Report

on the



# Porphyry Project

Omineca Region, British Columbia
Latitude 53° 21' N., Longitude 124° 37' W.
NTS map sheet 93F/7E

by

James W. McLeod, P. Geo.

on behalf of

Jacqueline A. McLeod
and
Omega Exploration Services Inc.



March 27, 2012
Savona, British Columbia

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## Appendix

## Illustrations

## Summary

During the period June 2 - Nov. 30, 2011 exploration work was carried-out over portions of the Porphyry property. The area is situated in the Omineca Region in central British Columbia. The project area is located about 125 km. by good all weather, paved and mainly gravel road south of the Town of Vanderhoof, B.C. The exploration work described herein includes rock exposure mapping and sampling, H+ ion concentration from pH vs aqna regia soluble Ca, a magnetometer survey and a diamond core drill hole. The fieldwork conducted over portions of the property that are underlain by igneous rock and layered volcanic-(sedimentary) units have in places been affected by a quartz stockwork system that expresses itself at the adjacent Chu molybdenum-copper property. The current work area is seen to host porphyry copper-gold-zinc style mineralization is situated in the central part of the Porphyry #1 mineral claim. The emphasis of exploration work in this area has been on a younger, relatively large zone of mirco-porphyritic, alkalic intrusives or volcanics and especially on the contact between these and the igneous-volcanic rock units. Since 1970 much intermittent fieldwork has been carried-out on this zone especially as related to porphyry copper-gold-zinc exploration.

The Porphyry property appears underlain in part by a sequence of interlayered, metamorphosed volcano-sedimentary rocks that have in places been more strongly altered to a very hard, siliceous hornfels. The south central portion of the property is underlain by an intrusive unit, as a biotite-hornblende-feldspar granodiorite porphyry which is seen in places to have undergone various degrees and types of rock alteration. The altered rock may be described as the "ghosting" of the mafic minerals, biotite-hornblende and the partial potassium replacement of the plagioclase lathes.

The Porphyry property area has revealed some interesting MMI - ionic leach results and has undergone two phases of historical diamond core drill testing for copper, gold and zinc by Placer Dome in 1992 and Orvana Resources during 1995-98 (see History section and the Assessment Reports in References).


OMEGA EXPLORATION SERVICES INC.

PORPHYRY AREA

## LOCATION MAP

N.T.S. 93F-7,8 KLUSKUS-OOTSA AREA,B.C.

0 150 300 450 KM.

| | |
|---|---|
| SCALE : 1:7,500,000 | DATE : FEB. 2012 |
| DRAWN BY.: J. M. | FIGURE Nº. 1 |

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## Introduction

The current fieldwork program was conducted by and under the supervision of the author during the period June 2 to Nov. 30, 2011 that consists of geological mapping, sampling 3 rock exposures and one core sample, soil geochemistry by treating material, obtained from a 25 sample soil survey conducted in 2010, for H+ ion concentration vs aqua regia soluble Ca% and a magnetometer survey about the core drill hole area (see Figure 4 and 4a ).

The work program was conducted on behalf of J.A. McLeod and Omega Exploration Services Inc. of Savona, British Columbia.

## Location and Access

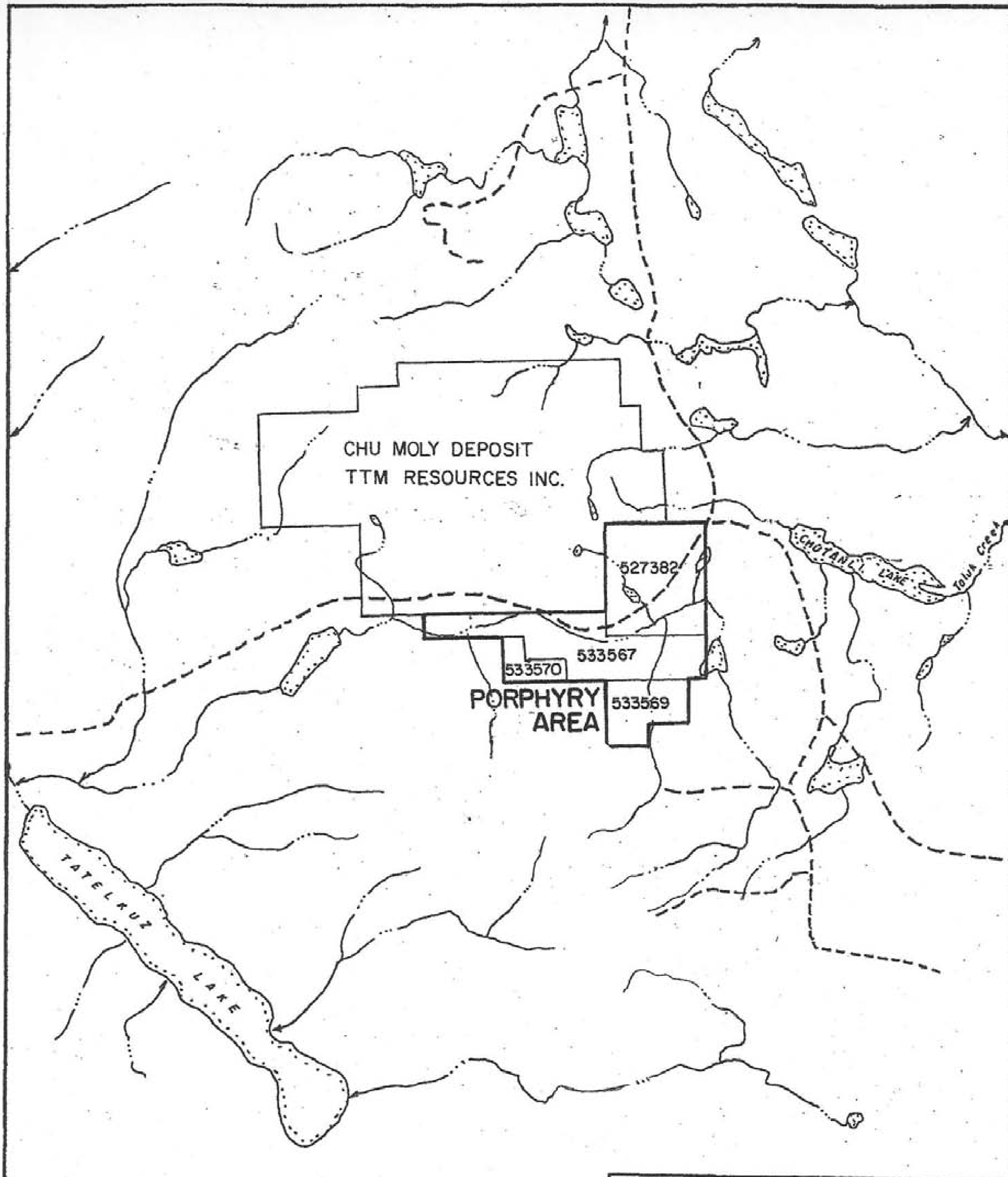
The property may be located on NTS map sheet, 93F/7E at approximately latitude 53° 21' north and longitude 124° 37' west. It is situated approximately 80 air-kilometres south of the Town of Vanderhoof, B.C., at the southeast end of the Nechako Range. The property lies within the Omineca Region, British Columbia.

Access to the property is gained by traveling approximately 25 km. southwest of the Town of Vanderhoof, B.C. on the Kenney Dam road and then southerly for about 100 km. on the Kluskus-Ootsa road. This major logging, haul-road can be described as a wide, good all weather, gravel surfaced access road.

Just southwest of the cutoff to Chutanli Lake at 98.5 km., the Kluskus-Ootsa road branches off to the west. At 98.5 km. on the Kluskus-Ootsa road it enters the northeast corner of the Porphyry #1 mineral claim and diagonally traverses it and leaves it in the southwest corner (see Figure 2). A number of other gravel roads traverse much of the claim area.

## Topographical and Physical Environment

The property lies within the Intermontane (physiographic) belt of the Interior Plateau. This regional area lies between the Coast Mountains on the west and the Columbia Mountains on the east. More particularly they are found to occur in the transition zone on the south end of what is called the Nechako Range between the northwesterly trending Nechako and Fraser




LEGEND

Logging road

Creek, lake

OMEGA EXPLORATION SERVICES INC.

PORPHYRY AREA

CLAIM MAP

N.T.S. 93F-7, 8 KLUSKUS-OOTSA AREA, B.C.

0 2 4 6 KM.

| | |
|---|---|
| SCALE: 1:100,000 | DATE: FEB. 2012 |
| DRAWN BY.: J. M. | FIGURE Nº. 2 |

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plateaux. The claim area is extensively fluvial-glacial overburden covered, rounded, mountainous terrain and the general area reflects many glacial effects, in particular many drumlin (moraine) features. The claim area ranges in elevation from approximately 1,050 metres (3,450') to 1,340 metres (4,400') mean sea level. The area is conifer covered with lodgepole pine and spruce. Much of the claim and general area has undergone extensive clearcut logging of the coniferous forest cover to try and salvage some goodness from the widespread and massive insect, pine beetle infestation. The general area lies within the sub-alpine biotic zone and experiences greater than 100 cm. of precipitation annually, of which 15%-25% may occur as a snow equivalent i.e. about 20 cm. The summers are generally mild with moderate precipitation and the winters can be very cold, but usually not for extended periods.

Property and Ownership

The property described in this report is the Porphyry area. The claim particulars are listed as follows:

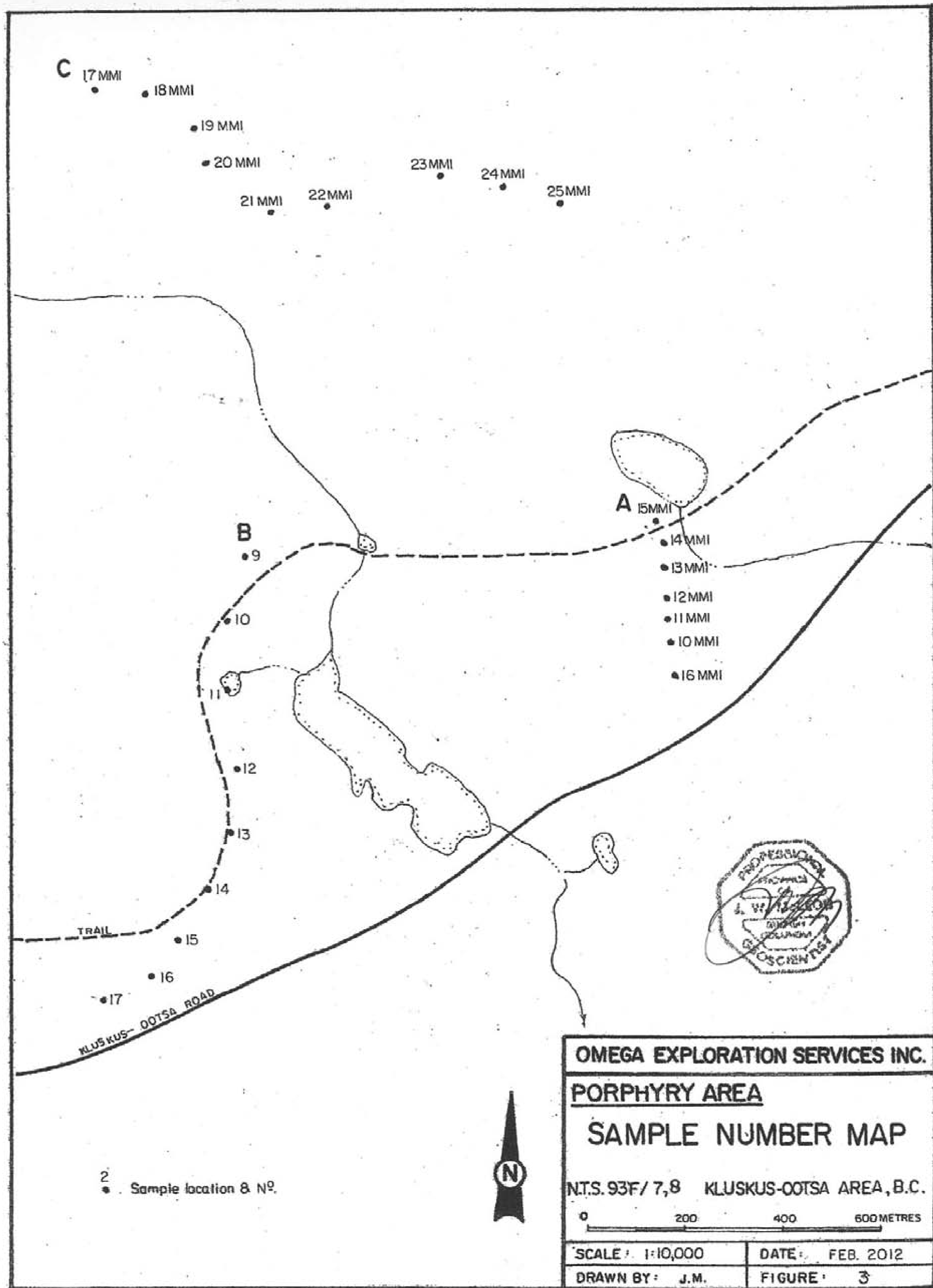
| Name | Tenure No. | Hectares | (acres) | Good to Date |
|---|---|---|---|---|
| Porphyry#1 | 527382 | 482 | (1,191) | Feb. 10, 2014 |
| Au#1 | 533567 | 483 | (1,193) | May 04, 2014 |
| N/N | 533569 | 193 | (476) | May 04, 2014 |
| N/N | 533570 | 77 | (190) | May 04, 2014 |
| | | 1,235 | (3,050) | |

*N/N - No name

The claim area totals approximately 1,235 hectares or 3,050 acres. The above listed lode mineral claims are owned by Jacqueline McLeod and Omega Exploration Services Inc. of Savona, British Columbia.

History

The recorded mining exploration history of the general property area dates from 1969-70 when several helicopter supported prospecting and regional geochemical silt survey programs found indications of anomalous copper, molybdenum and tungsten values in the general vicinity of Chutanli Lake.


C
17 MMI
18 MMI
19 MMI
20 MMI
21 MMI
22 MMI
23 MMI
24 MMI
25 MMI
A
15 MMI
14 MMI
13 MMI
12 MMI
11 MMI
10 MMI
16 MMI
B
9
10
11
12
13
14
15
16
17
TRAIL
KLUSKUS- OOTSA ROAD
2
Sample location & Nº.
N
OMEGA EXPLORATION SERVICES INC.
PORPHYRY AREA
SAMPLE NUMBER MAP
N.T.S. 93F/ 7,8 KLUSKUS-OOTSA AREA, B.C.
0 200 400 600 METRES
SCALE : 1:10,000
DATE : FEB. 2012
DRAWN BY : J.M.
FIGURE : 3

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Apparently, coincident reconnaissance silt surveys were conducted by Rio Tinto Canadian Explorations Ltd. and Asarco (American Smelting and Refining Company) during 1969-70 that led to a joint discovery of what is now known as the Chu molybdenum property.

During this early period, both companies undertook some shallow diamond core drilling. The author, during a fieldwork program he was conducting in 2003 located the remains of some of the drill core from Rio Tinto's 1969-70 diamond drilling program.

The construction of the Kluskus-Ootsa logging road in the 1970's saw Asarco consolidate the project areas and carry-out a number of geological, geochemical, geophysical surveys and some shallow diamond core drilling. They were joined by Armco Mineral Exploration Ltd. in a joint venture in 1979 which Armco managed. They conducted core drilling programs in 1980: DDH 1-3, 1981: DDH 1-7 and 1982: DDH 1-2. This fieldwork had partially outlined a large northwest-southeast trending zone of strong molybdenum-bearing mineralization in an interlayered meta-conglomerate and granodiorite quartz stockwork.

During 2006, TTM Resources Inc. (TTMRI) of Vancouver, B.C. acquired ownership of the Chu molybdenite deposit and undertook a large and extensive fieldwork program that led to the first NI 43-101 resource estimate for the property being filed by TTMRI in February, 2008.

Regional Geology

The oldest rocks in the general area are volcanic and sedimentary units which have been assigned to the Hazelton Group of Jurassic age. These rocks in places have been intruded by late Jurassic and early Cretaceous aged Coast Range plutonic rocks of granitic to dioritic composition that on the Chu molybdenum property generally occur as granodiorite, which are referred to in the property area as the Nechako intrusions. More than one period of intrusive activity appears to have affected the area. Some intrusive rocks observed in the general area appear to be younger than the Nechako intrusions and may be more alkalic in composition. These rock units appear to have in some places a close proximity to the stronger molybdenite, $MoS_2$, mineralized zones.

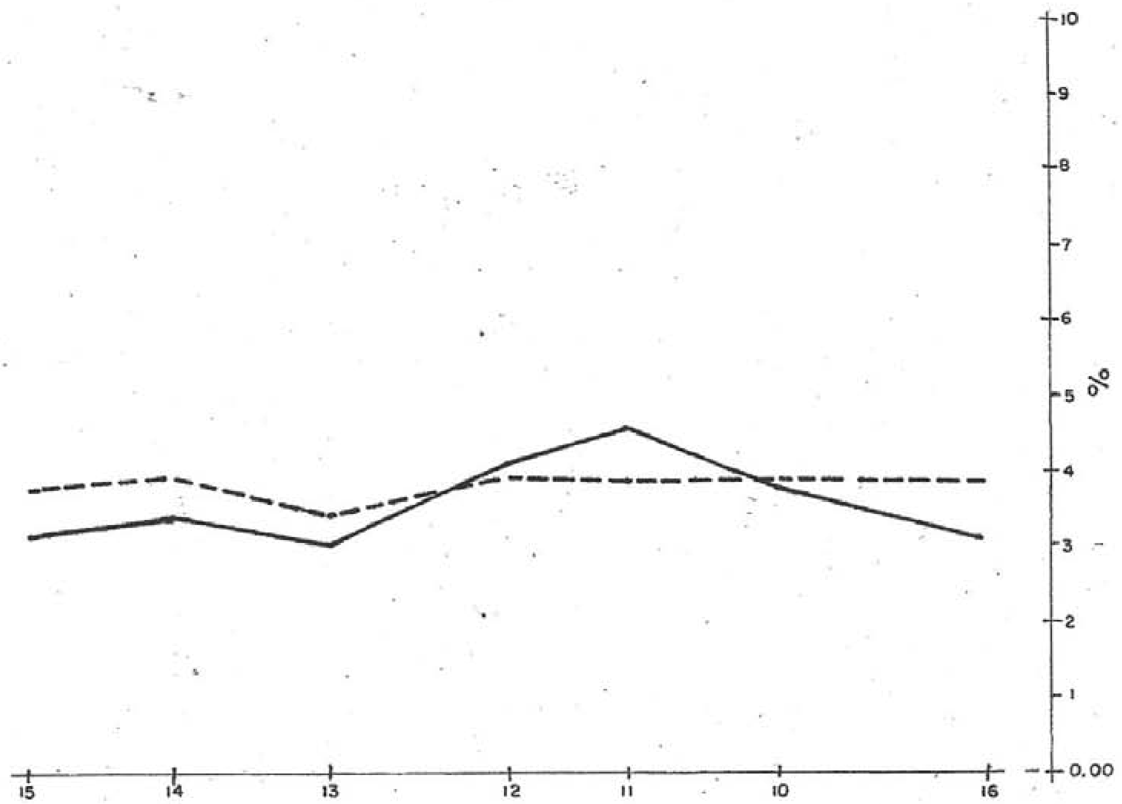
The youngest rocks observed in the area are the andesite to basalt flow volcanics which are thought to be of Oligocene age.

## Local Geology

The different rock units are found to occur as northwesterly striking and northeasterly dipping sediments and volcanics. The oldest underlying bedded rocks that are found to occur in the central area of the property as hornfelsed conglomerate, mudstone and quartzite and conformably overlain on the northeast side by northeasterly dipping clastic andesitic tuffs. These units appear to trend through the property in a northwest-southeast direction. The bedded sediments and volcanics are intrusive contacted with granitic rocks thought to be Coast Range intrusions of Jurassic age. The mineral host units appear to occur as a large package of older rocks that may represent a roof pendant lying on the intruding and somewhat interlayered granodiorite and being cut in places by the still younger alkalic (dyke) rocks.

The molybdenum mineralization is related to a quartz vein stockwork that is best developed in the hornfelsed (conglomerate) that have undergone varying degrees of biotitization following structural preparation (brittle fracturing) and subsequent quartz-welding. Pyrite and pyrrhotite are found widespread throughout the molybdenite (MoS2) mineralized zones and the core in general. The iron minerals on contacts of the hornfels unit appear to have undergone moderately strong oxidation.

The copper-gold-zinc porphyry area appears to have undergone some silicification and possibly a stronger contact metamorphic effect than the molybdenum zone that may be explained by its closer proximity to the igneous contact.




Sample location & Nº. ( 15 = 15MMI )

% Ca ( in ppm ) - aqua regia soluble Ca.

H+ x 10 ^ 8 ( pH ) - H+ concentration - expressed as IDH = Inverse Difference Hydrogen.

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PORPHYRY AREA

LINE A

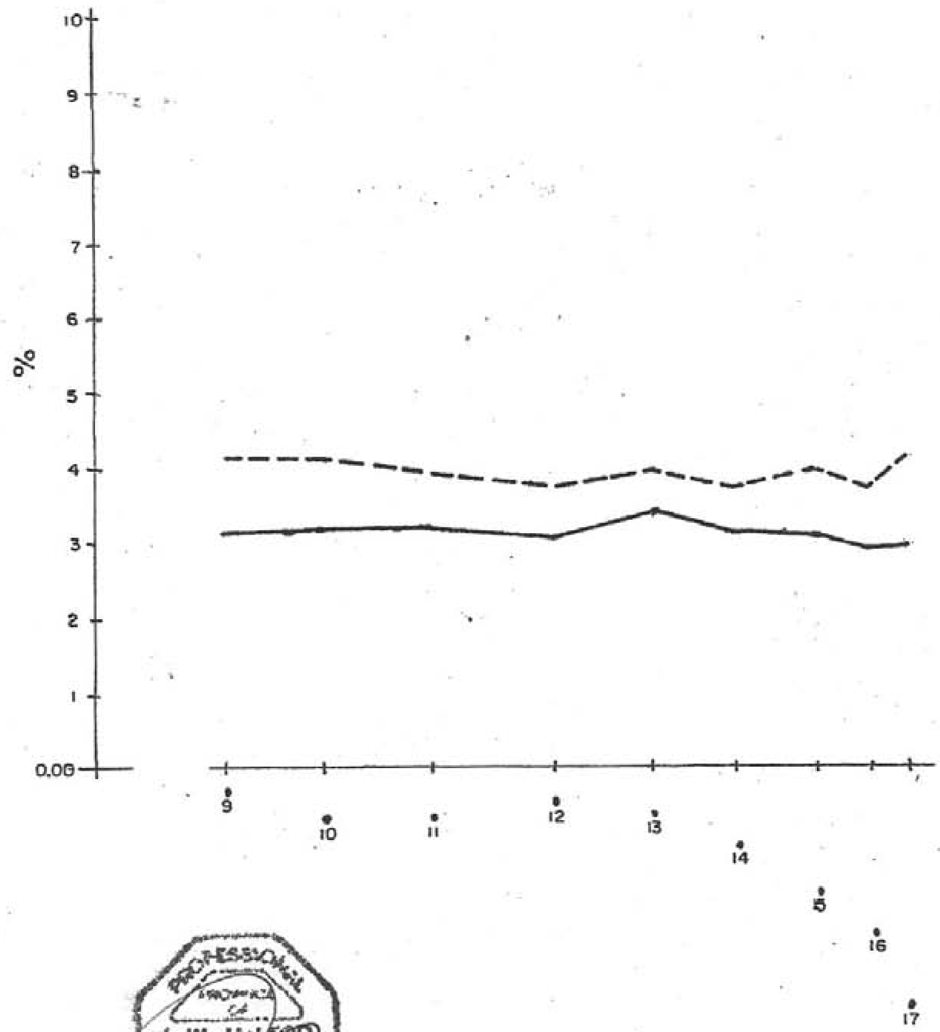
PROFILES

N.T.S. 93F/ 7,8 KLUSKUS-OOTSA AREA, B.C.

0 50 100 150 METRES

| | |
|---|---|
| SCALE : 1:2500 | DATE : FEB. 2012 |
| DRAWN BY : J.M. | FIGURE : 3a |

CHONG




16 Sample location & Nº.

% Ca (in ppm) - aqua regia soluble Ca.

H + ≠ 10 ∧ 8 (pH) - H+ concentration - expressed as IDH = Inverse Difference Hydrogen.

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**PORPHYRY AREA**

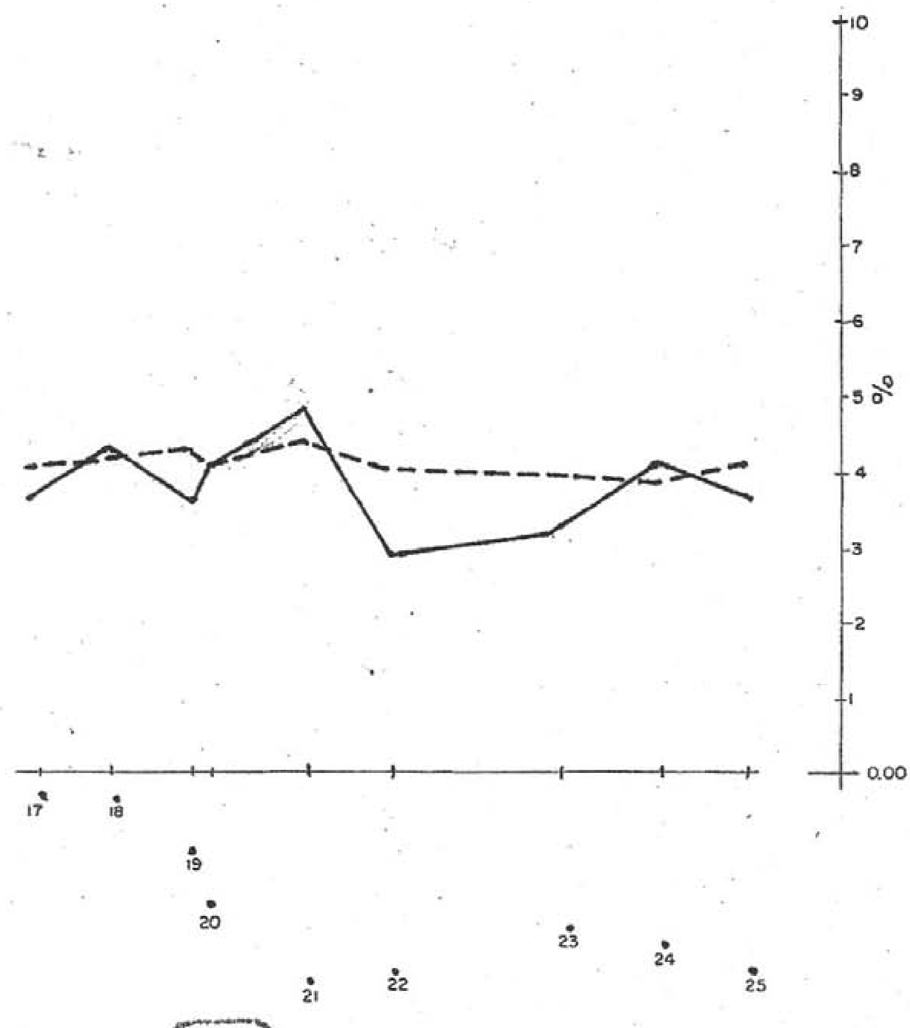
## LINE B
## PROFILES

N.T.S. 93F/ 7,8 KLUSKUS-OOTSA AREA, B.C.

0 200 400 600 METRES

| | |
|---|---|
| SCALE: 1:10,000 | DATE: FEB. 2012 |
| DRAWN BY: J.M. | FIGURE: 3b |

CHONG




Sample location & Nº. ( 17 = 17MMI)

% Ca (in ppm) - aqua regia soluble Ca.

H+ = 10 ∧ 8 (pH) - H+ concentration - expressed as IDH = Inverse Difference Hydrogen.

**OMEGA EXPLORATION SERVICES INC.**

**PORPHYRY AREA**

**LINE C**

**PROFILES**

N.T.S. 93F/ 7,8 KLUSKUS-OOTSA AREA, B.C.

0 200 400 600METRES

| | |
|---|---|
| SCALE : 1:10,000 | DATE : FEB. 2012 |
| DRAWN BY : J.M. | FIGURE : 3c |

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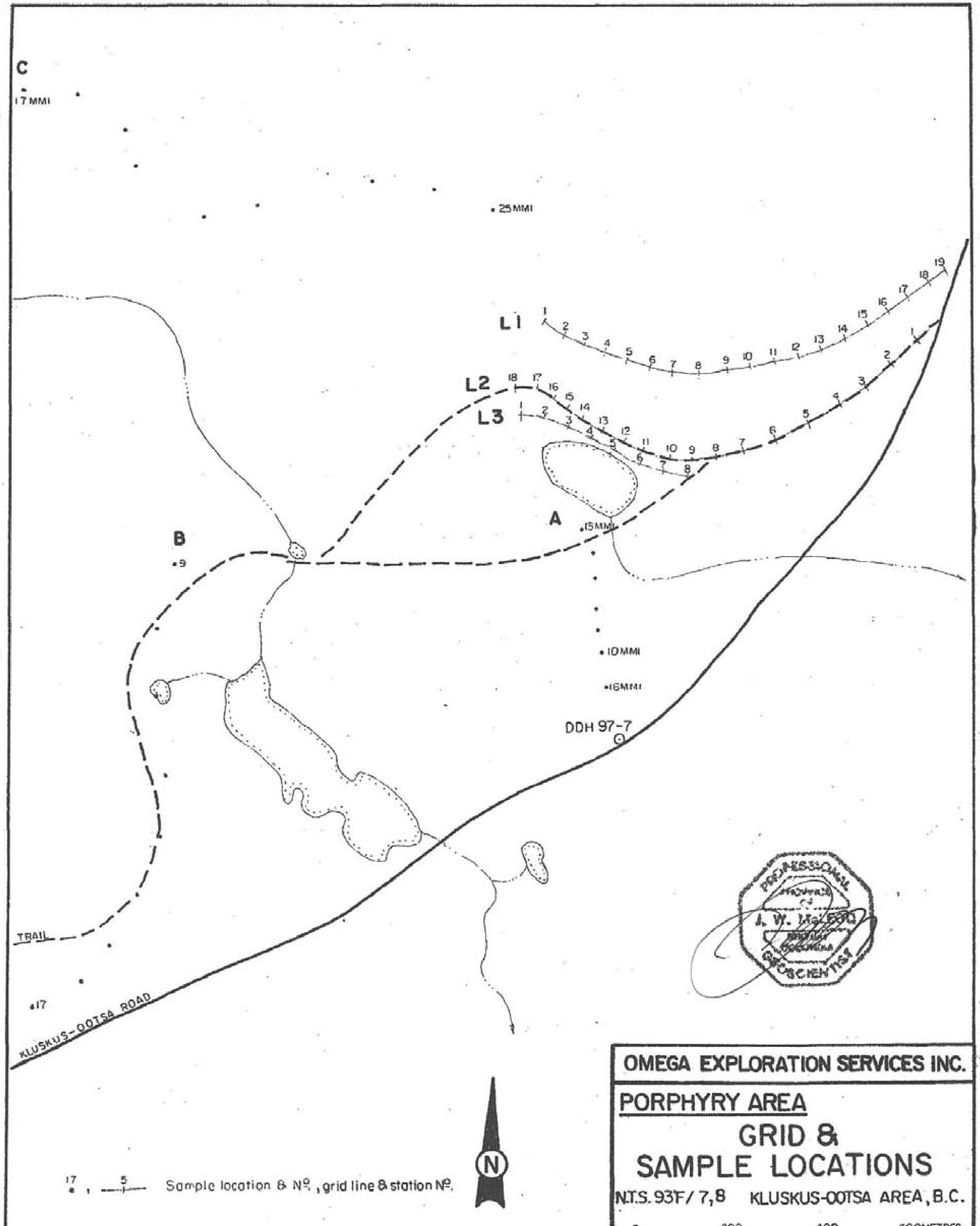
Present Work Program

The present fieldwork program was undertaken during the period June 2 – Nov. 30, 2011 in the Porphyry project (PP) area. A total of three MMI soil sample grids that were sampled in 2010 (25 samples) underwent the following procedure that is described in some detail in articles by Barry W. Smee (see References). He describes the procedure for handling and treating soil samples taken, using the mobile metal ion (MMI) theory, from the "micro-layer" that may be described as the depositional site of ions by a vertical transfer from some depth of an oxidizing mineral occurrence. The procedure followed here involves mixing (slurrying) of an individual soil sample with distilled water and recording of each pH (H+ ion concentration) measurement with a hand held, Hanna Instruments, model 98128 - pH meter reading to 1/100$^{th}$ (two decimal places). *Note - the instrument instructions should be conscientiously followed especially not handling the glass detection bulb as they are fragile, sensitive and often hard to find replacements. These same slurries were each acidified with a drop of 10% hydrochloric acid and the pH of each re-mixed, acidified sample was then recorded. Both sets of pH readings were then converted from pH to (H+ in moles) using the defining formula of, pH = log 1/[H+]. The non-acidified log values were assigned a designation of "a" and the acidified log values a designation of "b". These readings were then converted to inverse difference hydrogen (IDH) values using the formula 1/a-b. These determinations were plotted against the aqua regia soluble calcium (Ca) percentages which are usually calculated from Ionic Leach analyses quoted in parts per million (ppm). The method may offer a way to recognize underlying zones of structure, alteration and mineralization such as those determined by mobile metal ion (MMI) soil geochemistry by sampling the soil "micro-layer". Acidic areas, pH of <7 can exhibit depletions of Ca and possibly Fe. A decrease in H+ ion concentration causes an increase in pH, it becomes less acidic.

Included in the current work was a three line, magnetometer survey that appears to outline some interesting features. The instrument used in the survey is a Sharpe of Canada fluxgate magnetometer, model MF-1 321, serial no. 609235. The unit of measure is a gamma (see Figure 4a).

The current fieldwork also includes undertaking a hand held, core drill hole using a JKS 4M Packsack drill of size XRP. A drill site was prepared at L2 -




**OMEGA EXPLORATION SERVICES INC.**

## PORPHYRY AREA

# GRID & SAMPLE LOCATIONS

N.T.S. 93F/ 7,8 KLUSKUS-OOTSA AREA, B.C.

0 200 400 600 METRES

| | |
|---|---|
| SCALE : 1:10,000 | DATE: FEB. 2012 |
| DRAWN BY: J.M. | FIGURE: 4 |

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between stations #7 - #8 (see Figure 4 – 4a) and a water hole was dug at L2 - station #9 on the south side of the line. Both the drill site and water hole were prepared by hand. The drill site location was chosen because of abundant pyrite, limonite-hematite (Fe oxide), altered and mineralized host.

The current work programs combined with the historical information from the property offer sufficient encouragement to recommend a drilling program on the property.

Conclusions

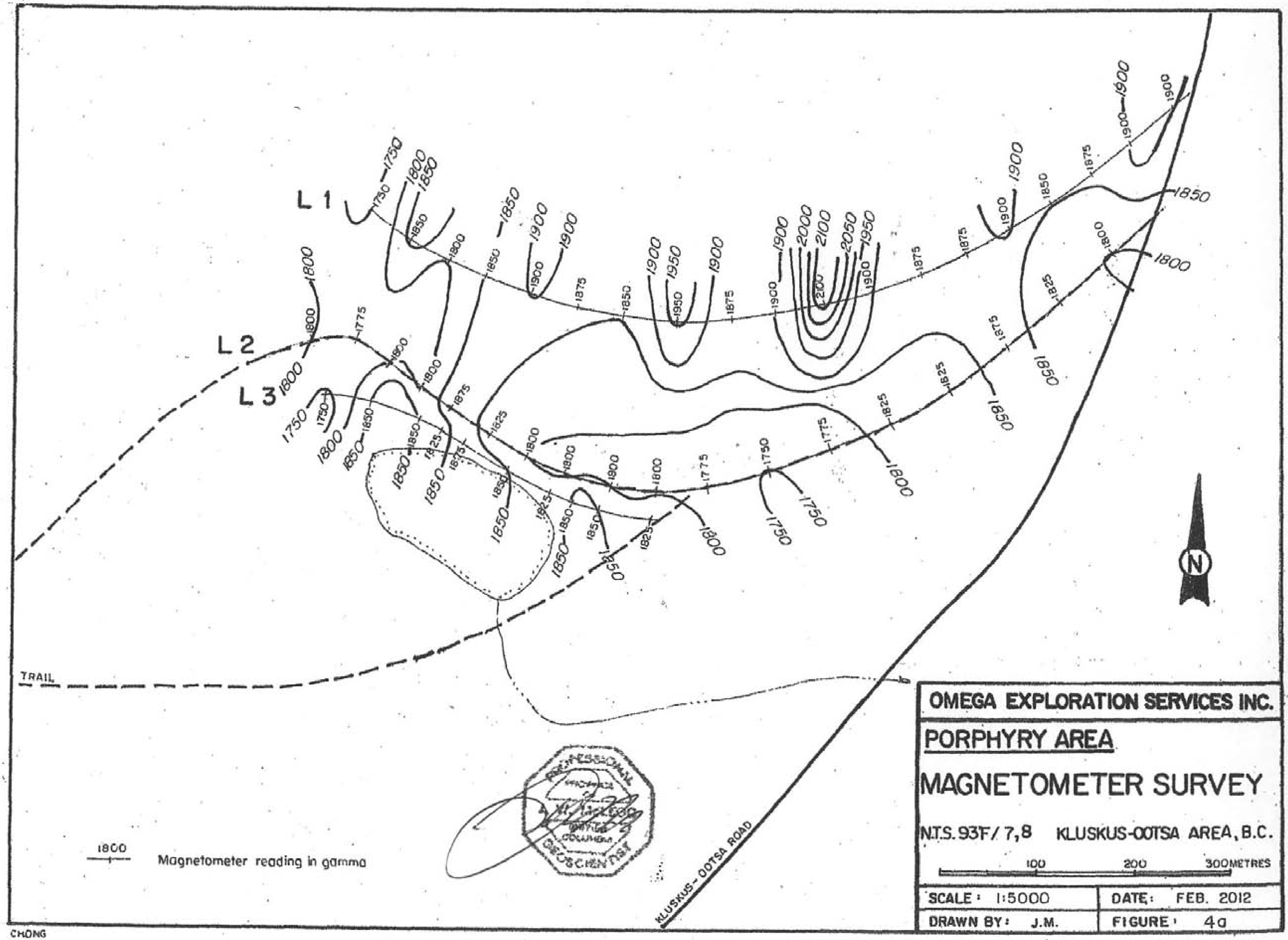
The data obtained from the property illustrate a number of possible characterizations as follows:

a) Soil geochemistry on the property exhibit some anomalous values and results such as:

Porphyry Area (VA11006590)

| Element | Anomalous | Station Numbers |
| --- | --- | --- |
| Gold | >1.8 ppb | (9), 10, 19M, 21M |
| Copper | >625 ppb | (10), (19M), (21M) |
| Zinc | >525 ppb | 11, 10M, (11M), 12M, 13M, 17M, 20M, 21M, 22M, 23M, 24M, 13, (14), 25M |
| Arsenic | >7.5 ppb | 11, 10M, 11M, 12M, 13M, 14M, 15M, 16M, 18M, 19M, 20M, 21M, 22M, 23M, 24M, 13, 25M |

(*) - denotes a sample result that is close to the anomalous value and/or treated as anomalous by its relationship within or adjacent to another anomalous sample group of samples.


L 1
L 2
L 3
TRAIL
KLUSKUS-OOTSA ROAD
N
1800
Magnetometer reading in gamma
OMEGA EXPLORATION SERVICES INC.
PORPHYRY AREA
MAGNETOMETER SURVEY
N.T.S. 93F/ 7,8 KLUSKUS-OOTSA AREA, B.C.
100 200 300METRES
SCALE : 1:5000
DATE : FEB. 2012
DRAWN BY : J.M.
FIGURE : 4a
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b) The pH as IDH (inverse difference hydrogen vs. Ca% graphs were prepared from the calculated values listed in Table 1 (see Appendix 3). The following profiles are for lines A, B and C and Figures 3, 3a, 3b and 3c, respectively (see Appendices 1 and 3):

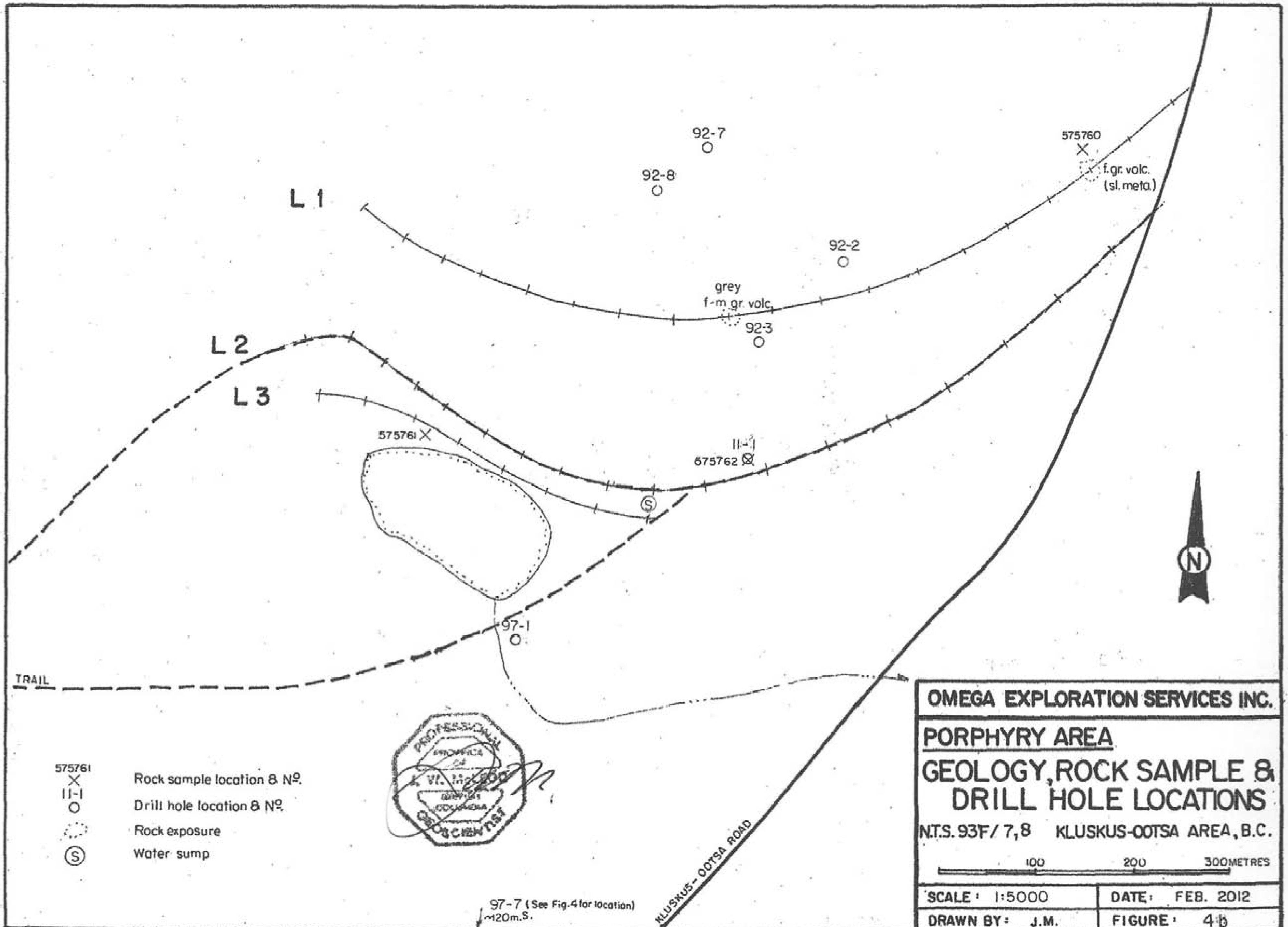
Line A - the profile shows that between samples 15M and 12M the samples exhibit minor calcium concentration reduetion and between samples 12M and 16M there is a minor increase then reduction in H+ concentration and what appears to be a very slight increase or replenishment in calcium.

The individual samples reveal some anomalous responses from all seven stations (see Figure 3a). The seven stations results are summaries as follows:

15M (for 15MMI) through 12M and including 10M exhibit apparently anomalous responses in the porphyry pathfinder suite (PPS) which include arsenic (As), mercury (Hg), antimony (Sb), molybdenum (Mo), selenium (Se) and iron (Fe). In samples 13M, and 11M-10M include apparently anomalous results in the gold exploration suite (GES) which includes cobalt (Co), gold (Au), nickel (Ni), palladium (Pd) and silver (Ag). 10M – 14M appear to be possibly anomalous in all four elements which occur in the base metal suite (BMS) comprised of cadmium (Cd), copper (Cu), lead (Pb) and zinc (Zn). In the stations 15M, 13M, 11M-16M apparently anomalous results of rubidium (Rb) which are likely found substituting for potassium (K). A number of other elements showing apparently anomalous results are listed. Barium (Ba), whose primary mineral is barite ($BaSO_4$), is possibly derived from a hydrothermal source and may have substituted for potassium in biotite or potassium feldspar.

The remainder of the elements found on this line as anomalous appearing elements are cerium (Ce), a rare earth element (REE); cesium (Cs); chromium (Cr); erbium (Er); titanium (Ti); tantalum (Ta) and thorium (Th).

Trying to assign the occurrences of all the apparently anomalous behaviors encountered in the three groups of samples i.e. Line A, Line B and Line C seems onerous when considering each element on its own. Assisting in this endeavor is the recognition of groups of elements that have been found to occur together all or in part in various settings. To be effective the data has


OMEGA EXPLORATION SERVICES INC.
PORPHYRY AREA
GEOLOGY, ROCK SAMPLE & DRILL HOLE LOCATIONS
N.T.S. 93F/ 7,8 KLUSKUS-OOTSA AREA, B.C.
100 200 300 METRES
SCALE: 1:5000
DATE: FEB. 2012
DRAWN BY: J.M.
FIGURE: 4b
L 1
L 2
L 3
92-7
92-8
92-2
92-3
97-1
575760
f.gr. volc.
(sl. meta.)
grey
f-m gr. volc.
575761
575762
11-1
TRAIL
KLUSKUS-OOTSA ROAD
N
97-7 (See Fig. 4 for location)
~120m.S.
575761 Rock sample location & No.
11-1 Drill hole location & No.
Rock exposure
Water sump

CHONG

undergone descriptive statistical testing, of even a small sample population, that may reveal the anomalous affinities within a specific group. The geochemical data from a mobile metal ion (MMI) soil survey that is conducted within a specific "micro-layer" that is believed to receive ascending H+ accumulates from an oxidizing mineral occurrence of variable vertical depth by electrochemical transport. The analytical process (possibly the IONIC Leach) among other proprietary methods attains such low detectable values for many elements that it may be very close to being reliably quantitative.

Line B – the profile shows that between samples 9 to 12 they exhibit a small decrease in calcium concentration and between samples 12 to 17 they exhibit a general maintenance of slightly undulating calcium values. The H+ concentration shows an increase between samples 12 to 14 which moves to the maintenance of H+ concentration between samples 14 to 17. This latter event may actually show an overall replenishment of calcium concentration.

The PPS exhibits limited occurrence at samples 9, 10 and 13. The GES exhibits anomalous results at samples 9, 10 and 17. The three preceding samples may exhibit coincidence between silver and gold that in most instances seems to be necessary. The BMS show limited occurrence at samples 10 and possibly 17, if dysprosium exhibit an affinity with copper. This line of samples exhibits two stations, 10 and 17 that show a lot of REE presence.

Line C – the profile exhibits calcium replenishment from station 17M to 19M. The interval of reduction from 19M to 22M, followed by a possible zone of calcium replenishment from 22M to 25M.

The individual samples returned some anomalous responses from eight of nine stations, 18M to 25M (see Figure 3c).

The GES is represented at stations 18M to 21M and 24M to 25M. At station 19M and 21M gold, silver and arsenic are coincident. Other GES elements are represented at station 18M to 22M and 24M to 25M. The BMS is represented at 18M to 21M and 23M to 25M and a total coincidence of the four elements is encountered at 21M and 25M. Zinc is very anomalous at stations 21M, 24M and 25M.

Other elemental occurrences observed at station 25M, but not including the GES and BMS are seen to be mainly REE.

c) The three line magnetometer survey was conducted over the south-end of what appears to be a younger igneous rock units that appears to host the copper-gold-zinc porphyry mineral occurrences. The analyses of the drilled off material, sludge and some rock particles, from the abandoned DDH 11-1 appears to be a grey colored, fine grained, highly fractured and altered feldspar porphyry of possibly a rhyolite composition (see Sa #575760-62 in Appendix 2). The total length of the three sub-parallel lines is approximately 2.5 km. The station interval varied between 25m, 50 mainly and 70m depending on the terrain.

The north trending features illustrated in L1 are thought to be due to intense fracturing. The suggested mineralization encountered in the drill hole is pyrite, magnetite, chalcopyrite, sphalerite, galena and minor gold values (see Appendix 2).

Recommendations

The current and historical data from the Porphyry project area leads the author to recommend a percussion drilling program initially concentrating in the area between historical drill holes 97-1 and 97-7 and in the vicinity of Sa # 575761. Depending on the results obtained from the Phase 1 program additional drilling could well be undertaken.

Further MMI soil sampling and IONIC leach geochemistry may be undertaken as fill-in sampling around all potentially anomalous samples.

Cost Estimate

The writer recommends the following programs on the Porphyry project area. The cost estimate for the project is included as follows:

| | |
|---|---|
| Geologist and supervision for 20 days | $ 10,000 |
| Field assistants (2) for 20 days | 8,000 |
| Room and board for 60 person-days | 6,000 |

| | |
|---|---|
| Transportation and travel, including 4x4 truck, fuel and oil and living expenses traveling | 4,000 |
| Equipment and supplies - including Four Trac, utility trailer, chain saws and Bushwacker | 3,000 |
| Geochemical IONIC leach analyses and MMI soil geochemical survey costs, including pH | 5,000 |
| 1,200 meters @ $60/meter, all inclusive | 72,000 |
| Maps and reports | 5,000 |
| Contingency @ 20% | 22,600 |
| Total | $ 130,600 |

Respectfully submitted,

James W. McLeod, P. Geo.

## Statement of Costs

| | |
|---|---|
| J.W. McLeod, P. Geo., geology and supervision, period Aug. 7-16, 2011(10 days) @ $450 | $ 4,050 |
| Assistants: J.A. McLeod @ $200 and S.C. McLeod @ $150 for the period Aug. 7-16, 2011(10 days) | 3,500 |
| Camp and board, 30 mandays at $50/manday | 1,500 |
| Transportation, 4x4, Four Trac, utility trailer | 1,150 |
| Equipment rental: magnetometer, chainsaw, water pump | 550 |
| Rock analyses and shipping | 350 |
| JKS Boyles Packsack Drill and accessories, 3 days @ $150 | 450 |
| pH program and calculations, Nov. 28-30, 2011 | 750 |
| Report and maps | 1,542 |
| Total | $ 13,842 |

Certificate

1) I, James Wayne McLeod, of the Village of Savona, Province of British Columbia, hereby certify as follows:

2) I am a Consulting Geologist with an office at P.O. Box 216, 6857 Valley Road, Savona, B.C., V0K 2J0.

3) I am a Professional Geoscientist registered in the Province of British Columbia and a Fellow of the Geological Association of Canada.

4) I graduated with a degree of Bachelor of Science, Major Geology from The University of British Columbia in 1969.

5) I have practiced my profession since 1969.

6) I have a direct interest in both the Porphyry copper-gold project because of the ownership of the Porphyry #1 mineral claim by my wife, Jacqueline A. McLeod. We are also Officers and Directors of Omega Exploration Services Inc.

7) The above report is based on personal field experience gained by the author during the period 2001-11. I have also conducted research, both private and public on the Porphyry project area and discussed these properties in detail with knowledgeable parties.

Dated at Savona, Province of British Columbia this 27th day of March, 2012.

James W. McLeod, P. Geo.,
Consulting Geologist

References

British Columbia Ministry of Energy, Mines and Petroleum Resources Assessment Reports on the Porphyry Project area.

McLeod, J.W., 2002-10. Assessment Reports on the Chu and Porphyry area.

Mann, A.W., Birrell, R.D., Mann, A.T., Humphreys, D.B. and Perdrix, J.L., 1998. Application of mobile metal ion technique to routine geochemical exploration. Journal of Geochemical Exploration, **61**, pp. 87-102.

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Appendix 1

IONIC Leach Results (MMI Soil Geochemistry 2010 – VA11006590)

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SAVONA BC V0K 2J0


Finalized Date: 30-JAN-2011
This copy reported on
4-FEB-2011
Account: WEMINC

# CERTIFICATE VA11006590

Project: CP
P.O. No.:
This report is for 25 Soil samples submitted to our lab in Vancouver, BC, Canada on 13-JAN-2011.
The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JIM MCLEOD | | |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI-21 | Received Sample Weight |
| LOG-22 | Sample login - Rcd w/o BarCode |
| EXTRA-01 | Extra Sample received in Shipment |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| ME-MS23 | IONIC Leach - Complete PKG. | ICP-MS |
| pH-MS23 | MS23 Leach pH | |

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This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature: W. Abbott
Wayne Abbott, Operations Manager, Western Australia

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# CERTIFICATE OF ANALYSIS VA11006590

| Sample Description | Method / Analyte / Units / LOR | WEI- 21 Recvd Wt. kg 0.02 | ME- MS23 Ag ppb 0.1 | ME- MS23 As ppb 2 | ME- MS23 Au ppb 0.02 | ME- MS23 Ba ppb 10 | ME- MS23 Be ppb 0.2 | ME- MS23 Bi ppb 3 | ME- MS23 Br ppm 0.05 | ME- MS23 Ca ppm 0.2 | ME- MS23 Cd ppb 1 | ME- MS23 Ce ppb 0.1 | ME- MS23 Co ppb 0.3 | ME- MS23 Cr ppb 1 | ME- MS23 Cs ppb 0.1 | ME- MS23 Cu ppb 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 9 | | 0.48 | 18.4 | 5 | 1.18 | 980 | 2.4 | <3 | 0.08 | 154.5 | 6 | 20.4 | 80.8 | 11 | 1.9 | 211 |
| Sa 10 | | 0.44 | 12.4 | 4 | 3.04 | 660 | 3.8 | <3 | 0.07 | 125.0 | 2 | 192.0 | 51.2 | 10 | 3.4 | 603 |
| Sa 11 | | 0.60 | 11.2 | 9 | 0.10 | 1400 | 3.0 | <3 | 0.08 | 73.0 | 7 | 31.1 | 68.6 | 32 | 1.7 | 145 |
| Sa 10MMI | | 0.62 | 67.1 | 20 | 0.25 | 690 | 3.4 | <3 | 0.13 | 97.6 | 28 | 61.3 | 95.6 | 40 | 2.1 | 349 |
| Sa 11MMI | | 0.66 | 35.0 | 8 | 0.13 | 940 | 4.9 | <3 | 0.09 | 110.5 | 19 | 36.7 | 153.0 | 22 | 2.4 | 233 |
| Sa 12MMI | | 0.54 | 11.4 | 10 | 0.05 | 880 | 5.0 | <3 | 0.12 | 103.0 | 33 | 43.2 | 82.7 | 79 | 0.9 | 124 |
| Sa 13MMI | | 0.46 | 37.3 | 41 | 0.18 | 620 | 4.2 | <3 | 0.13 | 33.4 | 67 | 77.0 | 109.5 | 58 | 3.8 | 324 |
| Sa 14MMI | | 0.80 | 18.9 | 41 | 0.41 | 2250 | 3.6 | <3 | 0.05 | 130.0 | 5 | 49.0 | 63.7 | 31 | 4.8 | 272 |
| Sa 15MMI | | 0.66 | 33.7 | 34 | 0.27 | 1070 | 2.5 | <3 | 0.06 | 87.9 | 10 | 28.8 | 51.2 | 11 | 6.6 | 156 |
| Sa 16MMI | | 0.64 | 13.6 | 11 | 0.16 | 2000 | 2.4 | <3 | 0.07 | 96.1 | 1 | 101.0 | 33.3 | 26 | 2.8 | 164 |
| Sa 17MMI | | 0.96 | 16.4 | 3 | 0.39 | 1010 | 4.5 | <3 | 0.11 | 124.0 | 6 | 38.5 | 74.0 | 23 | 5.7 | 242 |
| Sa 18MMI | | 0.54 | 91.3 | 13 | 0.31 | 980 | 3.4 | <3 | 0.05 | 169.0 | 26 | 28.5 | 39.8 | 8 | 5.6 | 341 |
| Sa 19MMI | | 0.60 | 136.5 | 53 | 5.11 | 1120 | 0.6 | <3 | 0.06 | 283 | 41 | 18.6 | 47.7 | 2 | 3.3 | 558 |
| Sa 20MMI | | 0.42 | 7.6 | 15 | 0.08 | 2200 | 8.5 | 5 | 0.11 | 164.5 | 23 | 16.3 | 268 | 24 | 2.8 | 149 |
| Sa 21MMI | | 0.56 | 79.7 | 386 | 1.77 | 1270 | 0.7 | <3 | 0.21 | 360 | 784 | 42.7 | 157.5 | 15 | 1.2 | 550 |
| Sa 22MMI | | 0.74 | 74.9 | 14 | 0.39 | 1050 | 4.2 | <3 | 0.08 | 143.5 | 28 | 97.6 | 65.6 | 23 | 5.1 | 261 |
| Sa 23MMI | | 0.68 | 63.6 | 15 | 0.21 | 1840 | 5.2 | <3 | 0.11 | 108.5 | 16 | 63.3 | 92.4 | 52 | 5.5 | 263 |
| Sa 24MMI | | 0.52 | 15.8 | 27 | 0.11 | 1350 | 5.3 | <3 | 0.10 | 87.0 | 115 | 85.6 | 144.0 | 63 | 1.6 | 145 |
| Sa 12 | | 0.48 | 9.4 | 4 | 0.08 | 940 | 5.1 | <3 | 0.10 | 43.0 | 7 | 71.7 | 41.6 | 18 | 5.9 | 148 |
| Sa 13 | | 0.36 | 3.6 | 8 | 0.06 | 2110 | 7.9 | <3 | 0.08 | 87.2 | 7 | 83.1 | 77.1 | 45 | 1.0 | 250 |
| Sa 14 | | 0.50 | 5.8 | 4 | 0.05 | 860 | 5.2 | <3 | 0.09 | 50.8 | 8 | 50.9 | 28.2 | 18 | 3.7 | 94 |
| Sa 15 | | 0.66 | 4.8 | 7 | 0.04 | 940 | 4.8 | <3 | 0.06 | 75.3 | 5 | 75.4 | 23.1 | 21 | 3.1 | 123 |
| Sa 16 | | 0.66 | 3.0 | 7 | 0.24 | 1230 | 4.7 | <3 | 0.05 | 42.1 | 2 | 56.7 | 15.9 | 20 | 3.3 | 98 |
| Sa 17 | | 0.72 | 15.2 | 5 | 0.67 | 8590 | 0.2 | <3 | <0.05 | 122.0 | 4 | 118.0 | 17.6 | 1 | 2.9 | 219 |
| Sa 25MMI | | 0.28 | 32.0 | 28 | 0.34 | 1150 | 7.2 | <3 | 0.08 | 160.5 | 122 | 120.0 | 216 | 25 | 1.2 | 456 |

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Project: CP

# CERTIFICATE OF ANALYSIS VA11006590

| Sample Description | Method / Analyte / Units / LOR | ME- MS23 Dy ppb 0.1 | ME- MS23 Er ppb 0.1 | ME- MS23 Eu ppb 0.1 | ME- MS23 Fe ppm 0.1 | ME- MS23 Ga ppb 0.5 | ME- MS23 Gd ppb 0.1 | ME- MS23 Ge ppb 0.1 | ME- MS23 Hf ppb 0.5 | ME- MS23 Hg ppb 0.1 | ME- MS23 Ho ppb 0.1 | ME- MS23 I ppm 0.01 | ME- MS23 In ppb 0.1 | ME- MS23 La ppb 0.1 | ME- MS23 Li ppb 0.2 | ME- MS23 Lu ppb 0.1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 9 | | 4.0 | 2.5 | 1.2 | 37.8 | 28.5 | 3.8 | 0.2 | <0.5 | 0.5 | 0.9 | 0.05 | 0.1 | 8.9 | 0.5 | 0.3 |
| Sa 10 | | 32.6 | 16.0 | 10.6 | 26.6 | 18.9 | 37.4 | 0.8 | 2.9 | 0.6 | 6.5 | 0.05 | 0.1 | 77.9 | <0.2 | 1.3 |
| Sa 11 | | 4.0 | 2.7 | 1.4 | 68.2 | 40.8 | 3.9 | 0.3 | 1.1 | 0.6 | 0.9 | 0.06 | 0.1 | 12.4 | 0.9 | 0.3 |
| Sa 10MMI | | 6.7 | 4.0 | 2.3 | 52.7 | 20.9 | 7.4 | 0.3 | 1.4 | 0.7 | 1.4 | 0.10 | 0.1 | 26.6 | <0.2 | 0.4 |
| Sa 11MMI | | 6.3 | 4.2 | 1.6 | 90.0 | 30.7 | 5.8 | 0.3 | 1.0 | 0.4 | 1.5 | 0.06 | 0.1 | 16.7 | 0.4 | 0.5 |
| Sa 12MMI | | 4.3 | 2.5 | 1.4 | 132.5 | 31.9 | 4.6 | 0.3 | 1.6 | 0.7 | 0.9 | 0.07 | 0.2 | 20.7 | 0.6 | 0.3 |
| Sa 13MMI | | 9.5 | 6.4 | 2.9 | 114.5 | 27.2 | 10.2 | 0.5 | 1.8 | 0.4 | 2.1 | 0.11 | 0.2 | 30.6 | 0.7 | 0.7 |
| Sa 14MMI | | 5.2 | 3.0 | 2.0 | 47.3 | 57.2 | 5.9 | 0.2 | 1.1 | 0.4 | 1.1 | 0.06 | 0.1 | 20.0 | 0.2 | 0.3 |
| Sa 15MMI | | 4.7 | 2.8 | 1.6 | 35.0 | 32.7 | 5.0 | 0.2 | 0.5 | 0.4 | 1.0 | 0.07 | 0.1 | 13.7 | 1.3 | 0.3 |
| Sa 16MMI | | 8.5 | 5.0 | 2.7 | 20.6 | 53.1 | 9.4 | 0.2 | 2.1 | 0.3 | 1.8 | 0.08 | <0.1 | 33.2 | <0.2 | 0.5 |
| Sa 17MMI | | 5.7 | 3.5 | 1.7 | 41.4 | 29.8 | 5.3 | 0.2 | 0.8 | 0.4 | 1.3 | 0.09 | 0.1 | 16.7 | <0.2 | 0.4 |
| Sa 18MMI | | 5.9 | 4.0 | 1.6 | 33.1 | 26.1 | 4.8 | 0.2 | 0.6 | 0.3 | 1.4 | 0.05 | 0.2 | 10.4 | <0.2 | 0.4 |
| Sa 19MMI | | 7.0 | 5.2 | 2.1 | 11.7 | 28.2 | 5.5 | 0.2 | <0.5 | 0.2 | 1.8 | 0.03 | 0.1 | 6.3 | 0.3 | 0.5 |
| Sa 20MMI | | 2.5 | 2.2 | 1.1 | 91.1 | 59.5 | 2.0 | 0.2 | 0.8 | 0.3 | 0.6 | 0.05 | 0.4 | 6.1 | 0.7 | 0.6 |
| Sa 21MMI | | 7.9 | 4.9 | 2.5 | 13.5 | 31.4 | 7.6 | 0.3 | 0.7 | 0.6 | 1.7 | 0.07 | 0.1 | 13.3 | <0.2 | 0.5 |
| Sa 22MMI | | 9.0 | 5.3 | 2.7 | 28.1 | 30.9 | 9.8 | 0.3 | 1.1 | 0.5 | 1.9 | 0.06 | 0.1 | 26.4 | <0.2 | 0.5 |
| Sa 23MMI | | 7.6 | 4.6 | 2.6 | 70.4 | 54.5 | 8.0 | 0.3 | 1.5 | 0.6 | 1.7 | 0.09 | 0.1 | 24.6 | 0.2 | 0.5 |
| Sa 24MMI | | 10.9 | 6.8 | 2.9 | 122.5 | 42.1 | 10.9 | 0.4 | 1.8 | 0.8 | 2.4 | 0.06 | 0.2 | 33.9 | 0.6 | 0.7 |
| Sa 12 | | 7.6 | 4.3 | 2.9 | 24.1 | 29.9 | 8.7 | 0.3 | 1.3 | 0.6 | 1.6 | 0.13 | 0.1 | 34.7 | 0.3 | 0.4 |
| Sa 13 | | 9.2 | 5.5 | 3.3 | 159.0 | 78.4 | 10.1 | 0.6 | 1.5 | 0.7 | 2.0 | 0.05 | 0.2 | 45.3 | 0.8 | 0.6 |
| Sa 14 | | 5.5 | 3.4 | 1.9 | 31.5 | 28.8 | 5.9 | 0.3 | 1.2 | 0.5 | 1.2 | 0.09 | 0.1 | 23.3 | 0.4 | 0.3 |
| Sa 15 | | 6.8 | 4.0 | 2.4 | 34.5 | 28.2 | 8.0 | 0.3 | 1.7 | 0.6 | 1.5 | 0.08 | 0.1 | 36.6 | 0.3 | 0.4 |
| Sa 16 | | 4.3 | 2.3 | 1.8 | 31.6 | 39.2 | 5.5 | 0.3 | 1.4 | 0.4 | 0.9 | 0.06 | 0.1 | 27.3 | 0.2 | 0.2 |
| Sa 17 | | 16.9 | 9.1 | 7.2 | 3.9 | 271 | 21.4 | 0.5 | 0.7 | 0.3 | 3.5 | 0.06 | <0.1 | 61.3 | <0.2 | 0.8 |
| Sa 25MMI | | 31.8 | 22.6 | 7.1 | 77.1 | 32.4 | 24.2 | 0.6 | 1.3 | 0.4 | 7.8 | 0.05 | 0.2 | 41.2 | 0.4 | 2.1 |

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Finalized Date: 30- JAN- 2011
Account: WEMINC

Project: CP

# CERTIFICATE OF ANALYSIS VA11006590

| Sample Description | Method / Analyte / Units / LOR | ME- MS23 Mg ppm 0.01 | ME- MS23 Mn ppm 0.01 | ME- MS23 Mo ppb 0.5 | ME- MS23 Nb ppb 0.1 | ME- MS23 Nd ppb 0.1 | ME- MS23 Ni ppb 1 | ME- MS23 Pb ppb 1 | ME- MS23 Pb 206 ppb 1 | ME- MS23 Pb 207 ppb 1 | ME- MS23 Pb 208 ppb 1 | ME- MS23 Pd ppb 0.1 | ME- MS23 Pr ppb 0.1 | ME- MS23 Pt ppb 0.1 | ME- MS23 Rb ppb 0.1 | ME- MS23 Re ppb 0.1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 9 | | 11.70 | 5.77 | 6.0 | 0.7 | 12.5 | 40 | 19 | 5 | 4 | 10 | 0.6 | 2.7 | <0.1 | 111.5 | <0.1 |
| Sa 10 | | 16.40 | 1.67 | 5.6 | 0.6 | 137.5 | 29 | 13 | 3 | 3 | 7 | 5.1 | 28.3 | <0.1 | 88.0 | <0.1 |
| Sa 11 | | 5.70 | 4.70 | 5.5 | 2.3 | 15.3 | 42 | 15 | 4 | 3 | 8 | 1.4 | 3.3 | <0.1 | 128.5 | <0.1 |
| Sa 10MMI | | 9.84 | 4.69 | 20.9 | 1.3 | 31.4 | 270 | 28 | 7 | 6 | 15 | 1.9 | 7.0 | <0.1 | 176.5 | <0.1 |
| Sa 11MMI | | 14.50 | 4.89 | 4.5 | 1.5 | 21.0 | 180 | 64 | 17 | 13 | 34 | 1.3 | 4.6 | <0.1 | 207 | <0.1 |
| Sa 12MMI | | 7.74 | 6.00 | 4.5 | 3.3 | 20.7 | 88 | 28 | 7 | 6 | 15 | 1.9 | 4.8 | <0.1 | 80.0 | <0.1 |
| Sa 13MMI | | 2.84 | 2.20 | 7.8 | 2.7 | 43.9 | 121 | 80 | 20 | 17 | 42 | 2.2 | 9.1 | <0.1 | 187.0 | <0.1 |
| Sa 14MMI | | 9.35 | 1.46 | 5.5 | 1.3 | 24.5 | 105 | 63 | 16 | 13 | 33 | 1.5 | 5.4 | <0.1 | 134.0 | <0.1 |
| Sa 15MMI | | 5.89 | 3.80 | 3.4 | 1.1 | 17.8 | 43 | 35 | 9 | 7 | 18 | 0.8 | 3.8 | <0.1 | 224 | <0.1 |
| Sa 16MMI | | 8.87 | 0.64 | 4.6 | 0.7 | 38.3 | 25 | 36 | 9 | 7 | 19 | 3.0 | 8.5 | <0.1 | 148.5 | <0.1 |
| Sa 17MMI | | 6.27 | 0.62 | 7.8 | 0.5 | 20.9 | 102 | 95 | 24 | 20 | 49 | 1.1 | 4.6 | <0.1 | 235 | <0.1 |
| Sa 18MMI | | 10.30 | 0.84 | 4.1 | 0.3 | 15.0 | 116 | 606 | 156 | 126 | 316 | 0.8 | 3.1 | <0.1 | 296 | <0.1 |
| Sa 19MMI | | 22.7 | 6.42 | 4.2 | 0.2 | 13.8 | 67 | 549 | 143 | 115 | 284 | 0.5 | 2.4 | <0.1 | 135.0 | <0.1 |
| Sa 20MMI | | 28.1 | 7.80 | 0.7 | 0.8 | 7.8 | 61 | 51 | 13 | 11 | 27 | 1.1 | 1.8 | <0.1 | 191.0 | <0.1 |
| Sa 21MMI | | 33.8 | 32.7 | 5.7 | 0.4 | 25.2 | 233 | 6010 | 1540 | 1250 | 3130 | <0.1 | 5.0 | <0.1 | 270 | <0.1 |
| Sa 22MMI | | 5.20 | 2.92 | 7.1 | 0.8 | 37.7 | 75 | 397 | 102 | 86 | 203 | 1.8 | 8.0 | <0.1 | 165.5 | <0.1 |
| Sa 23MMI | | 10.85 | 2.30 | 5.6 | 1.5 | 32.4 | 109 | 101 | 26 | 21 | 53 | 2.2 | 7.1 | <0.1 | 177.0 | <0.1 |
| Sa 24MMI | | 11.90 | 11.50 | 4.9 | 3.0 | 43.9 | 142 | 110 | 29 | 23 | 57 | 2.3 | 9.8 | <0.1 | 106.0 | <0.1 |
| Sa 12 | | 2.76 | 5.24 | 8.6 | 0.8 | 37.9 | 48 | 80 | 20 | 17 | 42 | 1.8 | 8.5 | <0.1 | 153.5 | <0.1 |
| Sa 13 | | 14.45 | 6.96 | 6.8 | 8.5 | 43.4 | 84 | 102 | 26 | 21 | 53 | 2.2 | 9.9 | <0.1 | 81.1 | <0.1 |
| Sa 14 | | 3.57 | 14.55 | 5.4 | 0.9 | 25.7 | 83 | 63 | 16 | 13 | 33 | 1.4 | 5.8 | <0.1 | 143.5 | <0.1 |
| Sa 15 | | 4.50 | 7.24 | 6.0 | 1.4 | 36.4 | 74 | 46 | 12 | 10 | 24 | 2.2 | 8.5 | <0.1 | 168.5 | <0.1 |
| Sa 16 | | 3.59 | 4.08 | 4.2 | 1.2 | 27.9 | 43 | 42 | 11 | 9 | 22 | 1.8 | 6.4 | <0.1 | 134.5 | <0.1 |
| Sa 17 | | 9.13 | 0.55 | 3.6 | 0.2 | 88.2 | 10 | 16 | 4 | 3 | 8 | 1.2 | 17.5 | <0.1 | 141.0 | <0.1 |
| Sa 25MMI | | 32.1 | 19.50 | 2.4 | 0.9 | 75.8 | 161 | 640 | 166 | 132 | 333 | 2.1 | 15.4 | <0.1 | 123.0 | <0.1 |

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Finalized Date: 30- JAN- 2011
Account: WEMINC

Project: CP

# CERTIFICATE OF ANALYSIS VA11006590

| Sample Description | Method | ME- MS23 | ME- MS23 | ME- MS23 | ME- MS23 | ME- MS23 | ME- MS23 | ME- MS23 | ME- MS23 | ME- MS23 | ME- MS23 | ME- MS23 | ME- MS23 | ME- MS23 | ME- MS23 | ME- MS23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Sb | Sc | Se | Sm | Sn | Sr | Ta | Tb | Te | Th | Ti | Tl | Tm | U | W |
| | Units | ppb | ppb | ppb | ppb | ppb | ppb | ppb | ppb | ppb | ppb | ppb | ppb | ppb | ppb | ppb |
| | LOR | 0.5 | 1 | 2 | 0.1 | 0.2 | 1 | 1 | 0.1 | 1 | 0.02 | 5 | 0.5 | 0.1 | 0.1 | 1 |
| Sa 9 | | 16.7 | 13 | 3 | 3.5 | <0.2 | 730 | <1 | 0.7 | <1 | 2.44 | 261 | <0.5 | 0.3 | 4.3 | <1 |
| Sa 10 | | 20.5 | 48 | 17 | 34.9 | <0.2 | 980 | <1 | 6.5 | <1 | 44.4 | 212 | 1.2 | 1.9 | 42.9 | <1 |
| Sa 11 | | 6.5 | 28 | 4 | 3.8 | 0.4 | 379 | <1 | 0.7 | <1 | 4.96 | 1290 | <0.5 | 0.4 | 4.6 | 1 |
| Sa 10MMI | | 5.4 | 19 | 7 | 7.4 | <0.2 | 435 | <1 | 1.3 | <1 | 6.33 | 289 | <0.5 | 0.5 | 5.9 | 1 |
| Sa 11MMI | | 2.5 | 20 | 5 | 5.3 | <0.2 | 776 | <1 | 1.1 | <1 | 5.52 | 320 | <0.5 | 0.6 | 7.4 | <1 |
| Sa 12MMI | | 0.7 | 21 | 4 | 4.8 | 0.2 | 669 | <1 | 0.8 | <1 | 11.65 | 1260 | <0.5 | 0.3 | 12.1 | <1 |
| Sa 13MMI | | 1.8 | 28 | 8 | 10.4 | 0.3 | 195 | <1 | 1.7 | <1 | 8.46 | 951 | <0.5 | 0.9 | 7.0 | <1 |
| Sa 14MMI | | 1.3 | 14 | 7 | 6.0 | <0.2 | 1220 | <1 | 1.0 | <1 | 8.15 | 343 | <0.5 | 0.4 | 5.2 | <1 |
| Sa 15MMI | | 1.1 | 16 | 5 | 4.8 | <0.2 | 512 | <1 | 0.9 | <1 | 4.37 | 403 | <0.5 | 0.4 | 4.4 | <1 |
| Sa 16MMI | | 1.2 | 18 | 9 | 9.1 | <0.2 | 846 | <1 | 1.6 | <1 | 13.00 | 197 | <0.5 | 0.7 | 7.7 | <1 |
| Sa 17MMI | | <0.5 | 18 | 4 | 5.2 | <0.2 | 544 | <1 | 1.0 | <1 | 5.41 | 121 | <0.5 | 0.5 | 7.2 | <1 |
| Sa 18MMI | | 1.3 | 18 | 4 | 4.2 | <0.2 | 819 | <1 | 1.0 | <1 | 3.50 | 103 | <0.5 | 0.6 | 10.8 | <1 |
| Sa 19MMI | | 0.6 | 20 | 4 | 4.6 | <0.2 | 1490 | <1 | 1.1 | <1 | 1.09 | 51 | <0.5 | 0.7 | 5.3 | <1 |
| Sa 20MMI | | 0.7 | 22 | 2 | 2.0 | <0.2 | 1650 | <1 | 0.4 | <1 | 7.93 | 185 | 0.6 | 0.4 | 10.1 | <1 |
| Sa 21MMI | | 1.2 | 14 | 3 | 7.3 | <0.2 | 2030 | <1 | 1.4 | <1 | 4.19 | 129 | 0.5 | 0.6 | 8.3 | <1 |
| Sa 22MMI | | 0.6 | 16 | 7 | 9.4 | <0.2 | 753 | <1 | 1.7 | <1 | 7.89 | 190 | <0.5 | 0.7 | 7.2 | <1 |
| Sa 23MMI | | 0.6 | 25 | 6 | 7.9 | <0.2 | 844 | <1 | 1.4 | <1 | 8.39 | 521 | <0.5 | 0.6 | 10.3 | <1 |
| Sa 24MMI | | 0.7 | 30 | 8 | 10.7 | <0.2 | 654 | <1 | 1.9 | <1 | 10.65 | 803 | <0.5 | 0.9 | 8.6 | <1 |
| Sa 12 | | 0.7 | 20 | 9 | 8.8 | <0.2 | 206 | <1 | 1.5 | <1 | 8.61 | 214 | <0.5 | 0.5 | 11.4 | <1 |
| Sa 13 | | 0.6 | 30 | 7 | 9.9 | 1.1 | 705 | 1 | 1.8 | <1 | 12.55 | 3420 | <0.5 | 0.7 | 9.8 | 1 |
| Sa 14 | | <0.5 | 16 | 8 | 5.9 | <0.2 | 170 | <1 | 1.0 | <1 | 7.72 | 357 | <0.5 | 0.4 | 6.1 | <1 |
| Sa 15 | | <0.5 | 15 | 4 | 8.2 | <0.2 | 262 | <1 | 1.3 | <1 | 14.30 | 363 | <0.5 | 0.5 | 8.6 | <1 |
| Sa 16 | | <0.5 | 12 | 3 | 6.0 | <0.2 | 224 | <1 | 0.9 | <1 | 14.50 | 354 | <0.5 | 0.3 | 6.2 | 1 |
| Sa 17 | | <0.5 | 12 | 8 | 20.7 | <0.2 | 2110 | <1 | 3.4 | <1 | 3.25 | 32 | 0.5 | 1.1 | 9.3 | <1 |
| Sa 25MMI | | 1.1 | 46 | 9 | 21.7 | <0.2 | 1370 | <1 | 5.0 | <1 | 9.91 | 381 | 0.7 | 3.1 | 17.9 | <1 |

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Account: WEMINC

Project: CP

# CERTIFICATE OF ANALYSIS VA11006590

| Sample Description | Method / Analyte / Units / LOR | ME- MS23 Y ppb 0.1 | ME- MS23 Yb ppb 0.1 | ME- MS23 Zn ppb 10 | ME- MS23 Zr ppb 0.1 | pH- MS23 Final pH Unity 0.1 |
|---|---|---|---|---|---|---|
| Sa 9 | | 19.5 | 1.9 | 390 | 7.4 | 7.7 |
| Sa 10 | | 151.5 | 9.6 | 100 | 57.5 | 7.7 |
| Sa 11 | | 18.0 | 2.2 | 540 | 18.7 | 7.9 |
| Sa 10MMI | | 29.1 | 3.0 | 910 | 25.0 | 7.7 |
| Sa 11MMI | | 32.5 | 3.2 | 520 | 16.7 | 6.5 |
| Sa 12MMI | | 16.7 | 1.8 | 1480 | 27.2 | 6.5 |
| Sa 13MMI | | 44.7 | 4.9 | 720 | 31.5 | 6.8 |
| Sa 14MMI | | 22.7 | 2.3 | 110 | 19.6 | 7.9 |
| Sa 15MMI | | 19.8 | 2.0 | 210 | 9.0 | 7.9 |
| Sa 16MMI | | 35.3 | 3.5 | 20 | 39.9 | 8.3 |
| Sa 17MMI | | 26.7 | 2.6 | 570 | 14.0 | 6.8 |
| Sa 18MMI | | 28.2 | 2.8 | 230 | 10.0 | 6.5 |
| Sa 19MMI | | 35.1 | 3.9 | 460 | 4.5 | 7.7 |
| Sa 20MMI | | 11.2 | 3.4 | 710 | 14.1 | 6.5 |
| Sa 21MMI | | 31.6 | 3.4 | 6470 | 13.8 | 6.8 |
| Sa 22MMI | | 40.6 | 3.8 | 600 | 21.4 | 7.7 |
| Sa 23MMI | | 33.9 | 3.3 | 1200 | 28.3 | 7.1 |
| Sa 24MMI | | 45.3 | 4.9 | 2920 | 32.3 | 6.5 |
| Sa 12 | | 31.9 | 2.9 | 310 | 23.9 | 7.7 |
| Sa 13 | | 43.8 | 4.1 | 970 | 28.5 | 6.5 |
| Sa 14 | | 24.6 | 2.4 | 510 | 20.3 | 7.1 |
| Sa 15 | | 29.1 | 2.9 | 220 | 29.3 | 7.9 |
| Sa 16 | | 17.0 | 1.7 | 130 | 25.5 | 8.3 |
| Sa 17 | | 79.7 | 5.5 | 10 | 11.8 | 8.7 |
| Sa 25MMI | | 136.0 | 15.6 | 3750 | 21.3 | 7.1 |

Appendix 2

Rock Exposure Samples – Multi-element and Whole Rock Analyses (VA11233439, #575760-62)

ALS Minerals

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To: OMEGA SERVICES
6857 VALLEY ROAD
PO BOX 216
SAVONA BC V0K 2J0


Finalized Date: 1- DEC- 2011
Account: OMESER

# CERTIFICATE VA11233439

Project: CAN
P.O. No.:
This report is for ~~12~~ 3 Rock samples submitted to our lab in Vancouver, BC, Canada on 9- NOV- 2011.
The following have access to data associated with this certificate:

| | | |
|---|---|---|
| JIM MCLEOD | | |

## SAMPLE PREPARATION

| ALS CODE | DESCRIPTION |
|---|---|
| WEI- 21 | Received Sample Weight |
| LOG- 22 | Sample login - Rcd w/o BarCode |
| PUL- QC | Pulverizing QC Test |
| CRU- 31 | Fine crushing - 70% <2mm |
| SPL- 21 | Split sample - riffle splitter |
| PUL- 31 | Pulverize split to 85% <75 um |

## ANALYTICAL PROCEDURES

| ALS CODE | DESCRIPTION | INSTRUMENT |
|---|---|---|
| ME- ICP41 | 35 Element Aqua Regia ICP- AES | ICP- AES |
| ME- XRF06 | Whole Rock Package - XRF | XRF |
| OA- GRA06 | LOI for ME- XRF06 | WST- SIM |
| Au- AA23 | Au 30g FA- AA finish | AAS |

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This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:
Colin Ramshaw, Vancouver Laboratory Manager

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Project: CAN

# CERTIFICATE OF ANALYSIS VA11233439

| Sample Description | WEI-21 Recvd Wt. kg 0.02 | Au-AA23 Au ppm 0.005 | ME-ICP41 Ag ppm 0.2 | ME-ICP41 Al % 0.01 | ME-ICP41 As ppm 2 | ME-ICP41 B ppm 10 | ME-ICP41 Ba ppm 10 | ME-ICP41 Be ppm 0.5 | ME-ICP41 Bi ppm 2 | ME-ICP41 Ca % 0.01 | ME-ICP41 Cd ppm 0.5 | ME-ICP41 Co ppm 1 | ME-ICP41 Cr ppm 1 | ME-ICP41 Cu ppm 1 | ME-ICP41 Fe % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 575760 | 0.32 | 0.012 | 0.4 | 3.17 | 6 | <10 | 120 | <0.5 | <2 | 1.08 | 0.7 | 14 | 33 | 81 | 5.20 |
| 575761 | 1.26 | <0.005 | 0.5 | 1.54 | 5 | <10 | 100 | <0.5 | <2 | 0.16 | <0.5 | 4 | 4 | 19 | 2.29 |
| 575762 | 0.64 | 0.025 | 2.4 | 0.73 | 70 | <10 | 210 | <0.5 | 2 | 0.17 | 2.3 | 21 | 43 | 788 | 2.53 |
| 575763 | 0.70 | 0.006 | 0.2 | 2.57 | 3 | <10 | 100 | <0.5 | <2 | 1.19 | <0.5 | 24 | 51 | 7 | 4.08 |
| 575764 | 0.28 | 0.006 | 0.7 | 4.28 | 830 | <10 | 90 | 0.5 | <2 | 4.01 | 13.8 | 24 | 7 | 80 | 5.24 |
| 575765 | 1.80 | <0.005 | 0.4 | 2.68 | 10 | <10 | 100 | <0.5 | <2 | 0.83 | <0.5 | 18 | 23 | 42 | 4.50 |
| 575766 | 0.66 | <0.005 | 0.2 | 2.04 | 3 | <10 | 40 | <0.5 | <2 | 1.96 | <0.5 | 17 | 58 | 66 | 3.20 |
| 575767 | 0.24 | <0.005 | 0.3 | 2.35 | 8 | <10 | 110 | <0.5 | <2 | 0.92 | <0.5 | 16 | 21 | 28 | 3.64 |
| 575768 | 0.28 | <0.005 | 0.3 | 3.46 | 3 | <10 | 30 | <0.5 | <2 | 1.17 | <0.5 | 28 | 14 | 11 | 5.47 |
| 575769 | 0.96 | <0.005 | 0.2 | 0.80 | 33 | <10 | 10 | <0.5 | <2 | 7.10 | <0.5 | 7 | 18 | 37 | 2.96 |
| 575770 | 0.76 | 0.020 | 0.2 | 0.08 | 49 | <10 | 40 | <0.5 | <2 | 13.2 | 0.5 | 1 | 9 | 3 | 1.34 |
| 575771 | 0.20 | <0.005 | 0.2 | 0.83 | 17 | 10 | 90 | <0.5 | <2 | 1.53 | <0.5 | 3 | 6 | 5 | 2.51 |

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SAVONA BC V0K 2J0


Finalized Date: 1- DEC- 2011
Account: OMESER

Project: CAN

# CERTIFICATE OF ANALYSIS VA11233439

| Sample Description | Method | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 | ME- ICP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Ga | Hg | K | La | Mg | Mn | Mo | Na | Ni | P | Pb | S | Sb | Sc | Sr |
| | Units | ppm | ppm | % | ppm | % | ppm | ppm | % | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | LOR | 10 | 1 | 0.01 | 10 | 0.01 | 5 | 1 | 0.01 | 1 | 10 | 2 | 0.01 | 2 | 1 | 1 |
| 575760 | | 10 | <1 | 1.84 | <10 | 2.80 | 690 | 8 | 0.18 | 9 | 630 | 21 | 0.77 | 2 | 22 | 196 |
| 575761 | | 10 | <1 | 0.85 | 10 | 1.16 | 1555 | 2 | 0.07 | 2 | 270 | 2 | 0.19 | <2 | 5 | 13 |
| 575762 | | <10 | 1 | 0.32 | 10 | 0.23 | 966 | 12 | 0.01 | 88 | 440 | 152 | 0.09 | 14 | 4 | 11 |
| 575763 | | 10 | <1 | 0.03 | <10 | 2.95 | 1105 | <1 | 0.08 | 16 | 810 | 2 | 0.01 | <2 | 7 | 70 |
| 575764 | | 10 | <1 | 0.29 | <10 | 0.58 | 794 | 3 | 0.42 | 45 | 1440 | 11 | 3.02 | 2 | 6 | 186 |
| 575765 | | 10 | <1 | 0.11 | 10 | 1.86 | 916 | <1 | 0.05 | 13 | 830 | 6 | 0.03 | 2 | 7 | 42 |
| 575766 | | 10 | <1 | 0.15 | <10 | 1.49 | 651 | <1 | 0.17 | 24 | 630 | <2 | 0.01 | <2 | 10 | 69 |
| 575767 | | 10 | <1 | 0.12 | <10 | 1.62 | 811 | <1 | 0.05 | 10 | 710 | 3 | 0.03 | 2 | 6 | 58 |
| 575768 | | 10 | 1 | 0.02 | <10 | 3.03 | 1185 | <1 | 0.06 | 13 | 1030 | <2 | 0.01 | <2 | 6 | 67 |
| 575769 | | <10 | 6 | 0.03 | <10 | 2.63 | 802 | <1 | 0.02 | 19 | 50 | <2 | 0.02 | 10 | 5 | 91 |
| 575770 | | <10 | <1 | 0.01 | <10 | 4.07 | 549 | 1 | 0.02 | 2 | 320 | <2 | 0.04 | 3 | <1 | 59 |
| 575771 | | <10 | 1 | 0.12 | <10 | 0.60 | 379 | 1 | 0.08 | 6 | 1350 | 4 | 0.03 | <2 | 2 | 97 |

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# CERTIFICATE OF ANALYSIS VA11233439

| Sample Description / Method / Analyte / Units / LOR | ME- ICP41 Th ppm 20 | ME- ICP41 Ti % 0.01 | ME- ICP41 Tl ppm 10 | ME- ICP41 U ppm 10 | ME- ICP41 V ppm 1 | ME- ICP41 W ppm 10 | ME- ICP41 Zn ppm 2 | ME- XRF06 SiO2 % 0.01 | ME- XRF06 Al2O3 % 0.01 | ME- XRF06 Fe2O3 % 0.01 | ME- XRF06 CaO % 0.01 | ME- XRF06 MgO % 0.01 | ME- XRF06 Na2O % 0.01 | ME- XRF06 K2O % 0.01 | ME- XRF06 Cr2O3 % 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 575760 | <20 | 0.29 | <10 | <10 | 173 | <10 | 223 | 52.37 | 18.62 | 7.54 | 2.98 | 4.91 | 4.47 | 2.90 | <0.01 |
| 575761 | <20 | 0.17 | <10 | <10 | 51 | <10 | 61 | 68.77 | 14.67 | 3.27 | 1.05 | 2.12 | 4.32 | 3.18 | <0.01 |
| 575762 | <20 | 0.01 | <10 | <10 | 28 | 10 | 309 | 74.85 | 11.70 | 4.13 | 0.39 | 1.01 | 0.13 | 3.34 | 0.03 |
| 575763 | <20 | 0.33 | <10 | <10 | 163 | <10 | 88 | 49.84 | 17.54 | 9.54 | 6.92 | 5.97 | 4.77 | 0.09 | 0.01 |
| 575764 | <20 | 0.12 | <10 | <10 | 93 | <10 | 1000 | 56.38 | 13.63 | 8.47 | 9.88 | 2.68 | 1.30 | 2.19 | <0.01 |
| 575765 | <20 | 0.18 | <10 | <10 | 105 | <10 | 95 | | | | | | | | |
| 575766 | <20 | 0.33 | <10 | <10 | 100 | <10 | 71 | 51.00 | 13.93 | 11.10 | 9.97 | 6.33 | 1.94 | 1.01 | 0.02 |
| 575767 | <20 | 0.21 | <10 | <10 | 84 | <10 | 85 | 56.32 | 16.47 | 7.69 | 4.72 | 3.52 | 2.94 | 1.44 | <0.01 |
| 575768 | <20 | 0.51 | <10 | <10 | 171 | <10 | 141 | 49.25 | 19.11 | 10.07 | 6.22 | 5.02 | 4.80 | 0.16 | <0.01 |
| 575769 | <20 | <0.01 | <10 | <10 | 56 | <10 | 45 | 50.44 | 10.54 | 4.08 | 10.31 | 4.63 | 0.04 | 0.15 | <0.01 |
| 575770 | <20 | 0.01 | <10 | <10 | 62 | <10 | 34 | | | | | | | | |
| 575771 | <20 | 0.12 | <10 | <10 | 80 | <10 | 34 | | | | | | | | |

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# CERTIFICATE OF ANALYSIS VA11233439

| Sample Description | Method / Analyte / Units / LOR | ME- XRF06 TiO2 % 0.01 | ME- XRF06 MnO % 0.01 | ME- XRF06 P2O5 % 0.001 | ME- XRF06 SrO % 0.01 | ME- XRF06 BaO % 0.01 | ME- XRF06 LOI % 0.01 | ME- XRF06 Total % 0.01 |
|---|---|---|---|---|---|---|---|---|
| 575760 | | 0.99 | 0.09 | 0.145 | 0.06 | 0.75 | 3.83 | 99.65 |
| 575761 | | 0.50 | 0.28 | 0.118 | 0.02 | 0.08 | 1.23 | 99.60 |
| 575762 | | 0.50 | 0.13 | 0.115 | <0.01 | 0.15 | 3.39 | 99.87 |
| 575763 | | 1.36 | 0.23 | 0.181 | 0.04 | 0.02 | 3.23 | 99.74 |
| 575764 | | 0.76 | 0.35 | 0.319 | 0.03 | 0.09 | 3.69 | 99.77 |
| 575765 | | | | | | | | |
| 575766 | | 1.46 | 0.23 | 0.152 | 0.03 | 0.01 | 2.52 | 99.71 |
| 575767 | | 0.93 | 0.15 | 0.175 | 0.03 | 0.10 | 5.54 | 100.00 |
| 575768 | | 1.40 | 0.19 | 0.233 | 0.04 | 0.02 | 3.41 | 99.92 |
| 575769 | | 0.33 | 0.10 | 0.090 | 0.03 | <0.01 | 18.45 | 99.17 |
| 575770 | | | | | | | | |
| 575771 | | | | | | | | |

# Appendix 3

Data Table for Profiles Figures 3a, 3b and 3c

Table 1 (PPpHTVA11006590)

| MMI Sample # | pH | a) Log of pH | Acid pH | b) Log Ac. pH | a-b | 1/a-b* |
|---|---|---|---|---|---|---|
| Sa 9 | 5.98 | .7767 | 2.82 | .4502 | .3265 | 3.06 |
| Sa 10 | 5.62 | .7497 | 2.72 | .4346 | .3151 | 3.17 |
| Sa 11 | 5.70 | .7559 | 2.72 | .4346 | .3213 | 3.11 |
| Sa 12 | 5.58 | .7466 | 2.61 | .4166 | .3300 | 3.03 |
| Sa 13 | 5.25 | .7202 | 2.72 | .4346 | .2856 | 3.50 |
| Sa 14 | 5.74 | .7589 | 2.63 | .4199 | .3390 | 2.95 |
| Sa 15 | 5.94 | .7738 | 2.71 | .4330 | .3408 | 2.93 |
| Sa 16 | 5.80 | .7634 | 2.65 | .4232 | .3402 | 2.94 |
| Sa 17 | 6.02 | .7796 | 2.75 | .4393 | .3403 | 2.94 |
| Sa 10MMI | 6.07 | .7832 | 3.35 | .5250 | .2582 | 3.87 |
| Sa 11MMI | 6.05 | .7818 | 3.69 | .5670 | .2148 | 4.66 |
| Sa 12MMI | 5.64 | .7513 | 3.25 | .5119 | .2394 | 4.18 |
| Sa13MMI | 5.78 | .7619 | 2.79 | .4456 | .3161 | 3.16 |
| Sa14MMI | 5.84 | .7764 | 3.06 | .4857 | .2811 | 3.56 |
| Sa15MMI | 5.91 | .7716 | 2.93 | .4669 | .3047 | 3.28 |
| Sa16MMI | 6.12 | .7868 | 2.97 | .4728 | .3143 | 3.18 |
| Sa17MMI | 6.34 | .8021 | 3.41 | .5328 | .2693 | 3.71 |
| Sa18MMI | 6.46 | .8102 | 3.80 | .5798 | .2304 | 4.34 |
| Sa19MMI | 6.58 | .8182 | 3.50 | .5441 | .2741 | 3.65 |
| Sa20MMI | 5.72 | .7574 | 3.30 | .5185 | .2389 | 4.19 |

| MMI Sample # | pH | a) Log of pH | Acid pH | b) Log Ac. pH | a-b | 1/a-b |
|---|---|---|---|---|---|---|
| Sa21MMI | 7.30 | .8633 | 4.60 | .6628 | .2005 | 4.99 |
| Sa22MMI | 6.20 | .7924 | 2.79 | .4456 | .3468 | 2.88 |
| Sa23MMI | 5.90 | .7708 | 2.85 | .4548 | .3159 | 3.16 |
| Sa24MMI | 5.58 | .7766 | 3.20 | .5051 | .2415 | 4.14 |
| Sa25MMI | 6.14 | .7882 | 3.30 | .5185 | .2697 | 3.71 |

- 1/a-b has been termed the "inverse difference" that produce "positive peaks" which when plotted produce an "eye pleasing" that may produce anomalies whicht are called the Inverse Difference Hydrogen (IDH) anomalies (see References, B.W. Smee, 2009).