BC Geological Survey Assessment Report 35020

Report

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on the

Christmas Lake Project

Canim Lake Area Clinton Region, British Columbia Latitude 51° 54' N., Longitude 120° 46' W. NTS map sheet 92P/15W

by

James W. McLeod, Geologist

on behalf of

James W. McLeod, Owner

GEOLOGICAL SURVEY BRANCH ASSESSMENT REPORT



November 13, 2014 Savona, British Columbia

BRITISH COLUMBIA The Best Place on Earth Ministry of Energy, Mines & Petroleum Resources ning & Minerals Division Assessment Report AUG 11 ыС Geological Survey **Title Page and Summary** TOTAL COST: \$10,250 MINISTRY OF ENERGY AND MINES TYPE OF REPORT [type of survey(s)]: Geological, Geochemical 600 and AUTHOR(S): Jomes Wayne Read SIGNATURE(S): NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): MX - 3 - 235 YEAR OF WORK: 2014 STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5518277 PROPERTY NAME: Christmas Lake CLAIM NAME(S) (on which the work was done): N/N 515802 base metals , gold, silver -pge COMMODITIES SOUGHT: MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: NTS/BCGS: 920/14 **MING DIVISION:** LONGITUDE: 120 51 LATITUDE: (at centre of work) OWNER(S): McLead 2) 1) Dames Wayne MAILING ADDRESS: 20. Bex 216 Vok 250 Savona, BC OPERATOR(S) [who paid for the work]: 2) 1) J.W.M. Spead MAILING ADDRESS: 0. Bex 216 avona, BC VOK 250 PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude): volcani clastics and tertaceous terlayered ini age N Ine SI Dond ND ASSESSMENT REPORT NUMBERS: in Feoki PREVIOUS ASS Zones. of Next Page

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			4
Ground, mapping		515808	73417
Photo interpretation			
GEOPHYSICAL (line-kilometres) Ground			
Electromagnetic			•
Induced Polarization			
Radiometric			
Seismic			
	>	515808	834
Airborne			
GEOCHEMICAL (number of samples analysed for))	515808	
Soil MMI		-	3417
Silt			
	E-ICPOG, ME MG41		1708
Other BiogeochEn	n (spruce come)		854
LING I metres; number of holes, size			/
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
	-		
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			Service - Control the processing the source of the source
Road, local access (kilometres	s)/trail		
Trench (metres)			
_			
Other			
		TOTAL COST:	\$10,250

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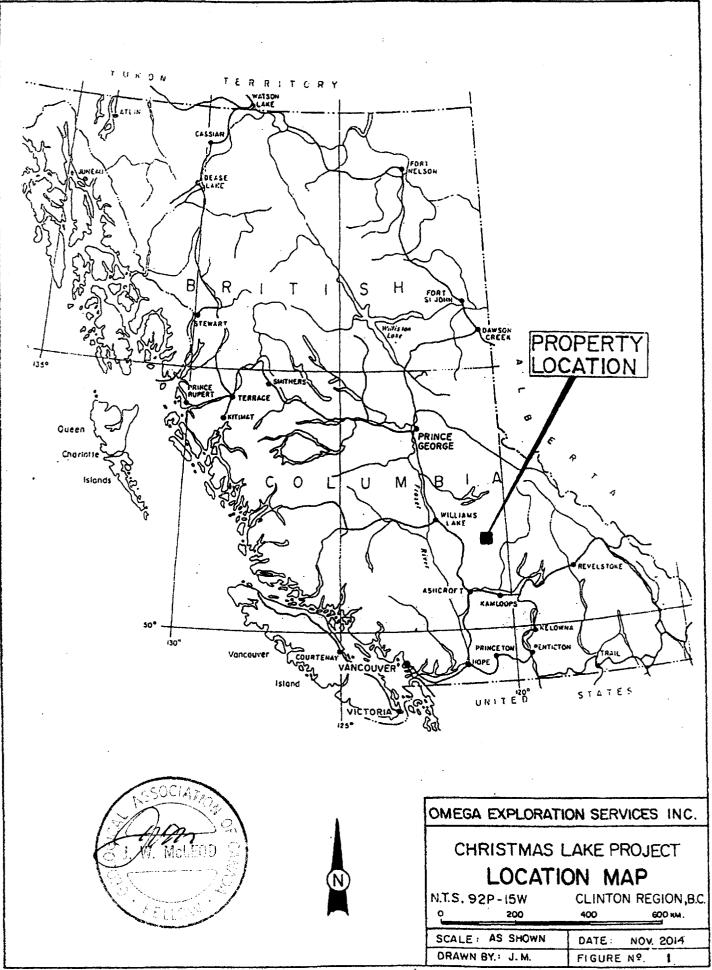
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Summary

The Christmas Lake property described in this report is located on the north side of Canim Lake in the Clinton Region, south-central British Columbia, Canada.

The current project work was carried-out during the period, May 18 - Aug. 17, 2014. The fieldwork includes: geological, geochemical and geophysical work. The geological mapping was carried out mainly along the gridlines. The soil geochemistry, mainly as MMI sampling and the proprietary Ionic Leach, ME-MS23 - digestion and complete package analyses. Two areas, South Grid and Lisa Grid underwent some rock exposure and/or auger sampling where bedrock was close at hand. One line of self potential reading was carried-out in the South Grid area. The author feels the current exploration work has revealed considerable knowledge about the two grid areas and the property in general. The areas of interest have grown in size and number. There are many areas that could undergo initial drill testing.

Introduction

The current work program, a portion of which the MMI sampling has been combined with two previous data sets and all three have undergone H+ concentrations using pH data plotted against aqua regia soluble Ca % results quoted in parts per million (ppm). The MMI values are found plotted as two profiles listed in the Appendices. The current phase of fieldwork has been integrated with the 2011 results and the MMI results indicate the possibility of an under lying porphyry-style occurrence exhibiting anomalous concentrations in both precious and base metals.

Location and Access

The claim area may be located on NTS map sheet, 92P/15W at latitude 51° 54' north and longitude 120° 46' west. The property is situated approximately 42 air kilometres (25 air miles) northeast of the Town of 100 Mile House, B.C. on the north side of Canim Lake. The property is in the Clinton Region of British Colnmbia.

Access to the mineral claims is gained by traveling 55 km. (33 miles) east of 100 Mile House, B.C. on the good all weather Boss Mountain-Hendricks Lake road to Christmas Lake and the property. Logging and early mineral exploration roads traverse much of the claim area.

Topographical and Physical Environment

The mineral claim lies within the Fraser plateau which is part of the larger physiographic belt called the Interior plateau region and covers low, rounded mountainous terrain. The resulting topographic features probably originated from deeper crustal movements that produce contraction and expansion zones through the crust offering zones of weakness. In the general area a frequently occurring and often thick sequence of flow basalts cover portions of the claim. The area has undergone widespread glacial incursion, but not necessarily an abundance of erosion. In an area of very widespread occurrences of many shallow "pothole" lakes relatively small mass water movement likely takes place in the perennial watercourses. Hills in this plateau setting on a local or property scale are not very high and erosion does not express itself well as precipitation is quite low. Overburden thickness in the claim area may be vary considerably and should generally be composed of re-worked glacial material where it has existed. To complicate matters are that certain parts of the area are covered by young plateau flow basalts.

The claim area is mainly a mixed coniferous tree (spruce, pine and some cedar) covered plateau or terraced benches with some scattered patches of deciduous forest, such as Western white birch, cottonwood and aspen. These are likely where they are because of the nature of the underlying fluvial glacial material that drains better. The elevations of the claim area range from 854 metres (2,800') to 1,067 metres (3,500').

The general area experiences approximately 90 cm. (35") of precipitation annually, of which 15% - 20% may occur as a snow equivalent. The winter weather is moderately cold with, not infrequent warming periods. The summer weather could be described as variable, some dry and hot and others cool and wet. The local area can experience a squall-type of weather in any season.

Property and Ownership

The property is situated in the Clinton Region of British Columbia, Canada at latitude 51° 54' north and longitude 120° 46' west.

The mineral claim referred to in this report constitutes the present Christmas Lake property which is listed as follows:

<u>Name</u>	<u>Tenure No.</u>	<u>Size</u>	Good to Date
N/N (No Name)	515808	<u>1,077</u> ha	Aug. 22, 2015
	Total	1,077 ha (2	2,661 acres)

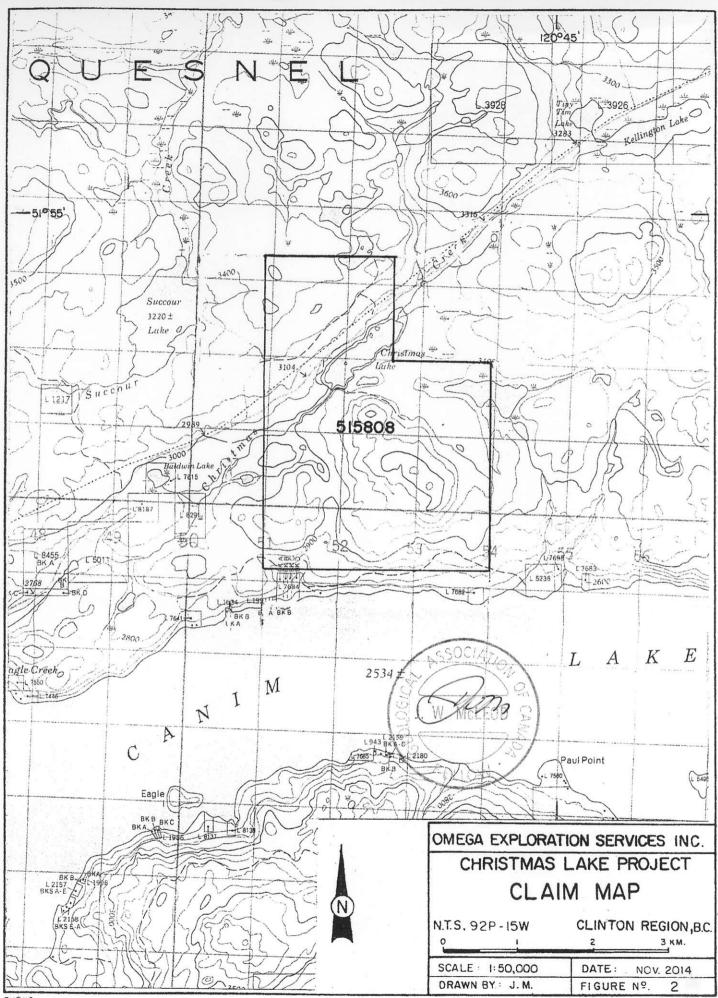
The mineral claim is owned by James W. McLeod of Savona, British Columbia, Canada, author of this report. The owner recognizes a 2% NSR payable to the estate of Larry R.W. Sostad the vendor of the property.

History

The recorded mining history of the claim area dates from the 1970's. It wasn't until the gold hunt became intense in the late 1970's and early 1980's that exploration activities in the project area increased. The following describes the exploration evolution of the Christmas Lake property. Some rock hand pits, bulldozer trenching and several A-sized diamond core drill holes of unknown location were undertaken peripheral to the large area of interest worked during the early 1970-80's porphyry period.

The exact date of this initial work is not known and is not available in the public record. In 1983 after the discovery of the QR (Quesnel River) gold deposit which is approximately 110 air-kilometers northwest of the Christmas Lake property. A geological examination of the present claim area revealed some lode gold indications and the property was staked on behalf of the E&B Syndicate (a German, foreign, exploration tax fund) operating out of Calgary, Alberta. E&B joint ventured (jv) the Christmas Lake Gold project with Ming Mines Limited of Vancouver, BC in 1985. The period 1985-87 saw Ming Mines fund the geological, geochemical and geophysical work on the property that constituted the jv activities. By 1990 Ming Mines had earned a 50% interest in the Christmas Lake gold property. The fieldwork was carried-out by the operator, E&B (later this entity was taken over by Mascot Gold Mines Ltd. of Vancouver, B.C.).

From approximately 1988 to 2001, the property remained in good standing, but did not undergo further fieldwork until 2002 when trenching, rehabilitation of the property roads and some of the historical grid and an orientation sampling program were carried-out. In 2003 a two diamond drill hole (DDH) program was undertaken. Since this time the author has conducted some magnetometer, self potential, induced polarization (chargeability and resistivity), conventional and later MMI soil geochemistry using the proprietary Ionic Leach digestion and rock exposure



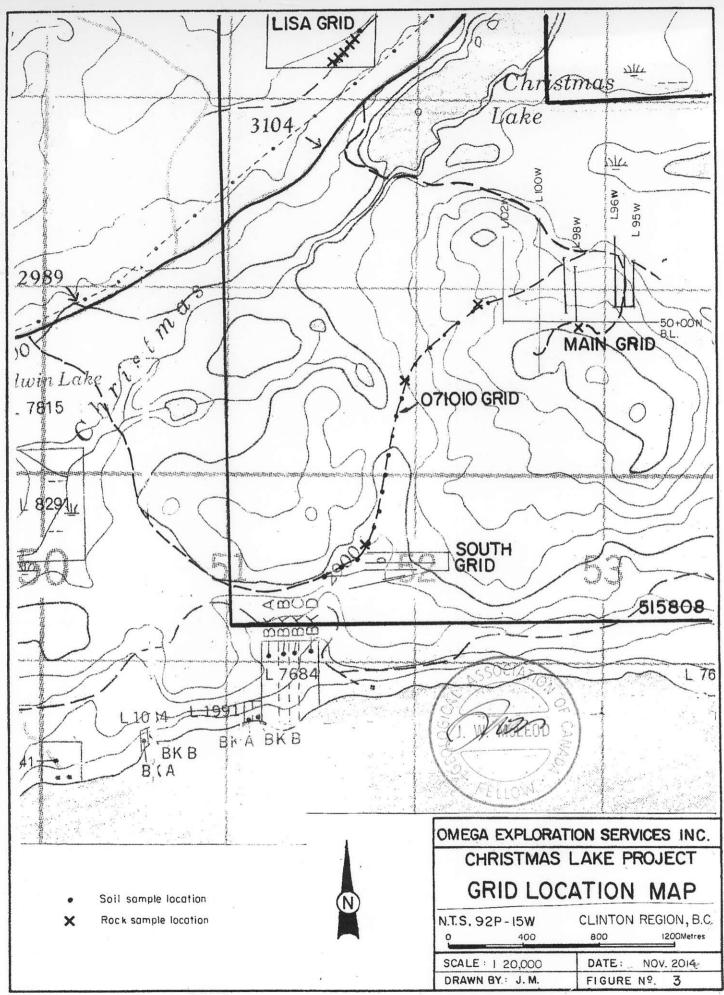
sampling in both grid areas. The Lisa Grid is the area where during the period 1985-87 a soil and rock exposure sampling program was reported to have encountered anomalous gold values.

From 2005 to the present, project owner, J.W. McLeod, geologist has worked on the property and maintained it in good standing.

Geology

The property covers an area underlain by interlayered volcaniclastic and tuffaceous rock units assigned to the Upper Triassic age Nicola Group. Included in this assemblage are fine grained, crystalline andesites and/or diorites. These older units are in places reportedly intruded by quartz diorite of possible Cretaceous or younger age that are tentatively assigned to the Takomkane batholith type-unit occurring to the northeast of the claim. Generally the underlying igneous rock units observed on the Christmas Lake property can be described as being of alkaline composition. The hornblende diorites that are observed to underlie and intrude the older Nicola units as they occur as "roof pendants". The intruding units are possibly of Cretaceous to Tertiary age. Volcanic dykes and overlying flows that appear to be the youngest rocks in the area, of late Tertiary age, are also reported to have been observed cutting, but mainly overlying the older units.

The property hosts a main zone of gold-bearing mineralization which centers about the original ground staked legal corner post (LCP) and a number of ancillary zones. For property orientation purposes the LCP is on the W-E baseline at 50+00 N-100+00 W. The highest gold values encountered to date are from this location and range from 1.5 - 6.0 grams (0.047-0.193 oz/tonne). These mineralized areas are more frequently found within the South area of the property. Occurring within these large zones of propylitie alteration, there can be found pyrite and pyrrhotite (iron sulphide mineralization) which may occur together and iron oxides as magnetite and limonite. Contact metamorphic alteration as hornfelses within the older rock units have been encountered in more localized areas in the southeastern parts of the property. These apparent "hot spots" may be indications of possible porphyry style mineralization. Much of the current fieldwork is focused on testing this possibility. A basic feature that is recognizable from the fieldwork performed to date on the property is that at most of the points of observable mineralization and/or anomalous areas of interest are that they appear to have undergone more intense structural preparation and often



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pyrite and/or limonite as elevated amounts of iron accompany the gold values.

Generally speaking, the conduits that allowed invasive igneous activity and subsequent hydrothermal alteration and mineralizing action appear to concentrate about the north side of Canim Lake. These northeast-southwest trending, east dipping zones may have been affected by moderately strong west-east faulting that appear to be steeply dipping.

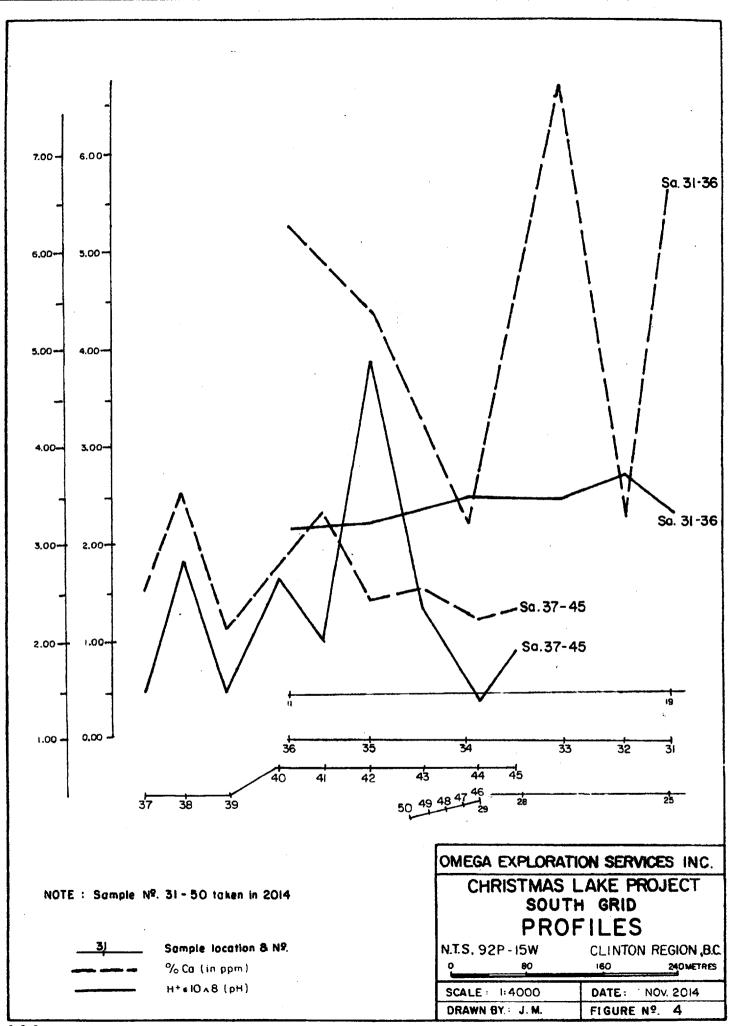
The volcaniclastics, tuffs and fine grained, micro-porphyritic, crystalline rock units observed on the property are similar to some units of the Nicola Group (Central Belt). These older units have been observed at a number of locations to the south between the towns of Aspen Grove and Princeton, B.C. a distance of approximately 100 air kilometers. Locally these alkaline rock units may be interlayered with aphanitic textured tuffs of possible rhyodacite composition.

The younger rock unit that is observed throughout the claim area is a microporphyritic hornblende diorite that has been observed to lie (or intrude) concordantly into the older layered sequences and to cut, in places, discordantly across these same units. These younger crystalline intrusive units could have a profound effect on the selective emplacement of the gold mineralization that may not be readily observable in the field.

In the southern most areas of the property (South Grid) there are indications of a possible copper-gold porphyry occurrence that was first worked on by the author in 2011. This exploration seasons emphasis has been to make the connection between this occurrence and more precisely the extent of the MMI signature (2011) and the current MMI data. The area covered by the new W-E sample survey lines appear to lie along the NW-SE trending hinge-line of a fault scarp. This feature is indicated by an underlying zone of shattered, bedrock which appears to be truncated near the east end of the 2011 grid by a fault-contact. There now is corroborating geochemical data and highly fractured rock exposures suggesting that the structural development of a mineralized porphyry may be at hand (see Figure 4, Appendix 4 and Figure 5).

Previous Work Programs

During the period 1983-87 the property underwent geological mapping, rock and soil geochemistry, magnetometer, very low frequency electromagnetic (VLF-EM) and induced polarization (IP) surveying, as well



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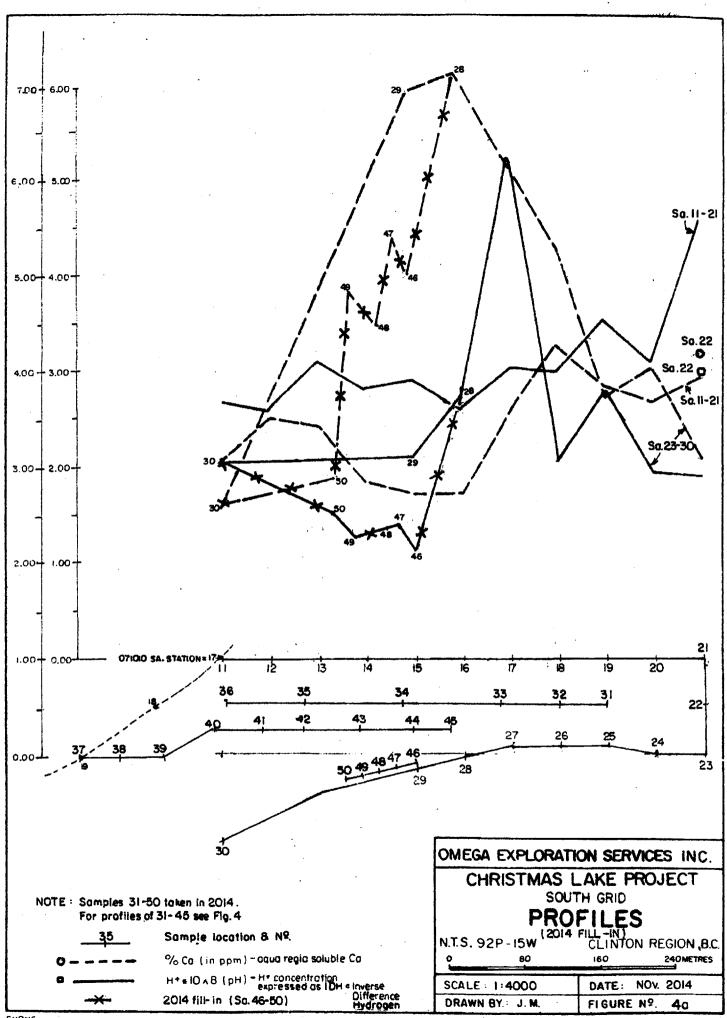
as, hand, hoe and bulldozer trenching in the widespread mineralized areas. Many coincidently anomalous areas of interest were delineated.

During the period 2002-08 the property underwent a two DDH program and further rock trenching, some localized soil and rock sampling, self potential and magnetometer work in an area that had not seen much attention in the past. This northwestern portion of the property, the Lisa Grid area underwent a limited IP survey and some coincident MMI sampling. The MMI soil geochemistry was continued during 2008-11.

Current Work Program

The current fieldwork program was conducted by the author during the period May 18 - Aug. 17, 2014. In the South Grid area three separate grid lines were installed by tying into the 2011 MMI sample lines (see Figures 4&4a). The total length of the new lines is 2.0 km. that includes the grid to station crossovers and tying into the 071010 stations #17 to #19 for location control. A total of 300 metres of SP survey was conducted. A total of 20 MMI soil samples were taken from the South Grid area, "micro layer" within the vertical section that is measured from immediately below the bottom of the main concentration of "root hairs" of the overlying organic material. This location is generally between 10cm to -20cm below the sample location ground surface. The author always tries to take a minimum of a 400 gram sample as a 120 gram amount of leachable material is needed for the proprietary Ionic Leach. The samples were placed in Ziploc poly bags and did not undergo any sample preparation including sorting although large masses of surface material (organics) or large pebbles that inadvertently get into the bag were removed by hand before closure. Before shipping the author cutout a 25ml portion of bag-run sample for performing the pH readings. Approximately a 5ml sample was rough screened to remove excessive organic debris and large pebbles which are hard on the glass pH sensor.

The samples were shipped in a sturdy well tapped heavy grade cardboard box to ALS Minerals laboratory in North Vancouver, B.C. where they were registered using our project name and sample numbers, bar coded and then prepared for the analyses. The respective samples underwent the proprietary Ionic Leach digestion and subsequent induction coupled plasma mass spectrophotometer (ICPMS) analyses. These samples received the ME-MS23 (multi-element) package. Also the samples from all three grids



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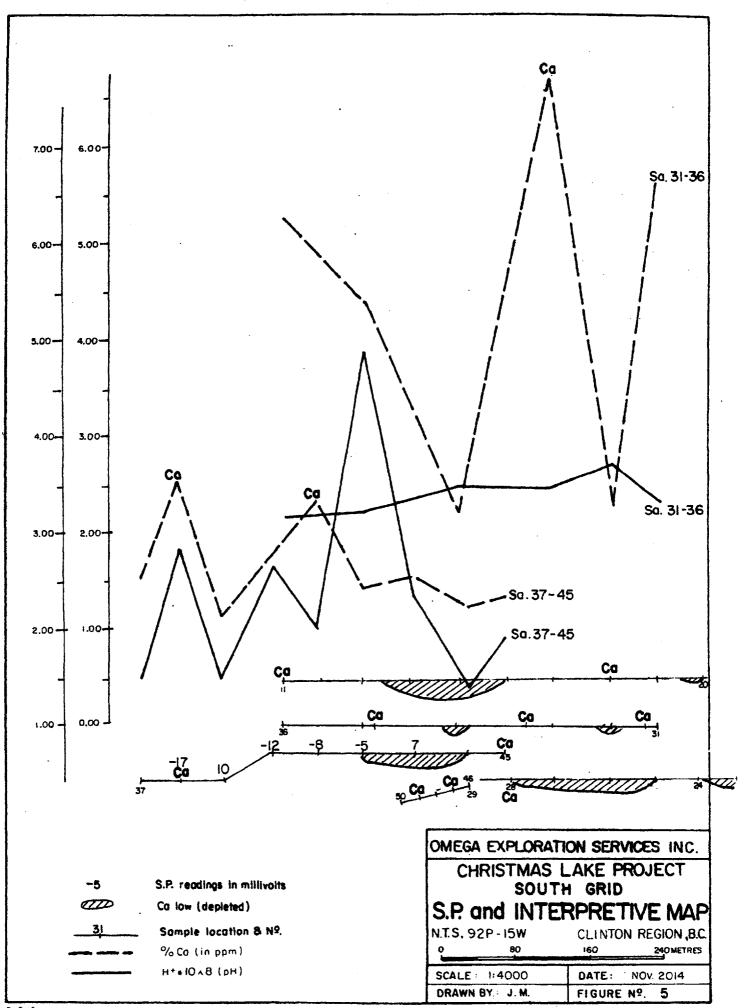
returned H+ concentration calculated from pH readings that were converted to Inverse Difference Hydrogen (IDH) and plotted against calcium as (aqua regia soluble Ca, %) (see Appendix 3 - Data Tables for Figures 4and 4a) as well as copies of the analyses for each gridded area. Several whole rock analysis were made, as well as three biogeochemical samples of Douglas spruce cones were analyzed.

The South Grid area received 20 MMI analyses and 2 auger samples just below crackled bedrock to ~30cm one of which was treated as a rock sample and the other as a sediment sample that were both analyzed for the ME-MS41- multi-element package. 3 spruce cone vegetation samples were taken and received the ME-VEG41-digestion and analyses by HNO3/HCL ICPAES 1. One of the rock samples received the Whole Rock MEICP06 analyze and underwent the titration method FE-VRL05 for the determination of FeO (see Figure 5 and Appendices).

The Lisa Grid area received one (1) MMI analysis and 5 rock samples by the ME-MS41 - multi-element package, 2 whole rock analyzes by ME-ICP06 plus 2 of the rock samples underwent the titration method FE-VRL05 for the determination of FeO (see Figure 6 and Appendices).

CONCLUSIONS

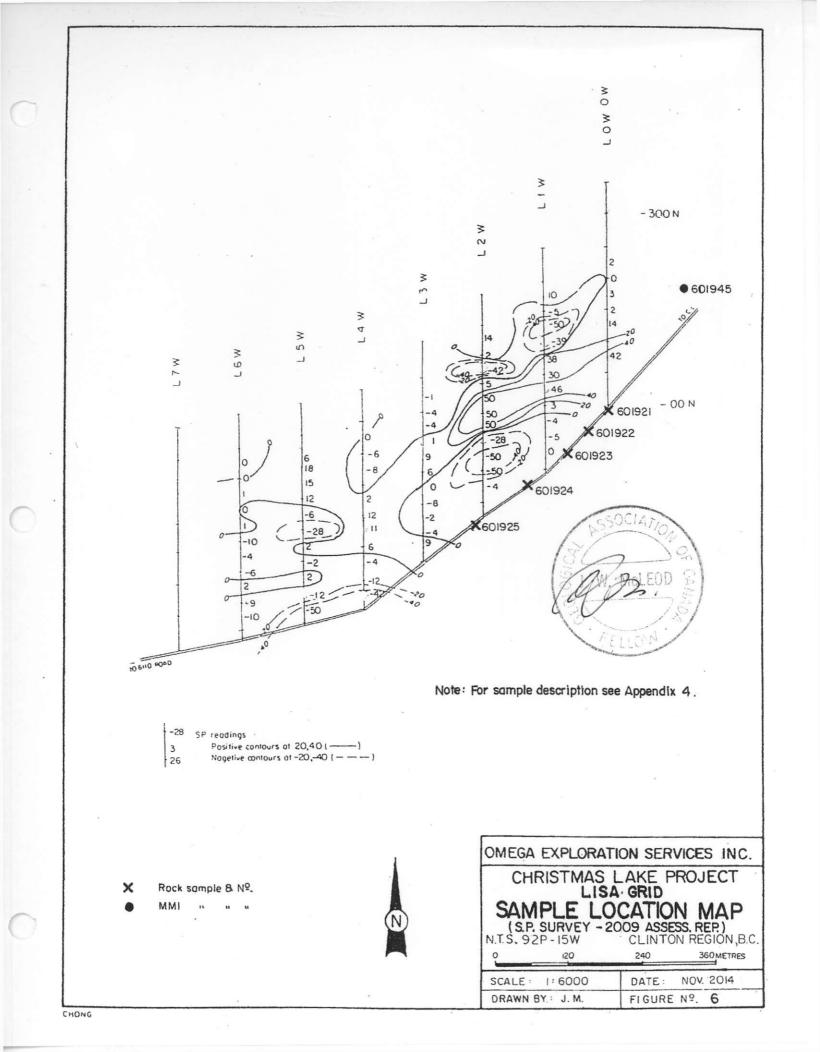
On the South Grid area where the 2014 work was undertaken, as fill-in type, the three separate grid lines which either lie within the two 2011 grid lines or partially within them. The 2011 and 2014 (MMI) sample method with the proprietary IONIC leach digestion and ICP-MS analysis was undertaken. Only the 2011 MMI data underwent descriptive statistical analyses for the selected number of elements. The author feels that for our present purpose of comparison of the bounding 2011 data there was no need to combine it with the 2014 data. The author has checked the current data against the 2011 parameters to make sure new anomalies are not injected into the plan for enhancement purposes, but he is looking for comparisons to aid in his interpretation of what is happening. It was felt that a test of one element from the anomalous or sub-anomalous group of stations 26-28 from 2011 for the element silver might be of interest. When the combined values for the anomalous threshold were calculated only the three values from 2011 were still found to be anomalous. If the current data comparisons of the % soluble Ca to the pH of H+ ion concentrations as the (Inverse Difference Hydrogen, IDH) are not compatible in some explainable fashion then the cause may be due to some thing else, i.e. fault displacement, etc. The author



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feels that the information gained to date about the underlying bedrock in the overburden covered areas will have to be verified by trenching or drilling. Newly recognized features in this localized area are many. Major considerations of rock type changes and their structural characteristics are very important. As for the fill-in soil sampling of the original grid area (2011) there is a better understanding of the type and trend of the possible mineral zone. In assessing the data there appears to be selective concentration of certain suites of elements. The location of the occurrence of the suites, Gold Exploration Suite, GES; Base Metal Suite, BMS and Others will be most useful in conjunction with the comparison with % Ca to IDH graphs. It appears that relatable low or no calcium zones appear on each of the four main grid lines, although line 31- 36 appears to contain only two spot locations, at stations 32 and 34. Inspection of Figure 5 reveals that this condition is a reflection of the shape of the graph. Line 31-36 appears to have a noticeable lack of activity along its length which has been explained by B.W. Smee, 2010 (see References). This specific problem was discussed and is referred to as the "single peak anomaly" and states that the cause could be "a break-in-slope or a water-bearing structure", strangely both of these actions may be in play at the location of the single peak. The 11-21 line appears to be just above to the north of the lowest apparent drainage feature that appears to the W-E trace of an ephemeral or totally underground water course as is determinable by the small pond near the west end of the line. The MMI sample sites were mingled with very angular rock particles 2 cm to 4 cm in size which could represent a thinly buried scree slope. Approximately 100 m. toward the southwest from station 34 there is an occurrence of massive fresh looking, angular, blocky, leucocratic igneous float, in the several meters square size range, that is observed to occur in the vicinity of stations 43-50. These conditions suggest that considerable physical bedrock activity has taken place in this general area.

The GES exhibits a concentration of its anomalous values in the southeast quadrant of the grids (see Figure 4b and Appendix 4) and the only ones containing gold and silver together is 2 and 2 more as gold on its own for a total representation of 4. Of a representation of 7 Co, 2 were accompanied by Pd on the most northerly line, 3 were solitary and the last two were with Ag and Ni, respectively. The BMS exhibits a bit more scatter and a larger area than GES and occurs mainly in the southwest quadrant. The representation sample number is 10 zinc, 7 cadmium, 3 lead and 2 copper. The Other category exhibits more widesprend occurrences that may be expected since a number of elements show and affinity with the GES, BMS,



neither or both but may be with the PPS, porphyry pathfinder suite. The element cerium, Ce shows an affinity for Zn. Molybdenum, Mo is often found accompanying copper in the more siliceous, calc-alkaline porphyries.

The S.P. line shows rather inconclusive results of low S.P. values and a possible reason for the alternating signs of the values that may find a valid explanation if the underlying cause is frequent changes in rock type. If we recognize the occurrence and appearance of the nearby MMI sample line 071010 we may well be taking S.P. readings across a vertical section(s) of these oldest rock units of different composition which comprise the "roof pendants". Any areas of interest regarding the MMI results may also receive further fill-in geochemistry and S.P. work to augment those results. The single peak anomaly is evident but is the bedrock so highly broken as to not develop a good S.P. circuit. There is an abundance of targets to test.

RECOMMENDATIONS

Follow-up grid sampling about those already undertaken may be required. An S.P. survey over the currently suggested area of interest should also be undertaken. The survey gridlines could be oriented in an S-N direction starting 50m or 100m S, if possible because terrain constraints experienced at the 2011 grid and intersecting station 25 with readings at 25m to the N until the anomalous responses cease and 50m spaced lines to the W will continue until the responses cease. On any line if the values are very high the station spacing will be closed until the required detail is attained. Depending on all these factors the anomalous zone will be auger drilled or tracked excavator used for good bedrock samples. A later drilling program will be designed to test the anomalous areas.

COST ESTIMATE

Geologist and one technician for 10 days at \$500	
plus 1 x \$300 per day	\$ 8,000
Camp and board for 20 mandays at \$150 per + return	
transportation from 100 Mile House, BC	3,000
Transportation rental and fuel for 1 - 4x4 pick-up	1,500
Auger drill or tracked hoe bedrock testing of anomalous	
targets, all inclusive for personnel, transportation, insurance	
fuel, mobilization and demobilization for 50 hours x \$200	10,000

50 analyses and assays, follow-up + bedrock analyses	
and 20 whole rock analyses+ petrography 4,50	00
Permits, fees, filings, insurance, etc. 2,50	00
Reports and maps 2,0	00
Contingency <u>3,0</u>	<u>00</u>

Total \$ 34,500

Respectfully submitted, ESOCIA l James W. McLeod, Geølogist En la serva A se una

STATEMENT OF COSTS

Geology, geochemistry and geophysical fieldwork, James W. McLeod, for full days May 18-19, June 7-8, July 8-9 and 1/2 days Aug. 14-17 for a total of 8 days	
at \$500/day	\$ 4,000
Sampling, MMI, sediment (auger) and rock and S.P. recording fieldwork, S.C. McLeod, for full days May 18-19, June 7-8, July 8-9, Aug. 11 for a total of 7 days	
at \$250/day	1,750
Transportation and travel	450
Food – 12 mandays at \$50/manday	600
Analytical expenses including field supplies and	
shipping costs of MMI, sediment, biogeochemical, rock samples and FeO titrations	2,350
Report and maps	<u>1,100</u>
Total	\$10,250

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CERTIFICATE

- I, James W. McLeod, of the Village of Savona, Province of British Columbia, hereby certify as follows:
- 1) I am a Geologist with an office at P.O. Box 216, 6857 Valley Road, Savona, B.C., V0K 2J0.
- 2) I am a Fellow of the Geological Association of Canada.
- 3) I graduated with a degree of Bachelor of Science, Major Geology, from The University of British Columbia in 1969.
- 4) I have practiced my profession since 1969.
- 5) I have had direct ownership of the Christmas Lake property since 2005.
- 6) The above report is based on personal field experience gained by myself in the general area during the past 44 years and on the Christmas Lake property in particular, during the past 12 years.

DATED at Savona, Province of British Columbia this 13th day of November 2014.

McLeod, Geologist

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Appendices

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Appendix 1

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Ionic Leach Data



2103 Dollarton Hwy North Vancouver BC V7H 0A7 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: MCLEOD, JM P.O BOX 216 SAVONA BC V0K 2J0

Page: 1 Total # Pages: 2 (A - E) Plus Appendix Pages Finalized Date: 8- OCT- 2014 This copy reported on 10- OCT- 2014 Account: MCLLIM

CERTIFICATE VA14140896

Project: CLP

This report is for 22 Sediment samples submitted to our lab in Vancouver, BC, Canada on 30- SEP-2014.

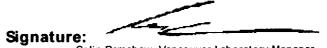
The following have access to data associated with this certificate:

ALSCODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/ o BarCode
SPL-33	Split Sample - scoop split

	ANALYTICAL PROCEDUR	RES
ALSCODE	DESCRIPTION	INSTRUMENT
ME- MS23	IONIC Leach - Complete PKG.	ICP- MS
pH-MS23	MS23 Leach pH	

To: MCLEOD, JM P.O BOX 216 SAVONA BC VOK 2J0

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.



Colin Ramshaw, Vancouver Laboratory Manager

***** See Appendix Page for comments regarding this certificate *****



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To: MCLEOD, JM P.O BOX 216 SAVONA BC VOK 2J0

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Project: CLP

Sample Description	Method Analyte Units LOR	WEI-21 Rescvd Wt. kg 0.02	ME- M523 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	МЕ- MS23 Сг ррb 1	ME-MS23 Cs ppb 0.1	ME-MS23 Cu ppb 1
601914		1.42	18.0	6	1.02	930	<0.2	<3	0.08	554	19	15,3	14.9	7	0.3	348
601915		1.16	20.6	6	1.01	1060	3.2	<3	<0.05	225	16	39.1	33.2	20	2.4	179
601916		0.20	29.1	2	0.56	2780	<0.2	<3	0.06	669	13	4.5	17.9	4	0.9	2200
601917		0.76	11.4	9	0.04	880	0.9	<3	0.05	214	58	31.6	12.2	16	2.8	87
601918		0.68	6.1	5	0.06	2140	1.4	<3	0.07	432	171	32.7	37.9	15	1.9	403
601919 6019 3 0		1.50 Not Recvd	31.0	4	0.35	1420	<0.2	<3	<0.05	523	40	2.3	37.1	3	0.8	537
501926		0.58	27.1	7	0.04	570	2.8	<3	0.06	148.0	55	17,2	85.3	20	4.0	101500
801927		0.56	12.5	4	0.15	1290	2.9	<3	<0.05	282	55	28.3	28.8	8	2.5	335
301/928		0.74	20.4	10	0.18	1690	4.9	<3	0.08	145.5	52	68.3	40.9	28	4.5	259
301929		0.60	9.6	4	0.11	1550	1.7	<3	0.06	258	29	40.2	21.0	11	2.9	163
601930		0.56	1.5	9	0.02	2010	2.8	<3	<0.05	194.0	120	12.8	40.2	32	2.2	183
301931		0.90	20.2	5	0.77	590	<0.2	<3	0.05	480	22	9.2	19.7	4	0.2	1910
601932		0.66	20.1	3	0.18	650	1.8	<3	<0.05	402	74	26.1	42.6	6	1.2	1250
601938		0.68	15.7	8	0.13	1670	2.8	<3	0.08	129.0	52	82.3	22.0	32	3.9	207
501934		0.62	7.2	6	0.06	1050	3.9	<3	<0.05	183.0	55	98.7	42.6	19	2.4	481
301938		0.80	19.3	3	0.36	1570	<0.2	<3	0.06	500	17	41.5	44.3	7	0.4	710
301939		0.70	11.2	4	0.09	1010	<0.2	<3	<0.05	538	48	11.3	20.4	12	0.4	150
301940		0.60	1.9	5	0.04	1190	0.9	<3	0.07	449	79	24.7	77.6	14	1.3	147
801941		0.48	2.2	13	0.02	2080	0.9	<3	0.11	483	88	45.1	125.5	39	1.3	299
801942		0.56	1.3	11	0.02	1230	3.0	<3	0.13	287	30	110.0	281	61	1.3	276
601945		0.98	39.5	11	0.36	1030	1.3	<3	0.07	185.0	28	88.7	20.6	29	2.7	443



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Metho Analy Unit: Construction LOF	ρpb	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 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
301914	3.9	1.9	1.0	15.4	0.6	4.6	0.1	<0.5	0.6	0.8	0.02	<0.1	6.0	0.4	0.2
301915	5.8	3.0	1.1	54.1	4.8	4.9	0.2	1.5	1.0	1.1	0.02	0.1	13.9	2.7	0.3
301916	18.2	8.6	4.1	6.2	0.5	20.8	<0.1	<0.5	0.4	3.4	0.02	<0.1	11.2	0.8	0.9
01917	6.5	3.6	1.0	34.3	4.9	5.1	0.4	0.9	0.7	1.3	0.02	<0.1	9.1	5.2	0.4
301918	9.2	5.7	1.4	48.3	2.0	6.6	0.1	0.7	0.6	1.9	0.02	0.1	9.9	0.9	0.6
301919 301920	0.9	0.4	0.3	13.5	1.0	1.1	<0.1	<0.5	0.7	0.2	0.01	<0.1	1.6	0.7	<0.1
301926	1.8	1.0	0.4	56.7	5.9	1.4	0.1	1.2	0.6	0.3	0.03	<0.1	4.4	5.3	0.1
301927	7.8	4.3	1.3	39.0	2.7	6.5	0.1	0.7	0.4	1.6	0.01	<0.1	11.3	<0.2	0.4
301928	7.8	4.6	1.6	76.6	11.0	7.2	0.5	3.4	1.0	1.5	0.04	0.1	25.8	4.3	0.6
501929	8.0	5.1	1.3	48.2	3.6	6.3	0.2	1.0	0.5	1.8	0.02	0.1	12.9	0.6	0.6
301930	3.6	2.4	0.6	98.0	13.7	2.4	0.6	1.8	1.3	0.8	0.02	0.2	4.9	8.3	0.3
301931	5.2	2.4	1.3	13.6	0.5	5.2	0.1	<0.5	0.7	0.9	0.01	<0.1	7.3	0.9	0.2
301932	6.1	3.7	1.1	20.5	1.6	5.5	0.1	<0.5	9.5	1.3	0.01	<0.1	10.7	<0.2	0.4
301933	11.7	6.5	2.1	82.8	8.7	10.2	0.4	3.2	1.2	2.4	0.04	0.1	28.0	5.6	0.8
301934	26.5	15.3	4.2	89.3	5.5	20.2	0.4	1.4	0.5	5.5	0.01	0.1	31.4	1.1	1.7
301938	13.5	6.6	2.8	21.9	0.8	13.7	0.2	0.5	0.3	2.6	0.01	<0.1	16.6	0.6	0.6
01939	4.3	2.1	1.0	18.6	0.8	4.8	0.1	<0.5	0.5	0.8	0.01	<0.1	5.4	0.4	0.2
301940	7.6	5.0	1.4	30.4	2.1	6.3	<0.1	0.6	0.5	1.7	0.01	<0.1	9.6	<0.2	0.6
301941	6.3	3.9	1.1	64.2	2.6	5.3	0.1	1.7	0.8	1.2	0.03	0.1	11.0	1.5	0.4
01942	27.9	20.2	4.8	184.0	5.4	21.6	0.3	1.7	0.5	6.3	0.03	0.4	37.8	2.7	3.0
301945	12.3	6.3	2.6	35.0	3.7	11.6	0.3	2.0	0.7	2.4	0.02	<0.1	29.2	2.4	0.7



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Project: CLP

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 Po 206 ppb 1	ME- MS23 Pb 207 ppb 1	ME- MS23 Po 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
01914	73.7	3.29	6.5	0.4	11.1	147	17	5	4	9	0.1	2.1	<0.1	57.2	<0.1
01915	19.90	1.85	8.7	2.0	16.3	112	109	30	25	61	0.1	4.1	<0.1	113.5	<0.1
01916	78.2	0.59	8.9	0.1	30.0	119	8	2	2	4	0.1	4.7	<0.1	109.0	<0.1
01917	35.6	6.69	5.9	1.9	14.7	174	117	32	27	65	<0.1	3.3	<0.1	162.5	<0.1
01918	55.2	10.85	4.1	0.9	15.5	261	161	44	37	86	<0.1	3.4	<0.1	199.5	<0.1
01919 01920	55.6	22.1	18.9	0.3	2.7	163	17	4	4	9	<0.1	0.6	<0.1	158.5	<0.1
01926	34.7	25.9	8.4	2.3	6.1	241	21	6	5	12	0.1	1.3	<0 .1	181.0	<0.1
01927	38.3	8.35	2.9	0.8	17.2	153	111	30	25	63	<0.1	3.7	<0.1	174.5	<0.1
01928	12.15	8.80	8.4	5.8	30.3	151	151	41	34	81	0.3	7.2	<0 .1	128.0	<0.1
01929	22.3	9.85	9.5	1.5	17.9	150	163	45	37	91	<0.1	4.2	<0.1	149.5	<0.1
01930	17.25	21.3	5.4	3.9	6.7	148	318	86	73	178	<0.1	1.7	<0.1	106.5	<0.1
01931	95.5	0.85	4.1	0.5	14.0	168	9	3	2	5	0.1	2.5	<0.1	54.0	<0.1
01932	52.3	1.81	4.2	0.4	15.7	162	70	19	19	39	<0.1	3.3	<0 .1	88.0	<0.1
01933	12.30	11.35	7.8	5.0	36.9	148	127	35	29	71	0.1	9.0	<0.1	173.5	<0.1
01934	51.4	6.29	4.4	1.4	53.5	211	144	39	32	81	<0.1	11.3	<0.1	140.0	<0.1
01938	57.3	2.21	4.7	0.5	30.4	225	40	11	9	23	<0.1	5.7	<0.1	76.9	<0.1
01939	53.2	6.70	6.6	0.4	10.1	261	23	6	5	13	<0.1	1.9	<0.1	71.1	<0.1
01940	56.6	28.9	2.3	1.0	14.5	181	116	31	26	66	<0.1	3.3	<0.1	110.5	<0.1
01941	69.7	42.9	1.8	.4.0	16.5	222	155	42	35	87	<0.1	3.8	<0.1	120.5	<0.1
01942	83.6	14.75	2.6	4.1	58.7	158	326	90	74	180	0.1	13.1	0.1	91.7	<0.1
01945	28.5	4.00	9.6	1.5	39.2	147	55	15	12	30	0.1	9.1	<0.1	202	<0.1



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A	lethod nalyte Units LOR	ME-MS23 Sb ppb 0.5	ME-MS23 Sc ppb 1	ME-MS23 Se ppb 2	ME-MS23 Sm ppb 0.1	ME-MS23 Sn ppb 0.2	ME-MS23 Sr ppb 1	ME-MS23 Ta ppb 1	ME- MS23 Tb ppb 0.1	ME-MS23 Te ppb 1	ME- MS23 Th ppb 0.02	ME-MS23 Ti ppb 5	ME- MS23 Ti ppb 0.5	ME- MS23 Tm ppb 0.1	ME-MS23 U ppb 0.1	ME-MS23 W ppb 1
601914		<0.5	5	4	3.4	<0.2	3840	<1	0.7	<1	2.31	27	<0.5	0.2	1,0	<1
601915		<0.5	14	3	3.9	0.2	1430	<1	0.8	<1	6.40	425	<0.5	0.4	2.7	<1
501916		<0.5	12	8	13.2	<0.2	5430	<1	3.2	<1	1.28	11	<0.5	0.9	11.2	<1
601917		<0.5	13	6	3.9	0.3	9 58	<1	0.9	<1	3.80	488	<0.5	0.5	2.8	<1
601918		<0.5	22	4	4.7	<0.2	2970	<1	1.3	<1	5.60	111	<0.5	0.8	4.1	<1
601919 601920		<0.5	2	3	0.8	<0.2	3000	<1	0,1	<1	0.60	23	<0.5	<0 .1	0.8	<1
601926		<0.5	15	194	1.4	0.2	771	<1	0.3	<1	4.90	589	<0.5	0.1	2.5	<1
301927		<0.5	16	4	4.6	<0.2	1520	<1	1.1	<1	4.48	121	<0.5	0.6	3.4	<1
301928		<0.5	20	7	7.0	0.4	726	<1	1.2	<1	12.15	1325	<0.5	0.7	6.0	1
301929		<0.5	17	4	4.9	<0.2	1260	<1	1.2	<1	5.58	226	<0.5	0.7	5.2	<1
601930		<0.5	23	7	2.0	0.8	1400	<1	0.5	<1	7.69	1285	<0.5	0.3	2.4	1
601931		<0.5	7	3	4.9	<0.2	3220	<1	0.9	<1	1.32	20	<0.5	0.3	2.0	<1
801932		<0.5	10	7	4.1	<0.2	1960	<1	1.0	<1	2.05	49	<0.5	0.4	21.5	<1
301936		<0.5	28	7	8.7	0.5	1180	<1	1.8	<1	15.45	1160	<0.5	0.9	5.5	1
301934		<0.5	42	7	15.9	<0.2	1430	<1	3.9	<1	9.65	264	<0.5	2.0	4.9	<1
301938		<0.5	5	8	10.0	<0.2	4540	<1	2.2	<1	3.91	20	<0.5	0.8	1.9	<1
501939		<0.5	2	2	3.3	<0.2	4220	<1	0.7	<1	1.28	25	<0,5	0.2	1.0	<1
501940		<0.5	12	6	4.3	<0.2	4880	<1	1.1	<1	3.34	62	<0.5	0.6	3.8	<1
601941		<0.5	24	5	4.6	<0.2	5740	<1	1.0	<1	9.70	171	<0.5	0.5	4.2	1
801942 601945		<0.5 <0.5	75 31	7 6	17.0 9.8	<0.2 <0.2	3100 531	<1 <1	4.0 2.0	<1 <1	22.9 9.46	363 390	<0.5 <0.5	3.0 0.8	4.4 6.1	1 <1



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Project: CLP

ample 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	
301914		19.0	1.3	250	12.8	7,9	
501915		26.7	2.5	570	38.4	7.4	
301916		94.4	5.5	260	16.4	7.9	
301917		31.6	2.9	3800	29.1	7.1	
01918		48.0	4.5	5270	23.1	6.5	
01919 01920		4.5	0.3	520	2.5	8.1	
301926		7.5	1.0	830	35.7	6.6	
01927		41.0	3.2	1870	20.1	6.7	
01928		40.2	3.8	1600	102.0	7.3	
01929		42.5	4.4	780	29.7	7.1	an a
01930		17.4	1.9	3520	48.5	6.4	
01931		23.2	1.5	160	8.2	8.1	
01932		36.5	2.4	300	9.3	7.2	
01938		57.8	5.8	2390	93.5	7.1	
0193#		135.0	11.4	1630	41.4	6.6	
01938		64.6	4.1	180	17.4	7.8	
601939		22.2	1.4	600	5.3	7.5	
01940		39.7	4.2	4460	19.8	6.8	
01941		27.8	3.3	9350	58.1	6.6	
301942		141.0	19.5	1270	51.2	5.8	
301945		54.2	4.7	390	56.9	7.7	

Appendix 2

Whole Rock+ME-MS41+Sediment +Biogeochemical (BGC) and FeO Titration Data



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CERTIFICATE VA14140893

Project: CLP

This report is for 7 Rock samples submitted to our lab in Vancouver, BC, Canada on 30-SEP-2014.

The following have access to data associated with this certificate:

JM MCLEOD

	SAMPLE PREPARATION	
ALSCODE	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 PROCEDURESALS CODEDESCRIPTIONINSTRUMENTME-ICP06Whole Rock Package - ICP-AESICP-AESOA- GRA05Loss on Ignition at 1000CWST-SEQTOT-ICP06Total Calculation for ICP06ICP-AESME-MS4151 anal. agua regia ICPMSICP-AES

To: MCLEOD, JM P.O BOX 216 SAVONA BC V0K 2J0

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

***** See Appendix Page for comments regarding this certificate *****

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Project: CLP

<u></u>	Method	WEI-21	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME- MS41	ME-MS41	ME- MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME- MS4
	Analyte	Recvol Wt.	Ag	Al %	As	Au	8	Ba	Be	8	Ca %	Cd	Ce	Co	70	Cs
Sample Description	Units LOR	kg 0.02	ppm 0.01	0.01	ppm 0.1	ррт 0.2	ք բ ո 10	ррт 10	ррт 0.05	ppm 0.01	70 0.01	ррт 0.01	ррт 0.02	ррт 0.1	ррт 1	ppm 0.05
601921		0.82	0.13	2.93	4.2	<0.2	<10	70	0.18	0.13	1.61	0.14	8.00	16.8	16	0.63
601922		1.44	0.11	2.54	1.6	<0.2	<10	60	0.24	0.14	2.27	0.05	6.43	15.1	6	0.47
601923		1.22	0.18	2.48	9.2	<0.2	<10	50	0.31	0.14	1.60	0.05	4.37	28.4	56	0.20
601924		1.12	0.25	2.90	3.3	<0.2	<10	160	0.40	0.23	2.28	0.12	22.1	24.7	17	2.84
601925		0.38	0.05	0.20	1.0	<0.2	<10	100	0.06	0.11	0.18	0.16	11.65	2.5	7	0.07
601944	11 2	0.50	0.14	3.50	0.7	<0.2	10	90	0.73	0.02	3.35	0.09	15.45	25.9	84	0.45
601935		0.04	0.16	2.30	4.8	<0.2	<10	120	0.58	0.26	0.67	0.18	33.4	17.1	55	1.51





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Method Analyte Units LOR	ME-MS41 Cu ppm 0.2	ME-MS41 Fe % 0.01	1 ME-MS41 Ga ppm 0.05	ME-MS41 Ge ppm 0.05	ME-MS41 Hf ppm 0.02	ME-MS41 Hg ppm 0.01	ME-MS41 In ppm 0.005	ME-MS41 K % 0.01	ME-MS41 La ppm 0.2	ME-MS41 Li ppm 0.1	ME-MS41 Mg % 0.01	ME-MS41 Mn ppm 5	ME- MS41 Mo ppm 0.05	ME-MS41 Na % 0.01	ME-MS41 Nb ppm 0.05
	43.3	4.64	9.55	0.13	0.52	0.04	0.033	0.23	3.8	18.3	1.40	1080	0.49	0.15	0.12
	35.4	4.49	8.00	0.08	0.35	<0.01	0.019	0.19	2.8	19.5	1.53	1300	0.14	0.08	0.12
	113.5	4.09	6.87	0.15	0.26	0.01	0.013	0.05	2.0	14.7	2.63	699	0.37	0.04	0.09
	198.0	6.05	9.49	0.13	0.36	<0.01	0.025	0.75	10.7	19.0	1.92	1160	1.46	0.09	0.18
	19.1	0.47	0.44	<0.05	<0.02	<0.01	<0.005	0.02	5.5	0.6	0.04	493	0.62	0.04	0.17
	238	5.50	12.00	0.33	0.44	<0.01	0.023	0.08	7.2	13.2	2.21	881	1.58	0.06	0.13
	286	3.90	6.97	0.06	0.25	0.02	0.026	0.28	15.0	18.4	0.86	629	1.20	0.06	1.12
	Analyte Units	Mailyte Cu Analyte Cu Units ppm LOR 0.2 43.3 35.4 113.5 198.0 19.1 238	Method Cu Fe Analyte Cu Fe Units ppm % LOR 0.2 0.01 43.3 4.84 35.4 4.49 113.5 4.09 198.0 6.05 19.1 0.47 238 5.50	Method Analyte Cu Fe Ga Units ppm % ppm LOR 0.2 0.01 0.05 43.3 4.84 9.55 35.4 4.49 8.00 113.5 4.09 6.87 198.0 6.05 9.49 19.1 0.47 0.44	Analyte Units Cu Fe Ga Ge Units ppm % ppm ppm LOR 0.2 0.01 0.05 0.05 43.3 4.84 9.55 0.13 35.4 4.49 8.00 0.08 113.5 4.09 6.87 0.15 198.0 6.05 9.49 0.13 19.1 0.47 0.44 <0.05	Analyte Units Cu Fe Ga Ge Hf Units ppm % ppm ppm ppm ppm LOR 0.2 0.01 0.05 0.05 0.02 43.3 4.84 9.55 0.13 0.52 35.4 4.49 8.00 0.08 0.35 113.5 4.09 6.87 0.15 0.26 198.0 6.05 9.49 0.13 0.36 19.1 0.47 0.44 <0.05	Analyte Units Cu Fe Ga Ge Hf Hg Units ppm % ppm qpm </td <td>Analyte Units Cu Fe Ga Ge Hf Hg In Units ppm % ppm 0.005 0.005 0.02 0.01 0.005 0.005 0.033 0.35 <0.01</td> 0.033 0.33 35.4 4.49 8.00 0.08 0.35 <0.01	Analyte Units Cu Fe Ga Ge Hf Hg In Units ppm % ppm 0.005 0.005 0.02 0.01 0.005 0.005 0.033 0.35 <0.01	Analyte Units Cu Fe Ga Ge Hf Hg In K Units ppm % ppm ppm ppm ppm ppm % LOR 0.2 0.01 0.05 0.05 0.02 0.01 0.005 0.01 43.3 4.84 9.55 0.13 0.52 0.04 0.033 0.23 35.4 4.49 8.00 0.08 0.35 <0.01	Marinda Analyte Units Cu Fe Ga Ge Hf Hg In K La Units ppm % ppm ppm ppm ppm ppm % ppm LOR 0.2 0.01 0.05 0.05 0.02 0.01 0.005 0.01 0.2 43.3 4.84 9.55 0.13 0.52 0.04 0.033 0.23 3.6 35.4 4.49 8.00 0.08 0.35 <0.01	Analyte Units Cu Fe Ga Ge Hf Hg In K La Li Units ppm % ppm % ppm ppm ppm ppm ppm ppm ppm ppm 0.01 0.02 0.1 0.005 0.01 0.2 0.1 0.2 0.1 LOR 0.2 0.01 0.05 0.05 0.02 0.04 0.033 0.23 3.8 18.3 35.4 4.49 8.00 0.08 0.35 <0.01	Analyte Units Cu Fe Ga Ge Hf Hg In K La Li Mg Units ppm % ppm ppm ppm ppm ppm ppm % ppm % ppm % ppm % ppm % <td< td=""><td>Analyte Units Cu Fe Ga Ge Hf Hg In K La Li Mg Mn Units ppm % ppm % ppm ppm ppm ppm Quality Quality</td><td>Analyte Units Cu Fe Ga Ge Hf Hg In K La Li Mg Mn Mo Units ppm % ppm ppm</td><td>Analyte Units Cu Fe Ga Ge Hf Hg In K La Li Mg Mn Mo Na Units ppm % ppm % ppm ppm % ppm ppm % ppm ppm % ppm ppm % ppm ppm % ppm ppm % 0.01 0.01 0.01 5 0.05 0.01 43.3 4.84 9.55 0.13 0.52 0.04 0.033 0.23 3.8 18.3 1.40 1080 0.49 0.15 0.06 0.01 1.018 1.05 1.00 1.13.5 1.300 0.14 0.08 0.01</td></td<>	Analyte Units Cu Fe Ga Ge Hf Hg In K La Li Mg Mn Units ppm % ppm % ppm ppm ppm ppm Quality	Analyte Units Cu Fe Ga Ge Hf Hg In K La Li Mg Mn Mo Units ppm % ppm	Analyte Units Cu Fe Ga Ge Hf Hg In K La Li Mg Mn Mo Na Units ppm % ppm % ppm ppm % ppm ppm % ppm ppm % ppm ppm % ppm ppm % ppm ppm % 0.01 0.01 0.01 5 0.05 0.01 43.3 4.84 9.55 0.13 0.52 0.04 0.033 0.23 3.8 18.3 1.40 1080 0.49 0.15 0.06 0.01 1.018 1.05 1.00 1.13.5 1.300 0.14 0.08 0.01

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Project: CLP

Sample Description	Method Analyte Units LOR	ME-MS41 Ni ppm 0.2	ME-MS41 P ppm 10	ME-MS41 Pb ppm 0.2	ME-MS41 Rb ppm 0.1	ME-MS41 Re ppm 0.001	ME-MS41 S % 0.01	ME-MS41 Sb ppm 0.05	ME-MS41 Sc ppm 0.1	ME-MS41 Se ppm 0.2	ME-MS41 Sn ppm 0.2	ME-MS41 Sr ppm 0.2	ME-MS41 Ta ppm 0.01	ME-MS41 Te ppm 0.01	ME-MS41 Th ppm 0.2	ME-MS41 Ti % 0.005
													·			
601921		15.3	670	2.0	7.2	0.001	0.15	0.35	11.1	0.6	0.4	46.6	<0.01	0.10	0.4	0.270
601922		5.6	1760	2.0	6.7	<0.001	0.23	0.32	6.8	0.5	0.3	68.9	<0.01	0.04	0.2	0.167
601923		77.4	870	1.0	0.7	<0.001	0.07	0.79	7.5	0.2	0.2	79.0	<0.01	0.16	0.2	0.191
601924		13.7	2890	3.3	25.6	<0.001	0.37	0.55	8.3	0.7	0.5	128.0	<0.01	0.08	0.9	0.320
601925		9.3	100	6.2	0.8	<0.001	0.06	0.08	0.8	<0.2	<0.2	93.1	<0.01	0.10	1.5	0.006
601944		48.6	1710	1.6	2.0	0.001	0.07	0.13	8.5	0.3	0.3	55.7	<0.01	0.04	0.9	0.318
601935		39.4	480	7.7	23.6	<0.001	0.02	0.39	7.6	0.7	3.7	51.3	<0.01	0.14	4.6	0.186





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Sample Description	Method Analyte Units LOR	ME-MS41 TI ppm 0.02	ME- MS41 U ppm 0.05	ME-MS41 V ppm 1	ME- MS41 W ppm 0.05	ME- MS41 Y ppm 0.05	ME-MS41 Zn ppm 2	ME- MS41 Zr ppm 0.5	ME-1CP06 SIO2 % 0.01	ME- ICF06 Al2O3 % 0.01	ME- ICP06 Fe2O3 % 0.01	ME-ICP06 CaO % 0.01	ME-ICP06 MgO % 0.01	ME-1CP06 Na2O % 0.01	ME-ICP06 K2O % 0.01	ME- ICF06 Cr2O3 % 0.01
601921 601922 601923 601924 601925		0.05 0.03 <0.02 0.20 0.02	0.21 0.15 0.09 0.29 0.18	112 113 104 217 6	0.11 0.07 0.07 0.27 <0.05	14.65 6.54 5.85 12.80 2.58	72 42 53 75 4	16.5 9.0 8.5 11.2 0.9	53.2 47.2	18.20 13.10	7-83 19.10	´ 5.91 12.25	2.75 8.83	4.15 1.60	2.25 1.56	<0.01 0.04
601944 601935		<0.02 <0.02 0.17	0.18 0.46 0.61	239 80	0.30 0.28	11.40 7.96	65 206	16.6 11.9	47.8	14.95	9.63	8.94	5.93	2.87	1.94	0.02
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Project: CLP

CERTIFICATE OF ANALYSIS VA14140893

Sample Description	Method Analyte Units LOR	ME-1CP06 TiO2 % 0.01	ME- ICP06 MnO % 0.01	ME- ICP06 P2O5 % 0.01	ME-ICP06 SrO % 0.01	ME- ICP06 BaO % 0.01	OA- GRA05 LOI % 0.01	TOT-ICP06 Total % 0.01	Fe203	Feo	
601921 601922 601923 601924 601925		0.49 0.74	0.21 0.17	0.39 0.20	0.08 0.07	0.08 0.06	4.53 3.93	100.07 99.85	2.74 4.85	3.09 6.05	
601944 601935		0.70	0.16	0.38	0.07	0.14	4.66	98.19	3.17	6.46	

***** See Appendix Page for comments regarding this certificate *****





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Page: 1 Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 8- OCT- 2014 This copy reported on 10- OCT- 2014 Account: MCLJM

CERTIFICATE VA14141096

Project: CLP

This report is for 1 Sediment sample submitted to our lab in Vancouver, BC, Canada on 30- SEP-2014.

The following have access to data associated with this certificate:

JM	MCLEOD	

ALS CODE	DESCRIPTION	
FND-03	Find Reject for Addn Analysis	
PUL-31	Pulverize split to 85%<75 um	

	ANALYTICAL PROCEDURES
ALSCODE	DESCRIPTION
ME-MS41	51 anal. aqua regia ICPMS

To: MCLEOD, JM P.O BOX 216 SAVONA BC V0K 2J0

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:

***** See Appendix Page for comments regarding this certificate *****

Colin Ramshaw, Vancouver Laboratory Manager



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Project: CLP

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Sample Description	Method Analyte Units LOR	ME-MS41 Ag ppm 0.01	ME- MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.2	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME- MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1	ME-MS41 Cs ppm 0.05	ME-MS41 Cu ppm 0.2
						• • • • • • • • • • • • • • • • • • • •									0.05	
301916		0.18	2.40	2.9	<0.2	<10	150	0.67	0.18	0.53	0.29	33.6	14.0	55	1.48	27.0



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CERTIFICATE OF ANALYSIS VA14141096

Project: CLP

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Semple Description	Method Analyte Units LOR	ME-MS41 Fe % 0.01	ME-MS41 Ga ppm 0.05	ME-MS41 Ge ppm 0.05	ME-MS41 Hf ppm 0.02	ME-MS41 Hg ppm 0.01	ME-MS41 In ppm 0.005	ME-MS41 K % 0.01	ME-MS41 La ppm 0.2	ME-MS41 Li ppm 0.1	ME-MS41 Mg % 0.01	ME-MS41 Mn ppm 5	ME- MS41 Mo ppm 0.05	ME-MS41 Na % 0.01	ME-MS41 Nb ppm 0.05	ME-MS41 Ni ppm 0.2
601916		3.02	7.19	0.05	0.14	0.01	0.026	0.21	16.9	26.2	0.73	380	0.67	0.03	2.08	38.4
	1															



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Project: CLP

Sample Description	Method Analyte Units LOR	ME-MS41 P ppm 10	ME-MS41 Pb ppm 0.2	ME-MS41 Rb ppm 0.1	ME-MS41 Re ppm 0.001	ME-MS41 S % 0.01	ME-MS41 Sb ppm 0.05	ME-MS41 Sc ppm 0.1	ME-MS41 Se ppm 0.2	ME-MS41 Sn ppm 0.2	ME-MS41 Sr ppm 0.2	ME-MS41 Ta ppm 0.01	ME-MS41 Te ppm 0.01	ME-MS41 Th ppm 0.2	ME-MS41 Ti % 0.005	ME- MS41 Ti ppm 0.02
601916		560	8.5	25.1	0.001	0.01	0.19	6.2	0.8	0.6	38.0	<0.01	0.01	4.5	0.170	0.16
										<u> </u>		÷				



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Sample Description	Method Analyte Units LOR	ME-MS41 U ppm 0.05	ME-MS41 V ppm 1	ME-MS41 W ppm 0.05	ME- MS41 Y ppm 0.05	ME-MS41 Zn ppm 2	ME-MS41 Zr ppm 0.5	
601916		1.28	61	0.22	7.77	181	7.3	



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CERTIFICATE VA14140895

Project: CLP

This report is for 3 Vegetation samples submitted to our lab in Vancouver, BC. Canada on 30- SEP- 2014.

The following have access to data associated with this certificate: JM MCLEOD

	SAMPLE PREPARATION	
ALSCODE	DESCRIPTION	
WEI-21	Received Sample Weight	
LOG-22	Sample login - Rcd w/o BarCode	
PRP-VEG01	Macerate and blend	
	ANALYTICAL PROCEDURES	<u></u>
ALS CODE	DESCRIPTION	
ME-VEG41	Vegetation - HNO3/HCI ICPAES-ICPMS	

To: MCLEOD. JM P.O BOX 216 SAVONA BC VOK 2J0

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

***** See Appendix Page for comments regarding this certificate *****

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Project: CLP

Sample Description	Method Analyte Units LOR	WEI-21 Recvol Wt. kg 0.02	ME-VEG41 Au ppm 0.0002	ME-VEG41 Pd ppm 0.001	ME-VEG41 Pt ppm 0.001	ME-VEG41 Ag ppm 0.001	ME-VEG41 Al % 0.01	ME-VEG41 As ppm 0.05	ME-VEG41 B ppm 10	ME-VEG41 Ba ppm 0.1	ME-VEG41 Be ppm 0.01	ME-VEG41 Bi ppm 0.001	ME-VEG41 Ca % 0.01	ME-VEG41 Cd ppm 0.002	ME-VEG41 Ce ppm 0.003	ME-VEG41 Co ppm 0.002
601936 601937 601943		0.10 0.08 0.06	<0.0002 <0.0002 <0.0002	<0.001 <0.001 <0.001	0.001 0.001 0.002	0.008 0.009 0.008	0.01 0.01 0.01	20.4 4.54 1.82	10 <10 <10	2.8 10.0 13.6	<0.01 <0.01 <0.01	0.002 0.003 0.003	0.05 0.13 0.21	0.068 0.091 0.059	0.397 0.400 0.257	0.144 0.188 0.159





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Sample Description	Method Analyte Units LOR	ME-VEG41 Cr ppm 0.5	ME-VEG41 Cs ppm 0.005	ME-VEG41 Cu ppm 0.01	ME- VEG41 Dy ppm 0.005	ME-VEG41 Er ppm 0.003	ME-VEG41 Eu ppm 0.003	MIE-VEG41 Fe % 0.001	ME-VEG41 Ga ppm 0.01	ME-VEG41 Gd ppm 0.005	ME-VEG41 Ge ppm 0.005	ME- VEG41 Hf ppm 0.002	ME-VEG41 Hg ppm 0.001	ME-VEG41 Ho ppm 0.001	ME-VEG41 In ppm 0.005	ME-VEG41 K % 0.01
601936 601937 601943		<0.5 0.6 0.5	0.009 0.012 0.014	4.17 4.92 4.03	0.006 0.008 0.009	<0.003 0.003 0.004	0.005 0.006 0.005	0.062 0.074 0.069	0.04 0.05 0.06	0.014 0.018 0.016	0.018 0.016 0.015	0.005 0.004 0.006	0.004 0.017 0.021	0.001 0.001 0.002	<0.005 <0.005 <0.005	0.59 0.20 0.08

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Sample Description	Method Analyte Units LOR	ME-VEG41 La ppm 0.002	ME-VEG41 Li ppm 0.1	ME- VEG41 Lu ppm 0.001	ME-VEG41 Mg % 0.001	ME-VEG41 Mn ppm 1	ME-VEG41 Mo ppm 0.01	ME-VEG41 Na % 0.001	ME-VEG41 Nb ppm 0.002	ME-VEG41 Nd ppm 0.001	ME-VEG41 Ni ppm 0.04	ME-VEG41 P % 0.001	ME-VES41 Pb ppm 0.01	ME-VEG41 Pr ppm 0.003	ME-VEG41 Ro ppm 0.01	ME-VEG41 Re ppm 0.001
601936 601937 601943		0.002	<0.1 <0.1 <0.1 0.1	<0.001 <0.001 <0.001 <0.001	0.043 0.052 0.041	46 149 190	0.21 0.25 0.25	<0.001 0.004 0.008	0.041 0.046 0.040	0.141 0.175 0.111	0.72 0.81 0.54	0.103 0.036 0.026	0.06 0.15 0.27	0.040 0.051 0.031	1.53 0.65 0.21	<0.001 <0.001 <0.001 <0.001





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Project: CLP

Sample Description	Method Analyte Units LOR	ME-VEG41 S % 0.01	ME-VEG41 So ppm 0.02	ME-VEG41 Sc ppm 0.01	ME-VEG41 Se ppm 0.1	ME-VEG41 Sm ppm 0.003	ME-VEG41 Sn ppm 0.01	ME-VEG41 Sr ppm 0.02	ME-VEG41 Ta ppm 0.005	ME- VEG41 Tb ppm 0.001	ME-VEG41 Te ppm 0.02	ME-VEG41 Th ppm 0.002	ME-VEG41 Ti % 0.001	ME-VEG41 Ti ppm 0.002	ME-VEG41 Tm ppm 0.001	ME-VEG41 U ppm 0.005
601936 601937 601943		0.02 0.02 0.03	0.02 0.02 0.02	0.01 0.01 0.03	<0.1 <0.1 <0.1	0.026 0.030 0.020	0.04 0.04 0.03	2.72 9.61 25.2	<0.005 <0.005 <0.005	0.001 0.002 0.002	<0.02 <0.02 <0.02	0.035 0.048 0.022	<0.001 <0.001 <0.001	0.002 0.004 0.004	<0.001 <0.001 0.001	<0.005 0.005 0.005



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CERTIFICATE OF ANALYSIS VA14140895

Method Analyte Analyte Merple Description Utifs V									
Analyte temple Description V W Y Yb Zn Zr 1 0.01 0.003 0.003 0.1 0.02 301936 <1 0.01 0.021 <0.003 14.1 0.10 301937 <1 0.01 0.033 <0.003 19.8 0.06		Mathad	ME-VEG41	ME-VEG41	ME-VEG41	ME-VEG41	ME-VEG41	ME-VEG41	
Lample Description Units LOR ppm <th></th> <th>meinoa</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>7r</th> <th></th>		meinoa						7r	
LOR 1 0.01 0.003 0.003 0.1 0.02 301936 <1 0.01 0.021 <0.003 14.1 0.10 301937 <1 0.01 0.033 <0.003 19.8 0.06		Anaryte							
S01936 <1	Semple Description	Units	4		0.002	0.002	pp:://	ppm ppm	
301937 <1 0.01 0.033 <0.003 19.8 0.06		LUK		0.01	0.003	0.003	0.1	0.02	
301937 <1 0.01 0.033 <0.003 19.8 0.06	601936		<1	0.01	0.021	<0.003	14.1	0.10	
	601937						10.8	0.06	
	801042			0.01			19.0	0.00	
	001943			0.01	0.042	0.004	10.1	0.12	
		1							

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VA14174639 - Finalized CLIENT : " Jim" # of SAMPLES : 3 DATE RECEIVED : 2014-11-10 DATE FINALIZED : 2014-11-24 PROJECT : "CLP" CERTIFICATE COMMENTS : "" PO NUMBER : " " Fe-VOL05 SAMPLE FeO DESCRIP1% 601922 5.09 6.05 601923 601944 6.46

Appendix 3

Data Tables for Figures 4 and 4a, % Ca : 1/a-b

,

<u>Table 1</u> (Rerun#2)

<u>CLP South Grid - pH and acidified pH as inverse difference of H+</u> plotted against % aqua regia soluble Ca in parts per million (ppm)

Sample # 1	эΗ	a) Log of pH	Acid pH	b) <u>Log Ac. pH</u>	a-b	1/a-b (Calcium%
		<u>208 01 p11</u>	11010 011	<u>205110. pri</u>	<u>u o</u>	<u> 1/4 0</u>	<u></u>
601914 <u><i>31</i></u> 6	5.45	.8100	2.38	.3766	.4334	2.31	5.54
601915 <u>32</u> 6	5.24	.7952	2.31	.4232	.3720	2.69	2.25
601916 <u>33</u> 6	5.35	.8028	2.61	.3862	.4097	2.44	6.69
601917 <u>34</u> 6	5.40	.8034	2.51	.3997	.4037	2.48	2.14
601918 <u>35</u> 6	5.55	.8162	2.30	.3617	.4545	2.20	4.32
601919 <u>36</u> 6	5.40	.8062	2.15	.3324	.4738	2.11	5.23
601926 <u>37</u> 6	5.10	.7853	2.42	.3838	.4015	2.49	1.48
601927 <u>38</u> 6	5.10	.7853	3.16	.4997	.2856	3.50	2.82
601928 <u>39</u> 6	5.50	.8129	2.15	.3324	.4805	2.08	1.46
601929 <u>40</u> 6	5.74	.8286	2.86	.4564	.3722	2.69	2.58
601930 <u>41</u> 6	5.12	.7868	3.05	.4843	.3025	3.31	1.94
601931 <u>42</u> 6	5.08	.7839	2.30	.3617	.4222	2.37	4.80
601932 <u>43</u> 6	5.15	.7889	2.30	.3617	.4271	2.48	2.34
601933 <u>44</u> 6	5.00	.7782	2.10	.3222	.4560) 2.19	1.29
601934 <u>45</u> 6	5.01	.7789	2.19	.3404	.4385	2.28	1.83

Continued from Page 1..

Sample #	<u>pH</u>	a) <u>Log of pH</u>	<u>Acid pH</u>	b) <u>Log Ac. pH</u>	<u>a-b</u>	<u>1/a-b</u>	Calcium%
601938 <u>46</u>	6.10	.7853	2.43	.3856	.3997	2.50	5.00
601939 <u>47</u>	2 5.78	.7619	2.20	.3424	.4195	2.38	5.38
601940 <u>48</u>	6.05	.7818	2.13	.3284	.4534	2.20	4.49
601941 <u>49</u>	6.65	.8228	2.35	.3711	.4517	2.21	4.83
601942 <u>50</u>	5.92	.7723	2.60	.4150	.3573	2.80	2.87
<u>Lisa Grid</u>							
601945	6.85	.8357	2.22	.3464	.4893	2.04	1.85

Appendix 4

South Grid Anomalous Data with Figures 4b, 4c, 4d and Lisa & BGC Descriptions with Results of Interest

1

South Grid Anomalous Data

South Grid (VA11233226 and VA14140896 – Analysis #)

The MMI results for 2011and 2014 appear to exhibit some anomalous clustering of elements in the gold exploration suite (GES) which is comprised of cobalt, gold, nickel, palladium and silver. At other sites, although not necessarily at the same stations are some anomalous clustering of elements of the base metal suite (BMS) which is comprised of cadmium, copper, lead and zinc appear to be coincidently anomalous with parts of the GES. The anomalous elements of the GES, BMS and Others are defined and included in the following tables that a definition of their respective anomalous divisions as derived by computing descriptive statistics allowing total percent frequency distribution curves for the elemental analytical results. These anomalous results are listed as follows:

<u>Element</u>	<u>Anomalous</u> (ppb)	<u>SD</u> (ppb)	Stations
	Mean Test or 95%		
<u>GES</u>			
Cobalt	<u>81</u>	-	11, 15, 25, 26
			37, 49, 50
Gold	<u>0.76</u>	<u>0.73</u>	(26), 27, 28
			31, 32, (42)
Nickel	739	<u>436</u>	25, 28
Palladium	2.4	<u>0.84</u>	11, 15, 28
Silver	<u>40.2</u> * <u>80.1</u> ppb	39.2	26, 27, 28

* the MMI data sets for 2011 and 2014 for silver (Ag) were combined and a another Descriptive Statistical test was run which showed the Mean + 2 x standard deviation (SD) or Mean Test was now 80.1 ppb.

<u>BMS</u>			
Cadmium	<u>63</u>	65	16, 25
			(34), 35, 41, 43, 48-49
Copper	<u>2744</u>	2822	(26), 27, (28), (29)
			(33), (42)
Lead	<u>168</u>	<u>168</u>	(11), 16
			(35), (39-40), 41,
			(45), (49), 50
Zinc	<u>1372</u>	1446	(15), 25, 30
			34, 35, 38-39, 41,
			44-45, 48, 49, (50)
<u>OTHER</u>			
Arsenic	23	<u>21</u>	(11), 15, (16), 30
			(49-50)
Mercury	<u>1.3</u>	1.3	15, (16), 27, (30)
			41, (44)
Molybdenum	<u>12.3</u>	14	(18), 21, (25-26)
			36

Iron	84.4	<u>77.6</u>	11, 15
			(39), 41, 44-45, (49)
			50
Cerium	<u>71.3</u>	99	11-12, 15, (20), 25
			(39), 44-45, 50

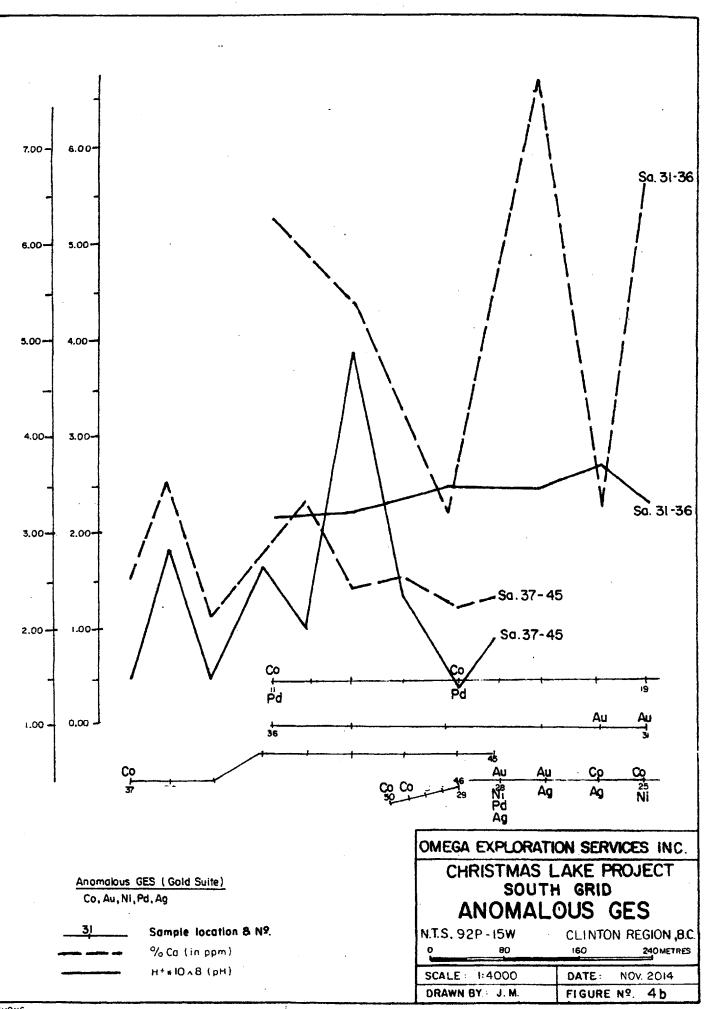
Note:

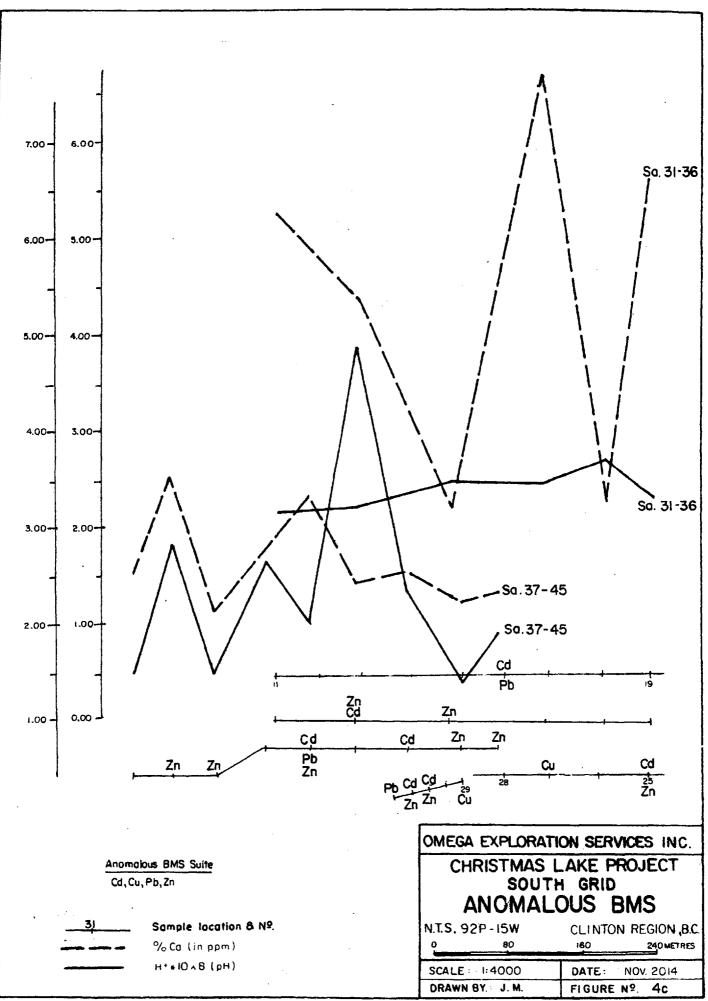
1) (#) - this value does not quite meet the anomalous value.

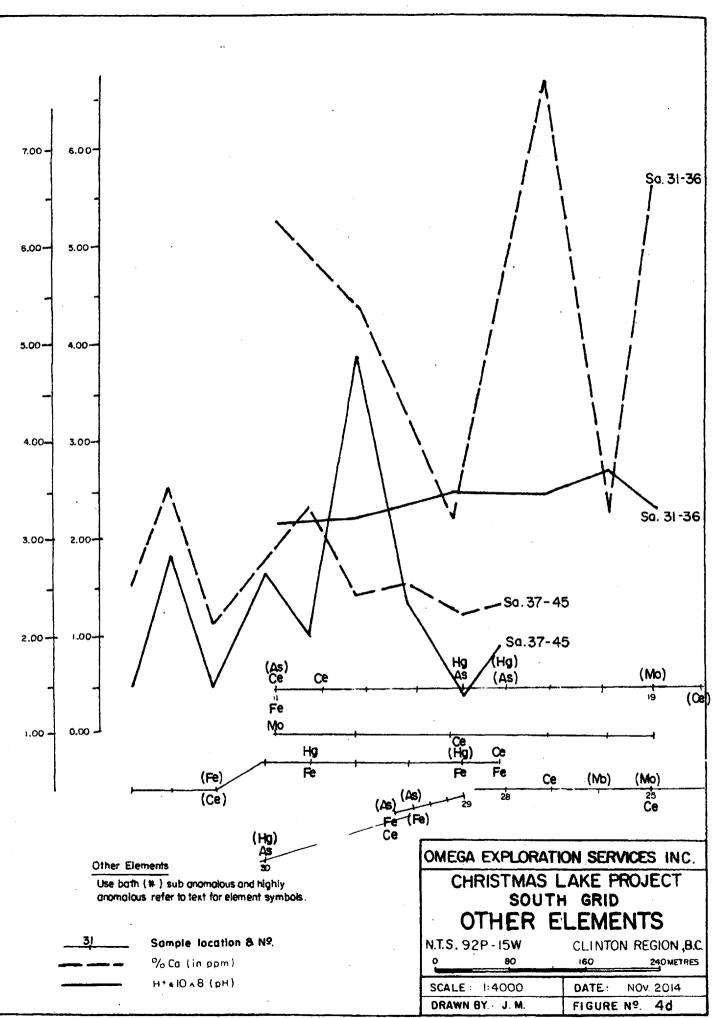
2) (37) - this value for <u>copper</u> at station 37 seems suspect because of it's close proximity to the stationary (non-moving) pot site that contains a saturated solution of CuS04 and possibly contamination has occurred.

3) (#) - numbers in *italic* are from the 2014 survey.

Accompanying Figures 4b, 4c and 4d



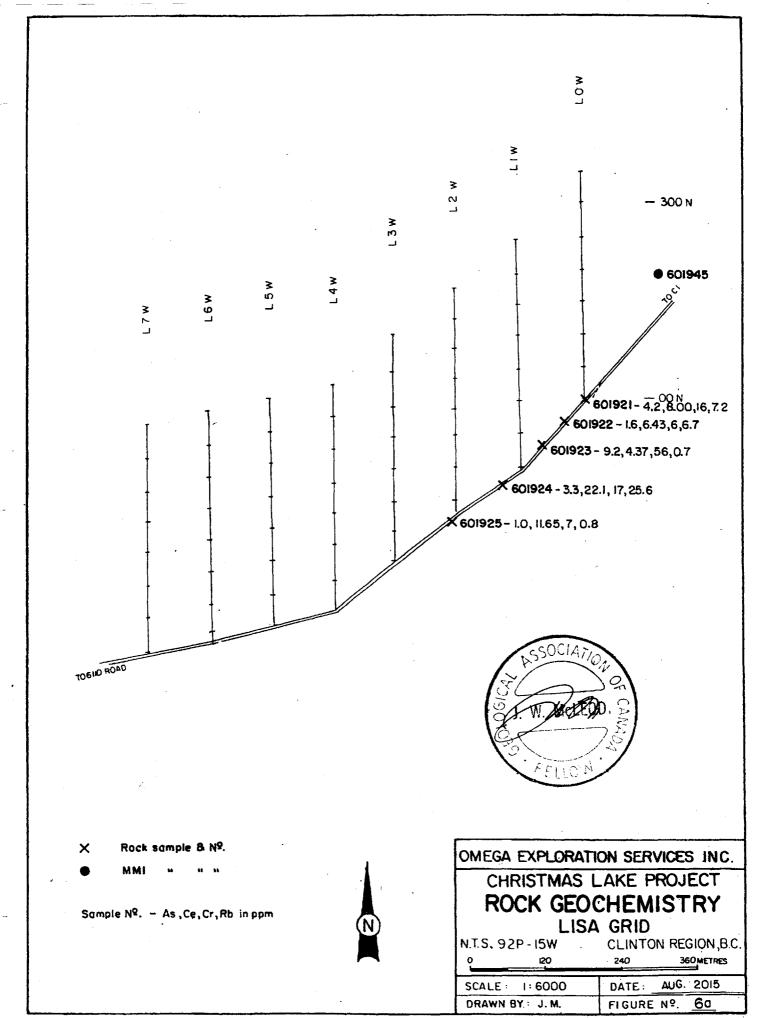




Lisa Sample with Results of Interest

Five rock samples were taken from the southern flank of the S.P. zone as it appears in Figure 6. The individual samples are numbered from 601921 to 601925. The rock samples, 601921-924 are very similar and are described as fine grained, micro porphyritic, with weak to moderately altered feldspar and hornblende lathes, color indices ~ 25. These samples whole rock analyses appear to have been described by V. Preto from the Central Belt of the Nicola Group (see References) and have been called micro diorites. Sample #601925 appears to have possibly undergone contact alteration in a northerly fashion along the western flank of the micro diorite. The elements chosen for portrayal on the map were arsenic (As), cerium (Ce), chromium (Cr) and rubidium (Rb) mainly for comparative purposes in the immediate or local area and their ratios to limits of detection and to each other. Sample 601925 exhibits some relative elemental loss as well as those that appear not to possibly have been change much. Listed is the UTM data of the stations:

	E	$\underline{\mathbf{N}}$
601921	651661	5752318
601922	651643	5752283
601923	651600	5752252
601924	651575	5752235
601925	651519	5752214



BGC Sample with Results of Interest

Three Douglas spruce cone samples were taken from the South Grid area as it appears in Figure 5a. The individual samples are listed as follows with their respective UTM data:

	<u>E</u>	<u>N</u>
601936	651776	5749537
601937	651524	5749438
601943	651859	5749450

The Douglas spruce cone occurs in many locations on the property and in the general area. They can apparently lie for long periods of time and varied weather conditions without loss of the contained elements making it a possibly useful technique. In this general area one of the draw backs is location, it is often hard to get GPS readings. The usefulness is in the data base for comparable data and apparently high values in clusters bear a closer look. The elements plotted on Figure 5a_are arsenic (As), manganese (Mn) and rubidium (Rb).

