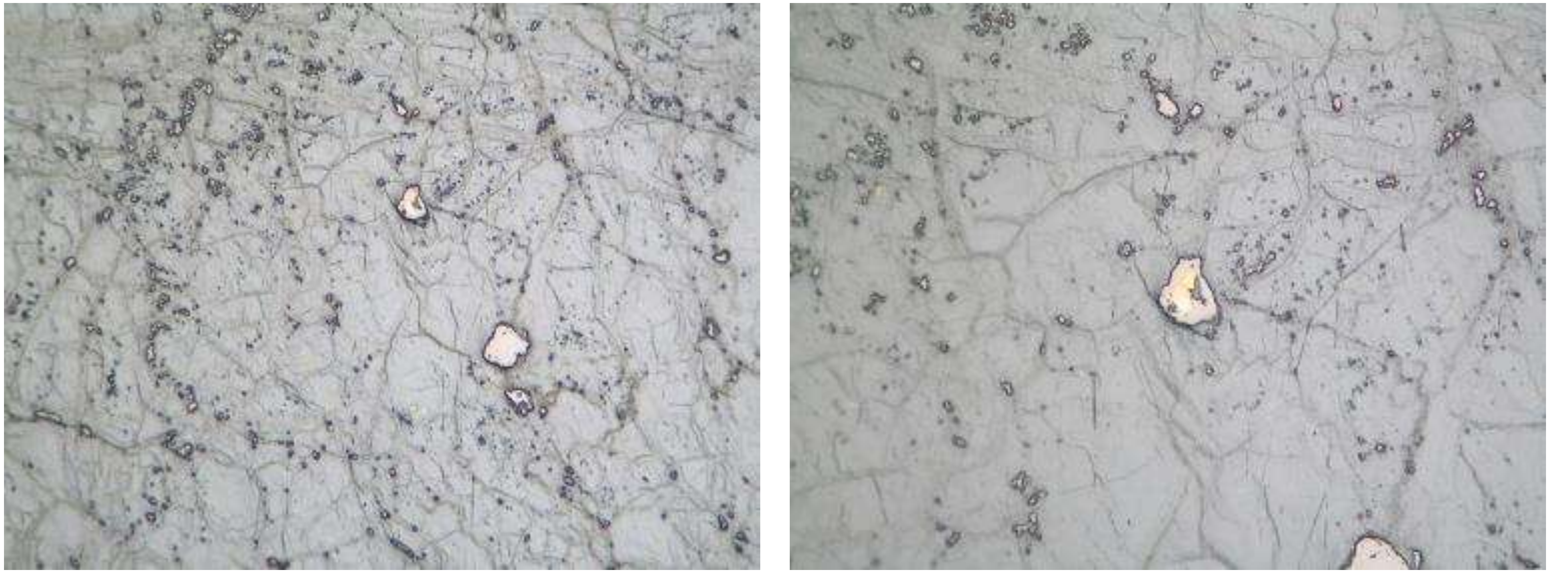
The third sample (259-6353 A,B) contained 1982 ppm Ni and 75 ppm Co. As is apparent in the scanned thin section blank, the sample has development of fine-grained development of magnetite along zones of fluid access. The Ni-Co anomaly in this sample is manifest by a uniform distribution of millerite (NiS) and an uncommon cobalt-sulphide mineral possibly: cobaltpentlandite (Co_9S_8); jaipurite (CoS); or linnaeite $(Co^{2+}Co^{3+})_2S_4$. Occasionally, the Ni and Co mineral species are intimately intergrown as noted in backscatter images.

Summary:

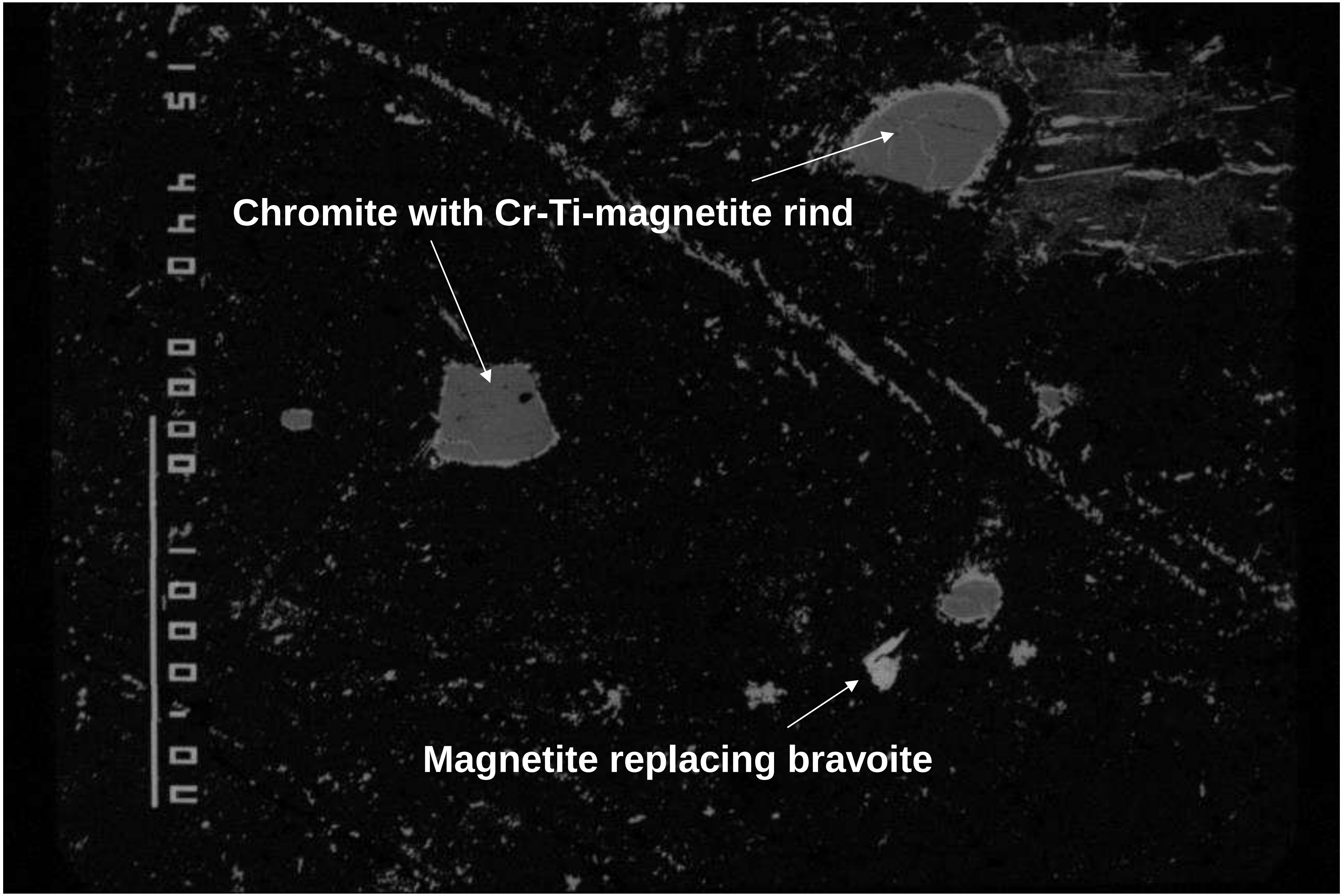
Special attention was given to the possible presence of awaruite (Ni-Fe alloy), however, this mineral was not present in these samples. This Ni-Fe alloy does not contain sulphur and therefore would have been brighter in backscatter image compared to the other Ni-sulphide bearing minerals. It is our opinion that awaruite is not present in these samples. The Ni-Co anomalies are readily explained by the presence of Ni-Co sulphide minerals. We suspect that there is a very minor component of nickel residing in the silicate structure of various serpentine mineral species and within the chromite.

3-73

Crossed polarized image (top left) illustrating nickel sulphides within serpentinized ultramafic. Reflected light images at different magnifications depicting magnetite replacement of bravoite (yellow)

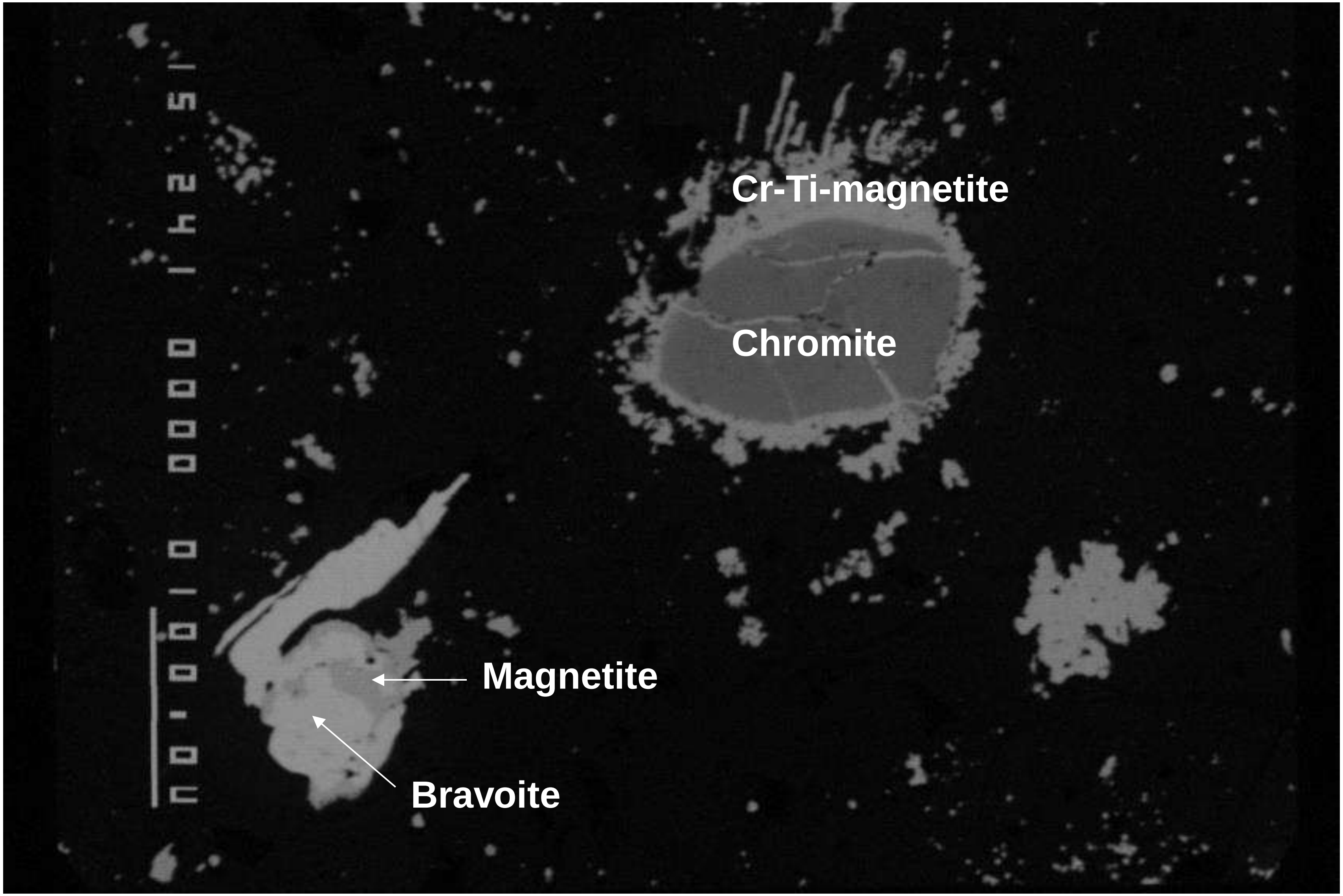


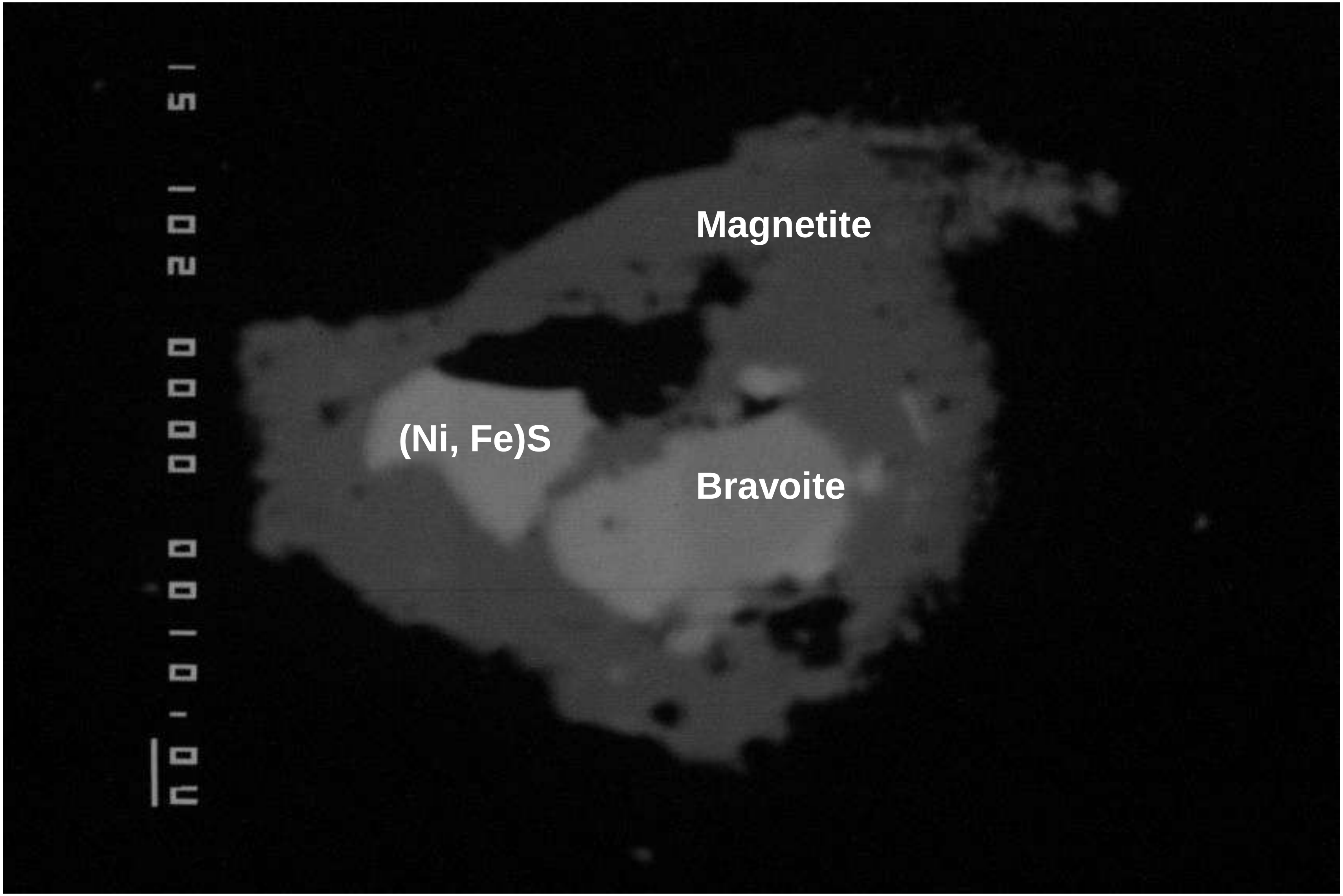
Reflected light image of fine-grained millerite and bravoite within serpentinized ultramafic host.

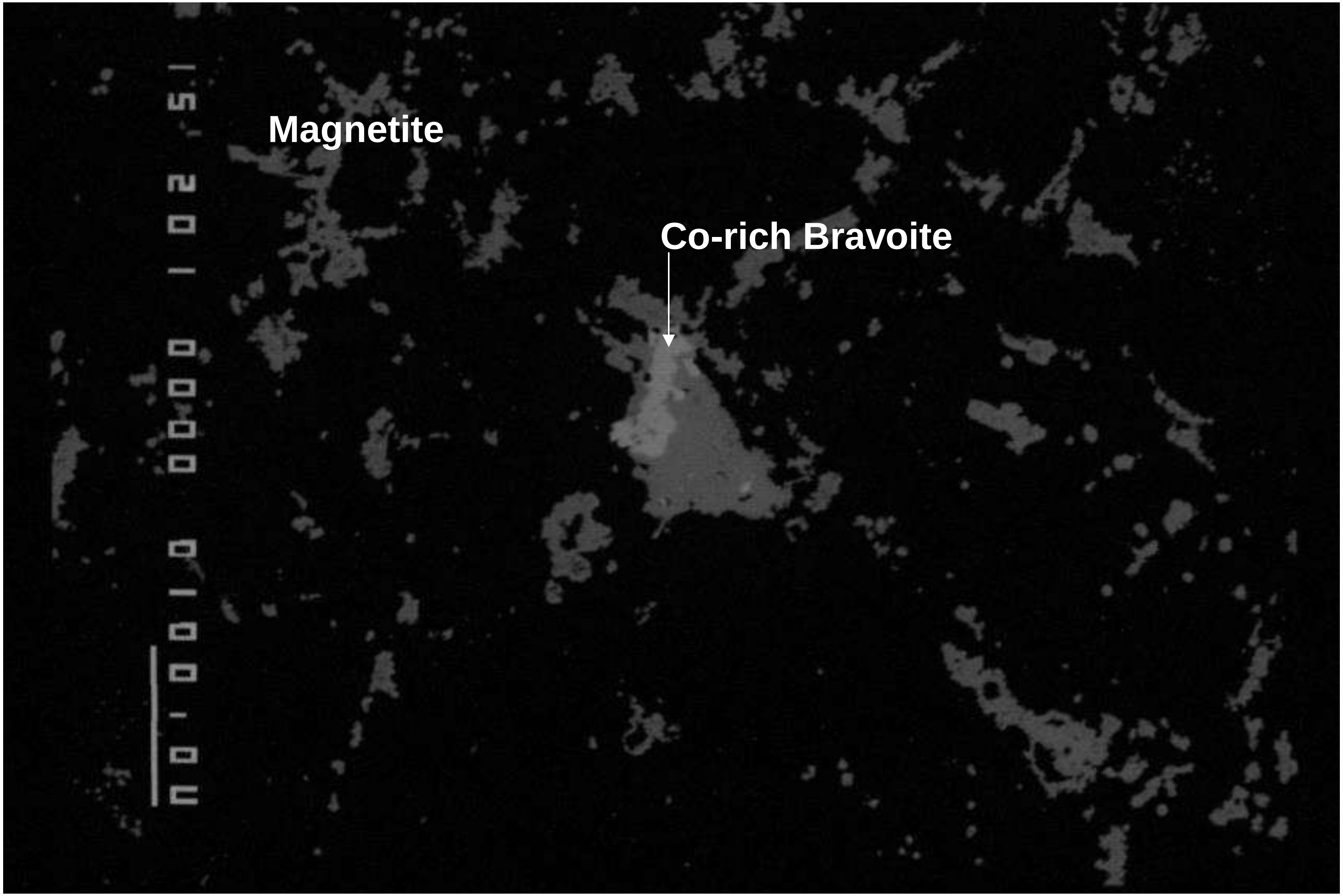


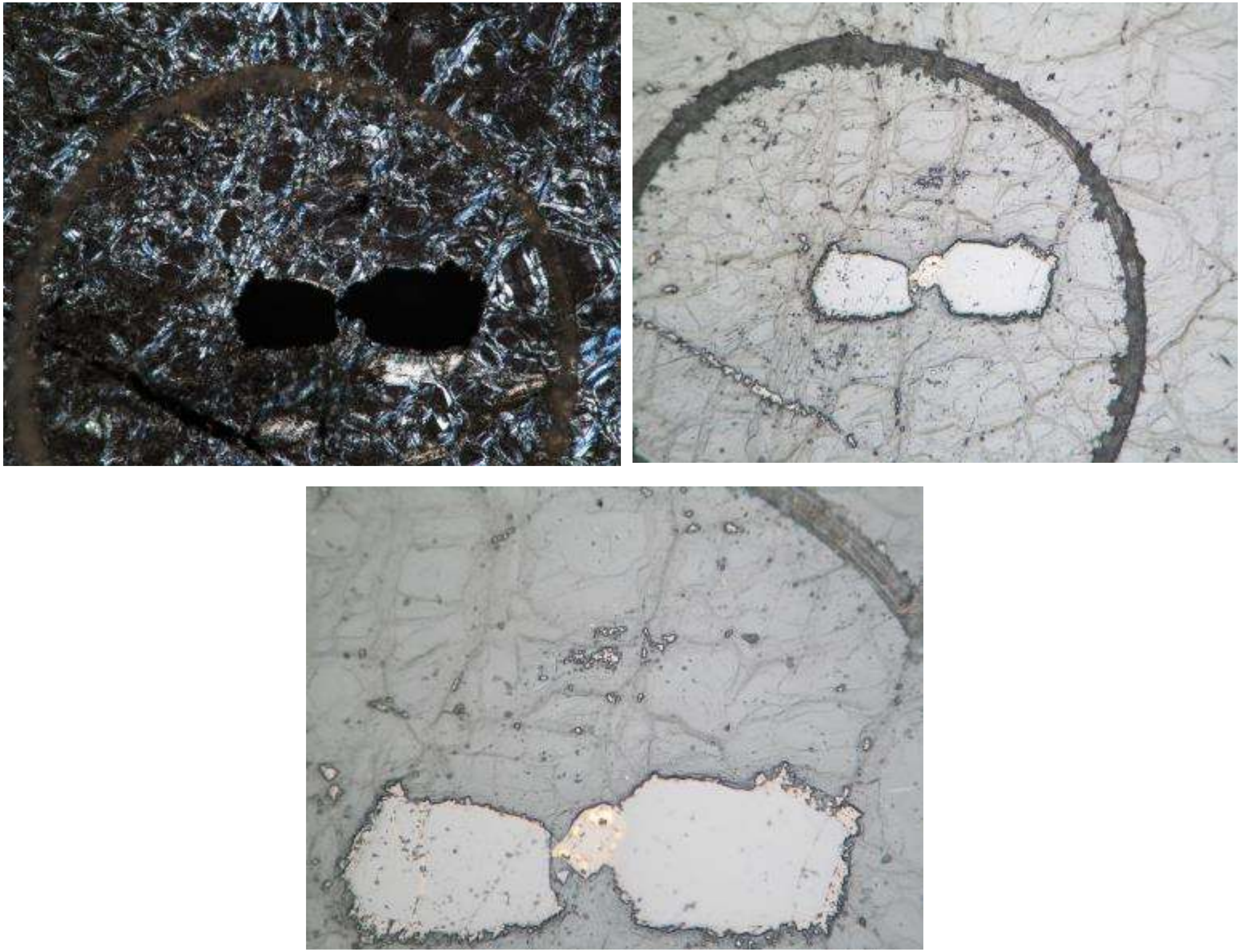
Chromite with Cr-Ti-magnetite rind

Magnetite replacing bravoite

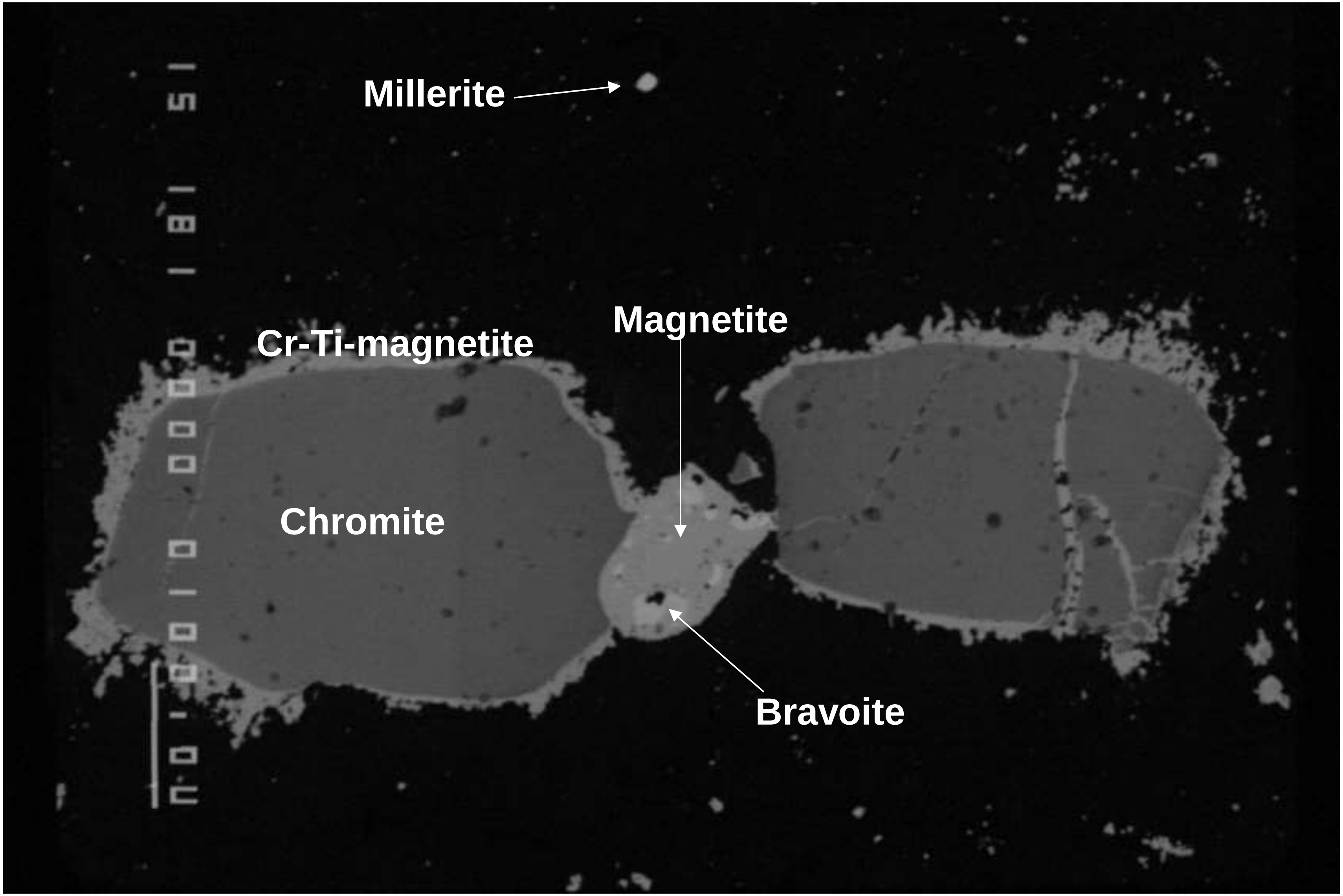

Cr-Ti-magnetite
Chromite
Magnetite
Bravoite

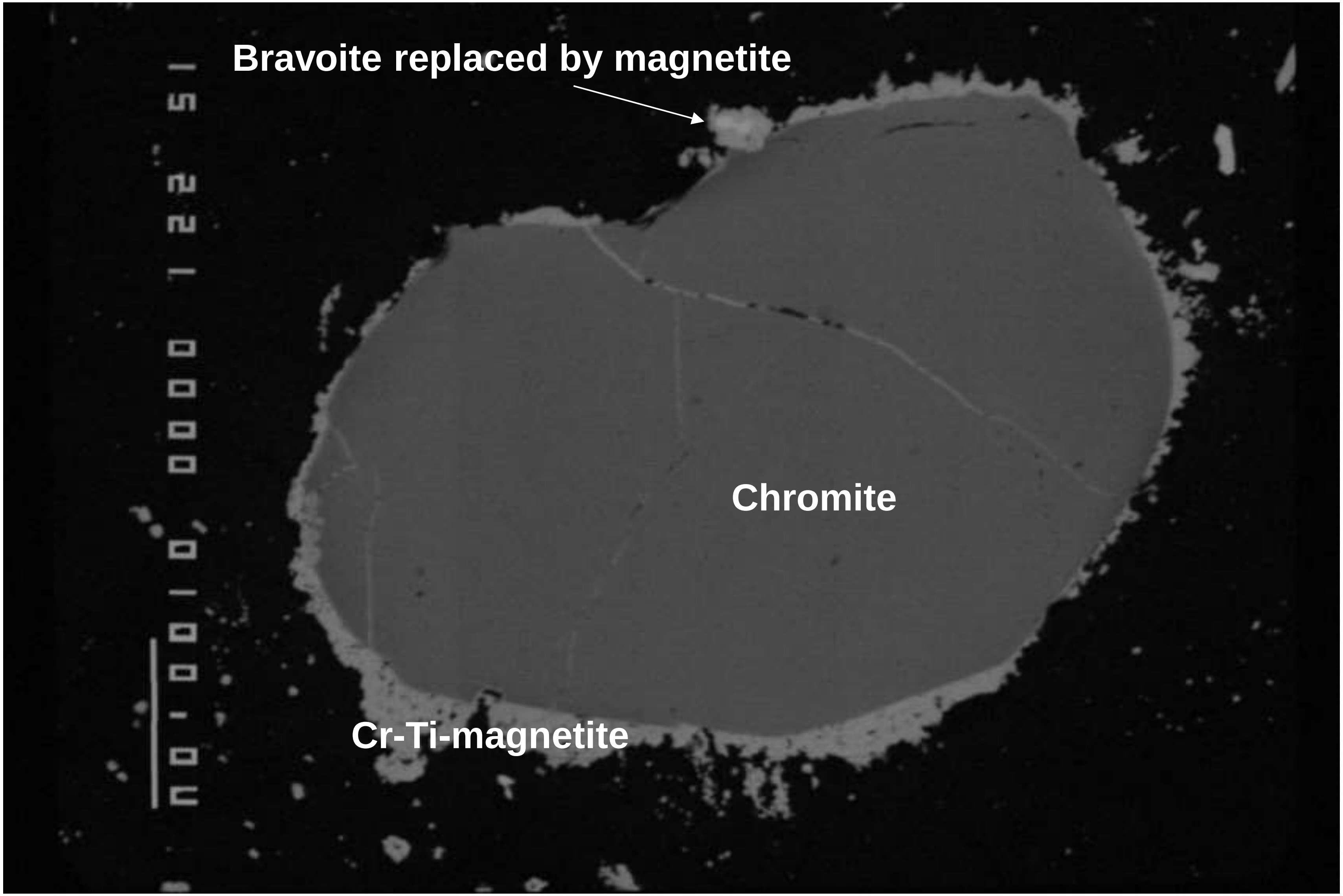

Magnetite
(Ni, Fe)S
Bravoite
15 102 0000 0010.0U

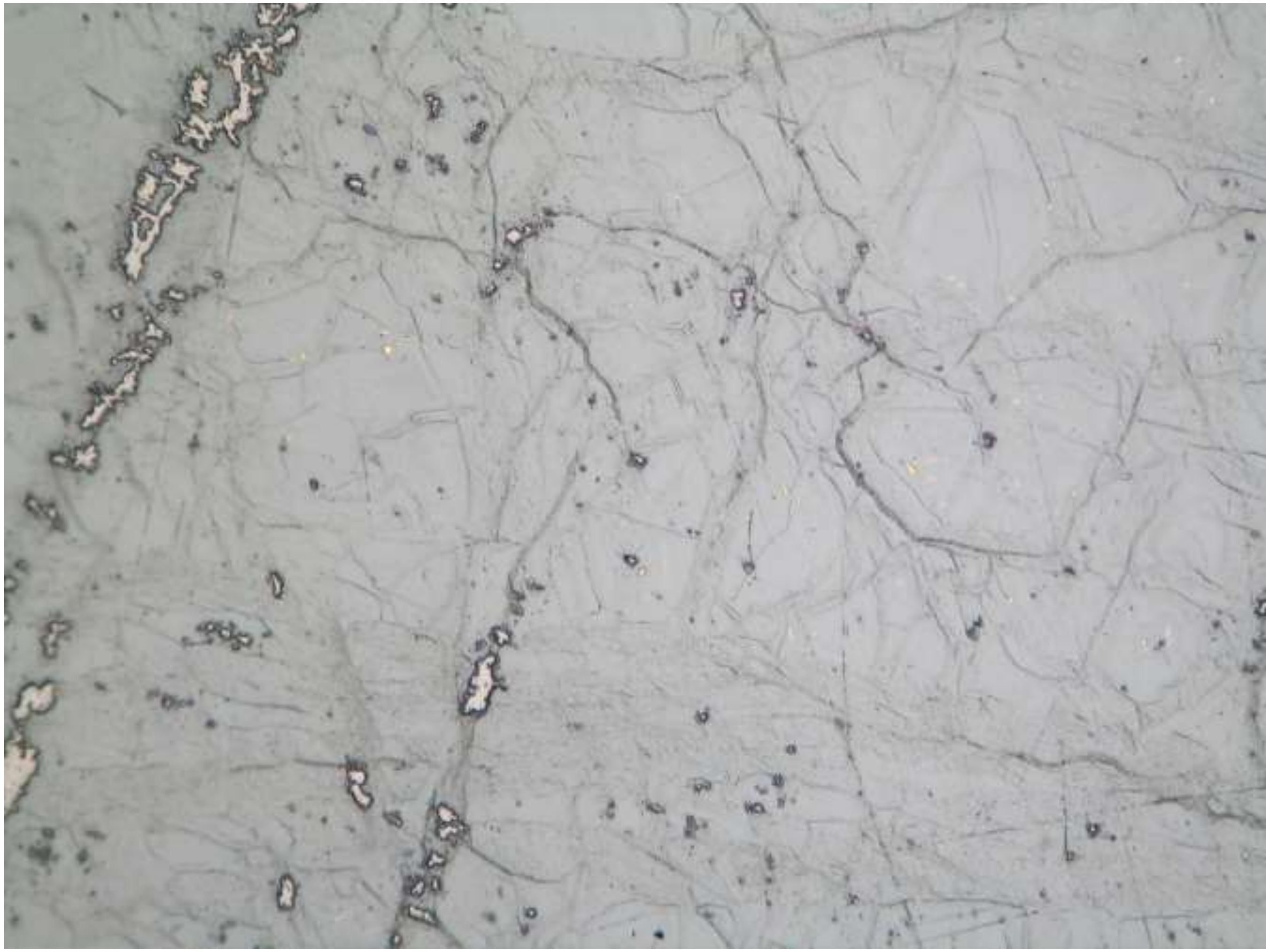

Magnetite
Co-rich Bravoite



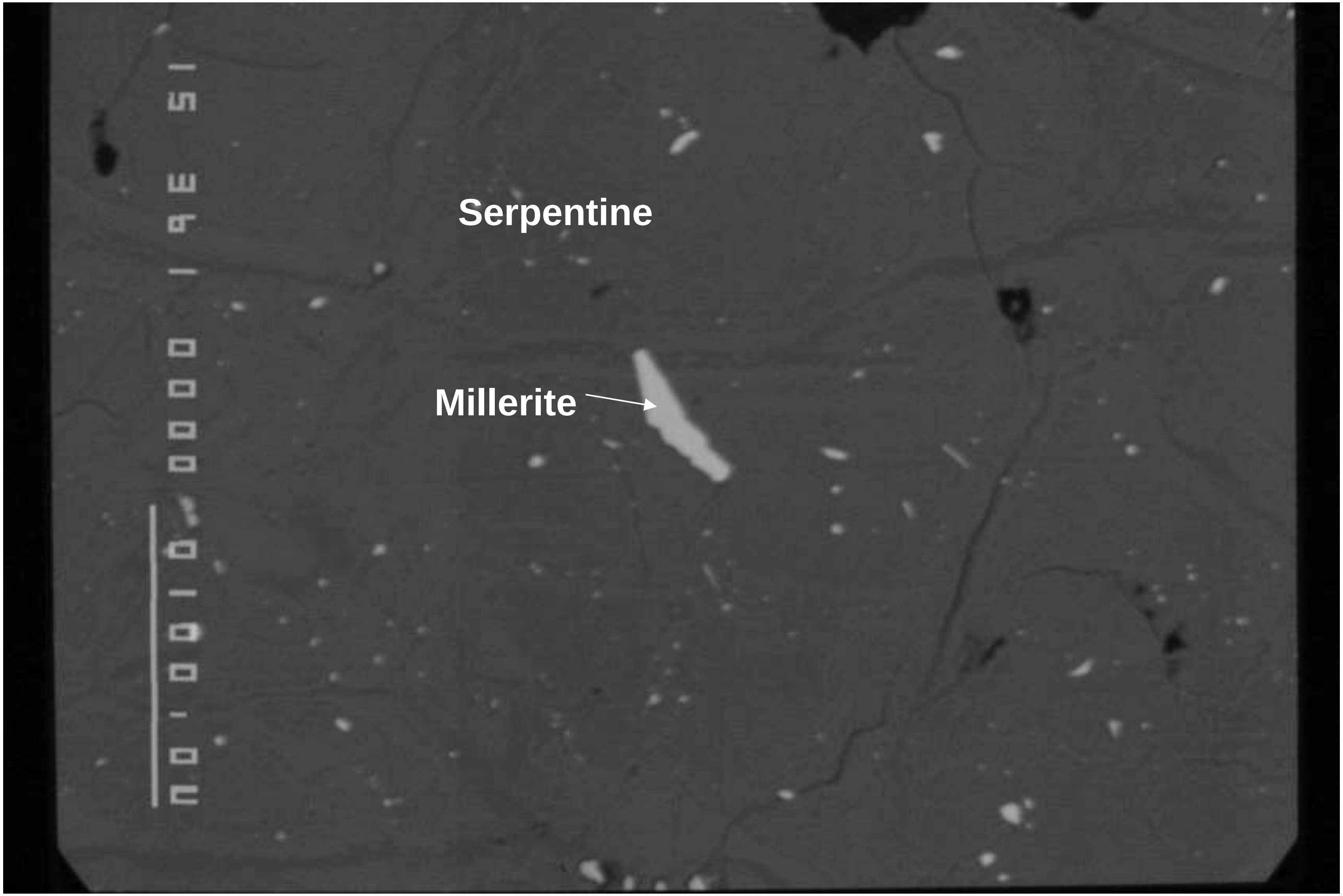
Two grains of chromite with a marginal domain containing bravoite replaced by magnetite. See higher magnification backscatter image (next slide).

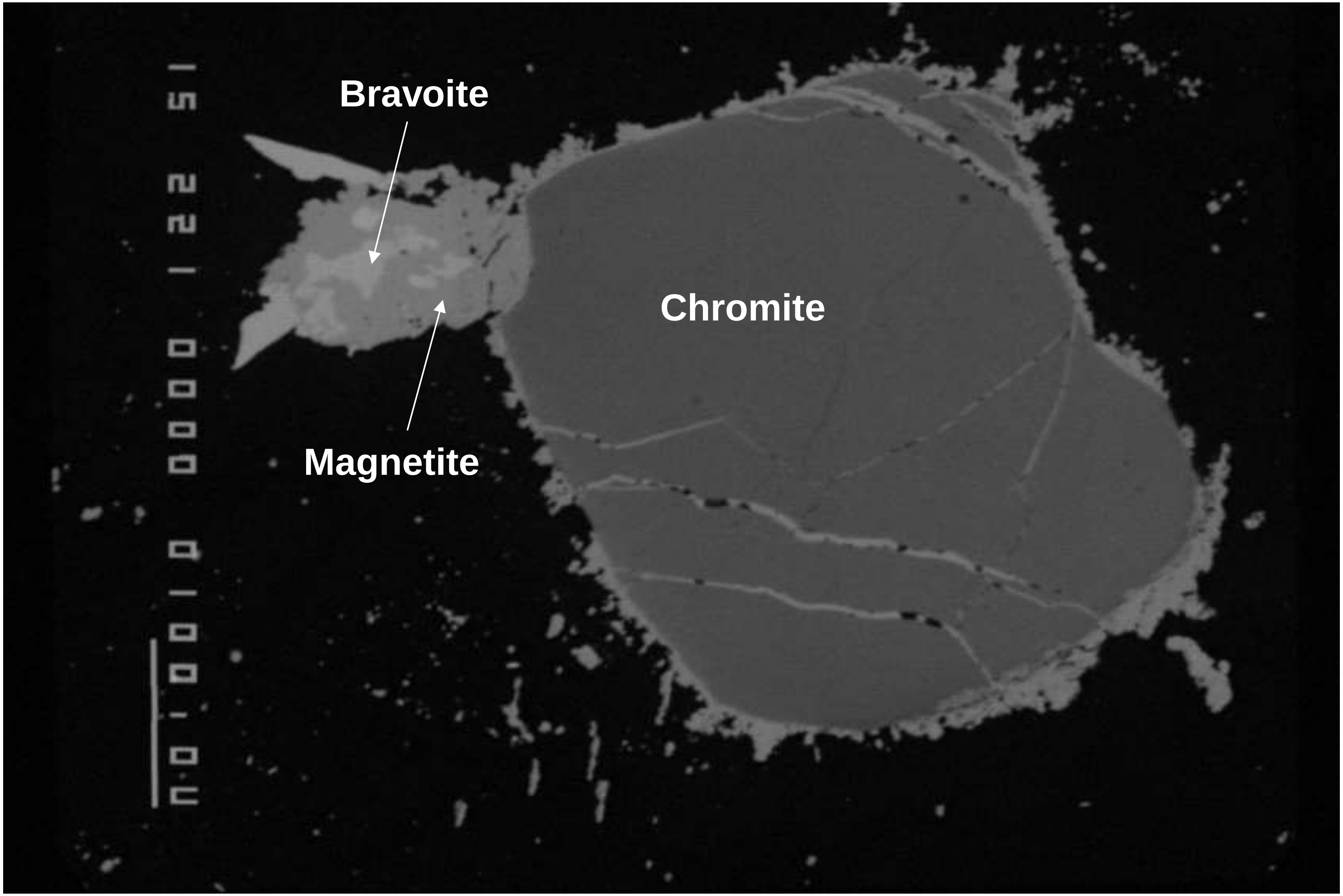

Millerite
Magnetite
Cr-Ti-magnetite
Chromite
Bravoite

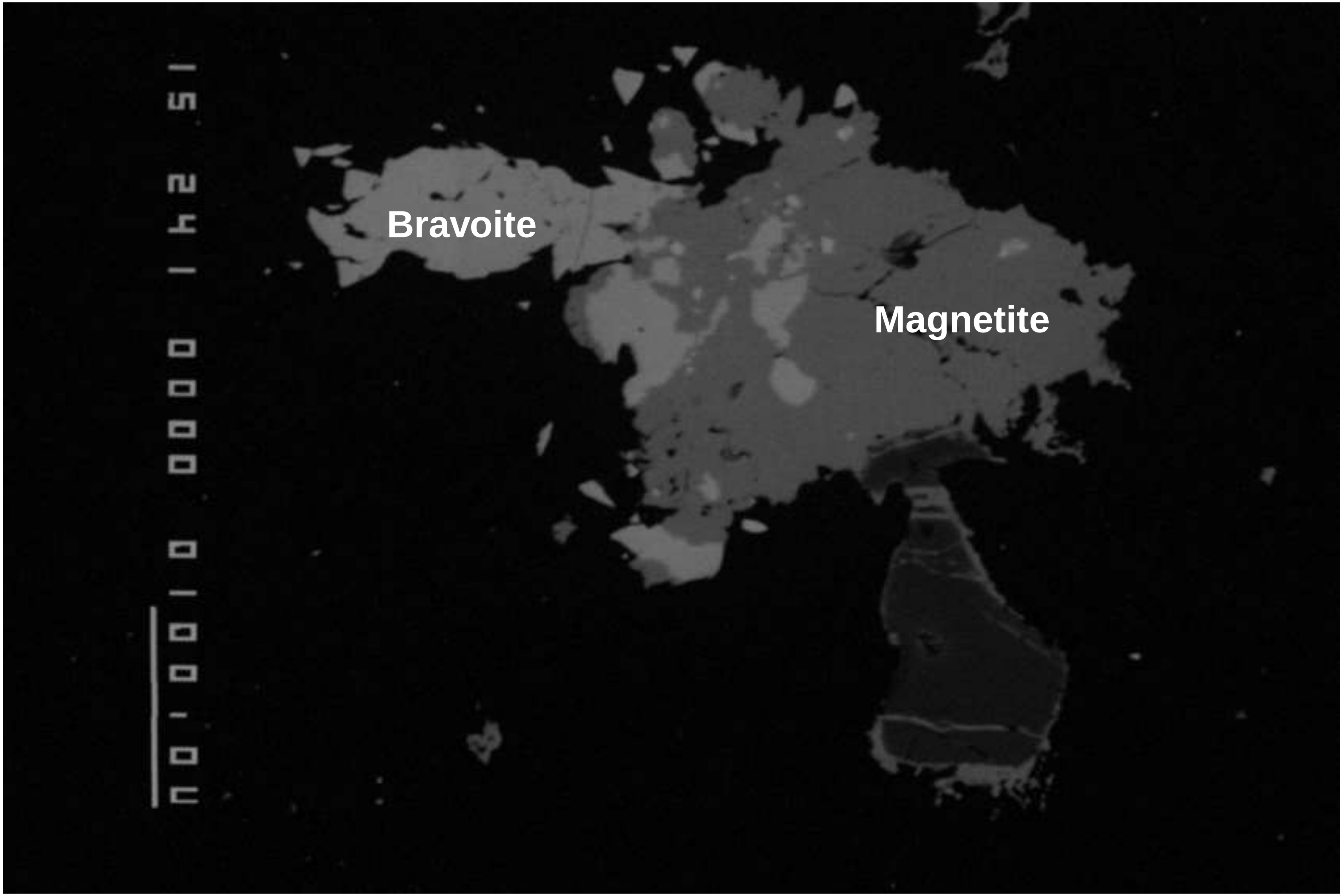

Bravoite replaced by magnetite
Chromite
Cr-Ti-magnetite



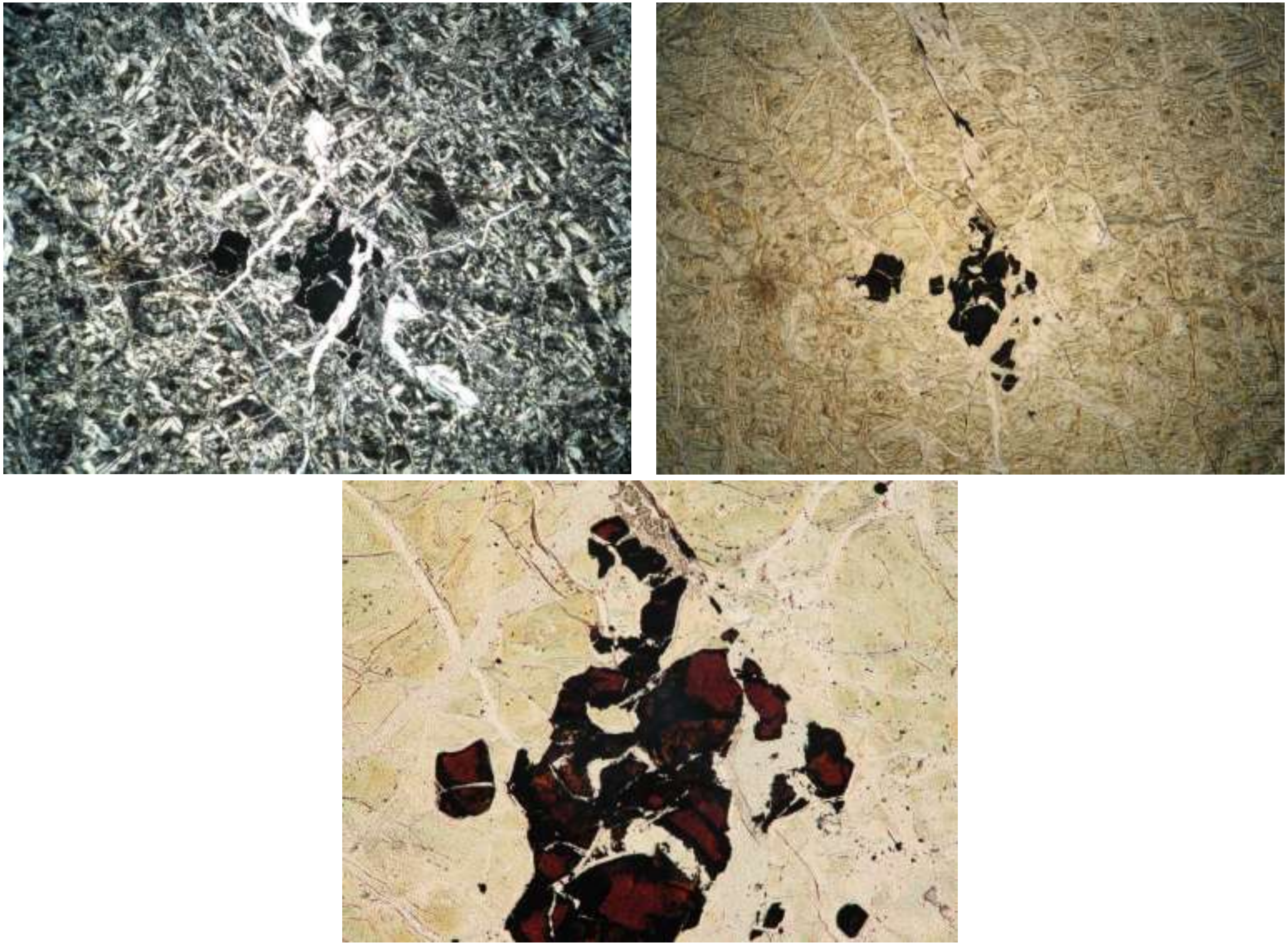
Reflected light image illustrating fractures of magnetite and finely disseminated millerite throughout the ultramafic host.


Serpentine
Millerite


Bravoite
Magnetite
Chromite

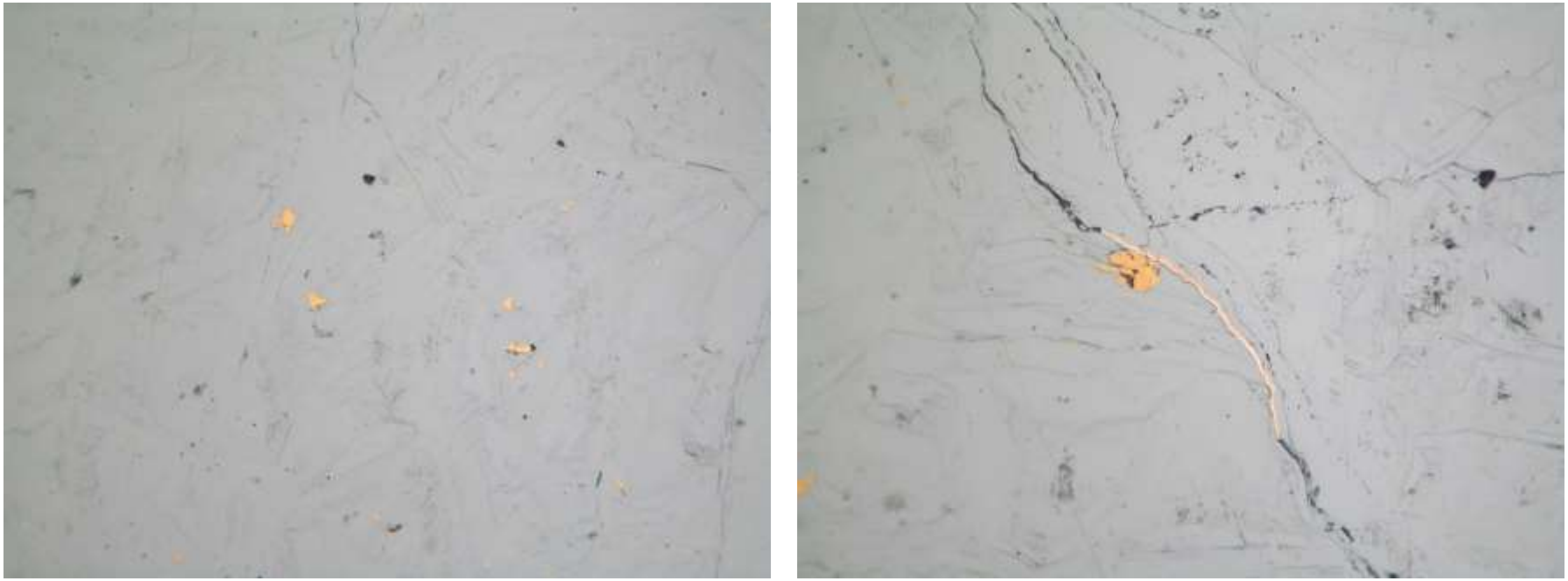

Bravoite
Magnetite

259-6351

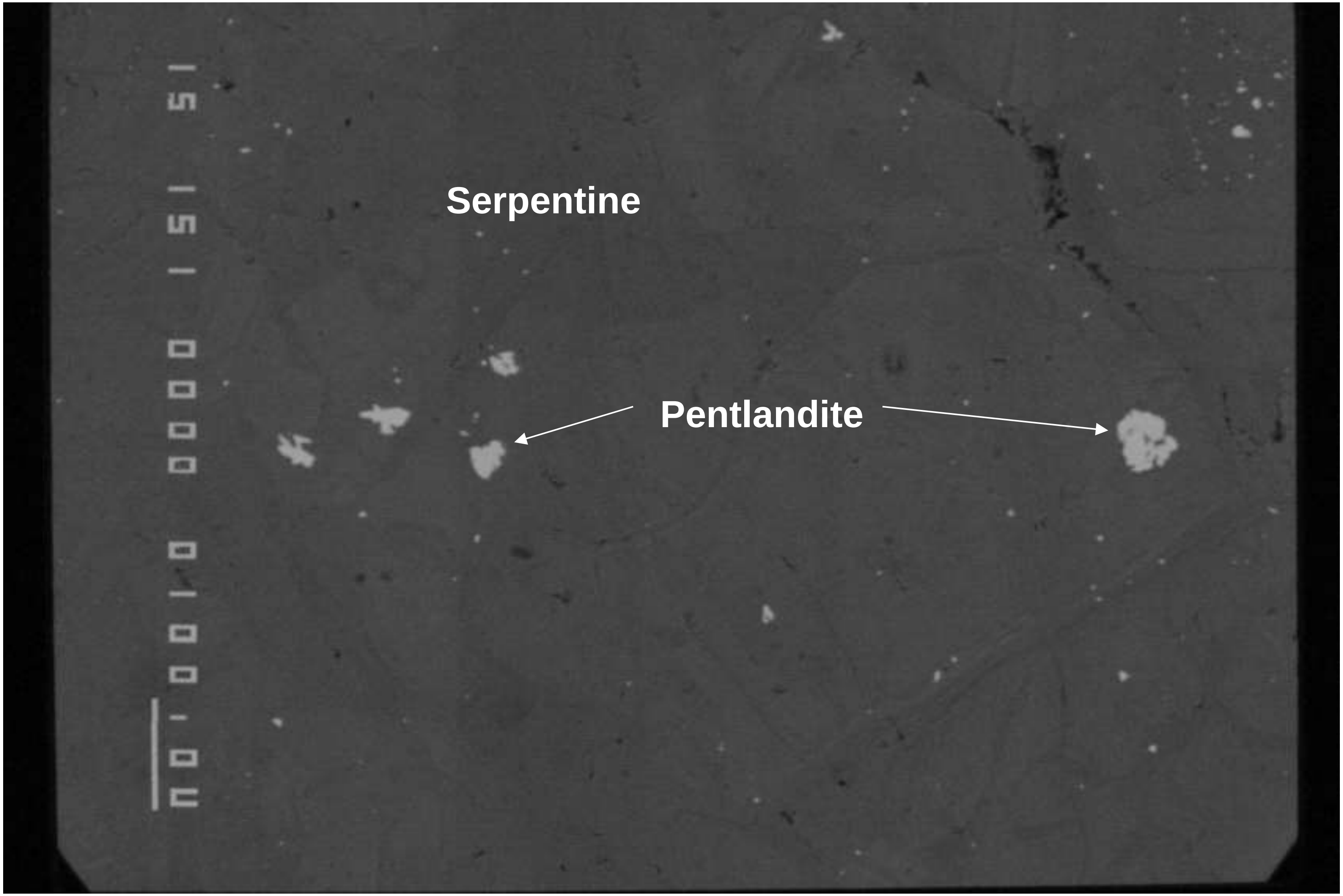


Translucent red chromite within serpentinized orthopyroxenite.

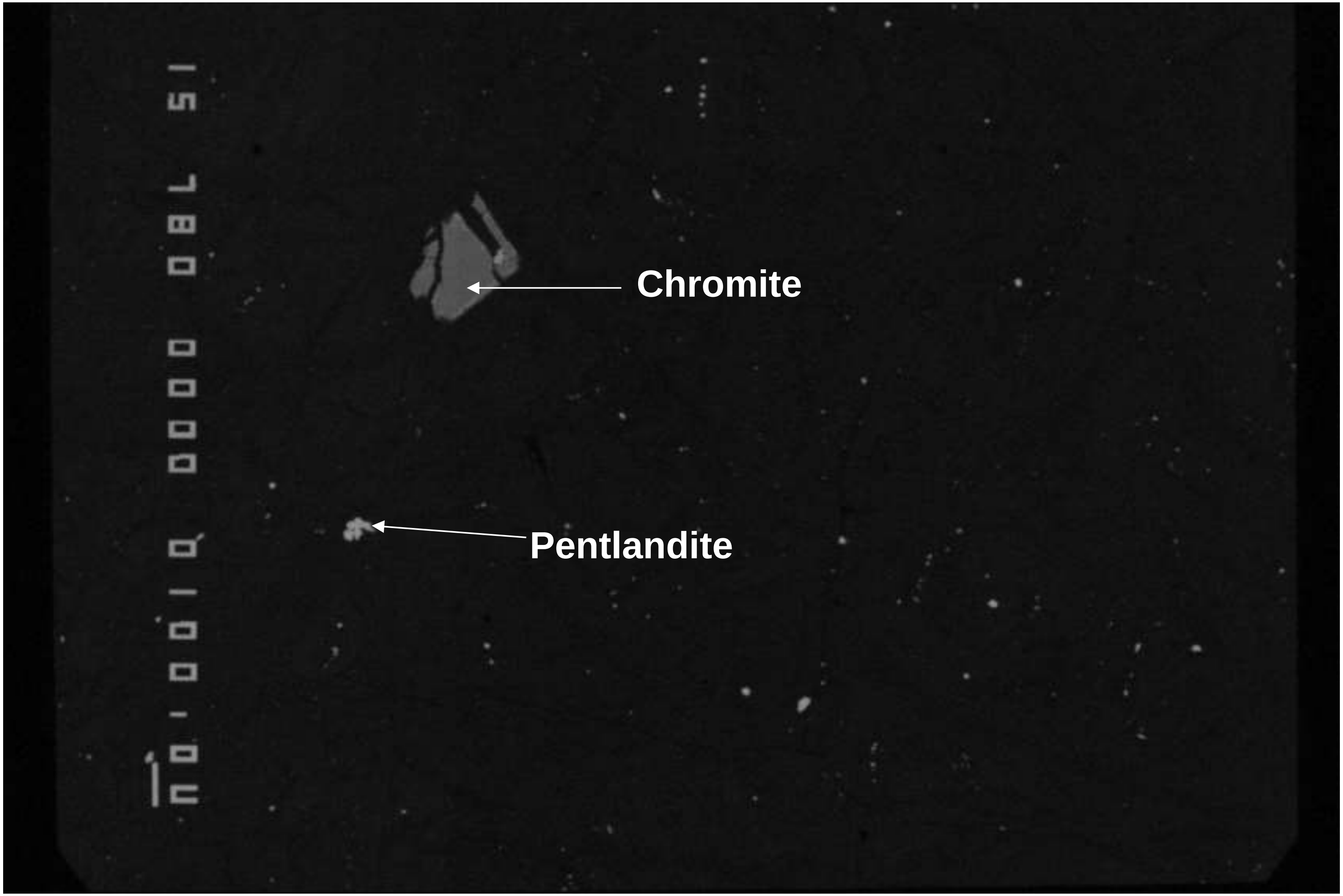
Crossed polarized and reflected light images of linear pyrite-pentlandite intergrowth.

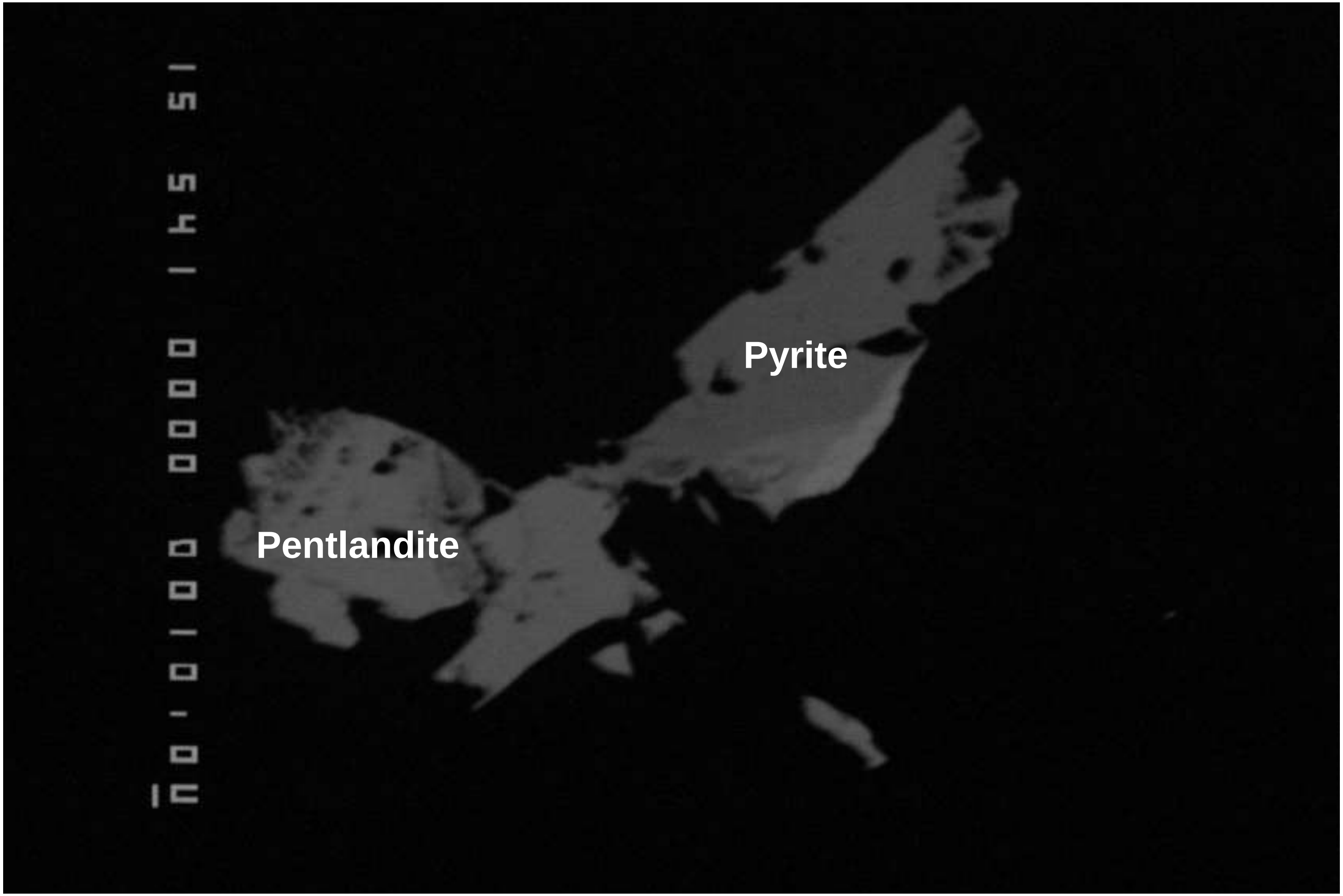


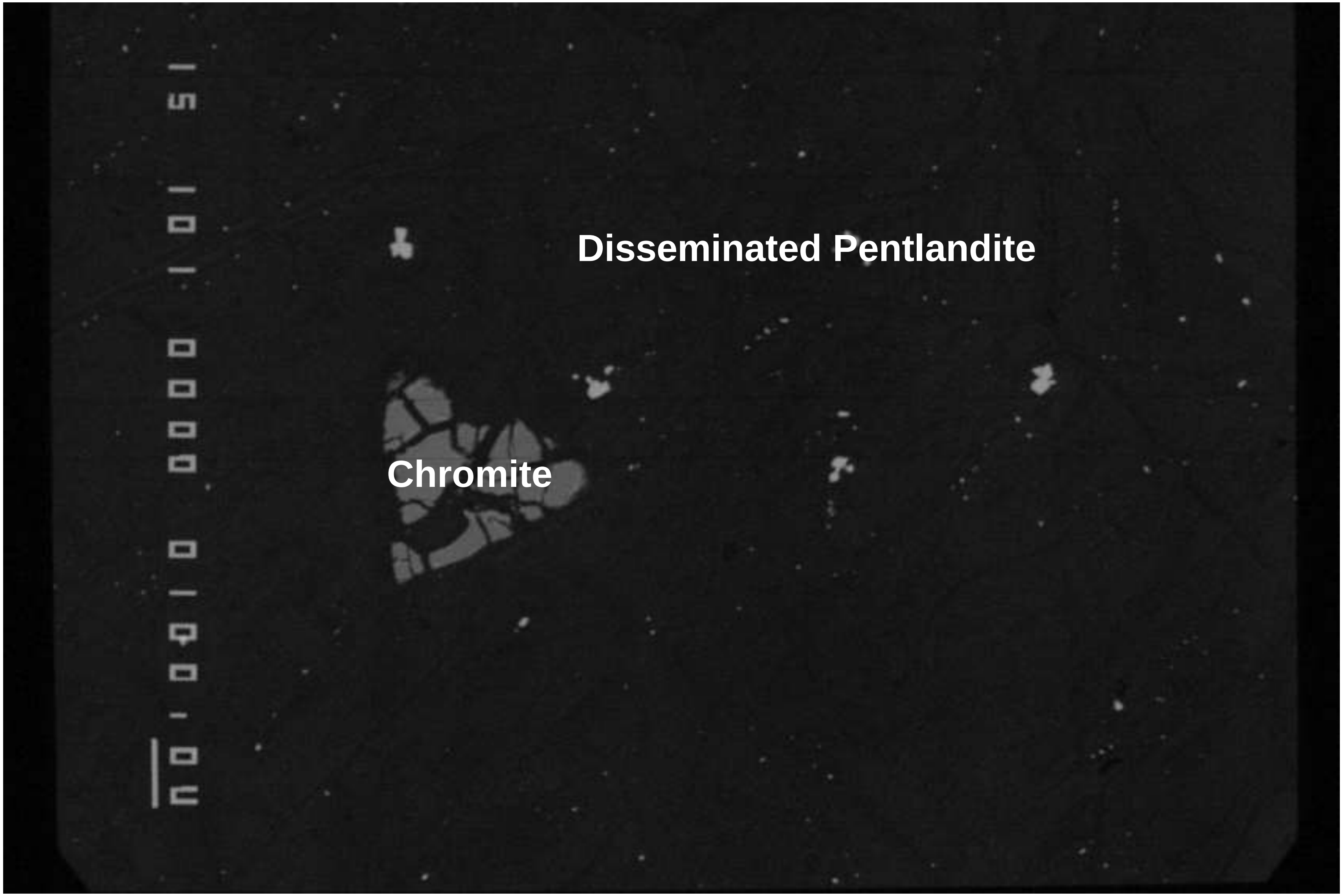
Reflected light image (left) of disseminated pentlandite throughout serpentinized orthopyroxenite. Image on right depicts a facture filled with pyrite in association with Sr-barite and adjacent pentlandite.

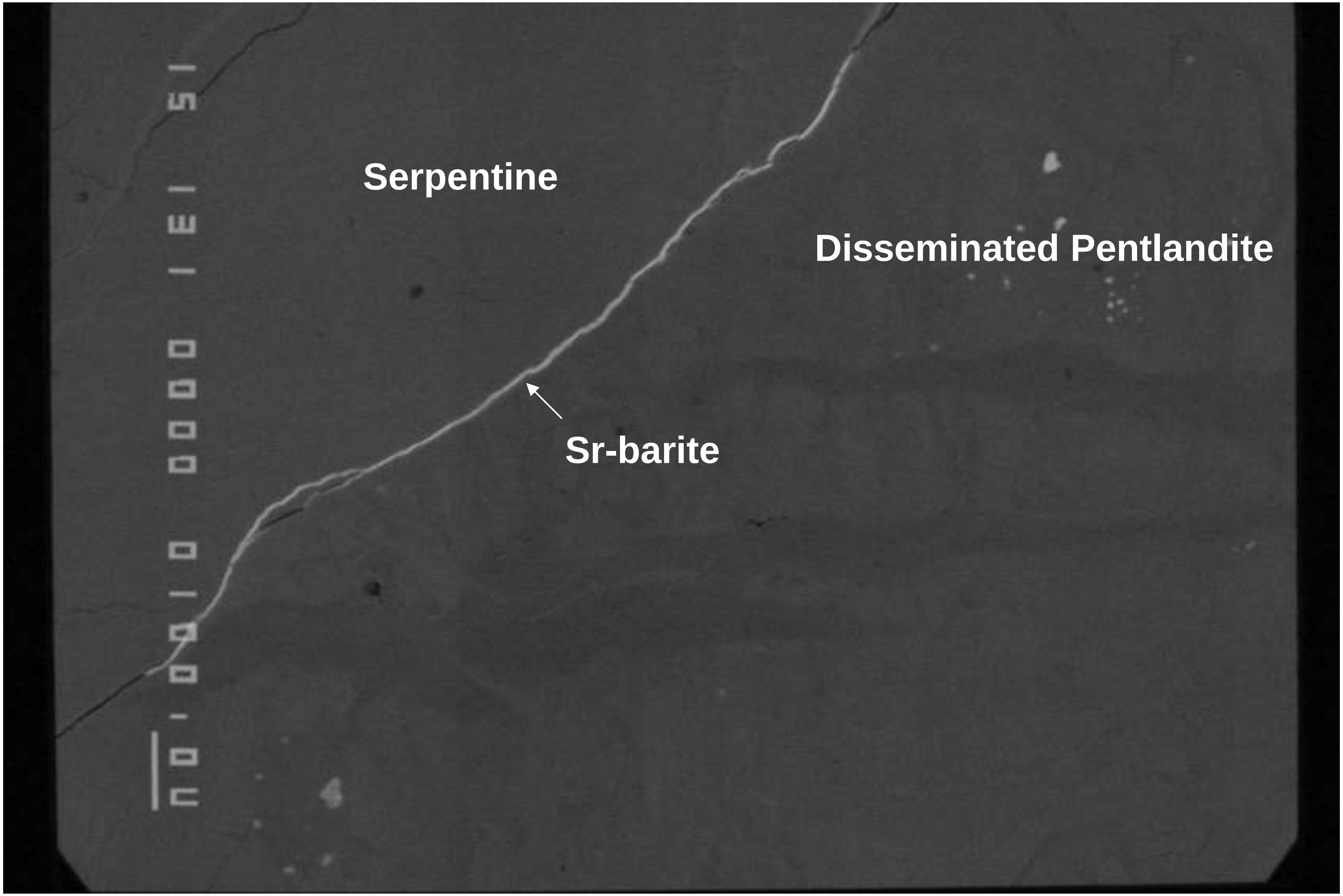


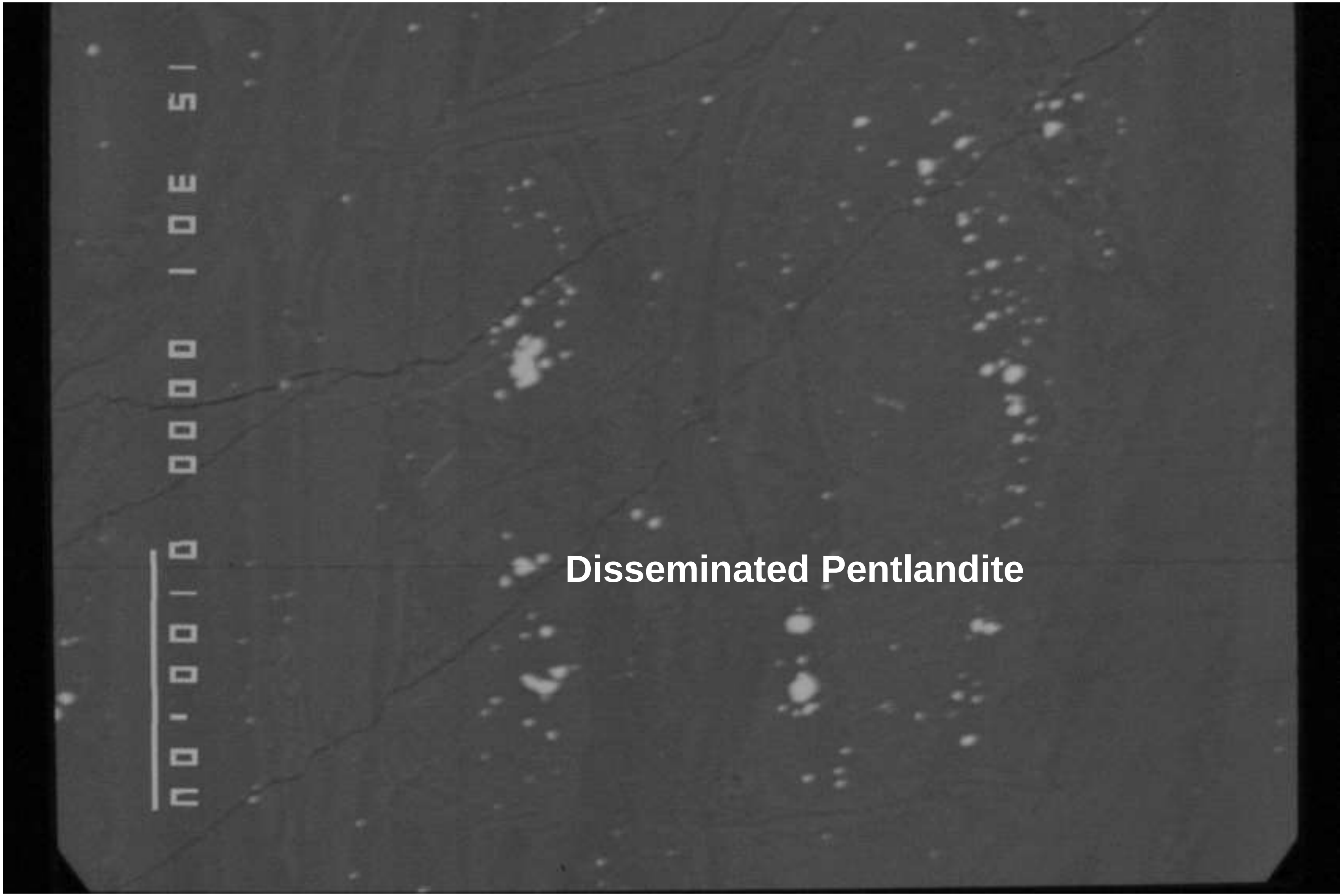
Serpentine
Pentlandite


Chromite
Pentlandite


Pyrite
Pentlandite


Disseminated Pentlandite
Chromite

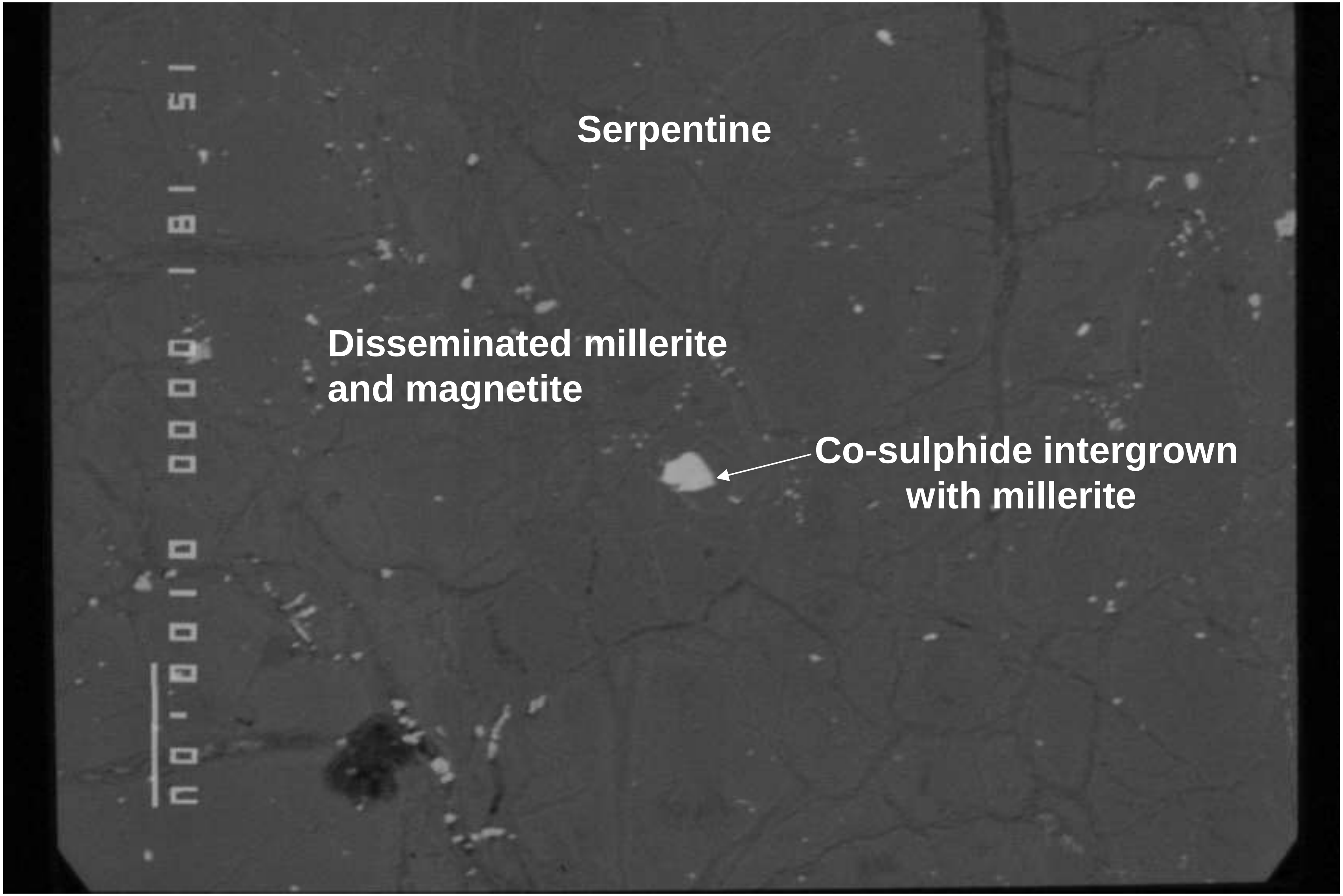

Serpentine
Disseminated Pentlandite
Sr-barite

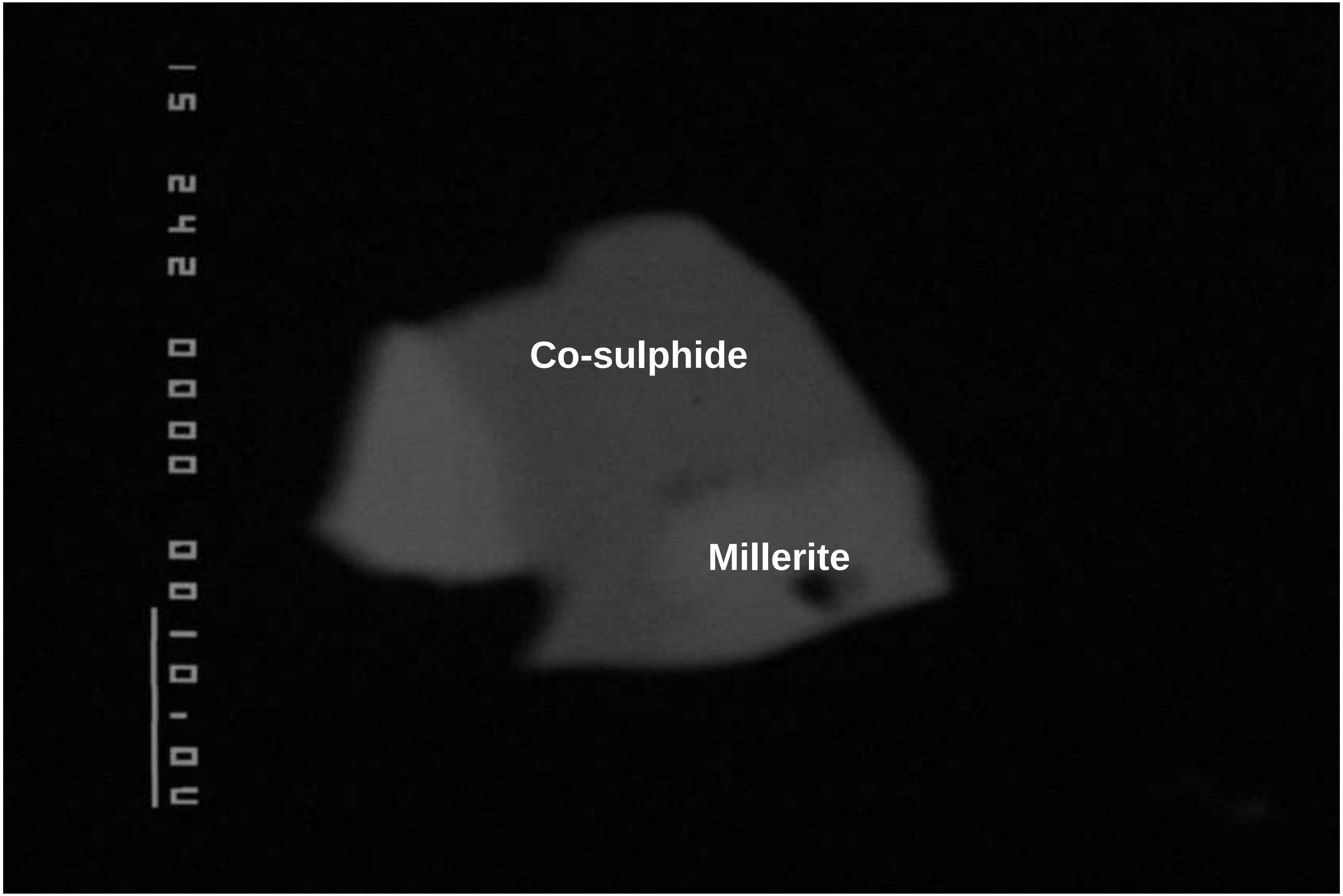


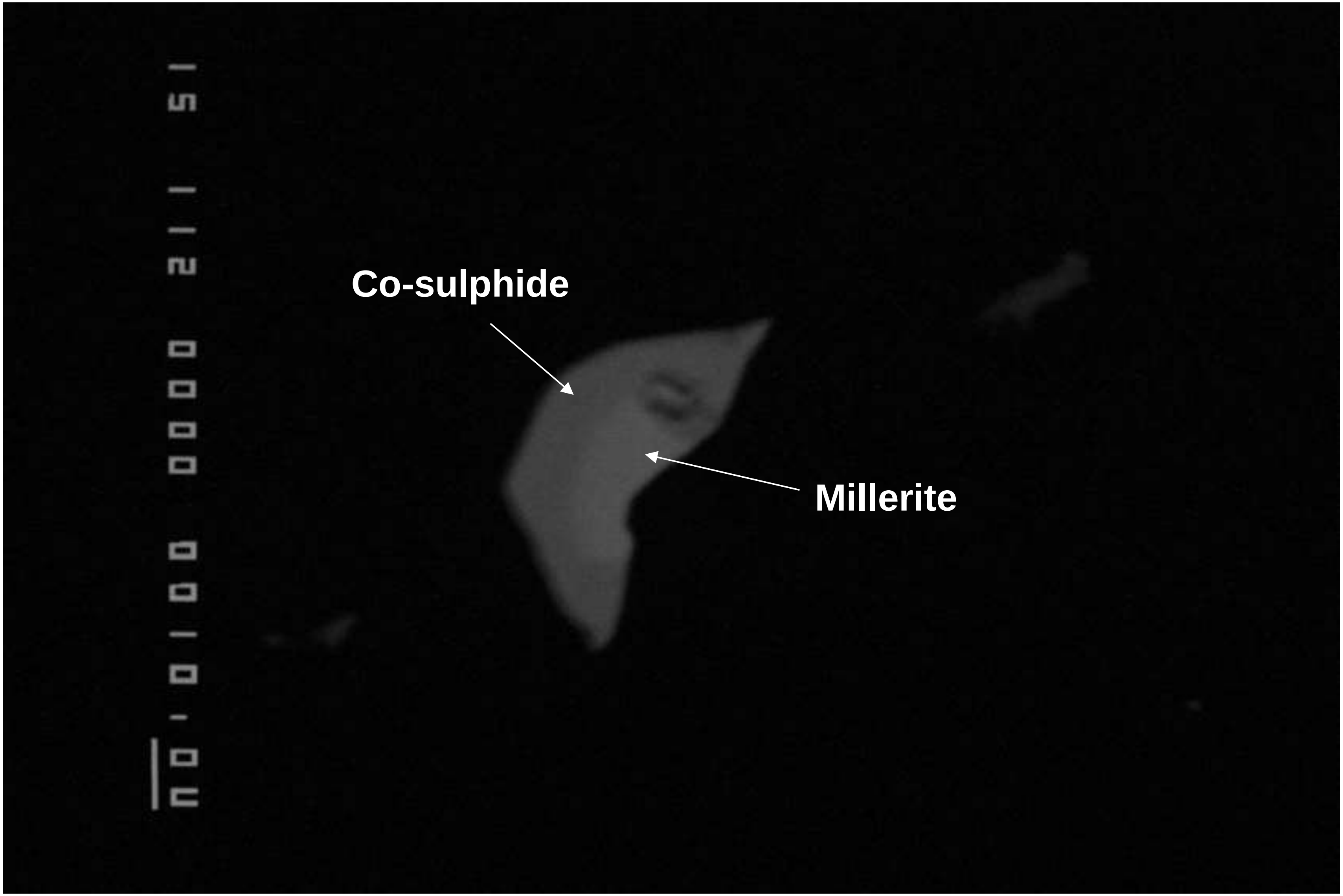
Disseminated Pentlandite

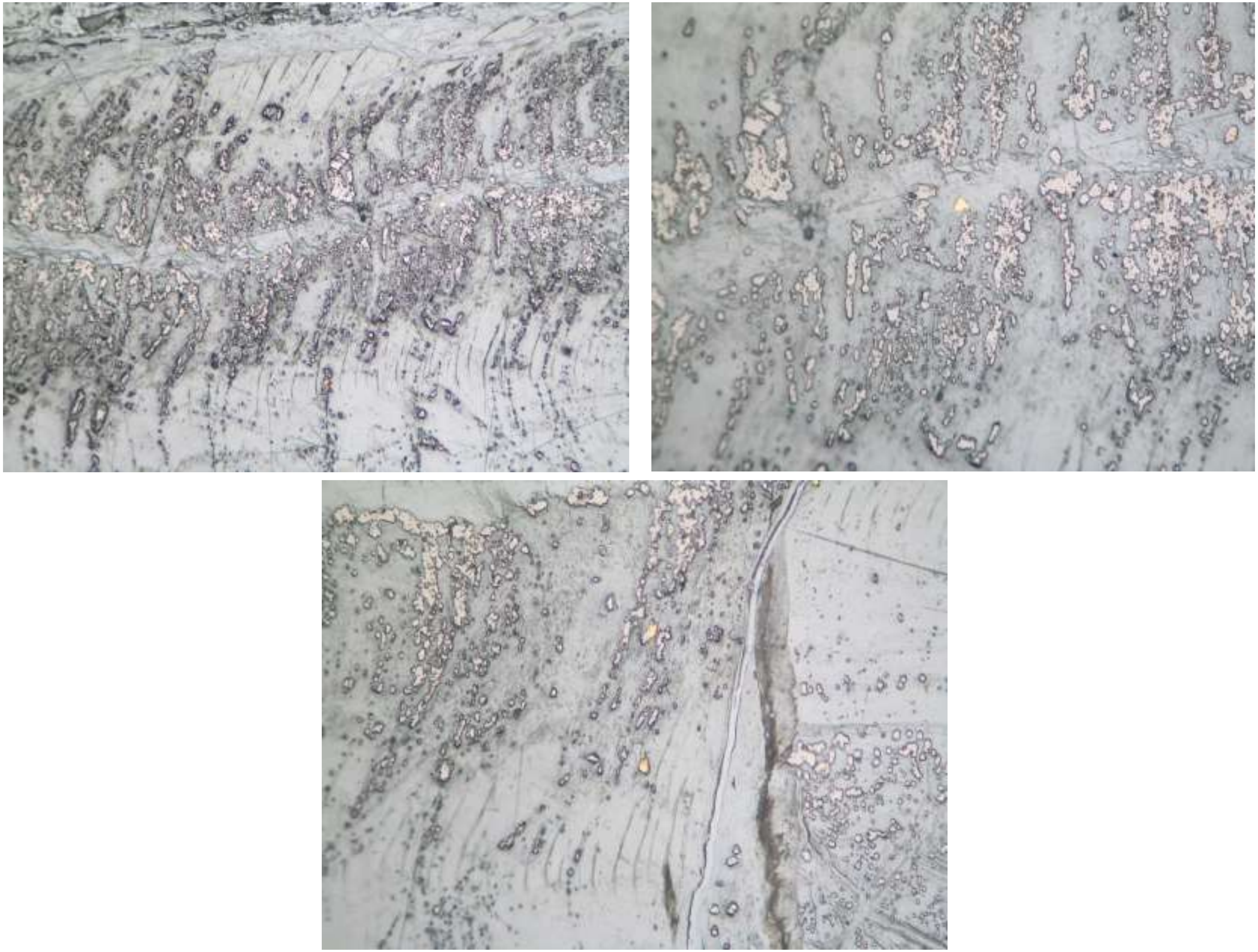
259-6353

Reflected light images illustrating the distribution of minute grains of Ni-Co-sulphide minerals.

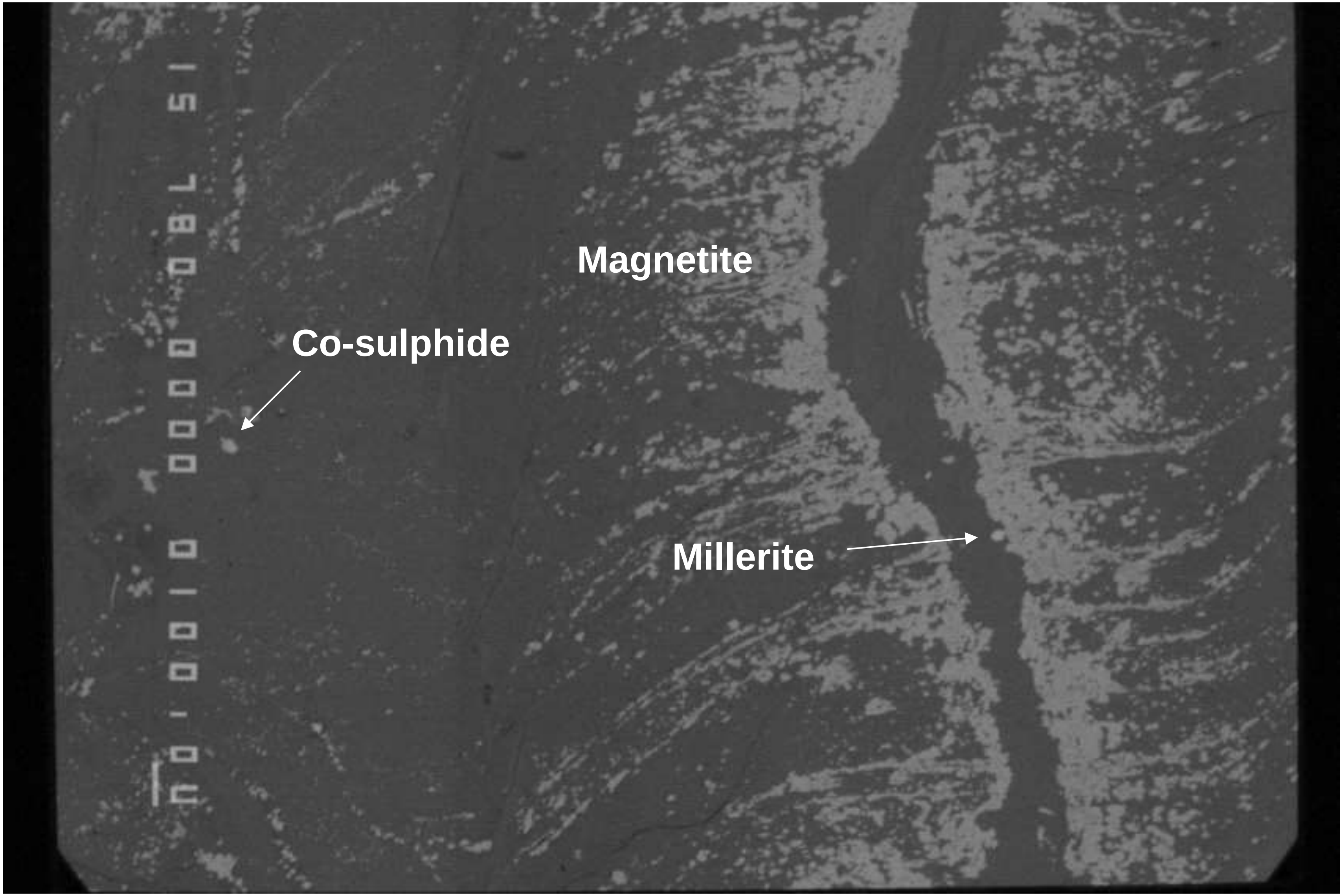

Serpentine
Disseminated millerite and magnetite
Co-sulphide intergrown with millerite

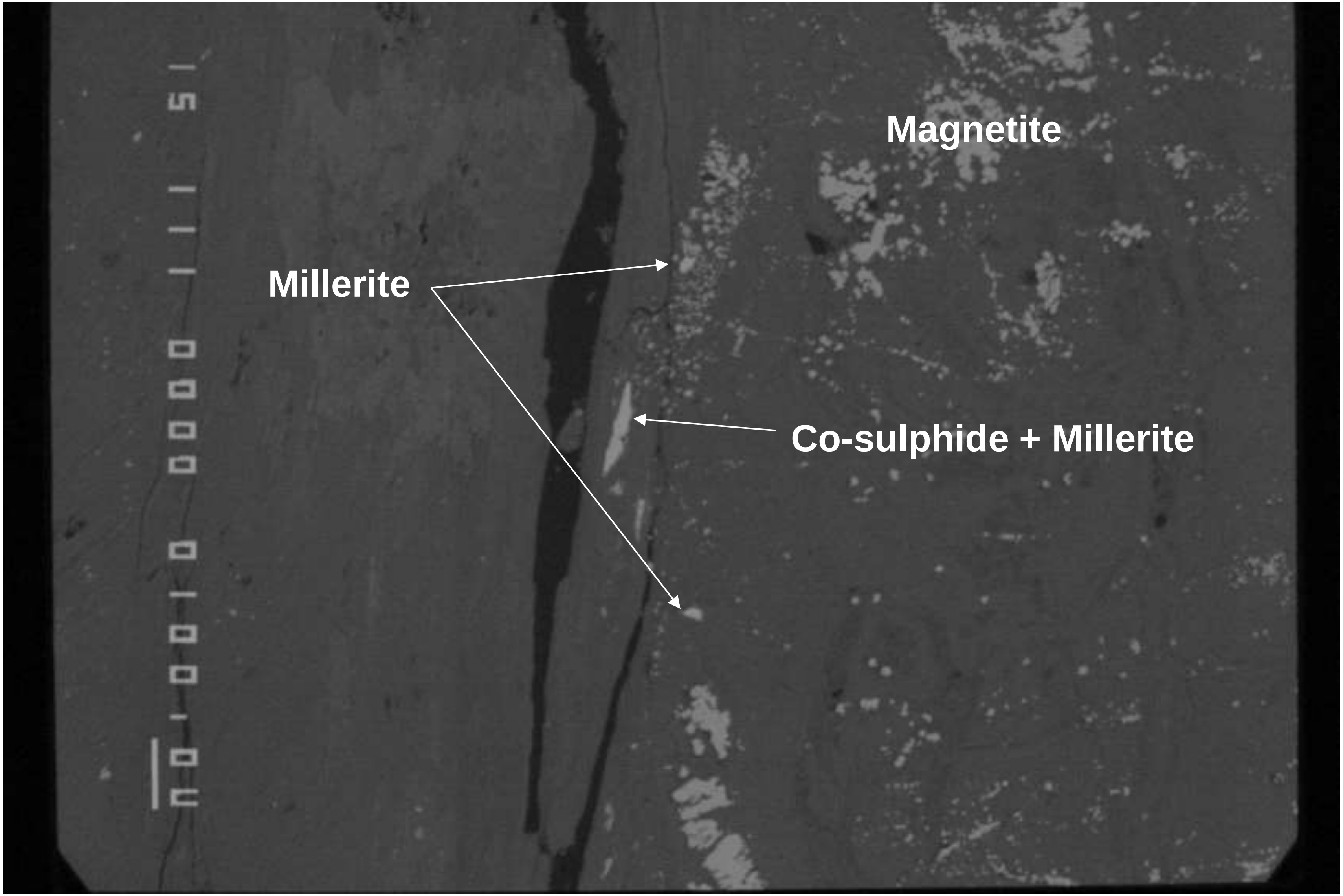

Co-sulphide
Millerite

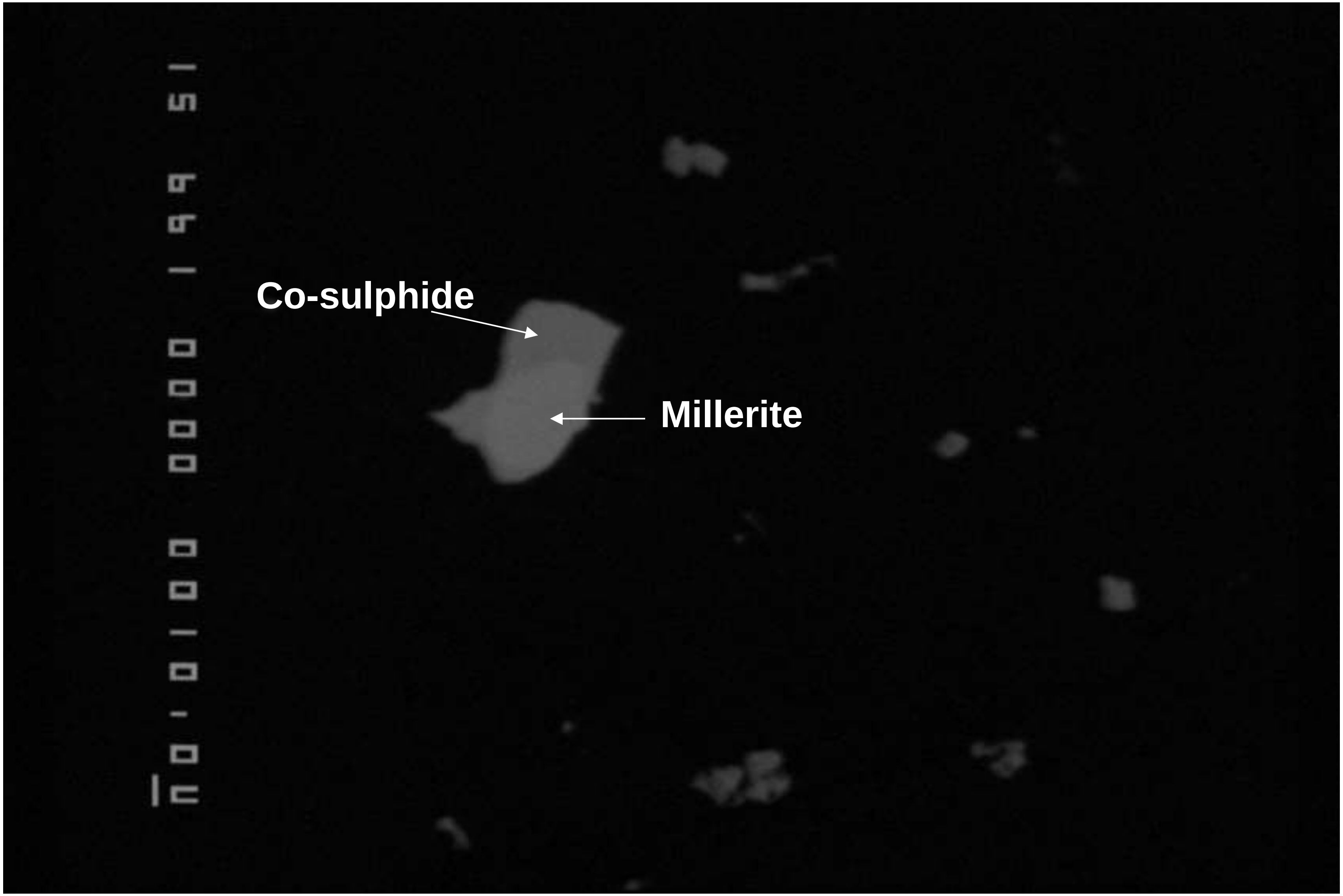

Co-sulphide
Millerite

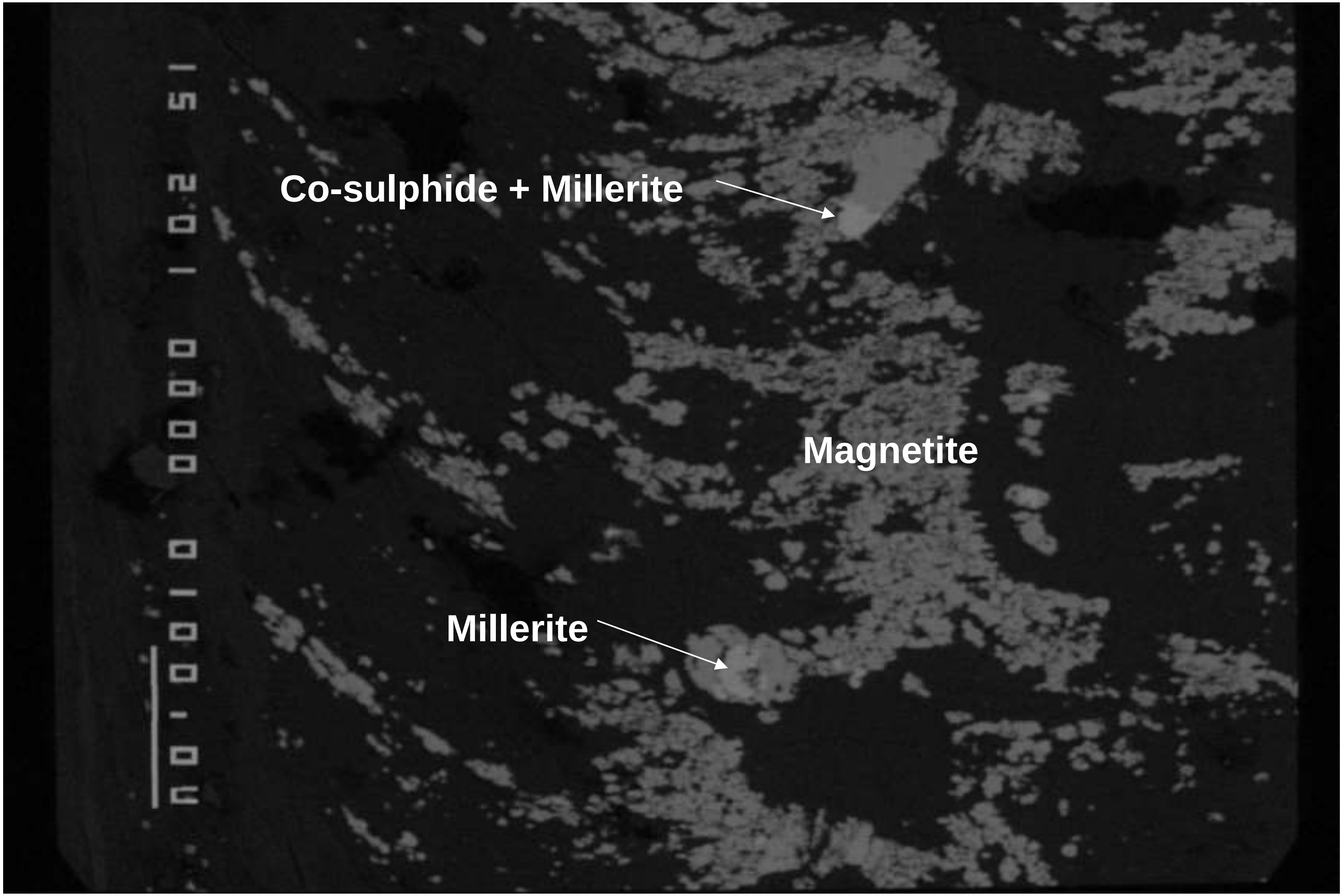


Reflected light photomicrographs depicting a fracture with marginal development of magnetite in association with millerite and Co-sulphide.

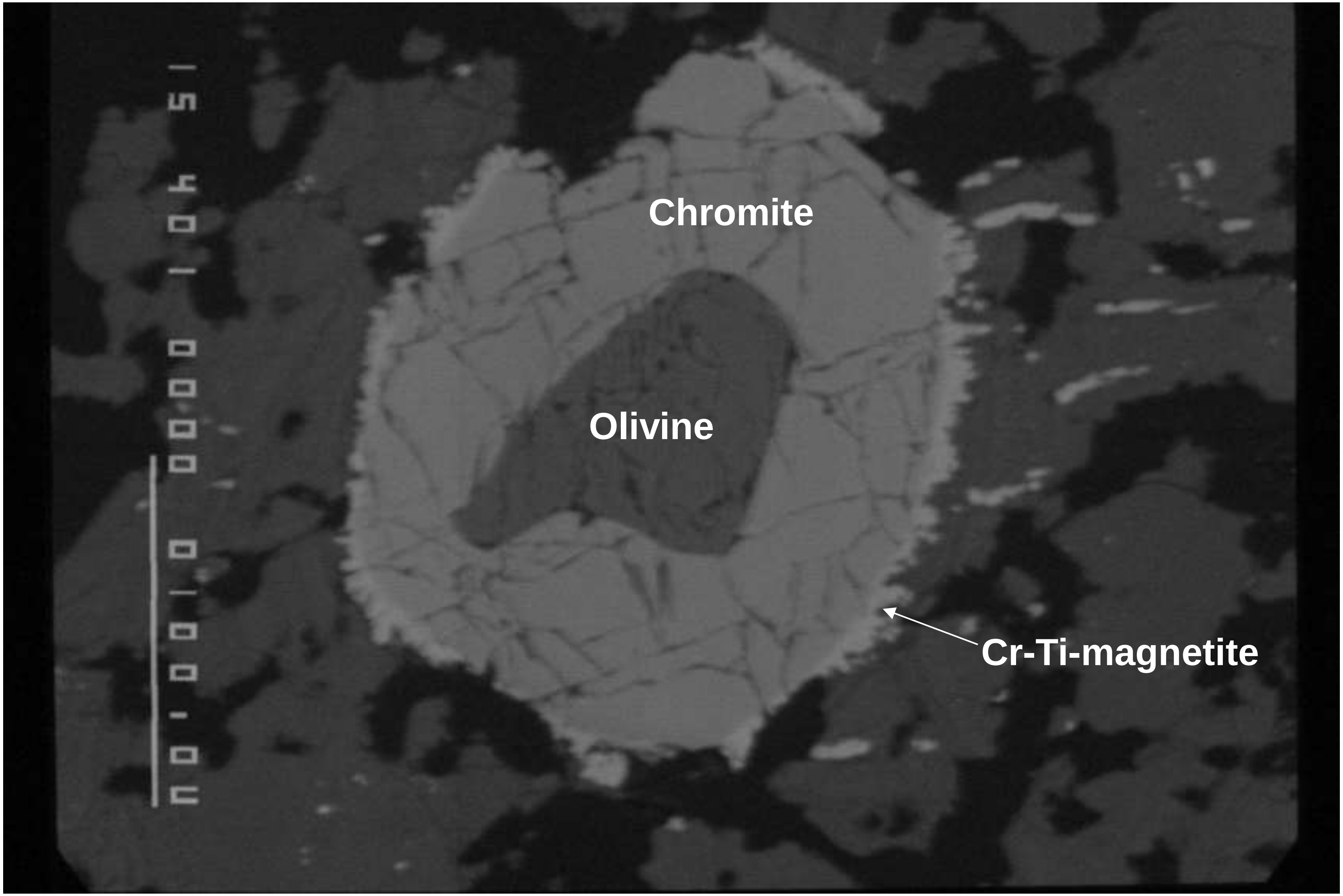

Magnetite
Co-sulphide
Millerite


Magnetite
Millerite
Co-sulphide + Millerite


Co-sulphide
Millerite


Co-sulphide + Millerite
Magnetite
Millerite

An example of an olivine inclusion within chromite.


Chromite
Olivine
Cr-Ti-magnetite

QUANTITATIVE PHASE ANALYSIS OF 2 POWDER SAMPLES USING THE RIETVELD METHOD AND X-RAY POWDER DIFFRACTION DATA.

Project: BEN – Job # 7218

Leonardo P. Arciaga – Terri-Lynn Ferguson
ACME Analytical Laboratories Ltd.
9050 Shaughnessy Street
Vancouver, BC V6P 6E5

Mati Raudsepp, Ph.D.
Elisabetta Pani, Ph.D.
Edith Czech, M.Sc.
Lan Kato, A.Sc.

Dept. of Earth, Ocean & Atmospheric Sciences
The University of British Columbia
6339 Stores Road
Vancouver, BC V6T 1Z4

Revised March 6, 2014

EXPERIMENTAL METHOD

The two samples of **Project BEN** were reduced to the optimum grain-size range for quantitative X-ray analysis (<10 μm) by grinding under ethanol in a vibratory McCrone Micronising Mill for 7 minutes. Step-scan X-ray powder-diffraction data were collected over a range 3-80°2θ with CoKa radiation on a Bruker D8 Advance Bragg-Brentano diffractometer equipped with an Fe monochromator foil, 0.6 mm (0.3°) divergence slit, incident- and diffracted-beam Soller slits and a LynxEye-XE detector. The long fine-focus Co X-ray tube was operated at 35 kV and 40 mA, using a take-off angle of 6°.

RESULTS

The X-ray diffractograms were analyzed using the International Centre for Diffraction Database PDF-4 and Search-Match software by Bruker. X-ray powder-diffraction data of the samples were refined with Rietveld program Topas 4.2 (Bruker AXS). The results of quantitative phase analysis by Rietveld refinements are given in Table 1. These amounts represent the relative amounts of crystalline phases normalized to 100%. The Rietveld refinement plots are shown in Figures 1 – 2.

Note that as both samples contain disordered serpentine, we used an empirical structure based on a 50:50 weighed standard mixture of antigorite and quartz. The results should be considered approximate.

Table 1. Results of quantitative phase analysis (wt.%)

Mineral	**Ideal Formula**	**1-2596088**	**2-2596093**
Brucite	$Mg(OH)_2$	18	17
Magnetite	Fe_3O_4	11	10
Serpentine	$Mg_3Si_2O_5(OH)_4$	70	72
Pyroaurite	$Mg_6Fe_2^{3+}(CO_3)(OH)_{16}$ $4H_2O$	1	1
Total		100	100

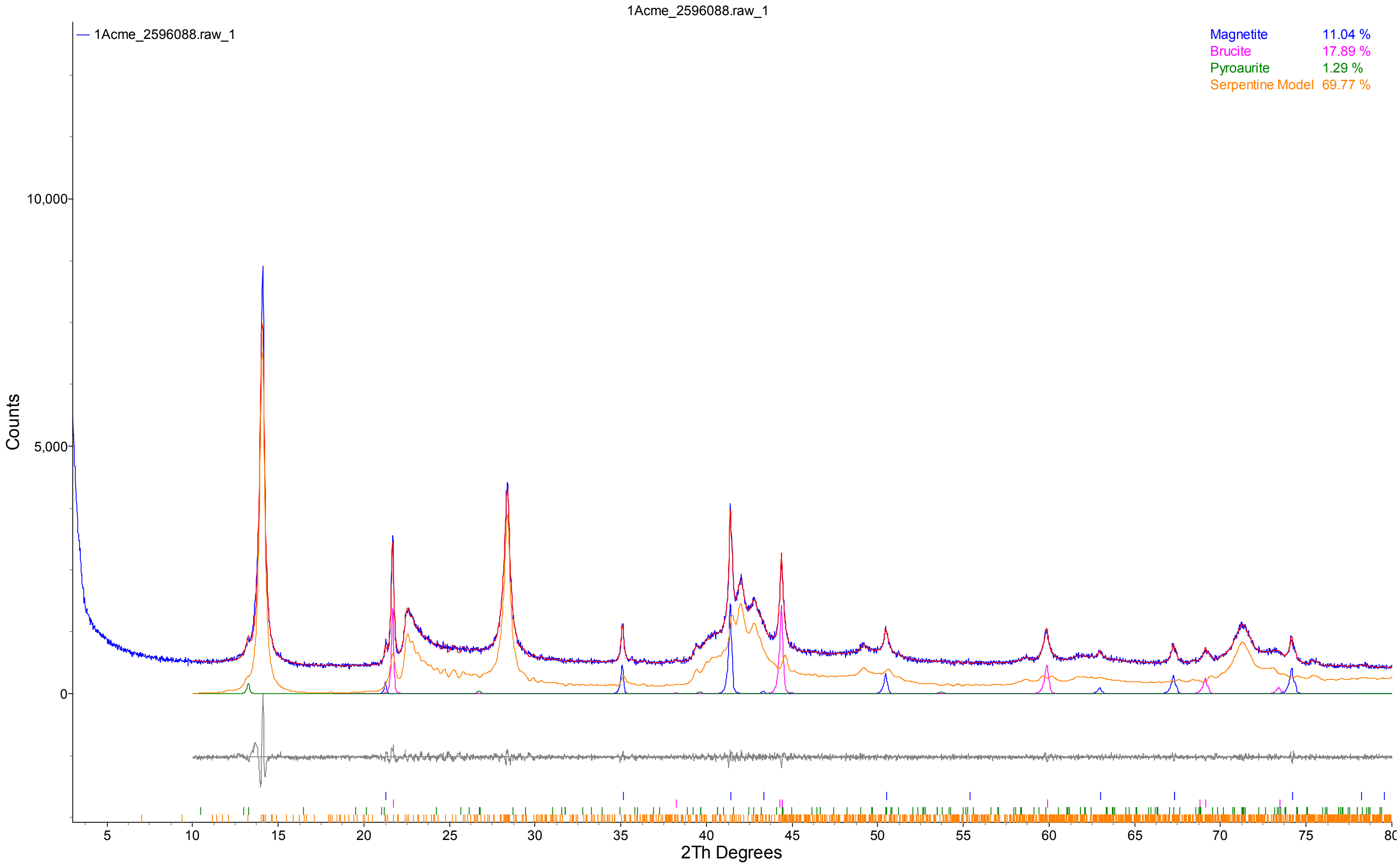


Figure 1. Rietveld refinement plot of sample **ACME Laboratories 1-2596088** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

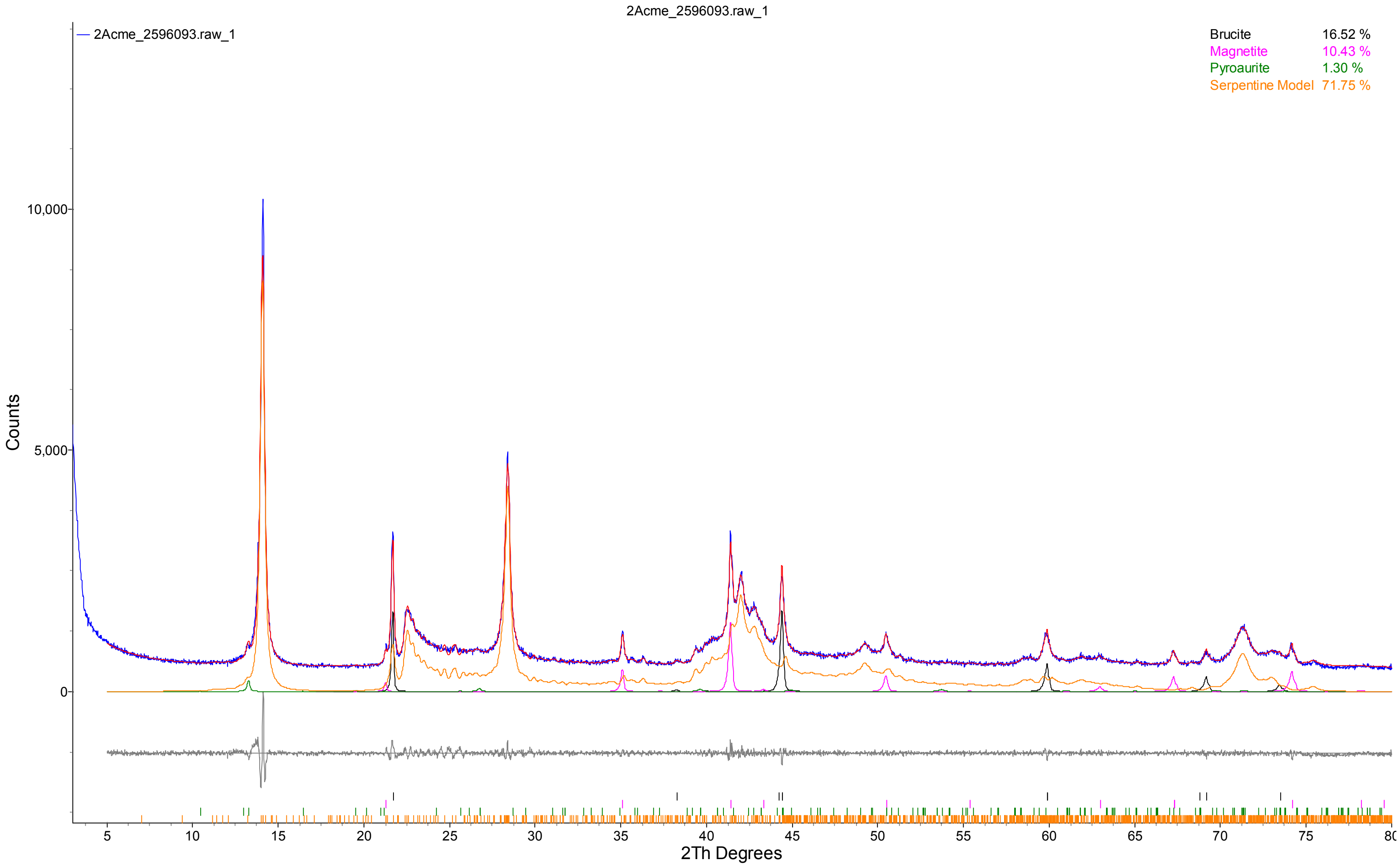


Figure 2. Rietveld refinement plot of sample **ACME Laboratories 2-2596093** (blue line - observed intensity at each step; red line - calculated pattern; solid grey line below – difference between observed and calculated intensities; vertical bars, positions of all Bragg reflections). Coloured lines are individual diffraction patterns of all phases.

An Investigation by High Definition Mineralogy into

THE MINERALOGICAL CHARACTERISTICS OF THREE SAMPLES FROM THE BEN COBALT-NICKEL PROPERTY

prepared for

WESTHAVEN VENTURES

14517-001, MI5018-MAR14 – Draft Report
April 3, 2014

SGS Canada Inc.
P.O. Box 4300, 185 Concession Street, Lakefield, Ontario, Canada K0L 2H0
Tel: (705) 652-2000 Fax: (705) 652-6365 www.met.sgs.com www.ca.sgs.com
Member of the SGS Group (SGS SA)

Table of Contents

Executive Summary iii
Introduction v
Testwork Summary 6
1. Sample Receipt and Preparation 6
2. Operational Modes and Quality Control 6
    2.1. Operational Modes 6
    2.2. QEMSCAN Assay Reconciliation 7
3. Mineralogical Analyses 8
    3.1. Mineral Abundance by QEMSCAN 8
4. Mineral Chemistry 14
    4.1. SEM Images and Data for the Samples 18

Appendix A – SEM-EDS Data 21
Appendix B – QEMSCAN Modes of Operation 39

List of Tables

Table 1: Mineral List and Formulas 7
Table 2: Modal Abundance of “259-6353”, “259-6351” and “3-373” 9
Table 3: EPMA from the Sulphides 15
Table 4: EPMA from the Serpentine and Fe-oxides 16
Table 5: Analytical Conditions for Sulphides 17
Table 6: Analytical Conditions for Serpentine and Fe-Oxides 17

List of Figures

Figure 1: Profile of Mineral Abundance of the Samples 10
Figure 2: QEMSCAN Pseudo-Image of the “259-6353” 11
Figure 3: QEMSCAN Pseudo-Image of the “259-6351” 12
Figure 4: QEMSCAN Pseudo-Image of the “3-373” 13
Figure 5: BSE Image and Analyses from Sample “259-6353” 18
Figure 6: BSE Image and Analyses from Sample “259-6353” 19
Figure 7: BSE Image and Analyses from Sample “3-373” 20
Figure 8: BSE Image and Analyses from Sample “259-6353” 22
Figure 9: BSE Image and Analyses from Sample “259-6353” 23
Figure 10: BSE Image and Analyses from Sample “259-6353” 24
Figure 11: BSE Image and Analyses from Sample “259-6353” 25
Figure 12: BSE Image and Analyses from Sample “259-6353” 26
Figure 13: BSE Image and Analyses from Sample “259-6351” 27
Figure 14: BSE Image and Analyses from Sample “259-6351” 28
Figure 15: BSE Image and Analyses from Sample “259-6351” 29
Figure 16: BSE Image and Analyses from Sample “259-6351” 30
Figure 17: BSE Image and Analyses from Sample “259-6351” 31
Figure 18: BSE Image and Analyses from Sample “259-6351” 32
Figure 19: BSE Image and Analyses from Sample “3-373” 33
Figure 20: BSE Image and Analyses from Sample “3-373” 34
Figure 21: BSE Image and Analyses from Sample “3-373” 35
Figure 22: BSE Image and Analyses from Sample “3-373” 36
Figure 23: BSE Image and Analyses from Sample “3-373” 37
Figure 24: BSE Image and Analyses from Sample “3-373” 38

Executive Summary

A mineralogical examination was conducted on three samples, referred to as **“259-6353”, “259-6351”** and **“3-373”**. It was conducted using mineralogical instrumentation, including QEMSCAN technology (Quantitative Evaluation of Materials by Scanning Electron Microscopy), electron microscopy and electron probe micro analysis (EPMA).

The purpose of this test program was to determine the overall mineral assemblage and the Ni minerals.

Mineralogical Results

QEMSCAN Analysis

The samples are dominated by serpentine is dominated by serpentine (>95%), minor (<3%) Fe-oxides (magnetite and Cr-magnetite) and chlorite (<5%).

Sulphides include Ni-sulphides (NiS) that are comprised of millerite and haezlewoodite, cobaltiferous pentlandite and / or linnaeite, low Co-bearing pentlandite and pyrrhotite.

Mineral Chemistry

The analyses include Co-bearing pentlandite (Co < 2.2 wt%), cobaltiferous pentlandite, haezlewoodite and polydymite. Note that the mineral names are very generic. Minerals names should be based on the apfu from the EMPA.

The NiO in serpentine ranges from 0.01 wt% to 0.42 wt% and averages 0.13 wt% (or 0.1 wt% Ni). The NiO wt% in magnetite averages 0.19 wt% (or 0.15 wt% Ni).

Comments

- The samples consist mainly of serpentine. Ni sulphides occur in trace amounts. SEM analysis shows that the Ni-(Co-Fe) sulphides are typically less than 50 µm.
- Ni occurs in different sulphide minerals. Cobaltiferous pentlandite appears to show extensive solid solution (varied chemistry).
- Note that serpentine carries an average of 0.1 wt% Ni and Fe-Oxides 0.15 wt% Ni. Therefore, serpentine (>95 % in the samples) will account for ca. 0.1% of the total amount of Ni of the head assays. Fe-oxides will account for less (~0.005%) of the total Ni in the sample. Note that this proportion of Ni in serpentine and Fe-Oxides is not physically recoverable and constitutes a refractory form of Ni.

- This analysis represents merely three samples and random cross sections of the rocks. Additional work is suggested. That would include mineralogical analysis on intact and assay rejects to determine the variability of the ore, and on composite samples to determine the mineral proportions by size fraction and liberation of the sulphides.

Introduction

This report describes a mineralogical test program using High Definition Mineralogy, including QEMSCAN technology (Quantitative Evaluation of Materials by Scanning Electron Microscopy), Scanning Electron Microscopy and Electron Probe Micro Analysis, conducted on three samples, referred to as **"259-6353", "259-6351" and "3-373"**. The samples were submitted by Westhaven Ventures. The purpose of this test program was to determine the overall mineral assemblage of the samples and the Ni minerals.

PROFESSIONAL GEOSCIENTIST
ANASTASSIOS GRAMMATIKOPOULOS
PRACTISING MEMBER
1811
ONTARIO

Tassos Grammatikopoulos, Ph.D., P.Geo.
Senior Mineralogist – Advanced Mineralogy Facility

Stephanie Downing, M.Sc.
Manager – Advanced Mineralogy Facility

Sample Preparation by: Scott Young
QEMSCAN Operation by: Amie Brock
SEM Operation: Kim Gibbs
Data Processing by: Nicole Morton
Report preparation by: Tassos Grammatikopoulos
Report reviewed by: Kim Gibbs

Testwork Summary

1. Sample Receipt and Preparation

Three samples, **"259-6353", "259-6351" and "3-373"**, were received as polished thin sections by the mineralogy department at SGS Canada Inc., Lakefield site. The test work was conducted under the project number 14517-MAR14 and LIMS number MI5018-MAR14.

The PTS were analyzed with the QEMSCAN using the Field Scan method, and an electron microscope (SEM).

The results from the SEM data are given in Appendix A and the modes of QEMSCAN operation in Appendix B.

2. Operational Modes and Quality Control

2.1. Operational Modes

The QEMSCAN analysis was done using the Field Scan (FS) mode of measurement. A full description of this and other methods are included in Appendix B. The FS maps a sample that has been mounted in the polished thin section. It collects a chemical spectrum at a set interval within the field of view. Each field of view is then processed offline and a pseudo-image of the core sample is produced. The pixel spacing for the analysis was 15 µm. The polished thin sections were also examined with an optical microscope in both transmitted and reflected light.

The PMA scans the entire polished section and provides a statistically robust population of mineral identifications based on X-ray chemistry of minerals. It should be noted that the energy dispersive X-ray characteristics for magnetite and hematite are nearly identical and that these two minerals cannot reliably be distinguished by QEMSCAN.

Light elements such as Li, B, C, Be, O and H cannot be discriminated by the QEMSCAN analysis.

The samples were then scanned using a Tescan electron microscope which equipped with an energy dispersive X-ray spectrometer (EDS) to locate and identify the PGM.

2.2. QEMSCAN Assay Reconciliation

Each polished thin section for the samples was submitted for mineralogical analyses with QEMSCAN PMA. All data were processed with the iExplorer software version 5.2. A mineral list developed for the analyzed samples is shown in Table 1.

Table 1: Mineral List and Formulas

Mineral	Formula
Serpentine	$(Mg, Fe)_3Si_2O_5(OH)_4$
Talc	$Mg_3Si_4O_{10}(OH)_2$
Olivine	$(Mg^{+2}, Fe^{+2})_2SiO_4$
Quartz	SiO_2
Feldspar	$(NaSi,CaAl)AlSi_2O_8$
Chlorite	
Orthopyroxene	$([Mg,Fe]SiO_3)$
Clinopyroxene	$(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$
Mica/Clays	$KAl_2(AlSi_3O_{10})(OH)_2$
Magnetite	Fe_3O_4
Ilmenite	$FeTiO_3$
Rutile	TiO_2
Brucite	$Mg(OH)_2$
Coalingite	$Mg_{10}Fe^{3+}{}_2(CO_3)(OH)_{24}\bullet 2(H_2O)$
Millerite	NiS
haezlewoodite	Ni_3S_2
Linnaeite	$CoCo_2S_4$
Pentlandite	$(Fe,Ni)_9S_8$
Cobaltiferous Pentlandite	$(Fe,Co,Ni)_9S_8$
Pyrrhotite	$Fe_{(1-x)}S$
Dolomite	$CaMg(CO_3)_2$

3. Mineralogical Analyses

Data for the modal abundance of the minerals and elemental distribution are based on the PMA analysis.

3.1. Mineral Abundance by QEMSCAN

The mineral abundance of the sample is presented in Table 2 and is graphically shown in Figure 1. Mineral abundance is given in wt%.

The samples are dominated by serpentine is dominated by serpentine (>95%), minor (<3%) Fe-oxides (magnetite and Cr-magnetite) and chlorite (<5%).

Note that the low grade (for mineralogical purposes) and fine grained nature of the sulphides makes their quantification difficult. However, sulphides occur in trace amounts. They include Ni-sulphides (NiS) that are comprised of millerite and haezlewoodite, cobaltiferous pentlandite (Co-pentlandite: Co-Pnt) and / or linnaeite, low Co-bearing pentlandite and pyrrhotite.

QEMSCAN pseudo images (Figure 2 to Figure 4) illustrate that the samples consists mainly of serpentine aggregates. Fe-oxides are finely disseminated in the matrix.

Table 2: Modal Abundance of “259-6353”, “259-6351” and “3-373”

Survey		**Westhaven Ventures**		
Project		**CALR-14517-001 / MI5018-MAR14**		
Sample		**259-6353**	**259-6351**	**3-373**
Calculated ESD Particle Size		18625	22636	1655
Mineral Mass (%)	Serpentine	85.48	21.40	94.12
	Serpentine(Fe)	10.07	72.97	2.83
	Talc	0.00	0.04	0.00
	Olivine	0.00	0.01	0.01
	Quartz/Feldspars	0.01	0.00	0.01
	Chlorite	0.01	5.18	0.00
	Pyroxenes	0.01	0.12	0.00
	Mica/Clays	0.00	0.00	0.00
	Magnetite	2.98	0.00	2.34
	Cr_Minerals	0.52	0.16	0.53
	Ilmenite/Rutile	0.00	0.00	0.00
	Brucite	0.18	0.00	0.14
	Coalingite	0.55	0.00	0.01
	NiS	0.01	0.00	0.01
	Co-Pnt/Linnaeite	0.00	0.00	0.00
	Pentlandite	0.00	0.04	0.00
	Other Sulphides	0.01	0.02	0.00
	Carbonates	0.16	0.03	0.00
	Other	0.01	0.01	0.00
	Total	100.0	100.0	100.0
Mean Grain Size by Frequency (µm)	Serpentine	431	65	473
	Serpentine(Fe)	60	194	49
	Talc	22	55	22
	Olivine	22	26	25
	Quartz/Feldspars	28	23	26
	Chlorite	36	46	22
	Pyroxenes	38	38	33
	Mica/Clays	24	24	24
	Magnetite	76	34	57
	Cr_Minerals	114	129	142
	Ilmenite/Rutile	22	22	22
	Brucite	43	0	45
	Coalingite	120	0	43
	NiS	32	35	38
	Co-Pnt/Linnaeite	37	28	22
	Pentlandite	23	33	25
	Other Sulphides	27	55	25
	Carbonates	188	49	22
	Other	33	24	36

Note: The size of the minerals as shown in the table below is calculated statistically from the length of all the horizontal intercepts through each particle. It uses an assumption of random sectioning of spherical particles having uniform size, to obtain an estimate of the stereologically-corrected grain size in microns. The size calculation is a statistical property, which means that it is only valid when applied to a population of particles, and its accuracy increases as the population size increases. The accuracy of the size calculation is extremely low if applied to just a single cross-section.

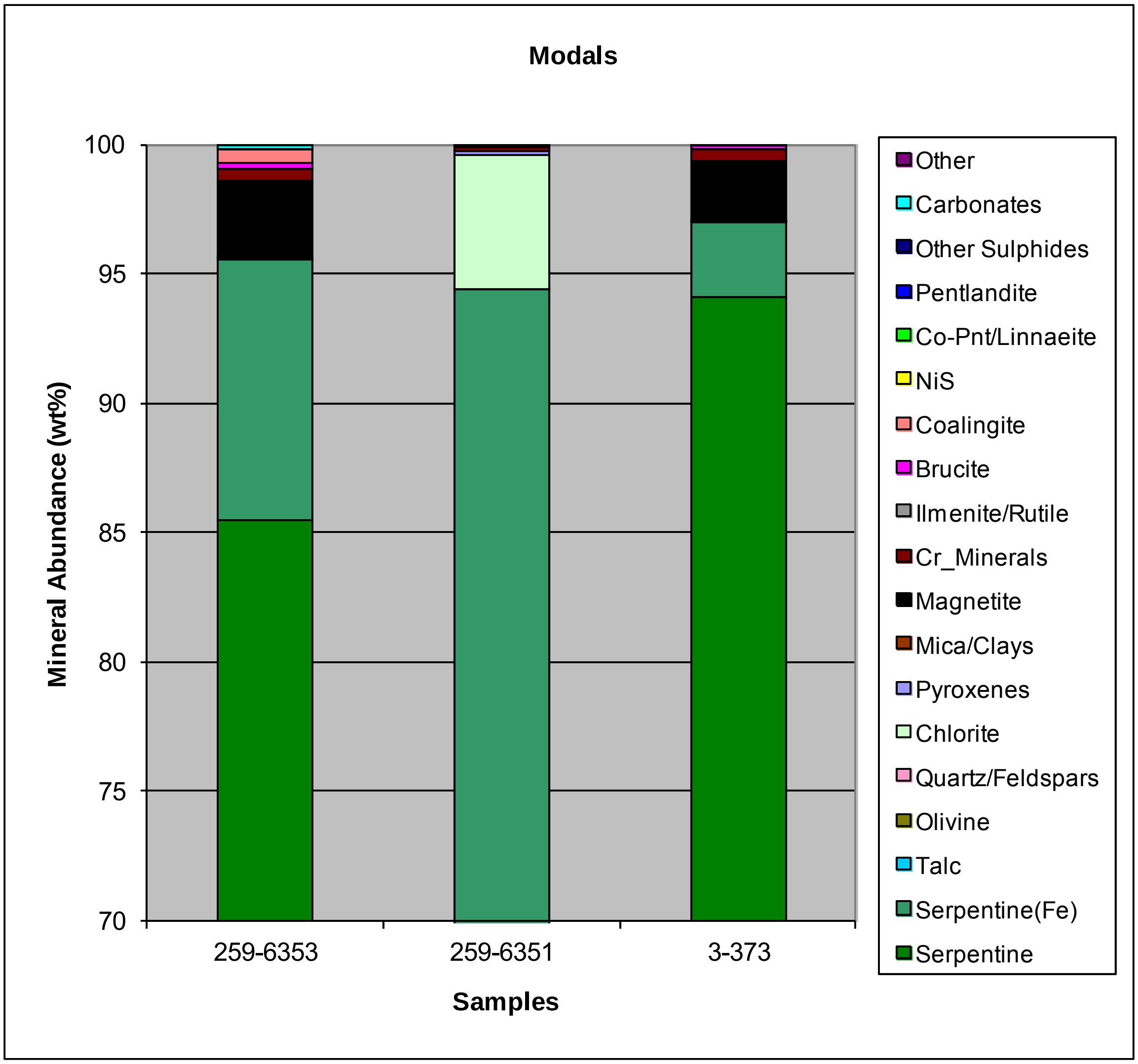


Figure 1: Profile of Mineral Abundance of the Samples

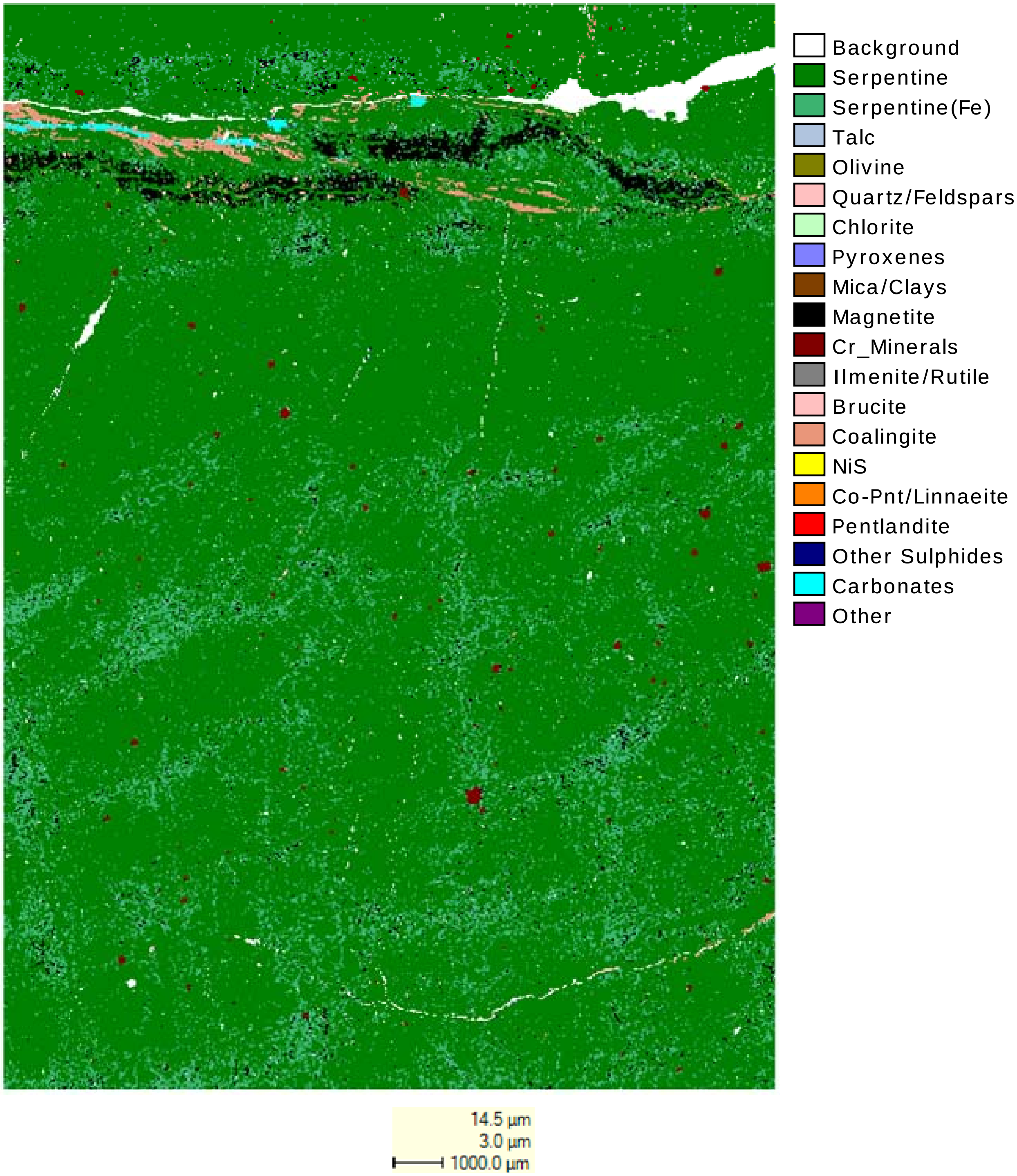


Figure 2: QEMSCAN Pseudo-Image of the "259-6353"

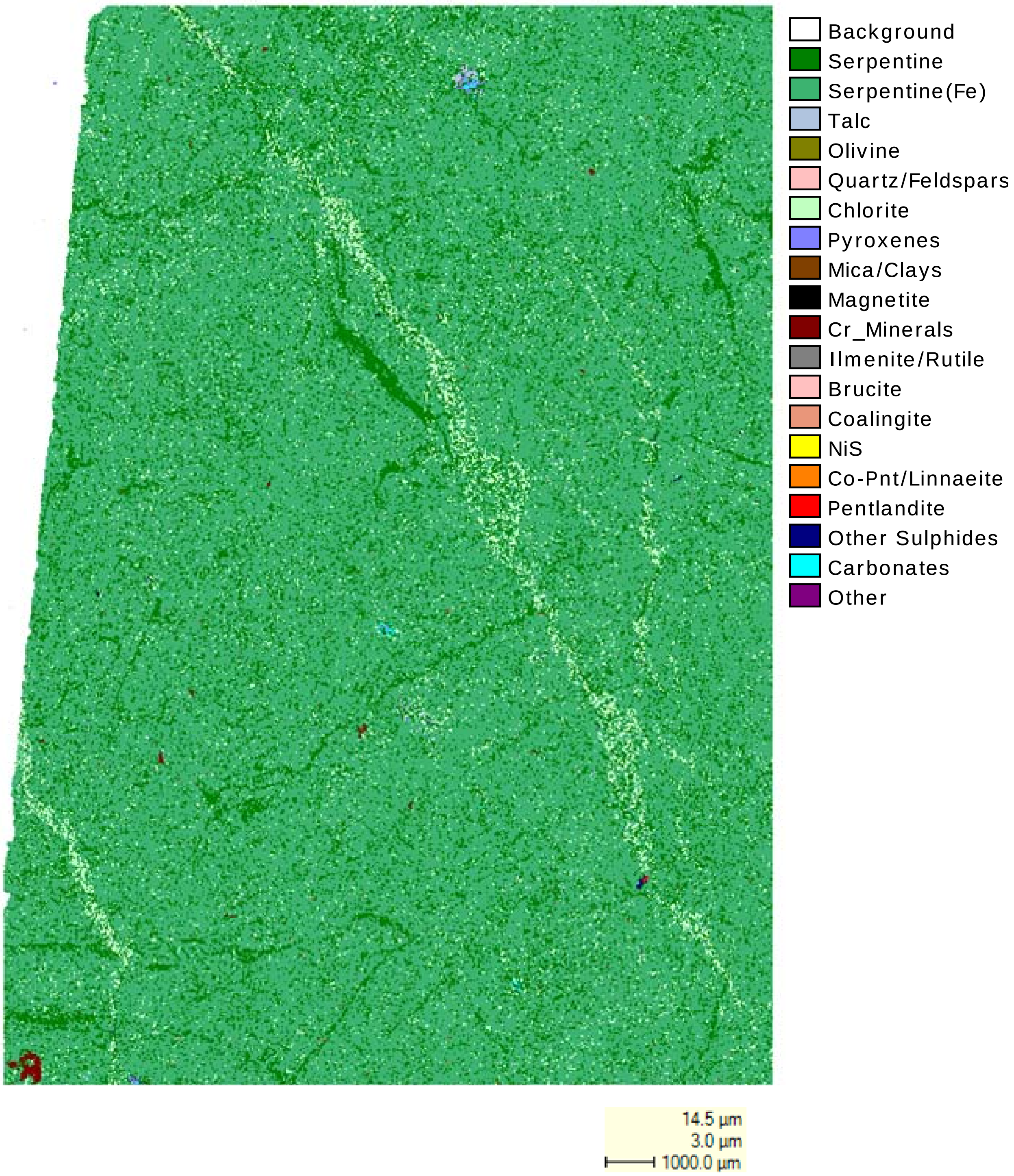


Figure 3: QEMSCAN Pseudo-Image of the "259-6351"

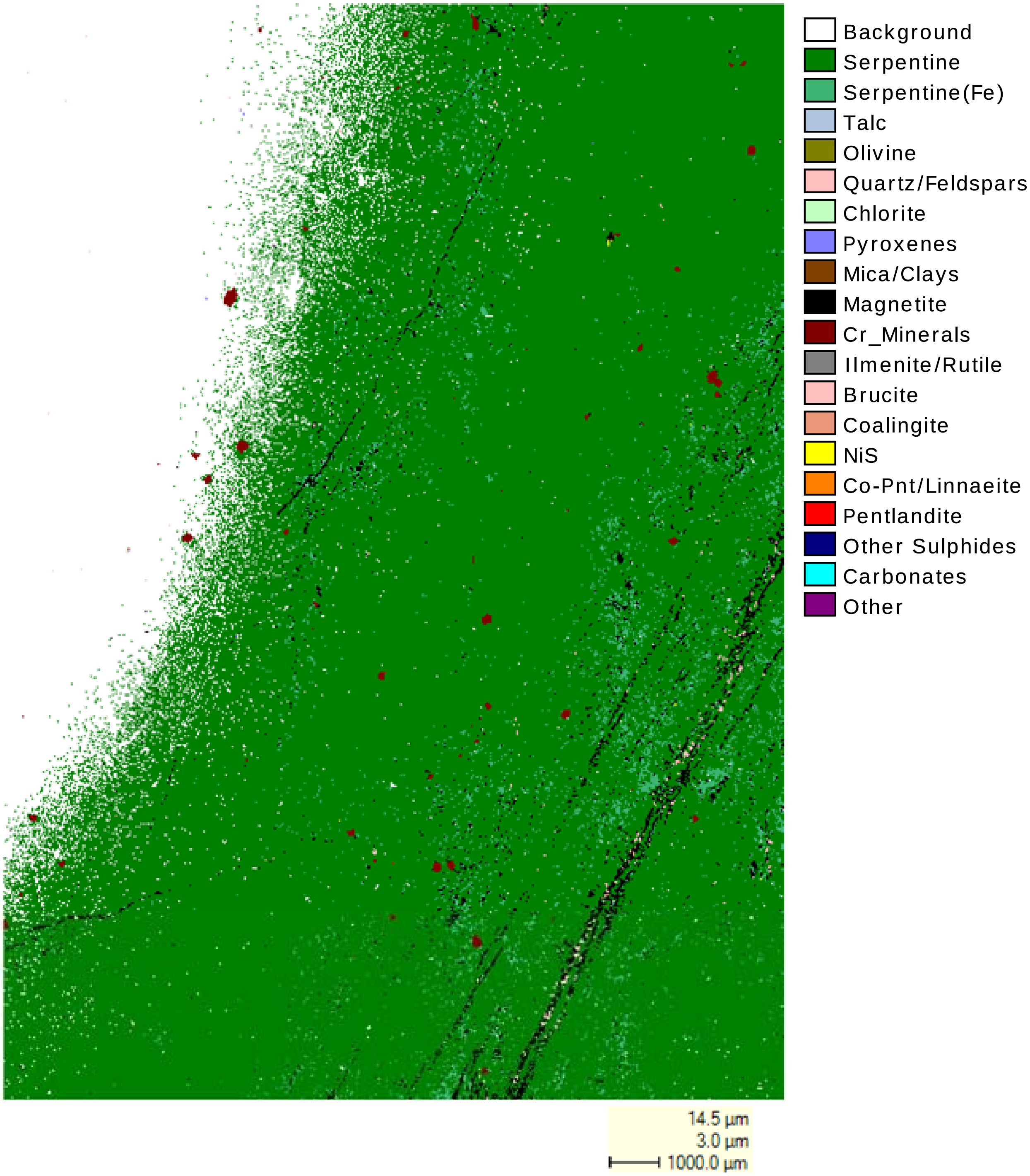


Figure 4: QEMSCAN Pseudo-Image of the "3-373"

4. Mineral Chemistry

Electron probe micro analyses (EPMA) were conducted on the Ni sulphides, serpentine and Fe-Cr-oxides to properly determine their composition. The work was conducted at McGill University. The results are shown in Table 3 and Table 4, and analytical conditions in Table 5 and Table 6.

The analyses include Co-bearing pentlandite (Co < 2.2 wt%), cobaltiferous pentlandite, haezlewoodite and polydymite. Note that the mineral names are very generic. Minerals names should be based on the apfu from the EMPA.

The NiO in serpentine ranges from 0.01 wt% to 0.42 wt% and averages 0.13 wt% (or 0.1 wt% Ni). The NiO wt% in magnetite averages 0.19 wt% (or 0.15 wt% Ni).

Table 3: EPMA from the Sulphides

Name	As	Cu	S	Fe	Zn	Ni	Co	Total
259-6351-Co-pentlandite	0.00	0.00	33.48	29.27	0.00	35.03	2.18	99.96
259-6351-Co-pentlandite	0.00	0.00	33.64	28.60	0.00	34.78	2.10	99.12
259-6351-Co-pentlandite	0.00	0.00	33.79	28.82	0.00	34.54	2.03	99.18
259-6351-Co-pentlandite	0.00	0.00	33.37	29.09	0.00	34.87	2.09	99.42
259-6351-Co-pentlandite	0.00	0.00	33.62	28.74	0.00	34.76	2.08	99.20
259-6351-Co-pentlandite	0.00	0.00	33.52	28.23	0.00	34.78	2.04	98.57
259-6351-Co-pentlandite	0.00	0.00	33.61	28.77	0.00	34.89	2.08	99.35
259-6351-Co-pentlandite	0.02	0.09	33.93	28.34	0.00	34.81	2.03	99.22
259-6351-Co-pentlandite	0.01	0.00	33.27	29.44	0.00	35.21	2.07	100.00
259-6351-Co-pentlandite	0.00	0.00	33.26	28.93	0.00	34.89	2.06	99.14
259-6351-Co-pentlandite	0.00	0.00	33.51	29.03	0.00	34.90	2.10	99.54
259-6352-Co-pentlandite	0.00	0.00	32.92	17.94	0.02	35.81	14.09	100.78
259-6352-Cobaltiferous pentlandite (Co>Fe)	0.00	0.00	33.14	11.99	0.00	30.58	23.24	98.95
259-6352-Cobaltiferous pentlandite (Co>Fe)	0.00	0.00	33.45	11.99	0.00	30.70	23.43	99.57
259-6352-Cobaltiferous pentlandite (Co>Fe)	0.00	0.00	30.99	14.92	0.00	29.72	24.93	100.56
259-6352-Cobaltiferous pentlandite (Co>Fe)	0.03	0.00	33.12	12.41	0.01	28.54	26.10	100.21
259-6352-Cobaltiferous pentlandite (Co>Fe)	0.00	0.00	33.71	11.93	0.00	31.23	21.98	98.85
259-6352-Cobaltiferous pentlandite (Co>Fe)	0.00	0.00	33.36	11.80	0.00	30.74	22.23	98.13
259-6352-Cobaltiferous pentlandite (Co>Fe)	0.00	0.00	32.68	11.81	0.00	30.08	20.98	95.55
259-6352-Cobaltiferous pentlandite (Co>Fe)	0.00	0.00	32.89	12.09	0.00	29.64	24.99	99.61
259-6353-Co-pentlandite	0.00	0.00	33.61	28.82	0.00	34.75	2.02	99.20
259-6352-Heazlewoodite	0.00	0.00	27.62	0.29	0.00	71.26	0.17	99.34
259-6352-Heazlewoodite	0.00	0.00	26.99	0.19	0.00	71.84	0.00	99.02
259-6353-Heazlewoodite	0.01	0.00	26.67	0.72	0.00	73.35	0.00	100.74
259-6353-Heazlewoodite	0.01	0.00	26.49	0.11	0.00	72.70	0.05	99.36
259-6353-Heazlewoodite	0.00	0.00	26.88	0.25	0.00	73.74	0.05	100.93
259-6353-Heazlewoodite	0.00	0.00	26.66	0.45	0.00	72.03	0.00	99.14
259-6351-Polydymite(with Fe and Co)	0.00	0.00	41.63	15.33	0.00	38.97	2.75	98.68

Table 4: EPMA from the Serpentine and Fe-oxides

Name	SiO_2	MgO	CaO	NiO	Al_2O_3	FeO	MnO	Total
259-6351-Serpentine	35.13	42.14	0.03	0.28	0.00	3.92	0.10	81.61
259-6351-Serpentine	39.40	39.43	0.04	0.01	0.08	2.19	0.14	81.28
259-6351-Serpentine	39.48	39.57	0.05	0.04	0.08	2.20	0.10	81.51
259-6351-Serpentine	37.95	40.91	0.03	0.28	0.03	3.34	0.08	82.62
259-6351-Serpentine	39.63	39.65	0.05	0.03	0.07	2.17	0.12	81.72
259-6351-Serpentine	34.27	42.57	0.04	0.27	0.03	3.57	0.11	80.85
259-6351-Serpentine	39.43	39.22	0.06	0.02	0.05	2.85	0.14	81.77
259-6351-Serpentine	38.78	39.96	0.04	0.27	0.02	3.19	0.07	82.34
259-6351-Serpentine	34.67	42.02	0.04	0.42	0.02	3.69	0.11	80.96
259-6352-Serpentine	42.48	35.05	0.21	0.16	0.17	7.38	0.78	86.23
259-6352-Serpentine	39.99	37.36	0.02	0.06	0.54	6.46	0.06	84.49
259-6352-Serpentine	39.76	35.23	0.09	0.14	0.71	8.05	0.08	84.06
259-6352-Serpentine	37.96	34.79	0.08	0.12	0.82	10.30	0.08	84.14
259-6352-Serpentine	38.66	36.29	0.06	0.24	0.30	9.01	0.06	84.62
259-6352-Serpentine	39.60	35.87	0.07	0.23	0.62	8.39	0.08	84.87
259-6352-Serpentine	37.93	35.79	0.04	0.08	0.78	9.29	0.07	83.98
259-6352-Serpentine	37.93	35.13	0.05	0.07	0.80	10.25	0.08	84.31
259-6352-Serpentine	39.76	35.51	0.07	0.05	0.93	8.25	0.09	84.67
259-6352-Serpentine	39.45	37.42	0.03	0.06	0.31	6.01	0.06	83.33
259-6353-Serpentine	40.67	40.41	0.04	0.09	0.05	1.36	0.05	82.66
259-6353-Serpentine	40.24	39.90	0.04	0.08	0.06	1.57	0.07	81.95
259-6353-Serpentine	39.91	39.87	0.04	0.08	0.08	1.48	0.06	81.52
259-6353-Serpentine	39.75	39.92	0.03	0.11	0.05	1.48	0.07	81.42
259-6353-Serpentine	40.05	40.01	0.02	0.08	0.07	1.63	0.06	81.91
259-6353-Serpentine	40.02	40.19	0.03	0.09	0.07	1.48	0.06	81.93
259-6353-Serpentine	40.51	40.35	0.04	0.07	0.08	1.80	0.07	82.92
259-6353-Serpentine	39.93	40.10	0.03	0.12	0.06	1.80	0.07	82.11
259-6353-Serpentine	40.64	40.38	0.05	0.12	0.04	1.34	0.05	82.61
259-6353-Serpentine	40.89	40.60	0.04	0.10	0.06	1.38	0.05	83.11
Min	34.27	34.79	0.02	0.01	0.00	1.34	0.05	80.85
Max	42.48	42.57	0.21	0.42	0.93	10.30	0.78	86.23
Ave	39.13	38.82	0.05	0.13	0.24	4.34	0.10	82.81

Name	SiO_2	MgO	CaO	NiO	Al_2O_3	FeO	MnO	Total
259-6353-Magnetite	0.29	0.27	0.00	0.25	0.00	93.14	0.06	94.00
259-6353-Magnetite	1.12	1.58	0.01	0.04	0.02	90.84	0.07	93.67
259-6353-Magnetite	0.86	0.83	0.01	0.09	0.04	91.91	0.03	93.78
259-6353-Magnetite	0.03	0.88	0.02	0.30	0.01	91.55	0.07	92.85
259-6353-Magnetite	0.05	0.83	0.00	0.29	0.00	91.98	0.07	93.22
Min	0.03	0.27	0.00	0.04	0.00	90.84	0.03	92.85
Max	1.12	1.58	0.02	0.30	0.04	93.14	0.07	94.00
Ave	0.47	0.88	0.01	0.19	0.01	91.88	0.06	93.50

Table 5: Analytical Conditions for Sulphides

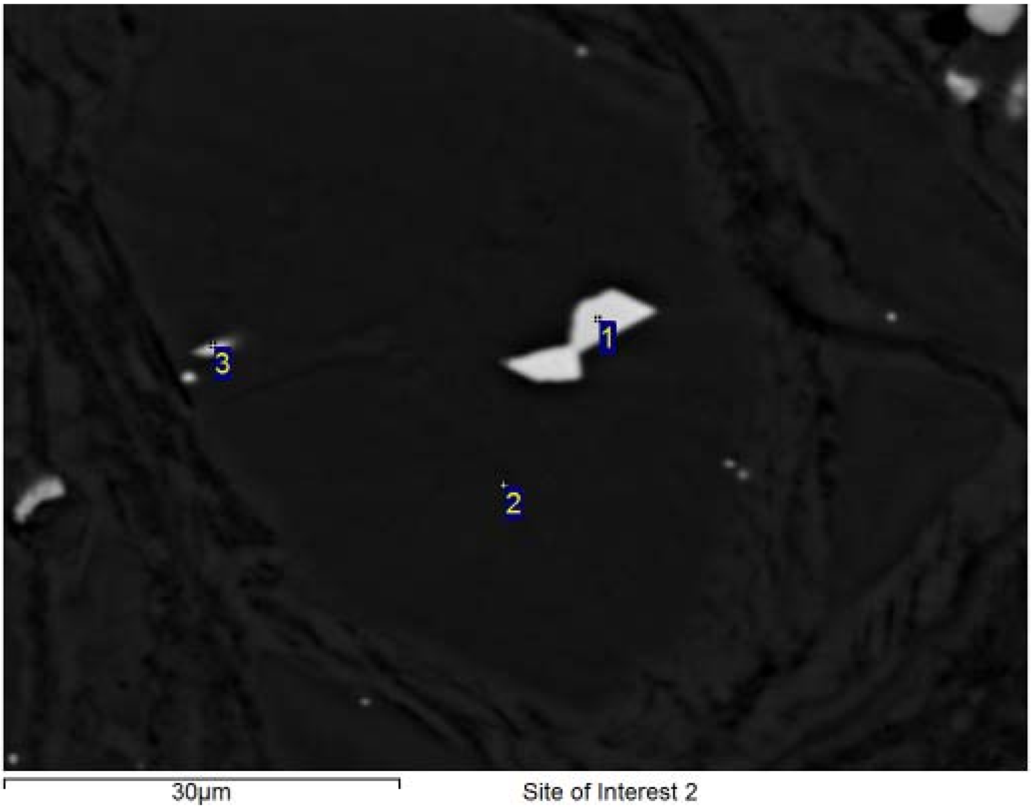
			Analytical Conditions				
Name	JXA JEOL-8900L						
Acc. Voltage	20 kV						
Beam Current	30 nA						
Beam Size	3 um						
Correction Method	PRZ						
Counting Time (seconds)	As	Cu	S	Fe	Zn	Ni	Co
	20	20	20	20	20	20	20
Standards	AsCoNi	Chalcopyrite	Pentlandite	Pentlandite	Sphalertite	Pentlandite	AsCoNi
Detecion Limits (wt%)							
Godlevskite	0.0529	0.0443	0.0194	0.0197	0.0516	0.0273	0.0299
Heazlewoodite	0.0498	0.0462	0.0203	0.0199	0.0532	0.0294	0.0311
Polydymite	0.0535	0.0441	0.0198	0.0189	0.0510	0.0272	0.0289
X-ray Line	Lb	Ka	Ka	Ka	Ka	Ka	Ka
Crystal	TAP	LiF	PET	LiF	LIF	LiF	LiF
Corrections	Ni-->Cu	Fe-->Co	Co-->Ni				

Table 6: Analytical Conditions for Serpentine and Fe-Oxides

			Analytical Conditions				
Name	JXA JEOL-8900L						
Acc. Voltage	20 kV						
Beam Current	30 nA						
Beam Size	10 um						
Correction Method	ZAF						
Counting Time (seconds)	SiO2	MgO	CaO	NiO	Al2O3	FeO	MnO
	20	20	20	20	20	20	20
Standards							
	Kyanite	Diopside	Diopside	NiO	Orthoclase	Hematite	Spessartine
X-ray line	Ka	Ka	Ka	Ka	Ka	Ka	Ka
Creystal	TAP	TAP	PET	LiF	TAP	LiF	LiF
Detecion Limits (wt%)							
Serpentine	0.0546	0.0378	0.0224	0.0249	0.0319	0.0223	0.0223
Magnetite	0.0629	0.0355	0.0336	0.0354	0.0399	0.0343	0.0332

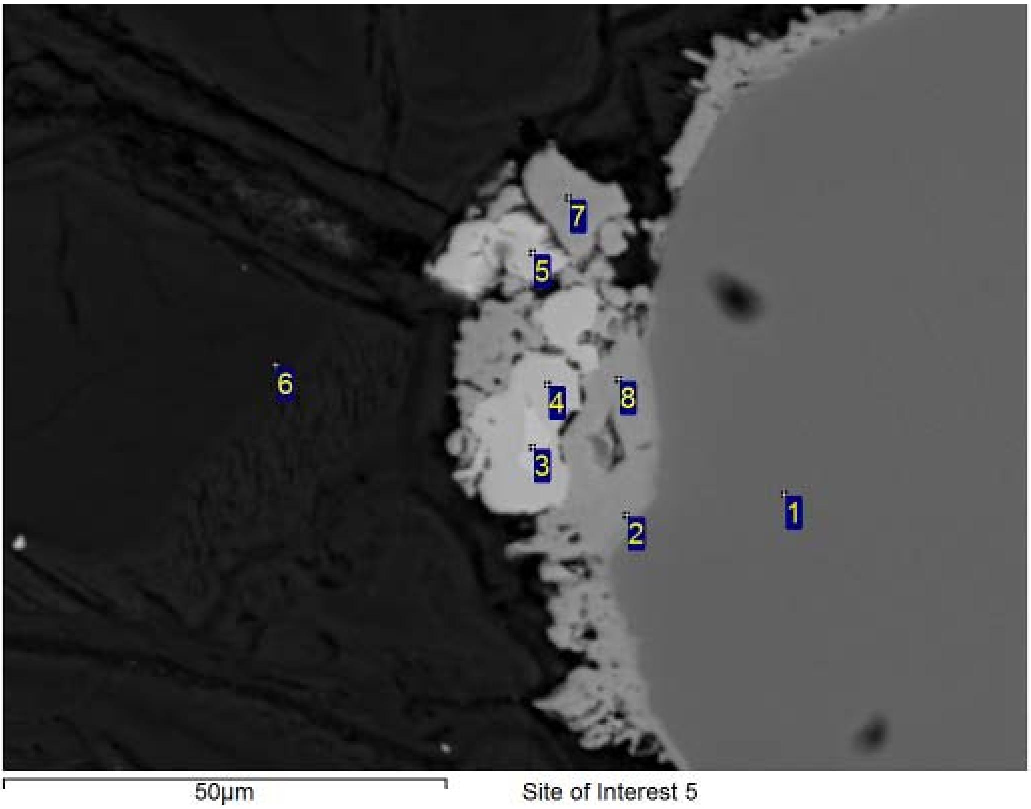
4.1. SEM Images and Data for the Samples

A Tescan scanning electron microscope (EDS) equipped with energy dispersive X-ray spectrometer (EDS) was used to acquire back-scattered electron images (BSE) and semi-quantitative data of the PGM, gold and host minerals. Note that the analyses are standardless and thus semi-quantitative. Representative images are shown in Figure 5 to Figure 7. Additional images are given in Appendix A.



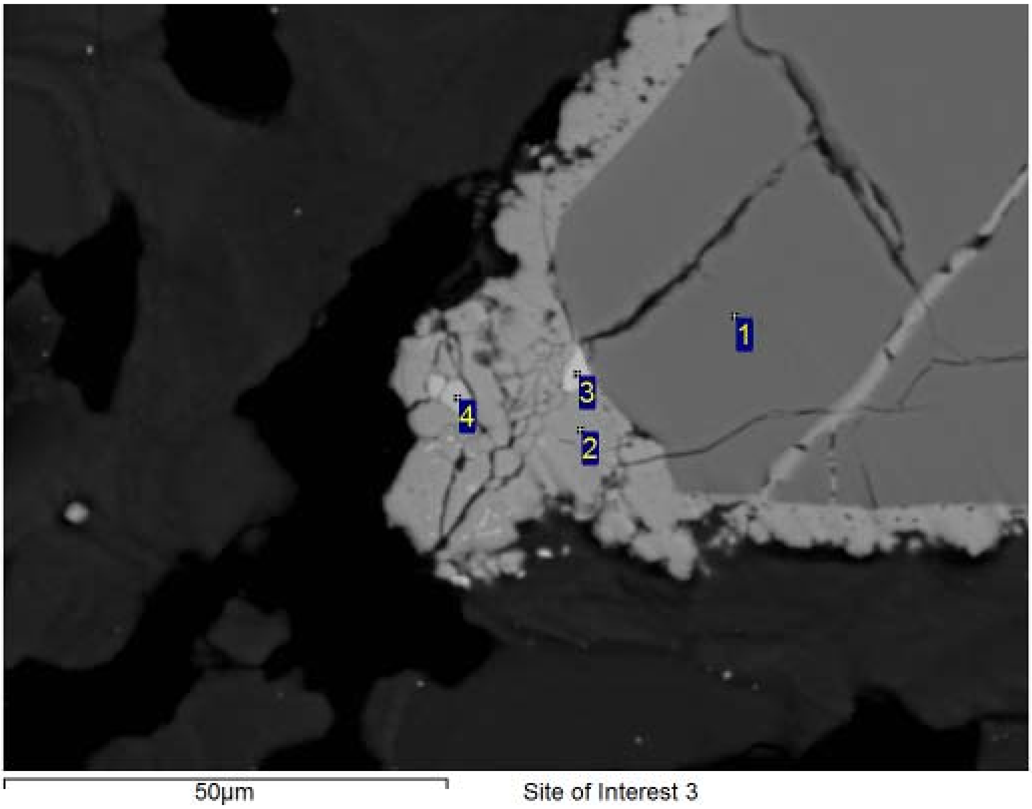
Spectrum	O	Mg	Si	S	Fe	Co	Ni	Total	Mineral ID
1				28.6	0.9		70.5	100.0	Millerite
2	50.0	26.4	22.2		1.5			100.0	Serpentine
3	28.4	14.9	8.9	16.9	1.6	0.7	28.6	100.0	Millerite

Figure 5: BSE Image and Analyses from Sample “259-6353”



Spectrum	O	Mg	Al	Si	S	Cr	Fe	Co	Ni	Total	Mineral ID
1	29.8	6.3	10.5			32.6	20.8			100.0	Cr-(Fe-Al-Mg)-Ox
2	26.1	0.8				2.8	69.7		0.7	100.0	Fe-Oxide
3					29.6		3.4	11.2	55.8	100.0	Co-Millerite?
4					33.8	0.5	3.1	48.9	13.6	100.0	Linnaeite
5					34.4		2.2	50.5	12.8	100.0	Linnaeite
6	50.7	26.2		21.2			1.9			100.0	Serpentine
7	26.4					0.3	73.3			100.0	Fe-Oxide
8	26.8					1.1	72.2			100.0	Fe-Oxide

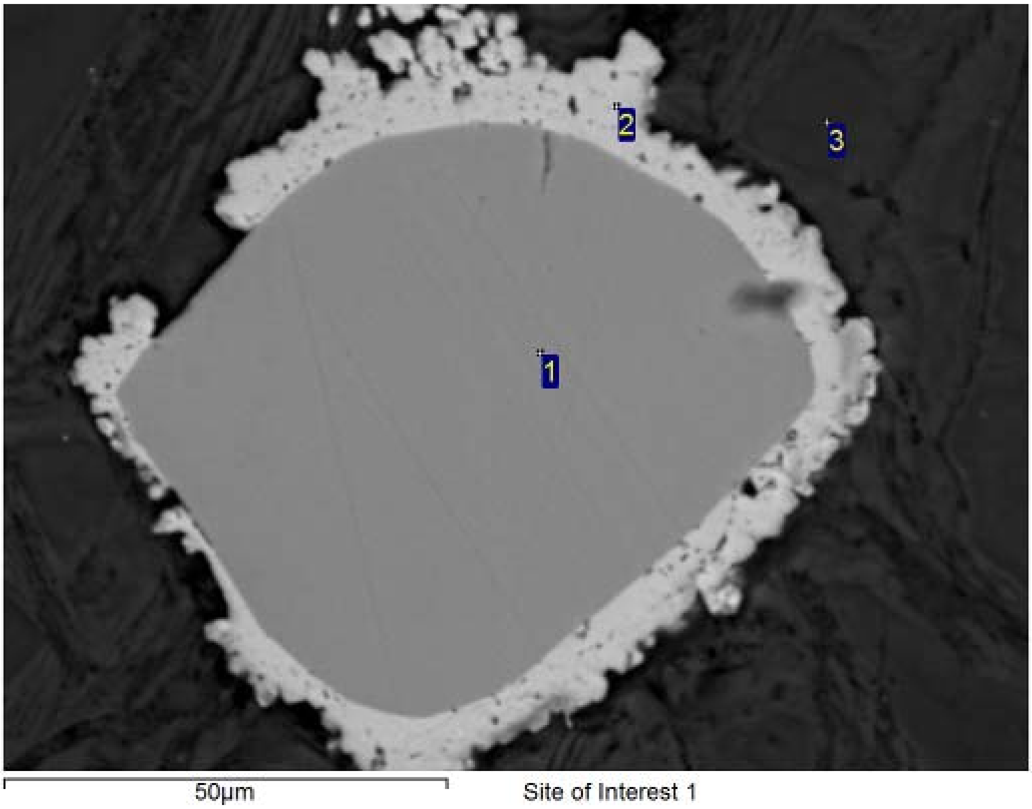
Figure 6: BSE Image and Analyses from Sample “259-6353”



Spectrum	O	Mg	Al	S	Cr	Fe	Co	Ni	Total	Mineral ID
1	31.0	6.3	11.1		31.2	20.4			100.0	Cr-(Fe-Al-Mg)-Ox
2	24.2				0.6	75.1			100.0	Fe-Oxide
3				27.8	0.7	4.3		67.3	100.0	Millerite
4				33.5		19.5	15.6	31.4	100.0	Co-pentlandite

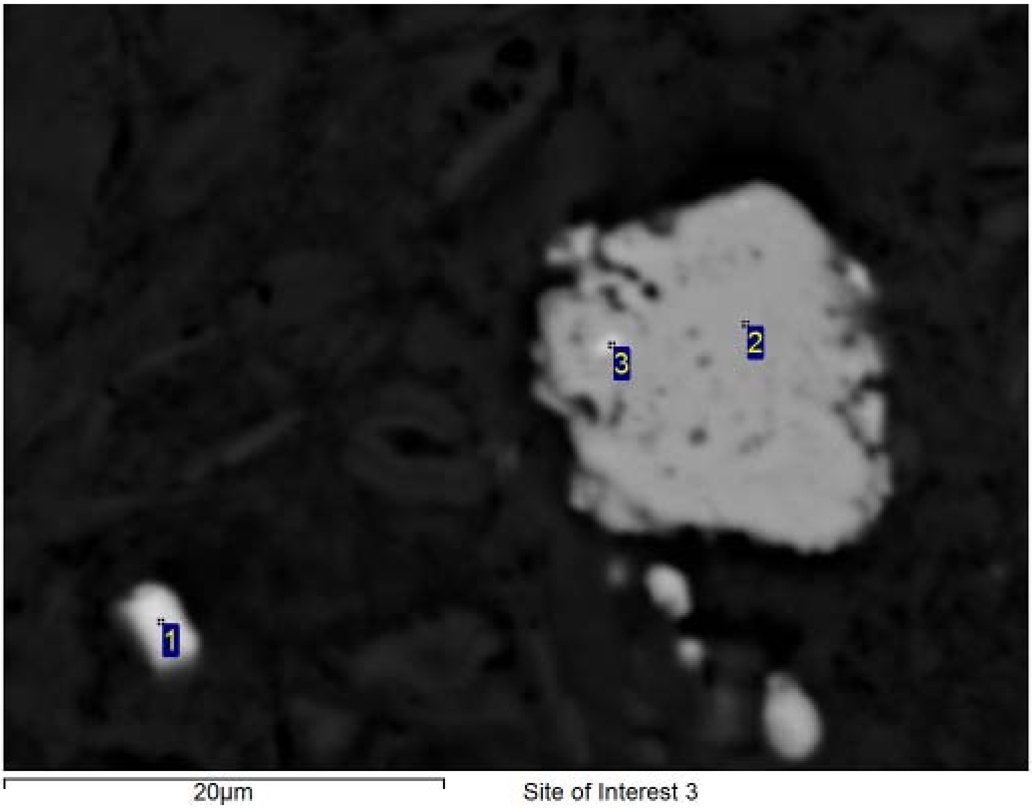
Figure 7: BSE Image and Analyses from Sample “3-373”

Appendix A – SEM-EDS Data



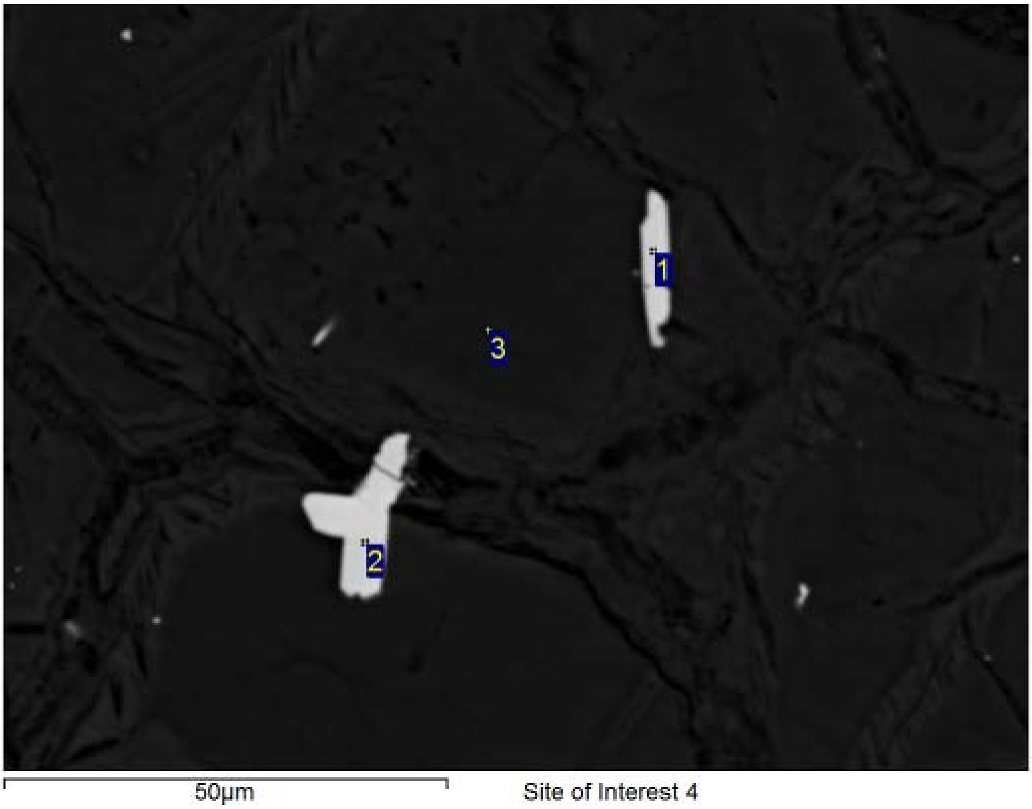
Spectrum	O	Mg	Al	Si	Cr	Fe	Total	Mineral ID
1	30.0	6.1	10.1		33.1	20.7	100.0	Cr-(Fe-Al-Mg)-Ox
2	25.0			0.4	0.6	74.0	100.0	Fe-Oxide
3	50.1	25.8		21.5		2.7	100.0	Serpentine

Figure 8: BSE Image and Analyses from Sample "259-6353"



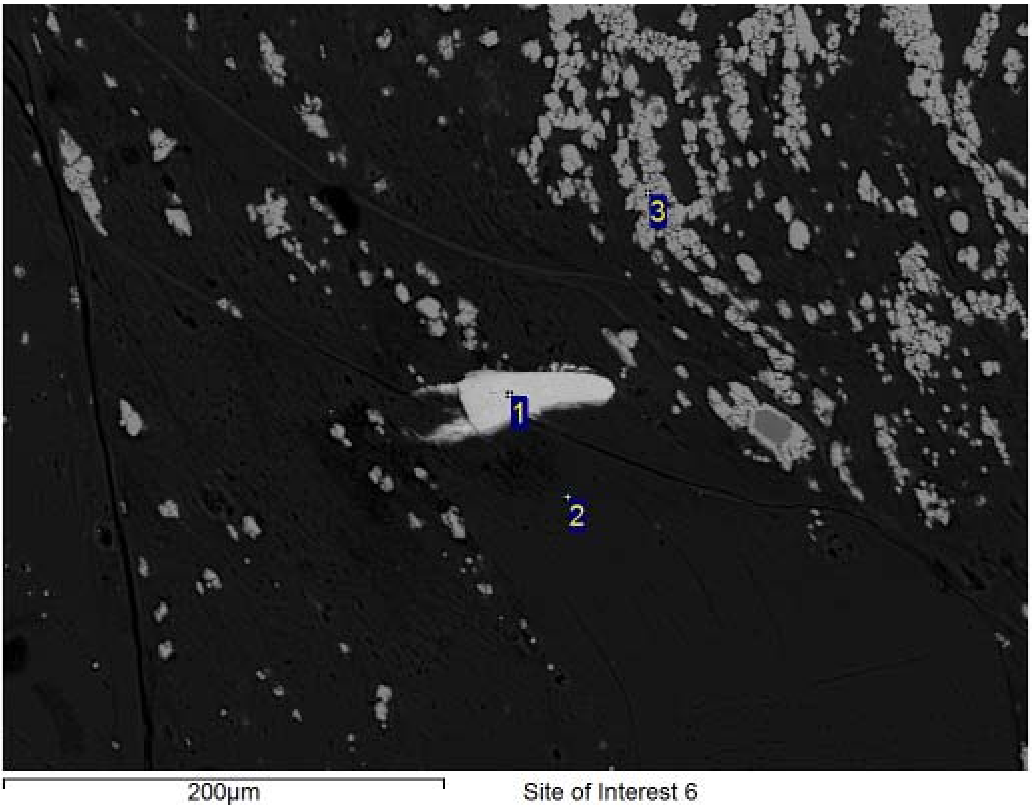
Spectrum	O	Mg	Si	S	Fe	Co	Ni	Total	Mineral ID
1	3.3	1.5	0.8	34.6	2.6	1.3	56.0	100.0	Millerite
2	24.3				75.7			100.0	Fe-Oxide
3	14.9			16.7	24.1		44.2	100.0	Pentlandite

Figure 9: BSE Image and Analyses from Sample "259-6353"



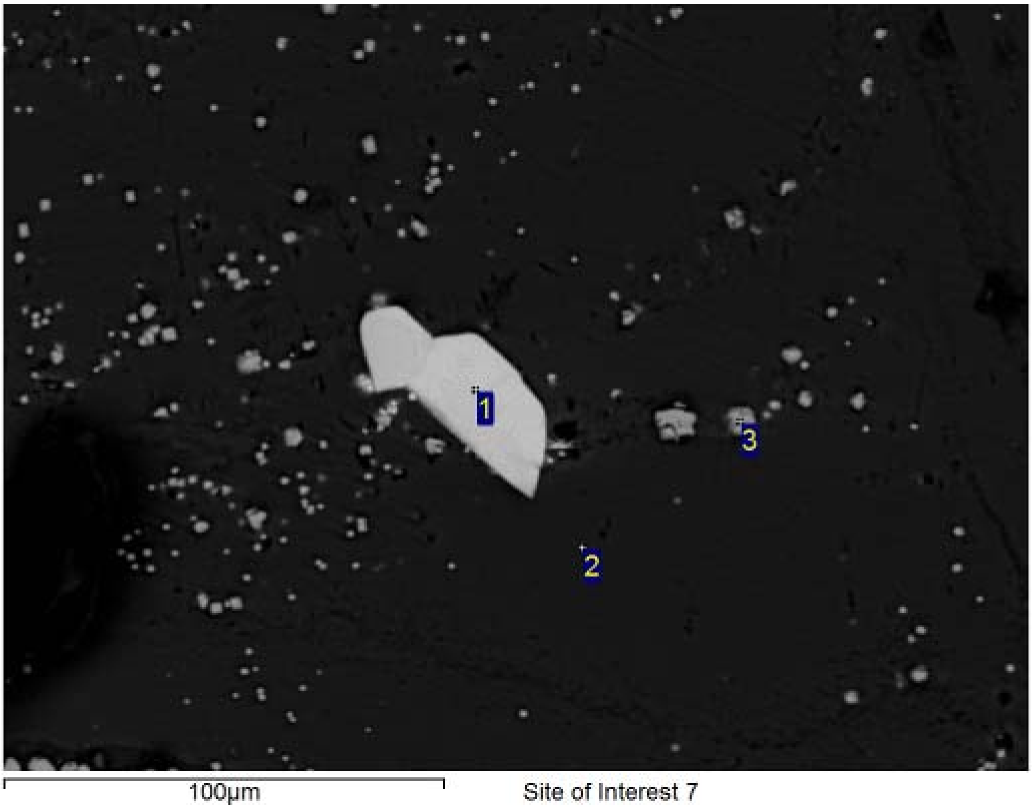
Spectrum	O	Mg	Si	S	Fe	Ni	Total	Mineral ID
1	4.6	3.8	1.7	25.5	0.6	63.7	100.0	Millerite
2				28.1	0.7	71.3	100.0	Millerite
3	49.1	26.9	22.2		1.8		100.0	Serpentine

Figure 10: BSE Image and Analyses from Sample “259-6353”



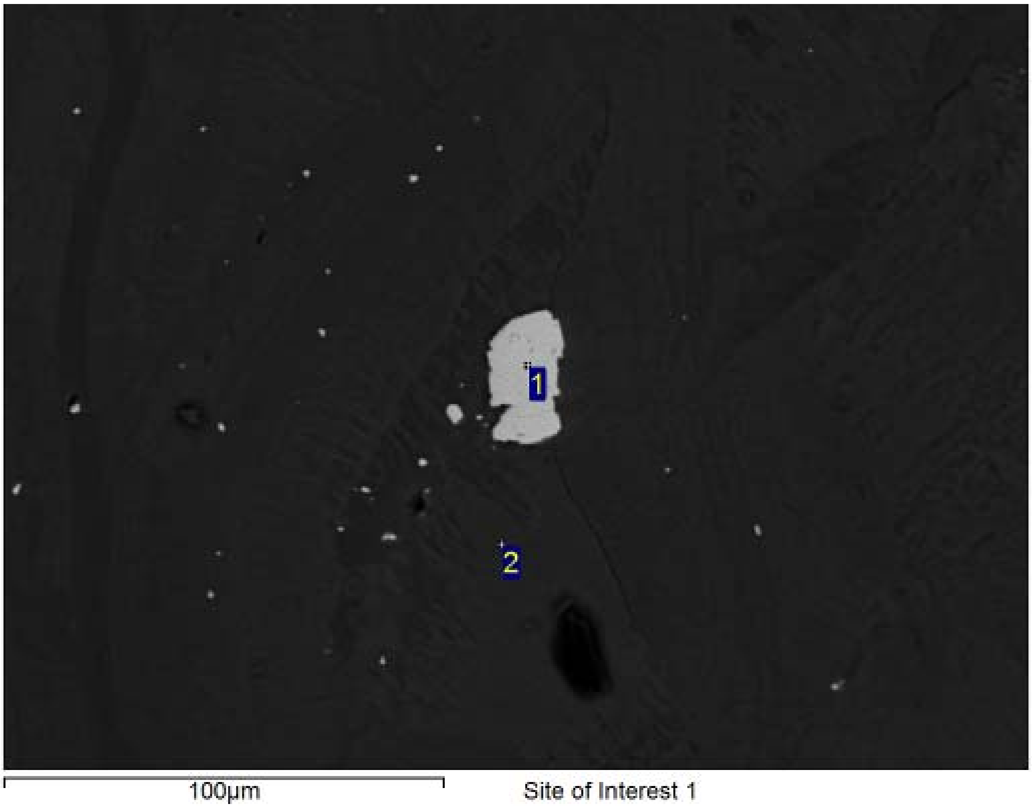
Spectrum	O	Mg	Si	S	Fe	Ni	Total	Mineral ID
1				34.1	0.8	65.1	100.0	Millerite
2	48.1	27.5	23.1		1.4		100.0	Serpentine
3	24.7				75.3		100.0	Fe-Oxide

Figure 11: BSE Image and Analyses from Sample "259-6353"



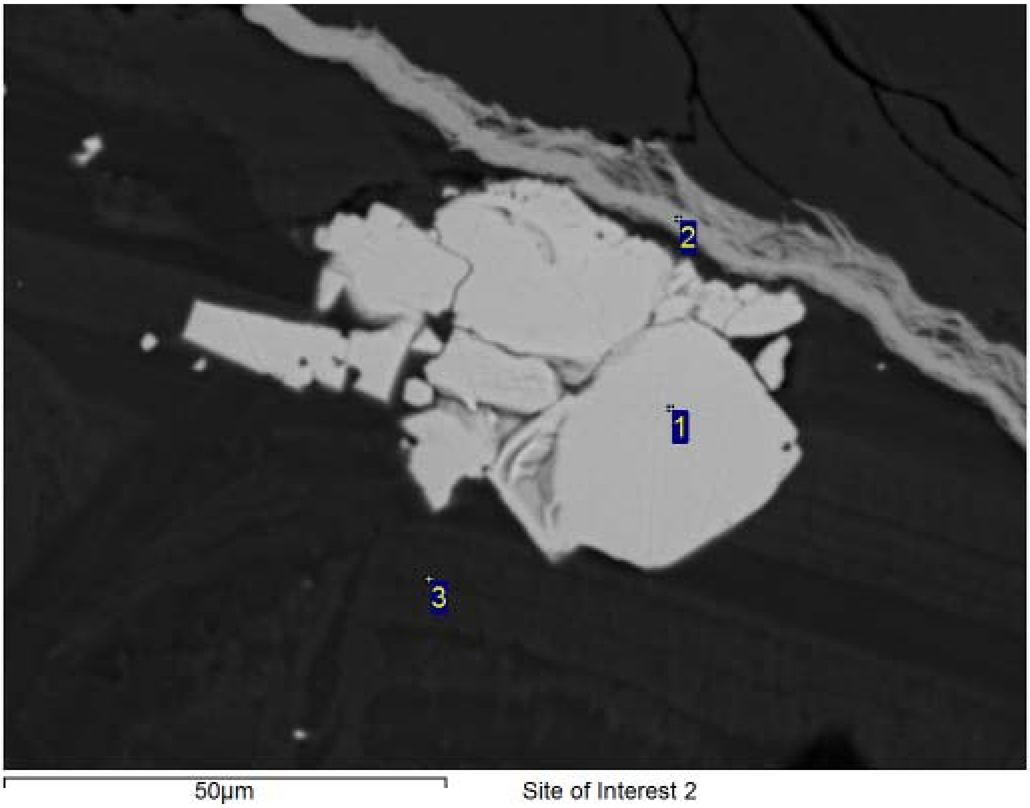
Spectrum	O	Mg	Al	Si	S	Fe	Ni	Total	Mineral ID
1			3.2		32.2	0.6	64.0	100.0	Millerite (NiS)
2	47.7	26.8	1.0	22.7		1.9		100.0	Serpentine
3	27.6	0.8	2.2	0.5		68.9		100.0	Fe-Oxide

Figure 12: BSE Image and Analyses from Sample "259-6353"



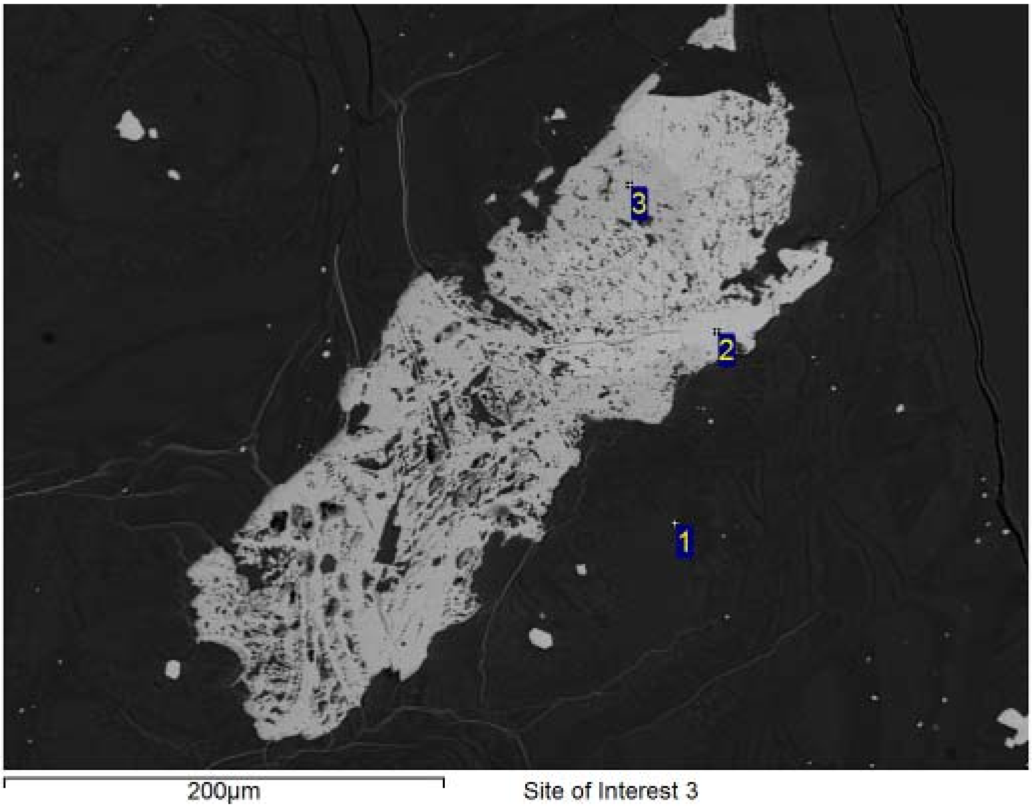
Spectrum	O	Mg	Si	S	Fe	Co	Ni	Total	Mineral ID
1				34.7	29.2	2.1	34.0	100.0	Co-Pentlandite
2	48.2	23.2	21.3		7.3			100.0	Serpentine

Figure 13: BSE Image and Analyses from Sample "259-6351"



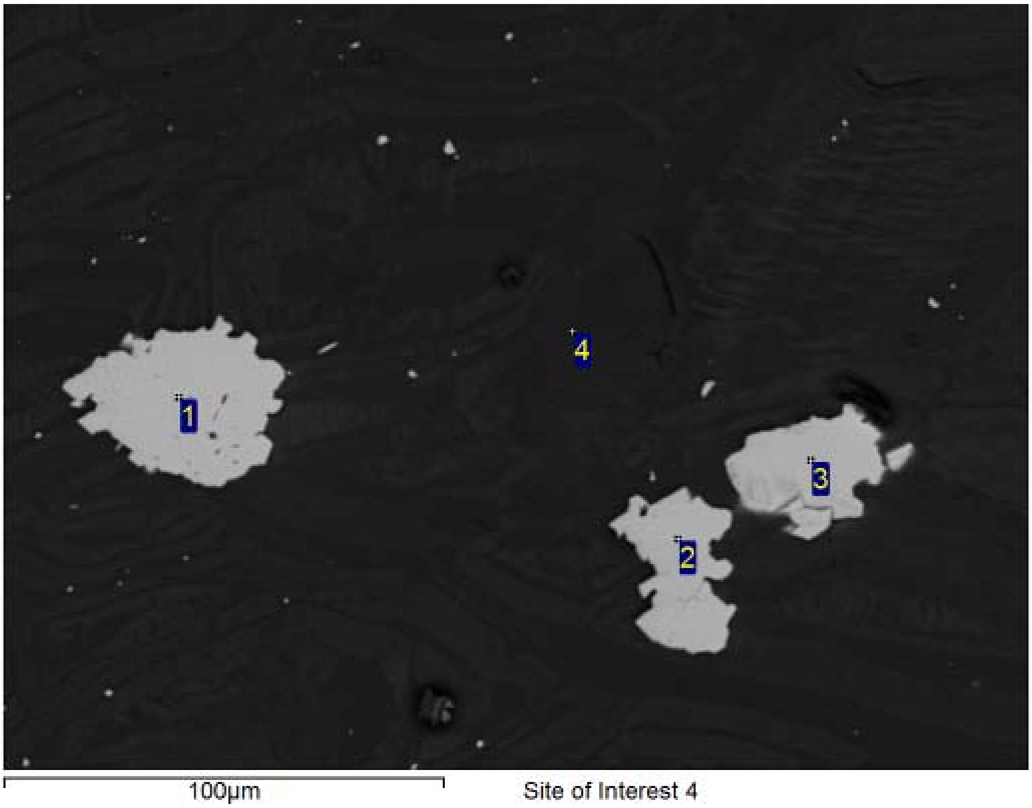
Spectrum	O	Mg	Si	S	Fe	Co	Ni	Total	Mineral ID
1				33.9	28.6	2.5	34.9	100.0	Co-Pentlandite
2		0.7	1.0	53.3	43.1		1.9	100.0	Fe-Sulphide
3	48.4	23.7	20.7		7.3			100.0	Serpentine

Figure 14: BSE Image and Analyses from Sample “259-6351”



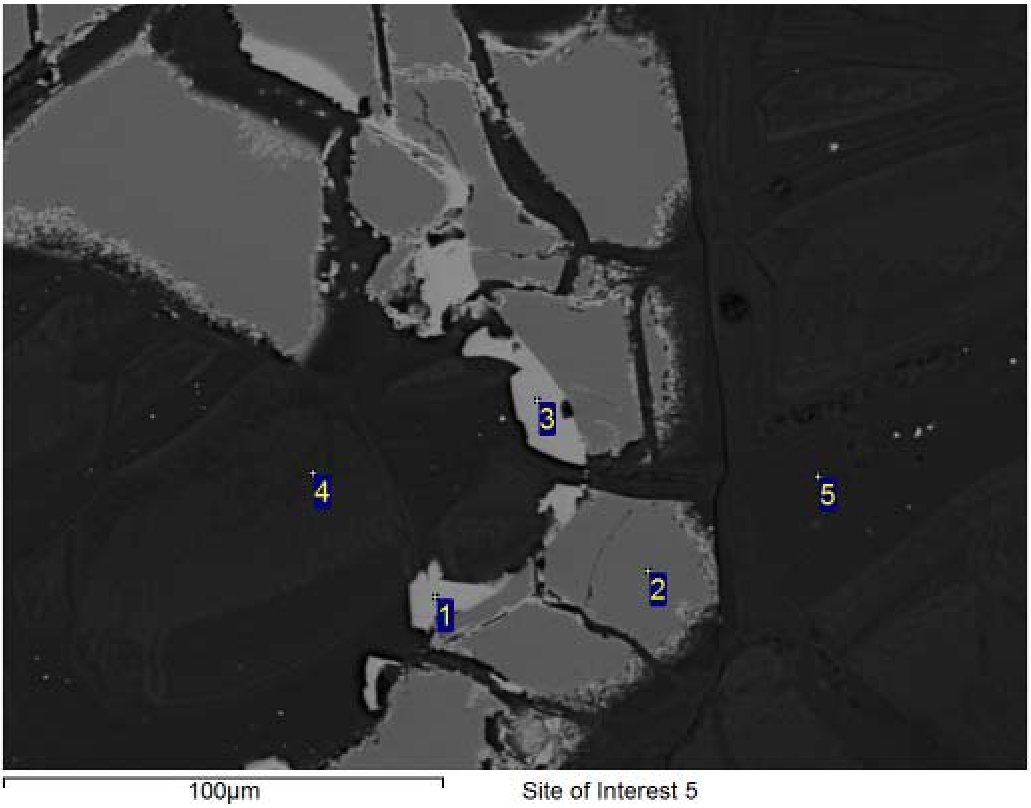
Spectrum	O	Mg	Si	S	Fe	Co	Ni	Total	Mineral ID
1	47.6	23.1	21.0		8.3			100.0	Serpentine
2				34.5	28.5	2.0	34.9	100.0	Co-pentlandite
3		0.7	0.6	40.1	57.2		1.4	100.0	Fe-sulphide

Figure 15: BSE Image and Analyses from Sample "259-6351"



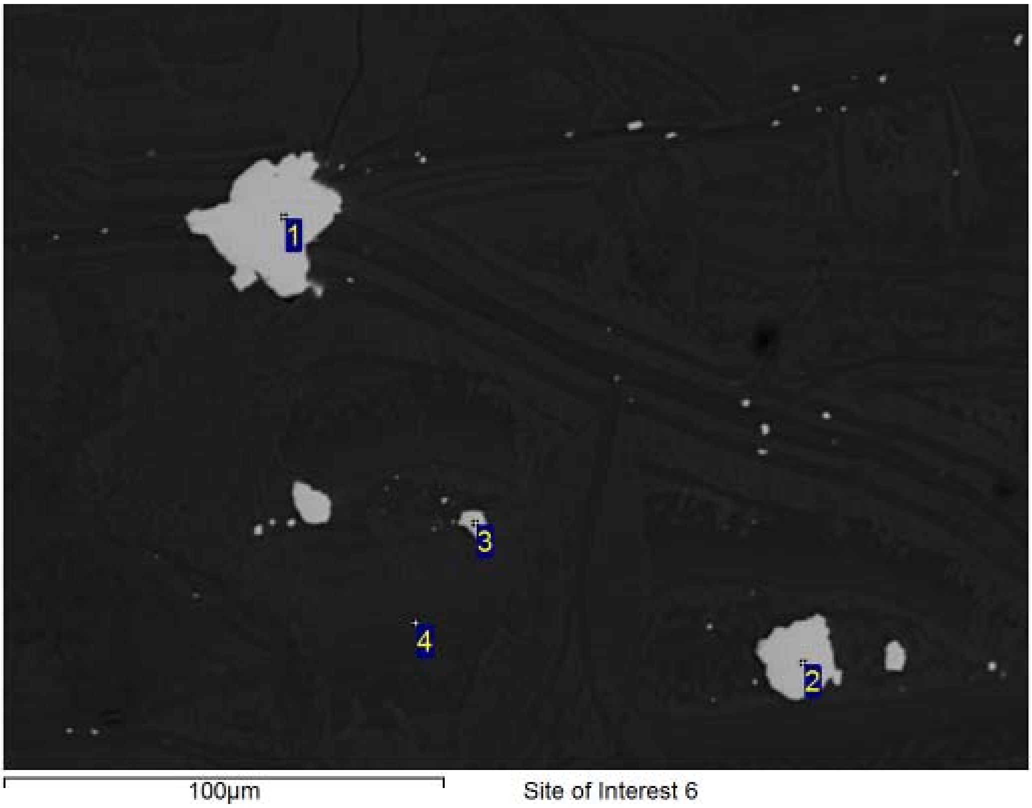
Spectrum	O	Mg	Si	S	Fe	Co	Ni	Total	Mineral ID
1				34.3	29.2	2.3	34.2	100.0	Co-pentlandite
2				34.3	29.4	2.0	34.3	100.0	Co-pentlandite
3				33.8	29.5	2.6	34.1	100.0	Co-pentlandite
4	48.5	23.5	22.5		5.5			100.0	Serpentine

Figure 16: BSE Image and Analyses from Sample "259-6351"



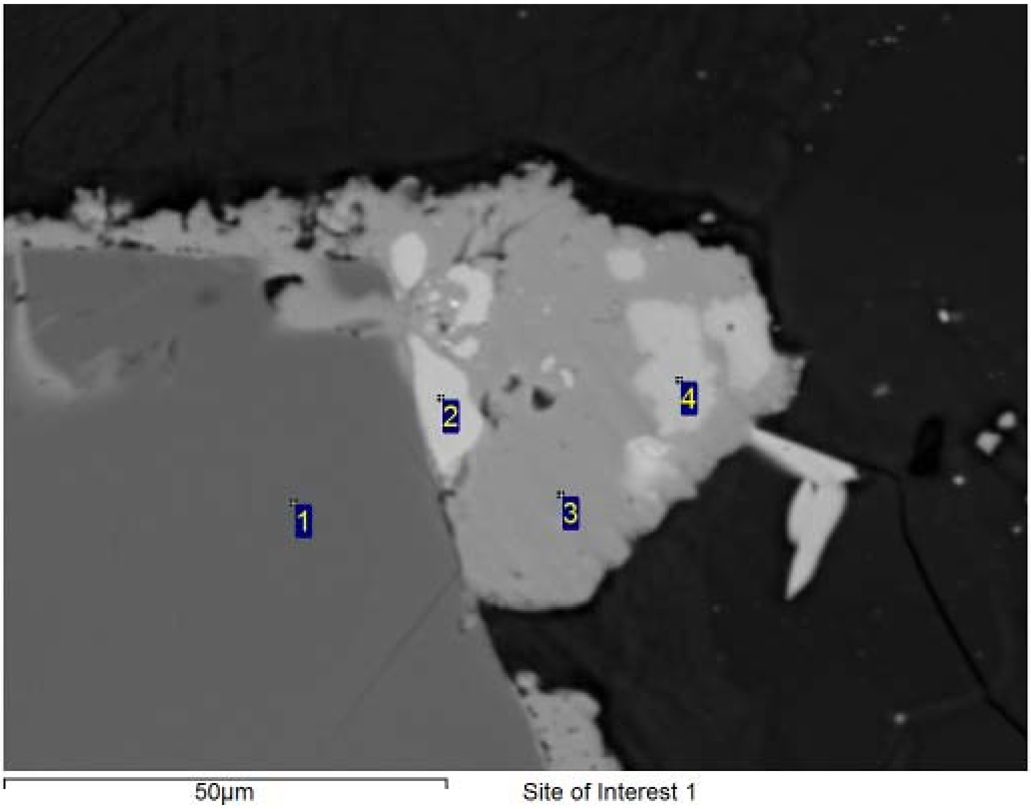
Spectrum	O	Mg	Al	Si	Cr	Fe	Total	Mineral ID
1	24.8			0.4	1.2	73.5	100.0	Fe-(Cr)-Oxide
2	31.1	7.6	13.6		32.2	15.4	100.0	Cr-(Fe-Al-Mg)-Oxide
3	24.2			0.4	0.9	74.6	100.0	Fe-(Cr)-Oxide
4	47.3	23.7		21.7		7.3	100.0	Serpentine
5	48.2	23.3		22.9	0.7	4.9	100.0	Serpentine

Figure 17: BSE Image and Analyses from Sample “259-6351”



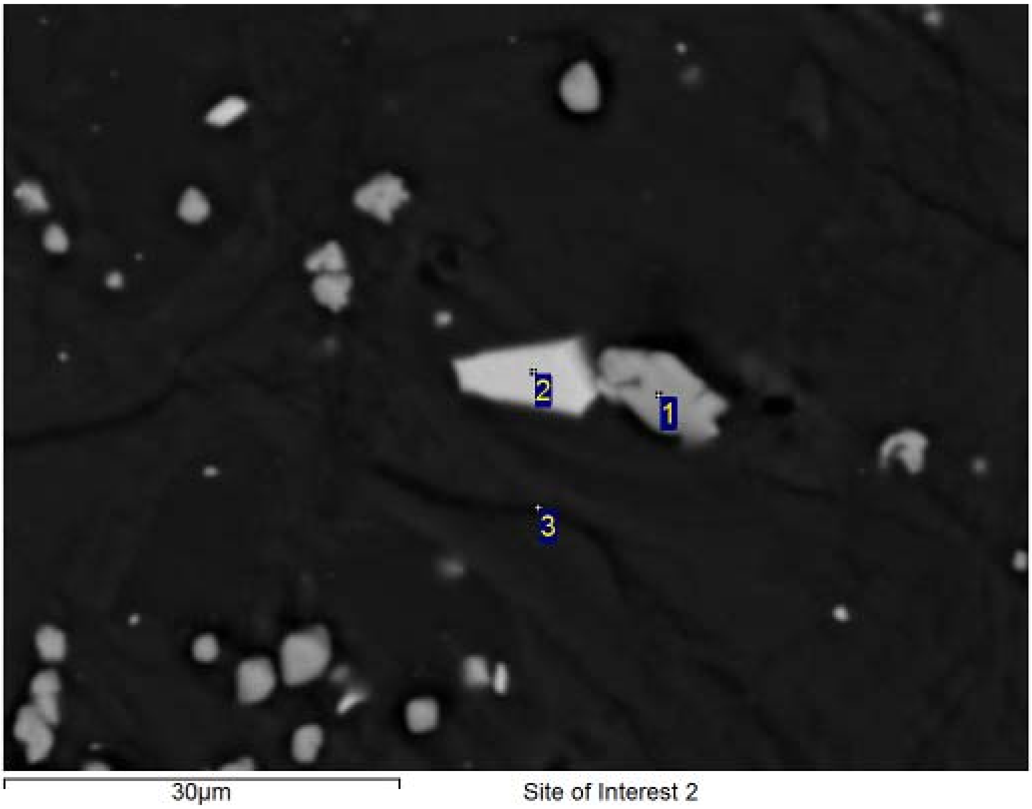
Spectrum	O	Mg	Si	S	Fe	Co	Ni	Total	Mineral ID
1				34.6	29.6	2.2	33.6	100.0	Co-pentlandite
2				34.2	29.4	2.1	34.2	100.0	Co-pentlandite
3		0.6	0.5	34.7	28.3	2.2	33.7	100.0	Co-pentlandite
4	48.3	23.0	22.4		6.3			100.0	Serpentine

Figure 18: BSE Image and Analyses from Sample "259-6351"



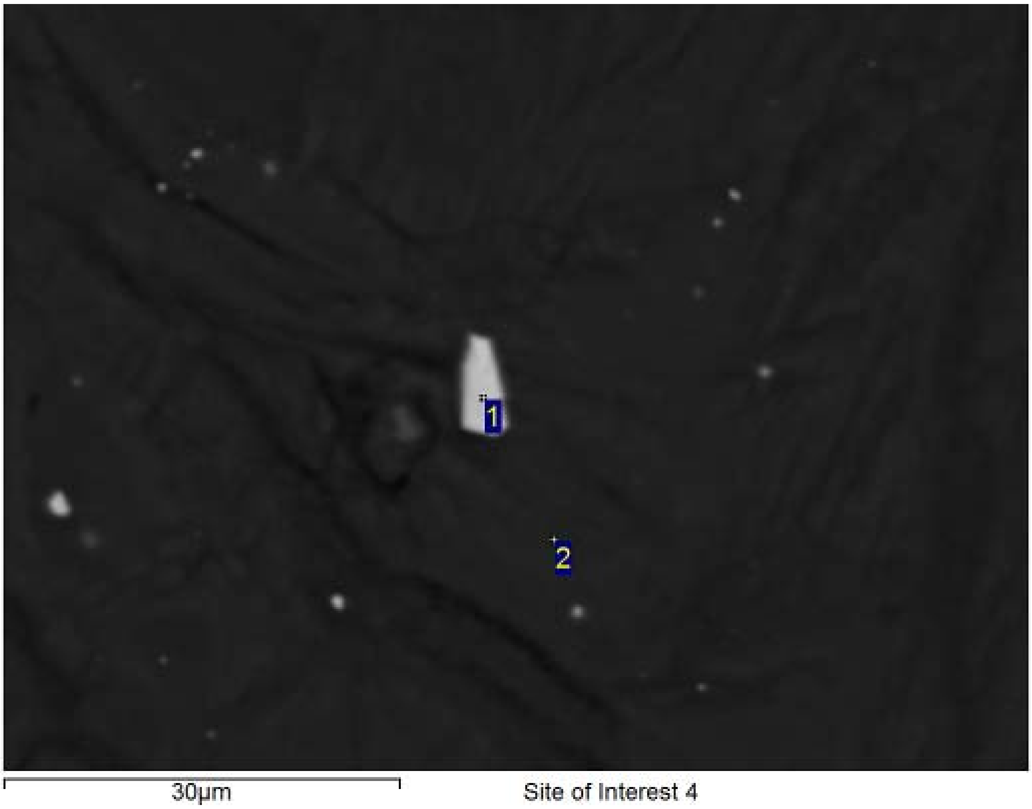
Spectrum	O	Mg	Al	S	Ti	Cr	Fe	Co	Ni	Total	Mineral ID
1	31.9	6.7	11.9		0.4	27.7	21.4			100.0	Cr-(Fe-Al-Mg)-Ox
2				27.3		0.7	3.5		68.5	100.0	Millerite
3	23.3					0.5	76.3			100.0	Fe-Oxide
4				32.8			14.6	22.5	30.1	100.0	Co-pentlandite

Figure 19: BSE Image and Analyses from Sample "3-373"



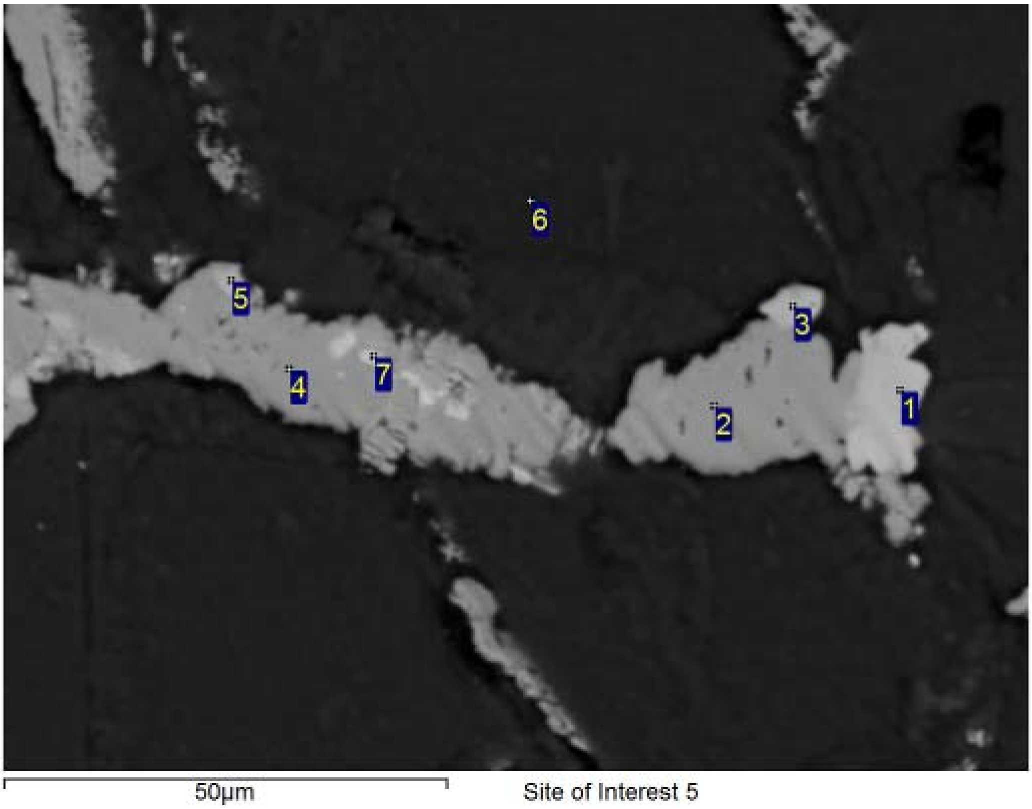
Spectrum	O	Mg	Si	S	Fe	Ni	Total	Mineral ID
1	24.7				75.3		100.0	Fe-Oxide
2				28.2	1.5	70.3	100.0	Millerite
3	47.2	28.5	21.3		3.0		100.0	Serpentine

Figure 20: BSE Image and Analyses from Sample "3-373"



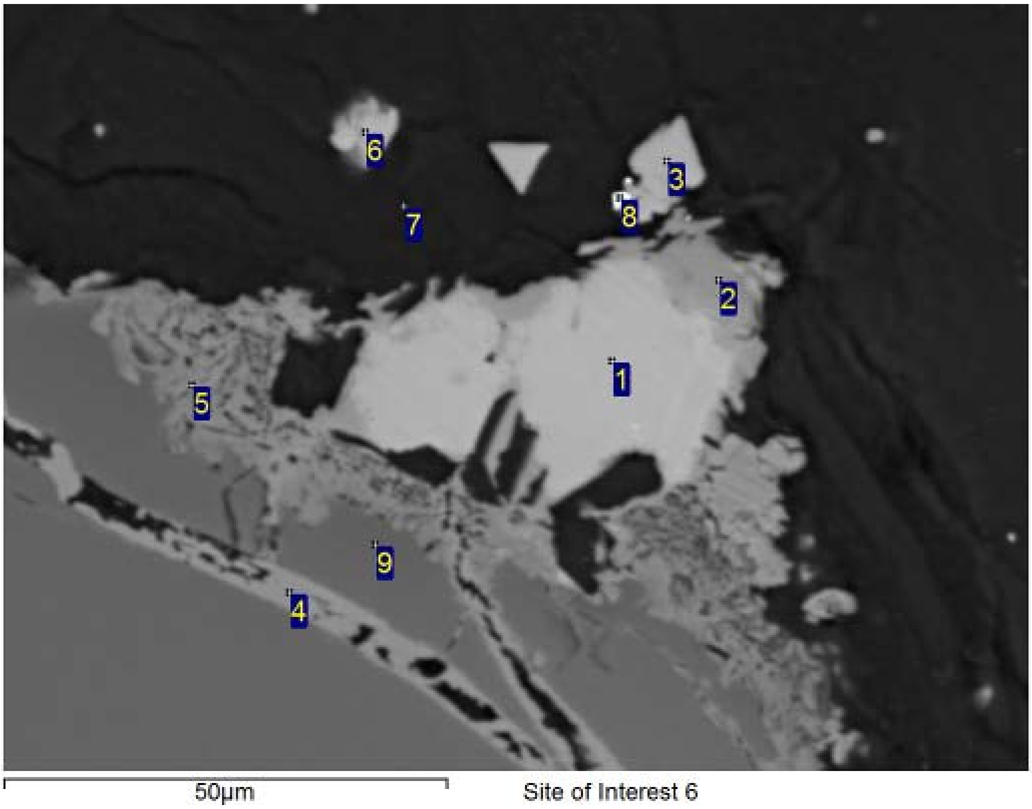
Spectrum	O	Mg	Si	S	Fe	Ni	Total	Mineral ID
1				29.2	0.6	70.2	100.0	Heazlewoodite
2	49.4	26.4	20.9		3.2		100.0	Serpentine

Figure 21: BSE Image and Analyses from Sample “3-373”



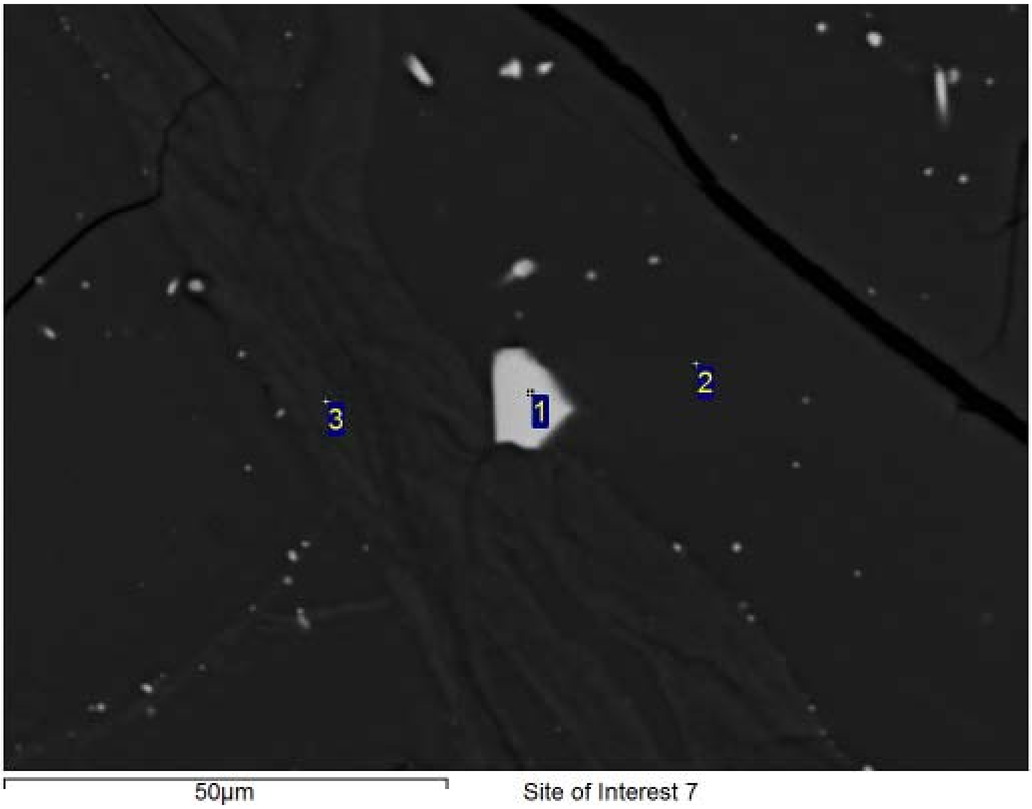
Spectrum	O	Mg	Si	S	Cr	Fe	Co	Ni	Total	Mineral ID
1				33.2		13.3	22.5	30.9	100.0	Co-pentlandite
2	24.7					75.3			100.0	Fe-Oxide
3				35.7		13.0	22.1	29.3	100.0	Co-pentlandite
4	25.2					74.8			100.0	Fe-Oxide
5				35.2		15.0	21.5	28.2	100.0	Co-pentlandite
6	49.7	26.8	21.6		0.4	1.5			100.0	Serpentine
7	4.5			24.2		8.7		62.6	100.0	Millerite

Figure 22: BSE Image and Analyses from Sample "3-373"



Spectrum	O	Mg	Al	Si	S	Ti	Cr	Fe	Co	Ni	Pd	Hg	Total	Mineral ID
1			0.7		34.0			12.8	22.8	29.7			100.0	Co-pentlandite
2	25.3	0.4	1.4					72.9					100.0	Fe-Oxide
3			1.4		34.5			12.7	21.2	30.2			100.0	Co-pentlandite
4	25.4		0.9				3.1	70.6					100.0	Fe-Oxide
5	28.5	1.9	3.0	0.4		0.4	23.2	42.6					100.0	Cr-(Fe-Al-Mg)-Ox
6					36.3			12.8	21.1	29.8			100.0	Co-pentlandite
7	50.7	29.7		15.8				3.8					100.0	Serpentine
8	15.9	2.8	0.4	1.6				1.1			27.2	51.0	100.0	Potarite (PdHg)
9	33.2	7.0	13.9			0.3	25.7	19.9					100.0	Cr-(Fe-Al-Mg)-Ox

Figure 23: BSE Image and Analyses from Sample "3-373"



Spectrum	O	Mg	Si	S	K	Fe	Ni	Total	Mineral ID
1				28.7		0.5	70.8	100.0	Heazlewoodite
2	50.0	26.4	21.5			2.1		100.0	Serpentine
3	48.4	27.3	20.9		0.2	3.1		100.0	Serpentine

Figure 24: BSE Image and Analyses from Sample "3-373"

Appendix B – QEMSCAN Modes of Operation

QEMSCAN Operational Modes

QEMSCAN is an acronym for Quantitative Evaluation of Materials by Scanning Electron Microscopy, a system which differs from image analysis systems in that it is configured to measure mineralogical variability based on chemistry at the micrometer-scale. QEMSCAN utilizes both the back-scattered electron (BSE) signal intensity as well as an Energy Dispersive X-ray Signal (EDS) at each measurement point. It thus makes no simplifications or assumptions of homogeneity based on the BSE intensity, as many mineral phases show BSE overlap. EDS signals are used to assign mineral identities to each measurement point by comparing the EDS spectrum against a mineral species identification program (SIP) or database.

There are three general types of measurement: those using the linear intercept and those based on particle mapping. Bulk mineral analysis (BMA) is performed using the linear intercept method, and is used to provide statistically abundant data for speciation and mineral distribution. Particle mapping modes, including Particle Mineral Analysis (PMA), Specific Mineral Search (SMS) analysis and Trace Mineral Search (TMS) analysis provide information on spatial relationships of minerals, including liberation and association data and provide a visual representation of mineral textures. The particle mapping modes of measurement also allow for advanced analysis of the minerals of interest, including grade vs. recovery relationships and mineral release curves. Specific details of the measurement modes are presented below, while visual examples of these two measurement classes are presented in Figures 1 and 2. The Field Stitch (FS) mode of measurement maps a core sample that has been mounted in the polished section. It collects a chemical spectrum at a set interval within the field of view. Each field of view is then processed offline and a pseudo image of the core sample is produced. This is presented in Figure 3.

Bulk Mineral Analysis, or BMA, is performed by the linear intercept method, in which the electron beam is rastered at a pre-defined point spacing (nominally 3 micrometers, but variable with particle size) along several lines per field, and covering the entire polished section at any given magnification. An example of a BMA measurement image is shown in Figure 1. This measurement provides a robust data set for determination of the bulk mineralogy, with mineral identities and proportions, along with grain size measurements.

Particle Mineral Analysis (PMA) is a two-dimensional mapping analysis aimed at resolving liberation and locking characteristics of a generic set of particles. A pre-defined number of particles are mapped at a point spacing selected in order to spatially resolve and describe mineral textures and associations. This mode is often selected to characterize concentrate products, as both gangue and value minerals report in statistically abundant quantities to be resolved.

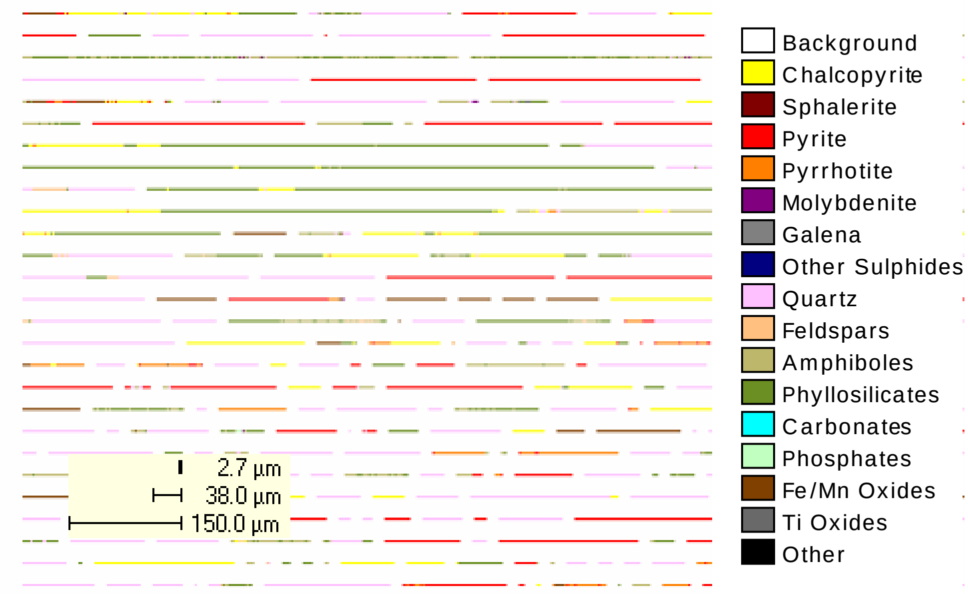


Figure 1. BMA Measurement Mode

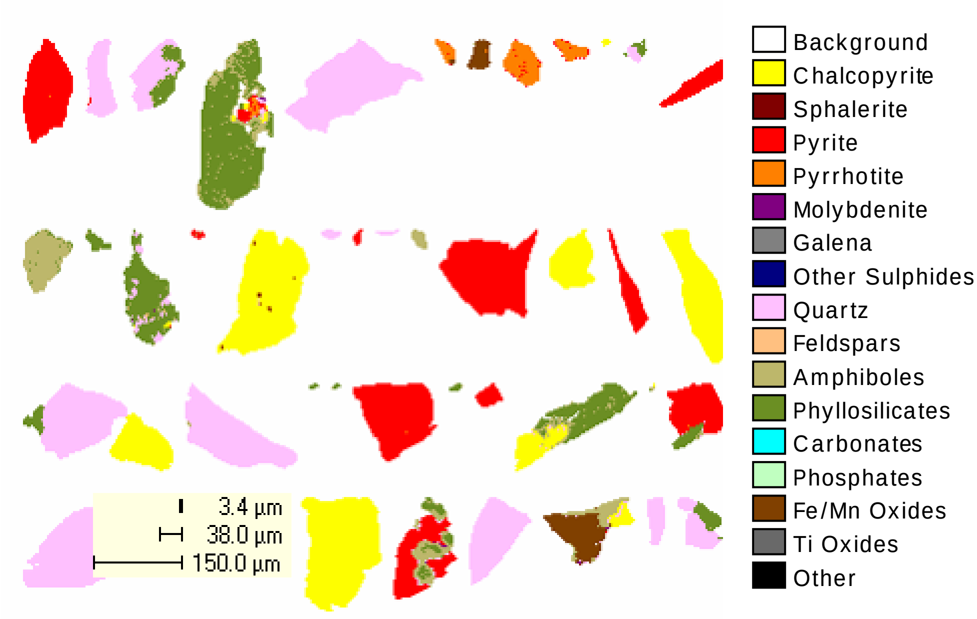


Figure 2. Particle Mapping (PMA, SMS or TMS) Measurement Mode

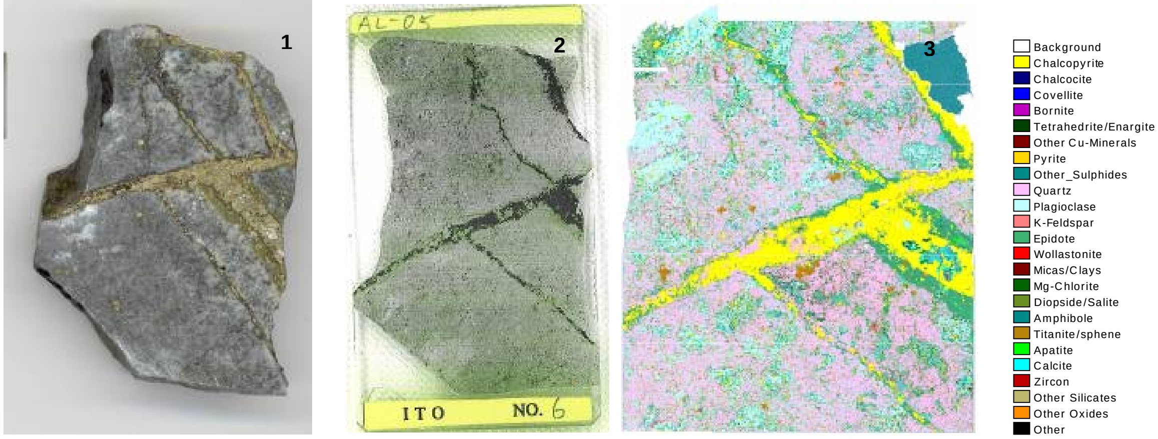


Figure 3. Field Stitch Mode of Measurement Mode; **Image 1:** Selected Core Sample. **Image 2:** Polished Section. **Image 3:** QEMSCAN Pseudo Image of the Polished Section with Legend/Mineral List.

Specific Mineral Search, or SMS, is a modified Particle Mineral Analysis (PMA) routine. However, in an SMS routine, a phase reports as a low-grade constituent and can be located by thresholding of the back-scattered electron intensity. Any accompanying phases of similar and higher brightness are also mapped. For example, this mode of measurement would be selected in ores of low sulphide grade, searching specifically for particles containing sulphide minerals.

Trace Mineral Search (TMS) is an additional mapping routine, where a phase reports as a trace constituent and can be located by thresholding of the back-scattered electron intensity. The objective of this routine is to reject barren fields and increase analysis efficiency. The outputs are otherwise identical to the SMS routine. This mode of measurement is often used for advanced studies of PGE ore types, or trace minerals of interest such as molybdenite.

It is important to note that with regards to SMS and TMS modes, results pertain only to the target minerals. PMA must be selected if quantitative gangue characterization is required. For example, in some sulphide ores, it may be more efficient to reject barren pyrites in favour of copper-bearing minerals. However, it must be noted that data captured in this manner will not reflect the true characteristics of pyrite, as only the pyrite associated with the copper-bearing minerals will be represented.

The Field Stitch (FS) mode of measurement maps a core sample that has been mounted in the polished section. It collects a chemical spectrum at a set interval within the field of view. Each field of view is then processed offline and a pseudo image of the core sample is produced.